

I. COLLEGE OF LIBERAL ARTS



Academic Units

- Chinese Literature
- Foreign Languages and Literatures
- History
- Philosophy
- Anthropology
- Library and Information Science
- Japanese Language and Literature
- Drama and Theatre
- Graduate Institute of Art History
- Graduate Institute of Linguistics
- Graduate Institute of Musicology
- Graduate Institute of Taiwan Literature
- Audio-Visual Educational Center
- Language Center

The Present and Former Deans

Ko-Chuan Chien	(1947-1948)	Yen Chu	(1984-1990)
Kung-Peh Shen	(1948-1969)	Chi-Fang Huang	(1990-1993)
Limin Chu	(1969-1975)	Yaofu Lin	(1993-1999)
Chi-Lu Chen	(1975-1977)	Tong Hwa Lee	(1999-2002)
Chien Hou	(1977-1983)	Ching-Hsi Perng	(2002-2005)
Tseng-Tsai Wang	(1983-1984)	Kuo-Liang Yeh	(2005-present)

INTRODUCTION

The College of Liberal Arts has its origin in the Division of Arts and Political Science of the Taihoku Imperial University established in 1928 during the Japanese occupation. After the Retrocession of Taiwan to China in 1945, the Division was divided into two colleges, namely, the College of Liberal Arts and the College of Law. The College of Liberal Arts started with only three departments: Chinese Literature, History, and Philosophy. Two additional departments, Foreign Literature and Archaeology and Anthropology, were inaugurated respectively in 1947 and 1949. In 1955, the Department of Foreign Literature was renamed the Department of Foreign Languages and Literatures. The Department of Library Science was added in 1961. In 1982, the Department of Archaeology and Anthropology was renamed the Department of Anthropology. In 1997, the Department of Library Science was renamed the Department of Library and Information Science. The Department of Japanese Language and Literature was founded in 1994, followed by the Department of Drama and Theatre in 1999. In 2008, the Department of Chinese Department Launched the Bachelor Degree Program in Chinese Literature for International Students.

The first graduate program of the college, the Graduate Institute of Humanities, was established in 1949. Seven years later, it was divided into four independent programs that offered Master degrees: the Graduate Institutes of Chinese Literature, History, Philosophy, and Archaeology and Anthropology. The Graduate Institutes of Foreign Languages and Literatures and Library Science were subsequently added to the College in 1966 and 1980. Ph.D. programs were introduced first in Chinese Literature and in History in 1967. The Graduate Institute of

History was divided into three fields of studies: general history, contemporary history, and art history. Doctoral programs in Comparative Literature and Philosophy were established in 1970 and 1985. In 1988, the Graduate Institute of History integrated its two divisions, general history and contemporary history, into one, and the art history division was subsequently made independent as the Graduate Institute of Art History in 1989. In the same year, the Graduate Institute of Library Science established its doctoral program. The Japanese Department and the Graduate Institute of Linguistics were added in 1994, followed by the Graduate Institute of Drama and Theatre Studies in the fall of 1995. The Graduate Institute of Musicology began instruction in the fall of 1996. The doctoral programs of Anthropology, Art History and Linguistics were inaugurated in 1997, 2000 and 2002 respectively. In 2003, the Japanese Department established its own graduate institute. In the fall of 2004, the Graduate Institute of Taiwan Literature was founded, representing the 12th academic field this College encompasses.

In 1976, the Language Laboratory of the Department of Foreign Languages and Literatures was reorganized as the College's Audio-Visual Educational Center. In addition to providing language instruction facilities, it collects and produces audio-visual teaching materials for a variety of courses and subjects. The Language Center of the College was established in 1981 for the purpose of strengthening the University's language education extension program, offering courses both in Chinese and foreign languages. In 1997, the College took over the Inter-University Board for Chinese Language Studies from Stanford University. In 1999, it was renamed the International Chinese Language Program and placed under the Language Center.

FACILITIES

To enhance instructional efficiency, the College, its departments and graduate institutes are continually upgrading their facilities. The University Library houses over a million volumes related to humanities and arts, the largest collection in the country. Records, CD-ROMs, and films in the Audio-Visual Center total more than 10,000 items. The Department of Anthropology has on display precious archaeological samples and items that are unique in the world. Besides, the College's computer classroom is well-equipped with state-of-the-art software and provides outstanding environment for teaching and learning.

RESEARCH

The research and publications of our faculty members are widely acclaimed for their quality and quantity. The College *publishes Studies in Contemporary Humanities*. Individual departments and graduate institutes publish journals or monographs series of their specialties, including *Bulletin of the Department of Chinese Literature*, *Studies in Chinese Literature, History and Chinese Literature Series*, *Chungwai Literary Quarterly*, *Bulletin of the Department of History*, *Philosophical Review*, *Bulletin of the Department of Anthropology*, *Journal of Library Science*, *NTU Studies in Japanese Language and Literature*, *Journal of Art History*, *Historical Inquiry*, *Studies in Language and Literature*, *Taiwan Journal of Buddhist Studies*, and *NTU studies in Taiwan Literature*.

GOALS

The study of humanities is in decline today in a society whose direction and development are both heralded and dictated by technology. As a result, people are becoming more and more materialistic. To re-establish viable, humane social values, the study of humanities must be elevated to play a critical role in higher education. Based on this belief, our college since 1995 has been actively promoting the concept of Campus of Humanities. This Campus will consist of three colleges: the current College of Liberal Arts and two other colleges in planning: the College of Fine Arts and the College of Foreign Languages and Literatures. We would like to see the realization of this idea at the beginning of the 21st century so as to make National Taiwan University a more complete university with a truly humanistic perspective, which will, in turn, have a positive influence on our society.

The College of Liberal Arts enjoys the longest history among similar colleges in the country. Our research ranges from traditional humanities to foreign languages and, in recent years, extends to fine arts, showing a high level of vitality and variety.

All-out efforts in humanistic research and education, as well as the upholding of the values therein, have been our goals; respect for academic freedom is our deep concern and steadfast position. In this College, generally recognized as the highest pedestal of humanistic studies, faculty and students alike regard it as their mission not only to pass on these worthy traditions, but also to break new ground.

CONTACT INFORMATION

Dean: Kuo-Liang Yeh

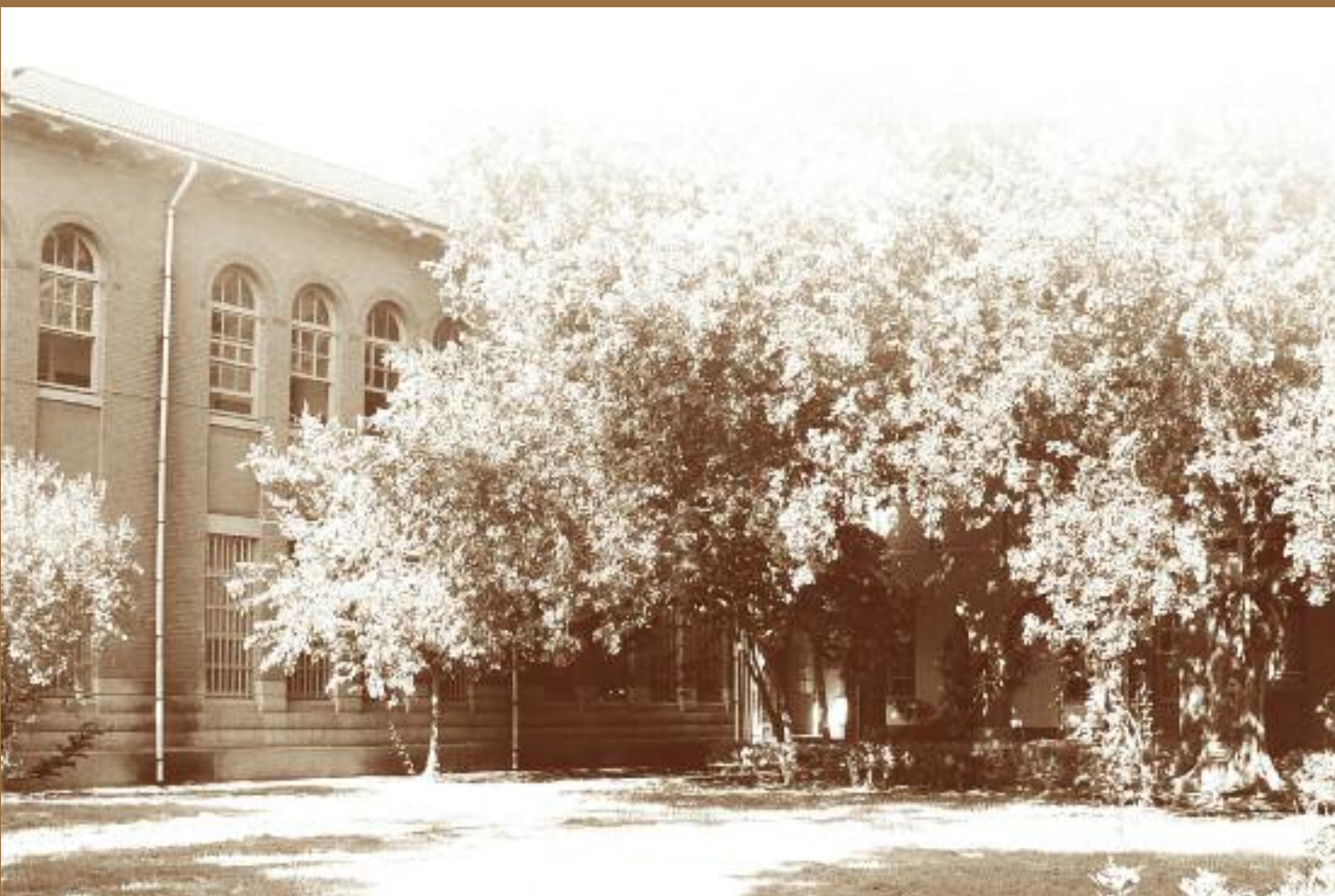
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INTRODUCTION

Founded by the Japanese government in 1928, Taihoku (Taipei) Imperial University was first comprised of two colleges: the College of Liberal Arts and Political Science and the College of Science and Agriculture. The following year, 1929, the Department of Literature, which was included in the College of Liberal Arts and Political Science, initiated a lecture course on East-Asian Literature, focusing mainly on Chinese Literature. This is the predecessor to the Chinese Literature Department today.

In 1945 Taiwan was recovered by Chinese government, thus the Taihoku Imperial University was renamed as “National Taiwan University.”

According to the new education system, the two colleges were rearranged and reorganized with modern names. The new College of Literature initially was comprised of three departments: the Department of Chinese Literature, the Department of History and the Department of Philosophy. This is the official establishment of our Department. In 1957, the Graduate Institute of Chinese Literature was founded, and began to offer courses toward the M.A. degree. In 1967, the Ph.D. program started. In 1972, the Evening Division was set up. In 1997, the Evening Division and the Center of Extension Education were merged to form the Division of Continuing Education and Professional Development. The department has also designed the “Bachelor’s Degree Program in Chinese Literature for

International Students” in 2008. This is a small class with teaching methods resembling a one-to-one instruction. The purpose of this program is for international students with a well-formed environment to pursue studies in sinology or aspects of teaching Chinese.

Our department is always seeking to make balanced improvements at a steady pace. In the beginning, most of the faculty were from Beijing University, including professor Tai Ching-nung, Mao Tzi-shui, Tung Tsao-bin, Dai Chun-ren, Li siao-ding, Hung Yen-chiu and Chang Ching. In the postwar period, this department continued the academic atmosphere of Beijing University. In addition, professor Cheng Chien was from Yanjing University, while Chu Wan-li, Tung Tong-he and Wang Shu-ming were from Academia Sinica. All of these factors created a rich variety in curriculum and in faculty, which became a lasting feature of the department programs.

Although the department was titled, "Department of Chinese Literature," the term "literature" is understood broadly, and was not restricted to poetry, lyric and novel. The teaching goals of this department are to develop Chinese culture and deliver knowledge of the Classics, Thought, Literature and Documentation. We also want to cultivate the students' reading and research skills. With this kind of training, students will possess a solid academic training and cultural background as the foundation for their research, language teaching and writing. In pursuit of these goals, the department courses are multifarious, emphasizing foundation courses and advanced courses, classics and modern materials.

PLANS

The department's future plans are mainly focussed on the following developments:

1. Enhancement of International Activities: In recent years, our Department has made academic exchange arrangements with reputed universities all around the world; for example, the Charles University in Prague, Czech has invited our professors as long-term visiting professors for several years. In the foreseeable future, we shall create "UCLA-NTU Joint Seminars in Chinese Literary Studies," thus initiating two-way visitings and academic discussions between the two schools. Our aspirations are to improve our international reputation in sinology.
2. Diversity of Faculty: Our Department shall continue to look for outstanding professors in other universities and even overseas, aiming at a comprehensive range of specialists in Chinese Literature.
3. Promotion of Chinese Teaching Courses: Our department currently has a "Chinese Teaching Methods" Course, and in the future we shall join the "Master's Degree Program of Chinese Teaching," offering more related courses for study, and actively responding to the growing force of Chinese language in this age of globalization.

FACULTY

Faculty members are all experienced teachers and excellent scholars. Their research fields range from classical and modern Chinese literature, Aesthetics, Chinese philosophy, Chinese written characters to linguistics.

Full-time: 52

Part-time: 30

Ph.D., Degree: 70

M.A., Degree: 11

B.A., Degree: 1

Chair/ Professor

Yu-Yu Cheng Ph.D., NTU Department of
Chinese Literature

Full-Time

Professors

Ching-Ming Ko B.A., NTU Department of
Chinese Literature

Yu Fang MA., NTU Department of
Chinese Literature

Wei-Tai Lee Ph.D., NTU Department of
Chinese Literature

Feng-Wu Chou Ph.D., NTU Department of
Chinese Literature

Kuo-Liang Yeh Ph.D., NTU Department of
Chinese Literature

Chang-Pwu Hsia Ph.D., NTU Department of
Chinese Literature

Chak-Hang Ho Ph.D., NTU Department of
Chinese Literature

Chi-Peng Ho Ph.D., NTU Department of
Chinese Literature

Pei-Pei Chang Ph.D., NTU Department of
Chinese Literature

Hsiao-Fang Yang Ph.D., NTU Department of
Chinese Literature

Yuh-Wen Kuo Ph.D., NTU Department of
Chinese Literature

Chia-Ling Mei Ph.D., NTU Department of
Chinese Literature

Bao-San Chang Ph.D., NTU Department of
Chinese Literature

Yu Tsai Ph.D., NTU Department of
Chinese Literature

Li-Hua Hsiao Ph.D., NTU Department of
Chinese Literature

Chao-Ying Chen Ph.D., NTU Department of
Foreign Languages and
Literature

Jie Fang Ph.D., NTU Department of
Chinese Literature

Chi-Hsiung Cheng Ph.D., NTU Department of
Chinese Literature

Huei-Mian Li Ph.D., NTU Department of
Chinese Literature

Fang-Min Hsu Ph.D., NTU Department of
Chinese Literature

Shu-Ling Horng Ph.D., NTU Department of
Chinese Literature

Yun-Mei Kang Ph.D., NTU Department of
Chinese Literature

Yi-Jen Huang Ph.D., NTU Department of
Chinese Literature

Fu-Chang Shu Ph.D., NTU Department of
Chinese Literature

Siu-Hung Lau Ph.D., NTU Department of
Chinese Literature

Shu-Chuan Tsao Ph.D., NTU Department of
Chinese Literature

Su-Ching Chang Ph.D., NTU Department of
Chinese Literature

Lung-Hsien Lee Ph.D., NTU Department of
Chinese Literature

Li-Chuan Ou Ph.D., NTU Department of
Chinese Literature

Associate Professors

Hsiu-Cheng Lee	Ph.D., NTU Department of Chinese Literature
Hsiu-Ming Wei	Ph.D., University of Michigan Linguistics
Chun-Chih Lee	Ph.D., NTU Department of Chinese Literature
Chui-Ying Chen	Ph.D., NTU Department of Chinese Literature
Mei-Ling Perng	Ph.D., NTU Department of Chinese Literature
Pi-Ming Tsai	Ph.D., NTU Department of Chinese Literature
Chen-Feng Tsai	Ph.D., NTU Department of Chinese Literature
San-hsin Shu	Ph.D., NTU Department of Chinese Literature
Pei-Fen Hsieh	Ph.D., NTU Department of Chinese Literature
Wen-Ching Liou	Ph.D., NTU Department of Chinese Literature
Chih-Hsin Chen	Ph.D., National Chung Cheng University Department of Chinese Literature
Fei-Pang Chao	Ph.D., NTU Department of Chinese Literature
Li-Li Chang	Ph.D., National Tsing Hua University Department of Chinese Literature
Guei-Jen Lu	Ph.D., NTU Department of Chinese Literature
Yin Luo	Ph.D., NTU Department of Chinese Literature

Assistant Professors

Fang-Yen Yang	Ph.D., University of Wisconsin-Madison Department of History
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Liang Ting	Ph.D., Tunghai University Department of Chinese Literature
Min-Min Wu	Ph.D., NTU Department of Chinese Literature
Chi-Shu Huang	Ph.D., NTU Department of Chinese Literature
Wen-Yu Lee	Ph.D., NTU Department of Chinese Literature
Chen-Hsun Wu	Ph.D., National Tsing Hua University Department of Chinese Literature
Chia-Cian Ko	Ph.D., National Cheng-chi University Department of Chinese Literature

Emeritus Professors

Pu-Hsin Pei	B.A., National Normal Girl's College Department of Chinese Literature
Wei-Ching Liao	B.A., Sichuan Normal Girl's College Department of Chinese Literature
Wen-Yue Lin	M.A., NTU Department of Chinese Literature
Heng Chang	M.A., NTU Department of Chinese Literature
Yung-Yi Tseng	Ph.D., NTU Department of Chinese Literature

Part-Time**Professors**

Ching-Ming Chang	Ph.D., NTU Department of Chinese Literature
Te-Han Liu	M.A., NTU Department of Chinese Literature
Heng Chang	M.A., NTU Department of Chinese Literature

Kuang Mei	Ph.D., Harvard University USA Department of Linguistic
Mei-Yi Lin	Ph.D., NTU Department of Chinese Literature
Yi Peng	M.A., NTU Department of Chinese Literature
Chia-His Chin	M.A., NTU Department of Chinese Literature
Pei-Jung Huang	Ph.D., NTU Department of Chinese Literature
Mei-Luan Chen	Ph.D., University of Cincinnati Department of East Asian Studies
Fu-Mei Chou	M.A., NTU Department of Chinese Literature
I-Shou Chi	M.A., NTU Department of Chinese Literature
Chien Chang	M.A., NTU Department of Chinese Literature
Jung-Mao Liang	M.A., NTU Department of Chinese Literature
Mei-Yueh Pan	M.A., NTU Department of Chinese Literature
Shu-Hsing Chang	Ph.D., Harvard University Department of East Asian Studies
Yung-Yi Tseng	Ph.D., NTU Department of Chinese Literature
Tsai-Chuen Chung	Ph.D., NTU Department of Chinese Literature
Li-Chen Lin	Ph.D., NTU Department of Chinese Literature
Kuo-Ying Wang	Ph.D., National Singapore University
Chih-Wen Chou	Ph.D., NTU Department of Chinese Literature

Associate Professors

Pao-Jen Wang	M.A., NTU Department of Chinese Literature
Tung-Hsung Wu	Ph.D., National Chengchi University Department of Journalism
Su-Ping Sung	M.A., NTU Department of Chinese Literature
Su-Ping Sung	M.A., NTU Department of Chinese Literature
Chiu-Hua Chiang	Ph.D., NTU Department of Chinese Literature

Assistant Professors

Hui-Ling Lai	Ph.D., University of Illinois, Department of Education Policies
Ching-Fen Cho	Ph.D., NTU Department of Chinese Literature
Chak-Hsin Lai	Ph.D., Fu-jen Catholic University Department of Chinese literature
Chang-Lin Tsai	Ph.D., NTU Department of Chinese Literature
Yi-Chang Ou-yang	Ph.D., National Chengchi University Department of Chinese Literature
I-Chih Chen	Ph.D., National Kaohsiung Normal University Department of Chinese

FACILITIES

1. The department has audio-visual presentation equipment for classes and other uses. In addition, the department has high-tech equipment, including digital cameras and LCD projectors, for use as teaching and research aids.
2. The department has a collection of 813 Ph.D. and master's theses, nearly 500 recordings of

academic lectures, and a number of tapes and videos of drama and musical performances, including black and white and 3D animation color films of reenactments of the Marriage Rites of Intelligentsia as recorded in the Book of Rites.

COURSES

Undergraduate (for native students)

Introduction to Classical Chinese Studies(4), Introduction to Literature(4), Introduction to Linguistics(4), Chinese Paleography(4), History of Chinese Literature(6), Readings in Chinese Prose (with Writing Practice)(4), Readings in Chinese Poetry (with Writing Practice)(4), Chinese Phonology(4), History of Chinese Thought(6), Hermeneutics(4)

There are also “Elective Required Course Groups,” where the student should choose courses over three course groups, comprised of various topics as follows:

A. Modern Poetry, Modern Prose, Modern Novel (2/2 credits each semester): At least one must be chosen; B. Ci and Writing Practice, Classical Novel (2/2): At least one Classical Drama must be chosen; C. Shi Jing, Shang Shu, Book of Changes, Li Ji, Zuo Zhuan, Shi Ji, Han Shu, Chu Ci, Zhaoming Wenxuan (2/2): A minimum of 12 credits is required.

Required Courses of the Bachelor's Degree Program in Chinese Literature for International Students (applicable to international students enrolling after 2008/09)

Freshman: 4 required courses in 18 credits: Modern Chinese and Composition (1) (3/3), Introduction to Chinese Culture(2/2), Chinese

Linguistics(2/2), Introduction to Chinese Characters (Including Calligraphy) (2/2)

Sophomore: 4 required courses in 20 credits: Modern Chinese and Composition (2)(3/3), Classical Chinese and Composition (1)(3/3), History of Chinese Literature (1)(2/2), General Chinese History and Geography(2/2)

Junior: 4 required courses in 20 credits: Modern Chinese and Composition (3)(3/3), Classical Chinese and Composition (2)(3/3), History of Chinese Literature (2)(2/2), Chinese Relics and Customs(2/2)

Senior: 1 required course in 4 credits: Comparative Cultures(2/2)

Notes:

- The minimum credit for graduation is 128 = 12 in general required courses + 18 in general courses + 62 of required courses in our program + at least 36 elective courses.
- The general required courses has 6 credits of Chinese and 6 credits for any other foreign language, also 0 credit for the course “Advanced English (1)” and “Advanced English (2)” .
- There are also three “Service” classes which are required and counted as 0 credit.
- There is a minimum of 4 credits for taking gym classes, but these credits are not counted in the graduation score.
- Of the 36 credits of the elective courses, at least 18 credits must be courses offered by our department.
- Credits related to minors, second majors, or specific program courses are not counted as the 128 credits above.

Graduate Programs

A candidate for the master's degree must fulfill the following departmental requirements:

- 30 credit hours, exclusive of thesis project;

- must take "Advanced English", and
- must pass a written comprehensive examination.

A candidate for the Ph.D. degree must fulfill a number of different departmental requirements:

- 24 credits hours, exclusive of thesis project;
- a foreign language examination;
- a written comprehensive examination;
- an oral preliminary examination;
- an oral defense of the dissertation.

ACADEMIC ACTIVITIES

1. Faculty members take turns in presiding over a monthly seminar. Faculty and graduate students alike are expected to participate in the discussions.
2. The department regularly publishes the [Anthology of Chinese Literature and History] (Wen Shi Ts'ung K'an), the [Bulletin of the Department of Chinese Literature,] [Studies in Chinese Literature, and the Abstracts of The Academic Works of The Faculty Members.]
3. Under the supervision of Professor Te-Cheng Kung, the film Marriage Rites of the Intelligentsia in Yi-Li (The Book of Rites) was completed in 1969. Professor Kuo-Liang Yeh again made them a set of color 3D animation in 1999. The department also published A[Classified Edition of Chinese Poetry Talks] (Pai-Chung Shi-Hua Lei-Pien), [An Anthology of Chinese Characters] (Chung Kuo Wen Tzu); An Anthology of Materials of Chinese Literary Criticism (Chung-Kuo Wen-Hsueh-Pi-Ping Tzu-Liao Hui-Pien), etc.
4. In January 1988, the department cooperated with the International Association for T'ang Studies to organize "The First International Conference on the T'ang Dynasty." Forty-seven papers were read at the conference and later published in a collection. In January 1989, the department organized "A Symposium on the

Literature and Thought of the Sung Dynasty". Twenty-four papers were read at the symposium and later published in a collection. In April 1996, an international academic conference, jointly sponsored by the Ministry of Education, titled "Language-Spirit-Reason: the many facets of Chinese Literature," was held. After the conference, the collected papers were published to provide reference material for researchers. In May 1996, a seminar, jointly sponsored by the Ministry of Education, titled, "The Teaching of Contemporary Literature" was held and the papers published after the conference. May 8-9, 1999, the department held the "International Conference on Chou-Yi and Chuo-Chuan Studies" in cooperation with the Institute of Chinese Literature and Philosophy, Academia Sinica, and the "Association for the Study of Chinese Classics." Thirty-one scholars from Taiwan and many other countries read papers on the Chou-yi and Chuo-chuan. May 14 -16, 1999, the department held "The Sixth International Symposium on Chinese Phonology: Interdisciplinary Studies of Chinese Phonology" in cooperation with the Association of Chinese Phonology, R.O.C. On May 6, 2000, the department held a conference on, "Materials and Methods for General Education Courses Offered by University Chinese Literature Department." Fifteen scholars participated in the discussion. November 24-25, 2000, the department sponsored a conference to commemorate the tenth anniversary of Professor Ch'ien Mu's death. The papers presented were later published. March 16-17, 2001, the department sponsored an international conference on Japanese Sinology. The papers presented were later published in book form. June 28 - 29, 2001, the department sponsored a conference on Professor Wang Shu-min's scholarly achievements and recent developments. The papers presented were later published in book

form. November 23, 2001 to January 10, 2002, the department co-hosted with the NTU library a series of events in memory of the late Mr. Tai Chin-nung. A colloquium was held on November 23 and 24, 2002. A collection of the papers was published after the colloquium. In addition, an exhibition of Master Tai's manuscripts, original calligraphies and paintings was held until January 10, 2002. November 7-8, 2002 the department co-held with the graduate school of Music of NTU and the East Asia Studies Program of Columbia University, "Culture field and Educational vision" Late Qing----40s International Conference." Fifteen papers were read at this conference. November 7-8, 2003, the department co-held with the Japanese Department, "The Second International Symposium on Japanese Sinology." April 27-28, 2004, the department co-held with the institute of Chinese Literature and Philosophy in Academia Sinica, "The International Symposium on Tang Hsien-tsu and Peony Pavilion." Thirty papers were read at the symposium. On October 29, 2004, the department co-held with the Center for the Study of East Asian Civilizations, "The Third International Symposium on Japanese Sinology". On March 20, 2005, the department co-held with National Cheng Kung University "Symposium on the Tang, Song, Yuan and Ming Dynasties". Twelve papers were read at the symposium. On May 6, 2005, the department co-held with the Center for the Study of East Asian Civilizations, "The Fourth International Symposium on Japanese Sinology." Nine papers were read at the symposium. June 20-21, 2005, the department co-held with the Council for Cultural Affairs, "The International Symposium in Memory of the Late Mr. Cheng Yi-Bei". Twenty-five papers were read at the symposium.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Academic research
- (2) Literature writing
- (3) Chinese-language teaching
- (4) Mass communication and art creativity
(Calligraphy, Peking opera, reporting literature and News writing)
- (5) Peking opera and music research

2. Further studies

- (1) Chinese graduate school
- (2) Taiwan Literature graduate school
- (3) Overseas East Asia graduate school
- (4) Others (Mass Communication, Linguistic, History, Art, etc.)

3. Career options

Academic research, writing, education, journalism, and publishing

CONTACT INFORMATION

Established in: 1945

Chair: Yu-Yu Cheng

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E-mail: chinlit@ntu.edu.tw



INTRODUCTION

NTU traces its origin to Taihoku (Taipei) Imperial University, established in 1928 by the Japanese. After Taiwan was restored to the Chinese in 1945, the Division of Arts and Political Science of the University was divided into the College of Liberal Arts and the College of Law. In 1947, the Department of Foreign Literature was inaugurated in the College of Liberal Arts and renamed as the Department of Foreign Languages and Literatures in 1955. The Graduate Institute of the Department was established in 1966, and the Ph.D. program in Comparative Literature was subsequently added to the Graduate Institute in 1970.

The Department offers a four-year program leading to a Bachelor of Arts degree in Foreign Languages and Literatures. In addition to knowledge of specialized courses, such as the required courses in European, English and American literatures, English as a Foreign Language, Linguistics, and a second foreign language, the students are also encouraged to take courses offered campuswide.

The faculty of the Department is composed of 75 full-time teachers, of which 86 have Ph.D degrees and 23 have M.A. degrees. The Department has been working closely with international academic institutions. In the past it has played host to many renowned scholars--Ihab Hassan, David James, Ronald Tavel, Porter Wood, Gerald Hammond, Robert Magliola etc.,

who lectured or researched here for various durations.

The Department has various kinds of academic activities. In addition to the faculty colloquia held regularly, the Department has hosted several international and national conferences. It regularly publishes two scholarly journals: *NTU Studies in Language and Literature* (in English) and *Chung-wai Literary Quarterly* (in Chinese).

For the past forty years, the Department has been proud to contribute to Taiwan's education and culture by graduating many distinguished scholars, writers, and cultural workers. The Department not only plays a significant role in introducing Western literature, philosophy and thought into Taiwan's society, but also is renowned for offering students solid foreign language programs. It is hoped that with the present resources the Department will strengthen the instruction of foreign languages as the basis for establishing independent French, German and Spanish departments, which could be regrouped into a new College of Foreign Languages and Literatures, to lead and enhance Taiwan's language education programs.

FACULTY

Number of Teachers (full-time): 75

Number of Teachers (part-time): 34

Ph.D.: 86

M.A.: 23

Chair & Associate Professor

Yan-wing Leung Ph.D., Texas A&M Univ

Full-time

Professor

Ching-Hsi Perng Ph.D., in Comparative Literature, Univ of Michigan

Hui Chuan Chang Ph.D., Univ of Massachusetts
Jos'e Eugenio Borao Mateo

Ph.D., Barcelona Univ

Tai Fen Chiang Ph.D., NTU

Hsien-Hao Liao Ph.D., Stanford Univ

Hsiao-Hung Chang Ph.D., Univ of Michigan

Kirill Ole Thompson

Ph.D., Univ of Hawaii

I-Wen Su Ph.D., Univ of Hawaii

Yu-Hsiu Huang M.A., NTU

Chin-Jung Chiu Ph.D., NTU

Chaoyang Liao Ph.D., Princeton Univ

Liang Ya Liou Ph.D., Univ of Texas at Austin

Suitbert Oberreiter Ph.D., Vienna Univ

Li-Ling Tseng Ph.D., NTU

Michael Keevak Ph.D., Yale Univ

Kathleen Ahrens Ph.D., UC San Diego

Shu Ying Chang Ph.D., Universidad Complutense de Madrid

Associate Professor

Shu-Hua Chou Ph.D., Univ of Manchester

Hao Han Huang Ph.D., NTU

Hong Ying Hsu Ph.D., Univ of Illinois

Chun Pai Hsieh Ph.D., Brown Univ

Li-May Sung Ph.D., Univ of Illinois

Ling-Hua Chen Ph.D., NTU

Hsiou-Hsia Jeng M.A., Univ of Alabama

Wen-Yu Chiang Ph.D., Univ of Delaware

Hintat Cheung Ph.D., Univ of Kansas

Nae Dong Yang Ph.D., Univ of Texas at Austin

Patricia Nguyen Ph.D., Lyon 3rd Univ

Vasileios Vagios Ph.D., Univ of London

Theresa Der Lan Yeh

Ph.D., Pennsylvania State Univ

Shiao-Ying Shen Ph.D., Cornell Univ
 Jia-Ling Hsu Ph.D., Univ of Illinois
 Yiu Man Ma Ph.D., NTU
 Ya-Feng Wu Ph.D., Glasgow Univ
 Ming Tsang Yang Ph.D., NTU
 Tsung Huei Huang Ph.D., NTU
 Chris Merkelbach Ph.D., Humboldt University
 Hsin-Ying Li Ph.D., State Univ of New
 York at Buffalo
 Hsiu Chih Tsai Ph.D., NTU
 Karen Steffen Chung
 Ph.D., Leiden University
 Wei Cheng Chu Ph.D., University of Sussex

Assistant Professor

Wei-Ling Chen Ph.D., Universite Paris IV
 Sorbonne
 Zhao Ming Gao Ph.D., Univ of Manchester
 Institute of Science and
 Technology
 Pao Hsiang Wang Ph.D., UC Santa Barbara
 Su Ying Lin Ph.D., NTU
 Chia Yen Ku Ph.D., NTU
 Yong Hway Hsi Ph.D., NTU
 Wen Hsien Hsu Ph.D., Univ of Illinois at
 Urbana-Champaign
 Chi-She Li Ph.D., State University of
 New York at Stony Brook
 Chih Chung Shen Ph.D., University Paris 7
 Pao-I Hwang Ph.D., University of London ,
 Royal Holloway
 Chun-Yi Shih Ph.D., Reading University
 (UK)
 Shan-Shan Wang Ph.D. in Linguistics ,
 University of Hawaii at
 Maona
 Wei-Hung Kao Ph.D. , Kent University
 Bi-Qi Beatrice Lei Ph.D., New York University

Ching-Chung Lin Ph.D., Univ of Heidelberg
 Bennett Yu-Hsiang Fu
 Ph.D. in English Studies
 (études anglaises), University
 of Montreal (Université de
 Montréal)
 Hsiang-I Lin Ph.D., Univ of Besancon
 (France)
 Jui-Pi Chien Ph.D., NTU
 She-Ru Kao Ph.D., University of Bristol,
 UK
 Chia-Chien Chang Ph.D., University of Texas at
 Austin

Pablo Deza Blanco Ph.D., University of
 Barcelona, Didactics on
 Language and Literature
 Department
 Tien-Yi Chao Ph.D., University of Sussex
 Li-Chun Hsiao Ph.D. in Comparative
 Literature, SUNY Buffalo
 Hung-Chiung Li Ph.D., NTU
 Duncan Donald Chesney Ph.D., Yale University

Lecturer

Teh-Ming Sung M.A., Columbia Univ
 Ann-Marie Hadzima
 M.A., Maryville College
 James D. Uchniat M.A., New York Univ
 Bruce Bagnell M.A., Univ. of Syracuse
 Giles Witton-Davies
 M.A., Univ of Lancaster
 Emilie Cheix M.A., University Paris 7
 Janette Custodio Yuvienco
 M.A., University of
 Manchester
 Christian Hein M.A., Universitaet Hannover

Part-Time

Yea Hong Chen	Ph.D., Madrid Univ
Yao Fu Lin	Ph.D., Univ of Minnesota
Yu-Cheng Lee	Ph.D., NTU
Castellazzi Valentino	Ph.D., Univ of Venice
Tien-En Kao	Ph.D., Univ of Hawaii
Yung Hsiao Cheng	M.A., Indiana Univ
Hengsyung Jeng	Ph.D, Univ of Hawaii
Ching-Erh Chang	Ph.D., NTU
An Chi Wang	Ph.D., Vienna Univ
In-Shi Ou	Ph.D., NTU
Huei Keng Chang	M.A., National Taiwan University
Maosung Lin	Ph.D., Unive. of Texas
Thomas Shu-Hui Liao	Ph.D., Univ of Colorado
Chieh Chien	Ph.D., Ludwig-Maximilians-Univ Munchen
Ding Kuo Sze	Ph.D., Indiana Univ
Ling-Hsia Chen	Ph.D, Indiana Univ
Yueh Chen Chang	Ph.D., NTU
Yu Ling Chang	Ph. D., University of Hawaii
Stefan Rummel	Ph.D., Hamburg University
Ai-Chun Yen	Ph.D., Univ of Nottingham
Pi-Tai Peng	Ph.D., University of Essex
Antonella Tulli	Ph.D., Univ of Degli Studi di Roma "La Sapienza"
Monika Leipelt-Tsai	Ph.D., Univ of Hamburg
Wai-Kuen Chui	M.A., Univ of Hawaii
Li-Ming Tang	M.A., Fu Jen Catholic Univ
Edward Partington	LL.B., University of Manitoba
Sheng Pu Hu	M.A., NTU
Kuo Sheng Fan	M.A., NTU
Chih Kuang Jung	M.A., NTU

Timothy Casey	M.A., UC San Francisco
Tsu-Cheng Lin	M.A., NTU
Luis Roncero Mayor	M.A., Univ of California
Du-Lu Hsiao	M.A., Univ de Alcala de Henares
Jing-Huey Hwang	M.A., Univ of York

FACILITIES

The Department utilizes the Audio-Visual Educational Center and computer facilities to enhance the teaching of foreign languages (see "The Audio-Visual Educational Center" section of this bulletin for a description of the Center and its collection of CDs, video tapes, audio cassettes, and other resources). For the training of interpreters, the Department has installed simultaneous interpretation equipment in soundproof booths. All faculty offices are furnished with laser printers and PCs connected to the Internet.

Our students enjoy access to the best library collection of English and American literature in the country, with an average annual increase of 2000 titles. The Department currently subscribes to 195 scholarly journals on foreign languages and literatures.

COURSES

The Department offers a four-year program leading to a Bachelor of Arts degree in Foreign Languages and Literatures. Students should complete a minimum of 138 credits, of which 82 to 88 are of required courses in European, English and American literatures, English as a Foreign Language, Linguistics, and a second foreign language. Students should also take at least 20 to 26 elective credits based on their interests from courses offered campuswide.

Courses Required by the Department

1. Approaches to Literature (6)
2. Introduction to Western Literature I, II (6), European Literature 1350~1800(3), European Literature since 1800(3) (choose any three)
3. English Literature to 1600(3), English Literature 1600~1800(3), English Literature 1800~1900(3), English Literature since 1900(3), American Literature to 1865(3), American Literature since 1865(3) (choose any five)
4. Drama I, II(6), Fiction I, II(6) (choose any three)
5. Second Foreign Language I, II(12) or Second Foreign Language III or above (6)
6. Seminars on Literature and Cultural Studies(9)
7. English Oral Training I, II (8), Oral-Aural Training in English(2), English Composition I II(8), Either English Composition III (4) or Translation (4), Introduction to Linguistics(6)

Electives

Elective courses offered by the Department range from language teaching and business English to contemporary literary theories and cultural studies.

Graduate programs

The graduate programs offer courses toward an M.A. degree in English and a Ph.D. degree in English/Comparative Literature. The M.A., program requires a thesis in addition to a minimum of 30 credits of coursework from three categories, and a required course in writing plus a non-accrediting second foreign language. The candidate must pass the Candidacy Examination before submitting the thesis, which requires an oral defense. Completion of this program takes two to four years. The Ph.D. program in English/Comparative Literature allows candidates to concentrate on either British and American Literature or Comparative Literature.

To earn a Ph. D. degree, the candidate must take a non-accredited second foreign language and complete a minimum of 30 credits of coursework, including one of the three required courses: Literary Theory, Comparative Methodology, and Western Intellectual History (3 credits each). The candidate must also pass the qualifying and preliminary examinations on two subjects and complete a dissertation, which requires an oral defense. Completion of this program takes two to seven years.

ACADEMIC ACTIVITIES

1. Faculty colloquia are held monthly. Distinguished scholars from home and abroad are often invited to give lectures or seminars for the Department.
2. The Department publishes two scholarly journals: *Chung-Wai Literary Quarterly* (in Chinese) and *NTU Studies in Language and Literature* (in English).
3. The Department has hosted quite a few international and national conferences over the years.

CAREERS AND FURTHER STUDIES

Students can continue their interests in Western literature, linguistics or TESOL in graduate studies either in Taiwan universities or abroad. In addition to engaging in education, serving as English teachers in junior high and elementary schools, students can also work in government agencies, such as the Ministries of Foreign Affairs, Economic Affairs, and Education, as well as in the Government Information Office, the Bureau of Investigation, the Tourism Bureau, and the China External Trade Development Council. After graduation, some alumni choose to work as secretaries in trading companies, reporters in the mass media, and translators in many other private-sector enterprises.

CONTACT INFORMATION

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E-mail: forex@ntu.edu.tw



3 DEPARTMENT OF HISTORY



INTRODUCTION

The Department of History is one of the largest centers for historical study in Taiwan, with an international reputation for the high standard of its teaching and research. It has flourished since its foundation in 1928 and currently has 27 full-time faculty and a number of part-time faculty who can run courses and offer supervision on a very wide range of subjects (Chinese, Far Eastern, European and American) and over a wide chronological span from the ancient period to the twentieth century.

The Department has an immense range of academic resources and facilities in support of advanced study. Library resources are extremely

rich (300,000 volumes in the NTU Main Library) in a number of fields, including a comprehensive Chinese collection with special holdings of modern historical periodicals, an archive on Taiwan and growing resources on Europe. Further excellent sources of regional and general Chinese history are easily accessible locally in city and county archives. Students are also encouraged to use computing and language facilities available elsewhere in the University.

The Department runs regular faculty and postgraduate seminars and organizes a number of open lectures, special seminars and colloquia each year. The Department maintains an active research program of lectures and seminars when faculty, postgraduates and visitors present current research ideas and problems. It has

exchange programs with universities in the USA, Canada, Australia, Holland and many other countries. The Department also keeps close links with other departments within the University and with Academia Sinica, especially in such fields as archaeology, historiography, women's studies, economic history, art history, demography, area studies, history of science and cultural studies. Academic exchanges and joint supervision of research degrees can be freely arranged. Always maintaining vigorous commitment to research work, the Department has been dynamic and forward looking in the development of new areas of study, and has been an important and creative center of Chinese studies at their widest. Three periodicals and a series of selected dissertations are published and issued regularly by the Department.

The course of study is offered in response to a growing need for advanced study in history and other related disciplines. And, students are asked to explore in depth the sources for such study. A broad-based research training program is arranged for students in their first year. Teachers with M.A. and Ph.D. in History offer an attractively wide variety of courses. Students can create a degree scheme to suit their own interests, with courses which reinforce one another or which cover a diversity of periods, nations, or subjects. The study should be of particular value to those intending to be scholars as well as teachers. Supervision is available in most areas of Chinese history. Other special research interests of the faculty members include: modern Chinese history, intellectual history, economic history, religious history, Japanese history, Taiwanese history, ancient and modern European history, American history and international history.

FACULTY

Full-time: 27

Part-time: 26

Ph.D.: 46

M.S.: 6

Chair/ Professor

Huai-Chen Kan Ph.D., NTU

Full-time

Professor

Fu-San Huang	M.A., Univ. of Cambridge
Chun-Chieh Huang	Ph.D., Univ. of Washington
Ken-Yao Liang	Ph.D., NTU
Peing-Shen Hu	Ph.D., NTU
Wei-Ying Ku	Ph.D., Univ. of British Columbia
Yung-Fa Chen	Ph.D., Stanford Univ.
Chan-Liang Wu	Ph.D., Yale Univ.
Su-Hsien Yang	Ph.D., Univ. of Edinburgh
Shih-Chung Wang	Ph.D., Univ. of Leeds
Jo-Shui Cheng	Ph.D., Yale Univ.
Wan-Yao Chou	Ph.D., Yale Univ.

Associate Professor

Wei-Hung Lin	M.A., NTU
Chia-Feng Chang	Ph.D., Univ. of London
Yuan-Yi Wang	Ph.D., University of Wisconsin, Madison
Ena Chao	Ph.D., Univ. of North Carolina, Chapel Hill
Cheng-Hua Fang	Ph.D., Brown Univ.
Wen-Liang Lee	Ph.D., NTU

Assistant Professor

Hong-Chong Yen	Ph.D., NTU
Chang-Yi Tung	Ph.D., NTU
Chiao-Mei Liu	Ph.D., Univ. De Paris I.
Jo-Lan Yi	Ph.D., National Taiwan Normal Univ.

Tsung-Jen Chen	Ph.D., NTU
Hui-Hung Chen	Ph.D., Brown Univ.
Hui Liu	Ph.D., Univ of London
Man-Yi Chin	Ph.D., Ecole Des Hautes Etudes En Sciences Sociales

Lecturer

Ping-Yu Hsu	M.A., NTU
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Part-time

Professor

Yung-Ho Tsao	Taipei Prefectural Second Middle School
Cheng-Sheng Tu	M.A., NTU
Ching-Hsing Huang	Ph.D., Harvard Univ.
I-Tien Hsing	Ph.D., Univ. of Hawaii
Hsueh-Chi Hsu	Ph.D., NTU
Fan-Sen Wang	Ph.D., Princeton Univ.
Hong Hsu	Ph.D., NTU
Jy-sheng Ruaan	Ph.D., NTU
Wen-Shin Wu	Ph.D., National Taiwan Normal Univ.
Yuan Chang	Ph.D., NTU
Ki-Che Leung	Ph.D., Ecole Des Hautes Etudes En Sciences Sociales
Tsu-Yu Chen	Ph.D., Univ. of Tokyo
Cheng-Teh Lee	Ph.D., Univ. of Washington
Shih-chi Liu	Ph.D., NTU
Tseng-kuei Liu	Ph.D., NTU
Hsiao-t'i Li	Ph.D., Harvard Univ.
Li-sheng Huang	Ph.D., National Taiwan Normal Univ.
Po-Kan Chou	Ph.D., Univ. of Chicago
Mi-Cha Wu	M.A., Univ. of Tokyo

Associate Professor

Liang-Kai Chou	Ph.D., University at Buffalo
Shih-Ming Ko	Ph.D., NCCU
Kun-Chiang Chang	Ph.D., NTU
Peng-sheng Chiu	Ph.D., NTU

Assistant Professor

Chun-Shan Li	Ph.D., NTU
Su-Ying Ou	Ph.D., National Taiwan Normal Univ.
Lei Chia-sheng	Ph.D., National Taiwan Normal Univ.

FACILITIES

Located in three different buildings, History Department contains plenty of space for the purposes of teaching, study and research. There are 31 offices for faculties, two reading rooms for students, one seminar room, one conference room, and two offices for administrators and editors.

The History Department provides many electronic equipment for teachers and students to conduct their research and studies, including computers, copy machines, scanners, digital cameras, fax machines, laser printers, and LCD projector. Book collections also grew considerably in the recent five years, as the department bought 4685 books and subscribed to 480 academic journals.

COURSES

Undergraduate Programs

1. The undergraduate program of the Department of History aims to enhance the education of the humanities and to provide specialized training for prospective students in the research and teaching of history. The Department offers a four-year program. Students are required to take a minimum of 128 credits for a B.A degree.
2. Basic Requirements: History of China(12), Survey of World History(12), Study of History as a Discipline(3), History of Taiwan(4), Historical Methodology(3), Foreign Language(6), Historiography(4), History

Classics(4), Categories of History(9), Major Field of Study(11)

Graduate Programs

1. Requirements for the M.A., Degree M.A.

Students are required to take a minimum of 24 credits of course work. These courses include the following: (1) Seminar on historical studies, (2) a two-semester reading course on historiography in a foreign language, (3) a course related to the student's research interest in another department, and (4) M.A. thesis and research (0 credits). Aside from course work, M.A. students are also required to pass a preliminary written test and an oral defense of their M.A. theses.

2. Requirements for the Ph.D., Degree Ph.D. students must take a minimum of 24 credits of course work, including the following required courses: a course related to the student's research interest in another department; Ph.D. thesis research (0 credit). Aside from course work, Ph.D. students are also required to pass a test in a second foreign language, a preliminary written test and an oral defense of their Ph.D. theses.

ACADEMIC ACTIVITIES

1. The Department organizes a lecture series every semester. Domestic and international speakers present topics covering a wide range of historical subjects.
2. The Department publishes regularly *Shi-Yi*, *History and Chinese Literature Series*, and *Historical Inquiry*.
3. The Department has compiled a multi-volume series of Abstracts of Journal Articles on Chinese History and composed a series of Taiwanese oral history from 1965 to 1966. The Department also published translations of foreign language articles on Asia (two volumes) and on the West (four volumes) in 1971.

4. The Department frequently hosts national and international conferences.
5. The Department is involved in collecting materials related to the history of Taiwan, and in collating the valuable collection of such materials held in the University.

CAREERS AND FURTHER STUDIES

1. Professional abilities
Training as a historian
2. Further studies
Mass Media, Education, History of Art, etc.
3. Career options
Researcher, History teachers, Mass Media, editors, etc.

CONTACT INFORMATION

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4 DEPARTMENT OF PHILOSOPHY



INTRODUCTION

The Department of Philosophy at NTU can trace its origin back to the Philosophical Section in the Division of Arts and Political Science of Taihoku Imperial University during the Japanese colonial period. In the course of its development, our department started an MA program in 1957 and a Ph. D. program in 1985. Owing to the increasing need for more professional research and teaching, our graduate program was divided into an Eastern philosophy track and a Western philosophy track in 2000. In its fifty years of existence, the philosophy department has awarded more than 1,800 Bachelor degrees, 328 Master degrees, and 54 Ph.D. degrees.

The main goals of this department are to provide students with a rich and profound foundation in the field of humanities and to hone their philosophical talents for the sake of demonstrating profound, wide-ranging and incisive reflections on value that will guide the ethical orientation of our society. We are proud of our open-minded curriculum, and we are active in building co-operative relationships with other universities. For instance, we have so far established academic links with the Department of Language and Literature, the Department of Arts and Craft Education, and the Department of Elementary Education at the National Taipei Teachers College. Students on either side can freely select courses at the counterpart institution.

Since its initial establishment, our department won fame for synthesizing Eastern and Western philosophies, for penetrating ancient wisdom and advancing modern insight, and for educating exceptional talents. This is illustrated by the fact that our graduates have shown prominent accomplishments in numerous fields, such as academics, politics, literature, art, education, and publishing.

Our future goal is to keep and deepen the concurrent coverage of Eastern and Western thought. The Eastern philosophy track aims to deepen the exploration of Confucianism, Taoism and Buddhism. The Western philosophy track intends to advance the comprehensive coverage of both traditional and modern philosophy. This will allow our faculty to conduct research on their own scholarly subjects and to introduce the very essence of Eastern and Western philosophy to our students.

FACULTY

Full-time Professors: 18

Part-time Professors: 5

Ph.D., degree holders: 21

M.A., degree holders: 2

Chair/Associate Professor

Hsiao-Chih Sun Ph.D., in Philosophy,
Hochschule für Philosophie,
Munchen, Germany

Full-Time Professor

Pei-Jung Fu Ph.D., in Religious Studies,
Yale University, U.S.A.

Tran Van Doan Ph.D., in Philosophy,
Innsbruck University, Austria

Yih-Jing Lin M.A., in Philosophy, NTU

Wing-Chung Kwan Ph.D., in Philosophy &
Theology, Univ. of Louvain
(K.U.L.), Leuven, Belgium

Wing-Wah Chan Ph.D., in Philosophy, Fu Jen
Catholic University, Taiwan

Huo-Wang Lin Ph.D., in Philosophy, Iowa
University, U.S.A.

Denis Hsin-An Tsai Ph.D. in Philosophy, St. Louis
University, U.S.A.

Hsiao-Po Wang M.A. in Philosophy, NTU

Associate Professor

Chin-Mu Yang Ph.D., in Philosophy, Oxford
University, U.K.

Yao-Ming Tsai Ph.D., in Buddhist
Studies, University of
California, U.S.A.

Bau-Ruei Duh Ph.D., in Philosophy, NTU

Jeu-Jenq Yuann Ph.D., in Philosophy, Catholic
Univ. of Leuven, Belgium

Assistant Professor

Chih-Sheng Yang Ph. D., in Philosophy, NTU

Masayuki Sato Ph. D., in Philosophy, Leiden
University, Netherlands

Caleb Yi-Yu Liang Ph.D., in Philosophy, Indiana
University, U.S.A.

Wim De Reu Ph.D., in Chinese Studies,
Catholic Univ. of Leuven,
Belgium

Wen-berng Pong Ph.D., in Philosophy, Universiät-
Gesamthochschule Siegen,
Germany

Part-Time

Professor

Chao-Tien Lin	Ph.D., in Philosophy, University of Columbia, Canada
Kuei-Chieh Liu	Ph. D. in Philosophy, Chinese Culture University, Taiwan
Hong-Hsin Lin	Ph. D. in Theology, University of Tübingen, Germany Ph. D. in Philosophy, University of Nottingham, U. K

Associate Professor

Hann-Tong Tzeng	Ph. D. in Philosophy, NTU
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Assistant Professor

Immanuel Chih-Ming Ke	Ph. D. in Philosophy, Chinese Culture University, Taiwan
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FACILITIES

Our department has its own building equipped with 25 individual research rooms for our full-time faculty, and two research rooms for our graduate students. In addition, there are also two seminar rooms, a library, a conference room, and a computer room, which are available for our teaching staff and students. Our department possesses 40 personal computers and printers, 1 fax machine, 4 projectors, 1 epidiascope, and 3 photocopy machines.

Our library possesses a collection of approximately 30,000 volumes in Chinese and 40,000 in Western languages. Our collection also includes 250 different periodicals and 650 volumes of theses and reports.

COURSES

Undergraduate Programs

1. 48 credits in required courses include:
Elementary Logic(4), Introduction to Philosophy(6), History of Chinese Philosophy(12), History of Western Philosophy(12), Metaphysics(4), Ethics(4), Epistemology(4), Tutorials on special topics(2). (Numbers in parentheses indicate the required credits.)
2. 21 credits in optional courses, at least three topics from each group.
Group A: Confucian Philosophy in the Pre-Ch' in Period, Taoist Philosophy in the Pre-Ch' in Period, Philosophy of I-Ching, Modern & Contemporary Chinese Philosophy, Introduction to Buddhism.
Group B: Contemporary Anglo-American Philosophy, Contemporary Continental Philosophy, Philosophy of Religion, Aesthetics, Philosophy of Science.

Graduate Programs

M. A. Program in Oriental Philosophy

Candidates should satisfy the following conditions:

A minimal requirement of 36 credits, including the following required courses: Confucian philosophy(4), Taoism(4), Buddhism(4) (at least two topics in this three courses), Tutorials on special topics(2), Tutorials for thesis(6), together with optional courses on special topics, classics and philosophers related to oriental philosophy(12).

M. A. Program in Western Philosophy

Candidates should satisfy the following conditions:

1. A minimal requirement of 36 credits,

including masters thesis(6), two seminars on fundamental topics in the following four fields: epistemology and philosophy of science(3), metaphysics(3), ethics and philosophy of values(3), logic and philosophy of language(3).

2. Two courses in the following four periods of history of philosophy: ancient Greek philosophy, medieval philosophy, modern philosophy, contemporary philosophy.

Ph.D. Program in Oriental Philosophy

Candidates should satisfy the following conditions:

A minimal requirement of 36 credits, including the following items:

1. Four required courses: Seminar on fundamental problems in oriental philosophy(4), Special topics in Confucianism(4), Special topics in Taoism(4), Special topics in Buddhism(4) (at least two topics in this three fields).
2. Tutorials on special topics(2)
3. Tutorials for dissertation(12)
4. Optional courses on related topics, classics and philosophers in oriental philosophy(6)

Ph.D. Program in Western Philosophy

Candidates should satisfy the following conditions:

A minimal requirement of 24 credits, including the required courses as specified for M. A. program in western philosophy, except for Tutorials for dissertation(12).

ACADEMIC ACTIVITIES

1. The department publishes a journal, *National Taiwan University Philosophical Review*, twice issue a year. From now on, each volume will include two issues published in March and October annually.
2. A philosophical conference is held locally each year.

3. A faculty seminar is held regularly every month.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) The ability to think logically and profoundly
- (2) To develop a proficiency in foreign language skills
- (3) To gain rich knowledge on Humanities

2. Further studies

- (1) The Graduate Institute of Philosophy
- (2) The Graduate Institute of Education
- (3) The Graduate Institute of Art
- (4) The Graduate Institute of Chinese Literature
- (5) The Graduate Institute of Journalism
- (6) The Graduate Institute of Law
- (7) The Graduate Institute of Economics
- (8) The Graduate Institute of Drama and Theatre
- (9) The Graduate Institute of Building and Planning

3. Career options

- (1) Cultural administration and business in cultural fields
- (2) Education
- (3) Journalism, Publishing, Editing
- (4) Translation
- (5) The Arts

CONTACT INFORMATION

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5 DEPARTMENT OF ANTHROPOLOGY



INTRODUCTION

The Department of Anthropology, NTU, former Department of Archaeology and Anthropology, originated from the Institute of Ethnology in the College of Liberal Arts and Political Science of Imperial Taihoku University. In 1949, the Department was established, and continued to be a portion of the College of Liberal Arts. Its M. A. program was initiated from 1956, and the Ph.D. program was started in 1997.

FACULTY

Full-time: 10

Part-time: 14

Ph.D. Degree: 19

M.A. Degree: 2

B.A.: 3

Chair/ Associate Professor

Yuan-Chao Tung Ph.D., Southern Methodist
University

Full-time

Professor

Shih-Chung Hsieh Ph.D., University of
Washington, Seattle

Associate Professor

Chia-Yu Hu	Ph.D., University College London
Wei-Ping Lin	Ph.D., Cambridge University
Maa-Ling Chen	Ph.D., Arizona State University

Assistant Professor

Hsueh-Cheng Yen	Ph.D., Michigan State University
Yu-Pei Chen	Ph.D., Kyushu University
Mei-Hsia Wang	Ph.D., Cambridge University
Po-Chan Chen	Ph.D., University of California, Los Angeles
Su-Mei Lo	Ph.D., 'Ecole des Hautes 'Etudes en Sciences Sociales, Paris

Part-Time

Professor

Chi-lu Chen	Member of Academia Sinica
Wen-Hsun Sung	Member of Academia Sinica
Yi-Yuan Li	Member of Academia Sinica
Chao-Mei Lien	M.A., University of Chicago
Ying-Kuei Huang	Ph.D., London School of Economics and Political Science
Shih-Chiang Huang	B.A., NTU
Jih-Chang Chester Hsieh	Ph.D., Washington University, Saint Louis
Hsun Chang	Ph.D., University of California, Berkeley

Associate Professor

Cheng-Ming Tseng	B.A., NTU
Chun-Rong Yeh	Ph.D., Michigan State University

Assistant Professor

Wei-Chun Chen	Ph.D., University of Arizona
Kai-Shyh Lin	Ph.D., University of Chicago
Yung-Ti Li	Ph.D., Harvard University
Shen-Yu Lin	Ph.D., Universität Bonn

FACILITIES

The department is located in a four-storied building near the main entrance of NTU. In addition to faculty offices and classrooms, there are ethnological museum, archaeological museum and an informal library.

The two miniature museums, which are mainly for supporting professors' teaching and research represent a long and proud tradition of the Department. It keeps a unique collections of ethnological and archaeological objects of Taiwan, serves as the specimens of material culture and also preserves artifacts of cultural heritage in this island country.

The ethnological collection is composed of more than 3,000 specimens. Most of them are searched and collected during WW II and the first 15 years after the war. The majority of specimens are Taiwan indigenous artifacts, including daily utensils, clothing, ornaments, ceremonial regalia etc. Some artifacts are from Hainan Island, southern China, insular Southeast Asia and Oceania.

Most of the archaeological collections are findings from archaeological excavations completed by professors and students, and the collection grows annually. Many of the objects are from prehistoric sites in Taiwan, and a few are from China and other places.

Additionally, the museum holds many anthropological photographs and various historical documents. They provide valuable first-hand informa-

tion on Taiwan indigenes and their interaction with Japanese and Han-Chinese / Taiwanese.

The ethnological museum is on the ground floor. The display is arranged according to the distribution of each Austronesian ethnic group in Taiwan: Pingpu (or Plains indigenes), Amis, Atayal, Saisiat, Tsou, Bunun, Rukai, Paiwan, Puyuma, Yami, as well as those of Hainan Island and the South Seas.

The archaeological exhibition hall is located on the second floor. The arrangement is conducted in the light of prehistoric sites in Taiwan, which are grouped into four areas: Northern, Central, Southern and Eastern. The main features include excavations conducted at the Chang-ping site of the Preceramic Period, and a wide range of the Neolithic era. Along with the archaeological specimens, quite a few casts of fossil hominids are also exhibited.

COURSES

Undergraduate Program

Undergraduate students must finish taking 132 credits for a B.A. degree. The four-year program stresses integration of four branches of anthropology, namely, socio-cultural anthropology, physical anthropology, archaeology, and anthropological linguistics.

Graduate Programs

The master program requires a second foreign language and a thesis in addition to taking courses of 28 credits as minimum. All students must take two core courses: Fundamental Theories of Archaeology and Fundamental Theories of Cultural Anthropology, in the first year.

The Ph.D. program requires completing 26 credits in course work and 12 credits of dissertation.

The qualifying examination will be held upon fulfillment of all academic requirements, which include taking two years of a second foreign language.

ACADEMIC ACTIVITIES

The Department has published the bi-yearly *Bulletin of the Department of Anthropology* for 67 volumes. It is the oldest journal on anthropological research in Chinese academic community. Moreover, 22 occasional research monographs have been published in previous six decades. Local field trips in cultural anthropology and archaeology for undergraduate students are carried out every year during the winter break. There are on-going multifarious research projects conducted by professors that reflect a broad interest in pursuing academic purpose.

CAREERS AND FURTHER STUDIES

1. Professional abilities

Cultural conservation and survey, analyses of human and ethnic relationships, exploration of social problems, archaeological fieldwork, cultural anthropological fieldwork, heritage conservation, analysis and research of specimens.

2. Linked units

Department of Anthropology (NTU), Institute of Anthropology (National Tsing Hua University), Institute of Ethnic Relations and Culture (National Dong Hwa University), Department of Ethnology (National Chengchi University), Institute of Anthropology (Tzu Chi University), Institute of Anthropology (National Chinan International University), Department of Anthropology (Fokuang College of Humanities)

and Social Science), Institute of Austronesian Studies (National Taitung University), anthropology related graduate institutes in other countries, and museum study programs in various universities

3. Career options

Except academic research, the graduates from this department have very broad choices in professions, like editors, art editors, librarians, computer programmers, traditional Chinese doctors, civil servants, teachers, artists, journalists, mass communication, photographers, art performers, publisher and human resource management.

CONTACT INFORMATION

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INTRODUCTION

The Department and Graduate Institute of Library and Information Science (LIS) opened in the fall of 1961, with a class of 25 students. Its master's program was established in 1980, and the doctoral program was subsequently added to the Graduate Institute in 1989. The Department is the first institution in Taiwan of its kind to offer library and information science education at all levels, ranging from an undergraduate major to a Ph.D. program. For over 40 years, the Department has educated individuals to work in libraries, information agencies, and other information professions. Academic excellence has been a hallmark of the Department since its founding.

We see our mission as bringing people and their desired information together and using technology as a tool to help in this process. The objectives of the department include:

- 1.to prepare students for careers in the field of library and information science,
- 2.to advance the profession and practice of library services,
- 3.to make significant contributions to the study of librarianship and information, and
- 4.to promote the social status of librarians and information professionals.

The curriculum provides solid grounding in both the traditional and emerging areas of library and

information science. It emphasizes the essential knowledge, skill and professional attitude needed by professionals in these fields. It aims at fostering information professionals equipped with the theories and practices of library and information science through the study of the foundations, principles, and ideas of the discipline, and the status and expectations of the profession.

The Department provides high quality educational and research opportunities in an interdisciplinary learning environment. The Department currently resides in a four-storied building consisting of a departmental library, a computer lab, classrooms and other facilities, as well as offices for administrative staff, faculty members, and graduate students. This environment facilitates the integration of teaching and research resources. It also encourages and supports interaction between faculty and students. The learning, studying, teaching and research activities are fully supported by a wealth of resources (for example, the departmental library contains over 25,000 library and information science monographs and 402 periodicals) as well as modern facilities and computing equipments.

Faculty members further the Department's objectives by teaching and advisory work, by research and scholarly publication, and by service to the Department, the University and the professional community. They are known for their commitment to research and teaching, and also for their high level of interaction with students. They contribute to the generation of new knowledge and new understanding about the production, organization, communication, analysis, synthesis, use, and dissemination of information through research and publication.

FACULTY

Full-time:11

Part-time:9

Ph.D.:17

M.S.:3

Chair/ Professor

Clarence Tsa-Kang Chu

Ph.D., Indiana University

Full-time

Professor

Ming-Der Wu Ph.D., Pennsylvania State University

Hsueh-Hua Chen Ed.D., University of Georgia

Mu-Hsuan Huang Ph.D., University of Maryland

Shan Ju L. Chang Ph.D., Rutgers University

Associate Professor

Pao-Nuan Hsieh Ph.D., National Chiao-Tung University

Kuang-Hua Chen Ph.D., NTU

Chen Su-May Sheih Ph.D., University of Wisconsin-Madison

Assistant Professor

Wen-Chin Lan Ph.D., University of North Carolina at Chapel Hill

Muh-Chyun Tang Ph.D., Rutgers University

Chi-Shiou Lin Ph.D., University of Wisconsin-Madison

Emeritus Professor

James S.C.Hu Ph.D., Florida State University

Part-time

Professor

Chen-Yung Fan Ph.D., Duke University

Sieu-Mai Cheng M.L.S., Drexel University

Lucy Te-Chu Lee	Ph.D., University of Pittsburgh
Shiow-Jyu Lu	M.A.L.S., University of Chicago
Mei-Yueh Pan	M.A., NTU
Chao-Chen Chen	Ph.D., NTU
Yu-Sheng Liao	Ph.D., NTU

Associate Professor

Fang-Rung Juang	Ph.D., Chinese Culture University
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Assistant Professor

Ko-Chiu Wu	Ph.D., NTU
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FACILITIES

The Department has a separate departmental library. This library houses the largest library and information science collection in Taiwan. These resources have greatly contributed to the teaching, learning, and research activities in the Department. Not only does the Library serve as a learning center for the Department, but it also provides opportunities for students to gain field experience. Besides, the Library extends its service to the professional community as well.

Facility and technological infrastructure include a cataloging room, a computer lab, an audio-visual room, and an audio-visual production room. The cataloging room is equipped with a computer, an auto-screen, and a connector. It also houses a collection of materials needed for the training and practice of cataloging and classification. The computer lab provides 30 computers, with the installation of various needed software. The audio-visual room has much equipment, such as a computer, an auto-screen, a film projector, a multi-projector, cordless microphones, a tape recorder, and so on. In order to prepare students with the knowledge and skill involved in processing and producing audio-visual materials,

the Department constructs a completely equipped audio-visual production room. It provides projectors, sound sync recorders, video cassette recorders, video cameras, audio amplifiers, cameras, tape recorders, video editing machines, color TV sets, CD players, portable stereos, and the like. Related activities are supported by these facilities.

COURSES

Undergraduate Programs

The primary objective of this program is to cultivate library and information science professionals. To earn the B.A. degree, a student must obtain a minimum of 139 credits of course work, including 30 credits required by the University, 61 required and 28 elective credits for the major subject specialty, and 20 elective credits from other departments.

Freshman

Introduction of Library Science (2), Reference Resources(3), Introduction to Information Science(2), General Psychology(3), Introduction to Communications (2), Internet Resources (2), Introduction to Computer Science(3).

Sophomore

Sociology (3), Computer Networks and Communication (2), Collection Development(3), Reference and Information Service(2), Non-book Materials(2), Research Methods and Thesis Writing(2), Second Foreign Language(6).

Junior

Information Organization I(3), Information Organization II(3), Library Field Work III(1), Information Retrieval(3), at least one of the following: Literature of the Humanities, Literature of the Social Sciences, Literature of Science and

Technology, Government Information Resources, Law Materials, Law Materials management, and Business Information Services(3), Library Management(2), Information Psychology(3).

Senior

Library Field Work IV(1), Special Topics in Library & Information Science(2), Library Automation(3).

The M.A. Degree Programs

Admission to the M.A. degree program is based on performance in the University Entrance Examination or on a reviewing and selecting basis. Foreign students are not required to take the entrance examination but are evaluated based on their academic background and experience.

Degree requirements for the master's program are as follows:

1. At least two years of study;
2. 30 credits of course work with a passing grade of 70 in addition to 6 credits applied to thesis research and writing; and the grades for student conduct above 70;
3. Completion of a comprehensive examination in two specialized fields;
4. Completion of a master's thesis and oral examination.

Besides, the graduation requirements for the special M.A. program for part-time in-service students are as follows:

1. At least two years of study;
2. 24 credits of course work with a passing grade of 70 in addition to 6 credits applied to thesis research and writing; and grades for student conduct above 70;
3. Completion of a master's thesis and oral examination.

The Ph.D. Programs

Admission to the Ph.D. degree program is based on performance in the University Entrance Examination.

Graduation requirements for the Ph.D. Degree are as follows:

1. At least two years of study;
2. 24 credits of course work with a passing grade of 70 in addition to 12 credits applied to dissertation research and writing; and the grades for student conduct above 70;
3. A total of 6 credits are required in either a second foreign language not previously acquired or advanced research methods. However, the second foreign language requirement can be waived by successfully passing the standard language test held at NTU.
4. Successful publication of two journal articles, one of which in English, in journals approved by the department;
5. Satisfactory completion of a comprehensive examination that may be taken after the student has completed 24 credits of course work. Upon successful completion of the comprehensive examination, the student prepares a dissertation proposal to present to the Dissertation Committee;
6. Successful defense of a doctoral dissertation. Doctoral students who do not have library and information science degree will have to complete all M.A. program's required courses as well as other prerequisite courses.

ACADEMIC ACTIVITIES

The faculty members of the Department actively participate in research projects funded by the National Science Council, Ministry of Education, the National Bureau of Standard, and the Research Development and Evaluation Commission. Current research projects of the faculty focus on information retrieval, digital

library, bibliometrics control, and information-seeking behavior.

In addition, the Department has published an annual scholarly journal entitled Library and Information Studies since 1967. The editorial board decided to change its frequency of publication from annually to quarterly starting in June 2003. It will continuously provide a useful medium of publishing and disseminating the findings and results of library and information science research.

Furthermore, the Department and the Library Association of R.O.C. cooperatively hold "Library and Information Workshop" annually to provide continuing education for library professionals to update and enhance their knowledge and skills.

CAREERS AND FURTHER STUDIES

After graduating from the department, students can study further by taking the entrance exams of domestic library and information science graduate schools, by going abroad to study in foreign library and information science graduate schools, or by taking the entrance exams of other graduate schools, such as communication, management, and information management graduate schools, according to students interests.

Students can also gain the qualification of officials to become professional librarians by taking the national civil service exams, such as advanced level exams, general level exams, or special exams. The subjects that students can take include management of library and information science, management of archives, etc.

Students interested in practical business can go to work as well. Regardless of whether they are

in the country or not, 30% of our graduates serve in libraries after graduation, the largest proportion among the alumni. Most of them work in university libraries. Those who work in the information, computer and electronics industries account for 10%, the second largest portion. Others may work in universities, the government, commercial organizations, the news media, financial and insurance corporations, school, and so on. Indeed, this reveals that the range of the career choices of our graduates is wide and diverse.

CONTACT INFORMATION

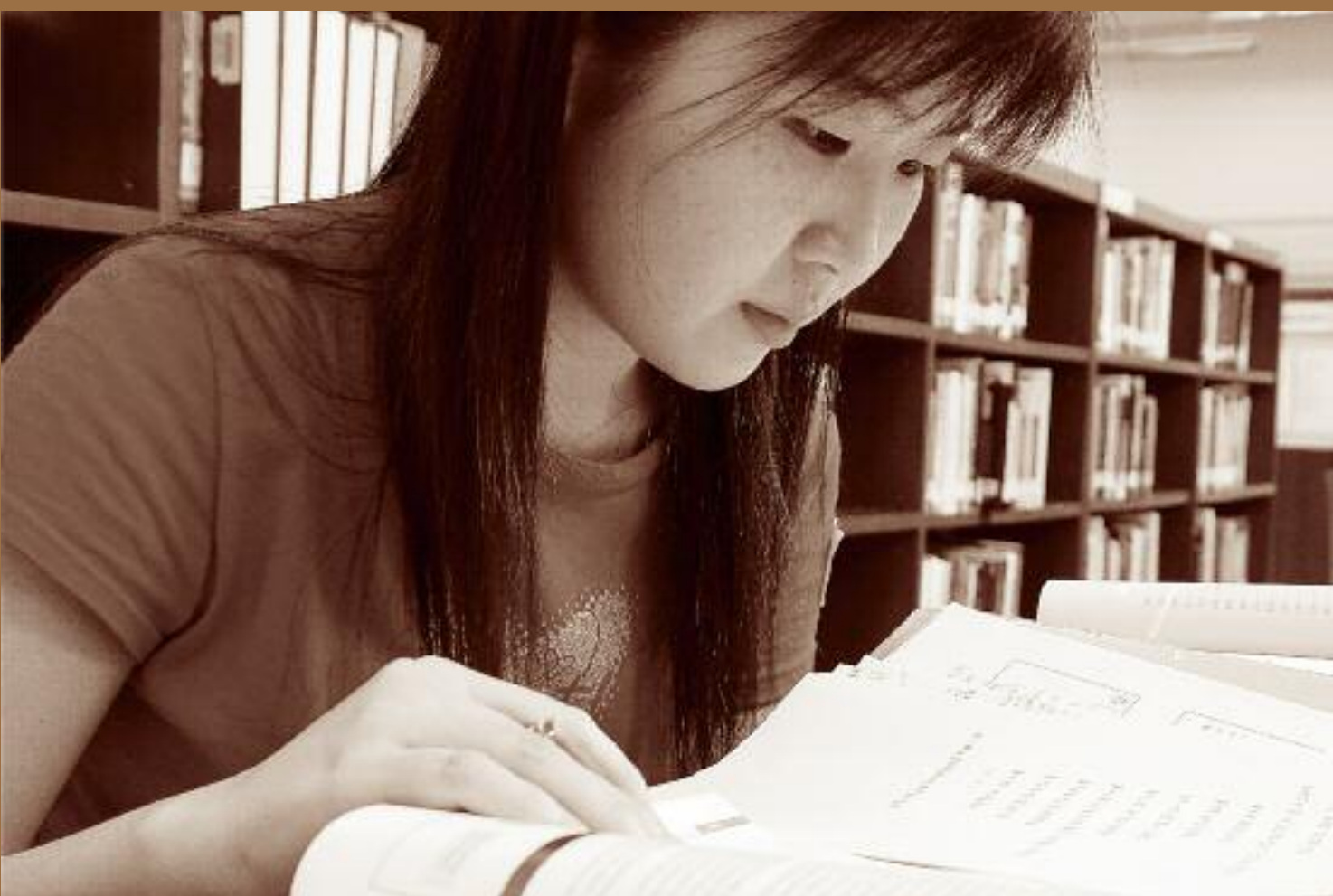
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INTRODUCTION

This department was established in 1994, the first of its kind among national universities. The Graduate Institute of Japanese Language and Literature was established in 2003.

Whereas students in the English Department have been studying English since high school, most students entering this department had little or no Japanese before. Therefore, during the first two years, the Department provides small classes for intensive training in listening, speaking, reading, and writing Japanese. During the junior and senior years, students are given in-depth training in Japanese linguistics, literature, culture, and translation. An effort is made to impart knowl-

edge of Japanese culture and society through the language to build students into specialists of Japan.

Our prospects are as follows:

1. The Department will encourage more exchanges with outstanding universities in Japan to improve language skills and broaden its fields of research. Humanistic studies require the continuous effort of generations and Japan has done this to assure their world-leading position in Sinology. In contrast, Japanese studies have not received the same amount of attention here. This Department aims to address this and distinguish itself in the field of Japanese studies.
2. The Department will continue to secure teachers with expertise in Japanese studies in order to strengthen its program in areas of both practical use and scholarly research.

FACULTY

Full-time:12

Part-time:5

Ph.D. Degree:11

M.A. Degree:6

Chair/ Professor

Shing-Ching Shyu Ph.D., Kyushu Univ.

Full-time

Professor

Ming-Tzu Chen Ph.D., Tohoku Univ.

Masae Toyochi Hsieh

M.A., Univ. of Southern
California

Associate Professor

Hung-Hsin Huang Ph.D., Tohoku Univ.

Huei-Chun Lin Ph.D., Kyushu Univ.

Chiou-Erl Ju Ph.D., Kyoto Univ.

Li-Ping Lin Ph.D., Nagoya Univ.

Shu-Wen Fan M.A., Ochanomizu Univ.

Assistant Professor

Jing-Huei Tsau Ph.D., Okayama Univ.

Yu-Han Huang Ph.D., Waseda Univ.

Lecturer

Nobuyuki Shinohara

M.A., Waseda Univ.

Miki Hattori M.A., Univ. of Tsukuba

Part-time

Emeritus Professor

Jui-Teng Ho Ph.D., Toyo Univ.

Professor

Yoshikazu Yoneyama

M.A., Univ. of Washington

Sun-Bun Tio Ph.D., Tokyo Univ. of

Foreign Studies

Associate Professor

Szu-Shen Ho Ph.D., Cheng-chih Univ.

Lecturer

Kenji Torio M.A., Univ. of Tsukuba

FACILITIES

Worthy of special mention is the collection inherited from Taipei Imperial University. Then under the guidance of the famous scholar Masatsugu Andou and editions and cataloguing experts Yasushi Uematsu and Sadaharu Takita, publications crucial to the study of Japanese literature were procured, some of which can't even be found today in Japan itself. These collections include 4,852 volumes in 562 sets belonging to the Momonoki Collection, 1,269 books in 505 sets belonging to the Nagasawa Collection, 332 books in 331 sets belonging to the Ueda Collection, 8,597 string-bound books in 2,272 sets, over 7,000 modern bound books, and precious writings on Taiwan aborigines. This collection stands up to comparison against those of the Imperial Universities within Japan itself.

Looking forward to the establishment of its graduate program and a unique focus, the Department is emphasizing the collection of overseas Japanese literature. In all, the Department has amassed a total of over 350,000 volumes and over 60 Japanese periodicals.

In terms of facilities, the Department has computers with Japanese software, TVs, VCRs, satellite receivers, and a computer/conference room for student on-line access and seminars. For language teaching, the Department uses the facilities of the Audio-Visual Center of the College of Liberal Arts.

COURSES

In order to graduate with a Bachelor's degree, students must complete a minimum of 140 credits, of which 88 are department-required credits and 16 are department elective credits.

Undergraduate Programs

Elementary Japanese (8), Japanese Conversation I (8), Japanese Oral/Aural Training (4), Japanese Composition I (4), Intermediate Japanese (6), Japanese Conversation II (6), Japanese Composition II (6), Japanese Translation I (4), Japanese Culture (4), Japanese Syntax (6), Advanced Japanese (4), Japanese Translation II (4), Introduction to Japanese Linguistics (4), History of Japanese Literature (6), Readings in Japanese Literary Masterpieces (4), Readings in Modern and Contemporary Japanese Literature (4), Readings in Classical Japanese Literature (4), Readings in Japanese Linguistics (4)

The M.A. Degree Programs

The M.A. Program requires a thesis in addition to a minimum of 32 credits of coursework, including 12 elective credits for the major subject specialty (Japanese Literature Culture or Japanese Linguistics), and 6 elective credits for the minor subject specialty (Japanese Literature or

Linguistics).

ACADEMIC ACTIVITIES

1. The Department holds an annual international seminar as well as occasional domestic seminars to increase scholarly exchange and enhance scholastic standards.
2. The Department also established a Japanese written scholarly journal NTU Studies in Japanese Language and Literature in 2000 and has already published six issues.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Japanese language
- (2) Japanese literature
- (3) Japanese translation and interpretation
- (4) Teaching Japanese as a second language

2. Further studies

- (1) Graduate institute of Japanese language and literature
- (2) Graduate institute of Japanese study
- (3) Graduate institute of linguistics and translation

3. Career options

- (1) Japanese teachers
- (2) Diplomatic agents
- (3) Translators and interpreters
- (4) Commercial secretaries, travel agents, editors, journalists, etc.

CONTACT INFORMATION

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INTRODUCTION

The Graduate Institute of Drama and Theatre was founded on August 1, 1995. Aiming at training professionals as well as researchers, the program puts equal emphasis on academic research and practical training in stagecraft, acting and directing. M.A. candidates can focus on any one of four areas of study: (1) Chinese Drama and Theatre, (2) Western Drama and Theatre, (3) Playwriting, (4) Acting and Directing, and (5) Theatre Technology. The successful candidate is awarded an M.A. (Master of Arts) degree.

In 1999, the undergraduate program was established, thus forming the Department of Drama and Theatre. Each year about 35 to 40 students,

approximately 20 males and 20 females, are accepted. Students who successfully complete a minimum of 128 credits of required and elective courses will graduate with a B.A. (Bachelor of Arts) degree.

All students are encouraged to make the best use of the abundant academic resources available at the university. Based on their interests and career goals, they may take courses offered by other colleges and departments, enroll in certificate programs such as Media Studies and Teacher Education, or apply for a minor or double major. Starting from the 2002 academic year, both undergraduate and graduate students may take courses offered by several departments at National Taipei University of Education and National Cheng-Chi University, with which a

cooperative relationship has been formally established. To help students become qualified teachers, the department also takes part in the university's Education Programs in Performing Arts.

Since its founding thirteen years ago, the department has struggled with a tight budget and a lack of performing space. In terms of facilities, the department falls behind similar programs at other universities, not to mention those in other advanced countries. But the faculty and students have been doing everything they can to excel, both in the classroom and in the theatre. So far, the department has produced over twenty plays, ranging from ensembles and collections of playlets to experimental theatres and box-office plays in professional theatres. In this way, our students not only gain practical experience, but also a comprehensive understanding of the art of theatre. In 2007, our students participated in the preliminary competition of 2007 Prague Quadrennial for the first time, and out of the eleven elected entries to be sent to Prague for exhibition, eight were the works of our students. With their mind and skill more refined through time, it is expected that they will excel in the field in the future. In addition, quite a few of our M.A. graduates have gone abroad for further studies with scholarships from the Ministry of Education or other institutions. Some of them have returned to Taiwan to serve after finishing their studies.

At this moment, the greatest challenge facing the department is the shortage of performance venues on campus. The department, indeed, the University itself, serves a theatre, if not a performance complex, of its own. In the future, the department would like to offer M.F.A. and Ph.D. degrees.

FACULTY

Full-time: 13

Part-time: 13

Ph.D. Degree: 11

M.F.A. and M.A. Degree: 14

Specialist: 1

Chair / Professor

Wei-Jan Chi: Ph.D., The University of Iowa

Full-time

Distinguished Professors

Ching-Hsi Perng Ph.D., University of Michigan

Professors

Ho-Yi Lin Ph.D., National Taiwan University

Visiting Chair Professor

Daniel S. P. Yang Ph.D., University of Wisconsin-Madison

Associate Professors

Hsien-Hui Lee Ph.D., New Mexico University

Vivian Ching-Mei Chu Ph.D., Bowling Green State University

Yi-Meei Wang M.F.A. & M.S.T., Rochester Institute of Technology

Assistant Professors

Chuan-Fu Liu M.F.A., The University of Texas at Austin

Gwendolyn Yao M.F.A., The University of North Carolina at Chapel Hill

Visiting Assistant Professor

Neil W. Bernstein Ph.D., Duke University

Instructors

Dar-Lurn Liu M.F.A., Yale University

Po-Shen Lu M. A., University of London

Chao-Wei Fan M. A., National Taiwan University

Part-time

Emeritus Professors

John Y. H. Hu Ph.D., Indiana University

Professors

An-Chi Wang Ph.D., National Taiwan University

Hsing-lin Tracy Chung
M.A., Oklahoma City University

Tsu-Chung Su Ph.D., University of Washington

Associate Professors

Yu-Hui Wang M.F.A., Taipei National University of the Arts

Assistant Professors

Chin Sin-Ho Ph.D., Saint Mary's University of Minnesota

Instructors

Hong-Chen Poo M.F.A., Taipei National University of the Arts

Han-Ru Yang: M.F.A., Taipei National University of the Arts

Yu-Hui Fu M.F.A., Syracuse University

Wei-Ming Liao M.A., National Chiao Tung University

Yi-Chun Luo M.F.A., Taipei National University of the Arts

Chien-Kuo Teng M.A., National Chiao Tung University

Specialists

Huang Chiao-Wei National Hai-San Industrial Vocational High School

FACILITIES

The department is located in Building No.1 on the main campus, occupying the first floor and the west half of the second floor. It has 31 rooms, including a department office, a chairman's office, faculty offices, a seminar room, lecture halls, a production room, classrooms for design technology, a scene shop, rehearsal classrooms, a costume shop, a computer lab, an experimental theatre and National Taiwan University Theater. We also have projectors, a slide projector, a digital single lens reflex camera, a video camera, CDR-W, a digital equalizer, a P4 computer for graphics, a HP plotter (A1 Size), stationary power tools, hand power tools, welding tools, pneumatic tools, industrial sewing machines, an overlock sewing machine, blind-stitch sewing machine dummies, acoustic equipments, multimedia facilities, computers and printers, all of which are accessible to faculty and students.

Currently, there are a total of 56,157 publications on drama and theatre in English and Chinese in the University's Main Library. The department itself had purchased 19 types of journals.

COURSES

Undergraduate Program

The department offers a four-year program leading to a Bachelor of Arts degree in Drama and Theatre. Students should complete a minimum of 128 credits, of which 49 are required courses of the department and 49 are electives.

※For students who enrolled in/after the academic year 2005, 25 out of 49 electives are required to take department courses.

Courses Required by the Department:

Freshman Year (20 credits)

Introduction to Theatre (3 credits), Guided Reading of Plays (3 credits), Acting (I) (4 credits), Rehearsal (I) (2 credits), Stage Craft (I) (2 credits), Lighting Tech. (I) (2 credits), Costume Craft (I) (2 credits), Play Production (I) (2 credits)

Sophomore Year (18 credits)

Masterpieces of Western Drama (6 credits), Masterpieces of Chinese Drama (6 credits), Basic Design (2 credits), Play Production (II) (2 credits)

Sophomores are also required to take at least one out of the following three courses:

Stage Design (I) (2 credits), Lighting Design (I) (2 credits), Costume Design (I) (2 credits)

Junior Year (8 credits)

History of Western Drama (3 credits), History of Chinese Drama (3 credits), Play Production (III) (2 credits)

Senior Year (3 credits)

Senior Production (3 credits)

※For students who enrolled in/after the academic year 2005, Senior Production course requires prerequisites as follows: Play Production (I), Play Production (II) and Play Production (III).

Graduate Program

1. The graduate program offers an M.A. degree in Drama and Theatre, which normally takes two to four years to complete.
2. The program requires a thesis in addition to 24 credits of coursework, of which at least 18 credits must be from courses offered by the program, at least 15 credits must be from courses designed exclusively for graduate students, and at least 1 credit in research methods.
3. The 1-credit research method course is required for candidates regardless of divisions.

Candidates from Division B are required to take four more courses relating to play writing.

4. Prerequisites for the program include three non-accrediting courses at the university level: (1) Play Production III, (2) History of Chinese Drama, and (3) History of Western Drama.
5. Before submitting the M.A. thesis or essay (see below), which requires an oral defense, candidates must pass qualifying examinations on two of the following four subjects: (1) Topics in Chinese Drama and Theatre, (2) Topics in Western Drama and Theatre, (3) Performance and Directing Studies, and (4) Theatre Crafts and Design. Students may take the qualifying exams only after they have completed 18 graduate-level credits.
6. M.A. candidates can graduate with a concentration on dramatic theory, playwriting, or design. Those specializing in dramatic theory should submit a thesis in MLA Citation Style. All others should submit a critical essay on their graduation project, which can take the form of writing a play or designing a complete scene of a play.

ACADEMIC ACTIVITIES

1. Faculty colloquia are held regularly. Distinguished scholars from home and abroad are often invited to give lectures or seminars.
2. Domestic and international workshops are organized occasionally.
3. Post-performance discussion involving all faculty and students is regularly held after the Department's annual production.

CAREER AND FURTHER STUDIES

Career and Further Studies

1. Professional Ability

- (1) Academic Research
- (2) Playwriting
- (3) Theatre Management
- (4) Theatre Technology
- (5) Multimedia Production
- (6) Acting and Directing

2. Main Domain of Further Studies

- (1) Local and foreign graduates of Theatre and Drama
- (2) Local and foreign related graduates, such as Chinese, Foreign Languages, Arts, Media Studies, etc.

3. Career Options

Playwriting, Mass Media, Academic Research, Cultural Education, Art Creation, Culture Administration, Arts Management, Multimedia Design, Journalism

CONTACT INFORMATION

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INTRODUCTION

The Graduate Institute of Art History was established in 1989 (previously, Program in Chinese Art History, Graduate Institute of History, 1971-1989). In addition to the Master's program, the Institute subsequently initiated its Ph.D. program in 2000.

Presently, the Institute's research fields include the history of Chinese painting, calligraphy, and artifacts; Asian Art; Buddhist Art; and Taiwanese Art. It also focuses on regional studies, especially the artistic interactions between China and Japan. In the future, the Institute expects to broaden its scope of research to the arts of Southeast Asia, the Middle East and Europe.

The aim of both programs is to prepare students for scholarship and teaching on the university level. The programs train students to conduct independent research on art and culture by visual analysis of objects and critical thinking of art-related cultural problems, equip them with knowledge for further academic work, and familiarize them with skills for careers in museums, galleries, and related cultural sectors.

The Institute's compact library has a substantial collection of art books and teaching materials, including slides, plates, facsimiles and samples of art works. Presently, a computer database of images is in preparation. The collection is expanding constantly and is expected to grow continuously to become an important research center for Chinese art history in the future.

FACULTY

Full time: 5

Part time: 6

Ph.D. Degree: 11

M.A. Degree: 0

Director/ Distinguished Professor

Ming-Liang Hsieh Ph.D., Seijo Univ., Japan

Full-time

Professor

Pao-Chen Chen Ph.D., Princeton Univ.,
U.S.A.

Fang-Mei Chen Ph.D., Univ. of London, U.K

Associate Professor

Lan-Shiang Huang Ph.D., Kyoapan

Assistant Professor

Sakai Takashi Ph.D., Sophia Univ. Japan

Part-time

Professor

Shou-Chien Shih Ph.D., Princeton Univ.,
U.S.A.

Chuan-Ying Yen Ph.D., Harvard Univ., U.S.A.

Yu-Min Lee Ph.D., Ohio State Univ.,
U.S.A.

Shen Fu Ph.D., Princeton Univ.,
U.S.A.

I-tien Hsing Ph.D., Hawaii Univ., U.S.A.

Assistant Professor

Sheng-Chih Lin Ph.D., Kyoto Univ., Japan

FACILITIES

The Graduate Institute is located on the second floor of the Lesyue Building. Relatively limited, the space includes fifteen rooms available for various uses, including offices for faculty and staff, seminar room, discussion room, and

library. Research and teaching equipment include computers and color printers, digital cameras, Internet-access, scanners, CD burners, a 3LCD data projector, slide projectors and auto-screen, a videocassette recorder, and a TV set.

The Institute's research and teaching materials are stored in two locations: the University's Main Library and the Institute's compact library. The former has a collection of 29,239 books and 338 periodicals related to art history. The latter has a diverse collection which includes approximately 160,000 slides, 33,500 plates, 139 facsimiles of Chinese paintings and calligraphic works, 368 early ceramic objects, 1,800 ceramic samples, 139 tapes, and 327 microfilms.

COURSES

The graduate programs offer courses toward the Ph.D. and the Master's degree in Art History. To earn the Ph.D. degree, the candidate must have completed a doctoral dissertation in addition to a minimum of 24 credits of seminar and passed three examinations: (1) general examination in art history; (2) language examination in English and in Japanese; (3) oral examination in his/her Ph.D. dissertation. Residence requirement of the Ph.D. program is two to seven academic years.

To obtain the M.A. degree, the candidate is required a thesis in addition to a minimum of 27 credits of seminar. Before the thesis may be accepted, the candidate must have passed a comprehensive examination in art history. Residence requirement of the program is two to four academic years.

ACADEMIC ACTIVITIES

1. Publication of the Institute: The Institute publishes *Taida Journal of Art History* twice a year.
2. Conferences: The Institute often held domestic/international conferences for strengthening connections, and exchanging ideas, among scholars of the field.
3. Visiting scholars: Distinguished scholars from abroad are often invited to conduct seminar(s) at the Institute.
4. Graduate Student Association: Graduate students are encouraged to present their research papers at the conference held annually.

CONTACT INFORMATION

Established in:1989

Director:Ming-Liang Hsieh

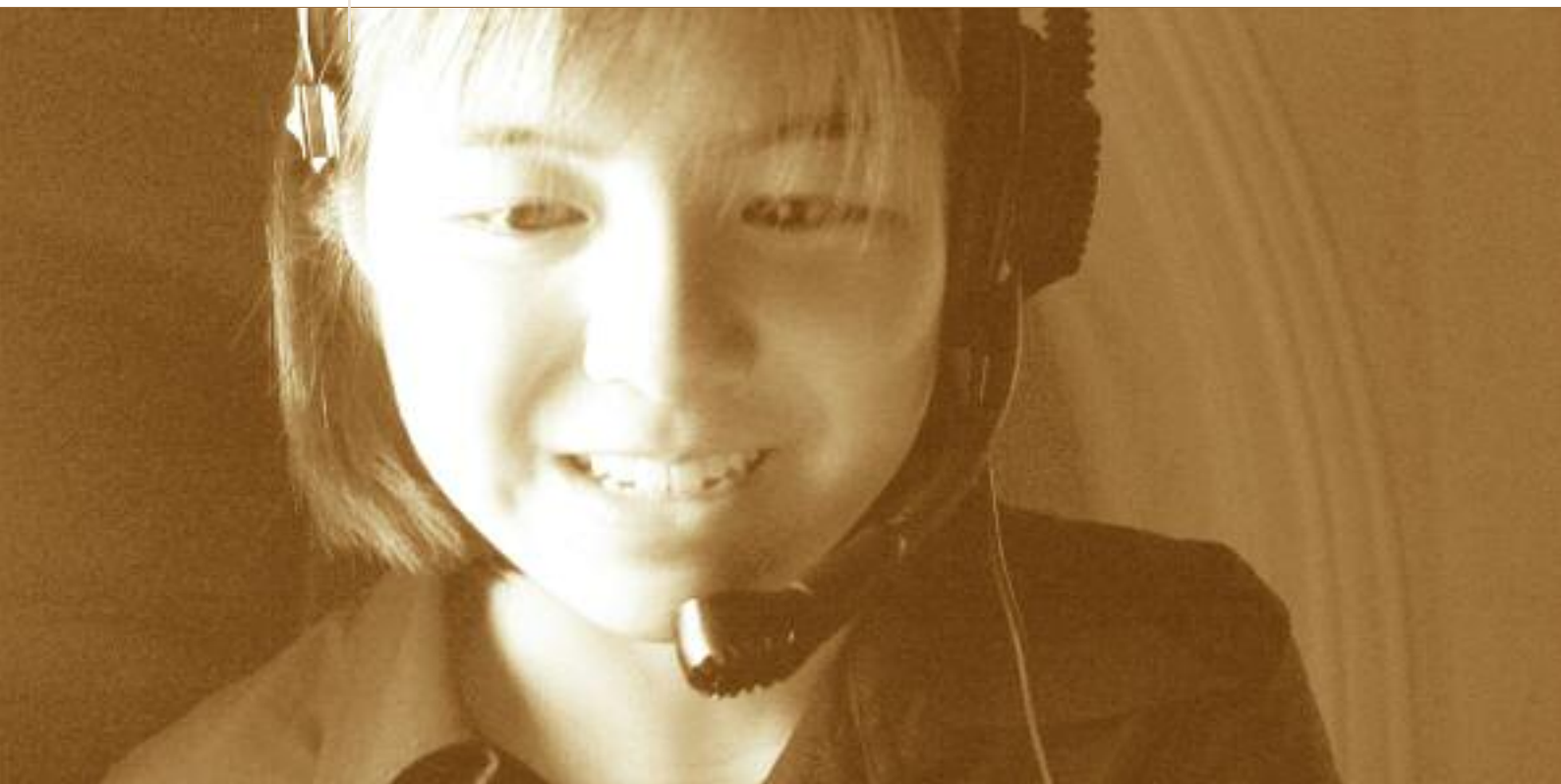
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INTRODUCTION

The Graduate Institute of Linguistics was established in August 1994, initially offering a Master's program leading to a M.A. degree. A doctoral program began in August 2002.

Graduate study in Linguistics at NTU is designed to provide students with a solid foundation in the analytical and theoretical aspects of Linguistics, especially in Cognitive Linguistics. Cognitive Linguistics, Austronesian Linguistics, Discourse Analysis, and Psycholinguistics constitute the major foci of research activities of our faculty.

Our future goals include the following:

1. Develop the Chinese Spoken Corpus and Formosan Corpus
2. Continue development of coursework in the cognitive sciences, including computational linguistics, language and culture, child language acquisition, discourse and cognition, and neurolinguistics
3. Expand the scope of research on indigenous languages to include other Austronesian languages, such as Indonesian, languages of the Philippines, and languages of the Polynesian Islands
4. Improve the English ability of our graduate students by conducting several courses in English

5. Open our graduate program to international students
6. Hold conferences and workshops in conjunction with the NSC, MOE, Council on Aborigine Affairs and the Linguistics Society of Taiwan in order to enhance linguistic research in Taiwan

FACULTY

Director/ Associate Professor

Hintat Cheung Ph.D., University of Kansas

Full-time

Professor

I-Wen Su Ph.D., University of Hawaii

Kathleen Ahrens Ph.D., University of
California, San Diego

Wen-Yu Chiang Ph.D., University of Delaware

Associate Professor

Li-May Sung Ph.D., University of Illinois at
Urbana-Champaign

Assistant Professor

Yee-Jean Fon Ph.D., Ohio State University

Chiarung Lu Ph.D., Kyoto University

Part-time

Professor

Shuanfan Huang Ph.D., Ohio State University

Chu-Ren Huang Ph.D., Cornell University

Keh-Jiann Chen Ph.D., Computer Science, State
University of New York at
Buffalo, USA

Associate Professor

Hsin-Min Wang Ph.D., Department of
Electrical
Engineering, National Taiwan
University, Taiwan

FACILITIES

The phonetics laboratory provides a soundproof audio-recording room and is equipped with two speech analyzers, a Kay 5500 and a Kay 4300, an open reel recorder, a mixer, a double cassette recorder, a CD player and a computer. The psycholinguistics laboratory is adjacent to the phonetics laboratory and is also soundproof. Off-line and on-line reaction time tasks can be conducted in this laboratory. In addition, a large computer room is equipped with a variety of programs necessary for the linguistic and statistical analysis of data. Furthermore, a total of 493,000 volumes of titles on linguistics are available in the library. Since the establishment of the Institute, approximately 2000 volumes have been purchased and the regular subscription of over 20 magazines and journals has been maintained.

COURSES

Master program

To earn an M.A. in Linguistics, the candidate is required to complete a minimum of 30 credits of coursework and must present at least one paper at a linguistic conference before submitting a thesis.

Required Courses: Introduction to Phonology (3), Introduction to Syntax I(3), Introduction to Syntax II(3), Research Methodology I(1), Research Methodology II, III, IV(0), Linguistic Fieldwork (3), Statistics in Language Studies (3), Master's Thesis (0), Second Foreign Language (0)

Doctoral program

To earn a Ph.D. degree, the Ph.D. student is required to complete a minimum of 27 credits of coursework and publish at least one paper in a

leading journal. The Ph.D. candidate must choose one major field (12 credits) and one minor field (6 credits) from the following five fields: a) Phonology and Morphology, b) Syntax, c) Semantics and Pragmatics, d) Applied Linguistics, e) Computational Linguistics. Since 2006 fall semester, our institute collaborates with Taiwan International Graduate Program (TIGP), established by Academia Sinica, on Computational Linguistics and Chinese Language Processing. For detailed information, please visit :

<http://clclp.ling.sinica.edu.tw/index.htm>

Required Courses: Basic Issues in Cognitive Sciences (3), Dissertation (0)

ACADEMIC ACTIVITIES

Colloquia on topics of current research are scheduled regularly. Each year scholars are periodically invited to conduct seminar classes, and give a series of talks. Over one hundred scholars have visited our institute to date. In addition, our Institute has organized and held various international conferences and workshops. CLDC is our annual meeting on the study of language, discourse and cognition, usually held in May.

CONTACT INFORMATION

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E-mail: hintat@ntu.edu.tw





INTRODUCTION

Our institute is located on the first floor of Yuexue Building. There are two soundproof rooms, one used as a multimedia seminar room and the other as a musical instrument practice room. The other rooms include: audio-visual lab, archive, the institute's secretarial office, faculty offices (six), and student study room and lounge.

FACULTY

Full-time: 6

Part-time: 6

Ph. D. Degree: 10 (including one D.M.A)

Director/ Professor

Ying-Fen Wang Ph.D., Ethnomusicology
University of Pittsburgh

Full-time

Professor

Tung Shen Ph.D., NTU, Institute of
Chinese Literature

Assistant Professor

Yuh-Wen Wang Ph.D., Music Theory
Columbia University

Chien-Chang Yang	Ph.D., History and Theory of Music, University of Chicago
Jen-Yen Chen	Ph.D., Historical Musicology Harvard University
Chen-Gia Tsai	Ph.D., Musicology Humboldt University

Part-time

Professor

Hai-Yan Wang	Former Professor at Taipei National University of Arts, Guqin theory and performance
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Associate Professor

Chung-Kuen Hung	D.M.A., Composition Yale University
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Assistant Professor

Ya-Li Gao	Ph.D., Ethnomusicology University de Paris X-Nanterre
Lap-Kwan Kam	Ph.D., Historical Musicology University of Vienna
Szu-wei Chen	Department of Film & Media Studies, The University of Stirling

Instructor

Shin-Shin Wang	Supervisor of Shin Shin Nanguan Yue Fang
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FACILITIES

1. Multimedia equipped Room: a full audio-visual system and a piano.
2. Instrumental practice room: a full audio-visual system, four guqin (seven-stringed zither), five full nanguan ensemble instruments plus five extra percussion instruments used in Peking Opera, plus a synthesizer, and a piano

3. Audiovisual lab: two Macintosh computers, one for productions of multimedia works, the other for sonic analysis.
4. Archive: 1768 books, 294 videotapes, 42 CDs, 297 cassettes, and two PCs, one Macs, one scanner, one printer.

COURSES

Our institute offers a Master of Arts degree. A student has to be enrolled in our program for at least two years. A student has to take at least 31 credits (including 6 credits of thesis writing) in order to fulfill the minimum requirement of credits. The core course in our program include:

1. Prerequisites: Elementary Western Music Theory (3) These credits are not counted among the total credits of graduation.
2. Required courses: Proseminar on Musicology I (3) 、 Proseminar on Musicology II (3) 、 Musicology Colloquium (3)
3. Electives Courses: Core course of musical cultures (at least 4 credits) 、 Other electives offered by GIM (12).

ACADEMIC ACTIVITIES

1. Distinguished international/domestic scholars are invited to visit and give guest lectures at the Institute and to conduct seminars.
2. Organize international/domestic conferences to enhance research activities of musicology in Taiwan, and to promote international scholarly exchanges.

CONTACT INFORMATION

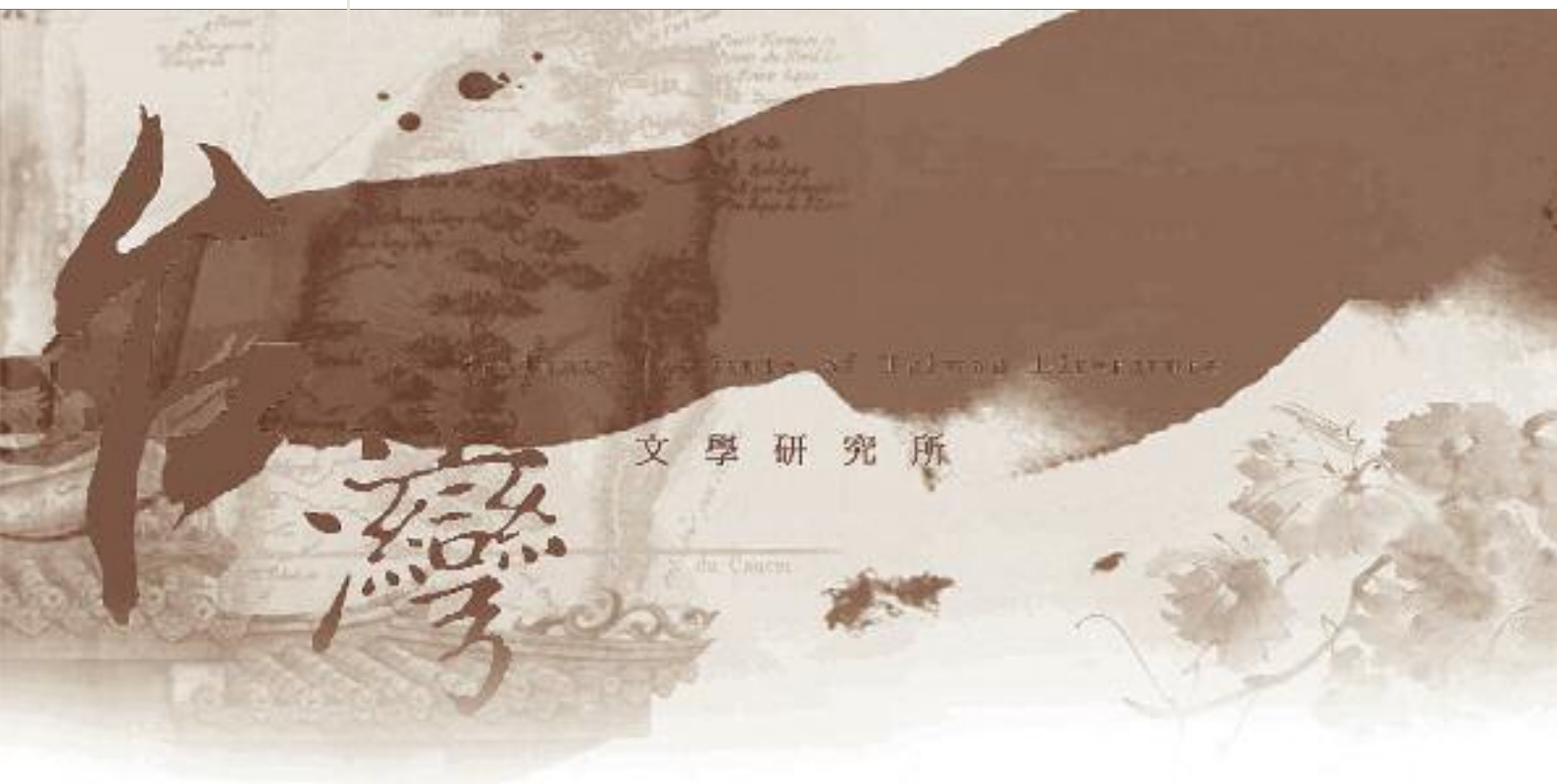
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INTRODUCTION

Taiwan is surrounded by sea and thus naturally an isolated geographical region. In addition to being inhabitancy of aboriginal Austronesian people for more than ten thousands years, Taiwan had been colonized by Spain and Holland, subsequently operated by Cheng Cheng-kong and taken over by Ching Dynasty. Afterwards, Taiwan was ceded to Japan and finally again came back to the rule of Republic of China after 1945. As result of such a complicated history, Taiwan definitely becomes a multicultural place while immigrants of Han nationality are still major citizens. Under such historical circumstances, if we define Taiwan Literature as those works which express the local experiences

or written by the local inhabitants, the so-called Taiwan Literature may be divided into two categories: Written Literature and Oral Literature. And these two categories include four main study fields: 1. The traditional poems and verses during Ming-Ching period, 2. Literal works written in Japanese, Chinese or Taiwanese during Japan colonial period, 3. Mandarin Modern literature, influenced by New-literature Movement and Western style a lot, from 1945 to now, 4. Oral literature circulated in Formosan languages, Taiwanese, and Hakka. Overall, Taiwan Literature is the treasure accumulated by the past 400-year "Taiwan experiences" and currently becoming a more and more emphasis on Taiwan Literature, while academic circle of Mainland China has also aggressively engaged in studying

and teaching on Taiwan Literature. In order to meet the needs of current education and society, it is necessary to set up the specific research institute of Taiwan Literature immediately. Therefore, National Taiwan University decided to found the Graduate Institute of Taiwan Literature in the 2004 academic year, for providing professional studying and teaching of Taiwan Literature.

There are five key points of future development of this institute:

1. Emphasis on the research and teaching on Literature theory and Research Methodology: Only after receiving adequate and consolidate training of literature theory and research methodology do the students acquire the academic ability to become the excellent researchers on Taiwan Literature and then accomplish high-leveled academic achievements.
2. Starting from the research and teaching on written literature to enhancing the research and teaching on oral literature: In addition to the written literal documents, the oral literal sources, including Taiwanese, Hakka, and Austronesian aboriginal oral literature should also be collected, sorted, and studied. This institute will cooperate with linguistic experts to develop systematic methods on Taiwan language teaching and research.
3. Starting from contemporary Mandarin literature to traditional poems and verses and Japanese works: Mandarin writing has been the main stream of Taiwan literature after 1945. Research signifies not only the retrospect and progress in academy, but also the influence on literary creation. Most of the important writers of Japan colonial period after 1949, had to learn hard to use Mandarin as their writing medium while their Japanese works were also translated

into Mandarin. In fact, these translated works also had become important resources for contemporary Taiwan literature. When it comes to the Chinese traditional poems and verses, the value of these works is that they could show precious experiences and spirits of Taiwanese ancestors. Therefore, this institute will focus on contemporary literature as the center of research, and then explore to the traditional poems and verses and Japanese works.

4. From research and teaching on local literature to the comparative literature: Taiwan Literature includes not only traditional poems and verses and contemporary literature but also Japanese works and various oral literatures. Most works mentioned above have absorbed the influences of Chinese culture, East Asia culture and Modern West culture and literature. The complicated integrations of East-West culture, including West to Japan, West, Japan to China, West, Japan to Taiwan, Mainland China to Taiwan and Taiwan to Mainland China etc, were worthy of exploration. The focus of teaching and research, therefore, will be on the studies of local literature, while in the future the study of comparative literature could also be developed.
5. From research on works and writers to literature activities: The basic materials of literature research are surely literal works and writers, but related literal affairs and activities are getting more and more important as the development of contemporary research theory. Such literal activities as literature group, reading group, publishing, acceptance and criticism, cultural policy, popular trend, cultural discipline of interpretation, and aesthetic principle is gradually becoming the necessary research topics.

Overall, The Graduate institute of Taiwan literature will make use of both the international vision and development of literature theory and literature methodology, On one hand, we would mainly do research on written literature first and then tries to explore the oral literature. On the other hand, we would focus on contemporary literature first, and then look back upon traditional poems and verses and works of Japan colonization period. At the same time , we will also gradually move the emphasis on research on local literature to comparative literature. In addition, we will explore related social and cultural activities instead of just focusing on literal works and writers, The goals mentioned above will be gradually achieved stage by stage, and we hope that finally we could accomplish a comprehensive recognition of Taiwan Literature.

FACULTY

Full-time teacher : 7

Part-time teacher : 1

Ph.D degree : 6

M.A. degree : 1

B.A. degree : 1

Others: In addition to above mentioned faculty members, other faculty members from the college of liberal art also offer related courses on Taiwan literature for our students.

Chairman

Chia-Ling Mei

Full-time teacher

7 professors

Ching-ming Ko	B.A., NTU, Department of Chinese Literature
Hsiao-fang Yang	Ph.D., NTU, Department of Chinese Literature
Yuh-Wen Kuo	Ph.D., NTU, Department of Chinese Literature

Chia-ling Mei	Ph.D., NTU, Department of Chinese Literature
Shu-Ling Homg	Ph.D., NTU, Department of Chinese Literature
Mei-e Huang	Ph.D., Fu Jen Catholic University, Department of Chinese Literature
Wen-Hsun Chang	Ph.D., Tokyo University, Department of Chinese Literature

FACILITIES

Books

Currently, there are 214,176 volumes on Taiwan Literature, around 429,033 volumes of books within related fields and 682 journals in the National Taiwan University Library. At the same time, the Department of Special Collections has collected a huge amount of old newspapers, journals and local records. All of these materials could provide good resources for teaching and researching on Taiwan Literature.

In addition to these collections, we will continue to collect books and journals. The institute will collect the following items:

1. Purchase or photocopy unpublished poems.
2. Select some writers, and collecting a list on their works and criticisms.
3. Purchase or photocopy of personally published poems and verses in private.
4. Purchase books on Taiwan Literature published in Mainland China, Japan, Europe, and United States.

Other facilities

The Audio-Video Education Center of the college of Liberal Art collects tapes, videos, texts, etc. The collection is small, but growing steadily. The equipment of the center is designed for multimedia teaching use. The College of Liberal

Arts also has a computer lab and the NTU Computer Center provides related equipment. Hence, multimedia collections, computer classrooms, worldwide web, etc. are easy to access. In the near future, the Institute will purchase specialized computer software and hardware.

COURSES

A candidate for the master degree must complete 28 credits of course work.
(except postgraduate dissertation)

Programs and credits

The curriculum is designed to provide solid and adequate training on both literature theory and research methodology. After the training, students are respected to have comprehensive understanding of different genres in Taiwan Literature and have independent ability of doing research.

The curriculum is divided into pre-required courses, required courses, and selected courses. Pre-required courses are the basic subjects which students must accomplish before graduation. They also can take exam to exempt from taking the courses. Required courses are the research methodology, basic training and thesis project, 22 credits in total. Selected courses, students should take at least 12 credits, and under agreement of graduate school chair, 3-6 credits can be chosen from other schools.

Curriculum contents

Pre-required courses: Collections of Chinese Essays and Poems, Advanced English, Japanese, Linguistics, and Taiwan History.

Required courses: Seminars on Literature Theory and Research Methodology, Introduction on Taiwan linguistics, Topics on the History of Taiwan Literature, and Thesis.

Selected courses: Basic courses and topic courses are included. Basic courses are offered

on a bi-annual schedule, and topic courses are depending on faculty and students' needs. Each course provides 3 credits.

1. Selected basic courses: including Topics on classical and modern Taiwanese literature, Topics on Chinese or Taiwanese literature works during Japan colonization period, oral literature which orally circulated in aboriginal Austronesian languages, Taiwanese, and Hakka language.
2. Selected topic courses: including Research on important works, Research on important writers, Research on publishing houses, literary circles, literary activity, Comparisons between European, American, Japanese, Mainland Chain and Taiwan literature.

CONTACT INFORMATION

ESTABLISHED IN: 2004

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INTRODUCTION

In 1964, with the generous donation from Mr. G.V. Starr from the United States, a language laboratory was established under the Department of Foreign Languages and Literatures. The language laboratory was later restructured and named the Audio-Visual Educational Center in 1976 under the direction of the Ministry of Education. In September 1982, the center was then settled in the three-floor building at its present site.

The main task of the Audio-Visual Educational Center is to provide audio-visual materials and technical support for such courses as Aural-Oral Training in English and other foreign languages,

Chinese Opera, Western Drama, Western Literature, and Introduction to Music.

FACILITIES

The Audio-Visual Educational Center has an audio recording studio, equipped with Studer and Revox professional recorders, 6 language laboratory classrooms, 4 multimedia classrooms, and 2 computer-assisted language learning labs. The classrooms and language labs are all equipped with state-of-the-art machines for language learning purposes.

On the third floor of the center is an audio-visual library with a large quantity of audio and visual materials of foreign languages, such as English, German, French, Spanish, Russian, Latin,

Korean, Japanese, and Arabic. The total collection consists of approximately 3,600 audiotapes, 3,800 videotapes, 120 films, 1,000 records, 3,292 CDs, 900 Laser discs, 5,300 books, 1,700 DVD, 269 CD-ROM and 80 periodicals. The collection includes speech, poetry, drama, fiction and news broadcasting materials. Besides, the library has 28 booths for Computer Assisted Language Learning, 20 booths for audio-visual materials listening and viewing, and one group viewing room for video materials.

The Audio-Visual Center also has a well-equipped theater with 190 seats, which can serve as a lecture hall or for stage performances.

PLANS

The Audio-Video Educational Center continuously enriches our software and hardware resources. We are also working with other departments to develop new English learning programs for our students.

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14 LANGUAGE CENTER



LANGUAGE CENTER

The Language Center of the College of Liberal Arts at National Taiwan University was established in 1983 to provide training in Chinese and foreign languages and to promote international exchange and collaboration among language scholars and students. At present there are three divisions under the NTU Language Center: the Chinese Language Division (CLD), the Foreign Languages Division (FLD), and the International Chinese Language Program (ICLP). The current director of the center is Professor Huang Yi-Jen from the Department of Chinese Literature at National Taiwan University.

THE CHINESE LANGUAGE DIVISION

INTRODUCTION

The Chinese Language Division (CLD) of the NTU Language Center was established in October 1983 to offer training in Chinese language to people whose native language is not Chinese, and to facilitate research in teaching Chinese as a second/foreign language. Initially, only two programs were offered: the “Chinese Program for Foreign Students” and the “Research Core Course.” However, to cater to the global “Chinese-learning craze” and the needs of the increasing number of foreign students coming to NTU to study Chinese or other subjects, various Chinese training programs have been offered since October, 1999.

FACULTY

The 26 Chinese language teachers currently teaching at the Chinese Language Division all hold at least a bachelor's degree in Chinese language or related fields. All are professional, experienced, and enthusiastic.

FACILITIES

- I. Location: The Chinese Language Division is located on the second floor of the Language Center Building on the main campus of National Taiwan University.
- II. Audio/Visual Room: eight seats, each equipped with a DVD player and an LCD screen for language learning
- III. Computer Room: eight computers, all equipped with high bandwidth Internet access and word processing programs, available for student use
- IV. Student Lounge: long sofas, reading tables/chairs, bar table/stools, and magazines/newspapers

COURSES

I. Mandarin Studies Program

There are four quarters per year: spring, summer, autumn, and winter; each quarter continues for twelve weeks (the winter quarter is ten weeks), with three hours of class time per day and a total of fifteen hours of class time per week. In order to ensure the quality of learning, students are assigned to small classes of four to six students with similar levels of Chinese language proficiency.

The program is divided into three levels: elementary, intermediate, and advanced. Each level is further divided into sub-levels. Different skills are emphasized at different levels: beginning levels focus more on listening and speaking skills, while more advanced levels focus more on reading and writing skills.

II. Chinese Teacher Training Course

This program is offered to college graduates interested in pursuing a career in teaching Chinese as a second/foreign language. The program is jointly run by the CLD and the International Chinese Language Program (ICLP). It offers courses in Chinese linguistics, teaching methodology and course design. Presently there are four terms per year. The average class size is 70 students.

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THE FOREIGN LANGUAGES DIVISION

INTRODUCTION

The Foreign Languages Division (FLD) of the NTU Language Center was established in 1983 to provide training in foreign languages and to support research in related fields. At present, the FLD offers five different programs: EEEP (the Evening Extension English Program), ESPP (the English for Specific Purposes Program), WELP (the Weekend English Learning Program), EEJP (the Evening Extension Japanese Program), and JPTP (the Japanese Language Proficiency Test Preparation Program).

FACULTY

Teachers at EEEP, ESPP, and WELP are employed on a part-time basis. All hold at least a bachelor's degree--some are PhD's--and all have extensive teaching experience. The number of teachers varies according to the number of courses offered in each term. In 2008, the Foreign Languages Division employs over thirty English

language teachers. To facilitate student learning, the beginners' classes are taught by Taiwanese teachers, as are the Grammar classes.

Intermediate and above classes are taught by native speakers of English.

Teachers at EEJP and JTPJ either come from or are appointed by the Department of Japanese Language and Literature at National Taiwan University.

FACILITIES

Location: The Foreign Languages Division is located on the first floor of the Language Center Building on the main campus of National Taiwan University. The Foreign Languages Division office is open from 8:30 am to 9:30 pm every weekday.

Classrooms: Classes meet in either the Language Center Building or the Audio-Visual Educational Center Building, also located on the NTU main campus. The fourteen classrooms in the Language Center Building are each equipped with a television set, a VCR, an audio cassette player, a stereo, a CD/VCD/DVD player, and an LCD projector. Each classroom is connected to the Internet.

Faculty Lounge: The Faculty Lounge is equipped with three personal computers with broadband Internet access and a laser printer. There is also a reference library in the faculty lounge, which holds a good collection of English magazines and EFL/ESL textbooks and reference books.

COURSES

In addition to the courses listed below, the Foreign Languages Division is constantly planning and offering new courses to meet the changing needs of students.

I. The Evening Extension English Program

The EEEP is open to adults who hold a high school degree or above. Classes are divided into four to six levels. There are five eight-week terms per year. At present EEEP classes include Listening and Conversation, Integrated English, Reading and Writing, Advanced Conversation, English Grammar for Beginners, and English Grammar for Intermediate Learners.

II. The English for Specific Purposes Program

The ESPP offers specialized courses to professionals and graduate students who have specific needs for certain English skills. There are three ten-week terms per year. ESPP courses currently include Negotiation in English, Argumentation and Persuasion, English Vocabulary and Usage, Academic Writing, Workplace English, and English-Chinese Comparative Studies & Translation.

III. The Weekend English Learning Program

The WELP offers English courses to students who want to improve their English skills on the weekend. There are four to five eight-week terms per year. At present WELP courses include TOEIC Preparation Course, Writing Emails in English, Learning English through Novels, Learning English through Films, and Conversational English.

IV. The Evening Extension Japanese Program

The EEJP offers courses that help students learn and master Japanese. There are four to five eight-week terms per year. EEJP courses are divided into two to four levels depending on students' level of Japanese language proficiency.

V. The Japanese Language Proficiency Test Preparation Program

The JLPT is a special program for students who wish to attend the Japanese Proficiency Test. It is offered once a year. Each term is eleven weeks long, with a total of 99 hours of class time.

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INTERNATIONAL CHINESE LANGUAGE PROGRAM

INTRODUCTION

The International Chinese Language Program (ICLP) is renowned worldwide for its instruction in both modern and classical Chinese. Founded in 1963 as the Inter-University Program for Chinese Language Studies (IUP), the program was renamed and incorporated into National Taiwan University in 1997. ICLP offers a curriculum unrivaled in methodology and intensity, which enables students to achieve broad competence in spoken and written Chinese for academic research and other professional use. Over the years, the program has offered intensive language training to several thousand students from over 20 countries.

The academic calendar runs from mid-September to early June, and is followed by an optional 8-week intensive summer term. Instruction usually consists of 20 hours of class per week of small group classes and individual tutorials. Group classes range in size from two to four students.

The number of ICLP students is on a steady increase. For the 2007-2008 Academic Year Program, there were 300 regular students and 70 from the "Education Abroad Program." There were also 50 students from "Summer Berkeley Business Chinese Program."

FACULTY

ICLP has a low faculty-student ratio of approximately 1:1.5. In 2006, ICLP employs 56 full-time instructors, among which, one is a Ph.D. candidate, twenty two hold Master's degrees, nine are Master's candidates, and the remaining hold Bachelor's degree in various fields.

FACILITIES

ICLP is located on the third and fourth floors of the Language Building of NTU on Xinhai Road. The facilities include 38 classrooms, 2 audio-visual labs with broadband Internet access, a reference library, a student lounge and a lecture room.

COURSES

In addition to training of four skills of listening, speaking, and writing at intermediate and advanced levels, ICLP is also dedicated to fulfilling the needs and goals of the individual student. The program offers classes and tutorials in a wide range of subjects, such as classical Chinese, business Chinese, historical research, and traditional and modern Chinese literature.

CONTACT INFORMATION

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II. COLLEGE OF SCIENCE



Academic Units

- Mathematics
- Physics
- Chemistry
- Geosciences
- Psychology
- Geography
- Atmospheric Sciences
- Oceanography
- Astrophysics
- Global Change Research Center
- Precision Instrumentation Center
- Spatial Information Research Center
- Research Center for Cosmology and Particle Astrophysics
- Taida Institute of Mathematical Sciences

The Present and Former Deans

Bu-Ching Su	(1945-1946)	Tung-Bin Lo	(1978-1984)
Zee Shen	(1946-1949)	Guang-Hsiung Kou	(1984-1990)
Kuan Pan	(1949-1950)	Chu-Yung Lin	(1990-1993)
Shin-Piaw Cheong	(1950-1953)	Cheng-Hong Chen	(1993-1997)
Shih-Liang Chien	(1953-1954)	Ming-Chang Kang	(1997-2002)
Veichow C. Juan	(1954-1962)	Yu Wang	(2002-2005)
Kung-Sing Shih	(1962-1972)	Ching-Hua Lo	(2005-Present)
Wei-Chuwan Lin	(1972-1978)		

HISTORY

When Taihoku Imperial University was established in 1928, there were two science divisions in the College of Science and Agriculture, chemistry and biology, and two agriculture divisions, agriculture and agricultural chemistry.

After the Second World War ended in 1945, the Government of the Republic of China assumed control of Taihoku Imperial University. The College of Science was then officially founded as one of the colleges of National Taiwan University. Initially there were four divisions-- Chemistry, Zoology, Botany and Geosciences. The College of Science is currently composed of seven departments and two institutes. The beginnings of the degree programs of each department and institute were:

Department of Mathematics: B.S. in 1946; M.S. in 1960; Ph.D. in 1976

Department of Physics: B.S. in 1946; M.S. in 1961; Ph.D. in 1969

Department of Chemistry: B.S. in 1945; M.S. in 1956; Ph.D. in 1966

Department of Psychology: B.S. in 1949; M.S. in 1961; Ph.D. in 1971-

Department of Geosciences: B.S. in 1945; M.S. in 1956; Ph.D. in 1970

Department of Geography: B.S. in 1955; M.S. in 1981; Ph.D. in 1989

Department of Atmosphere Sciences: B.S. in 1972; M.S. in 1982; Ph.D. in 1987

Institute of Oceanography: M.S. in 1968; Ph.D. in 1984

Institute of Astrophysics: M.S. in 2003; Ph.D. in 2003

In August 1, 2003, a new college, the College of Life Science was spun off from the College of Science and now includes the Institutes of Zoology, Botany, Biochemical science and Fisheries science, thus leaving the College of Science to focuses on the basic and earth sciences.

FACILITIES

The College of Science has an accomplished faculty, a large collection of books and journals, and the most advanced equipment. Offering many fields of study in Basic and Earth Sciences, the College of Science provides a superior research environment. In addition, students have a diversified learning environment, which makes interdisciplinary studies easier to arrange.

RESEARCH

The College of Science has a strong faculty whose research activities are internationally known. Over the past five years, seven faculty members of the College of Science have received the Yuan-tseh Lee Outstanding Lectureship; eighteen have received the Ministry of Education Academic Accomplishment Award and National Lectureship, thirty-five have been named NSC Contract Research Fellows, and have received the NSC Award for Excellent Achievement in Research.

During the past seventy years, we have trained numerous internationally known scientists. Dr. Yuan-tseh Lee, the Nobel Prize laureate, graduated from the Department of Chemistry. Thirty-six of our alumni have been elected as Academicians of Academia Sinica. Nine alumni have been elected as academicians of the National Academy of Sciences, the National Academy of Engineering and the American Academy of Arts and Sciences in the United States.

GOALS

1. Cultivate professional researchers in the fields of Basic Sciences and Earth sciences.
2. Consolidate common major subjects between the Basic Sciences and Earth Sciences, improve teaching standards, offer students a diversity of courses and a solid background in research.
3. Augment teaching and researching facilities, improve standards and global competitiveness so as to become a world-class academic organization.
4. Enhance international academic collaboration, encourage college faculty to participate in worldwide academic activities and publish papers in prestigious overseas journals so as to further enhance the college's reputation.
5. Encourage college faculty to collaborate in research and to share resources, in order to inspire new ideas in advanced science and technology.
6. Adjust the grouping of research areas within the college appropriately and develop new research areas in order to reach expectation of the society and the nation.

CONTACT INFORMATION

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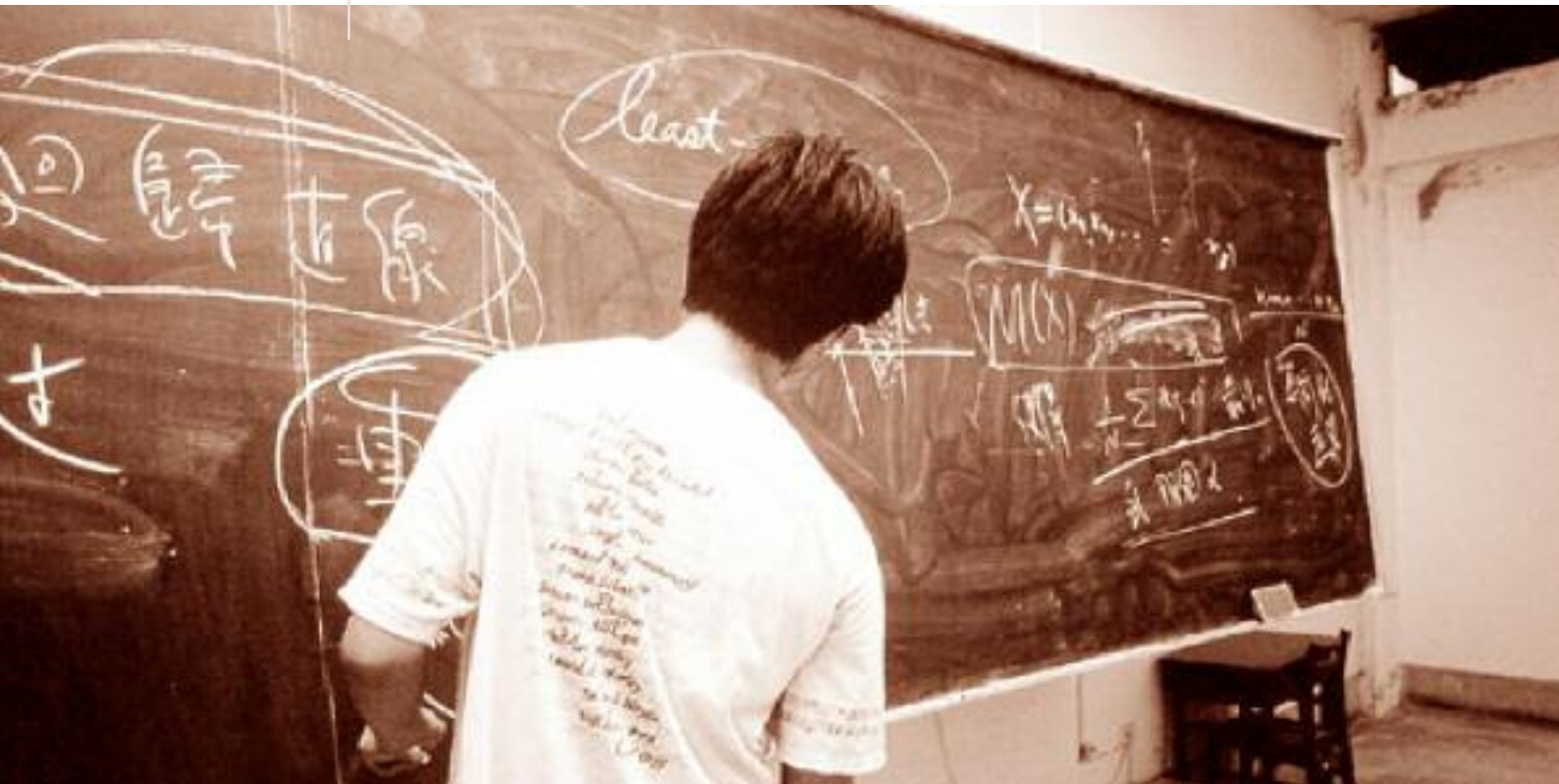
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1 DEPARTMENT OF MATHEMATICS



INTRODUCTION

The antecedent of NTU was Taihoku (Taipei) Imperial University founded by the occupying Japanese in 1928. Following Taiwan's retrocession to Chinese Sovereignty on November 15, 1945, the R.O.C. government assumed the administration of Taihoku University and then reorganized and renamed it as NTU. In 1945, Taihoku University had five colleges. Among them was the College of Science and Agriculture, which had a chair in mathematics in charge of all core mathematical courses. During reorganization, College of Science was set up and the chair professorship on mathematics was expanded into the Department of Mathematics. The master and the Ph.D. programs were estab-

lished in 1960 and 1976, respectively. In 1965, the Mathematics Research Promotion Center was established at NTU under the guidance of the National Science Council. This act recognized the central role of the department in mathematical research for the entire Taiwan Island. As the leading institution in Taiwan, which conducts mathematics teaching and research, the department has produced numerous outstanding alumni who have made significant contributions both within Taiwan and at the international level in past sixty years. Among them, five are research fellows of Academia Sinica.

Mathematics is the foundation of all sciences and engineering. A grasp of mathematics is an indispensable part of the intellectual equipment of every cultured person. In the department, we provide basic mathematical knowledge and training of rigorous reasoning for undergraduate students. In the graduate program, we train researchers in mathematics and its applications.

There will be four major changes in the future.

1. The department together with the Institute of Mathematics of Academia Sinica and the Institute of Astronomy and Astrophysics expect to move into the new Astronomy and Mathematics Building in the summer of 2009.
2. The department plans to establish Institutes of Applied Mathematics and Institute of Statistics in order to promote the unity of mathematics and its applications and thus to make a direct contribution to the development of science in general.
3. The department currently is in charge the activities of the National Center for Theoretical Sciences, Taipei Office.
4. This university has established a Center for Mathematical Science in 2006 with Academician Chang Shou Lin as Director which will promote interdisciplinary activities in the mathematical sciences extending across different research fields and research units.

FACULTY

Full-time: 36

Adjunct: 3

Part-time: 29

Ph.D. Degree: 67

M.S. Degree: 1

Chair / Professor

Gerard Jennhwa Chang

Ph.D., Cornell University

Full-Time

Professor

Chiu-Chun Chang	Ph.D., University of Chicago
Pjek-Hwee Lee	Ph.D., University of Chicago
Ming-Chang Kang	Ph.D., University of Chicago
Jin-Tzu Chen	Ph.D., Stanford University
Narn-Rueih Shieh	Ph.D., NTU
Chen-Lian Chuang	Ph.D., University of California at Los Angeles
Huah Chu	Ph.D., NTU
Ai-Nung Wang	Ph.D., University of California at Berkeley
I-Liang Chern	Ph.D., Courant Institute, New York University
Tsiu Kwen Lee	Ph.D., NTU
Hung Chen	Ph.D., University of California at Berkeley
I-Hsun Tsai	Ph.D., Columbia University
Chiun-Chuan Chen	Ph.D., NTU
Yng-Ing Lee	Ph.D., Stanford University
Ming-Yen Cheng	Ph.D., University of North Carolina at Chapel Hill
Keh-Ming Shyue	Ph.D., University of Washington
K.J.Palmer	Ph.D., Australian National University
Tai-Chia Lin	Ph.D., Courant Institute, New York University
Jung-Kai Chen	Ph.D., University of California at Los Angeles
Jenn-Nan Wang	Ph.D., University of Washington
Chang-Shou Lin	Ph.D., New York University
Wei-Chung Wang	Ph.D., University of Maryland

Shu-Cheng Chang Ph.D., Rice University
 Chin-Lung Wang Ph.D., Harvard University
 Hui-Wen Lin Ph.D., NTNU

Associate Professor

Kuang-Fu Tien Ph.D., Northwestern University
 Hann-Shuei Huang Ph.D., NTU
 Shao-Shiung Lin Ph.D., University of California at Berkeley
 Chih-Chung Chang Ph.D., Courant Institute, New York University
 Ping-Zen Ong Ph.D., University of California at San Diego
 Ki-Seng Tan Ph.D., Harvard University
 Kwei-Mei Wu M.S., Louisiana University
 Chin-Tsang Chiang Ph.D., The Johns Hopkins University

Assistant Professor

Chun-Hsiung Hsia Ph.D., Indiana University
 Jeng-Daw Yu Ph.D., Harvard University

Adjunct

Professor

Tai-Ping Liu Ph.D., Michigan University
 Shun-Jen Cheng Ph.D., Harvard University
 Ker-Chau Li Ph.D., University of California at Berkeley

Part-Time

Professor

Ching-Song Chou Ph.D., University of Paris
 Jyh-Hao Lee Ph.D., Yale University
 Hai-Chau Chang Ph.D., Brandeis University
 Wu-Hsiung Huang Ph.D., Rice University
 Wu-Young Chen Ph.D., State University of New York at Buffalo
 Jih-Hsin Cheng Ph.D., University of Notre Dame

Mo-Hong Chou Ph.D., New York University
 Shiow-Yu Chang Ph.D., NTU
 Su-In Liu Ph.D., Boston University
 Tzue-Shuh Chiang Ph.D., University of Minnesota
 Wei-Zhe Yang Ph.D., Princeton University
 Fon-Che Liu Ph.D., Purdue University
 Yeong-Nan Yeh Ph.D., State University of New York at Buffalo
 Su-Yun Huang Ph.D., Purdue University
 Su-Win Yang Ph.D., Brandeis University

Associate Professor

Jin-Jee Dzan Ph.D., NTU
 Tsong-Cherng Lee Ph.D., NTU
 Fei-Tsen Liang Ph.D., Stanford University
 Chun-Chung Hsieh Ph.D., Yale University
 Jeng-Min Chiou Ph.D., University of California at Davis
 Tsong-Ming Tsai Ph.D., NTU
 Chia-Fu Yu Ph.D., University of Pennsylvania
 Der-Chyi Wu Ph.D., Yale University
 Pei-Yih Ting Ph.D., University of California at Santa Barbara

Assistant Professor

Jiun-Ming Chen Ph.D., Purdue University
 Shin-Sheng Yuan Ph.D., University of California at Los Angeles
 Ya-Ju Tsai Ph.D., University of California at Los Angeles
 Chiung-Ju Liu Ph.D., University of California at Irvine
 Kun-Shan Liu Ph.D., NTU

FACILITIES

The department library has 45,653 mathematical books and 306 journals. Computer facilities include 6 workstations and 100 PCs.

COURSES

Undergraduate Programs

The department offers a four-year undergraduate program leading to a B.S. degree. Students must complete a minimum of 128 credits. The courses required by the undergraduate program are:

Calculus (A) (8), Linear Algebra (6), Computer Programming (3), General Physics (A) (6), General Physics Lab. (2), Advanced Calculus (8), Introduction to Algebra (6), Introduction to Ordinary Differential Equations (3), Introduction to Partial Differential Equations (3), Geometry (3), Functions of A Complex Variable (3), Introduction to Probability Theory (3), Introduction to Computational Mathematics (3).

Graduate Programs

The graduate program offers a one-to-four year program leading to a M.S. degree and a two-to-seven year program leading to a Ph.D. degree. Students in the M.S. program must complete 24 credits and submit a Master thesis. In the Ph.D. program, students must complete 18 credits and a Ph.D. dissertation. The research area ranges from pure to applied mathematics.

ACADEMIC ACTIVITIES

The department has the following research groups: commutative algebra, noncommutative algebra, number theory and cryptography, discrete mathematics, geometry and topology, partial differential equations, computational and applied mathematics, statistics.

Each research group has its own regular seminar. Besides, the National Center of Theoretical Sciences sponsored by the National Science Council, which includes many faculty members of this department, the Physics Department and Academia Sinica, holds many interdisciplinary research activities.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Pure mathematics
- (2) Applied mathematics
- (3) Computational sciences
- (4) Statistical sciences
- (5) Financial mathematics

2. Further studies

- (1) Graduate studies on mathematics, applied mathematics and statistics.
- (2) Graduate studies on electrical engineering, computer science and information engineering, applied mechanics, mechanical engineering and industrial engineering.
- (3) Graduate studies on economics, finance, international business, insurance, actuarial science and information management.

3. Career options

Career options include university professor, mathematics teacher, actuary, engineer, such as in computer engineering, applied mechanics, electrical engineering, industrial engineering, financial engineering, etc.

CONTACT INFORMATION

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E-mail: mailbox@math.ntu.edu.tw

2 DEPARTMENT OF CHEMISTRY



INTRODUCTION

The undergraduate physics program was established in 1946. The master program was established fourteen years later in 1960, and the Ph.D. programs set up nine years later in 1969. As the oldest leading institution in Taiwan active in physics teaching and research, the Physics Department has played a key role in the development of the Taiwanese physics community. The Department consistently ranks among the top choices for students participating in the physical sciences /engineering category of the nationwide College Entrance Examination. Since its foundation, the Department has produced a number of outstanding alumni who made significant contributions both within Taiwan and at the interna-

tional level. The goal of the Department is to further the advancement of physics education in Taiwan. We hope to be able to provide the optimal environment in which future generations of physics students can continue to study and conduct research.

Our research program seeks to find a balance between theory and experiment. The department makes an effort to cover the major branches of modern physics. We are particularly keen on developing new research fields. As a result, there are experienced faculty conducting research in the areas such as particle physics, field theory, medium energy and nuclear physics, atomic physics, astrophysics, condensed matter physics (metals, magnetism, surface, semiconductor, low temperature and superconductivity, low dimen-

sional quantum systems), laser physics, optics (spectroscopy, nonlinear), statistical mechanics, fluid mechanics, and biophysics, etc.

In order to enhance the diversify and depth of our research program, the Physics Department actively recruits faculty members. In addition, the department also interacts extensively with the NTU Center for Condensed Matter Sciences and numerous institutes within Academia Sinica including the Institute of Astronomy and Astrophysics, the Institute of Physics, and the Institute of Atomic and Molecular Sciences. Faculty members of the department also participate in the Ministry of Education's Program for Promotion of Academic Excellence of Universities, and other National Projects. In addition, faculty members actively participate in international academic activities. The Department is striving to build a top-notch program in both the Taiwanese and the international physics communities.

As the foundation of the natural sciences, physics is a broad field aiming to study the natural laws governing the motion and properties of matter. In addition, physics lays the foundations for new technological developments. A developed nation needs to have a solid foundation in physical sciences and technologies. At present, Taiwan is transforming into a technology-based society. We need to develop our basic physics research to enhance technological research and development. In particular, since nanotechnology is and will be a major part of scientific and technological developments internationally, a strong physics program in Taiwan is vital to our nanotechnological effort. As the NTU Physics Department is among the most well-established departments in the country, we strive to spur national growth in the physical sciences and hope that young people will join us in this effort. The aim of the department is to gain a better

understanding of nature and find technological applications from such efforts.

FACULTY

Full-time: 41

Adjunct: 10

Part-time: 12

Ph.D.: 61

M.S.: 1

Chair/ Professor

Yee Bob Hsiung Ph.D., Columbia University

Full-time

Professor

Ching-Ray Chang Ph.D., UC, San Diego, U.S.A.

Ting-Wai Chiu Ph.D., Univ. of Utah, U.S.A.

Jen-Hwa Hsu Ph.D., Johns Hopkins Univ.,
U.S.A.

Ven-Chung Lee Ph.D., National Tsing-Hua
Univ.

W-Y. Pauchy Hwang Ph.D., Univ. of Pennsylvania,
U.S.A.

Hong-Chang Yang Ph.D., Iowa State University,
U.S.A.

Yang-Fang Chen Ph.D., Purdue University,
U.S.A.

Ching-Teh Li Ph.D., Univ. of Pennsylvania,
U.S.A.

Yeong-Chuan Kao Ph.D., UC. Berkeley, U.S.A.

Jenq-Wei Chen Ph.D., UC, San Diego, U.S.A.

Chong-Der Hu Ph.D., Rutgers University,
U.S.A.

Wei-Shu Hou Ph.D., UC, Los Angeles,
U.S.A.

Yuan-Huei Chang Ph.D., SUNY-Buffalo, U.S.A.

Yih-Yuh Chen Ph.D., Calif. Inst of Tech.,
U.S.A.

Ming-Yau Chern Ph.D., Cornell University,
U.S.A.

Tzi-Hong Chiueh Ph.D., Texas University,
U.S.A.

Guang-Yu Guo Ph.D., University of
Cambridge

Xiao-Gang He Ph.D., University of Hawaii

Din-Ping Tsai Ph.D., University of
Cincinnati

Min-Zu Wang Ph.D., University of Iowa,
U.S.A.

Pei-Ming Ho Ph.D., UC, Berkeley, U.S.A.

Minn-Tsong Lin Ph.D., University of Halle,
Germany

Chao-Ming Fu Ph.D., Katholieke
Univ.Leuven

Ning-Ning Pang Ph.D., Columbia University,
U.S.A.

Ming-Feng Shih Ph.D., Princeton University

Chih-Yu Chao Ph.D., State University of
New York at Buffalo

Shin-I Chu Ph.D., Harvard Univ. U.S.A.

Wei-Hsin Sun Ph.D., UC. Los Angeles,
U.S.A.

Pisin Chen Ph.D., UC. Los Angeles,
U.S.A.

Pao-Ti Chang Ph.D., Northeastern
University

Chi-Te Liang Ph.D., Cambridge University

Chen-Yuan Dong Ph.D., Univ. of Illinois at
Urbana-Champaign

Associate Professor

Er-Cheng Tsai Ph.D., Mass. Inst. of Tech.,
U.S.A.

Fu-Goul Yee Ph.D., Columbia University,
U.S.A.

Jiun-Huei Wu Ph.D., University of
Cambridge

Jiunn-Wei Chen Ph.D., Washington University

Hsi-Sheng Goan Ph.D., Maryland University,
USA

Assistant Professor

Ying-Jer Kao Ph.D., University of Chicago,
USA

Shi-Wei Chu Ph.D., NTU

Chyh-Hong Chern Ph.D., Stanford Univ. U.S.A.

Adjunct

Professor

Chia-Seng Chang Ph.D., Arizona State Univ.

Jyhpyng Wang Ph.D., Harvard University,
U.S.A

Keh-Ning Huang Ph.D., Yale Univ., U.S.A.

Ting-Kuo Lee Ph.D., Brown Univ., U.S.A.

Yuh-Lin Wang Ph.D., University of Chicago,
U.S.A.

T-P Paul Ho Ph.D., Mass. Inst.of
Tech.,U.S.A

Ty-Phoon Lee Ph.D., Univ. Texas at Austin,
U.S.A.

Wun-Shain Fann Ph.D., Stanford University,
U.S.A.

Cheng-Hsuan Chen Ph.D., Cornell University,
U.S.A.

Associate Professor

Chun-Yi Lu Ph.D., Univ.of Cambridge

Part-Time

Professor

Yi-Chen Cheng Ph.D., Cornell University,
U.S.A.

Shin-Nan Yang	Ph.D., SUNY-Stony Brook, U.S.A.
Pei-Hsi Tsao	Ph.D., NTU
Chyh-Hong Chern	Ph.D., Stanford Univ. U.S.A.
Chang-Wan Wang	Ph.D., Univ.of Maryland
Joe Chen	Ph.D., Northwestern Univ., U.S.A.
Ching-Liang Lin	Ph.D., University of Tokyo, Japan
Kow-Lung Chang	Ph.D., Yale University, U.S.A.
Huei-Li Huang	Ph.D., University of Maryland, U.S.A.
Der-Ruenn Su	Ph.D., SUNY-Binghamton, U.S.A.

Associate Professor

Ming-Hsien Lee	Ph.D., Combridge Univ.
Shang-Fan Lee	Ph.D., Michidan State Univ.

Lecturer

Jong-Shii Yang	M.S., NTU
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FACILITIES

The departmental library is located in to Room 310 of Physics Department. The library occupies two floors with a total area of about 700 square meters. The first floor has the Library Office, the Reading Room with current journals and the regular periodical room. The second floor houses general books and rare journals. The library collection includes approximately 60,000 volumes of books, and more than 400 journals. There are more than 140 professional journals in the Reading Room and three internet-ready computers are available to search for information on books and periodicals. There are also one television and a video player for viewing audio-visual materials. Four photocopiers are provided for the readers' copying needs. By housing a solid collection of science books and professional jour-

nals, the library provides the book and periodical service to researchers in northern Taiwan (Taipei). This initiative is partially funded by National Science Council under the project of "Taipei Area Physics Books Service".

COURSES

Undergraduate Programs

Calculus (8), General Physics (6), General Physics Laboratory (2), General Chemistry (6), General Chemistry Laboratory (2), Computer Programming (3), Applied Mathematics I (3), Mechanics (6), Electromagnetism (8), Applied Mathematics II, III (3,3), Fundamental Physics Laboratory (3), Thermal Physics (3), Quantum Physics (8), Applied Mathematics IV (3), Modern Physics Laboratory (3), Electronics I with Lab(4), Introduction to Statistical Physics(3). Our curriculum is designed to give the students freedom in choosing careers, and to allow advanced students to graduate within 3 years. As a result, there are no compulsory courses in the senior year.

Graduate Programs (Master Programs)

Seminar (I-III) (3), Quantum Mechanics (8), Classical Mechanics (4), Classical Electrodynamics I (4) and Statistical Physics I (4).

Graduate Programs (Doctoral Programs)

To graduate with the doctoral degree, the course requirements must be met and the completion of a doctoral dissertation with publication in a SCI-listed journal is required. Furthermore, both the qualifying and thesis examination must be completed.

For doctoral students entering through the entrance examination, in addition to the doctoral dissertation, at least 22 units are required for graduation. Among the 22 units, only 4 units are required, while 18 units should come from doctoral courses.

ACADEMIC ACTIVITIES

The department holds regular Physics Colloquia every Tuesday, Condensed Matter Physics Seminars on Mondays and Theoretical Physics Seminars on Wednesdays. It also hosts international as well as local conferences on different fields in physics. Often, foreign scholars visit our department and collaborate with our faculty members.

Given the unusual strength of the research faculties and manpower in various areas of theoretical physics, we have formally created the Center for Theoretical Physics, with the mission of coordinating and integrating manpower for high-quality research in theoretical physics.

In coming years, the department also wishes to expand into the areas of biophysics, including hiring faculty members, offering courses, and creating an institute of applied physics.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Training in the basic principles and computation skills in the natural sciences
- (2) Theoretical and experimental training in physics
- (3) Writing and developing computational programs
- (4) Training in independent thinking, analysis, and problem solving abilities

2. Further studies

- (1) Physics
- (2) Astrophysics
- (3) Electrical engineering
- (4) Other engineering disciplines
- (5) Medicine
- (6) Business

3. Career options

- (1) Post-graduation career opportunities include advanced graduate studies in physics, natural sciences, electrical engineering, other engineering disciplines, business, and medicine. Many of our students also focus on the possibility to for advanced graduate studies abroad.
- (2) Many of our graduates have also entered the industrial sector successfully. They pursue careers in semiconductor, optoelectronics, informational science, and life science industries.

CONTACT INFORMATION

Chair: Hsiung, Yee Bob

Tel: +886-2-23627007

Fax: +886-2-23639984

Website: <http://www.phys.ntu.edu.tw>



3 DEPARTMENT OF CHEMISTRY



INTRODUCTION

NTU is the first and the oldest university in Taiwan, established originally as Taihoku Imperial University by the occupying Japanese government. In 1928, the Chemistry Department had three Chairs (Theoretical/Inorganic Chemistry, Organic Chemistry, and Physics) in the Division of Science and Agriculture. In 1937, a fourth Chair of Inorganic/Analytical Chemistry was added. The growth of the university led to separation of the Science and Agriculture Divisions in 1943, and the establishment of a second Chair of Organic Chemistry in 1945. During the period of 1928-1945, five students per year were admitted into the chemistry discipline, and during that seventeen-year span, a

total 72 bachelor degrees and 3 doctoral degrees were granted.

After the repatriation of Taiwan to China, the University was renamed National Taiwan University. In the new system, the Chemistry Department became part of the College of Science. The founding of the Institute for Chemical Research in 1956 expanded the program into the M.S. Curriculum.

A period of gradual expansion ensued. Thus, in 1959 the Department moved into a new building, which was situated at the center of the campus. The Ph.D. program was subsequently initiated, with the first Ph.D. awarded in 1972. Under the auspices of the National Science Council and with cooperation of National Tsing Hua

University and Academia Sinica, the Chemistry Research Promotion Center was established at NTU in 1965. This act recognized the central role of the Department in chemical research in Taiwan.

Although the establishment of the Biochemical Research Institute in 1972 led to the relocation of a portion of our academic staff to the new institute, their continued association with the department maintained the quality of chemical education provided to our students.

The establishment of the NSC Regional Advanced Instrument Center in our university bolstered chemical research in northern Taiwan. Furthermore, the completion of Shih-Liang Hall expanded the space for teaching as well as research.

On August 2003, a groundbreaking ceremony for Wing A of the New Chemical Research Building was held and the building was completed at the end of 2004. In summer 2005, the Department moved to Wing A of the building. Upon the completion of Wing B in 2009, a total area of 16,200 square meters will be available for research and teaching. The New Chemical Research Building, standing by the beautiful Drunken Moon Lake, symbolizes our determination to continue the tradition of research excellence, to cultivate our brilliant young generation, and to take the challenges of the new millennium.

Currently, the Department has 34 faculty members, 8 adjunct professors, and 4 distinguished professors, who are subdivided into five teaching groups: analytical chemistry, organic chemistry, inorganic chemistry, physical chemistry and chemical biology. 19 teaching assistants and 23 technicians run the undergraduate laboratories and maintain Department equipments. The number of faculty members is adequate to supervise

180 Ph.D. candidates, 190 M.S. students, and 290 undergraduates majoring in chemistry. Graduate students and senior undergraduates may participate in research.

In recent years, our faculty has actively expanded research fields into Chemical Biology. Accordingly, the Department has divided our graduate program into two areas: Chemistry and Chemical Biology. The Department will start accepting graduate students in both areas in the year 2007.

FACULTY

Full-time Professors: 34

Adjunct Professors: 8

Distinguished Professors: 4

Part-time Professors: 18

Ph.D. Degree: 63

M.S. Degree: 1

Chair/ Professor

Pi-Tai Chou	Ph.D., Florida State University
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Full-time

Professor

Shie-Ming Peng	Ph.D., University of Chicago
Yu Wang	Ph.D., University of Illinois
Lian-Pin Hwang	Ph.D., State University of New York at Stony Brook
Chung-Yuan Mou	Ph.D., University of Washington
Chuen-Ying Liu	Ph.D., National Taiwan University
Tzu-Min Su	Ph.D., Rice University
Jim-Min Fang	Ph.D., Yale University
Ying-Chih Lin	Ph.D., University of California at Los Angeles
King-Chuen Lin	Ph.D., Michigan State

	University
Yeun-Min Tsai	Ph.D., Ohio State University
Soofin Cheng	Ph.D., Texas A&M University
Tien-Yau Luh	Ph.D., University of Chicago
Shiuh-Tzung Liu	Ph.D., University of Texas at Austin
Jwu-Ting Chen	Ph.D., Iowa State University
Guor-Rong Her	Ph.D., Michigan State University
Wann-Yin Lin	Ph.D., Florida State University
Che-Chen Chang	Ph.D., Pennsylvania State University
Yit-Tsong Chen	Ph.D., University of Chicago
Man-Kit Leung	Ph.D., Iowa State University
Ru-Shi Liu	Ph.D., University of Cambridge
Huan-Tsung Chang	Ph.D., Iowa State University
Lee-Chiang Lo	Ph.D., Columbia University
Chao-Tsen Chen	Ph.D., University of California at San Diego
Ken-Tsung Wong	Ph.D., National Taiwan University
Chun-Hsien Chen	Ph.D., University of Illinois at Urbana-Champaign
Jye-Shane Yang	Ph.D., Northwestern University

Associate Professor

Bih-Yaw Jin	Ph.D., Massachusetts Institute of Technology
Chun-Yi Lu	Ph.D., Cambridge University
Sheng-Hsien Chiu	Ph.D., University of California at Los Angeles
Chun-Chung Chan	Ph.D., Chinese University of Hong Kong
Hung-Wen Li	Ph.D., University of

	California at Berkeley
Richard Ping Cheng	Ph.D., California Institute of Technology

Lecturer

Jui-Lin She	M.S., National Taiwan University
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Distinguished Professor

Yuan-Tseh Lee	Ph.D., University of California at Berkeley
Chi-Huey Wong	Ph.D., Massachusetts Institute of Technology
Sunney I. Chan	Ph.D., University of California at Berkeley
Chi-Kwong Chang	Ph.D., University of California at San Diego

Adjunct Professor

Ling-Kang Liu	Ph.D., University of Texas at Austin
Shu-Hua Chien	Ph.D., Pennsylvania State University
Tahsin J. Chow	Ph.D., University of Cincinnati
Chung-Hsuan Chen	Ph.D., University of Chicago
Ta-Chau Chang	Ph.D., Iowa State University
Huan-Cheng Chang	Ph.D., Indiana University
Chun-Hung Lin	Ph.D., Scripps Research Institute

Adjunct Associate Professor

Yu-Ju Chen	Ph.D., Iowa State University
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Part-time

Professor

Sheng-Lieh Liu	Ph.D., Taihoku Imperial University
Fa-Ching Chen	Ph.D., Tohoku University, Japan
Tung-Bin Lo	Ph.D., Tohoku University,

	Japan
Tong-Ming Hseu	Ph.D., Tokyo University of Literature and Science, Japan
Paw-Wang Yang	Ph.D., Tokyo University, Japan
Yu-Shia Cheng	Ph.D., Tohoku University, Japan
Mei-Hui Yang	Ph.D., National Tohoku University, Japan
Ching-Erh Lin	Ph.D., Kansas State University
Kwang-Ting Liu	Ph.D., Purdue University
Yueh-Hsiung Kuo	Ph.D., Osaka City University, Japan
Der-Jang Liaw	Ph.D., Osaka University, Japan
Jin-Ming Chen	Ph.D., National Taiwan University

Associate Professor

Peilin Chen	Ph.D., University of California at Irvine
Chao-Ping Hsu	Ph.D., California Institute of Technology
Ting-Fang Wang	Ph.D., Harvard University

Assistant Professor

Chiung-Cheng Huang	Ph.D., National Taiwan University
I-Jui Hsu	Ph.D., National Taiwan University

Lecture

Ya-Fan Lin	Ph.D., National Taiwan University
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FACILITIES

The Department provides a wide range of instrumentation and support services for the use of our students. Instruments include five high field nuclear magnetic resonance spectrometers (with different resonance frequencies), three mass spectrometers (with different resolutions), ICP Mass, MAILDI-TOF Mass, HPLC Mass. These instruments are maintained and supported by highly skilled technicians who guide the researchers in using the equipment. Each research group has microcomputers for small-scale computing needs. The Department maintains several machines with advanced graphics hardware and software for molecular computation, modeling and visualization. The Department has an outstanding chemistry library, with extensive collections in chemistry and related sciences available around the clock. This library has more than 20,000 volumes and 200 subscription to primary and review serials. In addition, it provides computer network that hooks to the main library's information system, electronic journals, and several important database.

COURSES

Undergraduate Programs

128 credits and usually a residence of four years are required to earn a B.S. degree. The compulsory courses are: Calculus (A), General Chemistry (A), Chemistry Laboratory (I) (II), General Physics (A), General Physics Laboratory for freshman year. Physical Chemistry (I), Analytical Chemistry (I) (II), Organic Chemistry (I) (II), Chemistry Laboratory (III) (IV), Mathematics for chemistry for sophomore. Physical Chemistry (II), Chemistry Laboratory (V) (VI), Inorganic Chemistry (I) (II) for junior and Seminar for senior; and 3 subjects (9 credits) from the following subjects: Organic Chemistry (III), Analytical Chemistry (III), Physical

Chemistry (III), Biochemistry, Materials Chemistry.

Graduate Programs

Master's Degree

Students earn a master degree by doing research and writing a thesis. The minimum time required for a master's degree is two years (four years maximum). Students need a total of 24 credits to earn this degree. The compulsory courses are: Master's thesis, Research, Seminar, and three Advanced Courses, Teaching Practice in Chemistry.

Ph.D Degree

The Ph.D. is a degree earned primarily by independent research in collaboration with one or more faculty members. Three years of study are the minimum necessary to complete this degree (seven years maximum). A typical period to complete all degree requirements is 4~5 years. Students are required to take 26 credit hours (30 for students passing proficiency test) and pass written and oral examinations in their area of specialization. The compulsory courses are: Thesis, Research, Seminar, three Special Topics and advanced courses, Teaching Practice in Chemistry, English is required to achieve the department's requirements.

Optional Courses

Material surface analysis, Analytical mass spectroscopy, Nuclear magnetic resonance, Organometallic chemistry, Biochemistry, Natural product chemistry, Catalysis chemistry, Polymer chemistry, Electrochemistry, Introduction to synchrotron radiation related research, Bioinorganic chemistry, Spectrochemical analysis, Structural and chemical bonding, Chemical biology, Group theory, Materials chemistry, Molecular and nanoscale material spectroscopy, Spectroscopy

and symmetry, Nanoscale materials, Soft matter, Organic materials, Bio-analytical chemistry, Nanobiotechnology, Introduction to magnetic resonance, Organometallics in organic synthesis, Mass spectrometry and its application, Special topics in solid-state NMR, Application of transmission electron, Microscopy in chemistry, Special topics in chemical biology, Special topics in physical chemistry, Special topics in analytical chemistry, Special topics in Organic chemistry, etc.

ACADEMIC ACTIVITIES

1. Weekly seminar by invited speakers
2. Workshops and advanced courses given by specialists during summer break. These are open to people from other academic and research institutes in Taiwan.
3. International and local chemistry conferences are frequently held.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Chemical analysis and detection
- (2) Chemical synthesis
- (3) Chemical principles
- (4) Applied chemical technology

2. Further studies

- (1) Chemical Research Institute
- (2) Chemical Engineering Research Institute
- (3) Agricultural Chemistry Research Institute
- (4) Biochemistry Research Institute
- (5) Pharmacy Research Institute
- (6) Material Science Research Institute
- (7) Food Science and Technology Research Institute
- (8) Environmental Engineering Research Institute
- (9) Public Health Research Institute
- (10) Molecule and Cell Institute

- (11) Microbiology and Biochemistry Institute
- (12) Animal Science and Technology Institute
- (13) Plant Pathology Institute

3. Career options

Academic positions, scientific research, industrial production, environmental protection, medical health, instrumental and chemical representative, quality control, law, patenting service, antique maintenance, semiconductors, LCD, high technological products, chemical industries, etc.

C O N T A C T INFORMATION

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4 DEPARTMENT OF GEOSCIENCES



INTRODUCTION

The study of geoscience has a long tradition in Taiwan, as the department of Geology was one of the four original departments of the College of Sciences, Taihoku Imperial University, which was established during the later stage of the Japanese occupation of Taiwan (1895-1945). After World War II, this department became one of the founding departments of the fledgling NTU. In the beginning, the department offered only undergraduate courses. But, in 1956, it launched its graduate program, and five years later it awarded its first M.S. degree in Geology. The Ph.D. program was initiated in 1970. Historically, the curriculum and research of the department were centered on two areas, i.e., min-

eralogy/petrology and paleontology/ stratigraphy. In order to keep up with the demands of a changing society, the graduate program was expanded in 1993 to include both traditional geology and applied geology disciplines. The department changed its name as "Department of Geosciences" in 2000.

The department is housed in three three-story building buildings with a net floor area of over five thousand square meters. There are 28 laboratories, 28 offices and 4 classrooms, surrounded by a forecourt, a courtyard, a backyard and parking lot.

FACULTY

Faculty: 25

Joint Appointment: 4

Adjunct Faculty: 8

Ph.D. Degree: 37

Chair/ Professor

Hongey Chen Ph.D., University of London

Full-time

Professor

John Suppe Ph.D., Yale University

Yoko Ota Ph.D., Tokyo University of
Education

Cheng-Hong Chen Ph.D., NTU

Tsung-Kwei Liu Ph.D., NTU

Ping-Mei Liew Ph.D., NTU

Sun-Lin Chung Ph.D., NTU

Louis Suh-Yui Teng
Ph.D., University of Southern
California

Yeeping Chia Ph.D., University of Illinois

Chia-Yu Lu Ph.D., Universite de Bretagne
Occidentale

Kuo-Yen Wei Ph.D., University of Rhode
Island

Ching-Hua Lo Ph.D., Princeton University

Wuu-Liang Huang Ph.D., University of Chicago

Wen-Shan Chen Ph.D., NTU

Yue-Gau Chen Ph.D., NTU

Tsanyao Frank Yang
Ph.D., NTU

Sheng-Rong Song Ph.D., NTU

Associate Professor

Mao-Hua Teng Ph.D., Northwestern
University

Shu-Huei Hung Ph.D., Brown University

Jyr-Ching Hu University Pierre et Marie
Curie (Paris 6).

Chuan-Chou Shen Ph.D., National Tsing-Hua
University

Yih-Min Wu Ph.D., National Central
University

Assistant Professor

Yuancheng Gung Ph.D., University of
California, Berkely

Li-Hung Lin Ph.D., Princeton University

Ya-Hsuan Liou Ph.D., NTU

Joint Appoitment

Bor-Ming Jahn Ph.D., University of
Minnesota

Bor-Shouh Huang Ph.D., National Central
University

Ling-Yun Chiao Ph.D., University of
Washington

Chin-Hsiung Loh Ph.D., NTU

FACILITIES

Teaching and research facilities in this Department are the best among all of the earth science departments in Taiwan. Major laboratories include electron microprobe, X-ray (single-crystal and powder diffraction, fluorescence etc.), high temperature and pressure laboratory facilities, emission spectroscopy, mineralogy, mineral synthesis, petrology, paleontology, sedimentation, palynology, optical mineralogy, fission track dating, rock-analysis and gemology, C-14 dating, thermoluminescence dating, scanning electron microscope, ICP atomic emission spectrometer and mass spectrometer (ICP-AES and MS), mass spectrometer (MS) for stable isotope analysis, MS for noble gas analysis, 2 MSs for Ar-Ar dating, etc.

The Department also has more than 15,000

books and over 200 professional journals, a sample preparation room and a computer room to support teaching and research.

COURSES

The Department of Geosciences succeeded the former Department of Geology in August 2000. The department offers a four-year program leading to the degree of Bachelor of Science in Geosciences. Students are required to complete at least 128 credits and may take optional courses in earth resources environments during their sophomore and junior years. Fieldwork is emphasized in the curriculum. Students are encouraged to take optional field courses in addition to the mandatory ones.

The Institute offers a one-to-four year program leading to the degree of Master of Science and a two-to-seven year program leading to the degree of Doctor of Philosophy. The minimum requirement of credit hours is 24 for the M.S. program, and 18 for the Ph.D. A thesis or dissertation is required for both the M.S. and Ph.D. degrees. Research topics in the graduate program include mineralogy, petrology, mineral deposits, paleontology, stratigraphy, structural geology, engineering geology, geochemistry, geophysics and hydrology, etc. Faculty research results are usually published in both domestic and international professional journals.

ACADEMIC ACTIVITIES

Active research on various geosciences topics is the tradition of this Department. Major funding agencies include National Science Council, Central Geological Survey, Bureau of Environment Protection, Bureau of National Park Administration, Commission of Atomic Energy, etc. The Department has issued 32 vol-

umes of high standard research report *Acta Geologica Taiwanica*, and cosponsors the Chinese journal "Ti-Chih" with the Geological Society of China and the Central Geological Survey.

Many conferences have been sponsored by this Department. They include "Conference on the Geological Application of Neutron Activation Analysis," "Quaternary Geology of Taiwan-1st, 2nd, 3rd and 4th Conferences," "Sino-American 1st and 2nd Conferences on Arc-Continent Collision of Eastern Taiwan," "Sino-British 1st and 3rd Geological Conferences," "Conference on Sustainable Development and Geosciences Prospect," "International Symposium on East Asia Tectonics," and "International symposium on Chinese jade." In addition, the department also offers several joint courses with the earth science departments of Hong Kong University, Caltech, and Central Washington University, and also carries out and actively participates in a number of important international research projects, such as ODP and IGCP projects.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Structural Geology
- (2) Petrology
- (3) Mineralogy
- (4) Paleontology, Stratigraphy
- (5) Geochemistry, Chronology
- (6) Applied & Engineering Geology
- (7) Hydrogeology, Environmental Geology
- (8) Geochronology
- (9) Ceramics, Material Sciences
- (10) Sedimentology
- (11) Petroleum Geology
- (12) Field Geology
- (13) Mineral Deposits

- (14) Geophysics
- (15) Paleooceanography
- (16) Gemology

2. Further studies

- (1) Institute of Geophysics, National Central University
- (2) Institute of Applied Geology, National Central University
- (3) Institute of Earth Sciences, National Taiwan Normal University
- (4) Institute of Earth Sciences, National Cheng Kung University
- (5) Institute of Marine Geology and Chemistry, National Sun Yat-sen University
- (6) Institute of Applied Geophysics, National Chung Cheng University
- (7) Institute of Seismology, National Chung Cheng University
- (8) Institute of Oceanography, National Taiwan Ocean University
- (9) Institute of Oceanography, NTU
- (10) Institute of Geosciences, NTU
- (11) Other International Geological Institutes

3. Career options

Our alumni have performed outstandingly, domestically and internationally, on various academic fronts. Alumni have also won highest reputation in applied geology, civil engineering, mineral and petroleum explorations, and material sciences. Career opportunities are abundant, Academia Sinica, Central Geological Survey, Chinese Petroleum Co., Taiwan Power Company, National Parks, Energy and Resources Laboratories, the China Steel Corporation, applied geology technicians, researchers, engineering consultants companies, teachers of high schools, as well as major universities, are among those who have employed many of us.

CONTACT INFORMATION

Established in: 1945

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5 DEPARTMENT OF PSYCHOLOGY



INTRODUCTION

The Department of psychology of NTU was established in 1949 as the first psychology department in Taiwan. Its predecessor was the Psychology Study Group of Taihoku (Taipei) Imperial University, founded by the occupying Japanese in 1928. It has since evolved into the most prominent psychology department in this country today. The department also offers master and doctoral programs.

FACULTY

Full-time: 32

Part-time: 17

Ph.D. Degree: 38

M.S. Degree: 11

Chair / Professor

Weng, Li-Jen	Ph.D., University of California, Los Angeles
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Full-Time

Emeritus Professor

Liu, In-Mao	Ph.D., University of Illinois, Urbana-Champaign
Ko, Yung-Ho	Ph.D., University of Michigan, Ann Arbor

Yang, Kuo-Shu Ph.D., University of Illinois,
Urbana-Champaign

Professor

Hwang, Kwang-Kuo Ph.D., University of Hawaii,
Honolulu

Wu, Yin-Chang Ph.D., National Taiwan
University

Liang, Keng-Chen Ph.D., University of
California, Irvine

Wu, Jei-Tun Ph.D., National Taiwan
University

Hua, Mau-Sun Ph.D., University of
Wisconsin, Madison

Hwu, Hai-Gwo Dr. of Medicine, National
Taiwan University

Hue, Chih-Wei Ph.D., University of Texas,
Arlington

Cheng, Bor-Shiuan Ph.D., National Taiwan
University

Yeh, Su-Ling Ph.D., University of
California, Berkeley

Chen, Ching-Yu Dr. of Medicine, National
Taiwan University

Yeh, Yei-Yu Ph.D., University of Illinois,
Urbana-Champaign

Yao, Kai-Ping Ph.D., University of Illinois,
Urbana-Champaign

Chen, Chien-Chung Ph.D., University of
California, Santa Barbara

Yeh, Kuang-Hui Ph.D., National Taiwan
University

Associate Professor

Chu, Ruey-Ling Ph.D., National Taiwan
University

Chang, Sue-Hwang Ph.D., National Taiwan
University

Lin, Yi-Cheng Ph.D., University of
Rochester

Lay, Keng-Ling Ph.D., State University of
New York, Stony Brook

Lien, Yunn-Wen Ph.D., University of
California, Los Angeles

Chen, Sue-Huei Ph.D., Emory University,
Atlanta

Chiu, Tai-Yuan M.A., University of Tokyo

Chiu, Ming-Jang Ph.D., National Taiwan
University

Assistant Professor

Chen, S.H. Annabel Ph.D., Purdue University at
Indianapolis, Indiana

Tsao, Feng-Ming Ph.D., University of
Washington

Hsu, Yung-Fong Ph.D., University of
California, Irvine

Lai, Wen-Sung Ph.D., Cornell University

Chou, Tai-Li Ph.D., University of
Cambridge

Tseng, Chia-Huei Ph.D., University of
California, Irvine

Part-Time

Professor

Huang, Jong-Tsun Ph.D., National Taiwan
University

Chung, Chong-Jen M.A., Tokyo University of
Education

Hsu, Chia-Hung Ph.D., University of Illinois,
Urbana-Champaign

Farh, Jiing-Lih Larry Ph.D., University of Indiana
Huang, Li-Li Ph.D., National Taiwan
University

Hsu, Wen-Yau Ph.D., National Taiwan
University

Cheng, Chao-Ming Ph.D., Yale University

Associate Professor

Soong, Wei-Tsuen Dr. of Medicine, National Taiwan University

Kuo, Chien-Chih Ph.D., National Taiwan University

Assistant Professor

Lu, Lu Ph.D., Boston University

Wu, Tsung-Yu Ph.D., National Taiwan University

Lecturer

Jeng, Yih-Ru M.A., National Taiwan University

Adjunct Professional Expert

Wang, Hsiu-Chih M.A., National Taiwan University

Tseng, Chang-Chang M.A., National Taiwan University

Su, Shu-Chen M.A., University of Michigan

Yang, Ya-Min M.A., Chung Yuan Christian University

Cheng, Ling-Yee M.A., National Taiwan University

FACILITIES

The department has a full range of facilities in two buildings with a total floor space of 6,105 square meters. These include an auditorium, computer rooms, psychobiology laboratories and animal rooms, playrooms and observational booth, experimental laboratories, and research sections. The facilities include a collection of approximately 300 psychological tests on intelligence, personality and aptitude in the testing room, a workstation and seventy personal computers for academic work.

Approximately 300 sets of experimental instruments and equipment are available for scientific

research, including the following: four-field T-scope, vision and perception equipment, eye tracking system, image processing analyzer, a fully equipped video facility for observation and production, human physiology monitoring system, stereotaxic instrument, neurophysiology equipment, HPLC with electrochemical detector, in vivo microdialysis equipment, microscope, computer-controlled operant conditioning system and startle system, and sensori-motor response assessment systems. Recent efforts include the utilization of a functional magnetic resonance image system for interdisciplinary projects on campus to explore brain activity driven cognitive processes.

COURSES

The Required Courses of Undergraduate

Calculus (Level B)(6), Cultural Anthropology (Level C)(4), Introductory Sociology (Level D)(3), General Physics & General Physics Lab.(8), General Chemistry & General Chemistry Lab.(6), General Biology & General Biology Lab.(4), General Psychology (Level A)(6) 、Statistics in Psychology and Education(6), Method of Psychological Experiment(6), Psychological Testing(3),Practicum of Psychological Testing(1), Developmental Psychology(3), Psychology of Personality(3), Abnormal Psychology(3), Physiological Psychology(3), Perceptual Psychology(3), Human Learning and Cognition(3), Social Psychology(3).

Undergraduate students are required to enroll in courses in methodology and in major fields of general psychology over three years. In the fourth year, students are encouraged to select courses on a variety of topics in preparation for graduate study or in pursuit of a career. The

department offers master and doctoral programs in various fields of psychology. Students pursuing a master degree are required to concentrate on research methodology and psychological knowledge in selected areas in the first year. They are expected to select courses on special topics and conduct research to fulfill the thesis requirement in the second year. Doctoral candidates are encouraged to study several areas related to their research topic and to conduct original independent research and publish their results in a scholarly journal. In addition, master students in the Clinical program must fulfill a one-year internship.

ACADEMIC ACTIVITIES

Faculty and students conduct experimental research, survey and qualitative research with grants funded by the National Science Council, Ministry of Education, government agencies, and private enterprises. Faculty in clinical psychology investigate a wide range of topics in order to establish an integrated theory. These include the study of psychopathology and the diagnosis and treatment of various psychological/ psychiatric disorders.

Faculty of the Experimental and Cognitive Psychology design scientific studies on vision, attention, causal reasoning, memory, the dissociation of conscious and unconscious processes, and other higher human mental functions. The International Symposium on Psychological Aspects of the Chinese Language was initiated by members within the program in 1978 and is now the most important psychological conference in the study of Chinese language; it is held every two to three years in major Asian Pacific cities.

The Personality and Social Psychology program is characterized by its indigenous approach with

the objective of understanding Chinese psychology in its social, cultural, and historical context.

The current interests of faculty in the Developmental program include concept development, Chinese children's language development, early socioemotional development, and parent-child relationship.

The major focus of the Psychobiology program is the investigation of neural mechanisms underlying affective and cognitive processes. Specific topics include the memory mechanisms for coding emotional experience in the brain, neural plasticity related to addictive behavior, and roles of limbic structures and cerebral cortex in expression of recent and remote memory.

Corroborating basic research, members in the Industrial/Organizational program study culturally specific characteristics of Chinese enterprises in the areas of motivation, leadership, organizational culture, inter-organizational relationships, customer satisfaction, and the impact of relationships in dyadic interaction and networking with current emphasis on loyalty, commitment and trust.

The Psychometrics program is focused on measurement methods for the scientific study of human behavior and the construction of psychological tests for various institutions in the country.

In addition to courses and seminars on a variety of topics, students are exposed to a wide range of current research issues through departmental colloquia on every Wednesday afternoon. Initially published as the *Acta Psychologica Taiwanica* by members of the department, The Chinese Journal of Psychology is now published by the Chinese Psychological Association with many of our faculty members on the editorial board. This journal is listed in TSSCI.

CAREERS AND FURTHER STUDIES

1. Further studies

Bachelor degree students may enter such graduate institutes as Psychology, Physiology, Neuroscience, Behavioral Medicine, Criminology, and Business Administration and Management for advanced study. They may also choose to study abroad.

2. Career options

(1) For Bachelor's degree students So far there is no profession tailored to Bachelor of psychology, but there are lots of professional fields that need employees with a psychology background. The Bachelor's degree students, with their interest and learning, might serve in marketing research, product promotion, architect of advertising, human resources and training, materia-medica research and development, teaching assistant or research assistant, etc.

(2) For M. Phil / Ph. D. Degree in Psychology Most graduates of the M.Phil. and Ph.D. programs enter scientific and research work.

Others join the following fields :

- a. Graduate students of Psychobiology program: materia-medica research and development, school teaching, etc.
- b. Graduate students of Psychometrics program: marketing research, survey research, school teaching, etc.
- c. Graduate students of Industrial / Organizational program: human resources and training, marketing, administration and management, architect of advertising and school teaching, etc.
- d. Graduate students of cognitive and Developmental program: school teaching (especially in preschool for Graduate students of Developmental program), etc.

(3) For M. S. Sc / Ph. D. Degree in Clinical Psychology

Most graduate students of this program enter hospitals to be clinical psychologists. Others become teachers or join government agencies (i.e. Bureau of health, etc.) or foundations to be counselors.

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6 DEPARTMENT OF GEOGRAPHY



INTRODUCTION

The Department of Geography was founded in 1955, as the first geography department in Taiwan. It began offering a graduate program in 1981, and was established as an innovative and influential program leading to the Ph.D. degree in 1989. The Department, with 16 full-time academic staff, is part of the College of Science, and supports cutting-edge research in human geography, physical geography, and geospatial technology. The research activities of the department have diversified over the years. Although primarily focusing on Taiwan, broader geographic areas, both in the local region and outside, have begun to draw the interests of the staff.

FACULTY

Full-time: 16

Part-time: 5

Ph.D.: 20

Masters: 1

Chair/ Professor

Sue-Ching Jou Ph.D., University of
Minnesota

Full-time

Professor

David, Chang-Yi Chang

Ph.D., University of Texas at
Austin

Nora, Lan-Hung Chiang

Ph.D., University of Hawaii

Tzu-How Chu

Ph.D., University of Kansas

Jiun-Chuan Lin

Ph.D., University of London

Chin-Hong Sun

Ph.D., University of Georgia

Shin Wang

Ph.D., Columbia University

Jinn-Yu Hsu

Ph.D., University of

California, Berkeley

Jinn-Guey Lay

Ph.D., University of Hawaii

Associate Professor

Mei-Hui Li

Ph.D., University of Illinois

Tsung-Yi Huang

Ph.D., University of New York

Bor-Wen Tsai

Ph.D., National Taiwan

University

Assistant Professor

Cheing-Tung Lee

Ph.D., University of Hawaii

Shiuh-Shen Chien

Ph.D., London School of

Economics and Political

Science

Jehn-Yih Juang

Ph.D., Duke University

Lecturer

Yin-Yuh Liu

M.S., National Taiwan

University

Emeritus Professor

Chiu-Yuan Wang

M.S., McGill University

Part-time

Professor

Shan-Hsin Chiang

Ph.D., University of Hawaii

Kang-Tsung Chang

Ph.D., Clark University

Associate Professor

Lon-Gyi Chen

Ph.D., Asian Institute of

Technology

Hao-Tsu Chu

Ph.D., Universite Pierre et

Marie Curie (Paris VI)

Assistant Professor

Kuang-Chung Lee

Ph.D., University of London

FACILITIES

The extensive collection of maps, aerial photographs, and EIA (Environmental Impact Assessment) Reports is an important component of our available research and teaching resources. The GIS Research Center is equipped with data server, large-size scanner, plotter, and a computer room of 50 PCs, installed digital analysis packages such as ESRI ArcGIS, and other professional softwares. The Physical Geography Lab has equipments such as Polarizing Microscope, Water Quality Analysis Meter, Fluid Speed Meter, Lysimeter, Auto Meteorological Station, Leica Smart Station, Gas Chromatography, High Performance Liquid Chromatography. The department is also home to five other specialized laboratories, which support teaching and research needs.

COURSES

Undergraduate Programs

The Geography Department offers a four-year program leading to the Bachelor of Science degree. Students must complete a minimum of 128 credits for graduation.

Graduate Programs

The Master program (started in 1981), including the Continuing Education program (started in 2000), requires 24 credits of course work and a thesis that would earn 6 credits. The Ph.D. program requires 30 credits of course work and a research dissertation, which would earn 12 credits.

The undergraduate and graduate programs are based on several core courses in physical and human geography. These include introductory courses in Physical Geography and Cultural

Geography, Cartography and Map Interpretation, and other courses in Mathematics and Statistics. Upper level courses include Geomorphology, Climatology, Environmental Hydrology, Environmental Ecology, Environmental Resource Conservation and Management, Research Methods in Physical and Human Geography, Economic Geography, Urban Geography, Human Dimension and Global Change, and Geographic Thought. The department also offers several specialized methodology courses, such as Quantitative Geography, Remote-Sensing, and Geographic Information Systems, as well as regional courses on the Geography of Taiwan and China. Special Topics courses are offered according to student and faculty interest. Most courses include significant laboratory or tutorial components.

ACADEMIC ACTIVITIES

The department publishes the Journal of Geographical Science (TSSCI) four times a year. It includes articles from Taiwanese and international scholars on a range of issues across the dynamic discipline. Through Taiwan's National Science Council's visiting fellowships program, the department sponsors world-renowned scholars for brief academic visits. International geographers come to deliver lectures and participate in collaborative research with faculty and students in the department. A seminar series on current geographical research in Taiwan is held every year, and on an occasional basis, professional training workshops on GIS, Remote Sensing, and Environmental Impact Assessment techniques are offered to government employees.

Geographical studies involve diverse subfields in the natural and social sciences with wide practical applications and an array of theoretical implications. The department is actively recruiting the

highest caliber faculty and is constantly revising and developing high quality training for its undergraduate and graduate students. Future plans for the Geography Department include the professional development of technical and other support staff, enhancement of research and teaching resources, improving and expanding cartographic and GIS facilities, and strengthening linkages with international academic institutions.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Physical environment and natural hazard
- (2) Environmental resource conservation and management
- (3) Geographic information system
- (4) Cartography and computerized mapping
- (5) Landscape, urban and regional planning
- (6) Land use planning and design

2. Further studies

- (1) Institute of geography
- (2) Institute of urban planning
- (3) Institute of environmental engineering
- (4) Graduate institute of building and planning
- (5) Master of business administration
- (6) Institute of geosciences

CONTACT INFORMATION

Chair: Sue-Ching Jou

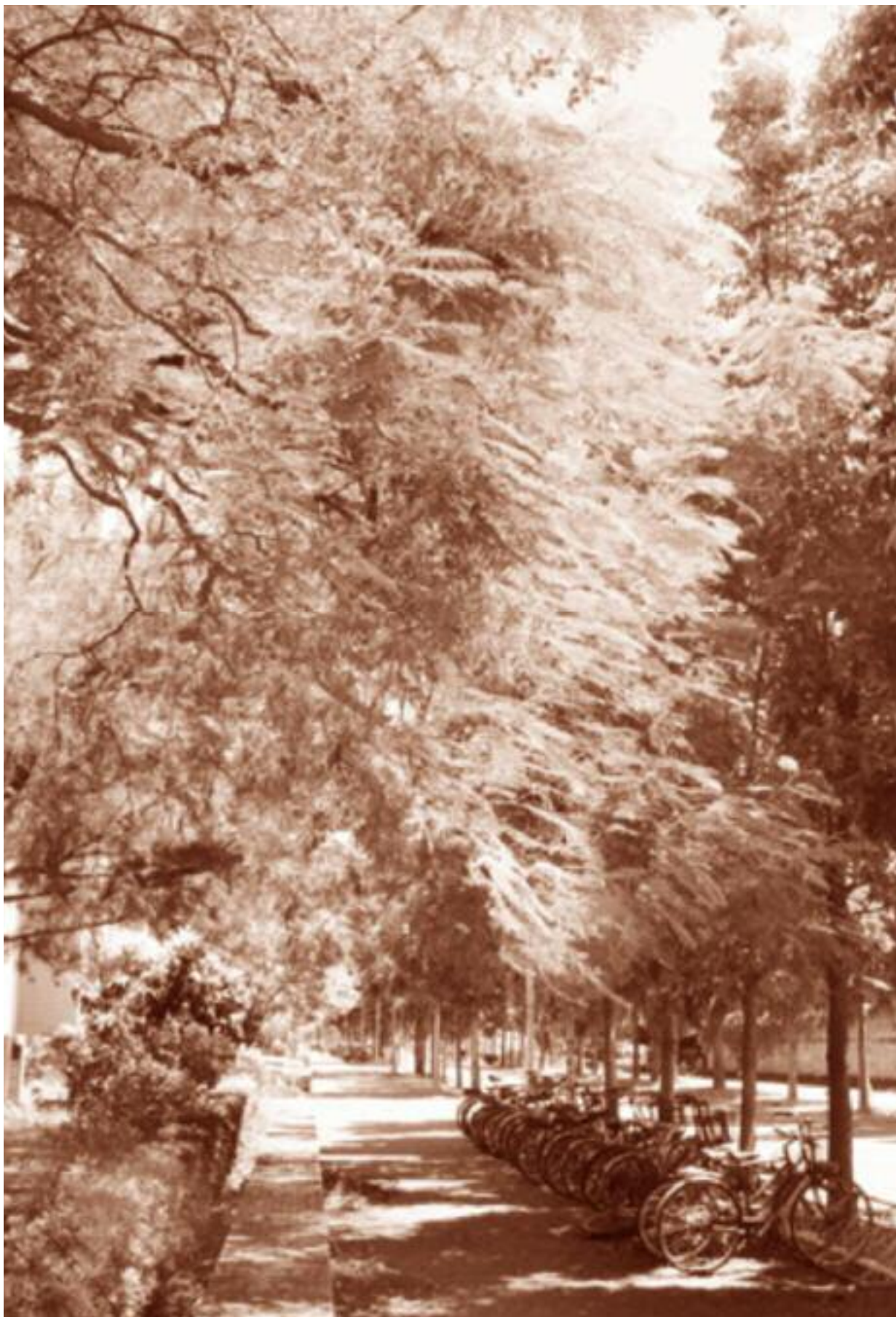
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7 DEPARTMENT OF ATMOSPHERIC SCIENCES



INTRODUCTION

The Department of Atmospheric Sciences started as a research center in the Department of Agronomy in 1946, one year after the end of WWII. In 1955 the undergraduate education program was established as the Division of Meteorology in the Department of Geography, and finally in 1972 it became an independent department. Over more than half a century, the Department of Atmospheric Sciences (NTU-AS) including its preceding entities has grown from only a handful of undergraduate students and faculties to a current size of 18 fulltime faculty members, around 150 undergraduates, over 60 graduate students and an almost equal number of staffs and researchers.

The department is dynamic, forward-looking and is making conscientious effort in pursuing academic excellence. Special emphasis is made to participate in the major international research projects as well as collaboration with internationally renowned institutions. As the key component in the integrated Earth-System Science, especially in facing the rapid-changing global environment, our research focuses in the following three major directions: (1) Dynamics and forecasting of severe weather; and (2) Global change, climate dynamics, and air-sea interaction; (3) Physical/chemical process and related environmental issues. The specific active research projects include Meiyu and severe weather studies, typhoon rainfall and landfall process, tropical cyclone dynamics, DOTSTAR

(Dropsonde Observation for Typhoon Surveillance near the TAIwan Region) and targeted observation research, satellite remote sensing studies, atmosphere-ocean physical and biogeochemical interactions, high-performance earth system modeling and environmental fluid dynamics, multi-scale interactions in the tropical western North Pacific during summer, aerosol-cloud interactions and effects on precipitation and climate, field research with special observation platforms, and chemical reactions and properties of aerosol particles etc.

PERSONNEL

Our current personnel include 18 full-time faculties, 3 Adjunct Professors, 8 affiliated Professors, and 1 affiliated lecturers, as introduced as follows:

Chair/ Professor

Chun-Chieh Wu Ph.D., Massachusetts Institute of Technology, USA

Full-time faculty

Professors

George Tai-Jen Chen

Ph.D., State University of New York at Albany, USA

Wen-Shung Kau Ph.D., University of Utah, USA

Lin Ho Ph.D., Massachusetts Institute of Technology, USA

Chung-Ming Liu Ph.D., University of Utah, USA

Ben Jong-Dao Jou Ph.D., University of Washington, Seattle, USA

Cheng-Shang Lee Ph.D., Colorado State University, USA

Wu-Ron Hsu Ph.D., Purdue University, USA

Huang-Hsiung Hsu Ph.D., University of Washington, Seattle, USA

Ming-Chin Wu Ph.D., University of Wisconsin, USA

Hung-Chi Kuo Ph.D., Colorado State University, USA

Kuang-Jung Hsu Ph.D., University of Pittsburgh, USA

Jen-Ping Chen Ph.D., Pennsylvania State University, USA

Chun-Chieh Wu Ph.D., Massachusetts Institute of Technology, USA

Associate Professors

Ching-Chi Wu Ph.D., Purdue University, USA

I-I Lin Ph.D., University of Cambridge, UK

Po-Hsiung Lin Ph.D., National Taiwan University, Taiwan

Assistant Professors

Yu-Heng Tseng Ph.D., Stanford University, USA

Hui-Ming Hung Ph.D., California Institute of Technology, USA

Adjunct Professors

Professor

Shaw-Chen Liu Ph.D., University of Pittsburgh, USA

Associate Professors

Chia Chou Ph.D., University of California, Los Angeles, USA

Shih-Chun Lung Ph.D., Harvard University, USA

Affiliated Professors

Professors

Chung-Yi Tseng	Ph.D., University of Oklahoma, USA
Ming-Dah Chou	Ph.D., New York University, USA
Pao Wang	Ph.D., University of California, Los Angeles, USA
Tim Li	Ph.D., University of Hawaii, USA
Wen-Chao Lee	Ph.D., University of California, Los Angeles, USA
Bin-Jie Chuang	Ph.D., University of California, Los Angeles, USA
Tian-Yue Tsai	Ph.D., University of Yale, U.S.A.

Assistant Professor

Charles C. K. Chou Ph.D., National Central University, Taiwan

Adjunct Lecturers

David Ludwig B.S., University of Minnesota, USA

FACILITIES AND LABORATORIES

The department has various laboratories with excellent facilities for teaching and research. Major laboratories include Synoptic Research, Climate Dynamics, Monsoon, UV Instrument Calibration, P3/Mesoscale, Typhoon, Boundary layer Meteorology, Climatology/Hydrology, Cloud and Aerosol, Dynamics and Modeling, Air Pollution, Typhoon Dynamics, Atmospheric Measurement/Instrumentation, and Satellite Remote Sensing, High-performance Computing & Environmental Fluid Dynamics Lab, Atmospheric Chemistry Lab. The observation

apron, computer room and Data Bank for Atmospheric Research are also important. Major research and teaching equipments include Aerosonde, Electrical Thedolite, Captive Balloon, Weather Integration and Nowcasting System (WINS-II), Weather Chart Receive and Display System, Global Position Satellite Navigation Sounding System, MAWS, Doppler radar system, and Aerosol spectrometer Probe, cryostat, microscope, Fourier transform infrared spectrometer, ultraviolet-visible Spectrometer, low temperature baths/circulators, and constant output atomizer, Lidar. Computer facilities include a well-equipped computer room, several high-end PC clusters, Linux, workstations/servers, PCs, and other peripheral devices with fast-switch ethernet.

EDUCATION OBJECTIVES

Atmospheric Science is a science which combines theories and realistic applications. Our department courses emphasize basic training in physics, mathematics, and computer sciences, as well as application of knowledge into the realistic atmospheric problems. The courses can be divided into four categories: Weather dynamics and severe weather; Climate and earth system; Atmospheric physics, chemistry and environment; Atmospheric observations and informatics. Students are encouraged to explore multidisciplinary categories according to their interests. Also, they are allowed to take other programs, including teacher education programs and earth science programs, as well as choosing a minor or a double major.

We are dedicated to cultivate Atmospheric Science talents and in response to the global trend of science integration, our goal is to teach our students a prospect of the earthy system. We expect that they achieve a deep insight to the

Earth System as a whole, and can contribute to the modern world.

COURSES

Undergraduate Required Courses

The minimum credits required by the department are 128 credits, including 18 credits of general requirements, 12 credits of general education, 75 credits of department requirements, 6 credits of department electives, and 17 credits of other electives. These regulations enable students to fully develop their potential and acquire diverse abilities.

List of the mandatory courses

Calculus A 1(4); Calculus A 2(4); General Physics A 1(3); General Physics A 2(3); General Physics Lab. 1(1); General Physics Lab. 2(1); General Chemistry A 1(3); General Chemistry A 2(3); General Chemistry Lab. 1(1); General Chemistry Lab. 2(1); Introduction to Atmospheric Science(3); Introduction to the Earth System(3); Atmospheric Measurement and Instrumentation(2); Lab. of Atmospheric Measurement and Instrumentation(1) ; Atmospheric Radiation(2); Introduction to Atmospheric Chemistry(2); Programming and Scientific Computation(2); Applied Mathematics I(3); Applied Mathematics II(3); Fluid Mechanics(3); Atmospheric Thermodynamics(3); Statistics and Atmospheric Science(3); Numerical Analysis(2); Cloud Physics(2); Atmospheric Dynamics I(3); Atmospheric Dynamics II(3); Synoptic Meteorology I(2); Synoptic Meteorology II(2); Lab. of Synoptic Meteorology I(1); Lab. of Synoptic Meteorology II(1); Introduction to Physical Oceanography(2); Climatology(3).

GRADUATE PROGRAM

The Institute offers a one to four year program for the M.S. degree, and a two to seven year program for the Ph.D. degree. For the M.S. degree, 24 credits of courses and another six thesis credits are required. For the Ph.D. degree, besides 12 dissertation credits, 18 courses credits are required.

Further Studies and Career Opportunities

Our department is the top notch atmospheric research institute in Taiwan and their career prospect is wide. A significant portion of our graduates pursue advanced studies abroad (in Atmospheric Sciences, Oceanography, Earth System Science, Environmental Science, and Computer Sciences but not restricted) and subsequently works in world renowned academic institutions such as NASA, NOAA (National Ocean and Atmospheric Administration, USA), NCAR (National Center for Atmospheric Research, USA) as well as in the Universities (e.g., UCLA) abroad. Some graduates work in the local meteorology-related agencies, such as the Central Weather Bureau, Civil Aeronautics Administration, Military Weather Offices , National Science and Technology Center for Disaster Reduction (NCDR). Other graduates work in meteorology information or environment related consulting firms or as TV weather broadcasters or Earth Science teachers in high schools. Their talents and professional training is appreciated in many fields.

ACADEMIC ACTIVITIES

Two seminars are given each week. Graduate students and professors present their researches in the seminar. Visiting scholars and experts are also invited to give lectures and exchange ideas regularly. Many field experiments, conferences and workshops have been hosted by the department. In the past, the major activities including - South China Sea Monsoon Experiment (SCSMEX, 1998), Mei-Yu Experiment 98 (MYEX98), Workshop on Asian Monsoon Inter-comparison Program (AMIP, 1998), Conference on Cross-Strait Disastrous Weather (1998), Workshop on COSMIC/AMORE (1999), Workshop on Application, Data Analysis and Control of Aerosonde (1999), Program of Air Pollutant Amount Control in Southern Taiwan Area (1998-99), Conference on Cross-Strait Atmospheric Environment and Meteorological Application (2000), GIMEX (2001), International Conference on Mesoscale Meteorology and Typhoon in East Asia (2001), Workshop on Landfall Typhoons in Taiwan Area (2002), Workshop on Cross-Strait Atmospheric Terminology (2002), Conference on Cross-Strait Atmospheric Graduate Students (2002), Dropsonde Observations for Typhoon Surveillance near the Taiwan Region (DOT-STAR, 2002-08), Anniversary Symposium of the Department of Atmospheric Sciences, NTU (2005), the 2nd International GPM Ground Validation Workshop (2005), University of Hawaii Visiting Workshop (2007), International Workshop for Numerical Ocean Modeling and Prediction (2008), NTU-SUNYA Atmospheric Sciences Workshop (2008), Southwest Monsoon Experiment (SoWMEX, 2008-2012). Also, in June 2007, Memorandum of Understanding (MOU) to promote education and research collaboration was signed between the department and the International Pacific Research Center

(IPRC) and the Meteorological Department of the University of Hawaii (UH), USA. In November 2007, a Memorandum of Understanding to promote education and research collaboration was signed with the department of Earth and Environmental Sciences in Seoul National University (SNU), Korea. In July 2008, a Memorandum of Understanding to promote education and research collaboration was signed with the University at Albany, State University of New York (SUNYA), U.S.A.

CONTACT INFORMATION

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INTRODUCTION

The Institute of Oceanography was established in 1968, the first of its kind in Taiwan, the Republic of China. Its mission is not only to train graduate students but also to provide the environment for scientists from all fields of oceanography--physical, chemical, geological, geophysical, biological and fisheries--to work together to explore the seas around Taiwan. Its faculty and staff are committed to academic excellence and social responsibility through studying the marine environment, exploiting marine resources, and protecting marine ecosystems.

The Institute offers both M.S. and Ph.D. programs, and students may choose to enroll in one

of its four divisions: physical oceanography, chemical oceanography, marine geology and geophysics, marine biology and fisheries.

Due to the broad coverage of research programs and complex exploration tasks at sea, the Institute maintains a university-owned research vessel, "Ocean Researcher I." The vessel is equipped with advanced navigation equipments and research instruments. The vessel's operation is coordinated by experienced administrators, backed by a crew, marine technicians and the Vessel's Regional Instrument Center.

Over the past 40-odd years, the Institute has trained many graduates now working in academic, government and private sectors, and has been recognized as the major resource for Taiwan's

ever-growing needs from marine-related institutes, organizations and companies.

The institute has three plans for the future: 1. Participate in international collaboration of marine sciences and oceanography, survey areas, including the Japan Sea, the East China Sea, the West Philippine Sea, the South China Sea, and the seas around the equator. 2. Continue participating in international oceanography research projects, like the International Ocean Drilling Project (IODP), International Marine Global Changes (IMAGES), and Joint Global Ocean Flux Study (JGOFS). 3. Undertake the Marine Sciences Program for promoting the university students' understanding and interest in marine sciences.

FACULTY

Full-time:33

Part-time:3

Ph. D.:36

Director/Professor

Ling-Yun Chiao Ph.D., University of Washington, U.S.A

Full-Time

Professor

Kuang-Lung Fan Ph.D., North Carolina State University, U.S.A.

Tswen-Yung David Tang
Ph.D., North Carolina State University, U.S.A.

Cho-Teng Liu Ph.D., University of Washington, U.S.A.

Ching-Sheng Chern Ph.D, The Johns Hopkins University, U.S.A.

Joe Wang Ph.D., University of Delaware, U.S.A.

Chien-Chung Hsu Ph.D., University of Washington, U.S.A.

Shean-Ya Yeh Ph.D., University of Washington, U.S.A.

Wung Yang Shieh Dr. Agr. University of Tokyo, Japan

Chien-Hsiung Wang
Dr. Agr. University of Tokyo, Japan

Rang Huang Ph.D., University of Glasgow, U.K.

Chang-Feng Dai Ph.D., Yale University, U.S.A.

Chi-Lu Sun Ph.D., University of Miami, U.S.A.

Fuh-Kwo Shiah Ph.D., University of Maryland, U.S.A

Char-Shine Liu Ph.D., University of California, San Diego, U.S.A.

Chuen-Tien Shyu Ph.D., Oregon State University, U.S.A.

Ho-Shing Yu Ph.D., University of Cincinnati, U.S.A.

Su-Cheng Pai Ph.D., The University of Liverpool, U.K.

Ching-Ling Wei Ph.D., University of Washington, U.S.A.

Associate Professor

Chaolun Allen Chen
Ph.D., James Cook University, Australia

Gwo-Shyh Song Ph.D., University of Washington, U.S.A.

Fei-Jan Lin Ph.D., The University of Liverpool, U.K.

Saulwood Lin Ph.D., Texas A&M University, U.S.A.

Chao-Yeuh Yang Ph.D., Texas A&M
University, U.S.A.

Assistant Professor

Chen-Fen Huang Ph.D., University of
California, San Diego, U.S.A.

Jen-Chieh Shiao Ph.D., NTU, R.O.C

Chih-Hao Hsieh Ph.D., University of
California, San Diego, U.S.A

Takeshi Miki Ph.D., University of Kyoto,
Japan

Pei-Ling Wang Ph.D., NTU, R.O.C

Chih-Chieh Su Ph.D., NTU, R.O.C

Emmy Tsui-Yu Chang
Ph.D., I' Universi'te Pierre &
Marie CURIE, Paris VI

Liang-Saw Wen Ph.D., Texas A&M
University, U.S.A.

Chun-Mao Tseng Ph.D., Universi'te de PAU et
des PAYS de L' ADOUR

Part-time

Professor

Nai-Kuang Liang Dr.-Ing., University of
Hannover, Germany

Ju-Chin Chen Ph.D., Rice University,
U.S.A.

Assistant Professor

Sen-Lin Tang Ph.D., The University of
Melbourne, Australia

FACILITIES

1. Library and Laboratories

The Institute library has a collection of more than 7000 volumes along with over 200 current periodicals.

The laboratories are equipped with modern research instruments to study physical oceanography, marine geology and geophysics, marine chemistry, marine biology and fisheries. Major instruments include X-ray diffractometer, atomic absorption spectrophotometers, size analysis apparatus, α / β counting systems, multipurpose recording spectrophotometers, gas chromatographs, Softex X-ray apparatus, profile projector, ICP-OES, salinometers, oxygen meters, G.M. flurometer, insonator, various types of microscopes, multichannel seismic data processing system, meteorological satellite receiving station and multibeam echo-sounder.

2. Research Vessel

The R/V Ocean Researcher I with 794 GRT (gross-reg tonnage) was built in 1984. The equipment and instruments aboard Ocean Researcher I include multi-channel seismic reflection system (air guns and sparkers), satellite navigation system, Chirp subbottom profiler, seagravimeter, magnetometer, CTD, deep-sea winches, hydrographic winches, rosette water sampler, precision depth recorder, fishfinders, submarine photometer, bottom camera and strobe, salinometers, various types of bottom samplers, plankton nets and larva nets, acoustic doppler current profiler, global positioning system, etc.

COURSES

Doctoral Program Required Courses

Seminar(4)

Master Program Required Courses

Introduction to Physical Oceanography(1),
Introduction to Marine Biology (1), Introduction
to Marine Geology (1), and Introduction to
Marine Chemistry (1)

Division of Physical Oceanography:

Seminar (4), Field Work in Marine Physics(1),
and Descriptive Physical Oceanography (2)

Division of Marine Biology & Fisheries:

Paper Reading(2), Seminar(2), and Field Work in
Marine Biology (1)

Division of Marine Geology & Geophysics :

Seminar(2), Paper Reading(2), and Field Work
in Marine Geology(1)

Division of Marine Chemistry :

Seminar(2), Field Work in Chemical
Oceanography(1), Theoretical Marine
Chemistry(3), and Paper Reading(2)

ACADEMIC ACTIVITIES

Annual Report of Effort and Catch Statistics by
Area on Taiwan Demersal Fish Fisheries.

CONTACT INFORMATION

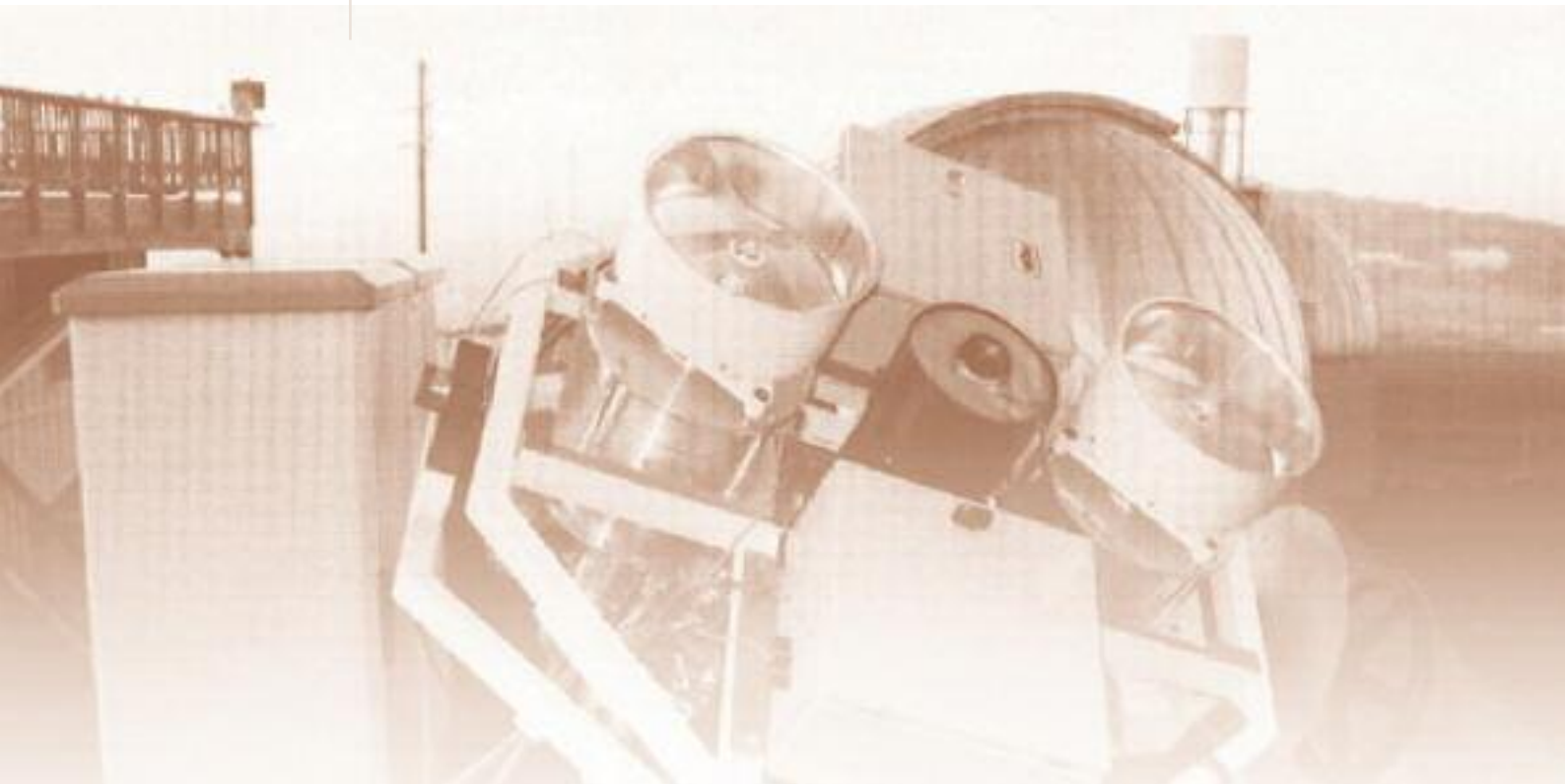
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INTRODUCTION

Astronomy and astrophysics are natural sciences that connect very well with humanities and literature. Astronomy is the oldest science, originating from human curiosity towards Nature. It can be said that civilization has its root in our ancestors' deciphering of awesome astrophysical phenomena.

We have noticed that a science course in astronomy can attract hundreds of students, while an astrophenomenon, such as Mercury's passing over the Sun in May 2003 or Mars' closest approach to the Earth in August 2003, always causes sky gazers to flock to observatories or even mountaintops. Indeed, astronomy and astro-

physics are the most natural bridge between humanities and sciences.

For many years, NTU, or Taida, has been the top choice for college education among high school graduates in Taiwan. Taida has been the traditional training ground for generations of young talents in Taiwan. For one reason or another, it would be difficult to explain to others why a field such as astronomy or astrophysics was simply not offered there for so long.

Taida's Institute of Astrophysics (IoAp) has its root in Department of Physics, College of Science, National Taiwan University. Its further developments overlapped considerably with those of the Physics Department: In the immediate or medium-term future, it will be in the inter-

ests of both institutions to develop together. Even in the long run, there is little reason for Taida's IoAp to function as an institution completely independent from Department of Physics.

It is intended that the MoE funded research excellence project on "Cosmology and Particle Astrophysics" (CosPA), and its NSC sequel, a study of the origin of the universe, will be the driving force in developing Taida's IoAp. Hence, IoAp will start with three outstanding groups: (1) Radio astronomy observation group, (2) Optical and infrared astronomy observation group, and (3) Theoretical astrophysics group, with the research interests of each group overlapping with those of the CosPA project for at least the first ten years. Taida's IoAp will reformulate its development plan at least every ten years.

Taida's IoAp is the first institute at Taida in which all courses are conducted in English.

FACULTY

Full-Time Faculty	(including four Joint Professors, each 1/2 quota): 9 persons
Part-time Faculty:	1 person
Joint Appointment	Faculty (Joint Professors, with Academia Sinica): 2 persons
Joint Appointment	Faculty (Joint Professors, with Department of Physics): 4 persons
Joint Appointment	Faculty (Joint Professor, with Department of Atmospheric Sciences): 1 person
Joint Appointment	Faculty (Joint Professor, with Department of Geosciences): 1 person
Ph.D.:	18 persons

Director/Professor

Yee-Bob Hsiung Ph.D., Columbia Univ.

Full-Time

Professor

W-Y. Pauchy Hwang	Ph.D., University of Pennsylvania, U.S.A.
Tzu-Hong Chiueh	Ph.D., Texas University, U.S.A.
Wei-Shu Hou	Ph.D., UC, Los Angeles, U.S.A.
Min-Zu Wang	Ph.D., University of Iowa, U.S.A.
Wei-Hsin Sun	Ph.D., UC. Los Angeles, U.S.A.
Pisin Chen	Ph.D., UC. Los Angeles, U.S.A.

Associate Professor

Jiun-Huei Protu Wu	Ph.D., University of Cambridge
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Joint Faculty Members (each with 1/2 quota)

Professor

Xiao-Gang He	Ph.D., University of Hawaii
Pei-Ming Ho	Ph.D., UC, Berkeley, U.S.A.

Joint Faculty Members(with no quota)

Professor

Yeong-Chuan Kao	Ph.D., UC. Berkeley, U.S.A.
Yih-Yuh Chen	Ph.D., Calif. Inst of Tech., U.S.A.
Pao-Ti Chang	Ph.D., Northeastern University
Tai-Jen George Chen	Ph.D., State University of New York at Albany
Ching-Hua Lo	Ph.D., Princeton University

Typhoon Lee Ph.D., Univ. Texas at Austin,
U.S.A.

Paul Ho Ph.D., MIT

Associate Professor

Jiunn-Wei Chen Ph.D., Washington University

Part-Time

Associate Professor

Jeremy Lim Ph.D., Macquarie University,
Australia

FACILITIES

1. Array for Microwave Background Anisotropy (AMiBA): The first 7-antenna array was deployed on Mauna Loa, Hawaii in early 2004, to be followed by the 13 element array and then the 19-element array. The 2-element prototype has been tested operated on Mauna Loa since 2002.
2. Canada/France/Hawaii Telescope (CFHT) with MegaCam or WIRCam: NTU and CFHT corporation have signed an agreement in July 2001, which allows Taida 68 nights of observational time over the 2003-2008 six-year period.
3. Computation Facilities: There are alsomany high-performance work-stations and PCs, enhancing the capability of numerical simulations and data analysis. The current PC cluster of 64 CPU, dedicated for cluster simulations, is to be extended to the 512 CPU cluster, offering a powerful computing machine that would be on the map of the computation world.
4. Neutrino Telescope (NuTel): Expected to be constructed by the end of 2005, to be deployed in Hawaii. This is for the observation of high-energy neutrinos from AGN, the search of TeV Gamma Ray, and the research on the optical flash.
5. Laboratory Simulations of Astrophysics: We

conduct experiments that simulate astrophysical phenomena. The current experiment is being carried out at Stanford Linear Accelerator Center (SLAC), with test runs conducted at the National Synchrotron Radiation Research Center (SRRC) in Hsin Chu.

6. Phoenix-Mountain Educational
xaObservatory: It currently houses a 25-inch optical telescope and also operates with eight small commercial telescopes.

COURSES

Master Programs

To receive the M.S. degree in Astrophysics, the graduate student is required to take the following courses:

Astrophysics I, Astrophysics II, Quantum Mechanics I, Classical Electrodynamics I, Classical Mechanics or alternatively Statistical Physics I, Seminars I ~ IV.

Nevertheless, students who have taken some of these courses may request exemptions; courses could be exempted upon approval, making possible graduation in one year.

Doctoral Programs:

o receive the Ph.D. degree in Astrophysics, students are required to take (1) Advanced-Level-Seminars I ~IV and (2) at least four D-level courses offered by our Institution. Nonetheless, Quantum Mechanics III, Quantum Theory I, Statistical Physics II, and Electrodynamics II, as offered by the Department of Physics, are to be counted as the D-level courses at our Institution. Students who have previously taken some of these courses may request exemptions; courses could be exempted upon approval.

Courses to be offered by our Institute are listed below:

Master's Degree

Astrophysics I, II(8), General Relativity(3), Seminars in Astrophysics I(1), Seminars in Astrophysics III, II(0), Seminars in Astrophysics IV(1), Research on Special Topics.

Ph.D. Degree

Cosmology (3), Particle Astrophysics (3), High Energy Astrophysics (3), Fluid Mechanics (3) Astrophysics Laboratory(6), Planetary Science (3), Radiative Processes in Astrophysics (3), Interstellar Medium, Numerical Methods in Astrophysics (3), Statistics in Astrophysics, Neutrino Astrophysics, Gamma-ray Astronomy, Radio Astronomy, Optical/Infrared Astronomy, Advanced Research on Special Topics.

ACADEMIC ACTIVITIES

During the 5 year period (2003-2008, the MoE funded research excellence project on "Cosmology and Particle Astrophysics" (CosPA), and its NSC sequel, a study of the origin of our universe, are the driving force in developing Taida's IoAp. IoAp will start with three outstanding groups: (1) radio astronomy, (2) optical and infrared astronomy, and (3) theoretical astrophysics, with the research interests of each group overlapping well with those of the CosPA project for at least the first ten years. Taida's IoAp should reformulate its long-range development plan at least every ten years.

To internationalize the institute and make it an internationally recognized center, all courses at Taida's IoAp will be conducted in English.

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FOR MORE INFORMATION

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Fax : +886-2-2363-9154

Website : <http://www.gcrc.ntu.edu.tw>

PREFACE

In responding to the increasing worldwide attention on the global change research and the cooperation among scientists in various fields, the Global Change Research Center (GCRC) was established in 1992.

AIMS

1. Integrating sub-disciplines of global change researches, with special emphasis on regional problems of Taiwan and the South East Asian region.
2. Promoting international cooperation.
3. Providing inter-disciplinary courses and educational workshops.

ORGANIZATION

Director

Dr. Liu Chung-Ming, Professor of the Department of Atmospheric Sciences, National Taiwan University.

Research divisions

- (1) Atmospheric Chemistry Division
- (2) Climate Change Division
- (3) Ocean Circulation and Coastal Zone Change Division
- (4) Past Global Changes (PAGES) Division
- (5) Environmental Change and Ecology Division
- (6) Information and Data Division
- (7) Sustainable Development and Economic-Social Impacts Division.

Advisory committee

The advisory committee consists of representatives from the Departments of Atmospheric Sciences, Geosciences, Geography, Oceanography, Life Science, Institute of Ecology and Evolutionary Biology, College of Engineering, College of Bioresources and Agriculture, College of Social Science, College of Public Health and College of Law.

COURSE TRACK

1. Earth System Science

The course track includes courses on atmosphere, geosphere, hydrosphere, biosphere and integrated earth system. From 1997 to 2006, more than 120 students enrolled, only 47 students have obtained certificates.

http://www.gcrc.ntu.edu.tw/Chinese/Center/Curriculum_HotNews.asp

2. Sustainable Resources

Including courses such as Water and Land Resources, Integrated System, Agricultural Resource, Biomass Energy, Forest Resource, Policy and Management. From 1997 to 2006, more than 35 students enrolled, only 6 students have obtained certificates.

http://www.gcrc.ntu.edu.tw/Chinese/Center/Curriculum_HotNews.asp

CURRENT RESEARCH ACTIVITIES

Local Change Simulation and Data Service

- Providing effective and useful data and information for global change research and impact study on climate changes
- Regional Climate Simulation Database (<http://www.gcrc.ntu.edu.tw/climate>)

Ocean Models and Information Systems in APEC Region

- APEC MRC (Marine Resource Conservation) project, from 1997 to 2006
- Web site: <http://sol.oc.ntu.edu.tw/omisar/index.htm>

UV-Index Forecasting and UV Instrument Calibration Laboratory

- Providing UVI (including UVB and UVA) forecasting and monitoring analysis data and calibrating the UV instrument.
- Web site: <http://cats.gcc.ntu.edu.tw/UVIndex.html>

PUBLICATIONS

Quarterly Global Change Research Newsletter (58 issues since 1994)

<http://www.gcrc.ntu.edu.tw/English/Webpage/Publication/CenterPub.asp>

Weekly e-news on Global (more than 250 issues since 2002 to 2008.)

http://www.gcrc.ntu.edu.tw/Chinese/Infornew/new_Epapern.asp

Global Change and Sustainable Development (An international e-Journal, first issue published January 2007)

<http://www.gcrc.ntu.edu.tw/ejournal>
others: http://www.gcrc.ntu.edu.tw/Chinese/Education/Education_new.asp

(written in Chinese)

CONFERENCES AND WORKSHOPS

More than 10 conferences and 50 workshops have been organized since 1992. Proceedings and abstract volumes are published and dispersed. Sponsors include:

- National Science Council
- Environmental Protection Administration
- Ministry of Education
- Council of Agriculture

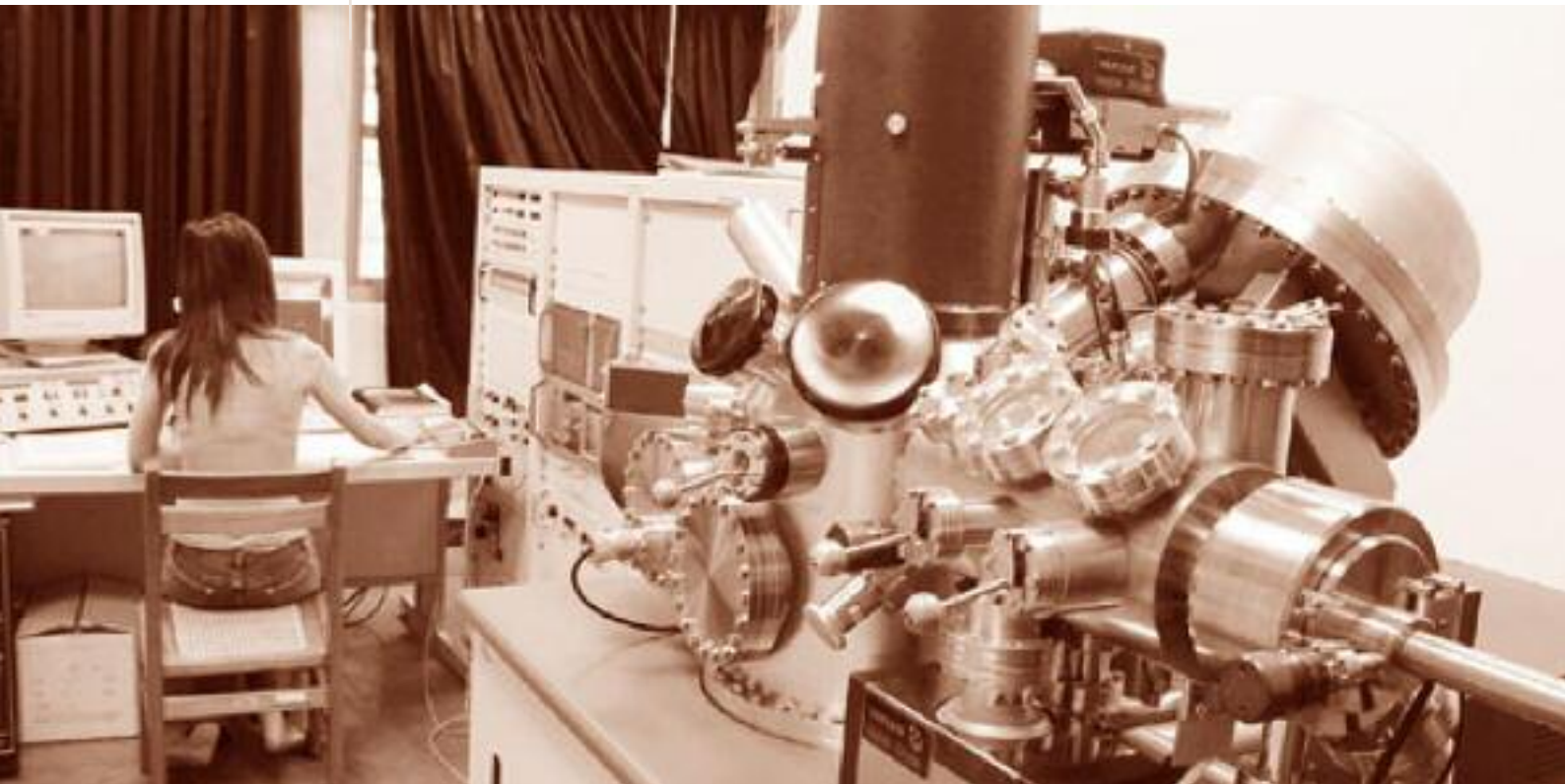
Many of the meetings have been significant, for instance:

- The National Environmental Trust Workshop (2001/04~2001/06):
- Cooperating with Taiwan Environmental Information Association
- Arranging a series of speeches to explore the vision of the national environmental trust and its promoting mechanisms.
- Advanced Training Workshop on Land Use and Land Cover Change Study (2002/12/09~20)
- Organized by SARCS Secretariat; Department of Geography, NTU; Global Change Research Center, National Taiwan University; Center for Space and Remote Sensing Research, National Central University; Center of Environmental Studies, National Central University; Southeast Asia Regional Information Network (SEARIN)
- The main objective is to promote LUCC research program in SARCS member country and to develop a LUCC research collaboration team in SARCS.
- Global Change and Sustainable Development Education Workshop (Since 2003, annually)
- Slogan: Thinking Globally, Acting Locally

- Arranging different topics for different trainee (ex. "Climate Change" for teachers in high school, "Sustainable Cities" for civil service workers...)
- Workshop on Sandstorm (2004/10/15)
- Invited speakers from Japan, Korea, China lecture on the main topic.
- International cooperation on research.
- Conference on the Progress in Climate Change and Sustainable Development Research (2005/07/20~22)
- More than 100 papers were presented by oral or poster, and proceedings are published in 2006.
- Themes on science, impact, and adoption on climate change.
- The Symposium on Impact Evaluation of Global Warming and Approach to Risk Analysis in East Asia (2006/10/31~11/04)
- Cooperating with Fisheries Research Institute, Council of Agriculture; Japanese Study Group for Climate Impact and Application.
- Topics: (1) features and connotations of the climate change in East Asia, (2) impacts on ecosystem and adaptation, (3) impacts on food production and adaptation, (4) impacts on human health and society, and (5) risk assessment on global warming.
- IPCC Fourth Assessment Report (AR4) Study
- Brief introduce on IPCC AR4 for the researchers and graduates.
- WG I <http://www.gcrc.ntu.edu.tw/ar4study.htm>
- WG II <http://www.gcrc.ntu.edu.tw/ar4study-wg2.htm>



11 INSTRUMENTATION CENTER



INTRODUCTION

The Instrumentation Center was officially established on May 1, 1996 upon approval of the Ministry of Education. The Center was transformed from a project oriented service center established by the National Science Council during the period of 1981 - 1996. The goal of the former center was to purchase instruments not affordable to most research institutes, and to provide user services for the instruments to the research community.

The Instrumentation Center provides state-of-the-art Instruments to be shared for academic research in the community. Experienced consulting specialists and operators of specific instru-

ments are recruited to maintain the high performance of the instruments. A certain level of consumption and maintenance is provided on a yearly basis by the National Science Council (NSC) to sustain a strong operational environment to support academic research. The service demands for various instruments remain high. Therefore, by incorporating funding from NSC and the University, the Center continuously purchases new instruments and upgrades old ones.

The objectives of the Center are

1. Integrate manpower and equipment to support basic and applied research
2. Conduct research projects related to instruments emphasizing research and development of instrument services
3. Extend the service to ensure the efficient use of instruments.

FACULTY

The Center offers a convenient operational environment for instruments to support teaching and research units. To formulate operation guidelines for the Center and facilitate cooperation with other NTU units, an advisory board of seven members was established.

The director of the center is selected by the dean of the college of science and then appointed by the president of the university. Presently, the center has two divisions : " analysis and measurement " and " marine exploration ". But, more divisions will be formed, if necessary. Each division is led by a division head, recommended by the director and then appointed by the president of the university. There are several consultants, technical staffs and administrators in each division. The division head and consultants are all jointly appointed by the Center and by one of the departments in the university.

Part – time

(director, division head and consultants) : 15

Ph. D. Degree : 14

Master Degree : 1

Director

Ching-Hualo Ph.D., Princeton University

Division head

(analysis and measurement)

Soofin Cheng Ph.D., Texas A&M University

Consultants

Yu Wang Ph.D., University of Illinois

Jim-Min Fang Ph.D., Yale University

Chung-Yuan Mou Ph.D., University of Washington

Guor-Rong Her Ph.D., Michigan State University

Ying-Chih Lin Ph.D., University of California at Los Angeles

Hsin-Chih Lin Ph.D., National Taiwan University

Wei-Hsing Tuan Ph.D., Leeds University

Jyh-Horng Chen Ph.D., University of California at Berkeley

Ling-Long Kuo-Huang Ph.D., University Bonn

Che-Chen Chang Ph.D., Pennsylvania State University

Hong-Chang Yang Ph.D., Iowa State University

Jer-Ren Yang Ph.D., University of Cambridge

Soofin Cheng Ph.D., Texas A&M University

Tsung-Kwei Liu Ph.D., National Taiwan University

FACILITY

At present there are 500 MHz-NMR, LCMS-IT-TOF Mass, SEM/TEM, Elemental Analyzer, Single Crystal X-ray Diffractometer, Thermal Analyzer, Carbon-14 Dating System, SQUID, EPMA, MRI, FEG-TEM XEDS, FEG-SEM XEDS, ESCA, Auger and Confocal Spectral Scanning System.

COURSES

The Instrumentation Center provides services on the state-of-the-art equipment but offers no regular courses. However, the Center gives necessary training courses to the user and update the special technicians on instrumentation to improve services of the research facilities.

CONTACT INFORMATION

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E-mail : chem1031@ntu.edu.tw

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E-mail : agency@ntu.edu.tw
Website : <http://www.hic.ch.ntu.edu.tw>



III. COLLEGE OF SOCIAL SCIENCES



Academic Units

- Political Science
- Economics
- Sociology
- Social Work
- National Development
- Journalism

The Present and Former Deans

Shih-Hung Chen	(1947-1947)	Song-Shi Yuan	(1984-1988)
Hung-Chao Liu	(1947-1948)	Yen Hwa	(1988-1990)
Yin-Tzau Hung (Acting)		Tong-Schung Tai	(1990-1994)
	(1948-1948)	Tse-Tung Ko	(1994-1996)
Mong-Wu San	(1948-1959)	Jung-Chien Huang (Acting)	
Chien-Sheng Shih	(1959-1967)		(1996-1996)
Lin Lin	(1967-1970)	Hsu Chieh-Lin	(1996-2000)
Chung-Mo Han	(1970-1975)	Tzong-Ho Bau	(2000-2006)
Chi-Ching Yao	(1975-1981)	Yung-Mau Chao	(2006-present)
Chien-Han Chang	(1981-1984)		

HISTORY

NTU was born from the former Taihoku Imperial University after the Japanese surrendered in World War II in 1945. At the same time the former Division of Arts and Political Science was divided into the College of Liberal Arts and the College of Law. The first departments in this college were the Department of Law, the Department of Political Science and the Department of Economics. The College of Law has over the decades added more departments and graduate institutes. In 1987, the four departments related to business administration were combined to form the College of Management. In August 1999, the remainder of the College of Law was divided into two colleges: the College of Law and the new College of Social Sciences. There are four departments and six graduate institutes in the College of Social Sciences. The graduate institutes offer the Master degree and the Ph.D. degree, except for the institutes of Journalism, which offer only the Master degree. The College of Social Sciences has a full-time teaching staff of 149 (including 14 teachers employed in jointly with Academia Sinica) and a part-time staff of 114, as well as more than 2,800 students.

The main building of the College of Social Sciences is located at 21 Hsuehou Road. It was built in 1919 and has been carefully maintained as the oldest academic building in Taiwan. The Taipei City Government proclaimed this building an official historical site in 1998.

FACILITIES

The Law and Social Sciences Library, the Law & Political Science Research Library, and the Library of the Graduate Institute of Economics have a rich collection of 346,860 volumes and

more than 2,831 periodicals. Of the latter, 918 subscriptions are donations. Government publications, newspapers, microfilms, audiovisual materials and electronic databases in Chinese and European Languages are also available. Other information can be accessed through the Internet. The Graduate Institute of National Development, the Graduate Institute of Journalism, the Department of Sociology, and the Department of Social Work moved back to NTU's main campus in 1996. In order to serve the faculty and students of these departments and graduate institutes, more than 50,000 books and 300 periodicals are kept in the Main Library on the main campus.

RESEARCH

The college frequently holds symposia, seminars, and forums, as well as exchanges with leading foreign universities. Periodicals edited by the departments and graduate institutes, such as *Taiwanese Sociology*, *Taiwan Economic Review*, *Journal of National Development Studies*, *Political Science Review*, *National Taiwan University Journalism Forum*, and *NTU Social Work Review*, are leading journals in their respective disciplines. *Taiwan Economic Review* and *Taiwanese Sociology* are on the list of *Taiwan Social Science Citation Index*. The faculty members of the College actively participate in research projects funded by the National Science Council and the Ministry of Education. Graduates play important roles in Taiwan's modernization and democratization as civil servants, scholars, as well as in business. Ten alumni are members of Academia Sinica of the Republic of China.

GOALS

The College of Social Sciences devotes itself to the promotion of academic research. The aim of the undergraduate teaching level is to train professionals in the fields of politics, economics, and sociology, in order to meet the needs of national development. The goal at the graduate teaching level is to facilitate academic research in the field of social sciences and to train advanced researchers. In addition, the College of Social Sciences has established various programs for extramural studies in order to meet the growing demand for extension education and social services.

CONTACT INFORMATION

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1

DEPARTMENT OF POLITICAL
SCIENCE

INTRODUCTION

In November 1945, after Taiwan's Retrocession, Taipei Imperial University, as the Japanese had called it, had its name changed to National Taiwan University (NTU). In 1947, the Political Science Department was established under the School of Law. In response to academic needs, the Department was subdivided in 1963 into Political Theory, International Relations, and Public Administration. A Master program was established in 1956 and a Doctoral program became available in 1976.

NTU's Political Science program offers much flexibility to students. Although students need to take a few mandatory subjects within their subdivi-

vision, they are also encouraged to broaden their interests and choose classes in other subdivisions. The department emphasizes preparing students so that they apply their expertise in today's society. Catering to academic development and society's needs, the Department is planning to add another subdivision to its current three. In the near future, a subdivision of Area Studies may be formally established.

For high school students interested in applying for the Department of Political Science, the Department has since 1998 opened multifarious channels, so those with an interest in studying and researching (1) Political Theory, Political Parties and Elections, and Constitutional Systems ; (2) International Relations, Foreign Policy and Decision-making, International

Organization, and International Law ; (3) Public Administrative Law, Public Administrative Management, Public Policy-making, etc., can eventually become experts and excel in their special field of study.

FACULTY

Full-time: 32

Part-time: 34

Ph.D. Degree: 54

M.S. Degree: 9

Chair/ Professor

Tsai-Tsu Su Ph.D., Carnegie Mellon University

Full-time

Professor

Chyuan-Jenq Shiau Ph.D., University of Pennsylvania

Shoei-Po Lin Ph.D., University of Pittsburgh

Tzong-Ho Bau Ph.D., University of Texas at Austin

Yeong-Kuang Ger Ph.D., University of Wisconsin

Yung-Mau Chao Ph.D., NTU

Chu-Cheng Ming Ph.D., University of Notre Dame

Sy-Shyan Chen Ph.D., Johns Hopkins University

Lang Kao Ph.D., in Political Science, University of Maryland

Giin-Tarng Hwang Ph.D., Tuebingen University

Chih-Yu Shih Ph.D., University of Denver

Yi-Huah Jiang Ph.D., Yale University

Yung-Tai Hung Ph.D., University of Michigan

Yun-Han Chu Ph.D., University of Minnesota

Yu-Shan Wu Ph.D., U.C. Berkeley

Philip Y.M. Yang Ph.D., University of Virginia

Ya-chung Chang Ph.D., Hamburg University, Germany

Yeh-lih Wang Ph.D., University of Texas at Austin

Associate Professor

Thomas C.P. Peng DPA, University of Georgia

Jiung-Horng Lin Ph.D., NTU

Chang-Ling Huang Ph.D., University of Chicago

Chwen-Wen Chen Ph.D., University of Paris II

Szue-Chin Hsu Ph.D., University of Denver

Ding-Ming Wang Ph.D., in Political Economy, University of Texas at Dallas

Risharnng Chiang Ph.D., Massachusetts Institute of Technology

Yi-Feng Tao Ph.D., Political science, Columbia University

Yu-tzung Chang Ph.D., National Chengchi University

Hungdah Su Ph.D., Universite de Paris-Sorbonne, Paris IV

Assistant Professor

Shih-Min Chen Ph.D., University of Paris I

Chen-Tong Tso Ph.D., University of Denver

Lin Tze-Lue Ph.D., in Urban Affairs and Public Policy, University of Delaware

Feng-yu Lee Ph.D., Government, University of Texas at Austin

Part-time

Professor

Geng Wu Dr.rer.pol., Vienna University

Chan Lien Ph.D., University of Chicago

Si-Kuen Lee Ph.D., New York University

Hong-Yuan Chu Ph.D., NTU

Chih-Chi Chen	M.A., Northwestern University
Chien-Han Chang	M.A., NTU
Den-Mei Ku	B.A., NTU
Song-Shi Yuan	M.A., Indiana University
Steven Kuan-Tsyh Yu	Ph.D., University of Cambridge
Cheng-Wen Tsai	Ph.D., Katholieke Universiteit Leuven, Belgium
Chieh-Lin Hsu	Ph.D., University of Tokyo
Ching-Fu Hsu	M.A., University of Pennsylvania
Fu Hu	M.A., Emory University
Jun-han Tsao	Ph.D., University of Oklahoma
Ling-Chen Chang	Ph.D., Paris 1st University
Chin-Nung Chuang	M.A., NTU
Te-Yu Chen	B.A., NTU
Nien-Tsu li	M.A., Harvard Law School
Ray-Chong Lu	Ph.D., NTU
Teh-Hou Jen	Ph.D., New School for Social Research
I Yuan	Ph.D., University of Wisconsin-Madison
Chun-i Chen	S.J.D., Tulane University
Associate Professor	
Shou-Chung Ting	Ph.D., The Fletcher School of Law and Diplomacy
Sechin Y.-S. Chien	B.A., NTU
Way Sun	Ph.D., University of Maryland
Yu-Ying Kuo	Ph.D., State University of New York at Albany.
Jo-Yu Wu	Ph.D., NTU

Assistant Professor

Rwei-Ren Wu	Ph.D., in Political Science, University of Chicago
Jimmy Teng	Ph.D., in Political Science University of Duke
José Chiu-C.Chen	Ph.D., National Chengchi University

Instructor

Kuo-Ming Chuang	Ph.D., NTU
Yu-Chung Shen	M.A., Soochow University
Shinsuke Yasui	M.A, NTU

Technical Expert

Po-Lun Liu	B.A., NTU
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FACILITIES

To encourage interaction between professors and students, the Department established a web site (<http://politics.soc.ntu.edu.tw>). Students can also use NTU's website (<http://www.ntu.edu.tw>) to understand more about the Department. Another facility includes a meeting room equipped with a copy machine, some computers and so on.

COURSES

The Department of Political Science has three subdivisions: Political Theory, International Relations, and Public Administration, which should be completed in four years. The student must have accumulated a total of 128 credits in order to satisfy the requirements of graduation.

Undergraduate Core Courses

Mandatory courses in the three subdivisions include Political Science, Economics, Introduction to the study of Law, International Relations, Public Administration, The Constitution and Government of the Republic of China. Methodology of Social Science, Chinese

Politicals(or The Political Economy of People's Republic of China, Applied Statistics, etc. In addition, the main courses of each subdivision are as follows:

1. Political Theory: Focus on basic political theory, offering courses on Chinese Political Philosophy, Research Methods of Social Science, Political Parties and Electoral System, Political Economy of Development in Taiwan, Political Sociology, Political Psychology, Modern Political Thought, Theories of Comparative Politics, Introductory Sociology (or General Psychology), etc.
2. International Relations: Focus on the establishment and research of International Relations Theory and Foreign Policy, concurrently cultivating young talent for foreign diplomacy. Courses offered include History of International Relations, Foreign Relations of R.O.C., International Law, The Decision Making and Analysis of Foreign Policy, International Organizations, International Politics Theory, International Political Economy, Issues in International Economics and trade, etc.
3. Public Administration: Focus on the functions of public administration organizations, offering courses in Public Policy, Personnel Administration, Local Government and Management, Public Management, Administrative Information Management, Administrative Law, Financial Administration, Ethics of Public Service, Political Economy, Organization Theory, Cost-Benefit Analysis, Non-Profit Organizations, etc.

Regarding elective courses

Students can select courses from each subdivision. With the addition of Regional Politics, the Department is keen on nurturing all-around talent, enabling students to expand their horizons and develop a global vision.

ACADEMIC ACTIVITIES

Professors at the Department are often invited to give speeches both domestically and abroad. At the same time, they lend their expertise to relevant government agencies, such as the Ministry of Foreign Affairs, Mainland Affairs Council, National Defense Ministry, National Science Council, the Research, Development, and Evaluation Commission and every year receive research and scholastic excellence awards.

To increase student opportunities for learning, the Department frequently invites world-renown personages to give speeches and participate in seminars. Every semester, scholastic exchanges take place with Chinese and foreign scholars. Secondly, students often have opportunities to participate in professors' research projects, furthering their knowledge and expertise.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Ability to compare the pros and cons of political system
- (2) Knowledge of contemporary domestic and international trends
- (3) Understanding of current world events
- (4) Familiarity of foreign policy negotiation techniques
- (5) Familiarity of government's legislative process
- (6) Research of administrative leadership and management technique

2. Further studies

- (1) Political Science Graduate School
- (2) Journalism Graduate School
- (3) Foreign Affairs Graduate School
- (4) Public Administration Graduate School
- (5) National Development Graduate School

3.Career options

- (1) Diplomat
- (2) Teacher/Professor
- (3) Journalist
- (4) Public Relations
- (5) Campaign Planner

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2 DEPARTMENT OF ECONOMICS



INTRODUCTION

The Economics Department of NTU has programs leading to B.A., M.A. and Ph.D. degrees. The undergraduate program originated during the Japanese era from the School of Liberal Arts and Political Sciences of Taipei Imperial University. After the war, Taipei Imperial University was renamed NTU and was, at the time, the only public university in Taiwan. The School of Liberal Arts and Political Sciences was then divided into the College of Liberal Arts and the College of Law. The Department of Economics was a part of the College of Law until June 1996 when the college was renamed the College of Social Sciences. M.A., Ph.D. and EMEA programs were established in 1956, 1968 and 2003, respectively.

Today our department accepts 120 new students each year. The M.A. program accepts 40 students, EMEA programs accept 30, and the Ph.D. program approximately 10. Including international and transfer students, our department graduates over 180 students each year. In the past, the Economics Department has always been one of NTU's most popular departments for transfer students. The number of students from the sciences and engineering programs attracted to the department is rising, but due to restrictions set by the Ministry of Education, many of these students are disappointed. Between 1947 and June 2005, we have produced an estimated 8,245 alumni including 806 from the M.A. program and 81 doctoral students.

FACULTY

Full-Time Faculties: 44

Part-Time Faculties: 25

Ph.D. Degree Faculties: 41

M.A. Degree Faculties: 2

B.A. Degree Faculties: 1

Chair/ Professor

Chien-Fu Chou Ph.D., Yale U.

Full Time

Professor

Su-Mei Chang M.A., U. of Tennessee

Ching-hsi Chang Ph.D., Ohio State U.

Nan-Kuang Chen Ph.D., University of
Minnesota

Jeng-Chang Chen M.A., NTU

Tain-Jy Chen Ph.D., Pennsylvania State U.

Der-Tzen Hsieh Ph.D., NTU

Bing-Yuang Hsiung

Ph.D., Brown U.

Chen-Min Hsu Ph.D., Johns Hopkins U.

Hung-Jen Wang Ph.D., U. of Michigan

Chih-Chin Ho Ph.D., U. of Michigan

Hong Hwang Ph.D., Queen's U.

Kelly Olds Ph.D., University of
Rochester

Hui-Wen Koo Ph.D., U.C. Berkeley

Yiting Li Ph.D., U of Pennsylvania

Chien-Fu, Jeff, Lin

Ph.D., U.C. San Diego

Hui-Lin Lin Ph.D., Brown U.

Kenneth S. Lin Ph.D., Carnegie-Mellon U.

Bih-Jane Liu Ph.D., U. of Wisconsin,
Madison

Jin-Tan Liu Ph.D., Vanderbilt U.

Chung-Chi Wu B.A., NTU

Tsong-Min Wu Ph.D., U. of Rochester

Shu-Jen Yeh Ph.D., U. of Pittsburgh

Show-Ling Jang Ph.D., Rensselaer Polytechnic
Institute

Ming-Ching Luoh Ph.D., U. of Michigan

Associate Professor

Ching-Sheng Mao Ph.D., U. of Rochester

Yusen Sung Ph.D., U. of Michigan

Hsien-Feng Lee Ph.D., Universitat Bielefeld,

Chen-Ying Hwang Ph.D., Harvard U.

Hung-Ju Chen Ph.D., U.C. Los Angeles

Ming-Jen Lin Ph.D., U of Chicago

Shiu-Sheng Chen Ph.D., U of Wisconsin,
Madison

Assistant Professor

Kuo-Chih Yuan Ph.D., University of Essex

Wing Leong Teo Ph.D., Johns Hopkins
University

Tsechien Hsu Ph.D., Columbia U.

Ching-I Huang Ph.D., Northwestern U.

Tao-Yi Wang Ph.D., U.C. Los Angeles

Chun-Fan Chiang Ph.D., Brown U.

Adjunct Professor

Professor

Chung-Ming Kuang

Ph.D., U.C. San Diego,

C. Y. Cyrus Chu Ph.D., U. of Michigan,

Shin-Kun Peng Ph.D., U. of Pennsylvania

Ching-Chong Lai Ph.D., NTU

Ho-Mou Wu Ph.D., Stanford U.

Kong-Pin Chen Ph.D., U. of Rochester

Ching-kang Ing Ph.D., National Tsing Hua
University

FACILITIES

Our department is housed in a three-story building on the School of Social Science Campus. This building includes a lecture hall, two conference rooms and two classrooms. We also have 54 offices for faculty and graduate students. Our economics library holds about 30,000 volumes and subscribes to 478 periodicals in Chinese, English and Japanese. Other research materials are available at NTU's main library and branch library.

COURSES

Undergraduates

The department offers a course of study leading to the degree of Bachelor of Arts in economics. Before graduation, every student must complete 136 credit units of which 94 are department requirements.

The graduate programs of Economics offer facilities for advanced study and research leading to the M.A. and Ph.D. degrees in Economics. Candidates for the master's degree in Economics are required to complete 32 graduate credit units and 6 additional credit units of thesis. The minimum residence requirement is one year.

Candidates for the Ph. D. degree in Economics are required to complete 44 graduate credit hours, including 12 credits of dissertation. The minimum residence requirement is two years.

The candidate must pass a preliminary examination and an oral examination for dissertation.

Freshman

Calculus(3,3) Economics(4,4) Accounting(3,3)
Civil Code(3)

Sophomore

Microeconomics(3,3) Macroeconomics(3,3)
Statistics(4,4)

Junior

History of Economic Thought(2,2) Economic
History(2,2) Economic Development(2,2) Money
and Banking(2,2) Public Finance(2,2)
Constitution(2)

Senior

Commercial Law(3) Trade Theory(3)
International Finance(3) Trade Policy(2)

Required Courses for Graduates

M.A.

Microeconomic Theory (I,II), Macroeconomic
Theory (I,II), Econometric Theory (I,II),
Seminars, M.A. Thesis, Introduction to
Quantitative Methods

Ph.D.

Microeconomic Theory (III, IV),
Macroeconomic Theory (III, IV), Econometric
Theory (III, IV), Seminars, Seminar in
Methodology of Economics. Ph.D. Dissertation
Required Courses for Executive Master of
Economics and Administration(EMEA)
Price Analysis (I, II), Theory of Income and
Employment(I, II), Economics: Empirical Study
and Forecasting(I, II), Seminars(I,II)

ACADEMIC ACTIVITIES

1. Seminars

There are frequent seminars in our department. Four groups meet weekly: industrial and international economics, microeconomic theory and practice, macroeconomics and money, economic history. Each group invites well-known economists from here and abroad to present the latest fruits of their research. For the latest seminars, please [check http://www.econ.ntu.edu.tw/db/seminar.asp](http://www.econ.ntu.edu.tw/db/seminar.asp).

2. Periodicals

Our department began publishing the Taiwan Economic Review (TER) in 1970. It is presently a quarterly publication, which focuses on theoretical and applied studies of Taiwan and the Asian-Pacific region, with occasional special issues devoted to particular topics. Since 1993, TER has continuously received awards from both the National Science Council and the Ministry of Education.

3. Academic Conferences

In recent years, our department has sponsored a number of academic conferences including the Fourth East Asian Economic Association Convention (Taipei, August 1994), a Conference on Economic Change in Taiwan over the Last Hundred Years (March 1995), the Professor Kuo-Shu Liang Memorial Conferences (August 1996; September 1997; October 2000; September 2001; September 2002; September 2003; September 2004; September 2005), Economic Structural Change and Trade Policy (March 1997), Current Issues of Taiwanese Labor Markets (June 1997), Taipei International Conference on Efficiency and Productivity Growth (June 1997), the Economics and Political Economy of Development at the Turn of the Century: An International Conference on Memory of John C.H. Fei (August 1997), and An

International Conference on Economic Aspects of Demographic Transition: The Experience of Asian-Pacific Countries (June 1998), A Conference on Contemporary Labor Market and Unemployment (May 2001), A Conference on 2002 Economic Prospects and Current Economic Issues in Taiwan (December 2001), International Conference the Asian Crisis, IV: The Recovery and the Rest of the World (July 2002), Central Bank Law and Foreign Exchange Regulations Seminar (Oct. 2002), ATWS 20th annual meeting -THE EFFECTS OF GLOBALIZATION IN TAIWAN AND THE THIRD WORLD (Dec. 2002).

4. Non-Periodical Publications

Our Department has put out a number of books such as Taiwanese Economic Development: Papers in Memory of Professor Yeh Hua (1994), An Annotated Bibliography of Economic Statistics for Japanese-Era Taiwan (1995), Papers in Memory of Professor Kuo-Shu Liang (1997; 1998; 1999; 2000, 2001, 2002, 2003, 2004), Papers in Memory of Professor Chang Han-Yu (2001). International Conference on Chinese Economy in Honor of Taxation Theory, Policy and Administration (December 2005).

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Economic Analysis
- (2) Statistic and Econometric Analysis
- (3) International Trade
- (4) Finance
- (5) Security Analysis

2. Further studies

Postgraduate programs in Economics, International Trade, Business Administration and Finance

3. Career options

The Economics Department at NTU has a long tradition of training both undergraduate and graduate students. Undergraduate economics majors acquire skills for a wide variety of jobs, a foundation in economics, and an opportunity to meet faculty and fellow students in a challenging intellectual environment. Our graduates go on to graduate work and to careers in business, government, finance, consulting, law and journalism. Many hold distinguished positions in academia, business, and government of Taiwan. The department looks forward to providing continued leadership in economics education.

CONTACT INFORMATION

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3 DEPARTMENT OF SOCIOLOGY



INTRODUCTION

The Department of Sociology was founded on July, 1960. At that time, there are 4 goals setting up the sociology department: to develop social problems experts and to cultivate people to do social administration. Currently, the department has 35 faculty members: 19 full professors (10 full-time and 8 part-time), 9 associate professors (4 full-time and 5 part-time), 9 assistant professors (4 full-time and 5 part-time). Our graduate program presently has 28 Ph.D. students and over 48 students pursuing their MA. degree. Nearly 216 undergraduate students constitute the main body of this department.

FACULTY

Full-time Professors:10

Part-time Professors: 8

Full-time Associate Professors: 4

Part-time Associate Professors: 5

Full-time Assistant Professors:4

Part-time Assistant Professors: 4

Chair/ Professor

Holin Lin Ph.D., University of
California, Davis

Full-Time

Professor

Hsin-Huang Hsiao Ph. D., New York State
University

Hei-Yuan Chiu	Ph. D., University of Indiana
Chih-Ming Chang	Ph. D., Munich University
Chung-Hsing Sun	Ph. D., Columbia University
Dung-Sheng Chen	Ph. D., University of Minnesota
Cherng-Tay Hsueh	Ph.D., University of Wisconsin-Madison
Yen-Fen Tseng	Ph. D., University of California at Los Angeles
Duan Lin	Ph. D., University of Heidelberg, Germany
Kuo-Hsien Su	Ph. D., Columbia University

Associate Professor

Chia-Ling Wu	Ph. D., University of Illinois at Champaign
Jyh-Jer Ko	Ph. D., University of Wisconsin — Madison
Kuo-Ming Lin	Ph. D., Yale University
Pei-Chia Lan	Ph. D., Northwestern University

Assistant Professor

Shan-Lee Lai	Ph. D., National Taiwan University
Yun Fan	Ph. D., Yale University
Ming-Tsung Lee	Ph. D., University of Cambridge
Hwa-Jen Liu	Ph. D., University of California at Berkeley

Part-time

Professor

Jia-You Sheu	Ph. D., Indiana University
Chin-chun Yi	Ph. D., University of Minnesota
Chih-Ming Ka	Ph. D., State University of New York at Binghamton
Mau-Kuei Chang	Ph. D., University of Purdue

Ying-Hwa Chang	Ph. D., University of Princeton
Ly-yun Chang	Ph. D., Johns Hopkins University
Nai-The Wu	Ph.D., University of Chicago
Daiwie Fu	Ph.D. in history and philosophy of science of Columbia University

Associate Professor

Fu-Chang Wang	Ph. D., University of Arizona
Horng-luen Wang	Ph. D., University of Chicago
Chyi-In Wu	Ph. D., Iowa state University
Lu-Lin Cheng	Ph. D., University of Duke
Chih-Jou Jay Chen	Ph. D., University of Duke

Assistant Professor

A-Chin Hsiau	Ph. D., University of California at San Diego
Chin-Chieh Tang	Ph. D., University Bielefeld
Szu-Chien Hsu	Ph. D., University of Columbia
Zong-Rong Lee	Ph. D., University of Chicago

PROGRAMS OF STUDY

Undergraduate programs

Minimum credit units: 128 credit units

Freshman: Introductory Sociology(6), Social Statistics(6), General Psychology (3), Cultural Anthropology (3) (Of the two Classes, at least one must be chosen)

Sophomore: Social Research Methods (6), Social Psychology (3), Social Organizations (3), Introduction to Jurisprudence (3), Introduction to Philosophy(3), Political Science(3), Economics(3) (Of the four classes, at least choose two of them)

Junior: Sociological Theory (6)

Graduate Programs

1. Master Degree Program

- (1) Years of Study: Minimum: 1 year;
Maximum: 4 years
- (2) Credit Units: Minimum Credits for
Master Degree: 24 credits
(except a dissertation of 6 credit units)
- (3) Required Course: Advanced Social
Statistics(3), Classical Sociological
Theory(3), and Contemporary
Sociological Theory (3)(choose one
subject), Sociological methodology(3),
Pro-Seminar I (1), Pro-Seminar II(1)

2. Ph. D. Program

- (1) Years of Study : Minimum: 2 years;
Maximum: 7 years
- (2) Credit Units: Minimum Credits for
Ph.D. Degree: 24 credits
(except a dissertation of 12 credit units)
- (3) Required Course : Must take courses
such as Sociological Theory and
Sociological Methodology, each at least
for one course. Must take Pro-Seminar
I (1), Pro-Seminar II(1)

ACADEMIC ACTIVITIES

1. Seminars are held regularly. Distinguished scholars within Taiwan and from abroad are often invited to give speeches. Each year symposiums are held for graduate students to present their thesis.

2. The Department has actively promoted academic exchange programs with institutes of sociology of the following universities: Columbia University, University of Chicago, University of Newcastle upon Tyne, Stanford University and Johannes Kepler University of Linz.

OPPORTUNITIES FOR CAREER AND FURTHER STUDY

1. Professional Ability

- (1) Sociology
- (2) Mass communication and market survey
- (3) Labor-Capital Relations
- (4) Human resources management
- (5) Policy and public administration

2. Further studies

Local or overseas institute of sociology, Journalism, mass communication, L-C relation, HR management, history or education, etc.

3. Career Options

Our graduates work from the academy to practicality, from mass media to enterprise. We produced numerous outstanding graduates who are performing actively in many fields. For instance, Wu Feng-Sheng, who specializes in business management, holds a post as president of Tang Eng Iron Works Co., Ltd. While in the private sector, Ms. Shang Da-Ye, chairman of TT&E Consulting Firm, is as outstanding as the former in the public sector. Also, our department bred many excellent politicians, such as legislators Mrs. Chou Ching-yu and Dr. Kuo Cheng-Liang, and the councilor of Taipei City, Mr. Lee Chien-Chang. Our graduates not only perform well in business and politics but are even more active in Media, communication and art affairs. Famous journalists Ho Ro ng-Shin and Wu Dien-jong; CEO of Chinese Television System, Chen Cheng-Ran; Professor of Department of Fine arts at Tunghai University, Huang Hai-Yun; Professor of Graduate School of Art and Technology at the Taipei National University of the Arts, Lee Dau-Ming; and the owner of Crystal Records, Ren Jiang-Da, to name just a few of them.

CONTACT INFORMATION

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4 DEPARTMENT OF SOCIAL WORK



HISTORY

The Department, within the College of Social Sciences, was originally a division of the Department of Sociology which was founded in July 1960. In 1973, in response to the increasing social problems and the needs for the social work professional, the Department of Sociology officially set up a Social Work Division. Social work relevant courses such as social work and social welfare theories, social work methods, social policies, social work practice and practicum were offered in the Division. In 1981, the Social Work Division, though still under the Department of Sociology was turned into an officially separate program responsible for its own recruitment, core faculty, and curriculum. In August 2002,

due to the efforts of many, the Social Work Division successfully emerged into a more professionally appropriate position by detaching itself from the Department of Sociology and was renamed the Department of Social Work. At present, the Department of Social Work provides both graduate and undergraduate programs of study, offering Master as well as Bachelor degrees. The doctoral program was formally established in 2006 as approved by the Ministry of Education R.O.C, and the admission officially began in 2007, for the aim of cultivating teaching and research professionals in advanced social work, social policy, and social welfare.

FACULTY

The faculty members of the Department of Social Work are very solid. In fact, the department is proud of its best faculty in social work. The full-time lecturers are doctors in social work, social welfare, or social policy graduated from renowned schools of USA, UK and Taiwan. Currently the department has 14 full-time lecturers and 16 part-time lecturers (part-time lecturer teach one course every two to four semesters). The faculty's specialties cover various welfare populations, such as the elderly, children, women, the disabled, the youth, family, and low-income people. The faculty also covers the specialties including direct and indirect social services. Therefore, the department not only has teachers of various fields of social welfare, but also has full-time teachers with experiences in clinical social work practice, social welfare, and social policy planning and analysis.

The faculty includes 6 full-time professors, 3 part-time professors, 5 full-time associate professors, 2 part-time associate professors, 3 full-time assistant professors, 4 part-time assistant professors, 2 part-time lecturers and 3 teachers. Due to the need of social work training, the department also hires several clinical social work lecturers with years of practical experience in social work to hold practical courses on social work. In some special areas of social work, especially in counseling and clinical therapy, courses are provided by clinical practitioners, and some of them also have doctoral degrees.

Chairman

Yeun-wen Ku	Ph. D., University of Manchester Social Policy Analysis, Comparative Social Policy, Theories on Social Welfare, Research on Social Policy in Taiwan
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Full Time

Professors

Wan-I Lin	Ph. D., University of California at Berkeley Family Policy, Method and Research of Social Work, History and Development of Welfare State
Hon-Yei Annie Yu	Ph. D., University of Illinois at Urbana-Champaign Human Service Organization Management, Social Policy Analysis, Child Protection, Community Mental Health
JoyceYen Feng	Ph. D., University of Illinois at Champaign-Urbana Child Welfare, Non Profit Organization, Social Welfare Planning and Evaluation
Lih-Rong Wang	Ph. D., University of California at Los Angeles Women Studies, Social Policy Analysis, Labor Policy
Li-Chen Cheng	Ph. D., Washington University at St. Louis Family Social Work Poverty and Welfare Single Parent Families

Associate Professors

Yu-Wen Chen	Ph. D., Washington University Social Work with Youth, Statistics and Research Methods
Pei-Shan Yang	Ph. D., Columbia University Gerontological social work
April Chiung-Tao Shen	Ph. D., University of Minnesota Clinical Social Work, Marriage and the Family, Family Violence
Joanne Shu-Chiung Liu	Ph. D., National Taiwan University Social Policy Analysis, Nonprofit Organization Management, Privatization of Social Services
Ping-Chuan Hsiung	Ph. D., Purdue University Medical Family Therapy, Marriage and Family Therapy, Family and Health Issues

Assistant Professors

Yun-Tung Wang	Ph. D., Columbia University Social Policy Analysis, Social Welfare Policy for the Elderly and People with Disabilities
Jen-Huoy Tsay	Ph. D., Columbia University Social Policy Analysis, Health Policy
Hui-Ching Wu	Ph. D., Columbia University Family and Health Issues

Adjunct Faculty

Professor

Hou-Sheng Chan	Ph. D., University of Wales Theories on Social Welfare, Social Welfare Development
Pau-Ching Lu	Ph. D., University of Michigan Elderly and Social Policy
Su-Hwa Pong	尚未提供英文

Associate Professor

Kai-Cheng Weng	Ph. D., University of Minnesota Narrative Therapy
Leang-Yang Lai	Ph. D., National Taiwan University Graduate institute of National Development Social Work Management
Tsung-hsi Fu	Ph. D., The University of York Social Insurance
Ching-li Chang	Ph. D., Department of Social Policy and Social Work of National Chi Nan University Violence Against Women
Ping-Yu Tzou	Ph. D., Department of Social Work of TungHai University Medical Social Work
Rosa Shiow-hwa Luo	Ph. D., Graduate Institute of Building and Planning of National Taiwan University Community Social Work

Instructor

Kai-Ming Lee	Post Master Certificate in Hunter College Medical Social Work, Gerontology
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Ai-Lan Tsao	M.A., Utah University Social Services for Handicapped Persons
Ying Chen	B.A., Fu Jen Catholic University, Taiwan Clinical Social Work Practice
Grace Hsin-Hwei Liong Hong	Ph. D., University of Minnesota Sandplay Therapy
Chiong -Ying Liu	Ph. D., University of Michigan Social Work Practice with Early Intervention

FACILITIES

The University Main Library of NTU is full of a variety of books and journals. Therefore, the Department Library only collects with graduates' dissertations and theses, professional journals, and books donated by our alumni in particular. The Department has two functional rooms and a group-work room for research projects and course teaching. Moreover, beside 14 faculty offices, here are two study rooms for undergraduate students and 6 graduate students' research rooms. There is a students' association office, student lounge, faculty lounge and a computer room with 80 computers shared with the Department of Sociology.

Required Courses

(I) Undergraduate Programs

The Department of Social Work is a department with focusing of exploring social problems, cultivating professionals in social work skills, in social welfare, in program design and program implementation, and in social policy analysis as well as social planning. The undergraduate pro-

gram is expected to be completed in four years. In order to graduate, the students should obtain a total of 128 credit units. Here are the courses required :

First Year

Introduction to Social Work
Introductory Sociology
General Psychology
Social Psychology
Human Behavior and Social Environment

Second Year

Social Statistics
Social Case Work
Social Group Work
Introduction to Social Welfare
(Of the three courses below, at least one must be selected)
Introduction to Legal Science
Political Science
Economics

Third Year

Social Work Research Methods
Introduction to Social Work Practice
Social Welfare Administration
Community Organization and Community Development

Forth Year

Social Policy and Social Legislation
Social Work Practicum I
Social Work Practicum II

(II) M.S.W. Programs (Master of Social Work)

The graduate program is designed to advance students' professional knowledge and skills. To obtain a M.S.W. degree, students should complete 30 credits of regular courses, and 6 extra credits for the thesis.

(1) Years of Study

Minimum: 1 year
Maximum: 4 years

(2) Credit Units

Minimum Credits for Master Degree: 30 credits
(plus a dissertation with 6 credits)

(3) Required courses

Theory of Social Work
Methods of Social Work Research
Field Work (I)
Field Work (II)

(III) Ph.D. Programs (Doctor of Philosophy)

Every student in doctoral program should complete the following course requirements:

- (1) Advanced research methodology including qualitative and quantitative research methods
- (2) Interdisciplinary studies of social science
- (3) Advanced theory and practice of social work
- (4) Theory of social welfare

Students taking doctoral courses are required to obtain a total of 35 credit units (not including a dissertation of 6 credit units) before graduation. We encourage doctoral candidate applies for a short term study overseas in the period of writing dissertation.

ACADEMIC ACTIVITIES

(I) International academic exchange

The Department of Social Work places serious attention on international academic exchange, including the followings :

- (1) Academic conferences on evidence-based social work: such as the academic forum jointly held by New York University and National Taiwan University in September 2006, with attendees from the U.S., U.K., Japan, and Taiwan, to discuss researches on evidence-based domestic violence research and social policy on related issues. There were 200-300 experts, policy planners and practitioners from the academia, social work, and social advocate organizations attending the event.

- (2) Social policy conference centering on social quality indicator: Here is the 2nd Asia Social Quality Conference jointly held in March 2007 with European Foundation on Social Quality (EFSQ) (a consulting organization to EU), to learn about the new paradigm of social policy development in the welfare state regime, and the new methodologies in developing sustainable social welfare or societies.
- (3) Many of faculties are frequently invited to attend academic conferences in Taiwan and abroad, presenting academic articles and carrying out academic exchange. Each year, almost every faculty would attend academic events either in Taiwan or in other country, whether being invited or actively participating, in order to facilitate international exchange. Their efforts have attributed to some international comparative studies.
- (4) International social work internship and study exchange programs: In recent two years, the department has developed social work international internship and has given students the opportunities of overseas field work. Now, the students have been given the opportunities to learn and to grow from practicum provided in University of Columbia and Hong Kong Baptist University.

(II) Domestic academic exchange

(1) Period academic activities

i. Social Work Forum

To enhance the learning opportunities for students, the department holds a monthly Social Work Forum. Besides opening to the teachers and students of the department, the forums are open to the experienced social workers to attend as well. In 2007, here are two themes run by forums: one is the sharing of life stories by family therapy receivers, and another is cross-field social work research and practice.

II .NTU Social Work Review

The department publishes biannual NTU Social Work Review, and offers an electronic version to increase the circulation and the readability and usability of the articles. Currently, the department has signed a contract with Chinese Electronic Periodical Services (CEPS). To increase the overseas circulation, we have sent to major universities in Chinese-spoken areas in Asia. In the future, the department will manage the period electronically to ensure the efficiency in editing and administration.

(2) Irregular academic events

i. Lectures and visitations to organizations

Corresponding to the courses, the department invites renowned social work professionals in Taiwan or from abroad for lectures, or arrange students to visit related organizations, so that students are not only learning from the textbooks and classes, but also have an insight into the social work practice arena. It is conducive to the professional growth of students.

ii. Forums and seminars

The department holds forums and seminars concerning current issues of social work, thus providing opportunities for exchange between the academics and practitioners, in order to achieve the consensus and mutual goals in social work, and learning the dialogue between the theories and practice. For example, a personal safety seminar for social workers was held by the department in October 2007 concerning the personal safety of social workers during visitations.

(3) Other academic performances

Moreover, students would have opportunities to engage in research projects held by professors, in order to learn about academic research and accumulate academic experiences. The

faculties of Department of Social Work have had a number of publications on SSCI, SCI, and TSSCI journals, as well as publications of books. It is commissioned by government bureaus (such as Department of Social Affairs, Ministry of Interior; Ministry of Education; Research, Development, and Evaluation Commission; Department of Social Affairs, Taipei city) and private organizations for project researches. A number of faculties are sponsored by the National Science Council for their researches.

CONTACT INFORMATION

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INTRODUCTION

Our Institute, established in 1974, aims to consolidate academic research on the Three People's Principles and keeps working on integrating SunYat-sen's doctrines and the research of social science. In 1977, our institute was changed from being an independent graduate school to being part of the College of Law. In 1985, the university course "the Three People's Principles," which was originally the responsibility of the Office of Academic Affairs, was assigned to our institute. In 1999, our institute was changed again to become part of the College of Social Science.

Moreover, to develop social service functions and to coordinate with the governmental program to encourage people with college diplomas or above to enter continuing education programs at universities, we promoted the "Lifelong Learning Policy" and started the "Professional Course of National Development," which is the successfully established and recruiting postgraduate course in the field of social science in our university.

To conform to recent transformations of society as well as of the overall environment in our country, the name of our institute was officially changed to "Graduate Institute of National Development" with the approval of all the Faculty and postgraduates on Aug. 1, 2000.

Our teaching groups include: "Constitution and Political Development," "Law and Social Transition," "Economic Development and Policy," "Social Development and Policy" and "Research on Mainland China and Cross-Strait Relations." We intend to carry out the education of integration- to combine at least two studies in each group-and the cultivation of professionals.

To enhance the students' acquaintance with the current events of our country, we hold the "Political and Economic Visit" and "Cultural Visit" each year. As for the students in the group of "Research on Mainland China and Cross-Strait Relation," we have organize tours, led by our professors, on cultural and academic exchanges to Mainland China, which has become one of the most important activities of our institute.

Our institute emphasizes the integration of all subjects in the field of social science, especially basic training in social science methodology to cross the boundaries among all issues with regard to social science and to cultivate academic professionals who have the ability to solve problems in perspective during the time of research.

Besides, we recruit scholars and experts in all aspects of social science to lecture and enrich our courses and engage in the operation of integration and in the cultivation of related academic professionals for research.

FACULTY

Professor Emeritus: 1

Full-time: 24

Part-time: 16

Ph.D.: 37

M.A.: 3

Director/ Professor

Rong-Jeo Chiu Ph.D., NTU

Professor Emeritus

Chen, Chun Sheng M.A., NTU

Full-time

Professor

Chih-ming Chang Ph.D., Munich University

Yeong-Kuang Ger Ph.D., University of Wisconsin-Madison

Jih-shine Chou M.A., NTU

Ming-Huei Lee Ph.D., Bonn University

Ming-Tong Chen Ph.D., NTU

Te-Chung Tang S.J.D., Tulane University

Jy-Bang Jou Ph.D., University of Chicago

Bih-Hearn Lee Ph.D., Temple University

Hsien-wu Chen Ph.D., Munich University

Kuo-Cheng Lee M.A., NTU

Xin-Min Chen Ph.D., Munich University

Ruey-Chyi Hwang King's College

Kuei-Tien Chou Ph.D., Munich University

Associate Professor

Jenn-Hwa Tu Ph.D., Johns Hopkins University

Fong-Lin Chu Ph.D., University of Pittsburgh

Ping-Lung Hsin Ph.D., Cornell University

De-Piao Tang Ph.D., Columbia University

Ching-Yi Liu J.S.D., University of Chicago Law School

Assitant Professor

Chih-Sung Teng Ph.D., NTU

Hsiu-Ling Wu Ph.D., NTU

Huei-Ching Hoo Ph.D., NTU

Shih-Jiunn shi Dr. Phil., University of Bielefeld

Lecturer

Hsien-Ying Lai M.A., NTU

Part-Time**Professor**

Wu-Xian Zhu Ph.D., Saarland University
 Chen, Chun-Sheng Dr. jur. University of Munich,
 German
 Lien-Te Hung Ph.D., Vienna University
 Kuang-Shenh Liao Ph. D, Michigan State
 University
 Ben-Nan Lee Ph.D., National Chengchi
 University

Associate Professor

Yan-Dong Huang Ph.D., Chinese Culture
 University
 Wen-Chao Liu Ph.D., University of
 Regensburg
 A-Rong Liu Ph.D., NTU
 Yau, Chaur-Sen Ph.D., Free University Berlin
 David W.F. Hung D. Phil. In Political, Nuffield
 College, University Of Oxford
 Kou, Chien-wen Ph.D, University Texas-
 Austin USA

Assistant Professor

Georg Michael Gesk Ph.D., NTU
 Kuo-Yun Chung Ph.D., NTU
 Pei-Chih Hao Ph. D., University of Paris
 First Professor
 Jung-Tang Shieh Dr. of Law (Dr. iur.) Professor

Lecturer

You-Heng Liu Ph.D., NTU

COURSES**Compulsory subject courses for master candidates****General Core Courses: (4)**

National Development and Policy (2), Research
 Methods of Social Sciences (2), The Method and
 Analysis of Statistics (2), Research Papers
 Seminar (0), Second Foreign Language (0)

Field Core courses

Students in Master Program must major in one
 field. The core courses for each field are as
 follows:

1. Constitution and Political Development:
 Seminar on Constitution and Political
 Development(2), "Seminar on Area Studies"
 or "Research Methods in the Political
 Sciences"(2), and three specialized field
 courses (2)
2. Law and Social Transition: choose two
 courses of each field
 A. Research on Law and State: Seminar on the
 Concept of Public Law (2), Seminar on Law
 and Social Change in Taiwan (2)
 B. Integration of Law and Social Sciences:
 Seminar on Political Analysis of Law (2),
 Special Topic on Economic Analysis of Law
 (2), Seminar on Sociology of Law (2),
 Seminar on Law and Technology (2)
3. Economic Development and Policy: Special
 Topic on Taiwan Economic Development (2),
 Special Topic on Government and Business
 (2), and two specialized field courses (4)
4. Social Development and Policy: Seminar on
 State and Society (2), Seminar on Technology
 Policy and Decision-Making(2), Seminar on
 Theories and Institutions of The Welfare
 State(2).and four specialized field courses(2)
5. Research on Mainland China and cross-Strait
 Relations: Seminar on The Mainland
 China(2),and choose two fields, four courses
 are as follows.
 A. Law Field: The People-Relation's Act between
 the Taiwan Strait (2), Seminar on Mainland
 China's Legal System (2)
 B. Political Field: Seminar on the Contemporary
 Political & Economic Development of CCP
 (2), Seminar on Government and Politics of

- P.R.C. (2)
- C.Economic Field: Special Topic in China's Economic Development and Reform (2)
- D.Social Field: Seminar on the Evolution of CCP,S Ideology(2) 、 Selected Readings on Mainland China Research(2)
- E.Cross-Strait Relation Field: Seminar on Analysis of Current Policy toward the Chinese Mainland (2) 、 Seminar on Analysis of Current Policy Toward the Chinese Mainland(2)

Compulsory subject courses for doctorate candidate

Ph.D. students are required to complete a minimum of 18 credits of course work, which includes 10 credits of compulsory courses and 8 credits of elective courses. In addition, 12 credits of dissertation are required. The course requirements and their corresponding credits earned are as follows:

Seminar on Methodology of Social Science (2), Seminar on National Development Theory (2), Research Papers Seminar (0), Second Foreign Language (0), one core doctoral course (2), Two related subjects of other doctoral course (4)

Compulsory subject courses for Master Program

Students in the Master Program must major in one field. The core courses for each field are as follows:

1. Constitution and Political Development: Seminar on Constitution and Political Development(2), Seminar on Ideology and Political Thought(2), Seminar on Comparative Governments and Politics(2), Public Policy and Spatial Analysis(2)
2. Law and Social Transition: Seminar on Legal Hermeneutics(2), Seminar on Sociology of Law (2), Seminar on Public Law(2), Seminar on Political Analysis of Law(2)
3. Economic Development and Policy : Special Topics on Government and Business (2), Special Topics on Economic Analysis of Law (2), Human Resources and Economic Development(2), Financial Policy and Asset Management(2)
4. Social Development and Policy : Seminar on Globalization(2), Cultural Theory and Cultural Policy(2), Human Resources and Economic Development(2), Seminar on Sociology of Law (2)
5. Research on Mainland China : Seminar on The Contemporary Political& Economic Development of CCP (2), Seminar on Analysis of Current Policy Toward the Chinese Mainland (2), Seminar on The Relation Between Taiwan and Mainland(2), China's Economic Development and Reform (2), Seminar on WTO Impact on Cross-Strait Trade and Investment(2)

ACADEMIC ACTIVITIES

1. Lectures by national and international scholars are held on a periodic basis.
2. Publication of the Journal of National Development Studies.
3. Graduate Institute of National Development has cooperation agreements with the Columbia University (U.S.A) and Free University of Berlin. Exchange programs exist for professors as well as graduate students.

CONTACT INFORMATION

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 E-mail: ndintu@ntu.edu.tw



INTRODUCTION

The Graduate Institute of Journalism at NTU was established in 1991 with the main goal of training high caliber professional journalists. Dr. Fredrick Yu, Dean of the Graduate School of Journalism, Columbia University, was invited to found the institute and develop a curriculum that distinguishes the institute from other journalism schools in Taiwan.

The institute emphasizes professional journalism. Students are trained under the principle of "learning by doing" and taught by senior journalists as well as academic scholars. To cultivate the students' ability at gathering, analyzing, and evaluating information, the Institute also pro-

vides elective courses related to sociology, law, economics, and politics. Meanwhile, students are also take theory courses, including communication theories, research methods, communication law, as well as seminars on current issues of the society.

In the past ten years, the Institute has recruited students devoted to becoming advanced journalists with various backgrounds. Most of the graduates work in either print or electronic media. Alumni have earned numerous honors and major journalism awards. In the future, the program will strengthen its professional training and journalism research in both the humanistic and technological aspects of multimedia in this globalized era.

FACULTY

Full-time: 6

Part-time: 19

Ph.D.Degree: 12

Director/ Professor

Wen-Jeng Peng Ph.D., University of Wisconsin at Madison
Quantitative Research & Statistics, Political Communication, Precision Journalism, Television News Practice & Analysis

Full-time

Professor

Chin-Hwa Chang Ph.D., University of Iowa
Communication Theories, Critical Communication Theories, Multiculturalism & Communication Research, Qualitative Research

Associate Professor

Lin-Lin Ku Ph.D., Michigan State University
Communication Technology, Media Management, On-line Journalism

Lih-Yun Lin Ph.D., University of Westminster
Communication History, Media Sociology, Comparative Communication System, News Representation

Tai-Li Wang Ph.D., Department of Journalism, University of Texas at Austin, USA

Broadcasting News , Internet Media , Political Communication , Infotainment Studies , Research Methods , Broadcasting News Reporting Writing and Editing

Chen-Lin Hung Ph.D., Pennsylvania State University
Communication Law, Digital Divide, Internet Policy, Political Economy of Communication

Part-time

Professor

Yang-Sun Chou Ph.D., Columbia University
Ching-Hsi Chang h.D., Ohio State University
Labor Economics

Fong-Jou Hsieh M.D., NTU

Associate Professor

Ching-Yi Liu J.S.D., the University of Chicago law school

Assistant Professor

Li-Teh Lu Ph.D., Graduate Institute of Environmental Engineering, National Taiwan University.

Adjunct

Chia-Dai Chen Deputy Director, Editorial Center, United Daily News

Tsai-Chien Chiang Editorial Writer, China Times

Tsih-Lin Chu Editorial Writer, China Times

Mei-Ping Hsu Special Assistant to the Editor-in-Chief, United Daily News

Leh-Chyun Lin	Senior Photographer, Producer of International Affairs Unit, Planning Department at Public Television Service
Yen-Tuan Ni	Chief Editorial Writer, ChineTimes
Ma-Li Yang	Senior Journalist, Editor in chief of Global Views Monthly
Ya-Syong Zuo	Correspondent, United Daily News
Shu-Chuan Li	Senior Reporter, Editorial Center, Ming Sheng Daily.
Kuan-Sheng Yang	Director of Comprehensive News Unit at Photo News Department in United Daily News
Hung-Chin Chan	PCHome Publishing Group Chairman & CEO
Jen-Chieh Kao	Senior Photographer
Jung-Hsing He	Senior Journalist, Director of Political News Unit in China Times
Wen-Chung Wang	Vice President and Editor-in- Chief Business Weekly

FACILITIES

The Institute is equipped with the following facilities: a TV news studio and editing/post-production rooms, a photographic dark room, a computerized newsroom, a computerized desktop publishing system etc. Meanwhile, the Institute subscribes to more than 30 English and Chinese newspapers and periodicals. The library has more than four thousand books.

COURSES

After taking a competitive entrance examination, about 24 students are admitted to the program every year.

Course requirements include: professional courses, theories and methods courses, and elective courses in specialized areas.

Required Courses for Students with a Professional Emphasis

Master's Thesis(0), Reporting and Writing(3), Communication Research Methods(3), Journalism and Law(3), Seminar in Contemporary Journalistic Issues(2), News Editing(2), Communication Theories(3), Advanced Reporting and Writing(3), Communication Statistic Science(2)

Required Courses for Students with a Research Emphasis

Master's Thesis(0), Communication Research Methods(3), Journalism and Law(3), Seminar in Contemporary Journalistic Issues(2), Communication Theories(3), Communication Statistic Science(2)

ACADEMIC ACTIVITIES

The program aims to strengthen academic research and courses on electronic media and new media technologies. More faculty and students will be recruited in the future. The institute also organizes many social issue-related seminars. Besides, the students are also provided with an opportunity to travel abroad to universities as well as major international media organizations, such as Time Magazine in New York. Through various academic and non-academic exchanges and fellowship programs, the students are not only trained for specialty in journalism but also a broader worldview

CONTACT INFORMATION

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IV. COLLEGE OF MEDICINE



Academic Units

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> • School of Dentistry Department of Dentistry and Graduate Institute of Clinical Dentistry Graduate Institute of Oral Biology • School of Medicine Graduate Institute of Physiology Graduate Institute of Pathology Graduate Institute of Pharmacology Graduate Institute of Biochemistry and Molecular Biology Graduate Institute of Microbiology Parasitology and Division of Parasitology of Graduate Institute of Microbiology Graduate Institute of Anatomy and Cell Biology Graduate Institute of forensic Medicine Social Medicine Primary Care Medicine Internal Medicine | <ul style="list-style-type: none"> Surgery Dermatology Urology Pediatrics Obstetrics and Gynecology Neurology Psychiatry Ophthalmology Otolaryngology Radiology Laboratory Medicine Anesthesiology Family Medicine Physical Medicine and Rehabilitation Orthopedics Emergency Medicine • School of Pharmacy (Ntusp) • School of Nursing | <ul style="list-style-type: none"> • Department of Clinical Laboratory Sciences and Medical Biotechnology • School and Graduate Institute of Physical Therapy • School of Occupational Therapy • Graduate Institute of Clinical Medicine • Graduate Institute of Toxicology • Graduate Institute of Molecular Medicine • Graduate Institute of Immunology • Graduate Institute of Clinical Pharmacy • Center for Optoelectronic Biomedicine (Coebm) • Laboratory Animal Center • Cancer Research Center • Drug Research Center • National Taiwan University Hospital |
|---|---|---|

The Present and Former Deans

Tsung-Ming Tu	(1945-1947)	Sze-Piao Yang	(1983-1985)	Bor-Shen Hsieh	(1994-2001)
Jyh-Chung Yen	(1947-1948)	Czau-Siung Yang	(1985-1987)	Ding-Shinn Chen	(2001-2007)
Tsung-Ming Tu	(1948-1953)	Po-Chao Huang	(1987-1991)	Pan-Chyr Yang	(2007-present)
Huo-Yao Wei	(1953-1972)	Wei-Jao Chen	(1991-1993)		
Chen-Yuan Lee	(1972-1978)	Bor-Shen Hsieh	(1993-1993)		
Ming-Tsung Peng	(1978-1983)	Kue-Hsiung Hsieh	(1993-1994)		

HISTORY

- 1895 The Taiwan Hospital (the predecessor of the National Taiwan University Hospital) established by the Japanese government and renamed the Taipei Hospital in 1896.
- 1897 A class in Medicine at the Taipei Hospital established and started recruiting students in 1897. This class was reorganized into the Taiwan Governor's Medical School in 1919 and then renamed the Taihoku Medical School in 1927.
- 1936 Taihoku Imperial University Faculty of Medicine founded.
- 1945 Taiwan returned to the Republic of China after World War II. The Government took over the Taihoku Imperial University and reorganized it into National Taiwan University. The Faculty of Medicine became the College of Medicine. The affiliated hospital became National Taiwan University Hospital. The Department of Medicine was the only department in this College. The Taihoku Imperial University Faculty of Medicine discontinued recruiting students.
- 1946 A special class established to accommodate Taiwanese medical students returning from Japan after the war; discontinued in 1950.
- To meet urgent needs for the development of education in our country, the following schools of allied health sciences were established within the College.
- 1953 The School of Pharmacy established.
- 1955 The School of Dentistry established.
- 1956 The Schools of Nursing and Medical Technology established. The School of Medical Technology renamed the School of Clinical Laboratory Sciences and Medical Biotechnology in 2005.
- 1970 The School of Rehabilitation Medicine established.
- 1972 The School of Public Health established.
- 1973 The Department of Medicine approved by the Ministry of Education to be renamed the School of Medicine.
- 1983 The Post-Baccalaureate Medical Program, a five-year course, established but discontinued in 1985.
- 1992 The School of Rehabilitation divided into the School of Physical Therapy and the School of Occupational Therapy.
- 1993 The School of Public Health incorporated into the newly established College of Public Health. In addition to these seven schools, twenty two graduate institutes and four research centers as well as the Laboratory Animal Center established since 1947 for development of advanced studies in various medical sciences and for promotion of research in related fields.
- 1947 The Institute of Physiology and the Institute of Pathology and Tuberculosis established.
- 1949 The Institute of Tuberculosis incorporated into the Department of Chemistry, College of Science.
- 1951 The Institute of Public Health established.
- 1962 The original Institute of Physiology divided into three institutes, Physiology, Pharmacology and Biochemistry. The last one renamed the Institute of Biochemistry and Molecular Biology in 2001.
- 1965 The Institute of Microbiology established.
- 1969 The Institute of Anatomy established; renamed the Institute of Anatomy and Cell Biology in 2000.
- 1970 The Institute of Pharmaceutical Sciences established.

- 1978 The Institute of Clinical Medicine established (for medical graduates only).
- 1984 The Institute of Nursing established.
- 1987 The Laser Medicine Research Center and The Institute of Medical Technology established. The former was renamed The Center for Optoelectronic Biomedicine in 2000; the later was renamed the Institute of Clinical Laboratory Sciences and Medical Biotechnology in 2005.
- 1988 The Institute of Dental Sciences established for dental graduates only; later renamed the Institute of Clinical Dentistry in 2000.
- 1990 The Institute of Toxicology and the Laboratory Animal Center established.
- 1992 The Institute of Molecular Medicine established.
- 1993 The Institute of Immunology established.
- 1997 The Institute of Oral Biology and the Institute of Physical Therapy established.
- 1998 The Institute of Biomedical Engineering established jointly with College of Engineering.
- 2000 The Institute of Clinical Pharmacy and Cancer Research Center established.
- 2001 The Drug Research Center established.
- 2002 The Institute of Occupational Therapy established.
- 2003 NTU Center for Genomic Medicine established; later reorganized into NTU Research Center for Medical Excellence in late 2005.
- 2004 The Institute of Forensic Medicine established.
- 2008 The Institute of Oncology, The Institute of Clinical Genomics and the School of Dentistry established.

CHARACTERISTICS

1. It is the first medical school in Taiwan
Established in 1897, NTUCM is the most prestigious college in the history of medical education in our country.
2. Trains the leading figures in biomedicine and related fields. In addition to receiving honors in various fields, many alumni are elected academician members of Academia Sinica. They include the present dean, Professor Pan-Chyr Yang, the former dean, Professor Ding—Shinn Chen, as well as Professor Pei-Jer Chen and Emeritus Professors Chuan-Chiung Chang, Hwai-Suze Fang, Ming-Tsung Peng, Juei-Low Sung, Jung-Yaw Lin and Jen-Kun Lin; Professor Ding-Shinn Chen is also elected as the Foreign Associate of US National Academy of Sciences.
The deans of many other medical schools and the directors of many other medical centers in Taiwan are also NTUCM graduates. The current Minister of Health, Dr. Fang-Yue Lin, and his predecessors, including Drs. Sheng-Mou Hou, Po-Ya Chang, Ming-Liang Lee, Shiing-Jer Tsu, and Chien-Jen Chen are also distinguished alumni of NTUCM.
3. To improve medical education and to keep abreast the world's top medical schools, NTUCM has continued to improve its medical education. The curriculum is continually revised and an interactive group teaching and tutorial system was implemented in 1992.
4. Every endeavor is made in research and remarkable results have been achieved. Working closely with research teams at the University Hospital and the University, substantial research results have been published in major biomedical journals. During the onset of the Severe Acute Respiratory Syndrome (SARS) in 2003, NTUCM research teams focused on the SARS corona virus and devel-

oped SARS control measures in collaboration with the University's chemists and engineers.

FACILITIES

There are seven schools in the NTUCM. The School of Medicine consists of 28 departments, offers a 7-year medical program; it includes 2 years of pre-medical courses, 2 years of basic medicine, 2 years of clinical medicine and 1 year of a rotating internship. The course leads to the degree of Doctor of Medicine. The School of Dentistry offers a 6-year course and upon graduation confers the degree of Doctor of Dental Surgery. The courses of the Schools of Pharmacy, Nursing, Clinical Laboratory Sciences and Medical Biotechnology, Physical Therapy and Occupational Therapy are all four-year courses and lead to a Bachelor's degree.

For postgraduate education, there are 22 graduate institutes in the NTUCM. The duration of study for a master's degree is one to four years and that for a doctoral degree is two to seven years.

There are 385 full-time faculty members in the NTUCM, including three academician members of the Academia Sinica. Among the faculty, 279 members possess Ph.D. degrees and 32 have master's degrees.

RESEARCH

Stimulated by a dynamic atmosphere of academic research, the faculty members actively engage in research and achieve outstanding results. In 2007, the research grants supported by domestic institutions amounted to USD 43.8 million. In the same year, 1488 papers written by the faculty of the NTUCM were published in SCI and SSCI journals. 6 patent applications were made in the year of 2007. Having accumulated extensive research experience in diseases common to

Taiwan, and actively involving in the genomic research, NTUCM has established for itself a leading role in several areas of the world's medical research.

GOALS

1. Continue the improvement and promotion of medical education.
2. Expand the Chu-Bei, Yun-Lin campus and the affiliated hospitals; upgrade the clinical and biomedical research resources in the Hsin-Chu and Yun-Lin areas.
3. Continue promoting the research and development of biomedical science, with a special focus on genomic medicine.

CONTACT INFORMATION

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1 SCHOOL OF DENTISTRYA



INTRODUCTION

The National Taiwan University—School of Dentistry was the former dental unit of the Taipei Imperial University affiliated hospital founded in 1910. After Taiwan’s retrocession to the Chinese government, the first chairman of the dental school, Dr. Shui Kuo initially served as the professor of the Medical College in dental science. At that time, the dean of the College of Medicine, Dr. Tsung-Ming Tu, took the advice from an American consultant, Dr. Harold W. Brown, and initiated the establishment of the Department of Dentistry. In 1953, the NTU Department of Dentistry was formally founded as a university-based dental school, the first chairman of the Department of Dentistry was Dr.

Shui Kuo, and it began admitting students in 1955. Throughout years of contribution by Dr. Shui Kuo, Dr. Yu-Ching Hong, Dr. Kun-Chee Chen, Dr. Hsoeh-Wan Kwan, and other faculty staff, “Graduate Institute of Dental Science” was first established in 1988 to offer graduate courses for master’s degree. Subsequently, Ph.D. courses were added in 1991. In 1996, “Graduate Institute of Dental Science” became “Graduate Institute of Clinical Dentistry,” and in 2001, a master’s course was added exclusively for dentists from NTU Hospital. In 1996, the dental school received authorization to commence graduate courses in oral biology. The Graduate Institute of Oral Biology became the third unit of dental science. On June 14th, 2008, School of Dentistry was established after passing

the 2nd University Affairs Meeting of the second semester of 2007 academic year, and Prof. Chun-Pin Lin initially served as the dean of the School of Dentistry.

ORGANIZATION

School of Dentistry contains one department and two graduate institutes: Department of Dentistry, Graduate Institute of Clinical Dentistry, and Graduate Institute of Oral Biology.

RESEARCH

The School of Dentistry has several research teams: Oral Biomedical Material and Nanotechnology Research Team, New Oral Cancer Diagnosis and Treatment Research Team, Immunohistochemistry and Photodynamic Therapy Research Team, Oral Pharmacology, Toxicology, and Biocompatibility Research Team, Stem Cell Regeneration Team and Orthodontic and Dentofacial Research Team. The School of Dentistry has established academic collaborative agreements with the School of Dentistry of Columbia University and Tokyo Medical and Dental University. Every summer, dental students are selected to study in Columbia University, University of Michigan, and University of Southern California in USA, Tokyo Medical and Dental University in Japan, and Ludwig-Maximilians-Universität (LMU) Munich in Germany. In addition, School of Dentistry offers clinical electives for international dental students from University of Sydney in Australia, University of Otago in New Zealand, Boston University and Columbia University in USA, University of Manchester and King's College London in UK, and so on. Furthermore, international dentistry conferences are held, scholars or experts are invited to give speeches, and faculties are selected to visit other school of dentistry

overseas to enhance the internationalization and upgrade the education, research and service of dentistry.

VISION

As the world economy focuses more and more on techniques and knowledge, the development of the School of Dentistry at the National Taiwan University will focus on integrate all division resources to extend our main research and clinical medical area. We plan to cross the barriers of compartmentalization to establish a joint cooperation that would greatly enhance the strength and basis of biomedical technology development of School of Dentistry, National Taiwan University. At the same time, opening a channel for corporate and academic communication by route of Innovation Incubator will greatly increase the success of corporate and academic cooperation that would financially benefit both aspects. On the topic of clinical service, we base our teachings on the fundamental of “Total Patient Care,” enabling us to provide the most advanced clinical service. Aside from enhancing the overall strength of the School of Dentistry at the National Taiwan University, the “Dental education and research center in Asia” also aims to promote international communication. We set our purpose on becoming the center of research and health care provider. In addition to designing thorough plans for research training, we will also invite prominent researchers in the dental field to visit our school. Meanwhile, we stress the importance of clinical care, which will help promote the credibility and prominence of dental care at School of Dentistry worldwide.

CONTACT INFORMATION

Dean: Chun-Pin Lin

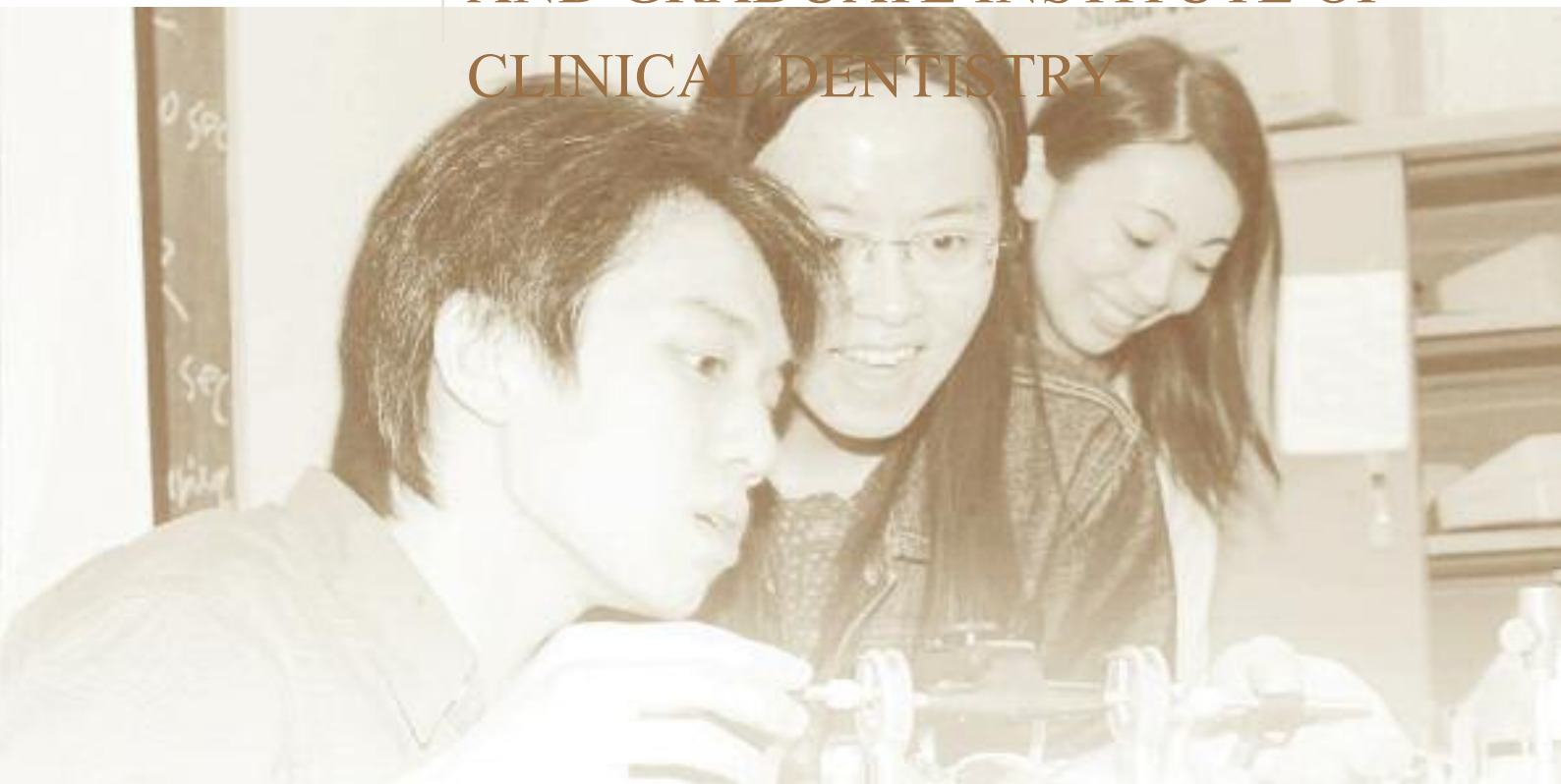
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E-mail: ntusod@ntu.edu.tw

DEPARTMENT OF DENTISTRY AND GRADUATE INSTITUTE OF CLINICAL DENTISTRY



INTRODUCTION

Brief history of School of Dentistry

The predecessor of the dental school was the Dental Unit of the Taipei Imperial University Affiliated Hospital. After Taiwan's retrocession to the Chinese government, the first chairman of the dental school, Dr. Kuo Shui served as the professor of the Medical College in dental science. In 1953, the National Taiwan University School of Dentistry was founded as a university-based dental school in Taiwan. The Graduate Institute of Clinical Dentistry was established in 1988 for graduate dental education and offered specialty programs in eight fields of clinical dental sciences with a master degree. Starting in 1991, the PhD degree was offered for more

advanced research in clinical dentistry. During the past half century, the National Taiwan University School of Dentistry has been committed to excellence in education, research, patient care, and community service.

GOALS

1. Prepare general and specialized dentists to offer dental services to the public.
2. Prepare distinguished teaching staff and research workers in basic science and clinical dentistry to advance both the art and science of dentistry in Taiwan.
3. Offer advanced education for dentists and dental assistants to improve the current situation of dental practice in Taiwan.

4. Provide advice and consultancy to government authorities on oral hygiene, preventive dentistry, and policies for dental service.

Missions

1. Prepare students to be competent oral health care professionals.
2. Prepare distinguished teaching staff and research workers in basic science and clinical dentistry to advance both the art and science of dentistry in the country.
3. Provide life long learning opportunities for dental professionals and dental assistants to improve the current situation of dental practices in the country.
4. Serve the University and the Faculty through the sharing of knowledge, participation in professional activities, and the establishment of linkages to promote innovation, and to encourage and address diversity in research, education, and patient care.
5. Provide quality dental care to the community and to underserved populations and to people with special oral health care needs.
6. Offer advice and consultancy to government authorities for oral hygiene, preventive dentistry, and policies for oral health.

PLANS

The future directions of development for the School of Dentistry include:

1. Establish the institute as the center of academic research in oral health sciences.
2. Establish a network of educational resources through the use of cutting-edge technology to provide students with instant access to information anytime, anywhere and to promote independent learning.
3. Foster cooperation, interdisciplinary collaboration and achievement within the Faculty and between the Faculty and the University, research institutes, government, industry, and international academic institutions that have interests in the Faculty's activities.

FACULTY

Full-time: 27

Part-time: 27

Ph.D. Degree: 32

M.S. Degree: 17

Chair/ Professor

Chun-Pin Lin D.D.S., Ph.D., University of Minnesota, U.S.A

Full-Time

Professor

Yen-Ping Kuo D.D.S., Ph.D., University of Pennsylvania, U.S.A.

Chun-Pin Chiang D.D.S., D.M.Sc., Harvard School of Dental Medicine, U.S.A.

Jean-San Chia D.D.S., M.S., Ph.D., NTU

Jiang-Huei Jeng D.D.S., Ph.D., NTU

Associate Professor

Juo-Song Wang D.D.S., M.S., University of Michigan, U.S.A.

Li-Deh Lin D.D.S., Ph.D., University of Toronto, Canada

Jeng-Tzung Wang D.D.S., D.M.Sc., Harvard School of Dental Medicine, U.S.A.

Bu-Yuan Li D.D.S., D.M.Sc., Harvard School of Dental Medicine, U.S.A.

Bu-Yuan Liu D.D.S., D.M.Sc., Harvard School of Dental Medicine, U.S.A.

Sze-Kwan Lin D.D.S., Ph.D., NTU

Sang-Heng Kok D.D.S., Ph.D., NTU

Min-Huey Chen D.D.S., Ph.D., University of Auckland, New Zealand

Chun-Chen Yao D.D.S., Ph.D., University of
California at San Francisco,
U.S.A.

Bor-Shiunn Lee D.D.S., M.S., Ph.D., NTU

Assistant Professor

Hsin-Ming Chen D.D.S., Ph.D., NTU

Yi-Jane Chen D.D.S., M.S., NTU

Yunn-Jy Chen D.D.S., Dr. Med. Dent.,
Zurich University,
Switzerland

Clinical Assistant Professor

Cheing-Meei Liu D.D.S., NTU

Jang-Jaer Lee D.D.S., M.S., NTU

Lecturer

Andy Sun D.D.S., Ph.D., NTU

Tong-Mei Wang D.D.S., M.S., NTU

Yuanling Lee D.D.S., Ph.D., NTU

Shih-Jung Cheng D.D.S., M.S., NTU

Jenny Zwei-Chieng Chang
D.D.S., M.S., NTU

Hao-Hueng Chang D.D.S., M.S., NTU

Wan-Yu Tseng D.D.S., M.S., NTU

Clinical Lecturer

Guay-Fen Huang D.D.S., M.S., NTU

Part-Time

Professor

Ying-Shiung Kuo D.D.S., D.D.Sc., Tokyo
Medical and Dental
University, Japan

Yuh-Yuan Shiau D.D.S., M.S., University of
Michigan, U.S.A.

Lein-Tuan Hou D.D.S., Ph.D., University of
Connecticut, U.S.A.

Fu-Kwue Du D.D.S., NTU

Puo-Jen Yang D.D.S., NTU

Kwen-Min Chang D.D.S., NTU

Hsueh-Wan Kwan D.D.S., M.S., Loyola
University, U.S.A.

Yu-Ching Hong D.D.S., Osaka University,
Japan

Liang-Jiunn Hahn Ph.D., Nippon University,
Japan

Wan-Hong Lan D.D.S., D.D.Sc., Tokyo
Medical and Dental
University, Japan

Ming-Kuang Guo D.D.S., M.S., University of
Michigan, U.S.A.

Chi-Yuan Hong D.D.S., NTU

Kuen-Chi Chen D.D.S., Ph.D., Kiuchiu
University, Japan

Bai-Lun Chiang D.D.S., Ph.D., University of
California Davis, U.S.A.

Fon-Huei Lin D.D.S., Ph.D., National
Cheng Kung University

Associate Professor

Jeng-Tzung Wang Ph.D., University of Harvard,
U.S.A.

Hsin-Fu Chang D.D.S., Marquette University,
U.S.A.

Jiong-Xing Huang D.D.S., Ph.D., University of
Toronto, Canada

Chih-Ko Yeh D.D.S., Ph.D., University of
Connecticut, U.S.A.

Kang-Yee Wang D.D.S., Ph.D., University of
British Columbia Canada

Hsin-Chia Hung D.D.S., D.M.Sc., Harvard
School of Dental Medicine,
U.S.A.

Ruey-Song Chen D.D.S., NTU

Lecturer

Man-Ching Cheng MS., Case Western Reserve
University, U.S.A.

Hin-Fai Yan	D.D.S., National Taiwan University
Kuan-Hsiung Tsai	D.D.S., NTU
Chin-Huei Chiu	D.D.S., NTU
Shin-Yang Liu	D.D.S., M.S., Harvard University, U.S.A.
Chuen-Chyi Tseng	D.D.S., M.S., University of Minnesota, U.S.A.
Yi-Min Tsai	D.D.S., Ph.D., Harvard University, U.S.A.
Ya-Hui Tsai	D.D.S., M.S., University of Indiana, U.S.A.
Jehn-Shun Huang	D.D.S., Ph.D., NTU

FACILITIES

There are a computer room, an audio-video room, two dental laboratories, an oral pathology laboratory, an oral embryology and histology laboratory, two lecture rooms for teaching purposes, and four conference rooms for teaching purposes and seminars. Research laboratories include laboratories for hard tissue study, cranio-facial growth and development, periodontics, oral pathology, oral histology, material science, oral physiology, endodontics, stem all tissue regeneration and biometirial development, molecular biology, oral biology, oral microbiology, immunology, and laser study.

Facilities: Vibration incubator, Tissue culture hood, Vibrating Saw, Microtome, Microtome knife, Animal operation table, Tissue processor, Low speed bone saw, Ultra-speed centrifuge, Ultra-thin microtome, Glass knife maker, Automatic immunohistochemical staining machine, PCR machine, In situ PCR machine, Intraoral scanning camera, Five-person and ten-person teaching microscope with photo system, Polarization mircope, Microscope video system, Dark field stereomicroscope, High resolution

photo system, Microradiography image intensifier, Electronic balance, Vibrator, Drying machine, Autoclave, Ultrasonic washing machine, Shaker bath, Heating plate, Water bath, Dry-bath incubator, microcentrifuge, Ice maker, Incubator, β - counter, Shaker, Database server, Scanning electron microscope, contact angle analyzer. Instron, Operative microscope, Numerical simulation work station, Finite element analytic system, Porcelain furnace, Furnace with programmed control, Digital oscilloscope, Intraoral photographic system, Soft laser, Laser therapeutic machine, Nd-YAG laser, Argon laser, Semi-conductor laser, Epiz electromyograph, Sirognathograph, Siphon LED visitrainer, Microhardness tester, XY-Axis coordinator, Cerec CAD/CAM system, Multichannel biosignal recorder, Multichannel Biosignal Conditioner, -140°C Ultrafreezer, Spectrophotometer, Fluorometer, ELISA reader, Fluoride meter, Drying and sterilizing cabinets, Autoclave, Pulp vitality tester, Periotron, Apparatus for dental implantation, Cell homogenizer, Multi-function vacuum moulding machine, Hydroflame, Plaster dispenser, Light box for film tracing, Laser therapeutic machine, etc..

More than 1300 books and 48 contemporary periodicals relevant to dentistry are collected and kept in National Taiwan University Medical Library.

COURSES

Required Courses in School of Dentistry

- 1st year: Introduction to Oral Sciences(1)
- 2nd year: Dental Morphology & Lab.(3), Oral Embryology and Histology & Lab.(2), Dental Materials(2)
- 3rd year: Oral Anatomy(2), Operative Dentistry & Lab.(5) 4th year: Oral Pathology & Lab.(4), Dental Roentgenology(2), Occlusion(2), Dental Pharmacology(1), Oral Diagnosis(2), Endodontics & Lab(5), Periodontics & Lab(4), Public Health Dentistry(1), Complete Denture Prosthodontics & Lab.(4)
- 5th year: Pediatric Dentistry(2), Oral and Maxillo facial Surgery(6), Dental Anesthesiology (1), Orthodontics & Lab.(3), Removable Partial Prosthodontics & Lab.(5), Fixed Prosthodontics & Lab.(5), Forensic Dentistry(1), Clinical Practice(12)
- 6th year: Clinical Practice(48)

Required Courses in Graduate Institute of Dentistry

Master's program

The master program requires a minimum of 2 and a maximum of 4 years to complete. Besides the master thesis, at least 24 credits are required to graduate. They include Special Topics in Oral Pathology(2), Seminar in Oral Pathology(4), Clinical Practice in Oral Diagnosis(12), Special Topics in Dental Materials (1), Seminar in Dental Materials(4), Special Topics in Operative Dentistry(1), Clinical Practice in Operative Dentistry(12), Special Topics and Laboratory in Endodontics(2), Clinical Practice in Endodontics(12), Seminar in Endodontics(4),

Seminar in Periodontal Pathology(1), Clinical Practice in Periodontics(12), Seminar in Periodontal Therapy(4), Seminar in Complete Denture(2), Seminar in Removable Partial Prosthodontics(2), Seminar in Fixed Prosthodontics(2), Clinical Practice in Prosthodontics(12), Special Topics in Pediatric Dentistry(1), Clinical Practice in Pediatric Dentistry(12), Seminar in Pediatric Dentistry(4), Special topics and Laboratory in Orthodontics(1), Clinical Practice in Orthodontics(12), Seminar in Clinical Orthodontics(4), Advanced Oral and Maxillofacial Surgery(2), Clinical Practice in Oral and Maxillofacial Surgery(12), Seminar in Oral and Maxillofacial Surgery(4)

Ph.D. program

The Ph.D. Program in Dental Science is also available. A minimum of 2 years and a maximum of 6 years are required to finish the program. The degree will be awarded upon successful completion of at least 18 credits coursework and 12 credits for the thesis.

ACADEMIC ACTIVITIES

1. Weekly clinical case conferences are presented by the six-year students and seminars as well as work in progress by graduate students.
2. There are also journal clubs and teaching activities in each subdivision meeting every week.
3. Every year, there are two workshops of Dental Scientific Day offered by this institute to the undergraduate and graduate students to present their studies on the basic and clinical dental sciences.
4. An average of 12-15 renowned scholars and specialists are invited to this institute to give seminars of advanced subjects on the basic and clinical dental sciences every year.

5. Sometimes, continued education programs hold together by the institute and domestic dental academic societies are provided to the faculties and students.

CAREERS AND FURTHER STUDIES

1. Professional abilities: Basic biomedical sciences; Basic dental sciences; Basic skills of dental technology; General dental practice.
2. Further studies
 - (1) Study in domestic graduate dental schools or abroad.
 - (2) Study in domestic public health schools or research institutes or abroad.
 - (3) Enroll in the double degree programs provided by the school.
 - (4) Participate the dental specialty continuing education programs provided by the domestic dental schools or abroad.
3. Career options
 - (1) Teaching or researching position of dental or biomedical sciences in research institutes, industry or government laboratories, colleges, or universities.
 - (2) Residency programs of domestic teaching hospitals.
 - (3) Private practice

CONTACT INFORMATION

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ntugdent@ntu.edu.tw

1-2 GRADUATE INSTITUTE OF ORAL BIOLOGY



INTRODUCTION

Oral biology comprised basic dental science and basic life sciences related to oral and perioral structures. Teachers in this institute are leading scientists while not necessarily being dentists or physicians. However, their research targets are focused on oral, facial, head and neck structures.

Students graduating from non-literary schools are welcome to enroll. However, dental and medical students are encouraged to study basic biology at this institute.

Previously, this Institute had four divisions; namely, molecular biology, cell biology, growth and development physiology, and biomedical material. In 2002, the former three divisions

were combined into one division. Currently, annual new student enrollment stands at 18.

FACULTY

Full-time: 7

Joint Appointment: 12

Part-time: 4

M.S. Degree: 0

Ph.D. Degree: 23

Director/ Professor

Yen-Ping Kuo D.D.S., Ph.D., University of
Pennsylvania, U.S.A.

Full-Time

Professor

Chun-Pin Chiang D.D.S., D.M.Sc., Harvard University, U.S.A.

Associate Professor

Kuo-Long Lou Ph.D., University of Basel, Switzerland

Bor-Shiunn Lee D.D.S., M.S., Ph.D., NTU

Assistant Professor

Bei-En Chang Ph.D., University of Louis Pasteur, France

Han-YiE. Chou Ph.D., NTU

Cheng-Chi Chang Ph.D., NTU

Hsin-Ming Chen D.D.S., Ph.D., NTU

Adjunct Professor

Professor

Bor-Luen Chiang M.D., Ph.D., UC. Davis, U.S.A.

Chun-Pin Lin Ph.D., University of Minnesota, U.S.A.

Fenta-Huei Lin Ph.D., National Cheng-Kung University, Taiwan

Jean-San Chia D.D.S., Ph.D., NTU, Taiwan

Jiang-Huei Jeng D.D.S., Ph.D., NTU, Taiwan

Chin-Tarnng Lin D.D.S., Ph.D., Univ. of Texas Medical School at Galveston, U.S.A.

Associate Professor

Li-Deh Lin D.D.S., Ph.D., University of Toronto, Canada

Sze-Kwan Lin D.D.S., Ph.D., NTU

Sang-Heng Kok D.D.S., Ph.D., NTU

Min-Yuey Chen D.D.S., Ph.D., University of Auckland, New Zealand

Assistant Professor

Chun- Chen Yao D.D.S., Ph.D., University of California at San Francisco

Part-Time

Professor

Chiung-Shing Huang D.D.S., Ph.D. University of Toronto, Canada

Associate Professor

Han-Chung Wu Ph.D., NTU

Assistant Professor

Chi-Hsiang Chen Ph.D., Ohio-State University, U.S.A.

Hsin-Chia Hung D.D.S., Ph.D., Harvard School of Public Health, U.S.A.

FACILITIES

Newly established in 1997, the Institute occupies the 3rd floor of the Dental Building, NTU Hospital. The Medical Library of the College of Medicine has advanced research equipment and journals available.

COURSES

The Institute is a member of the oral and dental medical system, and responsible for the teaching and research of basic oral and head and neck related cell biology, molecular biology, physiology and biomaterial sciences. At this moment, graduate programs are offered only for master degree education for 2 to 4 years. A minimum of twenty-four credit hours is required for MS degree.

Journal Club(8), Oral Structure and Function(2), Advanced Oral Biochemistry(2), Seminar in Oral

Biology (0), Seminar in Oral Biology (2) and two of the following six courses Oral Cell Biology(2), Oral Molecular Biology(2), Oral Physiology(2), Oral Immunology(2), Oral Microbiology(2) and Oral Biomedical Materials(2) .

ACADEMIC ACTIVITIES

Our primary goal is to explore basic research in oral biology, and to pursue advanced study that may be clinically applicable. At present, the institute not only periodically runs a variety of academic seminars and research forums, but also keeps a close and dynamic interaction with clinical dental research.

CONTACT INFORMATION

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2 SCHOOL OF MEDICINE



INTRODUCTION

The School of Medicine was founded in 1897 by the Japanese government, which ruled Taiwan at that time. The School was subsequently incorporated into Taipei Imperial University, and was the first institute offering medical education and conferring medical degrees in Taiwan. After World War II, Taiwan reverted to the Republic of China in 1945. The School of Medicine soon became part of the National Taiwan University, and was rechristened to its present name in 1971.

Our missions are to nurture excellent doctors, to serve society, to lead the medical community, and to contribute to the betterment of humankind. Graduates should have the following characteristics and capabilities:

1. A foundation of basic medical knowledge, skill and humanity.
2. An enthusiasm for lifelong learning and collaboration.
3. The skills to assess and apply new medical knowledge.

Currently the School offers a 7-year medical program leading to the degree of Doctor of Medicine. Medical students are required to take a minimum of 288 credits in 2 years of premedical courses, 4 years of medical courses, and 1 year of rotating internship. This program represents a joint effort of the following departments in the School: Physiology, Pathology, Pharmacology, Biochemistry and Molecular Biology, Microbiology, Parasitology, Anatomy and Cell Biology, Forensic Medicine, Social Medicine,

Primary Care Medicine, Environmental and Occupational Medicine, Internal Medicine, Surgery, Dermatology, Urology, Pediatrics, Obstetrics and Gynecology, Neurology, Psychiatry, Ophthalmology, Otolaryngology, Radiology, Laboratory Medicine, Anesthesiology, Family Medicine, Physical Medicine and Rehabilitation, Orthopedics, and Emergency Medicine.

The School also has 7 graduate institutes which accept graduate students and confer master and Ph.D. degrees: Anatomy and Cell Biology, Biochemistry and Molecular Biology, Microbiology, Immunology, Physiology, Pharmacology, Pathology, Toxicology, Molecular Medicine, and Clinical Medicine. There are 246 full-time and 470 part-time or affiliated faculty members in the School. We believe that the faculty members of the School are the best in the nation, both in terms of number and in terms of quality.

The goal of the medical program of the School is the making of a competent clinical scholar, who is not only a medical doctor, but also a scientist and an educator. After completion of the program, some students pursue other postgraduate training in basic medical sciences or public health, and finally become faculty in research institutes or officials in public health or hospital administration. Most other students join clinical practice and become a specialist in clinical medicine after their residency.

The School of Medicine has just celebrated her glorious 108th birthday. Her alumni are now all over medical centers in Taiwan and in the other parts of the world; many of them have won important awards and become leading scholars in their fields. Based on the continued efforts of the students, faculty, and alumni from the past century, we are pleasantly and confidently looking forward to an even more glorious future of the School in the new millennium.

FACULTY

Chair/ Professor

Tien-Shang Huang M.D., College of Medicine, NTU

Full-Time

Professor

Ming-Kuen Lai M.D., College of Medicine, NTU

Jau-Min Wong M.D., Ph.D., Graduate Institute of Clinical Medicine, College of Medicine, NTU

Associate Professor

Ming-Jium Shieh M.D., Ph.D., Tokyo Women's Medical College, Tokyo, Japan

Assistant Professor

Heng-Shun Chen M.D., Ph.D., The Graduate Institute of Electrical Engineering, College of Engineering, NTU

Clinical Teacher

Professor

Ruey-Long Hong M.D., Ph.D., The Graduate Institute of Clinical Medicine, College of Medicine, NTU

Assistant Professor

Li-Hui Tseng M.D., Ph.D., The Graduate Institute of Clinical Medicine, College of Medicine, NTU

Chih-Hung Hsu M.D., Ph.D., The Graduate Institute of Clinical Medicine, College of Medicine, NTU

Part-Time

Professor

Chia-Ching Lin M.D., Ph.D., School of
Medicine, Chiba University,
Japan

Jacqueline Whang-Peng
M.D., College of Medicine,
NTU

Fang-Jen Lin M.D., Ph.D., University of
Tulane, U.S.A

Associate Professor

Huei-Jane Tschai Ph.D., The Graduate Institute
of Computer and Information
Science, Syracuse University,
U.S.A.

Lecturer

Fei-Ran Guo M.D., Kaohsiung Medical
College

COURSES

The School offers a 7-year medical program leading to the degree of Doctor of Medicine. Medical Students are required to take a minimum of 288 credits. The curriculum is arranged to provide students with opportunities to acquire knowledge of basic medical sciences, clinical medicine and psychosocial medicine. The pre-medical courses, including general education, are given during the first year and the first semester of second year. The courses of the second semester of second year and the third year mainly cover basic medical sciences. In the fourth year, integrated courses of basic and clinical medical sciences are given. Early in the premedical courses, a group-based learning mode is adopted. Students have to apply their acquired basic medical knowledge in problem solving. Such a self-directed, problem-based learning is employed through the training of basic medical science and

clinical medicine. The fifth and sixth years are devoted to the field of clinical medicine. The seventh year is a rotating internship. The education and training of interns are given at the University Hospital.

First Year: Calculus(6), General Chemistry(3), General Chemistry Lab.(1), General Biology(4), General Biology Lab.(2), Introduction to Philosophy(2), Introductory Sociology (D)(3), Human Being and Medicine(2), Organic Chemistry(3), Organic Chemistry Lab.(1),

Second Year: General Physics(3), General Physics Lab.(1), General Psychology(3), Biochemistry & Lab.(6), Group Discussion (I)(2), Medical Informatics(2), Group Discussion (II)(2), Introduction to Medicine(2), Medical Psychology(1), Parasitology (A)(3), Introduction To Medical Statistics(I)(3)

Third Year: Gross Anatomy & Lab.(7), Histology & Lab.(4), Embryology(2), Physiology (A) & Lab. (6), Microbiology/Immunology (A) & Lab.(6), Neurobiology & Lab.(4), Group Discussion for Microbiology, Immunology & Neurobiology(2), Group Discussion for Anatomy & Physiology(2), Environment And Health(2), Introduction To Health Policy and Health Insurance(1), Epidemiology(2), Body Adaptation Of Disease Status(1)

Fourth Year: Pathology (A)(6), Pathology Lab.(3), Laboratory Medicine(2), Group Discussion for Pathology(2), Clinical Medicine (I)(5), Pharmacology & Lab.(6), Clinical Pharmacology Small Group Discussion(2), Clinical Medicine (II)(5), Clinical Medicine (III)(3)

Fifth Year: Internal Medicine & Practice (9), Surgery & Practice(9), Pediatrics & Practice(6), Ambulatory Medicine/Emergency Medicine & Practice(6), Family, Society & Medical Care(6),

Introduction to Anesthesiology(1), Introduction to Radiology(1), Medical Genetics (I)(1), Clinical Pathological Conference(2).

Sixth Year: Obstetrics/Gynecology & Practice (6), Psychiatry & Practice(4), Clinical Ethics & Laws(2), Neurology & Practice (3), Rehabilitation Medicine & Practice (3), Forensic Medicine(1), Introduction to Dentistry(1), Meanings of Life and Death(1), Image Diagnostic & Practice(2), Group Discussion for Clinical Integral Anatomical Image(2)

Selected Practice: select 3 in 17 courses--
Clerkship in: Internal Medicine (A)(B), Surgery (A)(B), Advanced Basic Science (A)(B), Family Medicine & Practice, Radiology & Practice, Urology & Practice, Dermatology & Practice, Ophthalmology & Practice, Otolaryngology & Practice, Orthopedics & Practice, Anesthesiology & Practice, Oncology & Practice, Laboratory Medicine/Pathology & Practice, Emergency Medicine & Practice.

Seventh Year: Internship in Internal Medicine(12), Internship in Surgery(12), Internship in Pediatrics (B)(6), Internship in Obstetrics & Gynecology (B) (6).

Selected Practice: select 3 in 13 courses--
?@Internship in: Ophthalmology (C), Otolaryngology (C); Urology (C), Anesthesiology (C), Rehabilitation Medicine (C), Neurology (C), Family Medicine (C), Psychiatry (C), Dermatology (C), Radiology (C), Oncology (C), Orthopedics (C), Emergency Medicine (C).

The First Step of Two- Step Clinical Learning Programs

First Year

Internal Medicine & Practice(9), Surgery & Practice(9), Ambulatory Medicine/Emergency

Medicine & Practice(6), Family, Society & Medical Care(6), Clinical Pathological Conference(2), General Practice in Medicine (A)(6), Clinical Practice of Ambulatory Medicine(6)

Second Year

Psychiatry & Practice(4), Clinical Ethics & Laws (2), Neurology & Practice(3), Meanings of Life and Death (1), Image Diagnostic & Common disease(2), Pediatrics & Practice (B) (6), Obstetrics & Gynecology & Practice (B)(6), Internship in Internal Medicine and Surgery (D)(2), General Practice in Medicine (B)(6), Internship in Internal Medicine(E)(3), Internship in Surgery (E)(3)

CAREERS AND FURTHER STUDIES

1. Professional abilities: Research in basic medical science; Research in life science; Primary health care.
2. Further studies: Graduate institute of basic science research; Graduate institute of clinical science research; Graduate institute of public health and hospital management; Graduate institute of medical engineering; Graduate institute of medical informatics; Graduate institute of life science; M.D.-Ph.D. program
3. Career options: Being Physicians, teaching faculty, or administrative officers in national health system; service in biomedical research institutes or pharmaceutical companies.

CONTACT INFORMATION

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INTRODUCTION

The Graduate Institute was first set up on August 1947, when it is subdivided into 3 divisions, namely physiology, biochemistry, and pharmacology. After a few years, each division became a separate institute. According to the current administrative system, the Graduate Institute of Physiology and the Department of Physiology were merged into one service for research and teaching. At present, we take 16 students for the Master program and 4 students for the Ph.D. program every year.

The Institute of Physiology covers many different fields of research, including endocrinology, neurophysiology, circulatory and cardiac physi-

ology, renal physiology, behavior neurophysiology, respiration physiology, gastrointestinal physiology, and cellular physiology. In terms of materials and methods of research, the Institute also covers both molecular (cellular) physiology and integrative physiology. There are now 10 full-time and 8 part-time faculty members in this institute, including 12 professors, 2 associated professor, and 4 assistant professors. All of the faculty members have received advanced training in physiological research in famous institutes or universities in Taiwan or overseas.

We have excellent faculty members and superior instruments. We are still trying to recruit more excellent scholars to join the institute, and always endeavor to obtain more precious instruments. It is our goal and duty to have more stu-

dents and young fellow researchers join the team; afterwards, these young fellows can become established researchers with the training in this Institute. It is likely that biotechnology will be flourishing in the 21st century. We will try our best to combine traditional animal experiments with molecular researches, widening our scientific vision and facilitating a better understanding of the nature of life.

FACULTY

Full time: 10

Part time: 8

Ph.D.: 15

M.S.: 1

Section head/ Professor

Kuo-Chu Chang Ph. D., NTU

Full-Time

Professor

Chau-Fong Chen Ph.D., University of Southampton, U.K.

Yuan-Feen Tsai Ph.D., Munich University, Germany

Mei-Lin Wu Ph.D., Oxford University, U.K.

Chung-Chin Kuo Ph. D., Harvard University, U.S.A.

Associated Professor

Chih-Yung Tang Ph.D., University of California, Los Angeles, U.S.A.

Assistant Professor

Hui-Min Su Ph.D., Cornell University, U.S.A.

Meng-Chun Hu Ph.D., National Defense Medical Center, R.O.C.

Linda Chia-Hui Yu Ph.D., McMaster University, Canada

Liang-chuan Lai Ph. D., University of Illinois, U.S.A.

Part-Time

Hwai-Sze Fang M.D., Nagoya University, Japan

Chok-Yung Chai Ph.D., Columbia University, U.S.A.

Ting-Fei Huang M.D., Nagoya University, Japan

Rong-Chi Chen M.D., NTU

Wen-Sen Lee Ph.D., University of Pittsburgh, U.S.A.

Yih-Loong Lai Ph.D., University of Kansas, U.S.A.

Ying-I Peng M.S., NTU

Yung-Zu Tseng M.D., NTU

Joint Appiontment

Fu-Tien Chiang Ph.D., NTU

FACILITIES

The major equipment for research includes centrifuges of various types, ultracentrifuges, gamma-solid scintillation counter, β -liquid scintillation counter, spectrophotometer, electrophoretic apparatuses, cell culture apparatuses, FPLC, HPLC, deep freezer, ultrasonic cell disruptor, stereo-microscope, surgical microscope, invert phase-contrast microscope, decompression chamber, laser doppler flowmetry, blood gas analyzer, polygraph, intracellular injector, and modern equipment used in electrophysiological studies such as stimulators, preamplifiers, oscilloscope, 7 channel FM tape recorder, Electrochemical detector (ECO), gas-chromatography, microscope electronical digital photography, PCR, camera and darkrooms. Besides,

there are several feeding houses for experimental animals. One is specially designed for observation of sexual behavior. The copying machines, laser printers, electric typewriters, microcomputers and projectors are also set for daily use.

COURSES

The institute is in charge of all the course work of physiology and physiological laboratory for the undergraduate students of the entire medical school. Graduate programs are offered leading to the Master of Science and Ph.D. degrees. Normally, the duration of the Master of Science degree study is two to four years. Twenty-four credits are required besides the thesis.

The Ph.D. degree is granted after successful completion of the course work, examination and a dissertation research program. The program generally takes two to seven years to complete. Eighteen credits, including completion of a minimum of 6 credits of elective course in physiology offered by 3 different teachers of the Graduate Institute of Physiology, are required besides the dissertation.

M.S.

Human Physiology(6), Neurophysiology(2), Seminar(4), Thesis(6), Experimental Physiology(3) Technique in Neurophysiological Research(2), Cellular Neurophysiology(2), Cellular Physiology (2), Circulation Physiology(2), Special Topics in Renal Physiology(1), Environmental Physiology (1), Seminar in Behavioral Physiology(2), Seminar in Sex Differentiation(2), Brain and Behavior(2), Special Topics in Respiration Physiology(2), Cardiac Physiology(2), Molecular Physiology(2), Synaptic Physiology(2), Endocrinology and Metabolism(2), Molecular Endocrinology(2), Gastrointestinal Mucosal Immunophysiology(2),

Genomic Study Seminar(2)

Ph.D.

Seminar(4), Dissertation(12), Advanced Cellular Neurophysiology(2), Advanced Cardiac Physiology(2), Special Topics in Neurobiology and Behavior(2), Advanced Cellular Physiology(2), Special Topics in Regulation of Intracellular Ions(2), Sensory Physiology(1), Special Topics in Advanced Respiration Physiology(2), Special Topics in Advanced Renal Physiology(1), Molecular Physiology(2), Advanced Circulation Physiology(2), Advanced Synaptic Physiology(2), Advanced Endocrinology and Metabolism(2), Advanced Molecular Endocrinology(2), Advanced Gastrointestinal Mucosal Immunophysiology(2), Human Physiology(6), Advanced Genomic Study Seminar(2)

ACADEMIC ACTIVITIES

A scheduled seminar is held once a week in which all the faculty and graduate students are required to participate. Sometimes, lectures given by internationally known scholars are arranged.

CONTACT INFORMATION

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4-2-2 GRADUATE INSTITUTE OF PATHOLOGY



INTRODUCTION

The antecedent of the Department of Pathology was the Classroom of Pathology, College of Medicine, Taihoku (Taipei) Imperial University, which established the first and second lecture-ship in 1936 and 1937, respectively. After the World War II in 1945, it was renamed as Department of Pathology, College of Medicine, NTU. The Institute of Pathology was established in June, 1947. In 1953, Department and Graduate Institute of Pathology moved into University Hospital. In 1954, Department of Pathology, NTU Hospital was established. The combined unit became a very special department that gave teaching, researches, and services. The Ph.D. program was then established in Sep. 1969.

Department of Forensic Medicine was separated from Department of Pathology in 1984. The Master program and Ph.D. program were each divided into group A and B in 1989. The Group A receives only medical and dental graduates, and the Group B receives graduates of para-medical fields. The Department of Pathology, NTU Hospital was functionally divided into 5 divisions in 1994.

Our teachers have expertise in various clinical and pathological fields. We also emphasize the researches of pathogenic mechanism of disease that frequently found in this country, molecular patho-logy, and tumor biology. Besides teaching the me-dical college students basic knowledge of patho-logy, we also educate basic medical research personnel and teachers basic concepts

of disease, hoping them to promote greatly the level of patho-logical studies.

In these years, Department and Graduate Institute of Pathology already have fine reputation in the researches of hepatoma, nasopharyngeal carcinoma, malignant lymphoma and other diseases. With these bases, we will develop researches in the molecular and cellular levels, and study the tumori-genesis, the transforming processes, the biological behavior of tumor cells and the drug resistance mechanism.

FACULTY

Full-time: 11 人

Part-time: 8 人

Ph.D. Degree: 6 人

M.S. Degree: 7 人

Chair / Professor

Associate Professor

Chung-Wu Lin Ph.D., Harvard University,
U.S.A.

Full-time:

Professor

Chin-Tarng Lin D.D.S., Ph.D., University of
Texas Medical School at
Galveston, U.S.A.

Hey-Chi Hsu D.D.S., M.S., College of
Medicine, NTU

Su-Ming Hsu M.D., College of Medicine,
NTU

Associate Professor

Chung-Wu Lin Ph.D., Harvard University,
U.S.A.

Yu-Tung Yao D.D.S., M.S., College of
Medicine, NTU

Yih-Leong Chang M.D., College of Medicine,
NTU

Assistant Professor

Yung-Ming Jeng M.D., College of Medicine,
NTU

Pei-Hsin Huang M.D., M.S., Graduate School
of Arts and Sciences, Harvard
University,

Tsui-Lien Mao M.S., College of Medicine,
NTU

Lecturer

Ming-Cheh Lin M.D., Kaohsiung Medical
University U.S.A.

Huang-Chun Lien M.D., Taipei Medical
University

Part-time:

Professor

Ih-Jen Su M.D., Ph.D., College of
Medicine, NTU

Sou-Ming Chuang M.D., Ph.D., Toho University,
Japan

Associate Professor

Chi-Long Chen M.D., Ph.D., College of
Medicine, NTU

Han-Chung Wu M.D., Ph.D., College of
Medicine, NTU

Chen-Tu Wu M.D., M.S., College of
Medicine, NTU

Lecturer

Cheng-Hsiang Hsiao M.D., College of Medicine,
NTU

Shih-Hung Haung M.D., M.S., College of
Medicine, NTU

Chien-Chen Tsai M.D., M.S., College of
Medicine, NTU

FACILITIES

The major areas of the department are in the 3rd floor of the main building of the NTU Hospital (namely the Department of Pathology, NTUH), and B2 (autopsy room), and part of the 6th floor of laboratory building. It includes Routine H&E Histopathological Lab., Histochemical Lab., Immunopathological Lab., Autopsy Room, Electron Microscopic Lab., Cytogenetic Lab., Cytology Lab., Toxicology Lab., Molecular Pathology Lab., Hematopathology Lab., Hepatorenal Pathology Lab., and Basic Biopathology Lab.

The major equipment includes electron microscope (Hitachi TEM H-7500), ultramicrotome, cryostat, deep freezer, research microscope, fluorescent microscope, polarizing microscope, autotechnicon, polycut, microphotographic camera, lamellar flow, microphotometer, Backman electrometer, pH meter, refractometer, ultracentrifuge, densitometer, DNA sequencing apparatus, analytical-balance, A-V TV, polyvar, histomate 3000, multi-headed teaching microscope, refrigerator, PCR instrument, flow cytometer, inverted microscope, laser capture microdissection, CO₂ incubator, β -counter, etc. All biomedical journals are deposited in the medical library. Some common journals are displayed in the conference room. Deposit Materials: surgico-pathological microscopic slides: more than 600,000 sheets; autopsy materials: more than 10,000 cases.

COURSES

Undergraduate Programs

There is one semester course of pathology class for medical, dental, nursing, medical technological, pharmacological, rehabilitation and public

health students.

1. School of medicine: Pathology (A)(6), Pathology & Lab. (A)(3), Clinical Pathological Conference (I)(II)(2)
2. School of dentistry: Pathology (B)(5), Pathology & Lab. (B)(2)
3. School of nursing: Applied Pathology(2), Applied Pathology Lab.(1)
4. School of MT: Pathology(2), Tissue and Histopathologic techniques(2)

Graduated Programs

The goal for graduate students is to train professional pathologists and research scientists in pathology.

1. Masters degree: Requires a thesis in addition to a minimum of 24 credits of course work. The minimal and maximal time of study is 2 to 4 academic years. Seminar in pathology(1), Molecular Pathology Seminar(1), Cell biology(3), Molecular biology(4), Experimental pathology(2), General Pathology(4) (Elective for Group A), General Pathology experiment(2) (Elective for Group A).
2. Ph.D. degree: Requires at least 18 credits of course work in addition to a dissertation. The minimal and maximal time of study is 3 to 7 academic years. Seminar in pathology (4), Molecular Pathology Seminar(4), Cell biology(3) (If already took in MS program, take other course instead), Molecular biology(4) (If already took in MS program, take other course instead), Experimental pathology(2) (If already took in MS program, take other course instead), Pathology(6) (Elective for Group A), Pathology experiment(2)(Elective for Group A)

ACADEMIC ACTIVITIES

1. Seminar in pathology, molecular pathology seminar carried out weekly.
2. Subspecial clinical pathology conference, clinical pathology conference (CPC), surgical pathology conference (SPC) carried out weekly.
3. Special lectures performed at irregular intervals.
4. Pathology annual meeting and IP slide discussion in Taiwan yearly.

CONTACT INFORMATION

Established in: 1945

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4-2-3 GRADUATE INSTITUTE OF PHARMACOLOGY



INTRODUCTION

The Graduate Institute of Pharmacology was officially established in 1962. During the early period, most of the colleagues were devoted to snake venom research under the leadership of Drs. Lee, C.Y., Ouyang, C., and Chang, C.C., thereby establishing a concrete academic foundation in the field of international snake venom research. Currently, we have twelve faculty members. Our major research fields include the following:

1. Cardiovascular system: (1) Utilizing conventional organ and electrophysiological and molecular cloning techniques in exploring the etiology of cardiac diseases and mechanism of action of drugs at a molecular level in order to find potential candidates for ischemic heart disease, heart failure and cardiac arrhythmia. (2) Systemic study of the mechanism of actions of the anti-thrombotic agents, especially antiplatelet ones. (3) Drug discovery in the field of anti-angiogenesis, and anti-tumor agents by investigating their effects on the proliferation and differentiation of vascular endothelial cells, smooth muscle and tumor cells. Most of the above-mentioned studies are performed with natural products, synthetic compounds, and snake venom polypeptides.
2. Nervous system: (1) Neuron degeneration diseases, including stroke, epilepsy, Parkinsonism, Alzheimer's disease, pain sensation, neuron plasticity, and ionic channels are actively explored by establishing the cell

cultures of central neurons, electrophysiological recordings of brain slices, cloning of ionic channels, and in vivo models for the study of animal behaviors, motor activity, and memory, aiming to find out the potential candidates for treatment of central disorders. (2) Mode of action of centrally-acting drugs on snail central neurons.

3. Signal transduction in inflammatory and immunological cells.
4. Inflammation and Cancer.
5. Stem Cells and drug screening
6. Ca^{2+} signaling in cell survival and apoptosis, toxicology of heavy metals, and the modulation of neuromuscular transmission of skeletal muscles.

Although each investigator has individual interest and specialty, we are open-minded and actively seeking the opportunity to cooperate with other researchers so as to synergistically achieve the integrated breakthrough in the future. Graduate students are required to attend many inspiring seminars of special topics twice a week. Experimental pharmacology is designed for the special introduction of the ideas and concepts and the basic experimental skills developed by our laboratories. An innovative thesis is the most critical task for graduation. Through intense training, graduate students are expected to be capable of continuing their career either as an independent-thinking, problem-solving, creative researcher or practitioner of pharmacological sciences.

FACULTY

Full-time: 10

Part-time: 1

Ph.D.: 10

Section head/ Professor

T.F. Huang Ph.D., NTU

Full-Time

Professor

C. M. Teng Ph.D., NTU

M. J. Su Ph.D., NTU

W. M. Fu Ph.D., NTU

C. C. Chen Ph.D., NTU

W. W. Lin Ph.D., NTU

L. C. Chiou Ph.D., NTU

H. H. Liou M.D., Ph.D., NTU

Assistant Professor

T. Y. Lin Ph.D., NTU

S.J. Tzeng M.D., Ph.D., University of
Northwestern

Emeritus Professor

C. C. Chang Ph.D., University of Tokyo

S. Y. Shiau Ph.D., University of
Wisconsin

M.C. Tsai Ph.D., NTU

Part-Time

L. P. Lai M.D., Ph.D., NTU

FACILITIES

Building

11th Floor, Basic Medical Research Building,
College of Medicine, NTU.

Literature

Library of College of Medicine, NTU.

Equipment

General Lab. Centrifuge, Oscilloscope, S88 stimulator, Covering Tape Recorder, Absorbance Monitor Recorder, Swinging Bucket Delivery System, Differential Dual Electrometer, Coag-A-Mate, Lumi-Aggregometer, HPLC, FPLC, Single Electrode System Spectrophotometer, Hemalaser 2 Cell Counter, Coulter Counter, Polygraph, Patch Clamp Setup.

COURSES

Undergraduate Program

1. Medical, dental and pharmacy student:
Pharmacology(4), Pharmacological Experiment(2)
2. Nursing and public health student:
Pharmacology(3), Pharmacological Experiment (1)

Graduate Program

General Pharmacology(4), Experimental Pharmacology(6), Special Topics in Pharmacology (6), Seminar in Pharmacology(2)

ACADEMIC ACTIVITIES

1. Weekly seminars are presented by graduate students.
2. Progress reports of the Ph.D. candidates are held annually.
3. Special lectures by the invited speakers selected from foreign scholars and local excellent researchers.
4. Joint conferences of the biomedical sciences are organized every spring by seven societies of basic medical research.

CONTACT INFORMATION

Section head: Tur-Fu Huang

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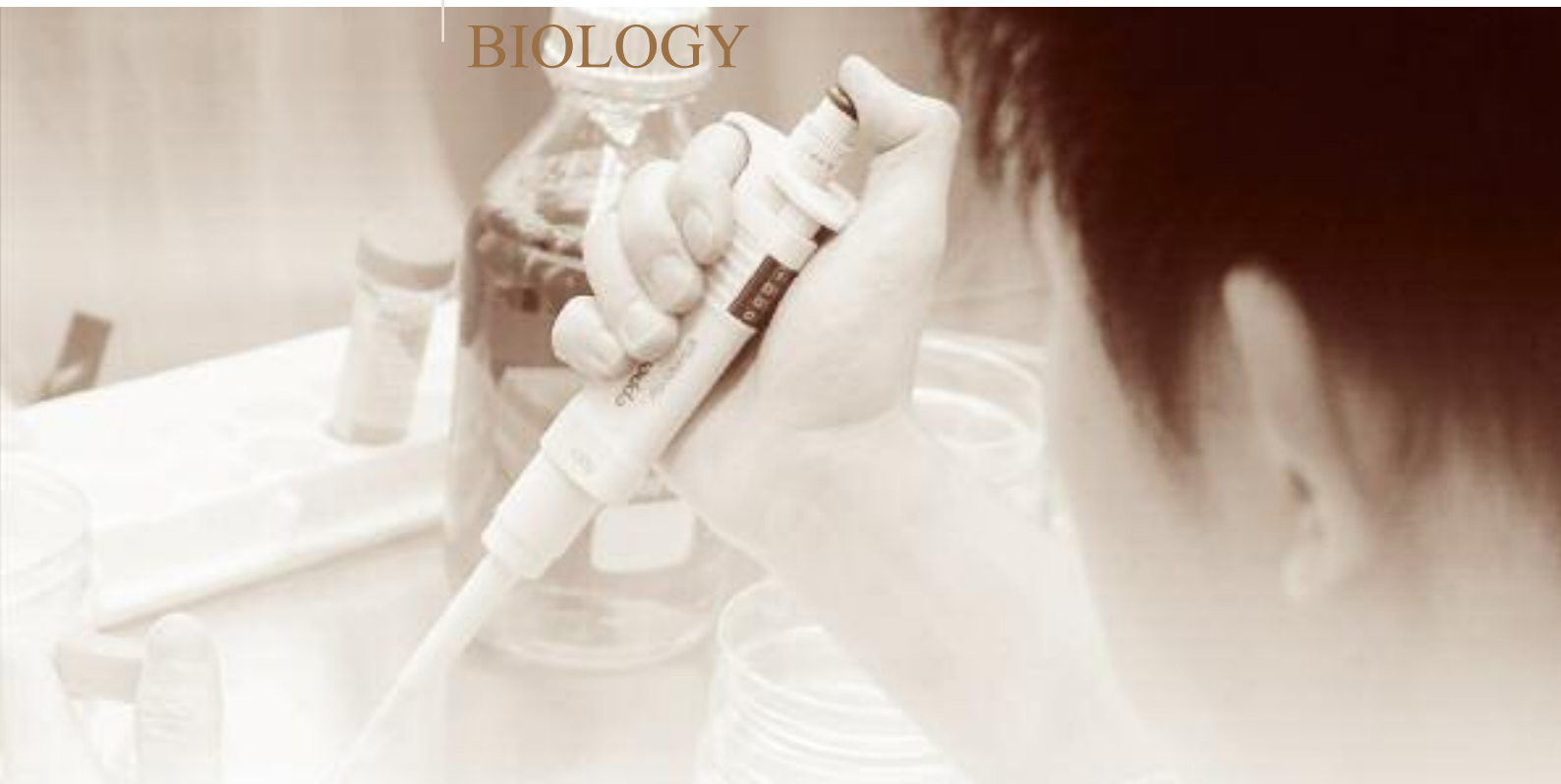
Website:

<http://www.mc.ntu.edu.tw/department/pharmacology/template/template-1.htm>

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GRADUATE INSTITUTE OF BIO- 4-2-4 CHEMISTRY AND MOLECULAR BIOLOGY



INTRODUCTION

Since mid- 2001, the name Graduate Institute of Biochemistry has been Graduate Institute of Biochemistry and Molecular Biology so as to describe the research conducted in this Institute precisely.

The state-of-the art techniques for proteomics (2DE, MALDI-TOF and LC-MS MS) and genomics (full-length cDNA libraries, cDNA microarray, and SNP) have been developed in this Institute. The core facilities for these techniques were initially funded by the Program for Promoting Academic Excellence-New Era of Biotechnology at NTU and National Research Center for Genomic Medicine. In addition, two

sub-programs for the Biotechnology Education Center, supported by the Ministry of Education, are now housed in this Institute. This 4-year project, starting in the year 2006, aims at the revolution of university environment via strategies alliances of academic-industry cooperation on biotechnology education.

In order to promote our research level, the Program for Promoting Academic Excellence of Universities (PPAEU) is also founded by our government. The main areas of research in this Institute include structural biology, and the molecular mechanisms of cell growth and human diseases as well. Development of novel approaches for preventing or controlling diseases, especially, cancers is the major mission.

FACULTY

Full-time: 11

Part-time: 8

Section head/ Professor

Lu-Ping Chow Ph.D., Science University of Tokyo

Professor

Ming-Fu Chang Ph.D., University of Southern California

Zee-Fen Chang Ph.D., Rutgers University

Fu-Hsiung Chang Ph.D., University of California, San Francisco

Associate Professor

Shao-Chun Lu Ph.D., Cornell University

Nei-Li Chan Ph.D., The University of Iowa

Assistant Professor

Wei-Hsuan Yu Ph.D., University of Miami

Ming-Shyue Lee Ph.D., University of Nebraska

Emeritus Professor

Kuo-Huang Lin MD, Ph.D., Kyushu University

Po-Chao Huang MD, Ph.D., Jikei University

Jun-Yaw Lin Ph.D., University of California, Berkeley

Jen Kun Lin Ph.D., University of Wisconsin

Ta-Hsiu Liao Ph.D., University of California, Los Angeles

Lecturer

Huey-Chung Huang
M.S., NTU

FACILITIES

There are many biochemical journals, textbooks, monographs and reference books in our Institutional library. Well-equipped facilities include lyophilizer, IR spectrophotometer, carbohydrate analyzer, peptide synthesizer, FACS, protein sequencer, capillary electrophoresis, DNA sequencer, amino acid analyzer, time-of-flight mass spectrometer, microinjection system, atomic absorption spectrophotometer, HPLC, ultracentrifuge, FPLC, UV/Visible spectrophotometer, pulse field electrophoresis, chemiluminescence detector, spectrophotometer, SNP, microarray, and laser capture dissection. This equipment is located in the common facility rooms and laboratories.

COURSES

The department offers biochemistry and related courses for undergraduate and graduate students of medical professions on this medical science campus. The institute offers the program of study leading to a Master or a Ph.D. degree in biochemistry as well as the program for Genomics and Proteomics in which students can obtain a certificate after completion of at least 20 credits.

M.S. Degree

Thesis (M.S.)-Special Research(6), Biochemistry(4), Introduction to Instrumental Analysis(2), Molecular Biology(4), Enzymology(2), Seminar in Biochemistry (four semesters)(1)

Ph.D. Degree

Dissertation(12), Advanced Biochemistry(4), Introduction to Instrumental Analysis(2), Molecular Biology(4), Enzymology(2), Seminar in Biochemistry and Molecular Biology (six semesters)(2), Seminar in Medical Research(2)

Requisite Subject for Genomics and Proteomics Medicine

Genomic Medicine(2)

ACADEMIC ACTIVITIES

This institute (department) produces more than 20 scientific papers per year published in journals of the biochemistry-related fields. An average of 5-6 renowned scholars per year are invited to this institute to give seminars of advanced subjects. This institute normally hosts several symposia including the joint annual conference of biochemical sciences per year. We also organize the East Asia Joint Symposia in Biomedical Research every 6 years. The institute also offers summer biotechnology courses for people from all over the country.

CONTACT INFORMATION

Established in: 1963

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4-2-5 GRADUATE INSTITUTE OF MICROBIOLOGY



INTRODUCTION

The Department was established in 1947. It teaches medical microbiology for medical students with emphasis on microbiology pathogenesis and interaction with hosts. The Graduate Institute of Microbiology was established in 1965. It offers Master and Ph.D. degrees for studies dealing with pathogenesis of bacteria, viruses and fungi. Areas of current research emphasize on microbial genomics, microbial pathogenesis, microbe-host interactions, host immune response, vaccine development, viruses and tumors. The Institute also teaches advanced medical microbiology, including bacteriology, virology and mycology.

FACULTY

Ph.D. Degree: 17

Emeritus Professor: 1

Professors: 8

Associate Professors: 4

Part-time Professors: 4

Teaching Assistants: 3

Section head/ Professor

Show-Li Chen	Ph.D., Immunology & Infectious Disease, The Johns Hopkins University
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Emeritus Professor

Czau-Siung Yang M.D., D.M. Sc., Medical Science, Taihoku Imperial University Faculty of Medicine, Matsumoto Medical School

Full-Time**Professor**

Jin-Town Wang M.D., Ph.D., Clinical Medicine, NTU

Pei-Jer Chen M.D., Ph.D., Pathology, NTU, Pennsylvania University

Ching-Hwa Tsai Ph.D., Medical Microbiology & Immunology, Ohio State University

Jean-San Chia D.D.S., Ph.D., Microbiology, NTU

Won-Bo Wang Ph.D., Biological Sciences, Purdue University

Wei-Kung Wang M.D., D.Sc, Cancer Biology, NTU, Harvard University

Mei-Ru Chen Ph.D., Microbiology, NTU

Shu-Chun Teng Ph.D., Biochemistry, Rutgers University

Associate Professor

Tsuey-Ying Hsu Ph.D., Veterinary Microbiology, Immunology and Parasitology, Texas A&M University

Shin Chang Ph.D., Biochemistry, University of Southern California School of Medicine

Shin-Lian Doong Ph.D., Human Oncology, University of Wisconsin-Madison

Shiou-Hwei Yeh Ph.D., Molecular Medicine, NTU

Tsai-Kun Li Ph.D., Pharmacology, Rutgers University & University of Medicine and Dentistry of New Jersey

Part-Time**Professor**

Lih-Hwa Hwang Ph.D., Molecular Biology, Princeton University

Jen-Yang Chen Ph.D., Medical Microbiology, London School of Hygiene and Tropical Medicine

Associate Professor

Chien-Ts Chu Ph.D., Virology and Epidemiology, Bagler College of Medicine

Assistant Professor

Hung-Yi Wang Ph.D., National Taiwan Normal University.

Tzu-Lung Lin Ph.D., Graduate Institute of Microbiology, National Taiwan University College of Medicine

FACILITIES

1. Building: 7th Floor, Basic Research Medical Building, College of Medicine, NTU
2. Literature: Library of College of Medicine, NTU
3. Instruments: Centrifuges, Ultracentrifuges, Electrophoresis Apparatus, Laminar Flow, Microscopes, FACScan, Culturing Systems for Bacteria and Mammalian Cells, etc.

COURSES

Undergraduate Programs

This program aims to provide basic knowledge of microbiology and molecular biology for medical, dental, medical technology, pharmacy, nursing and public health students.

1. Medical Students: Lecture and Laboratory work(6)
2. Dental Students: Lecture and Laboratory work (6)
3. Medical Technology Students: Lecture(4) and Laboratory work(2)
4. Pharmacy Students and Public Health Students: Lecture(2) and Laboratory work(1)
5. Nursing: Lecture(2) and Laboratory work(2)

M.S. Degree

Introduction to Microbiology(2), Advanced Microbiology(2), Seminar in Microbiology(8), Molecular Biology(4), Microbial genomics(2),

Ph.D. Degree

Molecular Biology(4), Methods in Microbiology and Immunology(2), Seminar in Advanced Microbiology(8), Seminar in Parasitology(4), Microbial genomics (2), Introduction to Microbiology (2)

ACADEMIC ACTIVITIES

1. Weekly seminars are presented by graduate students.
2. Special lectures, symposia and workshops are held whenever lecturers are available.

CONTACT INFORMATION

Section head: Show-Li Chen

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PARASITOLOGY AND DIVISION OF PARASITOLOGY OF GRADUATE INSTITUTE OF MICROBIOLOGY



INTRODUCTION

The Department of Parasitology was established in the Medical School of Formosa era. At the beginning it belonged to The 2nd Division of Pathology, then was changed into the Dept. of Parasitology in 1936, the year Medical School was founded in Taihoku Imperial University. Since 1945, Department of Parasitology, College of Medicine, National Taiwan University has been in use until now.

The Division of Parasitology was founded in 1965 under the Institute of Microbiology. At first only an M.S. program was established; in 1986 the Ph.D. program was established. To date, we have had 68 M.S. and 4 Ph.D. graduates. Many of the M.S. graduates continued further studies

and are working in academic or research Institutes in Taiwan and abroad.

The graduate program of the Department of Parasitology is currently a division under the Graduate Institute of Microbiology. If the proposal to establish an independent Institute of Parasitology is approved, we could recruit more teaching staff. Several qualified teaching staff with respective specialties and good research experience will be appointed. The subjects of Molecular Parasitology, Parasite Immunology, together with Medical Malacology and Medical Entomology, will be emphasized. The educational programs of the new Graduate Institute of Parasitology will broaden the teaching curriculum and provide better research facilities for research scientists.

FACULTY

Full-time: 5

Part-time: 2

Ph.D.: 6

M.S.: 1

Section head/ Professor

Jin-Town Wang M.D., Ph.D., Graduate
Institute of Clinical Medicine,
College of Medicine, NTU

Full-Time

Associate Professor

Kua-Eyre Su Ph.D., University of
Massachusetts, USA

Shiou-Jeng Ong Ph.D., Imperial College,
University of London

Chin-Hung Sun Ph.D., National Defense
Medical Center

Assistant Professor

Shin-Hong Shiao Ph.D., University of Louis
Pasteur, France

Part-Time

Professor

Jung-Hsiang Tai Ph.D., Michigan State
University, USA

Assistant Professor

Chien-Ching Hung M.D., College of Medicine,
NTU

FACILITIES

Besides the collection of publications, the departmental library contains the Yokogawa Library, which has over 10,000 papers collected by the late Professor Sadamu Yokogawa (the founder of the Department of Parasitology).

Specimens of parasites and related materials are exhibited in 3 cabinets in the main hall of the department. Major equipment includes pH meter, spectrophotometer, CO₂ incubator, enzyme-immunoassay system, fluorescent microscope, fluorometer, phase contrast microscope, lyophilizer, sonicator, ultracentrifuge, electrophoresis apparatus, gel drier, and Polaroid MP4 land camera with UV transilluminator.

COURSES

Undergraduate Programs

Parasitology (A) & Laboratory Work for the 2nd year students in Medicine, Parasitology (B) & Laboratory Work for the 2nd year students in Public Health, Nursing and Pharmacy, and Parasitology (C) & Laboratory Work for the 2nd year students in Medical Technology.

Graduate Programs

The aim of Division of Parasitology is to provide research facilities and a scholarly environment for training basic and clinical medical scientists who are interested in Medical Parasitology.

The time period for completing an M.S. degree ranges from 2 to 4 years. Students matriculating from the master's degree must take 6 semester hours for the thesis and a total of 24 semester hours of course work including: Seminar(4), Human Parasitology(3), Molecular Biology(4), Introduction to Microbiology(2), Introduction to Immunology(3).

The time period for completing a Ph.D. degree ranges from 2 to 6 years. Ph.D. students must register for 12 semester hours for the Dissertation and a total of 18 semester hours of course work. The required parasitology courses include Seminar(4), Human Parasitology(3), Molecular Biology(4), Methods in Microbiology

and Immunology(2) and other optional courses approved by the advisor and the head of the department. An oral examination of the Ph.D. candidate will be conducted when the Ph.D. thesis has been completed.

ACADEMIC ACTIVITIES

Occasional academic activities and continued education programs are held jointly with the Taiwan Society of Parasitology.

The 10th Asian-Pacific Congress for Parasitic Zoonoses has been held at the college of Medicine, National Taiwan University from August 30 to 31, 2008. The Congress was hosted by the Department of Parasitology. More than 180 scholars from Japan, Korea and U.S.A were participated to this Congress.

CONTACT INFORMATION

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4-2-7 GRADUATE INSTITUTE OF ANATOMY AND CELL BIOLOGY



INTRODUCTION

The Department of Anatomy and Cell Biology is responsible for teaching gross anatomy, histology, embryology, and neuroanatomy courses for medical and dental students. Comprehensive anatomy and histology courses are also provided for the students of health sciences. Graduate programs were set up in 1969 and 1986, offering training courses leading to M.S. and Ph.D. degrees respectively, in anatomy and cell biology. Our graduate institute stresses the scientific education of graduate students and aims to provide them with broad experience in cell biology and neuroscience as a prelude to being basic medical educators as well as productive research scientists. The teaching staff includes 11 full-

time and 6 part-time faculty members; all are academy competent in various areas. Recruiting promising young cell biologists and neuroscientists to join our faculty team is one of our goals for the renaissance of our department.

The graduate courses encompass advanced technologies in neurobiology, cellular and molecular biology. Facilities for teaching and research are constantly being upgraded. The Department of Anatomy and Cell Biology follows a multidisciplinary direction and will continue to raise the level of research standards to match contemporary trends in biomedical sciences and needs in Taiwan.

The Department follows a multi-disciplinary course. Fields represented include: Morphology, Neurobiology, Cell Biology and Molecular Biology. Current research interests are as follows: 1. Muscle cell biology, cell biochemistry; 2. Morphology researches of cardiovascular diseases and pathological mechanism of atherosclerosis and restenosis; 3. The cell biology of the autonomic nervous system and taste bud; 4. Cancer cell biology; 5. The cell biology of cell adhesion molecules; 6. The molecular and cell biology of nerve regeneration and neurotransmitter receptors; 7. The neurobiology of CNS and PNS injury; 8. Neuronal cytoskeletons: molecular and cellular studies and transgenic approach; 9. Mechanism of neuropathic pain and plasticity; 10. Neurobiology of peripheral nerve disorders: molecular genetics, pathology and mechanism.

FACULTY

Full-Time: 11

Part-time: 6

Ph.D. Degree: 17

Section head/ Professor

Kuo-Shyan Lu Ph.D., University of Wales
U.K.

Emeritus Professor

Chin-Chuan Yu M.D., Taihoku Imperial
University

Hsi-Kuei Tsai DMS, Kyushu University of
Japan

Huai-San Lin DMS, Kyushu University of
Japan

Chen-Yuan Wen Ph.D., National University of
Singapore

Jeng-Yung Shieh Ph.D., National University of
Singapore

Full-Time

Professor

Seu-Mei Wang Ph.D., University of
Wisconsin-Madison

Hsiang-Shu Yin Ph.D., University of
Pennsylvania

Sung-Tsang Hsieh Ph.D., Johns Hopkins
University; M.D. NTU.

Yuh-Lien Chen Ph.D., NTU

Chung-Liang Chien
Ph.D., Columbia University

Associate Professor

June-Horng Lue Ph.D., NTU

Jiahn-Chun Wu Ph.D., Ohio State University

Min-Chuan Huang Ph.D., Westfälische
Wilhelms-Universität
Münster, Germany.

Assistant Professor

Li-Jen Lee Ph.D., Louisiana State
University

I-Rue Lai M.D., Ph.D., NTU

Hsiung-Fei Chien M.D., Ph.D., NTU

Part-Time

professor

Guo-Fang Tseng Ph.D., University of
Wisconsin -Madison

FACILITIES

Facilities are provided for researches in the fields of histology, neurobiology, cell biology and molecular biology. Major equipment includes light microscopes, transmission and scanning electron microscopes, laser scanning confocal microscope, ultramicrotomes, cryostats, ultracentrifuges, and cryoultramicrotome system. In addition, tissue culture labs and an image analysis system, are available for cell biology

research. Teachings on gross anatomy, histology, neuroanatomy and embryology are supported by excellent teaching films, models, specimens and slides.

COURSES

The Department of Anatomy and Cell Biology is one of the teaching units at the College of Medicine responsible for presenting gross anatomy, histology, embryology and neuroanatomy to medical and dental students. Comprehensive anatomy and histology are also provided for the students of health sciences. The Graduate Institute of Anatomy and Cell Biology offers training programs leading to M.S. or Ph.D. degree in anatomy. The graduate courses encompass advanced technologies in neuroanatomy, cell biology, and molecular biology. A thesis and minimum of 24 credits are required for M.S.; a dissertation and 18 credits are minimal requirements for granting the Ph.D. degree. Most graduates participate in research and teaching.

Undergraduate Programs

Gross Anatomy(7), Anatomy(3), Histology & Lab.(4), Embryology(2), Neuroanatomy (2)

Graduate Programs

Ph.D. Dissertation(12), Master Thesis(6), Seminar(4), Human Anatomy(7), Microscopic Anatomy(4), Human Embryology(2), Neuroanatomy(2), Teaching Methods in Anatomy(2), Research Methods in Histology(2), Biological Electron Microscopy(4), Experimental Neuroanatomy(2), Ultrastructure of Cell and Tissue (2), Introduction to Cell Biology(2), Immunocytochemical Techniques(2)

ACADEMIC ACTIVITIES

The department is active in inviting distinguished speakers from related research fields and

sponsoring various workshops.

CONTACT INFORMATION

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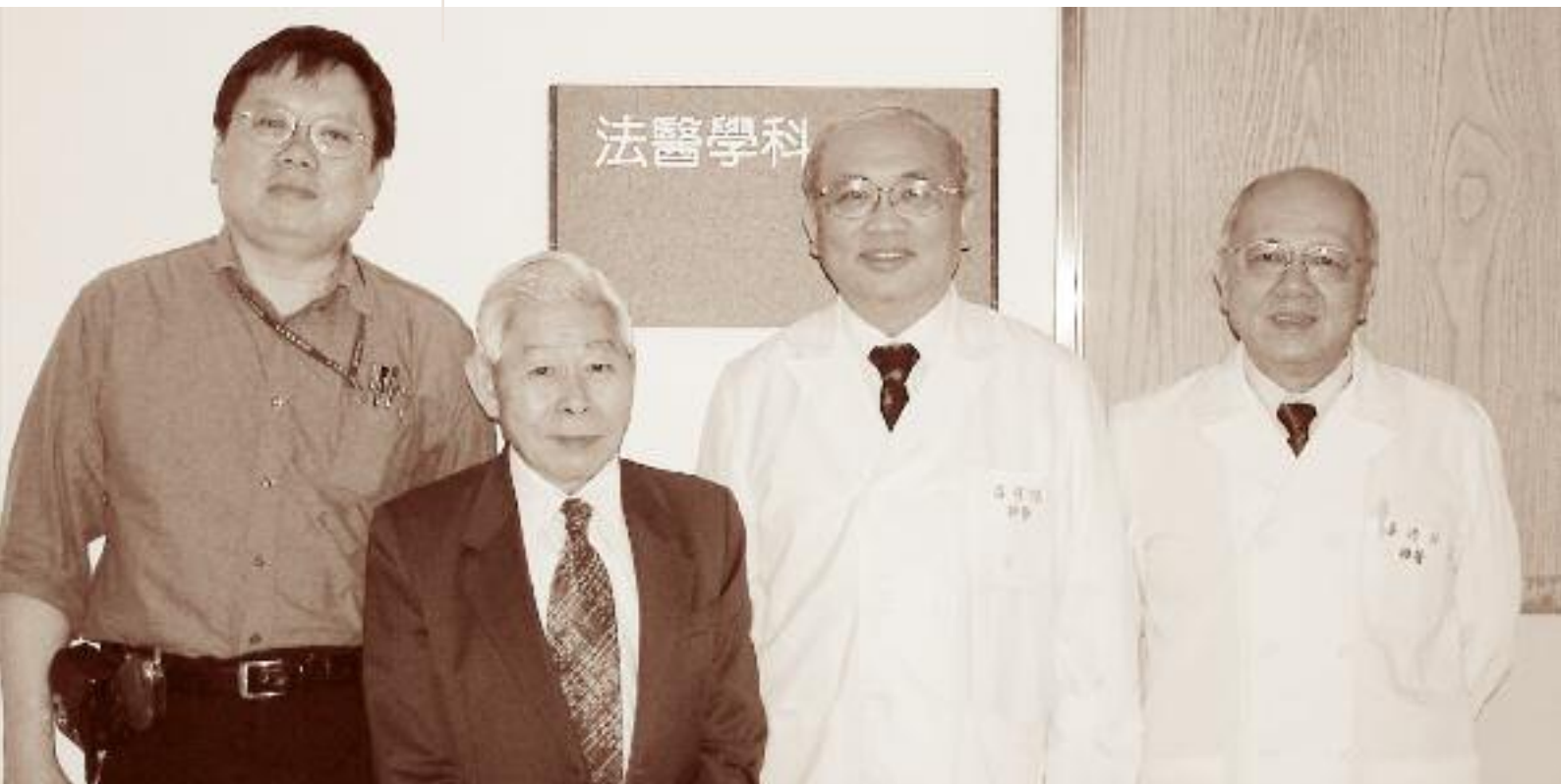
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4-2-8

GRADUATE INSTITUTE OF FORENSIC MEDICINE



INTRODUCTION

The first institution of forensic medicine in Taiwan was the Classroom of Forensic Medicine of Taihoku (Taipei) Imperial University in 1936. After Taiwan's restoration from Japanese occupation, the NTU College of Medicine set up the Department of Forensic Medicine in 1945, but the Department was closed in 1960. After a period of 24 years, the Department of Forensic Medicine was restored in 1984.

The main objectives of the Department of Forensic Medicine are: teaching forensic medicine and providing technical consultation for the Ministry of Justice. The Graduate Institute of Forensic Medicine was set up in 2004, and the

clinical Department of Forensic Medicine under NTU Hospital is anticipated to be established to provide forensic medical services, including clinical identification. In addition, the Institute is promoting legislation for a "Forensic Physician Law" in order to establish a license system for this profession. Our major research now is focused on Forensic Pathology, Forensic Toxicology and Forensic Molecular Biology.

FACULTY

Full-time: 6

Part-time: 7

Ph.D. Degree: 9

M.S. Degree: 2

Section head/ Professor

Yao-Chang Chen M.D., Hematology
Fellowship, Rush Presby-ter-
ian, St. Luke's Medical
Center, Chicago, USA

Emeritus Professor

Tsung-Li Kuo Ph.D., Okayama University
Medical School

Full-Time

Professor

James Chun-I Lee Ph.D., Forensic Science,
University of Strathclyde

Associate Professor

Chia-Tung Shun Ph.D., NTU College of
Medicine

Assistant Professor

Hsiao-Lin Hwa Ph.D., Graduate Institute of
Preventive Medicine, N.T.U.

Te-I Weng Ph.D., Institute of Toxicology,
college of Medicine, NTU

Instructor

Mu-Zon Wu M.Sc., NTU College of
Medicine

Part-Time

John M. Fong Ph.D., Osaka Medical School,
Japan

Sih-En Shih B.Sc., Chung-Yang Univer-
sity, Nanking, China

Marie Lin M.Sc., NTU College of
Medicine

Dong-Liang Lin Ph.D., Taipei Medical
University

Chiao-Chicy Chen Ph.D., Okayama University
Medical School, Japan

Kai-Ping Shaw Ph.D., University of
Maryland, U.S.A.

FACILITIES

The practice, teaching, service and research labo-
ratories of the department include forensic
pathology, forensic toxicology and forensic
serology. They have modern equipment and
instruments for forensic medicine.

The main instruments for these purposes are
microscope, UV-VIS spectrophotometer, atomic
absorption spectrophotometer, GC/MS, gas chro-
matography, high performance liquid chromatog-
raphy, electrophoresis, ion analyzer, high per-
formance thin-layer chromatography, PCR
machine, centrifuger, vaccum rotary evaporator,
homogenizer, microelectric balance, pH meter,
and computer equipments etc.

COURSES

Forensic medicine is one of the major courses for
the students of medical and dental and law
schools. The emphasis and objectives of the
course are to train students to conduct basic and
clinical science on the medicolegal investigation
of injury or death.

Undergraduate Course

Forensic Medicine, Medical Students (M6)(1),
Forensic Dentistry, Dental Students (D5)(1),
Practice in Forensic Medicine (M6,D5)(1), Basic
Forensic Medicine, Law School(2), Practical
Forensic Medicine, Law School(2), Introduction
to Forensic Science(2)

Graduate Course (Master Degree)

Forensic Pathology, Forensic Toxicology,
Forensic Serology, Forensic Odontology,
Forensic Molecular Biology, Forensic Psychiatry,

Forensic External Inspection and Autopsy,
Clinical Forensic Medicine, Seminar of Forensic
Medicine, Medicine and Law, etc.

ACADEMIC ACTIVITIES

1. Academic meeting of forensic medicine
twice one month.
2. Annual training of criminal investigators.
3. Annual training of forensic investigators
and medical examiners.
4. Training course of management of non-fatal
sexual assault victims.

CONTACT INFORMATION

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4-2-9 SOCIAL MEDICINE



INTRODUCTION

The Department of Social Medicine was established in 1994 to take the place of the Department of Public Health that was reorganized as the College of Public Health. The missions of this department are to: 1. cultivate physicians in the context of medical, social, humanities and related fields; 2. implement teaching and research in the field of medical informatics; and 3. participate in medical education reform and research projects. The department received its formal name in accordance with its missions in August 1994. In view that medical informatics proliferated at a rapid speed that required devoted personnel, an independent division of medical informatics was established

under the school of medicine, and our department discontinued our service in that field.

Our department applies the principles, concepts and humane knowledge of sociology and behavior to the fields of health and medical science. The development of teaching, service and research are in three domains: 1. Medical humanities, 2. Geriatrics and elderly care, and 3. Health maintenance and medical care system. The main goals are to: 1. establish medicine, sociology and humanities courses to cultivate medical students with patient-centered and holistic care capabilities; 2. develop medical education strategies in accordance with world trends and social needs and with better quality and efficacy; 3. develop advanced medical ethics teaching and research programs to improve the prac-

tice of clinical medical ethics; 4. and promote teaching, research and development of integrated health care system, community long term care system, elderly and terminally ill care systems, and cultivate physicians with social responsibility to provide individual- based, community-oriented health care.

FACULTY

Full-time: 11

Part-time: 2

Ph.D. Degree: 7

M.S. Degree: 1

Section head/ Professor

Tien-Shang Huang M.D., College of Medicine,
NTU

Full-Time

Professor

Ming-Been Lee M.D., College of Medicine,
NTU

Tsung-Fu Chen J.S.D., New York University
U.S.A.

Associate Professor

Bee-Horng Lue M.D., College of Medicine,
NTU

Tai-Yuan Chiu M.D., Chinese Medical
College, M.S., University of
Tokyo

Fu-Chang Tsai M.D., College of Medicine,
NTU, Ph.D., University of
Manchester, U.K.

Chia-Ling Wu Ph.D., University of Illinois at
Champaign

Assistant Professor

Ming-Jung Ho M.D., University
Pennsylvania
Ph.D., University of Oxford

Lecturer

Wei-Dean Wang M.D., Taipei Medical College
Ph.D., National Taiwan
Normal University

Chien-Chang Wu M.D., College of Medicine,
NTU
Ph.D., Harvard University

Yen-Yuan Chen Ph.D., Case Western Reserve
University

Part-Time

Assistant Professor

Meei-Ying Kao Ph.D., Iowa State University

Lecturer

Hui Tong Wu M.D., College of Medicine,
NTU

FACILITIES

For teaching, research and administration, the department updates its hardware and software facilities. Our basic hardware includes: desktop computers, color printers, laser printers, laptop computers, digital cameras, digital video recorders, a color scanner, a slide marker, a copier and a LCD projector. The software includes medicine and medical humanities related books, journals, videotapes, and computer software for Medical statistics, database management, word processing, multimedia production and medical software development.

COURSES

The courses offered by the department are related to medical humanities, medical ethics, and psychosocial and behavioral aspects of medicine. These courses include:

Introduction of Medicine(2), Physician and Humanity(2), Physician and Society(2), Family, Society and Medicine(6), Life and Death(1), Clinical Ethics and Law(2), Disease, Illness and Society(3), Medicine and Culture(2), Psychiatry, Law and Society(2), Global Health : Sociocultural Determinants(2), Health Care Law and Policy(2), Public Health Ethics(1), Seminar : Psychiatry and the Law(2).

The development of Problem-based learning, student-centered active learning and authentic assessment has been a noted achievement of our department and are highly appreciated. Teaching and evaluation strategies have been created accordingly. Students are required to learn to identify and define problems by skillful observation, then to solve problems through both individual and team work. It is crucial for them to learn how to participate and function in a group, to cooperate with fellow students, and to be creative and productive in the team.

ACADEMIC ACTIVITIES

The department has been active in researching medical education. We have performed research projects in the field of medical licensing examination, training in primary care medicine, career choice of medical students, new teaching strategies in basic clinical skill for medical student, bioethics methodology, genetic medicine ethics, stem cell and human embryo research ethics, genetic counseling ethics, clinical ethics committee, Chinese medical ethics, STS (Science, technology and society) education promotion project, and medical ethics in palliative care. These researches are sponsored by National Science Council, Department of Health, and Ministry of Education. There are also joint research programs with the department of Psychiatry and the department of medical Informatics in related

areas. The department has actively participated in the medical education reform program of NTUCM since 1992. Besides our devotion and achievements in the design and implementation of small group tutorial, course integration, teaching and assessment strategies reform, tutor training program, and setting up a medical humanities center on campus, we are also in charge of two annual conferences on medical education reform and training.

CONTACT INFORMATION

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4-2-10 PRIMARY CARE MEDICINE



INTRODUCTION

With the recent development of advanced diagnostic and therapeutic technologies in medicine and tremendous environmental changes in medical care, the traditional style of medical education has not adapted well worldwide. Medical educators have been focusing on the educational revolution of medicine for decades. Educational reform began to sweep the College of Medicine, National Taiwan University, in 1992 with new emphasis on tutorial courses and integrated programs. However, the clinical educational programs continued to have some defects because the clerks, medical school students in the 5th and 6th years, could not consolidate their learning activity in fundamental clinical skills, such as history taking and physical examination, but had

to spend more time on learning the high technology. During their internship, 7th year medical students were preoccupied by heavy routine tasks instead of taking care of their patients. After graduation, these young residents found they had received specialized medical training too early, which precluded their learning to handle patients with general problems. To improve this educational gap, Department of Primary Care Medicine was established in 2000. The task force includes designing, conducting, and evaluating the efficacy of the primary care training programs for medical students in their 5th, 6th year and postgraduate year 1 and 2. The medical students in this program are trained to care for the patients holistically, to solve their problems with fundamental clinical skills and knowledge,

and to treat the patients based on bio-psycho-social consideration with a better doctor-patient relationship.

FACULTY

Professor

Full-time: 4

Associate Professor

Full-time: 3

Assistant Professor

Full-time: 1

Section head/ Professor

Shan-Chwen Chang

M.D., Ph.D., Graduate
Institute of Clinical Medicine,
NTU

Full-Time

Professor

Hong-Yuan Hsu M.D., Ph.D., Graduate
Institute of Clinical Medicine,
NTU

Ming-Shiang Wu M.D., Ph.D., Graduate
Institute of Clinical Medicine,
NTU

Ming-Tsan Lin M.D., Ph.D., Tokyo
University, Tokyo, Japan.

Associate Professor

Tzong-Shinn Chu M.D., Ph.D., Graduate
Institute of Clinical Medicine,
NTU

Chau-Chung Wu M.D., Ph.D., Graduate,
Institute of Clinical Medicine,
NTU

Men-Luh Yen M.D., Ph.D., Graduate
Institute of Epidemiology,
NTU

Assistant Professor

Huey-Ling Chen M.D., Ph.D., Graduate
Institute of Clinical Medicine,
NTU

FACILITIES

Slide projector(16), TV monitor and video-recorder(10), X-ray film viewer(16), human anatomy model(4), overhead projector(3), audio-visual learning center(1), DVD player(1), Videos and VCDs for medical learning(4).

COURSES

The major teaching subjects of Department of Primary Care Medicine are "Two-step clinical learning program" and "Clinical practice of primary care medicine" for general medical students.

Two-step clinical learning

The first step is undergraduate training for medical students, which is conducted in the 5th and 6th year of medical school. In addition to clinical teaching, the program emphasizes the integrated training of fundamental clinical skills, including history taking, physical examination, logical thinking, and a good doctor-patient relationship. The undergraduate teaching programs include clinical diagnosis, clinical training for internal medicine, surgery, gynecology & obstetrics, and pediatrics, and clinical internship at primary care institutes.

The 2nd step is the postgraduate year (PGY) of training for the students who are enrolled in the clinical learning program. The students after graduation will be trained to be a competent resident with primary care ability. The trainee will be responsible for taking care of the patients under the supervision of senior residents and visiting staffs. The training programs will be subdi-

vided into three sub-groups: internal medicine, surgery and pediatrics. An integrated program of primary care medicine includes surgical and medical wards, outpatient clinics, community visit, operation practice, and consultation training. Students who have completed the 2-step clinical teaching program may enter a M.D.-Ph.D. program or a Master program of Public Health for physicians in the following years.

Family, society, and medicine course.

General education course.

ACADEMIC ACTIVITIES

1. Teaching conferences of primary care medicine. (Case conference for Primary Care Medicine; Journal Meeting; and Family, Society, and Medicine)
2. Clinical utility of evidence-based medicine.
3. Research on education of primary care medicine.

CONTACT INFORMATION

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4-2-11 INTERNAL MEDICINE



INTRODUCTION

Department of Internal Medicine was established long ago. Built in 1896, Taipei Hospital, presently named National Taiwan University Hospital, had a Unit of Internal Medicine from the start.

The Unit was divided into three during 1937 to 1939. The First Unit specialized in tropical medicine, infectious diseases, allergy, and cardiology & vascular system diseases. The Second Unit specialized in chest-internal medicine and pulmonary tuberculosis. The third Unit specialized in diseases of digestive organs.

The division became more detailed. Presently, based on different functions, the Unit is divided into Cardiology, Gastroenterology, Nephrology,

Chest, Endocrinology & Metabolism, Hematology & Oncology, Infectious Disease, and Rheumatology & Immunology. There is also a General Internal Medicine, a division not too specialized to capture the whole picture of a patient's disease complex.

Since there are so many staff, and so much teaching, serving, and research work to do, there is a chairman, two vice-chairman, and nine division directors, responsible for integration and communication between the sections.

Some of our courses are taught in large lecture halls, and some in small group rooms. We offer the course "Humanity" in the second year of medical study, "Anatomy & Physiology Group Discussion" in the third year, "Pathology Group

Discussion" and "Medical Problem Solving" in the fourth year, and "Cases Discussion" in the fifth year. Besides, we also instruct students in practical training in the sixth and seventh years. In the outpatient department, students can practice history taking and physical examination, and make diagnosis through the outpatient services.

Many of our specialized researches in the Internal Medicine Unit have reached international standards, such as on Viral Hepatitis, Hepatoma, Gastric Cancer, Lung Cancer, Diabetes Mellitus, Hypertension, and Atherosclerosis. Our medical researches on genes have achieved solid research results in recent years. With the support of the College of Medicine, the Department of Internal Medicine has established the Laboratory of Microarray Core Facility for Genomic Medicine. We have made progress in the research fields mentioned above, but there is still room for improvement in many other fields, such as Geriatrics, Sleep therapy, Community Medicine, and Preventive Medicine.

Presently the Department of Internal Medicine lacks space for doing research and integrating the fields. We plan on further integration, especially related studies in Genomic Medicine. We will establish the core technical platform of research, recruit doctors and post-doctoral researchers, provide the faculty with the necessary technical support for their researches, actively collaborate with the basic scientists and other research organizations nationally and internationally, increase productivity of research, thus upgrade our research quality to the preeminent world standard.

FACULTY

Section head/ Professor

Guan-Tarn Huang Ph.D. Institute of Clinical Medicine, NTU

Full-Time

Professor

Ding-Shinn Chen M.D. College of Medicine, National Taiwan University

Tien-Chun Chang Ph.D. Institute of Clinical Medicine, NTU

Pan-Chyr Yang Ph.D. Institute of Clinical Medicine, NTU

Jin-Chuan sheu Ph.D. Institute of Clinical Medicine, National Taiwan University

Tien-Shang Huang M.D. College of Medicine, National Taiwan University

Tun-Jen Tsai Ph.D. Institute of Clinical Medicine, National Taiwan University

Jaw-Town Lin Ph.D. Institute of Clinical Medicine, National Taiwan University

Hwei-Fang Tien Ph.D. Institute of Clinical Medicine, NTU

Lee-Ming Chuang Ph.D. Institute of Clinical Medicine, NTU

Ming-Fong Chen Ph.D. Institute of Clinical Medicine, NTU

chuen-Den Tseng Ph.D. Institute of Clinical Medicine, NTU

Pei-Ming Yang Ph.D. Institute of Clinical Medicine, NTU

ann-Lii Cheng Ph.D. Institute of Clinical Medicine, NTU

Shan-Chwen Chang Ph.D. Institute of Clinical Medicine, NTU

Jiunn-Lee Lin Ph.D. Institute of Clinical Medicine, NTU

Kwan-Dun wu Ph.D. Institute of Clinical Medicine, NTU

Jin-Jer Chen M.D. College of Medicine, National Taiwan University

Chong-Jen Yu Ph.D. Institute of Clinical Medicine, NTU

Juey-Jen Huang Ph.D. Institute of Clinical Medicine, NTU

Ling-Ping Lai Ph.D. Institute of Clinical Medicine, NTU

Associate Professor

Ching-Chung Chan Ph.D. Institute of Clinical Medicine, NTU

Zei-Shung Huang Ph.D. Institute of Clinical Medicine, NTU

Yee-Chung Chen Ph.D. Institute of Clinical Medicine, NTU

Chin-Hsiao Tseng Dr. of Philosophy, Graduate Institute of Public Health, College of Public Health, National Taiwan University

Hsui-Po Wang M.D. College of Medicine, National Taiwan University

Assistant Professor

Hsien-Li Kao M.D. College of Medicine, National Taiwan University

Lecture

Mao-Yang Chen M.D. College of Medicine, National Taiwan University

Clinical Teacher

Professor

Chi-Chung Lin M.D., Ph.D. Fukushima Medical University, Japan

Fang-Fu Chen Ph.D. Institute of Clinical Medicine, NTU

Associate Professor

Cha-Ze Lee Ph.D. Institute of Clinical Medicine, NTU

Chii-Ming Lee Ph.D. Institute of Clinical Medicine, NTU

Kuan-Yu Hung Ph.D. Institute of Clinical Medicine, NTU

Jih-Yuan Shih Ph.D. Institute of Clinical Medicine, NTU

Chien-Hung Chen Ph.D. Institute of Clinical Medicine, NTU

Yung-Ming Chen M.D., Taipei Medical College

Fen-Yu Tseng Ph.D. Graduate Institute of Preventive Medicine, College of Public Health, NTU

Hao-Chien Wang Ph.D. Institute of Clinical Medicine, NTU

Assistant Professor

Chung-Jen Yen M.D. College of Medicine, National Taiwan University

Jih-Luh Tang Ph.D. Institute of Clinical Medicine, National Taiwan University

Ming-Shiou Wu M.D. College of Medicine, National Taiwan University

Shuei-Liong Lin M.D. Taipei Medical College

Shu-Chen Wei Ph.D. Institute of Clinical Medicine, NTU

Jenq-Wen Hunag M.D. College of Medicine, NTU

Chiun Hsu M.D. College of Medicine, NTU

Sze-Ming Hsieh M.D. Taipei Medical College

Yi-Der Chiang M.D. College of Medicine, NTU

Shang-Yi Huang M.D. China Medical College

Lung-Chun Lin Ph.D. Institute of Clinical Medicine, NTU

Chih-Kang Chiang M.D., Medical College of Ching Shang Medical University

Kuan-Yu Chen	M.D. College of Medicine, NTU
Wan-Hui Sheng	M.D. Taipei Medical College
Chia-Ti Tsai	M.D. College of Medicine, NTU
Juan-Tai Wang	M.D. College of Medicine, NTU
Yen-Bin Liu	Ph.D. Institute of Clinical Medicine, NTU
Chien-Ching Hung	M.D. College of Medicine, NTU
Ming-Chu Chang	Ph.D. Institute of Clinical Medicine, NTU
Han-Mo Chiu	M.D., Taipei Medical College
Ta-Chen Su	Ph.D., Graduate Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, NTU
Yi-Chia Lee	M.D. College of Medicine, NTU
Yu-Ting Chang	M.S. Graduate Institute of Pathology, College of Medicine NTU
Jih-Shuin Jerng	Ph.D. Institute of Clinical Medicine, NTU
Jann-Yuan Wang	Ph.D. Institute of Clinical Medicine, NTU
Tze-Wah Kao	
Lecturer	
Woei Tsay	Ph.D. Institute of Clinical Medicine, NTU
Ping-Hung Kuo	M.D. College of Medicine, NTU
Jyh-Chin Yang	M.D. College of Medicine, NTU
Ming Yao	M.D. College of Medicine, NTU
Wei-Yu Liao	M.D. College of Medicine, NTU

Tien-Junn Chang	Ph.D. Institute of Clinical Medicine, NTU
Wen-	M.D. Taipei Medical College
Pei-Ling Lee	M.D. China Medical College
Chun-Ling Wang	M.D. College of Medicine, NTU
Chien-Yuan Chen	M.D., Taipei Medical College

Part-Time

Emeritus Professor

Wan-Yu Chen	Dr. of Medical Science, Kumamoto Medical School
Juei-Low Sung	MD, Kyushu University (Japan)
Sze-Piao Yang	Dr. of Medical Science, Niigata University (Japan)
Cheng-Yen Chen	Dr. of Medical Science, Osaka City Medical School(Japan)
The-Hong Wang	Ph.D.(Medical Science) Tokyo Medical College, Tokyo
Wei-Chuan Hsieh	Dr. of Medical Science, Osaka City Medical School(Japan)
Ti-Kai Lee	Dr. of Medical Science, Kagoshima Medical College
Wen-Pin Lien	Dr. of Medical Science, Osaka City Medical School
Por-Jau Huang	M.D. College of Medicine, National Taiwan University
Tong-Yuan Tai	Dr. of Medical Science, Niigata University
Cheng-Yi Wang	Ph.D. Tokyo Women Medical College
Yuan-Teh Lee	Ph.D.(Medical Science) Tokyo Medical College, Tokyo
Yung-Zu Tseng	M.D. College of Medicine, National Taiwan University

Chiau-Suong Liao M.D. College of Medicine,
National Taiwan University

Bor-shen Hsieh Ph.D.(Medical Science)
Tokyo Medical College,
Tokyo

Professor

Wen-Ping Tseng Dr. of Medical Science,
Osaka City Medical School

Yen-Yau Hsieh M.D. College of Medicine,
National Taiwan University

Tang Kent Tang Ph.D. Human Genetics,
Graduate School of Arts and
Sciences, Yale University

Associate Professor

Huey-Ming Lo M.D. College of Medicine,
National Taiwan University

Lien-Jui Mou M.D. College of Medicine,
NTU

Song-Chou Hsieh Ph.D. Institute of Clinical
Medicine, National Yang-
Ming University; School of
Medicine

Assistant Professor

Chih-Yuan Wang Ph.D. Graduate Institute of
Physiology, NUT

Tzung-Dau Wang Ph.D. Institute of Clinical
Medicine, NTU

Shih-Pei Huang Ph.D. Institute of Clinical
Medicine, NTU

Wen-Chun Yeh Ph.D., Department of
Electrical Engineering, NTU

Po-Yuan Chang Ph.D., Biomedical Graduate
Studies, University of
Pennsylvania

Lian-Yu Lin Ph.D. Institute of Clinical
Medicine, NTU

Sung-Hsin Kuo Ph.D. Institute of Clinical
Medicine, NTU

Ting-Cheng Chan Ph.D. Gerontology Longterm
Care, Johns Hopkins
Bloomberg School of Public
Health

chia-Lun Chao Ph.D. Institute of Clinical
Medicine, NTU

Yen-Shen Lu Ph.D. Institute of Clinical
Medicine, NTU

Hung-Yuan Li MPH, Graduate institute of
Clinical Medicine, NTU

Hsu-Ko Kuo MPH., Harvard School of
Public Health

Kwan-Lih Hsu Ph.D. Institute of Clinical
Medicine, NTU

Lecturer

Kung-Jen Wang Ph.D.(Medical Science)
Tokyo Medical College,
Tokyo

Su-Hui Lee M.D. College of Medicine,
National Taiwan University

Hung-Shun Lo M.D. College of Medicine,
National Taiwan University

Chih-Yu Hsu M.D. College of Medicine,
National Taiwan University

Gwon-Loon Lee M.D. College of Medicine,
National Taiwan University

Huey-Peir Wu M.D. College of Medicine,
NTU

Chiang-Ching Shih M.D., Taipei Medical College

Hsieh-His Wang M.D. College of Medicine,
NTU

Tsu-Tuan Wu M.D. College of Medicine,
National Cheng Kung
University

Chung-Hsin Chang M.D. College of Medicine,
NTU

Shih-Chi Ku M.D. Chung Shan Medical
College

Tzong-His Lee M.D. College of Medicine,
NTU

Bor-Sheng Ko	M.D. College of Medicine, NTU	Jung-Yien Chien	MPH, Graduate institute of Clinical Medicine, NTU
Tsu-Hao Wu	M.D. Kao-Shing Medical College	Jyh-Ming Liou	M.D., College of Medicine, National Yang-Ming University
ming-Zen Chen	M.D. College of Medicine, NTU	Hsin-Yun Sun	M.D., College of Medicine, National Yang-Ming University
Chao-Chi Ho	M.D. College of Medicine, NTU	Tzu-Hsiu Tsai	M.D., Taipei Medical College
Mei-Hsiu Chen	M.D. College of Medicine, NTU	Liang-Wen Ding	M.D. Kao-Shing Medical College
Chia-Hsun Chang	M.D. Kao-Shing Medical College	Pai, MF	M.D. College of Medicine, NTU
Hsiu-Nien Shen	M.D. College of Medicine, NTU	Chang-Hsueh Yang	M.D., Taipei Medical College
Shih-Ping Hsu	M.D. Kao-Shing Medical College	Chen-Hua Liu	M.D. College of Medicine, NTU
Bor-Ru Lin	M.D. Kao-Shing Medical College	Yi-Wen Huang	M.D. China Medical College
Shih-Lung Chen	M.D. China Medical College	Chun-Hsing Liao	M.D. College of Medicine, NTU
Lu-Cheng Kuo	M.D. College of Medicine, NTU	Shyang-Rong Shih	M.D. College of Medicine, NTU
Jung-Jen Chiang	M.D. Kao-Shing Medical College	Yu-Ping Lai	M.D., Taipei Medical College
Chih-Ming Chuang	M.D. College of Medicine, NTU	Tsung-Tsun Lee	M.D., Taipei Medical College
Teng-Huang Su	M.D. College of Medicine, NTU	Cheng-Han Wu	M.D. Kao-Shing Medical College
Yun-Sheng Wu	M.D., Taipei Medical College	Yi-Cheng Chang	M.D. College of Medicine, NTU
Yen-Hung Lin	M.D. College of Medicine, NTU	Chun-Fu Lai	M.D., College of Medicine, National Yang-Ming University
Mao-Shin Lin	M.D., Medical College of Ching Shang Medical University	Ju-Yeh Yang	M.D. College of Medicine, NTU
Yi-Chih Wang	M.D. College of Medicine, NTU	Shao-Yu Yang	M.D. College of Medicine, NTU
Jen-Hau Chen	MPH., Harvard School of Public Health	Ai-Hsien Lee	M.D. College of Medicine, NTU
Chia-Lin Hsu	M.D. China Medical College	Wei-Chih Liao	M.D. College of Medicine, NTU
Yu-Sheng Peng	M.D. College of Medicine, NTU	Shang-Ju Wu	M.D. College of Medicine, NTU

Yu-Tsung Huang	M.D. College of Medicine, NTU
Sheng-Nan Chang	M.D. National Chen-Kung University Medical College
Chih-Chieh Yu	M.D. College of Medicine, NTU

FACILITIES

The Department of Internal Medicine includes the following divisions: Cardiology, Gastroenterology, Nephrology, Pulmonary Medicine, Endocrinology and Metabolism, Hematology and Oncology, Rheumatology and Immunology, Infectious diseases, Vascular Neurology, Geriatrics and Occupational Diseases. Each division has its own ward and examination rooms and research laboratories. The department is also in charge of the following units: endoscopy room, respiratory care, sonography room, hemodialysis room, cardiopulmonary laboratory, clinical pharmacology as well as emergency services of internal medicine. In total, there are about 504 beds in the 12 medical wards and 4 intensive care units (two CCU) in the department.

The various examination rooms and research laboratories are equipped with advanced, sophisticated instruments, which include those for cardiac catheterization, echocardiography, treadmill exercise ECG, surface cardiac potential mapping, phonocardiography, vectocardiography, 24-hour Holter ECG, pulmonary function test, endoscopy, abdominal sonography, microdensitometer, alfa-counter, beta-counter, gamma-counter, osmography, pH-meter, integrated computerized pulmonary function autoanalyzer, gas chromatography, spectrometry, glycosylated Hb analyzer system, microcentrifuger, fraction collector, volumetric infusion pump, insulin infusion pump, fluorescent immunoassay, enzyme immunoassay

and computerized multicrystal scintillation gamma camera, cardioelectrosimulator, neuro-electrostimulator, pulse field electrophoresis system.

COURSES

The department is devoted to the training of doctors capable of taking care of the health of the general public and of advancing clinical and/or basic research. Medical students are exposed to areas in Clinical Medicine, Internal Medicine and its various subspecialties in their undergraduate years. Teaching is also provided to students of the other related faculties in the Medical College. The Courses are in the following:

Clinical Diagnosis(2), Introduction to Internal Medicine(3), Medical Problem-solving(4), General Internal Medicine and Practice(4), Special Aspects of Internal Medicine and Practice(5), Ambulatory Medicine and Emergency Medicine Practice(6), Clinical Pharmacology(1), Practice in Internal Medicine(6), Internship in Internal Medicine(10)

ACADEMIC ACTIVITIES

On average, three to four meetings in the form of mini-symposium, medical challenge, Grand round, special lecture, and mortality-morbidity conference are organized on a routine basis and attended by medical students, residents and teaching staff each week. Meetings at subspecialty levels are also held routinely by the various disciplines. Special lectures by invited local and foreign speakers on highlighted topics are also organized periodically. The department is also actively involved in organizing scientific meetings with other departments and medical societies.

CONTACT INFORMATION

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department.asp/](http://ntuh.mc.ntu.edu.tw/department.asp/)



4-2-12 SURGERY



INTRODUCTION

When it was founded in 1895, National Taiwan University Hospital (NTUH) had two departments: the Department of Surgery and the Department of Internal Medicine. Since 1945, when Taiwan was restored and the Japanese colonial period ended, the Department of Surgery has been headed by a succession of distinguished professors, from Profs. Pang-Hsing Hsu, His-Yu Fang, Tz-Sheng Cheng, Kuei-Jen Hsieh, Tian-Cheng Kao, Tian-Yu Lin, Shu-Chien Hsu, Chi-Jen Hung, Kai-Mo Chen, Shu-Hsun Chu, Chin-Chien Chang, Po-Huang Lee, to the present head, Prof. Yung-Chie Lee. Under the leadership and direction of these chairmen, the Department of Surgery has blossomed as the leading center of surgery in Taiwan.

Some departments of NTUH branches out from the Department of Surgery, including obstetrics, ear, nose and throat, skin, dentistry, anesthesiology, rehabilitation, and orthopedics. Over the years, the Department of Surgery has become internationally renowned for many of the surgical “firsts” it has achieved in Asia, among which are the live donor kidney transplantation in 1968; the separation of Siamese twins Chung-jen and Chung-yi, who were conjoined at the chest and abdomen; by 1995, as many as ten thousand open heart procedures had been performed in the Department. The Department also holds a worldwide reputation for its great case number as well as the good outcome of surgical removal of lung and liver cancer. In addition, the Department of Surgery is currently the leading

transplant center in Taiwan. A number of kidney, heart, liver, pancreas and lung transplantations have been performed. The Department is subdivided into seven divisions: general surgery, cardiovascular surgery, thoracic surgery, neurosurgery, colorectal surgery, plastic surgery, and pediatric surgery. Each division provides complete care and patient-centered care.

Under the core values of integrity and honesty, innovation and excellence, collaboration and teamwork, and health and dignity, the plan for the future development of the Department is mapped out in short-term, mid-term, and long-term stages. The short-term plan is to enhance the communication and cooperation with other departments. The objective is for, on the clinical level, the patients get the finest care and, on the research level, the quality of research gets enhanced with the establishment of experimental surgery division. In the mid-term plan, the Department will also seek to cooperate with other research institutions, at home and abroad, for advanced research into our local disease; establish specialized medical research centers. The long-term plan includes the efforts to educate the students as the leaders in Taiwan and aim at high international standing surgical center.

For the future, the Department of Surgery will continue to practice the philosophy of “treating patients as family and pursuing excellence”, and incorporate this philosophy into medical service, medical teaching and medical research, the three main tasks of the Department. With a humane mind, the ultimate goal of the Department is to seek the health and well-being of humankind.

FACULTY

Ph.D. Degree: 34

Emeritus Professor: 8

Professor

Full-time:10

Part-time: 15

Associate Professor

Full-time:6

Part-time:5

Assistant Professor

Full-time:6

Part-time:12

Clinical Professor

Clinical Associate Professor:2

Clinical Assistant Professor:3

Clinical Lecture:1

Lecturer

Part-time:18

Visiting Staff

Full-time:60

Part-time:76

Section head/ Professor

Yung-Chie Lee	Ph.D., Graduate Institute of Clinical Medicine, NTU
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Full-time

Professor

King-Jen Chang	Ph.D., Graduate Institute of Clinical Medicine, NTU
Wei-Jao Chen	Ph.D., Post Graduate Medicine School, Tohoku University
Fang-Yue Lin	Ph.D., Graduate Institute of Clinical Medicine, NTU
Shoei-Shen Wang	Ph.D., Graduate Institute of Clinical Medicine, NTU
Po-Huang Lee	Ph.D., Graduate Institute of Clinical Medicine, NTU

Yong-Kwang Tu	Ph.D., Graduate Institute of Clinical Medicine, NTU
Hong-Shiee Lai	Ph.D., Graduate Institute of Clinical Medicine, NTU
Yueh-Bih Tang	Ph.D., Graduate Institute of Clinical Medicine, NTU
Ing-Sh Chiu	Ph.D., Graduate Institute of Clinical Medicine, NTU
Jin-Tung Liang	Ph.D., Graduate Institute of Clinical Medicine, NTU

Associate Professor

Chiun-Sheng Huang	Ph.D., Graduate Institute of Clinical Medicine, NTU
Rey-Heng Hu	Ph.D., Graduate Institute of Clinical Medicine, NTU
Yih-Shang Chen	Ph.D., Graduate Institute of Physiology, NTU
Chiung-Nien Chen	Ph.D., Graduate Institute of Clinical Medicine, NTU
Yu-Wen Tien	Ph.D., Graduate Institute of Clinical Medicine, NTU
Wen-Jen Ko	Ph.D., Graduate Institute of Clinical Medicine, NTU

Assistant Professor

Hsiung-Fei Chien	Ph.D., Graduate Institute of Anatomy and Cell Biology, NTU
Ron-Bin Hsu	Ph.D., Graduate Institute of Clinical Medicine, NTU
Meng-Kung Tsai	Ph.D., Graduate Institute of Immunology, NTU
Jin-Shing Chen	Ph.D., Graduate Institute of Clinical Medicine, NTU
Sheng-Jean Huang	Bachelor, Medical College, NTU

Clinical Associate Professor

Jang-Ming Lee	Ph.D., Graduate Institute of Clinical Medicine, NTU
Meng-Fai Kuo	Ph.D., Graduate Institute of Clinical Medicine, NTU
Nai-Kuan Chou	Ph.D., College of Electrical Engineering and Computer Science, NTU

Clinical Assistant Professor

Ray-Hwang Yuan	Ph.D., Graduate Institute of Clinical Medicine, NTU
Wen-Ming Hsu	Ph.D., Graduate Institute of Clinical Medicine, NTU

Clinical Lecturer

Eng-Kean Yeong	Bachelor, Kao-Hsiung Medical College
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Part-time

Professor

Chi-Ren Hung	Bachelor, Medical College, NTU
Kuang-Yung Hsu	Bachelor, Medical College, NTU
Shu-Chien Hsu	Bachelor, Medical College, Kanazawa Medical University
Kai-Mo Chen	Bachelor, Medical College, NTU
Wen-Tsung Hung	Ph.D., Med. University of Munich, Germany
Ming-Ting Chen	Bachelor, Medical College, NTU
Ching-Chang Hung	Bachelor, Medical College, NTU
Shu-Hsun Chu	Bachelor, Medical College, NTU
Ming-Chien Kao	Bachelor, Medical College, NTU

Swei-Ming Lin Bachelor, Medical College,
NTU

Shih-Ming Wang Bachelor, Medical College,
NTU

Ta-Cheng Wei Bachelor, Medical College,
NTU

Koung-Yi Liaw Bachelor, Medical College,
NTU

Wei-Jei Lee Ph.D., Graduate Institute of
Clinical Medicine, NTU

Associate Professor

Sen-Chang Yu Ph.D., Graduate Institute of
Clinical Medicine, NTU

Yenn-Hwei Chou Ph.D., Graduate Institute of
Clinical Medicine, NTU

Min-Huo Huang Ph.D., Post Graduate
Medicine School, Women's
Medical University, Tokyo

Kuo-Shyan Jeng Bachelor, Medical College,
NTU

Tsuo-Wu Lin Bachelor, Medical College,
NTU

Assistant Professor

Sheng-Hong Tseng Ph.D., Graduate Institute of
Clinical Medicine, NTU

Shih-Horng Huang Ph.D., Graduate Institute of
Clinical Medicine, NTU

Yang-Chang Chung Ph.D., Graduate Institute of
Life Sciences, National Tsing
Hua University

Ming-Te Huang Bachelor, Medical College,
NTU

Hsi-Yu Yu Bachelor, Medical College,
NTU

Yao-Ming Wu Ph.D., Graduate Institute of
Clinical Medicine, NTU

Ming-Chih Ho Ph.D., Graduate Institute of
Clinical Medicine, NTU

Been-Ren Lin Ph.D., Graduate Institute of
Toxicology, NTU

Hao-Chih Tai Ph.D., Graduate Institute of
Clinical Medicine, NTU

Dar-Ming Lai Ph.D., Graduate Institute of
Clinical Medicine, NTU

Lu-Ting Kuo Ph.D. Institute of Neurology,
London University, UK

Lecturer

Ching-Nien Chang Bachelor, Medical College,
NTU

Yao-Jen Chang Bachelor, Medical College,
NTU

Ching-Shui Huang Bachelor, Medical College,
NTU

Tai-Ju Cheng Bachelor, Taipei Medical
College

Yun Chen Bachelor, Medical College,
NTU

Chung-I Chang Bachelor, Medical College,
NTU

Hsao-Hsun Hsu Bachelor, Medical College,
NTU

Weu Wang Bachelor, Medical College,
Yang-Ming university

Nai-Chen Cheng Master, Graduate Institute of
Clinical Medicine, NTU

Shu-Chien Huang Bachelor, Medical College,
NTU

Pei-Ming Huang Master, Graduate Institute of
Clinical Medicine, NTU

Chih-Yuan Lee Master, Graduate Institute of
Clinical Medicine, NTU

Cheng-Maw Ho Bachelor, Medical College,
NTU

Nai-Hsin Ch	Bachelor, Medical College, NTU
Shuenn-Wen Kuo	Bachelor, Medical College, NTU
Shih-Hung Yang	Bachelor, Medical College, NTU
Ming-Shian Tsai	Bachelor, Medical College, NTU
Kuan-Ming Chiu	Bachelor, Medical College, NTU
Ming-Hsun Wu	Bachelor, Kaohsiung Medical University
Chih-Hsien Wang	Bachelor, Medical College, NTU

FACILITIES

The Department is subdivided into seven divisions. Each division has its own general wards, intensive care units, and examination and therapeutic areas. The ultrasonographic examination area is equipped with real time ultrasonography, Doppler ultrasonography and three-dimensional ultrasonographic systems. The surgical endoscopic examination room has bronchoscopes, upper gastrointestinal endoscopes and colonoscopes with video capabilities.

The surgical laboratories are administered by a committee, which is responsible for all relevant affairs. The laboratories are classified by function, such as the laboratory for pathology and immunohistochemistry, transplantation immunology, angiogenesis, molecular biology, neuroscience, metabolism, animal experiments, regeneration, cell culture, nutrition, isotopes, microsurgery, oncology, and biochemistry.

Essential equipment includes the instruments necessary for operating on both large and small animals, operation microscopes, esophageal and

anal manometry, intracranial pressure monitors, cardiopulmonary monitoring systems, high performance liquid chromatography, metabolism measuring systems, amino acid analyzers, fluorescence microscopes, and flow cytometers.

The department also establishes a committee to train our residents and fellows to become outstanding and professional, have the ability of conducting cutting-edge research, and be integrity and honesty among colleagues.

The departmental library has a collection and exhibition of the publications of colleagues, operation videos, and photographs illustrating the history, discoveries and achievements of the department. The Information and Teaching Materials Committee is responsible for collection and providing videos of general and innovative procedures in each division.

COURSES

The goal of teaching is to impart the basic theory and practice of surgery and its future development to students, thus equipping students with the background knowledge for future clinical and research work. The department changed the long-used one-way teaching to a reciprocal style of teaching by dividing the students into small groups. This reform in teaching is intended to help students solve the problems and cultivate a more active attitude of learning.

Introduction to Surgery

Introduction to Surgery are required for the fourth-year students to learn the fundamental knowledge and concepts in the surgical field.

Clerkship

Clerkship for the fifth-year students includes general surgery (liver, renal, alimentary, colorectal/intestinal, and endocrine and breast surgery).

ies) cardiovascular surgery, thoracic surgery, pediatric surgery, neurosurgery, plastic surgery and emergency medicine.

ACADEMIC ACTIVITIES

Morbidity and mortality conferences as well as reports of specialized aspects of case studies are held on a weekly basis. Lectures by special guests or retired professors are regularly given. Each division holds its own morning meetings, discussions on cases of particular diseases, journals and books. The divisions also cooperate with one another in joint discussions for a reciprocal benefit and thus an elevated quality of medical service.

CONTACT INFORMATION

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4-2-13 DERMATOLOGY



INTRODUCTION

The practice of dermatology in Taiwan can be traced back one century to the Skin and Venereal Disease Clinic, established in 1903. The clinic was initially a genitourinary service within the Department of Surgery at Taihuko (Taipei) Imperial University, which was reorganized as National Taiwan University in 1945. In 1938, separated from the Department of Surgery, the Skin and Venereal Disease Clinic was upgraded into the Department of Dermatology and Urology. The Department of Dermatology was subsequently separated from the Department of Urology in 1961, and became a full department in its own right.

The Department of Dermatology provides full medical and surgical dermatologic services and actively engages in "state-of-the-art" basic and clinical skin disease research encompassing a wide range of scientific knowledge, including biology and physiology of the skin, dermatopathology, immunology, cutaneous oncology, molecular biology, diagnostic dermatology, cosmetic dermatology and dermatologic surgery.

As part of the nation's leading teaching hospital, we strive to provide medical students with the best education in the diagnosis and management of dermatological disorders. An important part of our mission also includes training residents in the latest skills, advanced diagnosis and treatment in dermatology; so as to provide patients with high-quality, comprehensive care.

The Department of Dermatology continues to be the nation's leading skin research center and has been working incessantly to expand our research programs to cover the following disciplines:

1. Biophysical profiles of the skin: with special focus on cutaneous microcirculation and photobiology.
2. Pigmentary disorders: with focus on basic research in pigmentation and the pathogenesis of vitiligo, and forming collaborative research teams with overseas affiliated research laboratories.
3. Cutaneous oncology: focusing on the pathogenesis of basal cell carcinoma and other skin cancers.
4. Molecular biology: in collaboration with affiliated institutes, we are making effort to establish the genetic database for geno-dermatoses in Taiwan.
5. Occupational dermatoses: our interdisciplinary research team with the School of Public Health is dedicated to conducting epidemiologic studies concerning occupational dermatoses in Taiwan.
6. Cutaneous immunology: with special focus on the pathogenesis of atopic dermatitis and allergic contact dermatitis.

FACULTY

Full-time faculty: 6

Part-time faculty: 11

M.D., Ph.D.: 6

Section head/ Associate Professor

Hsien-Ching Chiu M.D., NTU

Full-Time

Professor

Shiou-Hwa Jee M.D., Ph.D., NTU

Assistant Professor

Tsen-Fang Tsai M.D., fellowship training, UCSF

Sung-Jan Lin M.D., Ph.D., NTU

Chia-Yu Chu M.D., Ph.D., NTU

Yi-Hua Liao M.D., Ph.D., NTU

Lecturer

Li-Fang Wang M.D., Ph.D., NTU

Part-Time

Professor

Hsin-Su Yu M.D., Ph.D., Tokyo University

Kuo-Lin In M.D., NTU

Ying-Chin Wu M.D., fellowship training, INSERM, France

Associate Professor

Chee-Ching Sun M.D., NTU

Chun-Hsiang Chang M.D., NTU

Lecturer

Chin-An Hsu M.D., NTU

Kai-Yam Ng M.D., NTU

Ruey-Yi Lin M.D., NTU

Yang-Shia Dai M.D., NTU

Lin-Hui Su M.D., M.S., NTU

Chih-Chieh Chan M.D., NTU

FACILITIES

Academic Facilities

Departmental library, Conference room

Digital Media Center

Well-equipped in digital-imaging and computing resources to clinicians, featuring computers, laptops, digital-imaging devices, slide scanners, projectors, laser printers, teaching light microscopes and image processing equipment that are available to all faculty members.

Laboratory Facilities

Include a biochemistry lab., cell culture room, dermatopathology lab., isotope room, central office and are fully equipped with immunofluorescence microscope, cryostat, microtomes, light microscopes, phase-contrast microscopes, ultracentrifuge, gas chromatography, high performance liquid chromatography, CO₂ incubator, -130°C and -70°C freezer, PCR machine, spectrophotometer for ELISA, equipment sets for Western blot and Southern blot.

COURSES

Introduction to clinical medicine(3), Ambulatory & emergency medicine(6), Elective internship in dermatology(6)

A 6-hour introductory lecture on dermatology is first given to medical students in the 4th year of their medical education, as a subunit under the core course of "The Introduction to Clinical Medicine (3)." The emphasis is on relating pathogenic mechanisms to the clinical manifestations of diseases.

The medical students will be further exposed to the knowledge of dermatology when they are attending their core clerkship rotation in "Ambulatory & Emergency Medicine(6)," in which they will spend a week in the dermatology clinic. Lectures will be given and the students will meet the patients and learn to integrate the essentials of history taking and the physical examination into a series of impressions that point to a diagnosis.

Dermatology is also one of the elective internship(6) for the medical students in their final years (6th and 7th years). 6 credits will be given and the students, by spending 4 to 5 weeks in dermatology, will be able to reinforce their knowledge and clinical skills in dermatology.

ACADEMIC ACTIVITIES

Our Regular Activities Include

1. Clinicopathological conference: held once weekly (on Thursday afternoon)
2. CME and Seminar on dermatologic surgery: Tuesday morning
3. Seminar on contact dermatitis: Thursday morning
4. Journal reading: Thursday morning
5. Inpatient case discussion: Thursday afternoon
6. Seminar on cosmetic dermatology: Thursday afternoon
7. Grand round: Thursday afternoon
8. Regional Combined Dermatological Conference for northern Taiwan: held monthly
9. National Dermatological Conference for Taiwan: held every spring and fall
10. Annual symposium featuring internationally renowned speakers and researchers

CONTACT INFORMATION

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4-2-14 UROLOGY



INTRODUCTION

The Department of Urology is a historic sector in National Taiwan University Hospital. The predecessor program was established in the period of Imperial Taipei Hospital. In 1963, it officially became an individual department. In 1993, the Department of Urology instituted four divisions: general urology, urolithiasis, pediatric urology and andrology/fertility. There are 14 attending urologists and 17 residents in the department at the present time.

FUTURE PROSPECTS

1. Research on urogenital oncology will be focused on exploration of new treatment modalities, design and conduct of large-scale cancer clinical trials, investigation of drug

resistance mechanisms and tumor-associated genetic profiling, and establishment of long-term follow-up database.

2. Urinary stone study will be focused on the improvement of stone analysis, and the investigation and the prevention of stone formation.
3. Use urodynamic and neurologic examinations, so voiding dysfunction can be classified and treated properly.
4. Study of infertility will be focused on the investigation of seminal fluids and prostatic fluids, sperm preservation and promotion of sperm quality.
5. Animal experimental models will be established for study of dysfunction. Various neurotransmitters will be tested for their effects on impotence and ejaculatory dysfunction.

6. Urological pediatric research will be focused on therapy of enuresis and etiology/pathology of undescended testis.
7. Clinical use of laparoscopy, renal preservation, transplant rejection and microwave treatment for benign prostatic hyperplasia are under investigation.

FACULTY

Section head/ Professor

Hong-Jeng Yu

Full-Time

Professor

Ming-Kuen Lai

Jun Chen

Hong-Jeng Yu

Yeong-Shiau Pu

Shih-Chieh Chueh

Associate Professor

Ju-Ton Hsieh

Shyh-Chyan Chen

Assistant Professor

Shih-Ping Liu

Clinical Assistant professor

Ho-Shiang Huang

Hong-Chiang Chang

Part-Time

Professor

Wan-Hsuen Chiang

Te-Chin Hsu,

Han-Sun Chiang

Associate Professor

Tsong-Chang Tsai

Tsu-Yih Chiu

Hann-Chorng Kuo

Assistant Professor

Kuo-How Huang

Instructor

Teh-Sheng Hsieh

Han-Shin Law

Chih-Ming Lin

Ming-Chung Lin

Fang-Shu Lin

Cheng-Shen Hung

Shei-Dei Yang,

Chung-Jing Wang

Jyh-Hong Chen

Chung-Cheng Wang,

Wei-Chia Lee

Wai-Yan Wong

Chao-Yuan Huang

Shiu-Dong Chung

Chang-Hsin Chen

FACILITIES

We have laboratories for oncology, sexology, urolithiasis, urodynamic studies and prostate center. Important instruments and equipment include: flowcytometer, γ -counter, high speed centrifuge, ordinary and operative microscope, stereomicroscope, petrographic microscope, freezer, DNA-thermocycler, electrophoresis (Spectrophotometer, Automatic equipment and detection reader for ELISA), urodynamic, penodynamic, urologic ultrasonographic equipment, Rigiscan, infrared spectrometer, extracorporeal lithotripter, and micro-wave equipment for prostatic thermotherapy, Urologic laser machine, etc. The library is equipped with hundreds of journals, textbooks and references.

COURSES

The Department of Urology is one of the clinical sections of the School of Medicine. We are responsible for the teaching of the 3rd, 4th, 5th,

6th and 7th year medical students. We provide them with the fundamental knowledge and skills in the diagnosis and treatment of common urologic disorders. The 3rd year students will learn urological anatomy from the course of general clinical anatomy during the first semester. The 4th year students attend the lecture on urologic diagnosis and general urologic disease. The 5th year medical students have to attend a one-week course in the outpatient clinic including renosonography, TRUS-P, panendoscopy and cystoscopy for one credit. The 6th year medical students take elective course on urologic ward for three credits. Each group includes five to ten students for six weeks. The 7th year medical students take elective course as internship. It takes six to twelve weeks to accrue six credits.

ACADEMIC ACTIVITIES

1. Morning meeting and journal meeting: 8:00-9:00 a.m., every Monday, Wednesday, and Friday.
2. Teaching rounds: 2:00-4:00 p.m. every Wednesday.
3. Uropathology conference: 1:00-2:00 p.m., Friday, monthly.
4. Uroradiology conference: 4:00-5:00 p.m., Thursday, monthly.
5. Uronephrology conference: 4:00-5:00 p.m., Monday, monthly.
6. Grand round, mortality and morbidity conference, monthly.
7. Image reading: 12:00-12:30 p.m., Textbook reading: 12:30-1:30 p.m., Wednesday.

CONTACT INFORMATION

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4-2-15 PEDIATRICS



INTRODUCTION

Taiwan Hospital was founded in 1895, and renamed Taipei Hospital the next year. In the beginning, Internal Medicine was for both adults and children alike. In 1906, when Taipei Hospital was reorganized as Taiwan Government House Taipei Hospital, the Department of Pediatrics was separated from the Department of Internal Medicine, and Usuki Saika was the dean then. In 1919 the College of Medicine was restructured as Taiwan Government Medicine Specialized School. In 1921, Togawa Tokufu took the position of dean of the Pediatrics Unit. He was also a teacher, specializing in Pediatrics. That was the beginning of Pediatrics teaching in Taiwan. He resigned in 1922, and Yasui Keinosuke became

the dean and the professor of the Pediatrics Unit. When he went on trip to Europe for research, Sakai Kiyoshi took his place to be the dean of the Unit.

The College of Medicine, Taihoku Imperial University was established in 1936, and reorganized as Taihoku Imperial University Hospital two years later. The Pediatrics Classroom was founded then. Sakai Kiyoshi was the first classroom director, and Murakami Katsumi was the assistant professor. Huo-Yao Wei returned from Tokyo to serve as the instructor of the medicine specialized school the same year. It was the first time that a local physician took part in pediatrics teaching.

Following Taiwan's retrocession to Chinese Sovereignty in 1945, Taihoku Imperial University Hospital was renamed National Taiwan University Hospital. Sakai Kiyoshi was requested to remain at his position. He returned to Japan two years later, and Huo-Yao Wei took his position as chairman of the department. Jong-Lin Chen, Rui-Yun Syu, Ting-Jian Lee, and Jong-Hui Chen then joined the team of pediatrics teaching staff.

FACULTY

Ph.D. Degree: 21

Full-time Professors: 10

Part-time Professors: 8

Full-time Associate Professors: 6

Part-time Associate Professors: 4

Full-time Assistant Professors: 1

Clinical Assistant Professor: 5

Instructors: 0

Part-time Instructors: 27

Clinical Instructors: 2

Section head/ Professor

Bor-Luen Chiang M.D., Ph.D., University of California at Davis

Full-Time

Professor

Mei-Hwei Chang M.D., NTU

Kai-Hsin Lin M.D., NTU

Mei-Hwan Wu M.D., Ph.D., NTU

Jou-Kou Wang M.D., Ph.D., NTU

Li-Min Huang M.D., Ph.D., NTU

Yuan-Tsong Chen M.D., Ph.D., Columbia University

Hong-Yuan Hsu M.D., Ph.D., NTU

Alice Lin-Tsing Yu M.D., Ph.D., University of Chicago

Yong-Kwei Tsau M.D., NTU

Yen-Hsuan Ni M.D., Ph.D., NTU

Associate Professor

Wen-Yu Tsai M.D., NTU

Ping-Ing Lee M.D., Ph.D., NTU

Wuh-Liang Hwu M.D., Ph.D., NTU

Luan-Yin Chang M.D., Ph.D., Chang Gung University

Wu-Shiun Hsieh M.D., Kaohsiung Medical University

Clinical Associate Professor

Wan-Tso Lee M.D., Ph.D., NTU

Assistant Professor

Huey-Ling Chen M.D., Ph.D., NTU

En-Ting Wu M.D., NTU

Chun-Yi Lu M.D., China Medical University

Clinical Assistant Professor

Shian-Tarng Jou M.D., China Medical University

Po-Nien Tsao M.D., Ph.D., NTU

Yu-Tsan Lin M.D., Ph.D., NTU

Yao-Hsu Yang M.D., Ph.D., NTU

Clinical Instructor

Meng-Yao Lu M.D., NTU

Hung-Chieh Chou M.D., NTU

Ming-Tai Lin M.D., NTU

Pi-Chuan Fan M.D., NTU

Li-Chieh Wang M.D., NTU

Part-Time

Chung-Lin Chen M.D., Ph.D., Tokyo Women's Medical College, Japan

Chung-Hui Chen M.D., Ph.D., Tokyo Women's Medical College, Japan

Chin-Yun Lee M.D., Ph.D., Soodo Medical College, Korea

Hung-Chi Lue	M.D., Ph.D., Tokyo Women's Medical College, Japan
Tso-Ren Wang	M.D., NTU
Der-Cherng Liang	M.D., NTU
Fu-Yuan Huang	M.D., NTU
Kuo-Inn Tsou Yau	M.D., NTU
Kung-Chang Hwang	M.D., NTU
Pen-Jung Wang	M.D., Ph.D., Tokyo Women's Medical College, Japan
Pei-Hung Hsiao	M.D., NTU
Kun-Long Hung	M.D., NTU
Ching-Tsuen Shen	M.D., NTU
Jing-Sheng Lee	M.D., NTU
Mei-Mei Ho	M.D., NTU
Rong-Long Chen	M.D., NTU
Bow-Wen Chen	M.D., NTU
Ming-I Lin	M.D., NTU
Chen-Cheng Chou	M.D., NTU
Yung-Zen Lin	M.D., NTU
Yin-Hsiu Chien	M.D., NTU
Chien-Yi Chen	M.D., NTU
I-Jung Tsai	M.D., NTU
Frank Leigh Lu	M.D., NTU
Shuenn-Nan Chiu	M.D., NTU
Jyh-Hong Lee	M.D., NTU
Jia-Feng Wu	M.D., NTU
Ni-Chung Lee	M.D., NTU
YI-Ching Tung	M.D., NTU
Hsiu-Hao Chang	M.D., NTU
Chun-An Chen	M.D., NTU
Hsin-Hui Yu	M.D., NTU
Ching-Chia Wang	M.D., NTU

FACILITIES

Subspecialties and Equipment

The pediatric department has 9 subspecialties to serve the teaching activities, medical services and research: pediatric cardiology & pulmonology, pediatric allergy & immunology, pediatric gastroenterology, pediatric endocrinology, medical genetics, pediatric hematology & oncology, pediatric infectious diseases, neonatology, pediatric nephrology, and pediatric neurology.

Major Equipment

Ultrasonography machines, scintillating counters, EEG machine, electrophysiology study machine, pulmonary function test machine, blood pressure monitors, cardiopulmonary monitors, gastrointestinal manometry, 24-hour esophageal pH monitor, video endoscopes, enzyme-immunoassay systems, deionized water purification systems, balances, laminar flow, amino acid analyzer, GC mass, spectrophotometers, electrophoresis systems, PCR, thermocycle, luminometry, fluorescence activating cytometry (FAC) scan, HPLC, DNA sequencing system, ultracentrifugation system, freezers, cryostat, refrigerated centrifugators, etc..

COURSES

Purposes

1. To teach the students the basic knowledge of Pediatrics, including child health, preventive medicine, and the diagnosis and management of common pediatric diseases.
2. To train pediatricians to do patient care, health care of children, and basic and clinical pediatric research.
3. To introduce general Pediatrics to students in the Departments of Dentistry, Rehabilitation, and Nursing. The teaching course is given by the teaching staff of the pediatric department.

Courses for Medical Students

1. 4th year, Introduction to Pediatrics(1): A total of 16 hours of lecture, 1 hour per week in the 2nd semester, introduction of the general principles of Pediatrics, covering growth and development, nutrition, and common pediatric diseases.
2. 5th year, Pediatrics Clerkship(6): This new course emphasizes small group teaching, focusing on case study. Students discuss common or important pediatric diseases with teachers. Every day's discussion is problem-oriented and conducted by different teachers. Students are free to ask questions and express their opinions. Concepts and methods of physical examination of premature, newborn and pediatric patients are also demonstrated (6 weeks).
3. Pediatric Ambulatory Medicine: This course is offered by the Departments of Pediatrics, Emergency Medicine, ENT, Ophthalmology, Dermatology, Urology, and Family Medicine to 5th year students. To improve students' ability at handling pediatric patients, they are required to contact patients by history taking, physical examination, assessment, and even tentative management during the 24-hour course of pediatric ambulatory medicine. Through practice in the well-baby clinic, students learn about the growth and development, and vaccination schedule of normal children.
4. 7th year, Internship(6): Required course for the 7th year medical students (rotating internship), 6 or 7 weeks. Interns are assigned to work on 2-3 patients under the supervision of pediatric residents in the general and isolation wards, in the nursery for term and premature infants, in the ICU, in the general and subspecialty outpatient clinics and the emergency service department. They also have to attend the ward rounds of the senior staff, clinical conferences, seminars and journal clubs of the department.
5. 4th year, Medical Genetics(1): One hour lecture per week throughout the academic year for the medical students. The first half presents a summary of the basic knowledge of cell biology which every medical student should have as background for the proper understanding of human genetics. (Lectures are given by staff of basic medical science.) The second half presents a review of the current knowledge of human genetics, which we believe every medical student should be familiar with. (Lectures are given by the staff of clinical medicine.)
6. Introduction to Pediatrics(1): One hour lecture per week throughout the 1st semester as a required course for the 3rd year rehabilitation medicine and the 5th year dentistry students. The lecture covers overview of Pediatrics focusing on the problems relevant to the practice of rehabilitation and dental medicine.

PLANS

The department consists of 9 divisions of subspecialties to serve teaching, clinical service & research in related areas. However, the function of each division is limited due to a shortage of teaching staff in the College of Medicine.

Fortunately, the proposal to construct a new children's hospital has been approved. This will push our clinical care and research up to a new stage.

ACADEMIC ACTIVITIES

Mon	09:30-11:30	Pediatric neurology ward round
	10:30-12:00	Hematology microscopic teaching
	12:30-13:30	Special lecture
	16:00-17:00	BMT conference
	17:00-18:00	Precath conference
Tue	08:00- 09:00	Morning meeting
	11:00-13:00	Hematology ward conference
	12:30-13:30	Special lecture
Wed	08:00- 09:00	Morning meeting
	12:30-13:30	Special lecture
	14:00-16:00	Combined conference
	15:00-17:00	Ped. GI conference
Thu	08:00- 09:00	Morning meeting
	11:00-12:00	Cardiology ward round
	13:00-14:00	Special lecture
	14:00-15:00	Intensive care unit conference
	17:00-18:00	Precath conference
Fri	08:00-09:00	Morning meeting
	12:30-13:30	X-ray conference
	15:30-16:30	Neonatology conference
	17:30-19:30	Cardiology conference

CONTACT INFORMATION

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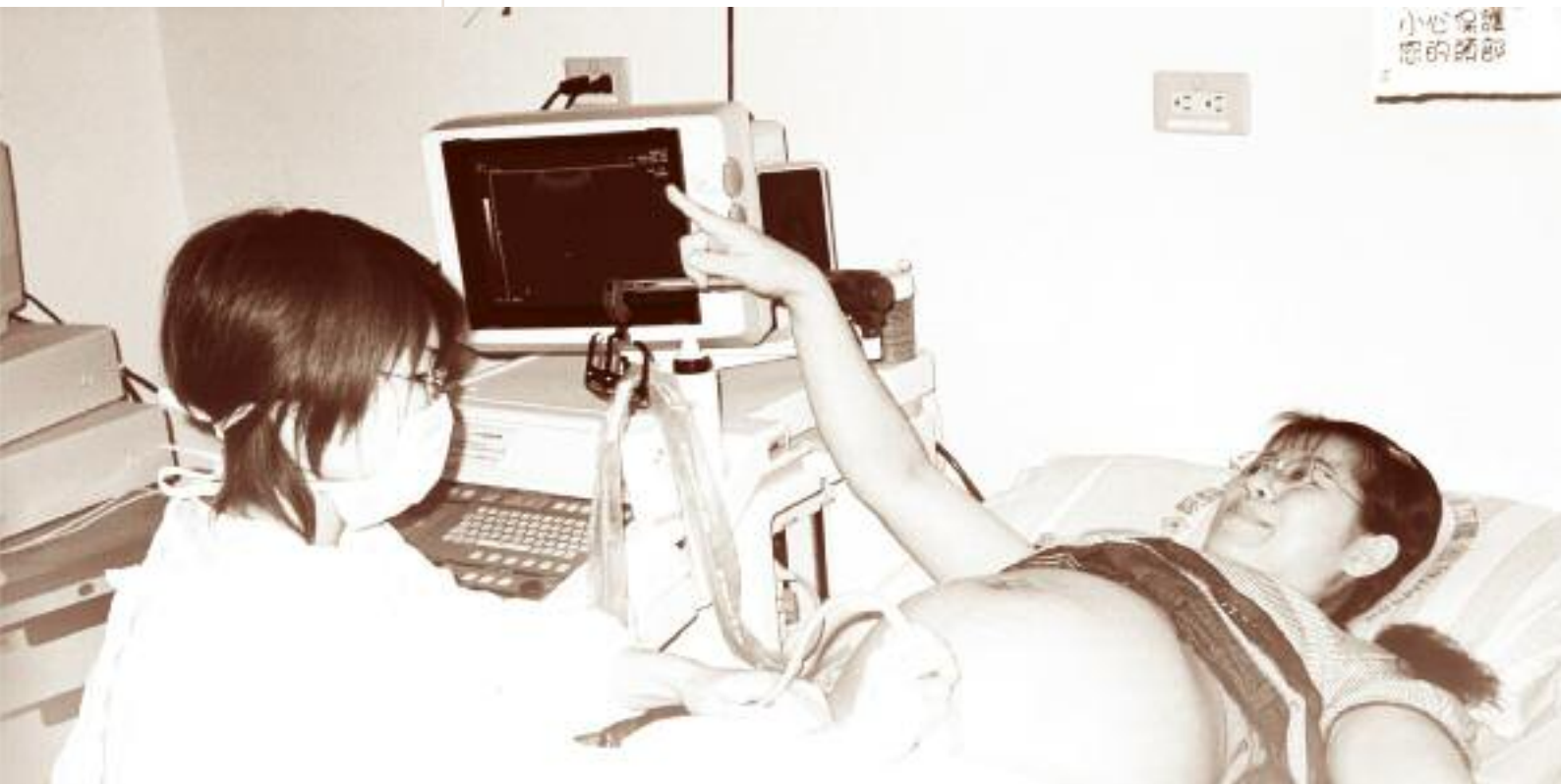
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4-2-16

OBSTETRICS AND GYNECOLOGY



INTRODUCTION

In 1895, the first year of Japanese governance over Taiwan, the Japanese government set up the Taipei Medical Center at Ta-Tan-Chan-Chian-Chiou Street (later renamed Taipei Hospital and now known as the National Taiwan University Hospital), and instituted the Maternity Ward (now known as the Department of Obstetrics and Gynecology) in 1898, thus beginning the history of obstetrics and gynecology in Taiwan. The following year (1899), the medical school of the Governor-General House was established, and was restructured into a specialized medical school in 1919. In 1938, Professor Chen Bin officially took charge of the Maternity Ward of Taipei Ti-Ta Medical School Subsidiary Hospital

and began training specialists in maternity wards in Taiwan in a fashion similar to receiving tertiary education. At the end of World War II in 1945, the government of the Republic of China overturned the Japanese government's dominance over Taiwan. Professor Shi-Yun Chiou accepted the order to take charge of Ti-Ta Medical School Subsidiary Hospital, and he became the first Head of the Department of Obstetrics and Gynecology at the medical school of the National Taiwan University. In 1950, the medical school of the National Taiwan University underwent major reforms, which abolished assistant instructors and set up the resident system. In 1951, the neonatal care unit was established and was managed by pediatricians. Formerly, ObsGyn doctors cased for neonates.

These two changes were major reforms at the time, which indicated a change in the hospital institution from the German and Japanese system to the American system.

In the 1970s, Professor Shi-Yiao Chen revolutionized the medical society in Taiwan, and he was the first person to use ultrasound as an imaging technique to aid in the diagnosis of disease during pregnancy. Later on, other departments became involved in ultrasound-related diagnosis and research. In the beginning of 1980s, advances in vitro fertilization and other fertility technologies were phenomenal, and our department was not far behind. The infertility unit delivered the first baby from IVF at our hospital in 1987, and the first baby from a frozen embryo in 1989 and the first twins from frozen oocytes in 2002. Cervical cancer is the most common malignancy of the female genital tract in Taiwan females, and its treatment has always been an important part of the daily activities in our department. In 1968, Professor. Pin-Yen Wei, Head of the Department of Obstetrics and Gynecology, established a cervical cancer surgical team, which provided professional treatment to poor patients.

Currently our Department is working toward subspecialization, including in the three major areas of obstetrics, gynecology, and reproductive endocrinology and infertility, and has begun training residents to be subspecialty doctors. With these more precise divisions together with basic medical research, we hope to provide more answers and better clinical services in regard to etiology of gynecological neoplasm, treatment of reproductive endocrinology and infertility, and the health and well being of both the mother and the baby.

FACULTY

Full-time: 12

Part-time: 36

Ph.D.: 15

M.S.: 9

Section head/ Professor

Yu-Shih Yang M.D., Ph.D., NTU

Full-Time

Professor

Fong-Jou Hsieh M.D., NTU

Su-Cheng Huang M.D., NTU

Ruey-Jian Chen M.D., Ph.D., NTU

Ho-Hsiung Lin M.D., NTU, Ph.D., Tokyo University

Hornng-Nerng Ho M.D., NTU

Chi-An Chen M.D., NTU

Associate Professor

Daw-Yuan Chang M.D., Ph.D., NTU

Chien-Nan Lee M.D., Taipei Medical College, M.S., NTU

Bor-Ching Hsu M.D., Ph.D., NTU

Shee-Uan Chen M.D., NTU

Lecturer

Yih-Long Lien M.D., NTU

Clinical Teacher

Clinical Associate Professor

Lin-Hung Wei M.D., Ph.D., NTU

Clinical Assistant Professor

Ming-Yin Wu M.D., NTU

Chin-Der Chen M.D., China Medical College

Jehn-Hsiahn Yang M.D., NTU

Pao-Ling Torng M.D., Ph.D., NTU

Ming-Kwang Shyu M.D., M.S, NTU

Kuang-Han Chao M.D., NTU

Mei-Jou Chen M.D., Taipei Medical College

Clinical Lecturer

Wern-Jyun Jang M.D., China Medical College,
M.D., NTU

Part-Time**Professor**

Hsi-Yao Chen M.D., NTU
Tzu-Yao Lee M.D., NTU; Ph.D., Sun-Tien-Tung University, Japan
Yuan-Ping Chen M.D., NTU, M.S., Harvard School of Public Health
Chang-Yao Hsieh M.D., NTU, MSPH, University of Washington
Jau-Nan Lee M.D., Kao-Shiong Medical College, Ph.D., London University
Yung-Kuei Soong M.D., NTU
Chuan-Hsiang Chang Ph.D., University of Chicago
Tsang-Ming Ko M.D., Ph.D., NTU
Song-Nan Chow M.D., Ph.D., NTU

Associate Professor

Chien-Dai Chiang M.D., NTU
Chi-Hong Liu M.D., NTU
Chi-Long Lee M.D., Taipei Medical College
Tzer-Ming Chen M.D., Ph.D., NTU, New York University

Assistant Professor

Hei-Jen Jou M.D., NTU
Tzong-Hsiarn Lee M.D., NTU
Ming Chen M.D., Ph.D., NTU

Lecturer

Mu-Fa Huang M.D., NTU
Jiann-Loung Huang M.D., NTU
Chih-Cheng Wu M.D., NTU
Lim-Woh Koh M.D., NTU
Chin-Chung Shih M.D., NTU

Lee-Wen Huang M.D., China Medical College
Ting-Chen Chang M.D., NTU
Yu-Horng Lin M.D., NTU
Chi-Hau Chen M.D., M.S. NTU
Wen-Chiung Hsu M.D., Yang Ming Medical College
Wen-Yih Wu M.D., M.S. NTU

FACILITIES

Research laboratories in our department include oncology, molecular biology, cytogenetics, biochemical test, reproductive-endocrine research, the parturition period, and amniotic fluid analysis. Basic equipment includes cellular flow meter, DNA synthesizer, ovum microscopic manipulation system, sperm analyzer, smear slide autostainer, sterile operating table, enzymatic immune analyzer, reverse analyzing microscope, and other various research equipments. Clinical equipments include laparoscope, colposcope, amniotic analyzer, ultra-sound, embryo cryocultures, monitoring system during delivery, digital camera, multi-media projector and camera projector, computers, and over-head projectors.

COURSES**Undergraduate department**

Specialization in Obstetrics and Gynecology (6),
Internship in Clinical Obstetrics and Gynecology(6)

ACADEMIC ACTIVITIES

1. Daily morning meetings
2. Weekly meetings on patient cases
3. Weekly meetings on gynecology
4. Weekly meetings on obstetrics
5. Weekly meetings on reproductive endocrinology and infertility

6. Annual publication produced jointly by the departments of obstetrics and gynecology at the medical school of National Taiwan University and National Taiwan University Hospital

CONTACT INFORMATION

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4-2-17 NEUROLOGY



INTRODUCTION

At the beginning of the 20th Century, neurologic medicine was largely neglected in Taiwan. This field was so underdeveloped that whenever a patient's disease affected the nervous system, it was considered incurable.

In 1947, the Unit of Neurology and Psychiatry was established at National Taiwan University Hospital. We started applying pharmacological treatment in cases of epilepsy, Parkinson's disease, neurosyphilis, and encephalitis. The import of an electroencephalogram stirred the development of neurophysiology here. In the '60s, Professor Zu-Pei Hung completed his studies in the UK, and became the first officially

trained neurologist in Taiwan. The introduction of systematic neurologic examination and the neuroradiological technology in Taiwan has stirred the development of clinical neurology there.

In the 80s, progress in neuroimaging and neurophysiology, and the research in basic science, like immunology and pharmacology, occasioned ground-breaking development in the diagnosis and treatment of neurological diseases. Cerebrovascular diseases, Parkinson's disease, and Alzheimer's disease all started to get more attention. Achievements in molecular biology and genetics in the '90s removed the veil of many neurological diseases.

The Neurology Department of National Taiwan University was separated from the Unit of Neurology and Psychiatry in 1980, and after that we focused more on the study of Neurologic Medicine. Presently, there are four divisions in the Neurology Department, including General Neurology, Cerebrovascular Diseases, Neuromuscular Disorder, and Neurophysiologic Diagnosis. Besides pursuing accuracy of diagnosis and effective treatment, the Department focuses research on neurology and the basic medicine of all kinds of neurological diseases in cooperation with the Graduate Institutes of Physiology, Anatomy, Pharmacology, and Immunology. The Department also assisted in establishing the Multiple Sclerosis Association and Epilepsy Association. By holding activities and lectures, the associations provide patients with those rare diseases another kind of support and consultation resource.

Studies currently underway in the Department include Pharmacological treatment and mechanisms of epilepsy at the ion channel and neurotransmitter level, skin biopsy in the evaluation of the status of neurological diseases, genetic study of young-onset Parkinson disease, epidemiologic study of Parkinson disease in Taiwan, and apoplexy records in National Taiwan University Hospital. Our faculty members publish their research in world-famous neurology journals every year.

The "PD center" in our department passed the Certification of international "Excellent PD center" in 2008, Which confirmed our effort in teaching, study, and service about Parkinson's disease.

FACULTY

Ph.D. Degree: 5

Professor

Full-time: 2; Part-time: 4

Associate Professor

Full-time: 1; Part-time: 2

Assistant:

Full-time: 2; Part-time: 1

Lecturer

Full-time: 0; Part-time: 17

Co-professors: 1

Visiting Staff

Full-time: 16; Part-time: 23

Section head/ Professor

Ruey-Meei Wu Doctor of Medicine, NTU

Full-Time

Professor

Yang-Chyuan Chang

Bachelor of Medicine, NTU

Associate Professor

Ming-Jang Chiu Ph.D., NTU

Assistant Professor

Jiann-Shing Jeng Bachelor of Medicine, NTU

Lecturer

Adjunct Professor

M.C. Tsai Ph.D., NTU

Part-Time

Professor

Tsu-Pei Hung Bachelor of Medicine, NTU

Rong-Chi Chen Bachelor of Medicine, NTU

Ming-Liang Lai Bachelor of Medicine, NTU

Chien-Jung Lu Bachelor of Medicine, China
Medical College

Horng-Huei Liou Doctor of Pharmacology,
NTU

Assistant Professor

Chih-Chao Yang Bachelor of Medicine, NTU

Associate Professor

Hou-Chang Chiu Bachelor of Medicine, NTU

Ping-Hong Chen Bachelor of Medicine, NTU

Clinical Specialist

Philip Su Bachelor of Medicine, NTU

Lecturer

Shing-Ming Sung Bachelor of Medicine, NTU

Tsuey-Ru Chiang Bachelor of Medicine, NTU

Han-Cheng Wang Bachelor of Medicine, NTU

Song-Yen Tsai Master of Environmental
Medicine, NTU

Shing-Nin Mei Bachelor of Medicine, NTU

Wei-Hong Chen Bachelor of Medicine, NTU

Yu-Wei Chen Bachelor of Medicine, NTU

Sheu Jan-Jiuan Bachelor of Medicine, NTU

Jiann-Herng Yeh Bachelor of Medicine,
Kaoshiung Medical College

Li-Ming Lian Bachelor of Medicine,
Kaoshiung Medical College

Chun-Hwei Tai Bachelor of Medicine, China
Medicine College

Chih-Chuan Chen Bachelor of Medicine, NTU

Chin-Hsieh Lin Bachelor of Medicine, NTU

Chi-Chao Chao Bachelor of Medicine, NTU

Chung-Fen Tsai Bachelor of Medicine, Taipei
Medicine College

Sung-Chun Tang Bachelor of Medicine, NTU

FACILITIES

The Department occupies half of a building floor of laboratory offices, 37-bed ward service and an outpatient clinic. Major equipment includes electroencephalogram, electromyographs, evoked potential recorders, electrophoresis, electronic stimulator, Duplex ultrasound instrument, and journals related to neurological science.

COURSES

Required Courses: Clerkship in Neurology(3), Internship in Neurology(4), Neurology(2)

1. The Department provides neurological teaching to the medical, dental, physical therapy, occupational therapy, medical technology and nursing students. With the four-year teaching to the medical students, they are equipped with necessary knowledge of neurologic disease to manage patients and do further research in neurology.
2. The Department holds a weekly case discussion and weekly journal reading or seminar. It chairs the weekly interdepartmental neurology conference. Specialists are invited to give lectures. The staff is encouraged to present their research materials for discussion. The staff attends the monthly meetings held among the teaching hospitals in the greater Taipei area. Research achievements are reported in the yearly meeting of The Neurological Society ROC (Taiwan) or academic meetings abroad. The Department also holds continued education course for clinicians from different parts of the country.
3. Clerkship in Neurology: The students are divided into groups, and each group has three weeks: the students take part in all clinical jobs, communicating with the patients' family, diagnosing, observing and recording the symptom of patient and the treating process.

Students learn neurology through lectures, seminars, case conferences, and there is a senior doctor instructing the students. (Required course for the 6th year medical students. 3 credits.)

4. Internship in Neurology: The courses include managing the patients in emergency department, rehabilitation theory, electroencephalography, etc.. Under the instruction of experienced doctors, students participate in the case work of neurological patients in the outpatient clinic and case conferences. (Elective course for the 7th year medical students. 4 credits.)
5. Neurology: Two hours of lecture weekly provides essential knowledge in the neurological disorders. The aim is to teach students to understand and recognize neurological disorders, so that they can provide the rehabilitation work. (Required course for 3rd year students of Departments of Physical Therapy and Occupational Therapy. 2 credits.)

PLANS

To enhance the function of service, research and teaching, this department is concentrating on the development in the subspecialty field, including general neurology, cerebrovascular disease, epilepsy, neuromuscular diseases, electrodiagnosis, neurotoxicology and occupational neurology.

ACADEMIC ACTIVITIES

This department holds the clinical case conference, one journal reading and one neurological case seminar with related departments in the hospital every week. The department would invite experts to give academic speeches. The department faculty members take part in the monthly neurological seminar among teaching hospitals in the northern Taiwan, and the annual international seminar, publishing their researching

results and exchanging thoughts. This department also provides regular continued educational courses for the clinical doctors.

CONTACT INFORMATION

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4-2-18 PSYCHIATRY



INTRODUCTION

The Department of Neurology and Psychiatry of the National Taiwan University Hospital was founded in 1946, the first psychiatric center in Taiwan. In 1955, the division of clinical psychology was set up. Then, in 1956, the division of social work, the division of occupational therapy, and the child mental health center were established in succession. In 1965, the new building of the department of psychiatry was completed and the day care center began to serve the public. Since then, with hardware and software, the department has commenced its productive development, which combines teaching, service and research. In 1980, the department separated into the Department of Neurology and the Department of Psychiatry.

As the pioneer of psychiatry in Taiwan, this department has been playing the leading role in the development of different therapeutic models, the cultivation of professionals, the education of medical students, and the promotion of community mental health. Therapeutic models include: biological treatment, forensic psychiatric assessment, psychotherapy, group therapy, community psychiatric program, etc. The cultivation of professionals includes the training of residents and paramedical professionals, such as clinical psychologists and social workers. The promotion of community mental health includes the day care program for chronic patients, and suicide intervention, family violence, school and public mental health programs.

The goals of training and education for residents emphasize the cultivation of right attitude, broad

knowledge and good skills. For medical students, in addition to knowledge and basic skills in general mental health and psychiatry, medical humanity, death education and medical ethics are also encompassed. For other related professionals, the integration of theory and practice is stressed.

Research in this department started quite early. Since 1946, the first psychiatric epidemiological research (in Mu-Zuh, Hsin-Puh, An-Ping) was launched. In 1961, there was a follow-up study in these three villages that aroused the attention of world psychiatry. In 1966, the department participated in the International Pilot Study of Schizophrenia (IPSS), becoming one of the nine international research centers. In 1982 to 1986, we carried out the Taiwan Psychiatric Epidemiological Project using diagnostic interview schedule (DIS) based on standard diagnostic criteria. This was one of the world famous 3rd wave Psychiatric epidemiological studies. From then on, our research, besides continuing schizophrenia research, gradually expanded to other fields of psychiatry, mainly including geriatric psychiatric illness, autism, PCB's children, forensic psychiatry, aboriginals in Taiwan, minor mental illness, psychosomatic medicine, consultation liaison psychiatry, psychopathology, infant and child development, community psychiatry, and lead poisoning of children. Since 1989, the research work has extended to molecular genetic, neuropsychological and neuroimaging studies of schizophrenia, AIDS, cancer, suicide prevention and public mental health.

The department has 4 subspecialty sections, including adult psychiatry, child and adolescent psychiatry, psychosomatic medicine, and community psychiatry. In the future, one of the main goals of the department is to set up the Institute of Mental Health.

FACULTY

Section head/ Professor

Hai-Gwo Hwu M.D., National Taiwan University

Full-Time

Professor

Ming-Been Lee M.D., National Taiwan University

Associate Professor

Susan Shur-Fen Gau M.D., Ph.D., Yale University

Instructor

Tzung-Jeng Hwang M.D., National Taiwan University
M.P.H., Harvard Medical school

Chih-Min Liu M.D., National Taiwan University

Chih-Yung Shang M.D., M.Sc., National Taiwan University

Clinical Assistant Professor

Mei-Chih Tseng M.D., Taipei Medical College
M.Sc., National Taiwan University

Adjunct Instructor

Ming-Hsien Hsieh M.D., National Taiwan University

Chao-Cheng Lin M.D., Yang-Ming Medical College, and Master of Biomedical Informatics, Taipei Medical University

Shih-Cheng Liao M.D., Taipei Medical College

FACILITIES

This department provides outpatient clinics, two inpatient clinics, two daycare units, and a chil-

dren's mental health center for medical students and psychiatric residents to practice psychiatric examination and therapy. Research rooms include various categories, such as forensic psychiatry, psychopathology, psychiatric epidemiology, biological psychiatry, community psychiatry, group and family therapy, consultation-liaison psychiatry, bio-feedback treatment, infantile autism, child and adolescent psychiatry, sleep lab and molecular genetics.

COURSES

The psychiatric teaching for medical students focuses on imparting knowledge of psychiatric disorders and familiarizing the medical students with psychiatric practice. The teaching for other undergraduates is to provide relevant psychiatric and mental health knowledge for their specialties.

Undergraduate Programs

Medical Psychology(1), Physician and Humanity(1), Physician and Society(1), Clinical Psychiatry(4), Meaning of Life and Death(1), Mental Disorders and Mental Health(2), Practice in Psychiatry(6)

Graduate Institute Program

Psychopathology(2)

Post-Graduate Institute Program

Special Topics in Psychiatry(2), practice in psychiatry (6), Independent study(2)

ACADEMIC ACTIVITIES

Regular teaching activity once per week.

Regular invited speaker once per week.

CONTACT INFORMATION

Section head: Hai-Gwo Hwu

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4-2-19 OPHTHALMOLOGY



INTRODUCTION

The Department of Ophthalmology, National Taiwan University Hospital was established in March 1897, the third separate department only next to the departments of Internal Medicine and Surgery. At present, our department has 18 attending doctors and 75 part-time visiting physicians, 23 residents and 10 technicians.

The examinations and procedures in ophthalmology are so complex that we continually update and upgrade our medical technology. Clinically, we have subspecialties in the fields of glaucoma, orbit & plasty, retina, refraction and cornea etc. Department research achievements include advances in closed-angle glaucoma, thyroid eye

diseases, orbital tumors, retinal detachment, retinal vascular disorders, corneal ulcers and excimer photorefractive surgeries.

As to teaching, in addition to an eight-hour course in Ophthalmology for the 4th-year medical students, there is a one-week clinical course for clerkship. A four-week internship is an elective course. The training course for residents is a four-year comprehensive, specialty-oriented program.

We do hope that, with improving surgical skills & biomedical technology, the quality of patient care will be even better and the products of endemic research more fruitful. The teaching facility & materials still enrichments are first-class and at the international level.

FACULTY

Full-time: 6

Part-time: 35

Ph.D. Degree: 7

M.S. Degree: 6

Section head / Professor

Fung-Rong Hu M.D., NTU

Full-Time

Professor

Muh-Shy Chen Ph.D., NTU

Associate Professor

Luke L-K Lin Ph.D., NTU

Yung-Feng Shih M.D., China Medical College

Chung-May Yang M.D., NTU

Chang-Hao Yang Ph.D., NTU

Clinical Associate Professor

I-Jong Wang Ph.D., NTU

Shu-Lang Liao M.S., NTU

Clinical Assistant Professor

Tzyy-Chang Ho M.D., NTU

Wei-Li Chen Ph.D., NTU

Part-Time

Emeritus Professor

Por-Tying Hung M.D., NTU

Ping-Kang Hou M.D., NTU

Associate Professor

Chi-Wang Yau M.D., NTU

Jui-Wen Hsieh M.D., NTU

Shiow-Wen Liou M.D., NTU

Lin-Chung Woung M.D., KaoShiung Medical
College

Kwan-Rong Liu M.D., NTU

Ai-Hou Wang Ph.D., NTU

Shu-Wen Chang M.D., NTU

Assistant Professor

Tsing-Hong Wang Ph.D., NTU

Lecturer

Ai-Ching Wu M.D., NTU

Chin-Sheng Lin M.D., NTU

Liang-Horng Chou M.D., NTU

Shun-Ling Lin M.D., NTU

Yiong-Jian Sheu M.D., NTU

Pei-Fen Liu M.D., NTU

Shine C.S. Kao M.D., NTU

Yee-Chau Chang M.D., KaoShiung Medical
College

Ching Shiue M.D., NTU

Jen-Shang Huang M.D., NTU

Jieh-Ren Jou M.D., NTU

Cheng-Kuo Cheng M.D., NTU

Yuh-Chih Hou M.D., NTU

Zu-Yuan Lin M.D., KaoShiung Medical
College

Elizabeth P. Shen M.S., NTU

I-More Fang M.S., NTU

Jia-Kang Wang M.D., NTU

Chien-Fan Fong M.S., NTU

Yi-Ting Hsieh M.S., NTU

Yi-Chen Sun M.S., NTU

Po-Ting Yeh M.S., NTU

FACILITIES

Buildings & Rooms

NTUH. Ophthalmic wards: Ward 12A, part of 12B, medical administration room for wards, dark room, laser room; Ophthalmic clinics: medical treatment room for outpatients, surgical intervention room, first-visit room, dark room, room for fluorescein angiography, room for ultrasonography, laser room, room for specular microscopy, room for glaucoma examination, and Oph. department of child health center.

Rooms for research: (Floor:12 , Research building): laboratory room for biochemistry, research room for pathology, laboratory room for microbiology, research room for physiology, room for electrophysiology, research room for visual sensitivity, and research room for color sensation.

Equipment

Slit lamp, autoperimeter, ultrasound, laser, specular microscope, electrophysiology examination instruments, and various instruments for surgery.

Library

Textbooks and journals of ophthalmology in library of College of Medicine, National Taiwan University

COURSES

Undergraduate Programs

Clinical Medicine (III)(3), Ambulatory Medicine/Emergency(6), Ophthalmology & Practice(6), Internship in Ophthalmology(4)

1. Teaching program for residents (1st to 5th year) and for interns and clerks.
2. Our teaching course includes 5 major parts:
 - (1) Clinical diagnosis & treatment.
 - (2) Clinical teaching-including morning meetings, case conferences, seminars, postgraduate training course and training course of micro-surgery.
 - (3) Research ability training-special topic research under the supervision of senior staff.
 - (4) Teaching program for internship and clerkship afforded by senior staff.
 - (5) Administrative training-chief residents undertake the administration, teaching program execution and team work coordination, authorized by the head of the department.

3. Major Courses

- (1) Ophthalmology provides up-to-date general concepts in ophthalmology. Included are

history of ophthalmology, anatomy, physiology, biochemistry, pathophysiology, symptomatology, refraction, pathology, pharmacology, therapeutics, neurology and surgery.

- (2) Clerkship in ophthalmology: 40-hours of clerkship in one week. The students learn how to do the history taking, ophthalmological examination, diagnosis and management under the supervision of teaching staff.
- (3) Internship in ophthalmology: 4 weeks internship in O.P.D., ward, emergency service, and operation room under direct supervision of the staff, especially on the learning of basic principles for handling common ocular diseases. With hours orientation lecture given at the start.

ACADEMIC ACTIVITIES

1. Morning meeting daily from Monday to Friday.
2. Case conference and journal review every Wednesday afternoon moderated by chairman.
3. Subspecialty Journal meeting every Monday, Thursday and Friday afternoon.
4. Invited guest lectures or Attending doctor teaching program every Saturday morning.
5. Occasional special guest Lectures given by visiting professors from abroad

CONTACT INFORMATION

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4-2-20 OTOLARYNGOLOGY



INTRODUCTION

The Department of Otolaryngology was founded in 1938. Previous chairmen of this department were Professor T.S. Lin, Professor S. M. Tu, Associate Professor T. T. Liao, Professor T. Hsieh, Professor M. M. Hsu, Professor S. Y. Lee and Associate Professor K.N. Lin. Professor Chuan-Jen Hsu is the present chairman. The faculty members include 8 full-time teachers and 27 part-time teachers. This department is divided into 5 subspecialties: otology, rhinology, laryngology, head and neck surgery and pediatric otolaryngology.

The primary missions of the department are teaching, research, and clinical service. The

major goal of teaching is to provide knowledge as well as clinical skills in the ENT field for medical students, interns and residents. As for research, the department has dedicated a lot to the study of nasopharyngeal carcinoma, laryngo-tracheal reconstruction, auditory physiology and vestibular function in the past. Currently, researches about cochlear blood flow, noise-induced hearing loss, genetics of

hereditary hearing loss/ age-related hearing loss, hearing prosthesis, tumor genetics, photodynamic therapy, tissue engineering, immunology and phoniatrics, are being conducted. In addition, the department offers numerous clinical services for patients with ear, nose and throat diseases.

The department has several distinctive plans in the future. First, several faculty members have collaborated with other departments (special basic medical sciences and engineering) to do cross-field researches that will substantially augment the quality of our research. Secondly, the department will host several international academic conferences in order to promote our visibility in the world. Third, the department wishes to establish a post-graduate program in audiology & speech pathology, so that more effort can be put for the care of hearing-impaired patients. Fourth, the department is establishing the gene bank of deafness in Taiwan for genetic studies of hearing.

FACULTY

Full-time: 8

Part-time: 27

Ph.D. Degree: 10

DMS Degree: 8

Department head/ Professor

Chuan-Jen Hsu M.D., NTU; DMS, University of Tokyo

Full-Time

Professor

Shiann-Yann Lee M.D., NTU; DMS, School of Medicine, Yokohama City University

Yi-Ho Young M.D., NTU; DMS, University of Tokyo

Associate Professor

Kai-Nan Lin M.D., Ph.D., NTU

Chia-Ming Liu M.D., NTU; DMS, Nippon Medical School

Jenq-Yuh Ko M.D., Ph.D., NTU

Pei-Jen Lou M.D., Ph.D., NTU

Assistant Professor

Te-Huei Yeh M.D., Ph.D., NTU

Part-Time

Professor

Ti Hsieh M.D., NTU; DMS, University of Tokyo

Mow-Ming Hsu M.D., NTU; DMS, Tokyo Medical University

Tzu-Yu Hsiao M.D., Ph.D., NTU

Associate Professor

Chau-Ming Chang M.D., NTU; DMS, School of Medicine, Yokohama City University

Yuh-Shyang Chen M.D., NTU; DMS, Ehime University

Tien-Chen Liu M.D., NTU; Ph.D., Northwestern University, U.S.A.

Tzung-Shiahn Sheen M.D., Ph.D., NTU

Assistant Professor

Ching-Ting Tan M.D., Chung-Shan Medical College; Ph.D., NTU

Po-Wen Cheng M.D., Ph.D., NTU

Wei-Chung Hsu M.D., Ph.D., NTU

Chen-Chi Wu M.D., NTU

Lecturer

Chao-Ming Hung M.D., NTU

Oan-Che Linne M.D., NTU

How-Jiun Lin M.D., NTU

Hun-Long Lu M.D., NTU

Hung-Meng Huang M.D., NTU

Jiann-Chyuan Chen M.D., NTU

Ching-How Huang M.D., NTU

Cyih-Hsiu Wu M.D., NTU

Sheng-Po Hao M.D., Taipei Medical College

Chung-Yi Lee M.D., NTU

Ting-Knang Chao	M.D., Taipei Medical College
ChengPing Wang	M.D., NTU
Tsung-Lin Yang	M.D., NTU
Tsung-Wei Huang	M.D., NTU
Ting-Hua Yang	M.D., NTU
Shou-Jen Wang	M.D., NTU

FACILITIES

The department has laboratories for audiology, otoneurology, immunology, phoniatrics, logopedics, temporal bone study and physiology. Basic research instruments include audiometer, electronystagmographic systems, ultrasound, endoscope, stroboscope, microscope, auditory evoked response systems, patch clamp amplifier.

COURSES

Undergraduate Programs

Clinical Medicine(5), Ambulatory Medicine/
Emergency Medicine & Practice(6),
Bronchoesophagology & Endoscopy(1),
Otorhinolaryngology (School of Dentistry)(2)
Otorhinolaryngology & Practice(1)
Otolaryngology-Lectures and practice on common diseases of the ear, nose and throat and head and neck surgery for the 5th year medical students.

Internship in Otorhinolaryngology (B) (6),
Internship in Otorhinolaryngology (D)(8)
Internship of Otolaryngology-Training in the general aspects of otolaryngology and head and neck surgery by clinical work under supervision for the 6th and 7th year medical students.

ACADEMIC ACTIVITIES

1. Intra-department Activities

- (1) Morning Meeting (8:00-9:00) Presentation and discussion on cases of admission, discharge, consultation and emergency service.
- (2) Tumor Board (Mon. 4:30-5:30 pm)
- (3) Ward Round (Wed. 8:00-9:00 am)
- (4) Otology/Laryngology Conference (Tues. 5:30-6:30 pm)
- (5) Department Meeting (Wed. 5:30-6:30 pm)

2. Other Activities

- (1) ENT Basic Science Course (2 weeks course) for 1st year residents all over the country, once/yr.
- (2) Temporal Bone Dissection Course (3 days course) for 2nd or 3th year residents all over the country, once/yr.
- (3) Combined Conference on Oto-Rhino-Laryngology (half-day) for ENT doctors, tri-monthly.

3. We are now working to establish some additional fields, including tumor immunology, tumor molecular biology, electrophysiology, neurotology, functional endoscopic sinus surgery, establishment of cell lines, genetics of deafness, tissue engineering, phoniatrics and logopedics. In recent years, the department has been making great progress in academic contributions at both the national and the international levels.

CONTACT INFORMATION

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4-2-21 RADIOLOGY



INTRODUCTION

The Department of Physical Therapy of Sotokufu Hospital, now known as Department of Radiology, was established 1911 when Taiwan was still under the rule of the Japanese government. Later, it was renamed the Department of Radiology of Taipei Imperial University Hospital in 1937. After Taiwan was returned to the Republic of China, it was called the Department of Physical Therapy. In 1954, the radiation therapy and isotope room were integrated into the Department of Radiology at National Taiwan University Hospital. In 1990 the Department of Radiology was divided into 3 divisions: diagnostic radiology, nuclear medicine and therapeutic radiology. The division of diagnostic radiology

was renamed as Department of Medical Imaging in 1993.

Our teachers at the three divisions of Department of Radiology are experts in clinical practice and in research. Besides teaching college students radiology, we focus on researching modern medical imaging techniques.

In the near future, the Radiology Department will develop the most advanced biomedical imaging technique, build up the PET center, develop the field of high energy radiation therapy, and cooperate with leading medical imaging centers around the world. In the new century, we are preparing to play a leading role in medical imaging.

FACULTY

Full-time Faculty: 6

Clinical / Part-time Faculty: 25

PhD Degree: 4

Master Degree: 2

Section head/ Professor

Tiffany T.F. Shih Bachelor of Medicine, NTU

Full-Time

Professor

Tiffany T.F. Shih Bachelor of Medicine, NTU

Hon-Man Liu Bachelor of Medicine, NTU

Associate Professor

Yuk-Ming Tsang Bachelor of Medicine, NTU

Yeun-Chung Chang Bachelor of Medicine, China
Medical College PhD of
Electrical Engineering, NTU

Assistant Professor

Shinn-Fornng Peng Bachelor of Medicine, NTU

Ruoh-Fang Yen Bachelor of Medicine, NTU
PhD of Epidemiology College
of Public Health, NTU

Part-time

Honor Professor

Jane Chien-Yao Hsu Bachelor of Medicine, NTU

Professor

Yiu-Wah Li Bachelor of Medicine, NTU

Associate Professor

Shyh-Jye Chen Bachelor of Medicine, NTU
PhD of Clinical Medicine,
NTU

Kai-Yuan Tzen Bachelor of Medicine, Taipei
Medical University

Kou-Mou Huang Bachelor of Medicine, NTU

Cheng-Tau Su Bachelor of Medicine, NTU

Assistant Professor

Chao-Yu Hsu Bachelor of Medicine, China
Medical College.

Yao-Hung Wang Bachelor of Medicine, NTU
Bachelor of Electrical
Engineering, NTU
PhD of Electrical
Engineering, NTU)

Wen-Jeng Lee Bachelor of Medicine, NTU
PhD of Electrical
Engineering, NTU)

Jong-Kai Hsiao Bachelor of Medicine, NTU
Master of Clinical Medicine,
NTU

PhD of Biomedical
Engineering, NTU

Kao-Lang Liu Bachelor of Medicine, Taipei
Medical University

Yen-Wen Wu Bachelor of Medicine, NTU
PhD of Clinical Medicine,
NTU)

Lecturer

Lai-Lei Ting Bachelor of Medicine, NTU
Jane Wang Bachelor of Medicine, NTU
PhD of Preventive Medicine,
NTU)

Ya-Fang Chen Bachelor of Medicine, NTU
Chih-Wei Yu Bachelor of Medicine, NTU
Master of Clinical Medicine,
NTU

Po-Chin Liang Bachelor of Chung Shan
Medical College

Chung-Wei Lee Bachelor of Medicine, NTU
Wei-Tseng Chen Bachelor of Medicine, Taipei
Medical University
PhD of Clinical medicine,
NTU)

Yuan-Heng Mo	Bachelor of Medicine, NTU Master of Clinical Medicine, NTU PhD of Biomedical Engineering, NTU)
Sai-Hung Tang	Bachelor of Medicine, NTU
Liang-Kuang Chen	Bachelor of Medicine, NTU
Chin-Ming Jeng	Bachelor of Medicine, NTU
Wai-Yee Au	Bachelor of Medicine, NTU
Tze-Wan Tang	Bachelor of Medicine, NTU

FACILITIES

The Department of Radiology has three sections: Medical Imaging, Nuclear Medicine and Radiotherapy. Including 17 scout X-ray machines, 12 fluoroscopy, 13 portable X-ray machines, 3 mammography, 2 bone densitometry, 1 Ultra-sound, 5 CT scanners, 3 D.S.A. angiography machines, and 4 MRI scanners, 1 projector for x-ray film, 2 projectors for slides, 1 high-resolution video tape recorder, and 1 television set in the Division of Medical Imaging. It also has 3 linear accelerators, 2 Co-60 therapeutic machines, 1 after loading machine, 2 3D-treatment planning systems, 1 simulator, 1 computerized auto-cutting system, 1 TLD with automatic reading system in the Radiotherapy section. Additionally, it has 5^γ-camera machines (SPECT), 1 PET, 1 PET-CT, 1 bone densitometry and 3 ^γ-counters and ^β-counters, 1 RIA Laboratory, three projectors for slides, 2 overhead projectors, and 1 LCD projector in the Nuclear Medicine section. There are several hundred books about Radiology in the Department library.

COURSES

Design of Curriculum of Radiology

Introduction to Radiology: Summer class, PGY2 before Med5

Introduction to Radiology: First semester of Med5

Family, Society & Medical care: First and second semesters of Med 5: Radiologic curriculum in “Family, Society & Medical care”.

Image Diagnosis of Common Disease: First semester of Med 6: Image Diagnosis of Common Disease.

Advanced Medical imaging diagnosis: Second semester of Med 6: Advanced Medical imaging diagnosis

● Introduction to Radiology

The aim of this curriculum is to introduce the basic knowledge and principle of radiological science. The contents include diagnostic radiology, radiation therapy and nuclear medicine as well as important disease manifestations in these three main fields. It is expected to establish basic concept of radiological science that will be useful in the coming clinical practice for our medical students.

● Radiological curriculum in “Family, Society & Medical care”

This curriculum is emphasized upon the clinical participation of medical students from observing the course of radiological examinations, discussing with patients or their family, personal experience and small group discussion with tutors. The medical students are requested to understand the necessity, indications and contraindications of common radiological examinations and invasive procedures. They are also expected to be able to consider the clinical situation of patients and to offer an appropriate clinical suggestion for radiological examinations in terms of the cost of medical resources and benefits of patients.

- Image Diagnosis of Common Disease

The aim of this curriculum is to introduce important findings of common clinical diseases in different organs and systems. The medical students are expected to understand classical findings of common diseases that are able to make a diagnosis based on imaging studies. This course is to establish the basis of medical students in clinical practice.

- Advanced imaging diagnosis

The aim of this curriculum is to provide the theory and clinical application of advanced imaging diagnosis. The participants should have basic knowledge of radiological science and are expected to know current hot topics of imaging diagnosis, intervention and related researched fields.

ACADEMIC ACTIVITIES

1. Morning meeting and evening meeting every day directed by teachers of different subdivisions of radiology from Monday to Friday.
2. Cross department conference, such as neurology, neural surgery and neural radiology combined conference or surgery, pathology and radiology combined conference, et al. every-day respectively from Monday to Friday.
3. Monthly and annual meetings of the Radiological Society of the Republic of China.
4. Annual meetings of the international academic conference.

CONTACT INFORMATION

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4-2-22 LABORATORY MEDICINE



INTRODUCTION

Laboratory medicine is indispensable in modern medical science. Laboratory medicine can present scientific data to verify or rule out a certain diagnosis, guide and monitor medical treatment, and evaluate the severity and prognosis of the diseases. It is also valuable in mass screening and discovering the risk factors for early detection and treatment. The Department of Laboratory Medicine did not exist before World War II. Rather, various laboratories dispersed within each medical discipline and junior doctors were assigned to be in charge of the laboratory. The Department of Laboratory Diagnosis and the School of Medical Technology of the College of Medicine of National Taiwan University was

established in August 1956, to provide the medical tests for patient care and student education.

The Department of Laboratory Medicine consists of the Divisions of Biochemistry, Hematology, Serology, Microbiology, Virology, Transfusion Medicine, Stat Lab, Clinical Microscopy, Clinical Cytology, Electrocardiography, and Quality management.

This department has highly qualified faculty and equipment to educate laboratory medicine personnel, and offer specialist consultation and information to clinicians and students.

For the future, we are looking forward to establishing the molecular laboratory, applying bioinformatics on data analysis, developing flow

cytometry, promoting studies on enzyme analysis of RBC diseases and the stem cell system, correlate the relationship between HLA systems and diseases, and promote researches on the pathogenesises of microbiopathogens.

FACULTY

Full-time: 11

Part-time: 12

Ph.D. Degree: 8

Section head/ Professor

Fu-Tien Chiang M.D., Ph.D., NTU

Full-Time

Professor

Keh-Sung Tsai M.D., Ph.D., NTU

Shie-Ching Yang M.D., NTU

Yau-Chang Chen M.D., NTU

Li-Na Lee M.D., Ph.D., NTU

Po-Ren Hsueh M.D., NTU

Associate Professor

Dong-Tsamn Lin M.D., NTU

Wen-Chien Chou M.D., Ph.D., U.S.A. Johns
Hopkins University

Assistant Professor

Shyh-Chyi Lo M.D., Ph.D., NTU

Lecturer

Wern-Cherng Cheng M.D., NTU

I-Shiow Jan M.D., M.P.H., NTU

Part-Time

Jui-San Chen M.D., Ph.D., Japan Kyushu
University

Shu-Yue Lee M.D., Ph.D., Japan Niigata
University

Kuo-Shin Lin M.D., Ph.D., Japan
Fukushima Medical
University

Chiu-Hwa Wang M.D., NTU

Kwen-Tay Luh M.D., NTU

Ming-Ching Shen M.D., NTU

Sow-Hsong Kuo M.D., NTU

Jen-Shou Lin M.D., NTU

Jin-Ying Lu M.D., NTU

Tsu-Yao Cheng M.D., NTU

Wei-Yih Chiu M.D., M.S., NTU

Pei-Lan Shao M.D., NTU

FACILITIES

Laboratories for Clinical Biochemistry, Hematology, Serology, Bacteriology, Virology, Mycology, Parasitology, Clinical Cytology, Clinical Microscopy, EKG, Coagulation and Thrombosis, and Blood Bank have been established in this department. Hi-Tech equipment such as automatic sample handling system, flow cytometer, as well as HLA-D typing using DNA PCR blots, laminar flow rooms for cell culture and virus culture and blood coagulation tests provide quite outstanding routine services. Research facilities include various high-speed centrifuges, cell cultures, gamma-ray counters, DNA synthesizers, DNA content analyzers, and various instruments for molecular biology research are available.

PROGRAMS

Undergraduate Programs

1. Laboratory Medicine(2): this is for the 4th year medical students, 2 credits including lecture and practice. The lectures emphasize the basic concept of laboratory diagnosis and its clinical correlation, which cover the fields of clinical biochemistry, clinical microbiology, clinical microscopy, electro-cardiology, lung functions and hematology. The practices request the students to do bacterial staining,

urinalysis, ECG examination, punctuate tests and hematology examinations etc. The curriculum course is 58 hours overall.

2. Practice in Laboratory Medicine and Anatomical Pathology(6): This is the elective program for the 6th year medical students, 6 credits including each 3 weeks study period in Department of Laboratory Medicine and Anatomical Pathology. For the courses in laboratory medicine, students are required to rotate in department sections of Biochemistry, Microbiology, Blood Bank, Cytology and Clinical Microscopy, Hematology and Serology. In addition to lecture notes, students can learn from the onsite laboratory procedures of routine tasks.
3. The staff of laboratory medicine also participate in the teaching programs of the School of Medical Technology and the Graduate Institute of Medical Technology of National Taiwan University. Most of the staff also participate in the teaching programs of the Departments of Internal Medicine or Pediatrics.

ACADEMIC ACTIVITIES

Weekly activity: Seminars are held every Monday morning. There are also in each division meetings and teaching activities.

CONTACT INFORMATION

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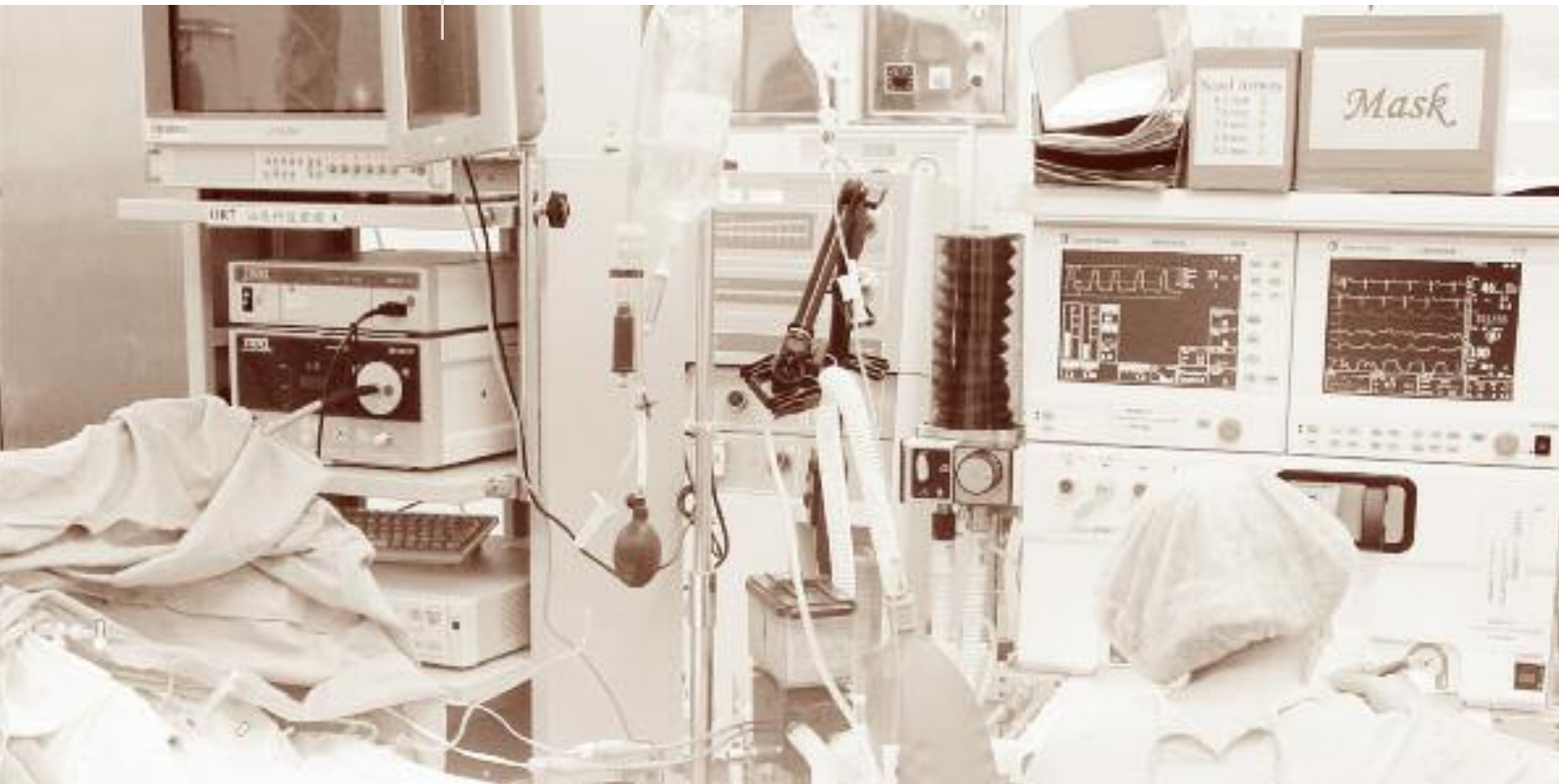
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4-2-23 ANESTHESIOLOGY



INTRODUCTION

Before the establishment of the Department of Anesthesiology, the anesthetic tasks were performed by the surgeons. In 1951, a surgeon Tien-yu Lin returned from the USA and wanted to perform complicated thoracic surgery. He borrowed a portable anesthetic machine from doctor Shieh-shi Wang of the National Defense Medical School and had Dr. Wang's assistance in the surgery. Dr. Wang then taught surgeons at NTUH about anesthetic works.

In 1953, Dr. Kuan-Yi Lee received training in anesthesiology in Copenhagen after being a Surgeon for 20 years. After the training, he was placed in charge of anesthesia at NTUH. In 1957,

Dr. Ming-Kuan Lin finished his master degree in anesthesiology at New York University and became our anesthesiologist. In 1961, Dr. Chi-Chin Chau studied anesthesiology in Denmark and became the third anesthesiologist in NTUH. At this time, there were 3 attending doctors and one resident (Dr. Chien-May Chi) in charge of anesthesia at NTUH. Thereafter, the Department of Anesthesiology separated from the Department of Surgery in June of 1962. This was the start of a new Department.

PLANS

In 1984, surgeons were still performing spinal anesthesia, but hardly any surgeons performed anesthetic surgery after 1987, except for some obstetricians performing anesthesia for Cesarean

Section. This condition came to an end in 1991, when the new NTUH building was used and anesthesia for Cesarean Section was performed by anesthesiologists. In 1993, the Department of Anesthesiology was changed into Division of Anesthesiology. In 1995, the subdivisions in anesthesiology were established, including general anesthesiology, cardiothoracic anesthesiology, obstetric anesthesiology, pediatric anesthesiology and pain control.

FACULTY

Full-time: 6

Part-time: 20

Ph.D. Degree: 6

M.S. Degree: 3

Section head/ Associate Professor

Shou-Zen Fan Ph.D., NTU

Full-Time

Professor

Wei-Zen Sun M.D., NTU

Ming-Jiuh Wang Ph.D., NTU

Associate Professor

Chen-Jung Lin M.D., NTU

Assistant Professor

Ya-Jung Cheng Ph.D., NTU

Li-Kuei Chen Ph.D., NTU

Part-Time

Shen-Kou Tsai Ph.D., Yang-Ming

Chang-Chuen Lin D.D.S., NTU

Yu-Ling Hui M.D., NTU

Chih-Cheng Chien Ph.D., Medical Science,
Cornell University

Shian-Yeang Lin M.D., NTU

Chien-Chiang Liu Ph.D., NTU

Hon-Ping Lau M.D., NTU

Yong-Ping Wang M.D., NTU

Chi-Hsiang Huang M.D., NTU

Yih-Gium Cherng M.D., Taipei Medical College

Kou-Shiu Huang M.D., NTU

Gong-Jhe Wu M.D., NTU

Huei-Ming Yeh M.D., Public Health, NTU

Chung-Ren Lin Ph. D., Life Science, Sum
Yat-Sen University

Chih-Peng Lin M.D., NTU

Chan, Wei-Hung Ph.D., NTU

Lin, Pei-Lin Ph.D., NTU

Chao, Anne MD China Medical
University

Yeh, Yu-Chang Graduate Institute of Clinical
Medicinem NTU

Lin, Tzu-Yu Yuan Ze University

FACILITIES

1. Anesthetic machines, monitoring, various instruments and models for clinical teaching and practice.
2. Laboratory with instruments for biochemistry, immunology, molecular biology, physiology and pharmacology.
3. Several hundred books about anesthesiology in the Medical Library and department.

COURSES

Undergraduate Programs

Anesthesiology(1), Practice in Anesthesiology (6), Practice in Clinical Anesthesia(6), Practice in of Clinical Anesthesia(1)

Graduate Institute Programs

Dissertation(2), Seminar on Anesthesiology (1), Special Topics on Anesthesiology I, II, III (3), Practice in Clinical Anesthesiology I, II, III (9), Seminar on Oral Anesthesia(1)

ACADEMIC ACTIVITIES

Morning meeting is held daily, which includes case conference, journal reading, and recent anesthesia updates. Also, there is a special Transesophageal echocardiography teaching every Wednesday, as well as special lectures and grand round every other week. We actively invite guest professors from other renown medical institutes or specialty to participate in special lectures.

We also actively engage in Taiwan anesthesia Society monthly event and participate in oversea anesthesiology Society.

Our residents are encouraged to conduct anesthesia related research and attend graduate school offered by NTU Medical School.

CONTACT INFORMATION

Section head: shouzen fan

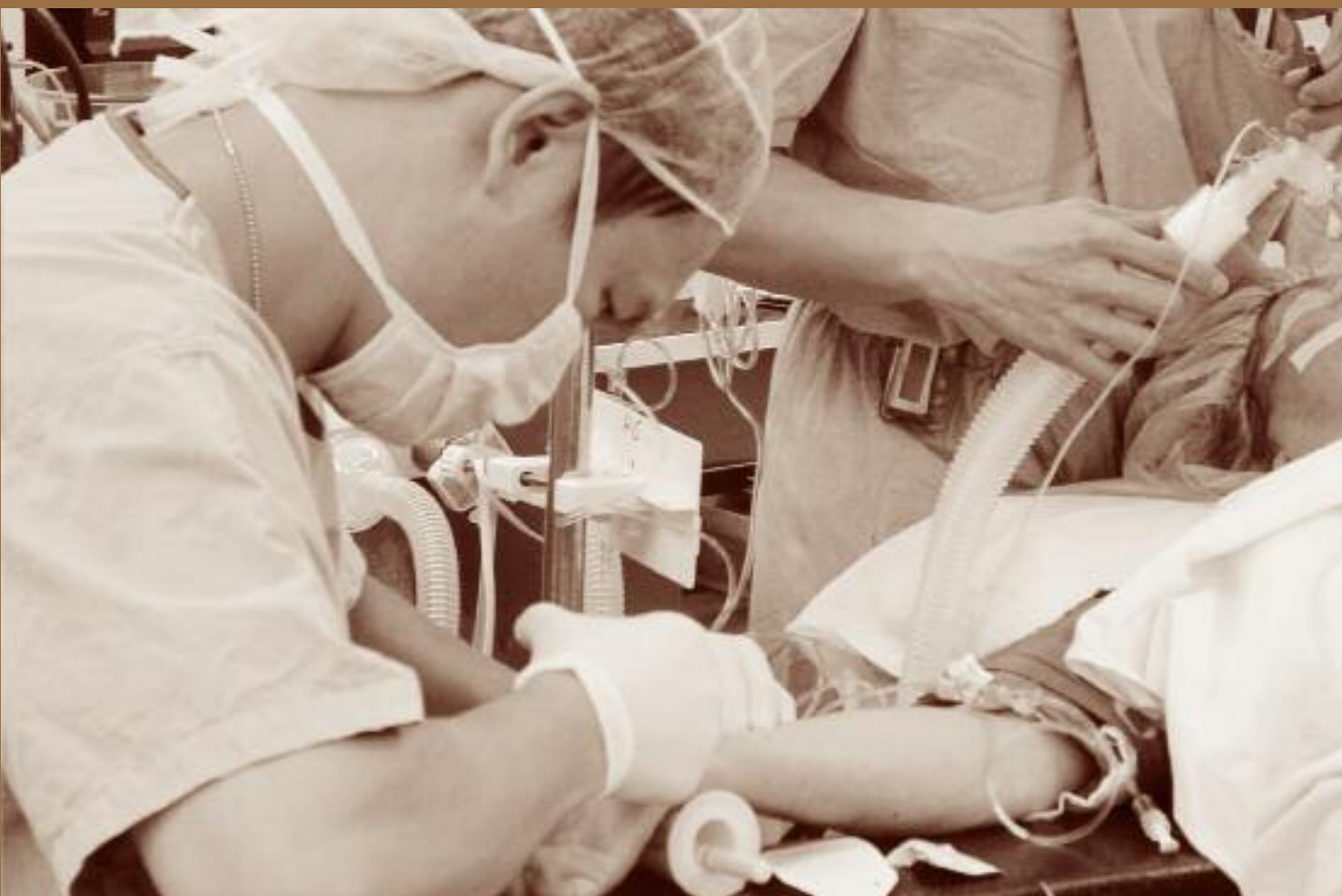
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4-2-24 FAMILY MEDICINE



INTRODUCTION

The Department of Family Medicine, College of Medicine, National Taiwan University, was founded in response to the government's urgent call for a health care system in remote areas, as well as for the fostering of general practitioners and the promotion of family medicine. In 1979, National Taiwan University Hospital initiated the training program of general practitioners. In 1985, the College of Medicine, National Taiwan University incorporated family medicine into its core education curriculum. In August of the same year, the Ministry of Education formalized the establishment of the Department of Family Medicine.

On the health care front, our department emphasizes the integration of biological, psychological and social aspects of caring, preventive medicine and community oriented primary care. On the medical front, we emphasize the development of a well-rounded medical system on the basis of family medicine, providing people with cooperative, comprehensive and cost-effective health services. On the training of family physicians, we emphasize on the value of doctor-patient relationship and medical ethics. In the aspect of academic research, as the leader in family medicine, we conduct innovative researches to uphold the quality of primary care.

The aims of our education programs are to teach medical students to be familiar with common diseases, to nourish students with appropri-

ate professional attitude and behaviors, to understand the bio-psychosocial model of health, to take care of patients with a broader prospective, and to incorporate preventive medicine into daily practice.

The spectrum of our research involvement is diverse. We are devoted into the study of bio-medical issues such as hypertension, diabetes mellitus, women's health, adolescence medicine, geriatric medicine, obesity and pharmacology. We also specialize in the research of behavior medicine that includes stress management, quality of life and psychological evaluation. Preventive medicine such as smoking cessation, immunization and community health promotion is also an area of our major interest and specialization. Finally, we have placed considerable effort in the fields of palliative medicine and medical education in recent years.

In the future, we aim to actively conduct research and development on the local family physician system in Taiwan; the creation of a school-based community development program; the promotion of community risk reduction in major health risk factors, such as smoking and obesity; the explosion of biological indexes of psychosomatic diseases; researches in prevention of depression; and the promotion of palliative medicine.

FACULTY

Full-time: 4

Part-time: 14

Ph.D. Degree: 9

M.S. Degree: 5

M.P.H. Degree: 2

Section head/ Associate Professor

Tai-Yuan Chiu M.D., M.HSci. International Health, University of Tokyo

Full-Time

Professor

Ching-Yu Chen M.D., NTU
Kai-Kuen Leung M.D., M.P.H., Johns Hopkins University

Associate Professor

Bee-Horng Lue M.D., NTU
Tai-Yuan Chiu M.D., M.HSci. International Health, University of Tokyo

Part-Time

Professor

Wei-Chuan Hsieh Doctor of Medical Science, Osaka City Medical School
Wei-Chu Chie M.D., Ph.D., NTU
Mei-Shu Lai M.D., Ph.D., NTU

Associate Professor

Long-Teng Lee Ph.D., NTU
Kuo-Chin Huang M.D., Ph.D., NTU
Fu-Chang Tsai Ph.D. of Bioethics, University of Manchester, U.K.

Assistant Professor

Heng-Shuen Chen Doctor of Electrical Engineering, NTU
Chyi-Feng Jan M.D., Ph.D., NTU

Lecturer

Kun-Yu Chao Master of Medicine, NTU
Wei-Dean Wang M.D., Ph.D., NTU
Wen-Jing Liu M.D., M.Sc., NTU
Shao-Yi Cheng M.D., M.Sc., NTU
Chien-An Yao M.D., M.Sc.
Chien-Hsun Huang M.D., M.Sc.

FACILITIES

The Department of Family Medicine has an outpatient clinic with 15 examination rooms, one inpatient wards with 37 beds (general ward 19 beds, palliative medicine ward 18 beds), two research laboratories, and a department library containing over 800 books, 29 journals, and audio and video teaching materials. All these collections are updated periodically. The department is affiliated with 7 Group Practice Centers for community medical practice. From 1999, two more rural community sites were established in the central region of the country. There are also affiliated resident-training programs with other teaching hospitals.

COURSES

Family, Society and Medical Care (6, 6), Pre-internship in Family Medicine (6, 6), Fixed Internship in Family Practice (4, 4), Semi-fixed Internship in Family Practice (3, 3)

ACADEMIC ACTIVITIES

Weekly Routine Activities

1. Morning Meeting:
7:40~8:40 a.m. Every morning at family medicine ward (including general ward and palliative care ward), for discussion of admitted and discharged cases, journal reading, etc.
2. Nursing-Physician Combined Conference:
8:00~9:00 a.m. Every Tuesday at palliative care ward, to discuss the cooperative issues between physician and nursing staffs at ward and home visits.
3. Pharmacist-Physician Combined Conference
(1) 1:00~2:00 p.m., Every Tuesday at Family Medicine ward, to discuss drug treatment issues and new drug information at the ward.
(2) 1:00~2:00 p.m., Every Wednesday at pal-

liative care ward, to discuss drug treatment for terminal cancer patients and new drug information update.

4. Community Medicine Teleconference: Four one-hour teleconferences for each fifth year medical student community rotation (two for Yuan-Lin and two for Luku community) for the discussion of community problem solving.
5. Department Academic Conference of Family Medicine: 4:00~7:00 p.m., Every Friday, at Family Medicine ward, participated by all staff members and residents, interns, to discuss core content of family medicine, resident training programs, and family practice update, etc.
6. Family Medicine Continuing Medical Education:
5:00~6:00 p.m., Every Tuesday at Gin-Fu Lecture Hall, designed essentially for general practitioners in Taipei City, to achieve the goal of upgrading healthcare quality for the general practitioners. Specialists from different sections are invited to teach their update medical knowledge. It was opened in 1983.
7. Palliative Medicine Educational Activities:
 - (1) Home care conference: 8:00~9:00 a.m., Every Tuesday at Hospice ward conference room.
 - (2) Case discussion and outcome assessment: 12:20~14:20 p.m., Every Thursday at Hospice ward conference room.
 - (3) Quality of life conference: 16:00~16:30 p.m., Every Thursday at Hospice ward conference room.
 - (4) Hospice journal reading: 13:20~14:20 p.m., Every Friday at Hospice ward conference room.

CONTACT INFORMATION

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4-2-25

PHYSICAL MEDICINE AND REHABILITATION



INTRODUCTION

The Department of Physical Medicine and Rehabilitation (PM&R) of the National Taiwan University (NTU) College of Medicine was established in 1987. However, teaching, research and service activities began at NTU Hospital in the 1960s. In 1963, the Department of Physical Therapy Rehabilitation was established and the Rehabilitation Building was constructed. In 1965, 22 beds were available in the rehabilitation ward, and the Department became the first rehabilitation facility with inpatient services in Taiwan. In 1967, occupational therapy and speech therapy were added to the rehabilitation services. In the same year the Division of Physical Therapy was established under the

Department of Medical Technology of NTU, where the first group of physical therapists was trained in Taiwan. In 1970, the School of Rehabilitation Medicine was established and provided a program of occupational therapy. This program led to train the first group of occupational therapists in Taiwan. With the assistance of the World Health Organization, the Prosthetic and Orthotic Unit was established in 1971, and the Psychological Rehabilitation Unit was set up in 1974. In the meantime, the members of Social Work Department of NTUH joined the rehabilitation team. Rehabilitation services then became more comprehensive and complete. In 1987, the Department of PM&R was established in the College of Medicine of NTU, and became a teaching and research unit. In 1992, the rehabili-

tation ward was expanded to 57 beds for inpatient service. In the same year, the School of Rehabilitation Medicine was divided into the School of Physical Therapy and the School of Occupational Therapy. In 1994, the Department of PM&R was divided into three functional divisions: the Division of General Rehabilitation, Division of Neurological Rehabilitation, and Division of Orthopedic Rehabilitation, as well as five units responsible for physical therapy, occupational therapy, speech therapy, prosthetics and orthotics, and psychological rehabilitation. In 1999, the Center of Assistive Technology was established with the financial support of the Ministry of Health. In 2001, the Divisions of General Rehabilitation, Neurological Rehabilitation, Orthopedic Rehabilitation, Physical Therapy Technology and Occupational Therapy Technology were reestablished in the Department of PM&R. In 2008, the rehabilitation ward expended to 63 beds. Since 1969, medical affairs were handled by Prof. I-Nan Lien, a responsibility that was transferred to Prof. Jin-Shin Lai in 1993, Prof. Chein-Wei Chang in 1999, and then Associate Prof. Yen-Ho Wang beginning in 2005.

The Department provides clinical training for 6th year medical students and interns as well as students of the Schools of Physical Therapy, Occupational Therapy and Speech Therapy. In addition a comprehensive resident training program has been applied to foster physiatrists. Residents are not only trained in inpatient and outpatient medical services, but also required to spend a period of several months in a different clinical subspecialty to acquire various examination skills from attending physicians. During the second and third year of residency, they are assigned a selective course for 2-4 months to the Departments of Orthopedics, Pediatrics, Anesthesiology or Neurology in accordance with

their personal preferences.

At present, the Department of PM&R has a well-established and highly skilled rehabilitation team providing complete rehabilitation services, including physical therapy, occupational therapy, speech therapy, psychological rehabilitation and prosthesis fitting. Furthermore, the Department of PM&R continues to perform academic research in rehabilitation medicine and receives funding from the National Science Council, National Institute of Health, NTUH and related organizations.

Since its establishment, the Department has not only focused on medical services, teaching and research activities, but also on the delivery of significant contributions to the society of Taiwan by engaging in the following activities: 1. promotion of island-wide education in rehabilitation medicine; 2. fostering specialized skills in the field of rehabilitation medicine; 3. assisting the government in the establishment of a national rehabilitation network; 4. promotion of sports medicine, and 5. promotion of physical exercise for the disabled. Future goals for the development of the Department of PM&R include: 1. expansion and reconditioning of hardware facilities; 2. diversification of rehabilitation disciplines; and 3. promotion of early intervention and popularization of medical services.

FACULTY

Full-time: 5

Part-time: 10

Ph.D. Degree: 4

Section Head / Associate Professor

Yen-Ho Wang M.D., School of Medicine,
NTU

Full-Time

Professor

Chein-Wei Chang M.D., School of Medicine,
NTU

Jin-Shin Lai M.D., School of Medicine,
NTU

Associate Professor

Tyng-Guey Wang M.D., School of Medicine,
NTU

Wen-Shiang Chen M.D., School of Medicine,
NTU
Ph.D., Bioengineering,
University of Washington

Part-Time

Professor

I-Nan Lien M.D., School of Medicine,
NTU

Chang-Zen Hong M.D., School of Medicine,
NTU,
Professor & Research
Director, University of
California, Department of
PM&R

Associate Professor

May-Kuen Wong M.D., School of Medicine,
NTU

Assistant Professor

Wei-Li Hsi M.D., School of Medicine,
NTU,
Ph.D., Degree of
Biobehavioral Health,
Pennsylvania State University

Ssu-Yuan Chen M.D., School of Medicine,
NTU, Ph.D., Epidemiology,
NTU

Shin-Liang Pan M.D., School of Medicine,
NTU. Ph.D.

Ching Lan M.D., School of Medicine,
Kaohsiung Medical
University

Lecturer

Huey-Wen Liang M.D., Kaohsiung Medical
University
M.S., Occupational Medicine,
NTU,

Lin-Fen Hsieh M.D., School of Medicine,
NTU

Jeng-Yi Shieh M.D., China Medical
University

FACILITIES

Aside from regular out-patient clinics and 60-bed in-patient facilities, the Department has well-equipped rehabilitation treatment units, such as physical therapy, occupational therapy, speech therapy, pediatric rehabilitation, orthotic and prosthetic workshop, and psychological therapy, in addition to electromyography laboratory, exercise physiology laboratory, and the soft tissue echo laboratory, and urodynamic laboratory. The physical therapy unit contains electrotherapy and heat therapy room, hydrotherapy room, therapeutic exercise room and gymnasium. The occupational therapy unit has rooms for functional occupational therapy, sensory-integration treatment and activities of daily living training. In the laboratories, there is much equipment supporting the need of diagnosis, research and teaching, such as electromyography, urodynamic study set, ultrasonography, pain evaluation system, Cybex isokinetic system, electric ergometer, treadmill, gas analyzers for the respiratory air, gait analysis, ultracold refrigerator, cryostat microtome, electrophoresis and electrophotometer, etc.

COURSES

Undergraduate Programs

Rehabilitation Medicine(3), Clinical Practice in Rehabilitation Medicine(4), Rehabilitation Medicine(1), Functional Reeducation(2)

ACADEMIC ACTIVITIES

Regular Academic Activities Include

1. One hour lecture of a specific topic in rehabilitation medicine is given monthly.
2. Journal meeting, doctor seminar, case evaluation conference, consultation case conferences and prosthetic conferences are given once a week, while the combined conferences on aphasia, MRI for bone and soft tissue disorders, neurogenic bladder, dysphagia and cardiac rehabilitation are held once every two or three weeks.
3. A one-hour lecture of a specific topic on training physical medicine & rehabilitation is arranged weekly for residents.
4. Every teaching staff member in the department makes teaching rounds once a day.

CONTACT INFORMATION

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4-2-26 ORTHOPEDICS



INTRODUCTION

The modern surgery in Taiwan originated right after the World War II. The National Taiwan University Hospital was the pioneer to treat patients in this country by surgery. The surgical principles differ among physiologic systems, due to their different functionality. Therefore, Professor Fu Si-Nien, former principle of University, settled several subspecialties for the department of surgery in the Hospital, to further specialize the training of residents. The orthopaedic surgery was among these subspecialties.

Orthopedic surgery progressed rapidly in the following years, thanks for the contribution of pioneer orthopedic surgeons and the advancement of

modern industry and biotechnology. The variety of operations increased, and the surgical outcomes improved. The orthopedics is unique among surgical subspecialties, for its primary concern on the musculoskeletal system. therefore the Hospital decided to separate the orthopedics from the department of surgery, to be an independent unit, in 1987. In the next year, the inauguration of Department of Orthopedic Surgery was authenticated as in the College of Medicine. Six subspecialties were further settled within the department in 1995, namely the general orthopedics, the sports, the medicine, the spinal surgery, the pediatric orthopedics, the hand and foot surgery, and the traumatology. They have functioned as a whole, with individual specialties working cooperatively with one another.

The Department owns talent faculty and adequate facilities. The teaching base on evidence-based medicine and covers a broad spectrum, from basic to clinical medicine, and includes biomechanics, musculoskeletal physiology and pathology, clinical diagnosis, fundamental orthopaedic management, preoperative scheme, and postoperative care. The education aims on humanism, emphasizing comprehensive medical care, sound physician-patient relationship, appropriate attitude of practice, and the ultimate respect to lives. The teaching adopts a problem-oriented technique, concentrating on the training of logical inference and the ability to apply abstract theories on realizing the improvement of human health.

The Department has devoted creatively within the campus for a long time to promote medical researches. The directions are twofold: to promote indigenous medicine, and to increase the international cooperation. The latter is achieved by intensive communication with globally famous research institutes, that expert on biomechanics, biochemistry, molecular biology, tissue engineering, and regenerative medicine. The conclusion of these basic researches is then applied on clinical practice. To pace up with the ever-progressing modern medicine, the Department keeps wide prospect by joining and organizing international meetings, and providing opportunities of exchanging scholarships.

FACULTY

Full-time: 9

Professors: 7

Assistant Professors: 2

Part-Time: 13

Attending Physicians: 18

Ph.D. Degree: 16

Honorary Professor: 2

Section head/ Professor

Ching-Chuan Jiang M.D., Ph.D., College of Medicine, NTU, M.B.A., NTU

Full-Time

Professor

Sheng-Mou Hou M.D., Ph.D., College of Medicine, NTU, M.P.H. Johns Hopkins

Ching-Lin Tsai M.D., Ph.D., NTU

Shier-Chieh Huang M.D., Ph.D., NTU

Rong-Sen Yang M.D., Ph.D., NTU

Chung-Li Wang M.D., Ph.D., NTU

Jinn Lin M.D., Ph.D., NTU

Assistant Professor

Jyh-Horng Wang M.D., Ph.D., NTU

Hongsen Chiang M.D., Ph.D., NTU

Honorary Professor

Tang-Kue Liu M.D., Ph.D., University of Tokyo

Yi-Shiong Hang M.D., NTU

Part-Time

Professor

Jui-Sheng Sun M.D., Ph.D., College of Medicine, NTU

Associate Professor

Yang-Hwei Tsuang M.D., Ph.D., NTU

Chi-Chang Lin M.D., Ph.D., NTU

Assistant Professor

Jyh-Horng Chang M.D., Ph.D., NTU

Shu-Hua Yang M.D., Ph.D., NTU

Chen-Ti Wang M.D., Ph.D., NTU

Lecturer

Kuo-Chen Shih M.D., NTU

Ing-Ho Chen M.D., NTU

Chun-Da Wu	M.D., NTU
Kuan-Yi Wei	M.D., NTU
Yuen-Lon Chang	M.D., NTU
Shen-Yi LO	M.D., NTU
In-Man Yip	M.D., NTU

FACILITIES

The Department of Orthopedics has biochemical, biomechanical and histological laboratories.

Major equipments include:

1. hard tissue microtome
2. digitized image analysis system
3. scanning electron microscope
4. Cybex isokinetic dynamometer
5. high resolution ultrasound machine (HDI 5000, ATC)
6. somatosensory evoked potential instrument
7. Biodex isokinetic dynamometer
8. computerized gait analysis
9. Elite motion analysis system
10. operation microscope
11. KT-1000 arthrometer
12. spectrophotometer
13. deep frozen refrigerator
14. electrophoresis stain
15. polarized microscope
16. vibration arthrometer

COURSES

Course Description and Teaching Program

1. Third year medical students: An 8-hour instructional course pertaining to the musculoskeletal system in the gross anatomy practical course during the first semester.
2. Fourth year medical student: A 6-hour instructional

course in orthopedic history taking and physical examination.

3. Fifth year medical students: A 18-week course in orthopedic outpatient medicine, introduction to musculoskeletal disorders commonly encountered in clinical practice, especially at the outpatient setting, emergency department and operation theater.
4. Sixth year medical students: An 18-week course in orthopedics and orthopedic practice, including lectures covering basic concepts of orthopedics, training of bedside clinical technique, and pre-internship training.
5. Seventh year medical students (internship): Interns will practice diagnosis and treatment of orthopedic patients at the outpatient department, emergency department, orthopedic ward, cast room and the operation room to learn the management of various orthopedic disorders on the spot.
6. Third year students of the department of rehabilitation: An 18-hour instructional course in the basic concepts of musculoskeletal system.
7. Biomechanics, basic and application a 15-hour instruction course.
8. Special topics in orthopedics (1)(2)(3): Introduces the latest developments and special ideas in orthopedics, especially in the fields relating to the morphological, functional and biomechanical aspects of the musculoskeletal system and the latest trend well as methods in orthopedic research.
9. Advanced training: Post-graduate program for the house staffs to be specialized in the sub-specialties.

ACADEMIC ACTIVITIES

Regular academic activities are held on a weekly basis and include:

Pediatrics Hcwd, Foot meeting, 5:30-6:30 .pm., Monday;

Sports medicine meeting, 5:30-6:30 p.m., Tuesday;

Journal clubs and instruction lectures, 7A.M.

Wednesday;

Case conferences (English language), 7 a.m.,

Thursday;

Spinal Meeting, 5:00~6:00 p.m., Thursday;

Subspecialty case conferences, 7 a.m., Friday;

and

Ward teaching round ,5 p.m, Friday.

There are also special lectures and conference in a frequent, irregular basis, to reinforce the residents with orthopedic related knowledge of all aspects.

FUTURE PROSPECTS

The Department follows the A-1 policy of this medical campus and set the future development on:

The vision: Asia Number One Orthopaedic Medical Center

The mission:

1. The best orthopaedic training program
2. To the best benefit of the patient
3. Open orthopaedic new frontiers.

The value: Life is infinitely valuable. Health is the number one.

CONTACT INFORMATION

Section head: Ching-Chuan Jiang,

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4-2-27 EMERGENCY MEDICINE



INTRODUCTION

The Department of Emergency Medicine was established in August, 1994. It is the first emergency department in Taiwan. To promote quality of care, research and teaching, the Department of Emergency Medicine, College of Medicine was divided into 3 divisions: general emergency, toxicology and traumatology. The 3 divisions were reorganized as 2 divisions, general emergency and emergency medical service, according to the systematic restructuring of National Taiwan University Hospital.

The Department of Emergency Medicine has only 3 full-time faculties, including general emergency, emergency medical service and trauma-

matology. The Department of Emergency Medicine aims to train emergency medical care and establish a training program.

The current faculty is unable to reach our goals; we need more faculties and facilities to strengthen the department. The emergency medical care training is urgently in demand in Taiwan; the potential of emergency medicine is unlimited.

PLANS

1. Cooperate with toxic pharmacology, public health and neurology to promote clinical research and basic research ability.
2. Provide subspecialty training, including general emergency, pediatric emergency, trauma, toxicology, emergency medical service, disaster medicine, environment medicine, emer-

gency medicine, emergency ultrasound, geriatric trauma, etc.

- Set up resuscitation center, research fields, including emergency medical service, shock, sepsis and hypothermia therapy, etc. Our goal is to establish Asia's number one resuscitation center.

FACULTY

Full-time: 3

Part-time: 16

Ph.D.: 9

Section head/Professor

Shyr-Chyr Chen M.D., M.B.A., NTU

Full-Time

Professor

Wen-Jone Chen M.D., Ph.D., NTU

Associate Professor

Matthew Huei-Ming Ma
M.D., Ph.D., the Johns
Hopkins University

Part-Time

Associate Professor

Hang Chang M.D., Ph.D., NTU

Ang Yuan M.D., Ph.D., NTU

Assistant Professor

Tzong-Luen Wang M.D., Ph.D., Department of
physiology, NTU

Cheng-Chung Fang M.D., NTU

Fuh-Yuan Shin M.D., Ph.D., NTU

Zui-Shen Yen M.D., M.P.H., Harvard
University

Chien- Hua Huang M.D., Ph.D., NTU

Chung-Liang Shih M.D., Ph.D, NTU

Patrick Chow-In Ko
M.D., MS., NTU

Wei-Tien Chang M.D., Ph.D., NTU

Shey-Ying Chen M.D., NTU

Chien-Chang Lee M.D., MSC., NTU

Lecturer

Wan-Ching Lien M.D., NTU

Wen-Chu Chiang M.D., MPH., NTU

Tsung-Chien Lu M.D., MS., YMU

Min-Shan Tsai M.D., NTU

FACILITIES

Department of Emergency Medicine is located on the first floor and basement of North building of National Taiwan University Hospital. It has 14 rooms, including chairman's office, attending office, administrative staff office, and library, etc. The teaching and research facility includes digital camera, scanner, slide projector, computer, laser printer, teaching video, We purchase about 10 emergency related references each year which are kept at medical library, College of Medicine. A small library at the Department of Emergency medicine also has 80 emergency related references or textbooks and 40 other references.

COURSES

Undergraduate programs

Emergency Medicine Clinical Practice (M7), Emergency Medicine and Practice (M6), Out patient & Emergency Medicine (M5), Advanced Cardiac Life Support (M6), Emergency Medicine A (M6), Emergency Medicine B (D5), Basic Life Support.

ACADEMIC ACTIVITIES

1. Disaster conference
2. Trauma combined conference
3. Journal reading
4. Emergency basic training symposium
5. Patient Safety conference
6. Advanced trauma life support course
7. Pediatric Advanced Life Support course.
8. Toxicological & Radiation symposium
9. Emergency 119 cases discussion

CONTACT INFORMATION

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4-2-28 ENVIRONMENTAL AND OCCUPATIONAL MEDICINE

INTRODUCTION

Because of the low diagnostic rate of occupational and environmental diseases, the Department of Health of the Executive Yuan decided to establish OEM (Occupational and Environmental Medicine) as a specialty in medicine and encourage medical centers to set up such a department. The National Taiwan University College of Medicine (NTUMC) had the first occupational physician certified by the American Board of Preventive Medicine in 1982. Since then, there have been 18 different kinds of occupational diseases documented in collaboration with other departments of the NTUMC and other hospitals in Taiwan. Because Taiwan entered into WTO (World Trade Organization) in 2002, there is an

urgent need to provide qualified physicians to promote occupational and environmental health inside industries. Moreover, the passing of ISO14000 (International standard organization for quality certification) in 1996 also produced a need for industry to implement environmental management voluntarily, while the passing of ILO/OSH 2001 (International Labor organization/ occupational safety and health management system) gave industry additional pressure to implement occupational health services for its factories both inside and outside of this country.

GOALS

The primary educational goal of this department is to educate and train OEM physicians for Asia and provide basic OEM education for medical students in the NTUMC. The research priority will be focused on environmental and occupational epidemiology, gene-environment interaction, health risk assessment technology, biomarker, ecological medicine, cost-effectiveness assessment, and occupational and environmental health services. The faculty members collaborate closely with the NTU Hospital and the College of Public Health in research and teaching activities. Faculty will be jointly appointed in the Institute of Occupational Medicine and Industrial Hygiene to conduct research and education.

FACULTY

Professor: 1

Adjunct Professor: 3

Ph.D. Degree: 4

Section Head/ Professor

Yue-Liang Guo Ph.D., John Hopkins Univ.
U.S.A.

Full-Time

Professor

Yue-Liang Guo Ph.D., Johns Hopkins Univ.
U.S.A.

Part-Time

Professor

Jung-Der Wang Sc.D., Harvard University,
U.S.A.

Sheng-Mou Hou M.D., Ph.D., M.P.H., The
Graduate Institute of Clinical
Medicine, College of
Medicine, NTU

Hsin-Su Yu M.D., Ph.D., University of
Tokyo, Japan

Tsun-Jen Cheng Sc.D., Harvard University,
U.S.A.

Pau-Chung Chen Ph.D.

CURRICULUM DEVELOPMENT

A course equivalent to 2 credit hours will be established for the 3rd year medical student. In addition, a curriculum of OEM will be set up which includes occupational and environmental hygiene, epidemiology, risk assessment, biomarker, biostatistics, etc., to fulfill the one year requirement of the OEM specialty board.

CONTACT INFORMATION

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3 SCHOOL OF PHARMACY (NTUSP)



INTRODUCTION

The School of Pharmacy (NTUSP) was established in the College of Medicine, National Taiwan University, by the Ministry of Education in Taiwan in 1953, and the first class of 32 undergraduate students enrolled in that year. NTUSP was the first public school of Pharmacy in Taiwan. The Graduate Institute of Pharmaceutical Sciences was set up and M.S. program was started in 1970, while the Ph.D. program was started in 1983. In order to improve the teaching and research and to complement each department, the Graduate Institute of Pharmaceutical Sciences was divided into three divisions in 1989, including: Medical Chemistry (division A), Pharmacognosy (division B) and

Pharmaceutics (division C), and a fourth division of Clinical Pharmacy was included in 1993 for education of pharmacists in clinical pharmacy. Furthermore, the fourth division was established independently as the Institute of Clinical Pharmacy in 2000 for advanced education and cultivation of professional clinical pharmacists, and to enlarge the knowledge in medical science as well as to improve medical quality and health care service. In the same year, a fourth division of Pharmaceutical Biotechnology was included. In order to coordinate more efficient teaching and research activities in the Graduate Institute of Pharmaceutical Sciences, another reorganization was initiated in 2008, resulting in three new divisions, Drug discovery (division A), Pharmaceutical Technology (division B) and

Biopharmaceutics (division C) According to specialties of faculties, NTUSP offers many courses, including: basic pharmacy (medicinal chemistry, pharmaceutics, pharmacognosy, pharmaceutical biotechnology, pharmaceutical analysis) and clinical pharmacy, for cultivation of candidates of R&D and industrial technology, and also for series training for professional specialists in Pharmacy Practice.

Basically, the faculties and facilities are in adequate amounts; however, several high-tech facilities are required for advanced research and further applications. To date, there is still a shortage of pharmaceutical researchers and related workers in our society. This field needs people skilled in pharmacy, and hospitals need professional pharmacists. Hence, NTUSP shows potential for further development, and two major perspectives are the following: 1. In addition to conventional pharmaceutics, the education should include the development and promotion of life sciences, biotechnology, and research in Chinese drugs. Hence, NTUSP could develop into a central school of pharmacy of both education and research in conventional pharmaceutics, biopharmaceutics and pharmaceutics in Chinese drugs; 2. The pharmaceutical education should be regularized to ensure NTUSP being a true School of Pharmacy.

FACULTY

Full-time: 24

Part-time: 12

Ph. D. Degree: 34

M. S. Degree: 4

Professor: 7

Associate Professor: 6

Assistant Professor: 10

Instructor: 1

Teaching Assistant: 4

Chair/ Professor

Shoei-Sheng Lee Ph.D. in Medical Chemistry & Pharmacognosy, Ohio State Univ., USA.

Full-Time

Professor

Ming-Jai Su Ph.D. in Pharmacology, NTU(Joint)

Jaw-Jou Kang Ph.D. in Chemistry, UCSD(Joint)

Ji-Wang Chen Ph.D. in Medicinal Chemistry, Univ. of Michigan, Ann Arbor, USA.

Ya-Wun Yang Ph.D. in Pharmaceutics, Univ. of Wisconsin, Madison, USA.

Wen-Jen Lin Ph.D. in Pharmaceutics, Univ. of Iowa, USA.

Ya-Ching Shen Ph.D. in Pharmaceutical Science, NTU

Associate Professor

Churn-Shiouh Gau Ph.D. in Pharmaceutics, Univ. of Wisconsin, Madison, USA.

Yen-Hui Chen Ph.D. in Molecular Pharmacology, State Univ. of New York at Stony Brook, USA.

Jih-Hua Guh Ph.D. in Pharmacology, NTU

Fe-Lin Lin Ph.D. in Pharmaceutical Science, NTU

Yee-Chung Ma Ph.D. in Chemistry, Univ. of Delaware, USA(Joint)

Lih-Ching Hsu Ph.D. in Human Cancer Biology, Univ. of Wisconsin, Madison, USA

Assistant Professor

Yung-Fang Ho	Ph.D. in Pharmacology, Univ. of Illinois, Chicago, USA.
Li-Jiuan Shen	Ph.D. in Pharmaceutical Science, Univ. of Southern California, USA.
Fan-Lu Kung	Ph.D. in Medicinal Chemistry, Univ. of Michigan, USA.
Ling-Wei Hsin	Ph.D. in Pharmaceutical Sciences, NTU
Ching-Hua Kuo	Ph.D. in Pharmaceutical Science, NTU
Chun-Jung Lin	Ph.D. in Pharmaceutics, Univ. of Michigan, USA.
Jung-Hsin Lin	Ph.D. in Biophysics, University of Duisburg, Germany(Joint)
Chia-Ron Yang	Ph.D. in Pharmacology, NTU
Pi-Hui Liang	Ph.D. in Pharmaceutical Science, NTU
Y.Jane Tseng	Ph.D. degree in Medicinal Chemistry and Pharmacognocny, Univ. of Illinois, Chicago, USA(Joint)

Lecturer

Shu-Wen Lin	M.S., Pharm.D., Purdue University, USA(Joint)
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Teaching Assistant

Ca-Jane Shen	M.S. in Pharmaceutical Sciences, NTU.
Yu-En Tien	M.S. in Pharmaceutical Science, NTU
Yi-Ying Lin	B.S. in Pharmacy, NTU
Yu-Chen Ho	B.D. in Information Management, NCU

Part-Time**Chung-Hsiung Chen**

	Ph.D. in Medical Chemistry, Univ. of Minnesota, USA.
Chiao-His Chiang	Ph.D. in Pharmaceutics, Univ. of Iowa, USA.
Yen-Yao Hsieh	M.D. NTU
You-Pu Hu	Ph.D. in Pharmaceutics, Univ. of Florida, USA.
Chiung-Sheue Chen	Ph.D. in Pharmacognosy, Univ. of London, UK.
Herng-Der Chern	Ph.D. in Pharmacology, Univ. of Pittsburgh, USA.
Weng-Foung Huang	Ph.D. in Pharmacology Administration, Univ. of Minnesota, USA.
Ling-Ling Hsieh	M.S. in Pharmacy, NTU
Ching-Shih Chen	Ph.D. in Medicinal Chemistry, Univ. of Wisconsin, Madison, USA
Yun-Lien Lin	Ph.D. in Agricultural Chemistry, NTU
Hsiu-Ying Yu	Ph.D., Pharmacy, University of Tokyo, Japan
Swu-Jane Lin	Ph.D., Pharmacy, University of Illinois, Chicago, USA

FACILITIES

Laboratories for teaching and research: Pharmaceutics, Pharmaceutical Chemistry, Pharmacognosy, Pharmaceutical Analysis, Pharmacokinetics, and Clinical Pharmacy. Instruments include: FT-NMR, DSC, Coulter Counter, UV-VIS Spectrophotometers, IR, FT-IR, HPLC, Photodiode Array Detector, GC, GC/MS, CPC, MPLC, DCCC, Refractometer, Polarimeter, TLC Scanner, Oxygraph, Thermo-

gravimetric Analyzer, Computer Molecular Modeling, Chromatotron, Lyophilizer, Circular Dichronic Spectrophotometer, Freeze Dryer, Spinning Band Distillator, Ultra-High Speed Centrifuge, Fluorospectrophotometer, Plant Culture Incubator, Rotary Tablet Machine, Fluid Bed Granulator, and common laboratory facilities. Common reference books and textbooks are placed in the institute study room.

Pharmaceutical journals and associated monographs are displayed in the Medical Library.

COURSES

School of Pharmacy

The school of pharmacy offers a four-year program leading to the degree of Bachelor of Science in Pharmacy. Students must complete a minimal requirement of one hundred and thirty-three credits. Required courses, besides the general courses for students, are listed below: General Chemistry (with Lab.)(4), General Biology (with Lab.)(6), Calculus(6), Analytical Chemistry (with Lab.)(4), Orientation in Pharmacy(1), Organic Chemistry (with Lab.)(8), General Psychology(3), Introduction to Medical Statistics(3), Herbiology(2), Physiology (with Lab.)(4), Anatomy (with Lab.)(3), Pharmaceutical Chemistry(5), Physical Chemistry(3), Pharmacognosy(3), Outline for Chinese Drugs(2), Pharmaceutics (with Lab.)(7), Pharmacology (with Lab.)(6), Biochemistry(4), Microbiology and Immunology (with Lab.)(3), Biopharmaceutics(3), Pathophysiology(2), Pharmaceutical Analysis (with Lab.)(3), Pharmacotherapy(4), Clinical Pharmacy, Dispensing Pharmacy and Practice(5), Pharmacy Administration and Pharmacy Law(2), Pharmacy Ethics(2), Pharmacy Practice(8)

Graduate Institute of Pharmaceutical Science

The graduate institute currently offers two-four year Master of Science programs and two-seven year Doctor of Philosophy programs in three different field of research majors, i.e., Drug Discovery, Pharmaceutical Technology, Biopharmaceutics.

M.S. Programs

A minimum of 24 credits of courses and 6 credits of M.S. Thesis are required to fulfill the M.S. program. General requirements are M.S. Thesis(6), Seminar(4) and New Drug Discovery I(2). The other required courses and credits for each major are as follows.

Must choose one from following :

Instrumental Analysis(3), Instrumental Analysis(2)

Must choose three from following :

Natural Product Chemistry(2), Drug Isolation Techniques(2), Stereochemistry in Drug Research(2), Special Topics in NMR Spectroscopy(1), Advanced Organic Chemistry(I)(4), Advanced Organic Chemistry(II)(4), Molecular Biology(4), Cell Biology(3), Advanced Medicinal Chemistry(I)(2), Advanced Medicinal Chemistry(II)(3), Drug Stability(2), Advanced Analytical Chemistry(I)(2), Advanced Analytical Chemistry(II)(2), Biopharmaceutical Delivery(3), Surface Chemistry(2), Pharmaceutical Biotechnology(2), Special Topics in Drug Screening(2)

Ph. D. Programs

A minimum of 18 credits of courses and 12 credits of Ph.D. Thesis are required to fulfill the Ph.D. program in Pharmaceutical Sciences. General requirements are Ph.D. Thesis (12) and Seminar(4). The other required courses and credits for each major are as following :

Advanced Pharmaceutics(I)(2), Advanced

Pharmaceutics(II)(2), Advanced
Biopharmaceutics(2), Advanced Topics in
Medicinal Chemistry(I)(2), Advanced Topics in
Medicinal Chemistry(II)(3), Discussion in
Advanced Organic Chemistry(I)(4), Discussion
in Advanced Organic Chemistry(II)(4),
Molecular Biology(4), Cell Biology(3), Selected
Topics in Natural Product Chemistry(2),
Advanced Instrumental Analysis(3), Drug
Isolation Techniques(2), Advanced Stereo
Chemistry (2), Special Topics In Pharmaceutical
Biotechnology(2)

ACADEMIC ACTIVITIES

Routine weekly seminars and occasional special lectures as well as symposia are held.

Participants include faculty members, graduate students, and research assistants.

CONTACT INFORMATION

Establish in: 1953

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4 SCHOOL OF NURSING



INTRODUCTION

The Department of Nursing of National Taiwan University was inaugurated in 1956. It was the first university school of nursing in Taiwan. In 1984, a Master degree program was started to prepare nursing leaders and advanced practitioners in nursing specialties.

The first Ph.D. nursing program in Taiwan was established at the Department in 1997. To enable students to carry out their nursing responsibilities and to contribute to the upgrading of the nursing profession, the undergraduate program emphasizes the application of theoretical knowledge and clinical practice. The Master degree program focuses on theoretical study and its practical

application to develop clinical nurse specialists and nursing leaders. The doctoral program prepares scientists of advanced nursing knowledge, practice and education, through research and scholarly activity, in order to create multidisciplinary and international leaders in nursing.

The characteristics of the Department of Nursing include :

1. An excellent learning environment:

In the Department of Nursing, students learn from highly qualified faculty members. They also have a chance to practice clinical nursing in national teaching hospitals and community health stations. In addition to the courses required by the school, students are encouraged to take the elective courses offered by various departments in the University in order

to broaden their minds. The Department of Nursing not only values students' professional knowledge, but also their extracurricular social activities.

2. The integration of teaching, research and clinical services:

Besides teaching at the academy, the faculty members also hold administrative or clinical positions (Joint Appointments) at National Taiwan University Hospital as a means of integrating academic study and clinical practice. As a result of the Joint Appointment system, clinical practice is improved through research, which in turn enriches the faculty's academic research. Research and clinical practice are thus integrated into the nursing curriculum.

3. The commitment of the nursing profession to society:

The Department of Nursing was entrusted by the Health Department of the Executive Yuan, from 1990 to 2000, to sponsor a National Continuing Nursing Education Center (NCNEC) so as to provide on-the-job training to nurses nationwide and keep them abreast of professional knowledge and skills. In addition, faculty members are active in nursing professional societies in which they taking leading roles as presidents, members of boards of directors, controllers, and professional committee members.

4. Collaboration with foreign universities:

The Department of Nursing has started an overseas Ph.D. study program. It also has academic collaboration with foreign universities through collaboration contracts. Affiliated schools include the Department of Nursing at the University of Washington in Seattle, the University of Texas in Austin, the University of Michigan, and the University of Arizona.

We have qualified faculty members with

advanced academic performance and clinical competence to provide substantial guidance in theory, research and clinical practice to students. The research focus of the faculty is not only to explore psychosocial issues, but also to expand biophysical measures. The research interests of the faculty include the fields of: adult care, gerontology, maternity, children, community and psychiatry. The research grant funded and productivity according to number of academic papers published for the faculty was increasing, especially with an increasing number of papers published in international SCI or SSCI journals.

The development aims of the Department of Nursing are to recruit new Ph.D.s as faculty members, to cultivate more professional leaders with advanced knowledge and skills, and to be the top college of nursing integrating nursing practice, administration, education and research to attain a new millennium in nursing.

FACULTY

Full-time: 25

Part-time: 15

Ph.D.: 17

DNSc, EdD: 4

Ph.D. candidates: 3

M.S.: 16

Chair/Professor

Lian-Hua Huang Ph.D., University of Colorado

Full-time

Professor

Yu-Tzu Dai Ph.D., University of Washington

Yeur-Hur Lai Ph.D., University of North Carolina at Chapel Hill

Associate Professor

Mei Chiang	Ed.D., University of Boston
Wen-Yu Hu	Ph.D., NTU
Meei-Fang Lou	Ph.D., University of Washington
Ya-Ling Lee	DNSc., Yale University School of Nursing
Chia-Hui Chen	DNSc., Yale University School of Nursing
Fei-Hsiu Hsiao	Ph.D., University of Melbourne

Assistant Professor

Bih-Shya Gau	Ph.D., NTU
Shu-Chu, Shiao	Ph.D., University of New South Wales
Shiow-Ru Chang	Ph.D., NTU
Shiow-Ching Shun	Ph.D., University of Utah

Lecturer

Po-Jui Yu	Ph.D. candidate, NTU
Ya-Ling Yang	Ph.D., NTU
Shing-Chia Chen	Ph.D., NTU
Yen-Chun Lin	Ph.D., NTU
Guey-Shiun Hwang	Ph.D. candidate, NTU
Hsiao-Ling Yang	Ph.D. student, NTU

Part-Time

Professor

Yu-Mei Yu	Ph.D., University of Pittsburgh
Yueh-Chih Chen	Ph.D., University of Colorado
Shu-Jen Sjiu	Ph.D., University of Washington
Shiow-Li Hwang	DNSc., Rush University

Associate Professor

Chaw-Fang Chou	M.S., University of Wisconsin
Sue-Wen Teng	Ph.D. study, NTU
Tsan-Ju Su	Ph.D., NTU

Lecturer

Li-She Yang	M.S.N. University of John Hopkins
Shi-Feng Huang	M.S.N., NTU
Hwei-Yuu Tzu	M.S.N., University of Minnesota
Yu-Mei Lai	M.S.N., NTU
Jing-Lian Huang	M.S.N., University of Maryland
Ji-Ying Tzeng	M.S.N., NTU
Yin Chang	M.S.N., NTU
Yu-Yun Li	M.S.N., NTU

FACILITIES

The Department of Nursing is located in three buildings on the Health-Science Campus of National Taiwan University. It has fourteen classrooms, two offices, three rooms to use as carrels for master and doctoral students, and fifteen rooms for the faculty. The teaching hospital has a clinical practice laboratory with facilities needed to prepare students before they engage in clinical practice. There are also computers and an audio-visual laboratory available for research and teaching purposes.

The Department of Nursing has access not only to its own library, but also to the Health Science Library at the health science campus that has a comprehensive updated collection of nursing journals and books. The Health Science Library has a rich collection of books, journals, other periodicals, audio-visual equipment, computers, disk players and retrieval systems for information gathering.

COURSES

Undergraduate Programs

1. A four-year degree program in nursing granting a Bachelor of Science degree
2. Student enrollment: 40-50/year
3. Total credits: 128

Required Courses

Freshman

Introduction to Nursing (2), General Biology (3), Synopsis of Biochemistry (2), General Chemistry (3), Microbiology and Immunology (including lab.) (4), General Psychology (3), Introduction to Medical statistics (3)

Sophomore

Anatomy (including lab.) (3), Physiology (including lab.) (4), Applied Pathology (3), Human Development (including practice) (4), Fundamentals of Nursing (including practice) (4), Nutrition (2), Pharmacology (including lab.) (4)

Junior

Pediatric Nursing (including clinical nursing practice) (6), Maternity Nursing (including clinical nursing practice) (6), Medical-Surgical Nursing (including clinical nursing practice) (12), Health Assessment (including practice) (2)

Senior

Community Health Nursing (including clinical nursing practice) (6), Psychiatric Mental Health Nursing (including clinical nursing practice) (6), Comprehensive Clinical Nursing Practice (I) (3), Introduction to Nursing Research (2), Introduction to Nursing Administration (including clinical nursing practice) (5), Seminar on Professional Issues (1), Comprehensive Clinical Nursing Practice (I I) (3)

Graduate Programs

1. Two or three year program granting a Master of Science degree
2. Tracks: Advanced Medical-Surgical nursing, Advanced Maternity nursing Advanced Pediatric nursing, Advanced Community nursing, Advanced Psychiatric nursing
3. Total credits: 36 credits [including 6 thesis credits]
4. Student enrollment: 4-11/track/year
5. Required Courses :
Advanced Medical-Surgical nursing (including clinical nursing practice) (10), Advanced Maternity nursing (including clinical nursing practice) (10), Advanced Pediatric nursing (including clinical nursing practice) (10), Advanced Psychiatric nursing (including clinical nursing practice) (10), Advanced Community nursing (including clinical nursing practice) (10), Basic Nursing Theory(2), Nursing Research (3), Human Physiology (4), Principles of Epidemiology (2), Leadership and Management (2), Introduction to Family Therapy (2), Thesis (6), Medical statistics (I) (3), Ethics and Skill of Scientific Writing (1), Psychiatric disorders and psychopathology (2)

Ph.D. Programs

1. Graduates receive a Ph.D. in nursing
2. Total credits: 48 credits (including 12 dissertation credits)
3. Student enrollment: 3-5/year
4. Required Courses:
Theory Construction and Nursing Practices (3), Quantitative Research Methodology (3), Adaptation to Health and Illness (3), Nursing Intervention to Health and Illness (3), Special Topics in Qualitative Research (3), Health Care System and Policy (3), Overseas study (6 months or longer), Nursing Research Seminar (1-4), Dissertation (12)

ACADEMIC ACTIVITIES

1. Faculty seminars on research or teaching-learning issues held during winter or summer break.
2. National or International Academic seminars or lectures given by faculty or foreign scholars.
3. Research Publications published on the School anniversaries. (So far the publications have been issued on the School 10th, 15th, 20th, 25th, 30th, 35th, 40th, 45th, and 50th anniversaries.)
4. Weekly "Nursing Research Seminar" for Ph.D. students and faculty members.
5. Yearly, the "East Asian Forum of Nursing Scholars" for Ph.D. students and faculty members.

CAREERS AND FURTHER STUDIES

1. Professional abilities: Medical-Surgical Nursing; Pediatric Nursing; Psychiatric Nursing; Maternity Nursing; Community Nursing; Nursing Administration
2. Graduates may decide to advance and broaden their studies at various graduate institutions including, but not limited to Graduate Institute of Nursing, Graduate Institute of Public Health, Graduate Institute of Health Education, Graduate Institute of Anatomy, Graduate Institute of Physiology
3. On completion of the degree, students are eligible for the professional nurses certifications and launch careers at the following positions: clinical nurses, head nurses, school nurses, health care administrators, public health nurses, nursing educators and school faculty

CONTACT INFORMATION

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Website: <http://www.mc.ntu.edu.tw/nurse/>

E-mail: lhhuang@ntu.edu.tw



5 DEPARTMENT OF CLINICAL LABORATORY SCIENCES AND MEDICAL BIOTECHNOLOGY

國立台灣大學醫學院醫事技術學系暨研究所

系所主任室 509	鄧麗珍 教授 429 430	謝崇峰 講師 411
系所辦公室 507	高金良 副教授 437 438	鄭雅蘭 助教 507
系所圖書室 511	林亮音 副教授 318 320	吳上欣 助教 521-3
師生討論室 505	方偉宏 副教授 521-3 521-5	陳威名 技士 507
何憲武 教授 431 432	賴信志 副教授 418 422	
高麗村 教授 524 521-2	廖淑貞 助理教授 438 442	
林懷華 教授 515 516	楊雅倩 助理教授 407	
李富男 教授 441	胡志怡 教授 441	
林敬祥 教授 441	張淑嫻 助理教授 441	

INTRODUCTION

The Department was founded in 1956 as School of Medical Technology. In more than 50 years of history, there are over a thousand students graduated from this department. The master and doctoral programs was launched in 1987 and 2002, respectively. To date more than one hundred students accomplished their master degrees and 3 students received doctoral degree. In 2005 the department made a name change to current name.

The Department faculty includes 6 professors, 2 associate professors, 7 assistant professors and 2 teaching assistant. Currently there are 132 undergraduates, 52 students in master program and 22 doctoral students.

The teaching aims of the School include: enhancing the level of medical technology; training students to be medical technologists, environmental, food, and hygiene inspectors, or laboratory managers; educating students to be researchers in the field of laboratory science and biotechnology.

More than one hundred research papers published by Department faculties in past 5 years and most of the papers were published in journals on the SCI list.

FACULTY

Full-time: 15

Part-time: 4

Ph.D. degree: 12

M.S. degree: 1

Chair/ Professor

Chun-Nan Lee D. Sc. in Cancer Biology,
Harvard University, U.S.A.

Full-Time

Professor

Jau-Tsuen Kao B.S. in Medical Technology,
NTU

Shu-Wha Lin Ph.D. in Biology, UNC-
Chapel Hill, U.S.A.

Shwu-Bin Lin Ph.D. in Biochemistry, The
Johns Hopkins University,
U.S.A.

Lee-Jene Teng M.S. in Microbiology, NTU

Liang-In Li Ph.D. in Biochemistry, NTU

Associate Professors

Chuan-Liang Kao B.S. in Medical Technology,
NTU

Woei-horng Fang Ph.D. in Biochemistry, Duke
University, U.S.A.

Assistant Professor

Shwu-Hen Liaw Ph.D. in Microbiology, NTU
Ya-Chien Yang Ph.D. in Microbiology, NTU
Sui-Yuan Chang D. Sc. in Immunology and
Infectious Diseases, Harvard
University, U.S.A.

Chung-Yi Hu Ph.D. in Microbiology, NTU
Sung-Liang Yu Ph.D. in Microbiology, YMU
Ya-Huei Chuang Ph.D. in Molecular Medicine,
NTU

Teaching Assistant

Ya-Lan Cheng M.S. in Medical Technology,
National Taiwan University

Part-Time

Professor

Albert M. Wu Ph.D. in Medical
Biochemistry, New York
Medical College, U.S.A.

Hsin-Chih Lai Ph.D. in Pathology,
Cambridge University, UK

Mi-Hua Tao Ph.D. in Molecular
Immunology, Columbia
University, U.S.A.

Associate Professor

Lan-Yang Chang Ph.D. in Microbiology,
Vanderbilt University, U.S.A.

FACILITIES

The Department worked cohesively with institutions in the College of Medicine and the University Hospital in teaching and research activities. The centralized instruments include ultracentrifuge, HPLC, DNA synthesizer, DNA auto-sequencer, real-time PCR machine, nephelometer, and flow cytometer etc. Each faculty is fully equipped with a laboratory for research and training of graduate students. There are four students' laboratory equipped with instruments for undergraduate to conduct experiments of clinical biochemistry, hematology, microbiology, virology, serology, and clinical microscopy. All the clinical practices are held in Department of Laboratory Medicine, NTU Hospital, and the Department has most advanced instruments for clinical diagnosis.

1. PROGRAMS

The School offers a four-year program leading to the degree of Bachelor of Science. Students must complete 132 credits of required courses. Courses of freshman, sophomore and junior students are offered at the main campus and medical college. In cooperation with the Department of Laboratory Medicine, the clinical laboratory practice for senior students is offered at their clinical laboratories. Practice courses include Clinical Microscopy, Clinical Physiology, Clinical Biochemistry, Clinical Microbiology, Clinical Virology, Clinical Serology and Immunology, and Clinical hematology.

Undergraduate Core Courses

Clinical Microscopy, Clinical Microscopy Lab., Clinical Microscopy Practice, Hematology, Hematology Lab., Clinical Physiology, Instrumentation, Clinical Physiology Practice, Clinical Biochemistry, Clinical Biochemistry, Clinical Biochemistry Lab and Practice, Clinical Bacteriology, Clinical Bacteriology Practice, Clinical Bacteriology and mycology Lab., Clinical Serology and Immunology, Clinical Serology and Immunology Lab., Clinical Serology and Immunology Practice, Clinical Hematology, Clinical hematology Lab., Clinical Hematology Practice, Blood Banking, Blood Banking Practice, Clinical Virology, Clinical Virology Practice, Clinical Virology Lab., and Molecular Biology.

Graduate Courses

Master program

The Graduate Institute offers a two-to-four year program leading to the degree of Master of Science. In addition to general required courses, additional courses are available. A minimum of 24 credit units plus thesis is required to complete the master program.

Ph. D program

The Graduate Institute also offers a two-to-seven year program leading to the degree of Ph.D. A minimum of 18 credit units plus thesis is required for Ph.D.

ACADEMIC ACTIVITIES

Seminars are held weekly with attendance of all departmental members. Students are also strongly encouraged to participate in relevant symposia and scientific meetings held on campus.

Research

Clinical Biochemistry: Genetic study of hypertriglyceridemia in Chinese. Anticancer activity of natural substances. Using antisense oligonucleotides as probes to detect cancer cells and as anticancer agents. Investigating the correlation between DNA repair and certain genetic disease by in vitro assays.

Clinical hematology presently emphasizes research in hematological diseases. Genetic disorders are under intensive investigation including thalassemia syndrome involving globin gene abnormality, the molecular mechanisms of paroxysmal nocturnal hemoglobinuria, and aplastic anemia. Study the molecular defects of hemophilia A and B, assessing the carrier status and prenatal diagnosis for those families. Study factors VII, VIII, IX and X by protein engineering using site-directed mutagenesis. Developing transgenic mice technology and used the technique in fields of hematology and cancer.

Clinical Bacteriology: Using molecular methods to detect antimicrobial resistance genes and to study mechanisms of drug resistance. Develop of molecular epidemiology such as chromosome fragment fingerprinting or ribotyping for epidemiological study. Detect slow-growing bacteria by using PCR technology. Study the bacterial virulence factors and gene regulation.

Mechanism of bacterial cell differentiation and population migration and the regulation of cell-differentiation associated genes.

Clinical Virology: Development and application of laboratory methods in rapid diagnosis of viral infections. Study Molecular Epidemiological of virus infections in Taiwan. Study mechanism of anti-viral drug resistance. Developing viral vaccines and diagnostic reagents. Study the prognostic markers for HIV-I disease progression. Study infectious agent of 'SARS'.

Clinical Serology and Immunology:

Improvement and application of immunoassays. Research in Serology of human tissue types for the application of organ transplantation and disease association. Research HLA DNA typing for the application of anthropology, paternity identification and disease association. Developing an fast method of molecular technique of DNA tissue typing for clinical laboratory tests. Study on the tumor necrosis factor — α triggered apoptosis on human T cells and the susceptibility of HTLV-I-infected T cells to TNF- α -induced apoptosis. Study molecular genetics of inherited colorectal cancer, FAP and HNPCC.

Biotechnology: Study of tumor development by microarray analysis.

Profession and the fields for advance study

Professional capability provided

For undergraduate program, after graduation and complete laboratory internship training the students are eligible to take examination held by Examination Yuan for Medical Technologist qualification. Passing the examination, the student can obtain the license of Medical Technologist and work in Clinical Laboratory. The graduates of this School all had been through critical training for laboratory operation concept and experiment skill. They can fit in very well to many bio-medical laboratories.

Fields for advanced study

- 1 The master and Ph.D. program of Medical Technology provide advanced study for Laboratory Medicine.
2. The undergraduates of this School are well trained in Life Science and Bio-Medical Science, therefore they are also fully prepared for advance study in the fields of Biochemistry, Molecular Biology, Microbiology, Immunology, Physiology, Toxicology, Molecular Medicine, and Genetics etc.

Professional Outlook

Medical Technologist: Positions in laboratories of all classes of public and private hospitals, private medical laboratories, blood banks, and medical laboratory related public services under Bureau of Hygiene.

Graduates of Ph.D. and Master programs may work in academia such as faculties in colleges or universities, or as researchers in research institutions. They are also well trained for research and development departments of biotechnology industry, or serve as specialists or managers in companies of laboratory instruments or diagnostic reagents.

COMMUNICATION

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SCHOOL AND GRADUATE 6 INSTITUTE OF PHYSICAL THERAPY



INTRODUCTION

This first physical therapy education program of Asia was commenced in 1967 at the School of Medical Technology of the National Taiwan University. It was founded under the sponsor of World Health Organization (WHO). In 1970, the Division of Physical Therapy, School of Rehabilitation Medicine was formally established and was the pioneer of physical therapy education at the bachelor level in Taiwan. Since 1992, the Division was renamed as the School of Physical Therapy. In 1997 and 2004, the School started to offer the first M.S. and Ph.D. Programs in Physical Therapy, respectively, in Taiwan. Forty-three undergraduate students, 12 master students, and 3 doctoral students are enrolled

each year. As of July 2008, more than 900 students have graduated from our B.S. program, 86 students from our M.S. program and 2 students from our Ph.D. program.

The mission of our undergraduate program is to nurture students to become qualified physical therapists with sound theoretical knowledge, enriched empirical experiences, excellent clinical skills, and high moral standards. Graduates of our undergraduate program are expected to always follow professional ethics, think critically, pursue lifelong learning, and collaborate with other professionals effectively. The mission of our graduate programs is to nurture physical therapists or non-physical therapists to become excellent specialists, clinical instructors, educators, researchers, or administrators in physical

therapy-related fields. Graduates of our graduate programs are expected to have the capabilities of independent reasoning, innovation, and leadership, and to have the farsighted vision that contributes to the wellbeing of the mankind. Our alumni are well recognized for their outstanding performance and taking on leadership in academic and clinical institutes in Taiwan.

FACULTY

Full time: 16

Part time: 4

With PhD or ScD Degrees: 17

With MS Degree: 3

Professors

Jeng, Suh-Fang,	PT, ScD, Applied Kinesiology, Boston University, U.S.A.
Lin, Kwan-Hwa,	PT, PhD, Physiology, University of Kentucky, U.S.A.
Wang, Shwu-Fen,	PT, PhD, Anatomy, Virginia Commonwealth University, U.S.A.

Associate Professors

Jan, Mei-Hwa,	PT, MS, Biomedical Engineering, National Yang-Ming University, Taiwan
Liao, Hua-Fang,	PT, MS, Public Health, National Taiwan University, Taiwan
Wu, Ying-Tai,	PT, PhD, Exercise Science, University of Iowa, U.S.A.
Hu, Ming-Hsia,	PT, PhD, Exercise and Movement Science, University of Oregon, U.S.A.

Tsauo, Jau-Yih, PT, PhD, Epidemiology, National Taiwan University, Taiwan

Lin, Jiu-Jenq, PT, PhD, Physical Therapy, Texas Woman's University, U.S.A.

Assistant Professors

Tang, Pei-Fang,	PT, PhD, Exercise and Movement Science, University of Oregon, U.S.A.
Wang, Hsing-Kuo,	PT, PhD, Sports Injury, University of Sheffield, U.K.
Wang, Li-Ying,	PT, PhD, Exercise Physiology, State University of New York at Buffalo, U.S.A.
Chen, Li-Chiou,	PT, PhD, Kinesiology, University of Maryland, U.S.A.

Lecturers

Chai, Huei-Ming,	PT, PhD, Kinesiology, University of Michigan, U.S.A.
Luh, Jer-Junn,	PT, PhD, Electrical Engineering, National Taiwan University, Taiwan
Chien, Meng-Yueh,	PT, PhD, Physical Therapy, National Taiwan University, Taiwan

Part-Time Faculty

Liao, Wen-Shen,	PT, PhD, Pathokinesiology, New York University, U.S.A.
Chang, Ya-Ju,	PT, PhD, Physical Therapy, University of Iowa, U.S.A.
Chen, Chao-Ying,	PT, MS, Physical Therapy, National Taiwan University, Taiwan

Liau, Jiann-Jong, PhD, Biomedical
Engineering, National Yang-
Ming University, Taiwan

FACILITIES AND LABORATORIES

The School and Graduate Institute of Physical Therapy is located at the third floor of the School of Public Health Building at NTU. The area is about 14,000 square feet. There are one administrative office, three discussion rooms, one practice room, one learning resource center, three graduate student study rooms, one undergraduate study room, one computer room, and 14 laboratories. The research laboratories include Cardiopulmonary Research, Exercise Physiology, Motor Control and Motion Analysis, Posture Control, Assistive Technology, Kinesiology, Sports Physiotherapy, Visuo-Motor and Pain Research, Child Development, and Infant Motor Development Laboratories.

Clinical Affiliations

The School is affiliated with National Taiwan University Hospital and 20 more other health care facilities located in different areas of Taiwan, providing students' clinical placement in the areas of musculoskeletal, neurological, pediatric, and cardiopulmonary physical therapy. The other clinical affiliations include: Taipei Veterans General Hospital, Tri-service General Hospital, Taipei City Hospital-ZhongXing Branch, Shin Kong Wu Ho-Su Memorial Hospital, KaoShiung Chang-Gung Hospital Sports Medicine Center, and Cheng Ching Hospital, etc.

Special Affiliations

We also have two special international affiliations, one is in Australia and the other is in Hong Kong.

PROGRAMS

Undergraduate Program

The undergraduate professional courses include: Introduction to Physical Therapy (1), Kinesiology (2), Functional Anatomy (3), Biomechanics (2), Applied Physiology (2), Basic Techniques of Physical Therapy (2), Manual Therapy and Practice (2), Physical Agent Therapy and Practice (4), Pediatric Physical Therapy and Practice (2), Orthopedic Physical Therapy and Practice (3), Neurological Physical Therapy and Practice (3), Cardiopulmonary Physical Therapy and Practice (2), Functional Re-education and Practice (2), Assistive Technology and Practice (2), Administration and Management of Physical Therapy (1), Physical Therapy and Health Care Ethics (1), Seminar on Physical Therapy (2), Clinical Clerkship in Physical Therapy (1), Case Discussion (1), Problem Based Learning in Physical Therapy (2), Clinical Practice of Physical Therapy (32).

Master Program

The required courses are: Theories in Physical Therapy (2), Advanced Assessment in Physical Therapy (2), Laboratory for Advanced Assessment in Physical Therapy (1), Research Methodology in Physical Therapy (2), Seminar on Special Topics (2~4), Master Thesis (6).

Ph.D. Program

The required courses are: Seminar on Special Topics (2~4), Evidence-based Practice in Physical Therapy (2), Pedagogy and Curriculum Design of Physical Therapy (3), Clinical Decision Making in Physical Therapy (2), Courses in Advanced Biostatistics (3), Dissertation (12).

MAJOR RESEARCH RESULTS

There are four main research areas: musculoskeletal physical therapy, neurological physical therapy, cardiopulmonary physical therapy, and pediatric physical therapy. The faculty has achieved outstanding performance in the following research areas.

In the research areas of orthopedic physical therapy, the faculty is devoted to investigate: 1) simple effective knee exercises (e.g., knee flexion-extension in weight- or non-weight-bearing exercise) for patients with knee osteoarthritis, 2) women's health research and work-related musculoskeletal disorders, 3) measurement of cervical multifidus contraction pattern with ultrasound imaging, and 4) motion analysis of three-dimensional shoulder complex movements, etc.

In the research areas of neurological physical therapy, the current focus includes: 1) using 3-Dimensional optoelectronic motion analysis system to evaluate the functional movement in the population with stroke, spinal cord injury, and Parkinson's disease, 2) factors influencing balance recovery and effects of physical therapy intervention on balance recovery in patients with stroke, 3) neural plasticity associated with motor learning and motor recovery, 4) the mechanisms underlying imbalance in aging adults and clinical methods for assessing and treating imbalance, and 5) long-term care, etc.

In the research areas of cardiopulmonary physical therapy, the major issues of interests are: 1) cardiopulmonary and metabolic function in health and disease, 2) the prevalence of sarcopenia in the community-dwelling elders in Taiwan, 3) the effects of chronic diseases (e.g., COPD and obesity) on lung mechanics (e.g., mechanical

ventilatory constraint), and to understand how these alterations might affect exercise capacity, and 4) exercise testing/measurements, prescription, and outcome assessment in subjects at risk or with cardiovascular conditions.

In the research areas of pediatric physical therapy, the current research topics include: 1) neuro-motor development in typical and atypical children, 2) a clinical trial of early intervention for preterm infants, and 3) early intervention team model, etc.

COMMUNICATION

Established in: 1967

Chair: Jeng, Suh-Fang

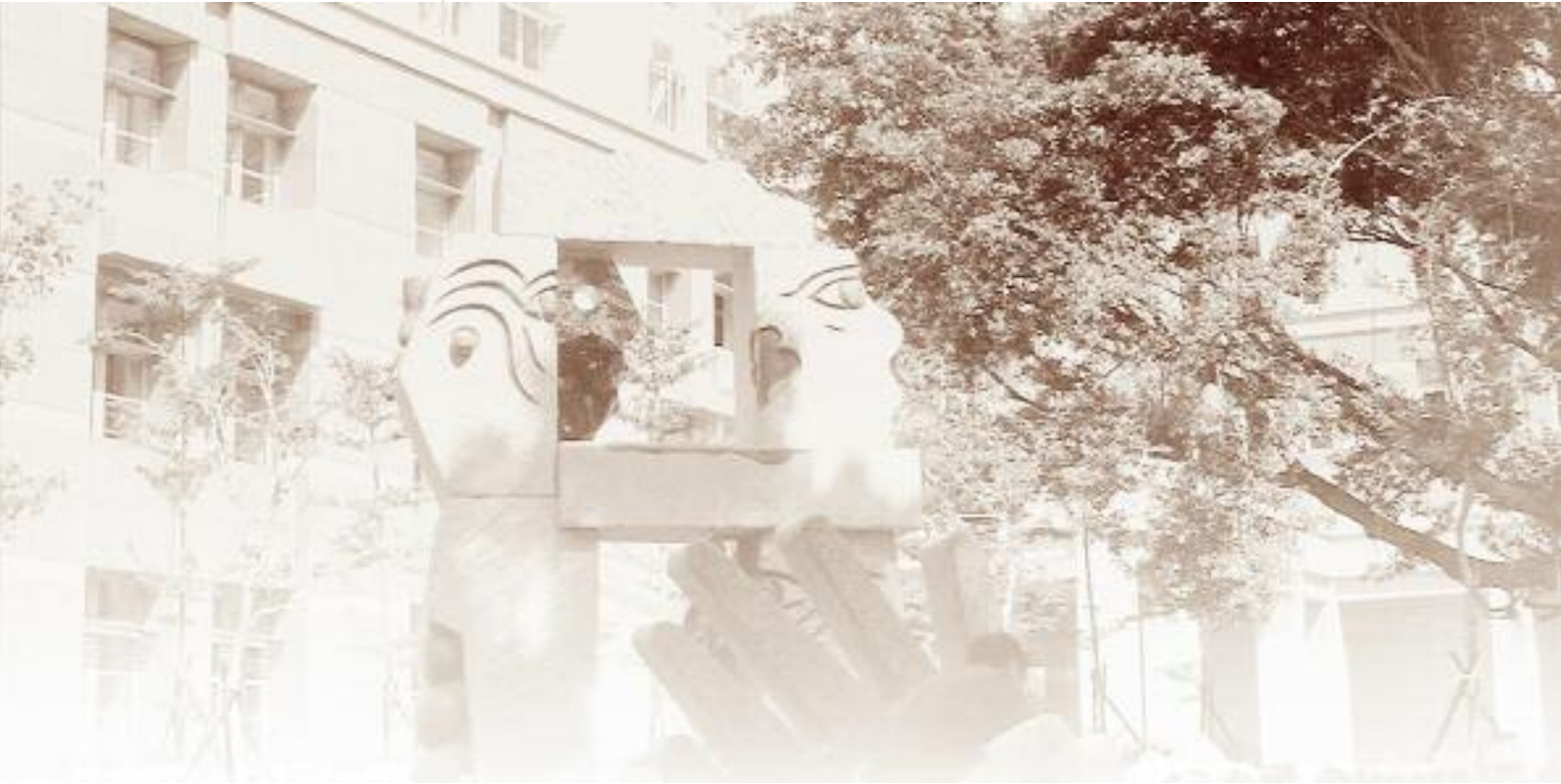
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7 | SCHOOL OF OCCUPATIONAL THERAPY



INTRODUCTION

The undergraduate program was established in 1970 as a division of the Department of Physical Medicine and Rehabilitation. This was the first educational program on occupational therapy in Taiwan. In 1992, the school of occupational therapy was set up. The master of science program was established in 2002. The doctoral program was established in 2007.

According to research done by the faculty and their clinical practice interests, specialty areas are divided into occupational therapy for physical disabilities, occupational therapy for psychiatric disabilities, and pediatric occupational therapy for pediatric patients. The teaching program

covers services from acute care to the community-based practice. The students learn a comprehensive view of occupational therapy and gain practical experience in different service models.

Occupational therapy aims at improving an individual's quality of life by assisting him/her in choosing, arranging and carrying out daily activities. Individuals who may benefit from occupational therapy include those whose daily function and social participation are limited by physical disabilities, psychosocial disabilities, developmental disabilities, learning disabilities, aging, or an unsuitable socio-cultural environment. Occupational therapy professionals apply principles of occupational science and activity analysis to determine factors influencing the individual's occupational performance, approaching these

factors from a bio-psychosocial perspective. In addition, occupational therapists often use environmental adaptation, splinting, assistive devices, work simplification, and work hardening to help the individual engage in meaningful daily activities, maintain his/her sense of well-being and prevent regression in function to ensure one's satisfaction in life.

The purpose of the undergraduate program is to cultivate students as occupational therapists with adequate professional knowledge and skills. The aim of the master program is to cultivate occupational therapists with teaching and research abilities.

In the 21st century, there is an increasing demand for this profession because the public places more value on quality of life and welfare of individuals with disabilities and of the aging population. Our school will cooperate with other academic fields or professionals in research and practice. Further, a doctoral program was established in 2007 to promote the quality of service and the educational standards of occupational therapy.

FACULTY

Full-time: 10

Adjunct Professors: 8

Part-time: 6

Ph.D.: 13

M.S.: 7

Chair/ Associate Professor

Keh-Chung Lin Sc.D., Boston University,
U.S.A.

Full-Time

Professor

Ching-Lin Hsieh Ph.D., University of
Queensland, Australia

Associate Professor

Jin-Ling Lo Ph.D., University of Southern
California, U.S.A.

Mei-Hui Tseng Sc.D., Boston University,
U.S.A

Ay-Woan Pan Ph.D., University of Illinois at
Chicago, U.S.A

Assistant Professor

Hui-Fen Mao M.S., Boston University,
U.S.A.

I-Ping Hsueh M.A., New York University,
U.S.A

Yuh Jang Ph.D., National Taiwan
University

Lecturer

Sheau-Ling Huang M.S., National Taiwan
University

Hao-Ling Chen Ph.D., National Taiwan
University

Adjunct Professor

Sheng-Mou Hou Ph. D, M.D., National Taiwan
University

Jin-Shin Lai M.D., National Taiwan
University

Ming-Been Lee M.D., National Taiwan
University

Ping-Keung Yip M.D. China Medical College
Jung-Der Wang Sc.D. Harvard University,
U.S.A.

Shwu-Chong Wu Ph.D., University of
Michigan, U.S.A.

Tung-wu Lu Ph.D., Oxford University,
U.K.

Susan Shur-Fen Gau

Ph.D., Yale University,
U.S.A.

Part-Time

Lee-Jyy Kau M.A., Texas Women's
University, U.S.A.

Tseng-Hui Chu B.S., National Taiwan
University

Mann-Tsong Hwang M.A., New York University

Kwok-Tak Yeung M.A., New York University,
U.S.A.

Fei-Sheng Huang M.S., State University of New
York at Buffalo, U.S.A.

Chih-Wen Wang Ph.D., Tohoku University,
Japan

FACILITIES

The School of Occupational Therapy is located on the fourth floor of the Building of Public Health. The school is approximately 520 "ping"(approx. 1000 sq. m.) in area. At present, there are three classrooms, one conference room, two meeting room, one computer room and reading area. In addition, there are 7 laboratories that primarily focus on the studies of neurobehavior, balance function, work simulation, sensory integration, splinting and assistive devices, and psychosocial function. Educational equipment includes computer-based audiovisual instruments. Anatomical models, including a brain, a skeleton, and individual limbs, and several prostheses are available for practice. As our school is close to the medical college and National Taiwan University Hospital, there are sufficient faculty and staff, equipment, and resources to ensure excellence in the professional training.

COURSES

Areas of study in the first year include an introduction to occupational therapy, basic sciences and liberal arts. In the second year, instruction in medical topics, such as anatomy and physiology, is offered. The third year involves major professional courses. Courses in the fourth year include the Seminar on Occupational Therapy and clinical fieldwork.

The students must complete a minimum of 144 semester credits for eligibility for a Bachelor of Science degree in occupational therapy.

Required Courses

Introduction to Occupational Therapy(1), Human Development (including practice)(3), Therapeutic Skills (including practice)(11), Occupational Therapy for Psychiatric Conditions (including practice)(3), Occupational Therapy for Pediatrics (including practice)(3), Occupational Therapy for Physical Dysfunction (including practice) (3), Activities of Daily Living Assessment and Treatment (including practice)(2), Orthotics and Prosthetics (including practice)(2), Occupational Therapy for Education and Work(1), Occupational Therapy Organization and Administration(1), Fieldwork (observation) (1), Clinical Reasoning and Evidence-Based Occupational Therapy(2), Seminar in Occupational Therapy(2), Clinical Practice of Occupational Therapy (field-work)(32)

Our program was accredited by World Federation of Occupational Therapists in 1986.

Master Program

The graduate program was established in 2002. The mission of this program is to train students for careers as occupational therapy researchers, faculty, and clinical specialists. The students must complete a minimum of 30 credits for eligibility for a Master of Science degree in occupational therapy.

Required Courses

Advanced Occupational Therapy Theory(4),
Research Methods in Occupational Therapy(3),
Seminar in Occupational Therapy I(1), Seminar
in Occupational Therapy II(1), Thesis (M.S.)(6)

Doctor Program

The Graduate Institute offers a two-to-seven
years program leading to the degree of Ph. D. A
minimum of 36 credit units plus thesis are
required for Ph. D.

Required Courses

Advanced Seminar in Occupational Therapy(4),
Thesis (Ph. D.)(12)

ACADEMIC ACTIVITIES

1. Journal meetings and case conferences are held weekly for faculty, staff and senior students.
2. Academic seminars are held regularly. Our school sponsors or cosponsors symposia and workshops. Local scholars and their counterparts from abroad are invited to give lectures.
3. All faculty are members of the Occupational Therapy Association of Taiwan. Some members of the faculty are on the Board of Directors of this association. In this capacity, they promote the development of the occupational therapy profession in this country.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Occupational therapy for physical disabilities
- (2) Occupational therapy for psychiatric conditions
- (3) Occupational therapy for pediatrics

2. Further studies

- (1) Graduate programs in occupational therapy
- (2) Other graduate programs, such as special education, psychology, and biomedical engineering programs.
- (3) Occupational therapy or related profession conference.
- (4) Continuing clinical education after bachelor's degree.

3. Career options

- (1) Medical institutions
- (2) Long term care systems, such as nursing homes.
- (3) School systems, such as regular school, special school, children developmental-center and various early intervention centers
- (4) Welfare institutions for Individuals with disabilities, such as vocational training center and vocation employment center.
- (5) Occupational therapy schools.

CONTACT INFORMATION

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8 GRADUATE INSTITUTE OF CLINICAL MEDICINE



INTRODUCTION

This Institute was established in 1978 by Professor Juei-Low Sung and other teachers. The goal of the institute is to train clinical doctors in professional medical research skills in order to promote the academic excellence of teachers and the progress of clinical medicine research in clinical departments, and ultimately, to cultivate outstanding clinical investigators and medical scientists knowledgeable and skilled at both clinical and laboratory research methodology. Students of this institute are expected to have the independent abilities and creative vision to find and solve important medical questions, and become the future leaders in the biomedicine field. As of June 2005, 146 MD, Ph.D. and 92 M.M.S. had graduated from this institute.

FACULTY

Full-time: 18
Part-time: 19
Ph.D. Degree: 33

FACILITIES

The institute is located at the West Site of the National Taiwan University Hospital on the 7th floor of the Building of Laboratory Diagnosis. The offices and laboratories are shared by the investigators and the graduate students. The main equipment includes: a fluorescent-activated cell sorter, DNA sequencer, etc. We share other necessary equipment with other departments of the Medical College and the University Hospital.

More recently, there is a clinical trial center established for clinical research and education.

COURSES

The main purpose of this post-graduate program is to cultivate doctors in various fields of clinical medicine who are not only highly qualified in a chosen subspecialty but also are well prepared to pursue academic careers. To meet this purpose, students will be selected from doctors who have finished at least two years of residency training in good standing. In addition to clinical training, they must have published at least one paper which is equivalent to a master's thesis in quality.

The courses consist of subspecialty training, research studies and understanding of basic sciences related to the subspecialty. The program requires two to seven years for graduation. Besides a doctoral dissertation, a total of at least 33 credits are required. After written examinations of required courses and the defense of a doctoral dissertation, a degree of Doctor of Philosophy will be conferred.

ACADEMIC ACTIVITIES

Research projects of graduate students are periodically reviewed on a semester basis. Distinguished research investigators are frequently invited to give lectures and hold small group discussions.

CONTACT INFORMATION

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department/clinmed](http://www.mc.ntu.edu.tw/department/clinmed)

E-mail: talan926@ntu.edu.tw

9 GRADUATE INSTITUTE OF TOXICOLOGY



INTRODUCTION

The Institute established its M.S. and Ph.D. programs in toxicology in 1990 and 1993, respectively, with the objectives to train toxicology professionals for academia, industry, and government institutions, to promote toxicological teaching, research and service, and to improve public health.

Toxicological teaching, research, and service require adequate faculty, funds, and facilities. The faculty of the institute consists of eleven professors and associate professors, and an instructor. The faculty members are conducting research in the areas of biochemical and molecular toxicology, genetic toxicology, immunotoxi-

cology, neurotoxicology, and environmental toxicology. Now the institute has 25 Ph.D. and 20 M.S. students. The M.S. program requires at least 24 credits of course work, in addition to a thesis. Upon completion of course work and passing an oral examination in defense of the thesis, a M.S. degree is conferred. A student is required to complete the graduate program in 1 to 4 years. The Ph. D. program requires at least 18 credits of course work, in addition to a thesis. Upon completion of course work and passing a qualify exam and an oral examination in defense of the thesis, a Ph.D. degree is conferred. A student is required to complete the graduate program in 2 to 7 years.

FACULTY

Full-time: 5

Part-time: 5

Ph.D. Degree: 10

Director/ Professor

Shing-Hwa Liu Ph.D. Cellular signal transduction in toxicology; environmental toxicants and diabetes; cellular and molecular mechanisms of diabetes-related organopathy.

Full-Time

Professor

Tzuu-Huei Ueng Ph.D. Biochemical and molecular toxicology of foreign compounds; regulation of xenobiotic-metabolizing enzymes by environmental chemicals and drugs.

Min-Liang Kuo Ph.D. Genetic and molecular toxicology; effects of carcinogens and toxic substances on cells and genes; molecular mechanism of anticarcinogenicity of natural compounds.

Jaw-Jou Kang Ph.D. Cellular and molecular toxicology; effects of chemicals and drugs on receptors and enzymes of plasma membranes; roles of calcium in chemically induced cytotoxicity

Associate Professor

Fu-Cho Peng Ph.D. 1990
Mycotoxicology and regulatory toxicology; metabolism, mechanism of action, and structure-activity relationship of termitrems; control and regulation of toxic substances.
Facilities

FACILITIES

The institute is located on the 5th floor, west wing of the Basic Medical Research Instruments and Instrument Center, and the Experimental Animal Center are located within the same building. Teaching and learning resources are provided by the Medical Library, College of Medicine.

COURSES

1. Master Program: Basic toxicology(3), Environmental and medicine toxicology(3), Experimental toxicology(3), Special topics in toxicology(4), Seminar in toxicology(4), Introduction to research(2), Thesis(6)
2. Ph.D. Program: Molecular toxicology(6), Advanced experimental toxicology(3), Special topics in advanced toxicology(4), Seminar in advanced toxicology(4), Introduction to research(2), Thesis(12)

CONTACT INFORMATION

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10 GRADUATE INSTITUTE OF MOLECULAR MEDICINE



INTRODUCTION

The Institute was established in 1992. At the beginning, the headquarters was located on the 5th floor of Basic Medical Building in the Medical College. Given the importance of collaborating with medical doctors in our affiliated hospital, we moved to a larger space on the 2nd floor of the hospital the next year. Our faculty now consists of 3 full-time staff and 11 adjunct teachers. Each teacher has a Ph.D. degree. An administration assistant aids in managing the general business affairs of the institute.

The institute is an interdepartmental and cross-discipline unit to investigate the molecular mechanisms of biomedical issues. Our staff members

collaborate with medical doctors in the affiliated hospital to conduct basic and clinical research. We anticipate these collaborations will promote biomedical science. Our laboratory facilities are open-style. The facilities are available to staff and graduate students without restriction. From the fall 1999 semester, we offered a master program for persons who have a part-time job in addition to the formal master and Ph.D. courses. This Master program ceased two years later. However, another Master program of "genetic counseling" started in 2003. Prospectively, we have to cooperate with medical doctors and other basic biology scientists in teaching and research.

PLANS

Our development has always been limited by insufficient lab. space. We anticipate getting new space in the College of Public Health, once a new building goes up in the near future. Nevertheless, two academic fields should be emphasized within 5 years: 1. Development of genetics and genomic medicine; 2. Collaboration with Institute of Clinical Medicine in both teaching and research.

FACULTY

Full-time: 4

Part-time: 12

Ph.D. degree: 16

Director/ Professor

Fang-Jen S. Lee Ph.D., North Carolina State University, U.S.A.

Full-Time

Professor

Sheng-Chung Lee Ph.D., University of California, Davis, U.S.A.

Chia-Li Yu M.D., Ph.D., Faculty of Medicine, University of Tokyo, Japan

Li-Chung Hsu Ph.D., University of Illinois, U.S.A.

Part-Time

Professor

Che-Kun James Shen Ph.D., University of California-Berkeley, U.S.A.

Ruey-Hwa Chen Ph.D., Michigan State University, E. Lansing, MI, U.S.A.

Sue Lin-Chao Ph.D., University of Texas-Dallas, U.S.A.

JJ. Y. Yen Ph.D., Baylor College of Medicine, U.S.A.

Hsin-Fang Yang-Yen Ph.D., Baylor College of Medicine, U.S.A.

Cheng-Ting Chien Ph.D., SUNY at Stony Brook, U.S.A.

W. Y. Tarn Ph.D., National Tsing Hua University

Hsiu-Ming Shih Ph.D., University of Minnesota, U.S.A.

Associate Professor

C. H. Wu Ph.D., University of Maryland, U.S.A.

Y. S. Lin Ph.D., Harvard University, U.S.A.

Assistant

Li-Jung Juan Ph.D., The Pennsylvania State University

Lecturer

June-Tai Wu Ph.D., National Taiwan University

FACILITIES

The Institute is on the 2nd floor of National Taiwan University Hospital. The total area is 512 m². It is equipped for basic as well as molecular research, such as fluorescent attachment microscopes, notebooks, laser printers, and digital cameras. Students pursuing Master and Ph.D. degrees receive vigorous training. Besides, we publish articles in 12 prominent journals, including Science, Nature, Cell, and so on.

COURSES

Master' Degree

Molecular Biology(4), Laboratory in Molecular Biology(3), Seminar in Molecular Medicine(4), Journal Reading in Molecular Biology(4), Thesis(6)

Ph.D. Degree

Advanced Molecular Biology (4), Topics on Advanced Molecular Biology(2), Laboratory in Molecular Biology(6), Seminar in Molecular Medicine(4), Journal Reading in Molecular Biology(4), Dissertation(12)

Master Course for Genetic Counseling
Introduction of Psychology(2), Human Embryology and Birth Defects(1), Introduction to Medical Genetics(2), Seminar on Medical Genetics I (1), Theory and Skills of Counseling(2), Psychosocial Impact of Genetic Disorder(2), Statistical Genetics and Research Methodology(2)

ACADEMIC ACTIVITIES

1. Semester's seminar and journal club are presented by graduate students, faculty members or invited speakers.
2. Every year, there are workshops offered by this institute to the faculties of both clinical and basic medicines.

CONTACT INFORMATION

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11 GRADUATE INSTITUTE OF IMMUNOLOGY



INTRODUCTION

The Institute of Immunology was founded in 1992. We admitted the first class of M.S. students in 1993 and established the Ph.D. program in 1996. Currently, the Institute has five full-time faculty members and five joint and adjunct members.

We are situated on the fifth floor of the Basic Medical Science Building in which equipment, animal facilities, library and the hospital are all within reach. We are equipped to do basic and clinical immunology research.

Basic and clinical immunology classes are offered to cover different areas in cellular and molecular immunology. Our students learn

about immune cell development, signal transduction, regulation of immune response, apoptosis, allergy, as well as the immunopathogenesis of diseases. They are expected to take courses in molecular biology, cell biology, and biotechnology. Four required and elective seminar courses are offered which cover most recent publications in the field of immunology, overview of current developments in immunology, immunology of infectious diseases and in-house research progress report. The goals of seminar courses are to train the students' critical thinking, ability to critique and learn from publications in immunology, ask questions, and organize and present scientific findings.

An introductory course in immunology is offered to non-major students. The goal of this class is

to cover basic principles of immunology so that undergraduates, graduate students, as well as physicians, will learn the fundamentals of basic and clinical immunology.

Our M.S. students are to meet the 23-unit course work requirement in addition to completing a thesis. They are expected to acquire the ability to do independent research. Our Ph.D students are to meet the 36-unit course work requirement in addition to completing a Ph.D thesis. They are expected to become independent researchers, able to design experiments, critique scientific data and solve problems relating to research.

Our faculty members are actively engaged in immunology research. Their research areas include hematopoiesis, infection, cancer, autoimmunity, T cell regulation, and T cell differentiation.

FACULTY

Full-time and Joint: 7

Adjunct: 3

Ph.D. Degree: 8

M.D. Degree: 3

Director/ Associate Professor

Ping-Ning Hsu M.D., National Taiwan
University Ph.D., Tufts
University (U.S.A.)

Full-Time

Professor

Su-Ming Hsu M.D., National Taiwan
University

Hong-Nerg Ho M.D., National Taiwan
University

Betty A, Wu-Hsieh Ph.D., University of
California, Los Angeles
(U.S.A.)

Assistant Professor

Chien-Kuo Lee Ph.D., New York University
(U.S.A.)

Shi-Chuen Maiw Ph.D., University of
Maryland Baltimore County
(U.S.A.)

Chia-Chi Ku Ph.D., University of Colorado

Adjunct

Professor

John T, Kung Ph.D., University of Colorado
(U.S.A.)

Ming-Zong Lai Ph.D., University of
California, San Francisco
(U.S.A.)

Associate Professor

Kaw-Yan Chua Ph.D., Massey University
(New Zealand)

FACILITIES

The Institute is located on the 5th floor of the Basic Medical Science Building on the Medical Campus. It is equipped for basic as well as clinical immunology research. Students pursuing Master and Ph.D. degrees are to receive rigorous training.

COURSES

Master Degree

Basic and Clinical Immunology(6), Molecular Biology(4), Cell Biology(3), Seminar(8), In-house Seminar(2), Research Methods in Immunology(1)

Ph. D. Degree

Basic and Clinical Immunology(6), Molecular Biology(4), Cell Biology(3), Seminar(8), In-house Seminar(4), Current Topics in Basic

Immunology I, II, III(6), Current Topics in
Clinical Immunology I, II, III(6) 、 Research
Methods in Immunology(1)

ACADEMIC ACTIVITIES

The Institute holds weekly seminars and hosts
guest speakers.

CONTACT INFORMATION

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12 GRADUATE INSTITUTE OF CLINICAL PHARMACY



INTRODUCTION

The forerunner of the Graduate Institute of Clinical Pharmacy (GIOCP) at National Taiwan University was the master program in Hospital Pharmacy in the School of Pharmacy. GIOCP was established in 2000 to keep pace with the trends in pharmacy education for nurturing pharmacy professionals to devote themselves to clinical services and improving quality of drug therapy as well as clinical research in Taiwan. The missions of GIOCP are to cultivate clinical faculties with specialized expertise, and to enable individuals to devote to research in the areas of pharmacy administration, pharmaco- economics, pharmacoepidemiology, clinical pharmacokinetics, and pharmacogenomics.

The curriculum offered by the Institute includes pharmacotherapy, advance pharmacy practice experience and thesis. It is an integration of scientific training and pharmaceutical care. We welcome highly motivated individuals to join us for the promotion of pharmaceutical care in the future.

FACULTY

Full-time: 1, and 10 joint.

Adjunct: 2

Ph.D.: 12

Director/ Associate Professor

Fe-Lin Lin Wu M.S., Clinical Pharmacy,
Ph.D., Pharmaceutics, School
of Pharmacy, NTU

Full-Time

Professor

Shan-Chwen Chang

Ph.D., Graduate Institute of
Clinical Medicine, College of
Medicine, NTU (joint
appointment with Internal
Medicine)

Chih-Hsin Yang

Ph.D., Graduate Institute of
Clinical Medicine, College of
Medicine, NTU (joint
appointment with Graduate
Institute of Clinical Medicine)

Associate Professor

Churn-Shiouh Gau

Ph.D. in Pharmaceutics,
University of Wisconsin-
Madison, USA. (joint
appointment with Pharmacy)

Chii-Ming Lee

Ph.D., Graduate Institute of
Clinical Medicine, College of
Medicine, NTU (joint
appointment with Internal
Medicine)

Horng-Huei Liou

Ph.D. in Pharmacology,
College of Medicine, NTU
(joint appointment with
Pharmacology)

Yen-Hui Chen

Ph.D. in Pharmacology, State

University of New York at
Stony Brook, USA.(joint
appointment with Pharmacy)

Assistant Professor

Yunn-Fang Ho

Ph.D. in Pharmacology,
University of Illinois at
Chicago, USA. (joint appoint-
ment with Pharmacy)

Chun-Jung Lin

Ph.D. in Pharmaceutics,
University of Michigan, USA.
(joint appointment with
Pharmacy)

Li-Jiuan Shen

Ph.D., in Pharmaceutical
Science, Univ. of Southern
California, USA (joint
appointment with Pharmacy)

Lecturer

Shu-Wen Lin

Pharm.D., Purdue University,
West Lafayette, In, USA

Adjunct

Associate Professor

Herng-Der Chern

Ph.D. in Pharmacology,
University of Pittsburgh,
USA; M.D. College of
Medicine, NTU (joint
appointment with Pharmacy)

Assistant Professor

Swu-Jane Lin

Ph.D. in Pharmacy
Administration, University of
Illinois at Chicago, USA.
(joint appointment with
Pharmacy)

FACILITIES

The Institute emphasizes clinical teaching and is affiliated with Pharmacy at NTU Hospital for books and web searching. For research, the Institute is affiliated with Clinical Trial Center and Pharmacy at NTU Hospital. Instruments are available, including: high speed centrifuge, protein analysis apparatus, HPLC, high speed condensation, microscope, pH meter, laminar flow, freezer, dissolution detector, shaker, homogenizer, and low speed centrifuge.

COURSES

A minimum of 24 credits of lecture and practice courses and 6 credits of M.S. thesis are required to fulfill the M.S. program.

Required courses include thesis (M.S.) special research(6), seminar (4 semesters)(1), pharmacotherapy (2), clinical pharmacy practicum I (8), clinical pharmacokinetics(2).

ACADEMIC ACTIVITIES

1. Seminar held at Department of Pharmacy, National Taiwan University Hospital, weekly.
2. Collaboration with Department of Pharmacy, National Taiwan University Hospital and School of Pharmacy, Medical College, National Taiwan University and Ching-Kang Foundation for Pharmacy Promotion for symposia in special topics.
3. Adverse Drug Reaction Conference joint with Department of Pharmacy, National Taiwan University Hospital.

CONTACT INFORMATION

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13 CENTER FOR OPTOELECTRONIC BIOMEDICINE (COEBM)



INTRODUCTION

The Laser Medicine Research Center (LMRC) was established under the national policy of promotion and development of laser medicine in 1987. In keeping with developments in laser medicine, this center was renamed the Center for Optoelectronic Biomedicine (COEBM) in 2000. It was the first center dedicated to the enhancement of optoelectronic biomedicine in this country. For the establishment of this center, the Ministry of Education offered the faculties and facilities and the National Science Council sponsored the research programs. Besides housing research, the main function of this center is to educate and promote optoelectronic biomedicine. Furthermore, this center is involved in the evalu-

ation, refinement and development of medical laser systems. The training of coming generations of medical scientists in optoelectronic biomedicine in Taiwan is an important goal of this center. To realize this goal, education and training programs are organized to coordinate, integrate, and support optoelectronic biomedicine.

Presently, COEBM has focused on the following research topics:

1. Investigate and develop photodynamic medicine for the management of neoplasia lesions.
2. Nanoscopic manipulation, measurement and diagnosis of cells.
3. Magnetic resonance imaging study on the function and structure of brain.

FACULTY

Full-time: 4

Part-time: 1

Joint appointment: 8

Ph.D.: 13

Director

Jui-Chang Tsai M.D., Ph.D., Graduate
Institute of Clinical Medicine,
College of Medicine, NTU

Full-Time

Professor

Jui-Chang Tsai M.D., Ph.D., Graduate
Institute of Clinical Medicine,
College of Medicine, NTU

Shiming Lin Ph.D., Institute of
Biotechnology, University of
Cambridge, UK

Wen-Yih Isaac Tseng
Ph.D., Dept. of Nuclear
Engineering, MIT, U.S.A.

Associate Professor

Chin-Tin Chen Ph.D., Dept. of Microbiology
& Immunology, University of
Kentucky, U.S.A.

Part-Time

Professor

Ming-Chien Kao M.D., D.M.Sc., Tokyo
Medical and Dental
University

Adjunct Professor

Professor

Pei-Hsi Tsao Ph.D., Dept. of Physics, NTU
Po-Quang Chen M.D., D. M. Sc.,
Tokyo Medical School

Song-Nan Chow M.D., Ph.D., Graduate
Institute of Clinical Medicine,
College of Medicine, NTU

Sao-Jie Chen Ph.D., University of Southern
Methodist

King-Jen Chang M.D., Ph.D., Graduate
Institute of Clinical Medicine,
College of Medicine, NTU

Ruey-Jian Chen M.D., Ph.D., Graduate
Institute of Clinical Medicine,
College of Medicine, NTU

Ing-Sh Chiu M.D., Ph.D., Graduate
Institute of Clinical Medicine,
College of Medicine, NTU

Assistant Professor

Hsiung-Fei Chien M.D., Ph.D., Graduate
Institute of Anatomy and
Cell Biology, College of
Medicine, NTU

FACILITIES

COEBM has many biophotonics and biochemical journals, textbooks, videos and reference books. Its well-equipped facilities include UV/Visible spectrophotometer, fluorescence spectrophotometer, fluorescence microscope, atomic force microscope, HPLC, ultracentrifuge, diode lasers, server for data storage and transfer, functional MRI data processing and analysis work station, 3 Tesla MRI system, scanning probe microscope, piezoelectric detection system, scanning tunneling microscope, chemical force microscope, near-field optical microscope, magnetic force microscope, lateral force microscope, laser scanning tunneling microscope, time-resolve fluorescence microscope, optobiomorphin, etc. These equipments are located in the common facility room and laboratories.

COURSES

Undergraduate Programs

Biochips, MesoBiophysics, Introduction to current laser applications, Basic laser medicine.

Graduate Programs

Physiological MRI, Medical imaging systems, Specific topics on Biophotonics.

ACADEMIC ACTIVITIES

In 1999, an international symposium on optoelectronic biotechnology and laser medicine was organized and held at the College of Medicine, National Taiwan University. This symposium provided a unique opportunity for the promotion and cooperation of biophotonics research, especially on photodynamic therapy, applications of biosensors, optical imaging and fluorescence spectroscopy in medical science.

CONTACT INFORMATION

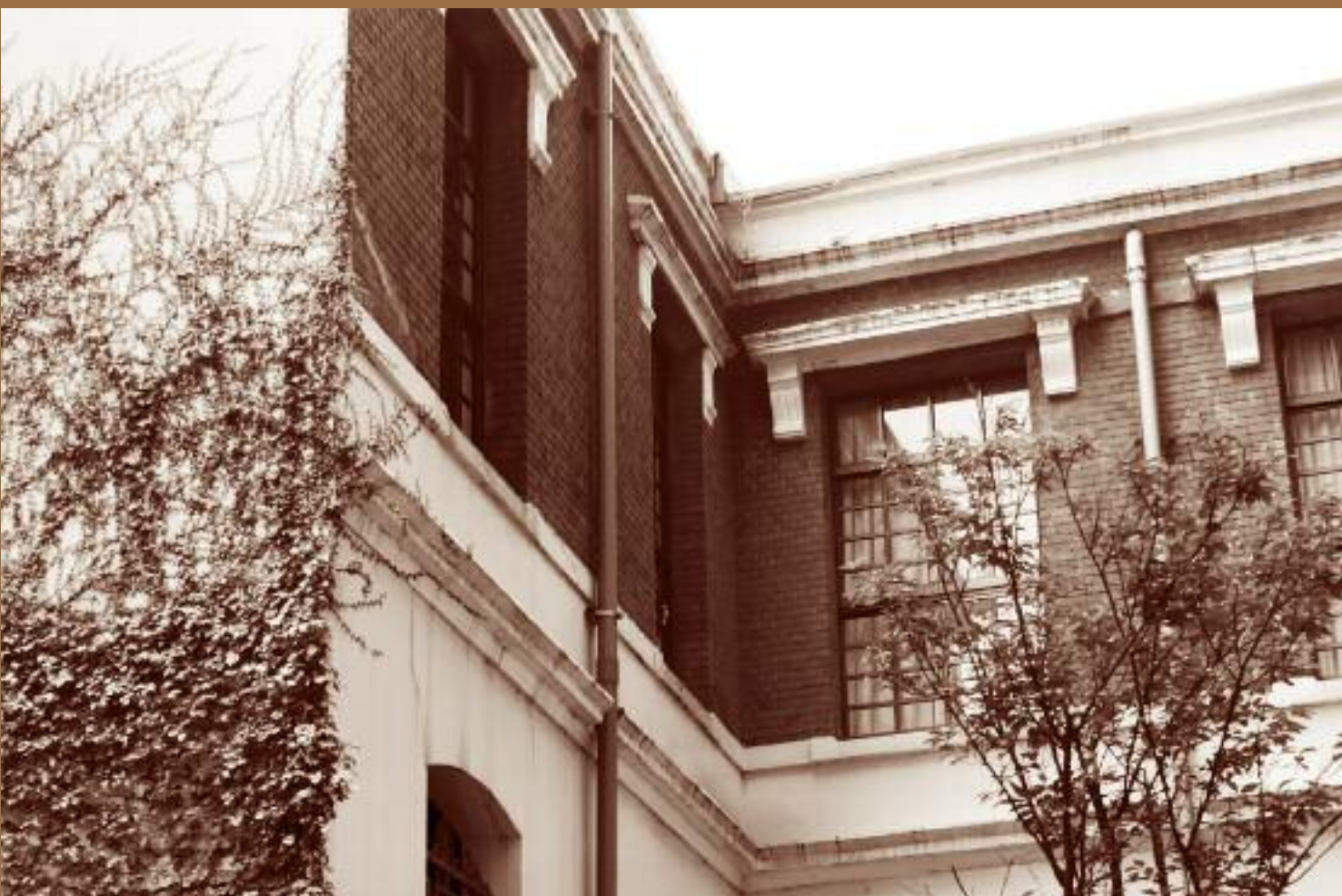
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14 | LABORATORY ANIMAL CENTER



INTRODUCTION

With financial support provided by the United States, an animal laboratory was established at the NTU College of Medicine (NTUCM) in August of 1962. The primary function of the lab was to provide dogs, cats and other large-size laboratory animals for research at the Medical College. In 1981, the Ministry of Education formally approved the facility as an official center for the NTUCM, and the facility was named Animal Resource Center. In March 1990, the center received approval from the Ministry of Education to be restructured as the Laboratory Animal Center.

LAC has four divisions: Breeding Division, Small Animal Holding Division, Large Animal Holding Division, and Research Division. In addition to providing laboratory animals and holding the animals, LAC also provides information on breeding and rearing various type of laboratory animals, develops animal models of special genetic background, establishes computerized database for laboratory animal science and assists in various experiments, disease diagnosis, health monitoring, and euthanasia services. Symposia and classes on Animal Research Science are offered to colleagues and graduate students on campus regularly. The center aspires to be a world standard animal laboratory and a special gene model laboratory center.

In the present Biomedical era, animal centers are

no longer just places of reproduction and substitutive feeding for experimental animals. This center is to be converted into a research and development center, for instance by initiating collaborative researches with partner groups and recruiting expert animal researchers. For example, the center is recruiting researchers in constructing disease model animals, searching for the model animals that carry diseases most similar to human diseases, building the gene transfer disease model animals, as well as researchers capable of conducting pathological and immune histopathological identification and explanation. In addition, the center provides space and equipment to experts to engage in reforming and improving the center, so the center can reach the goal of becoming a world-standard animal laboratory and a special gene model laboratory center.

FACULTY

Chairman: 1

Division Chief: 4

Veterinarian: 4

Technician: 10

Director/ Professor

M. J. Su	Ph.D., The Graduate Institute of Pharmacology, NTU College of Medicine
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Division Chief

Pi-Jen Lee	B.S., The Department of Zoology NTU College of Science
Chang-Wu Tsai	Ph.D., The Graduate Institute of Biochemistry and Molecular Biology, NTU College of Medicine

Shih-Chen Ko	M.S., The Department of Veterinary Medicine, NTU College of Agriculture
M. F. Wu	Ph.D., University of Nippon Veterinary and Animal Science

Veterinarian

Chia-Yi Chang	Yah-Luen Lin
Chao-Hsin Lin	

Technician

Huei-Hsiung Lu	Muh-Tarng Lin
Yin-Chi Shuen	Chi-Luan Chung
Hsin-Wen Liu	Shyr-Meng Jung
Chi-Cheng Yu	Wen-Shiow Pan

FACILITIES

The Director's Office and Administrative office of the Laboratory Animal Center is located on the tenth floor of the International Conference Center on Xu zhou Road. Total area, 60 square meters. The Laboratory Animal Center has four divisions based on regulations set by the Ministry of Education.

Breeding Division is located on the fourth floor on the west-site campus of Taiwan University Hospital. Total area, 1322 square meters. Small Animal Holding Division is located in the basement of the Basic Medical Research Building. Total area, 825 square meters (including: administrative office, infectious animal experimental area, animal holding facility). Large Animal Holding Division is located next to the children-care hospital on the west-side campus of Taiwan University Hospital. Total area, 165 square meters (including Surgery Room, Large animal holding Room, Cardiovascular X-ray Room). Research Division is located on the second floor of the Basic Medical Research Building. Total

area, 60 square meters.

Hardware: Entrance guard monitoring system, Digital Camera, Scanner, CD Rewriter, Computer and printer x 2, Laminar flow, Balance x 2, pH meter, Stirrer(Vortex), Water bath x 2, Laminar flow x 3, CO2 incubator x 2, Oven, Inverted microscope, Stereo-microscope, Bench top centrifuge x 2, Refrigerated centrifuge x 2, Freezer x 4, Refrigerator x 2, Speed-vac concentrator, PCR machine, Electrophoresis equipment x 2, Liquid nitrogen tank x 2, Animal containment enclosure x 4, Micromanipulator, Autoclave x 2, Sterilizing sprayer, Operating table x 2, High pressure washer, Tunnel cage washer, Bottle washer, Vacuum cleaner, Washer, Dryer, Rack x 80, Cages x 2,500, Individual Ventilation Cage System, Microinjection Manipulator, Microprocessor Control Cooler, ELISA Reader, Microscope.

Software: Routinely screen canine heartworm by ELISA, Animal Health Monitor System.

COURSES

Animal management and use of the NTUCM LAC is held each semester form 2002.

ACADEMIC ACTIVITIES

The annual report of NTUCM LAC has been published annually since 1998.

CONTACT INFORMATION

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15 CANCER RESEARCH CENTER



INTRODUCTION

Cancer has been the most common cause of death in Taiwan since 1982. Cancer research is important, not only as an academic interest in medical field, but also for its impact on society and national economy. To meet the increasing need for cancer treatment and further study of endemic cancer, the Cancer Research Center of the Medical College, National Taiwan University was established on Aug. 18, 1999. The personnel include 30 physicians and scientists in all aspects of cancer treatment and research. The center consists of 1) Division of Medical Oncology, 2) Division of Radiation Oncology, 3) Core Laboratory, 4) Clinical Research Laboratory, 5) Radiation Biology Laboratory, 6) Epidemiology

and Biostatistic Laboratory, and 7) Out-patient Clinical and Chemotherapy Day Care Center and In-patient Ward. The goal is to integrate research resources on cancer treatment in the university to conquer the most ravaging disease of the 21st century.

The Cancer Research Center has outstanding integrated programs in clinical service, basic research, clinical research, medical education, and cancer prevention. The clinical service personnel include medical oncologists, radiation oncologists, surgical oncologists, nurses, and other health care professionals to provide individualized treatment for patients. More than 67,000 cancer patients visit our outpatient clinics each year. All cancer patients receive psychosocial and educational support and help in dealing

with their illnesses from the staff and the cancer support program. In addition to clinical service, the Cancer Research Center promotes basic and clinical research in oncology and provides training opportunities for medical and research specialties in oncology.

The short-term goal of Cancer Research Center is to improve cancer patient care and integrate resources in the University to establish a comprehensive cancer center. The mid-term goal is to establish satellite cancer clinics and centers to establish a patient referral network. It includes Hsin-Chu Biomedical Science Park, National Taiwan University Hospital Yun-Lin Branch, and Taiwan National Cancer Institute. The long-term goal is to establish the best oncology clinical trial center and translational center in Asia.

FACULTY

Director

Ming-Kuen Lai

Professor

Ann-Lii Cheng Chang-Yao Hsieh

Whang-Peng Jacqueline Fang-Jen Lin

Yao-Chang Chen Ruey-Long Hong, etc.

Attending physician

Chih-Hsin Yang Ming-Jium Hsieh

Kun-Huei Yeh Chin-Hung Hsu

Chiun Hsu Yen-Shen Lu

Chia-chi Lin Sung-Hsin Kuo

Chin-Lun Huang Zong-Zhe Lin

Ching-Hung Lin Yu-Chieh Tsai

Yu-Lin Lin Ling-Hung Wei

Chia-Hsien Cheng Lai-Lei Ting

Chao-Yuan Huang Chun-Ru Chien

Yu-Hsuan Chen etc.

FACILITIES

1. Our in-patient wards are located on 5W1, 5W2 and 5W3 of West Building of National Taiwan University Hospital. A total of 97 beds provide high-quality patient care and medical personnel training.
2. Our out-patient clinics and chemotherapy day care center are located on 5E1 of West Building of National Taiwan University Hospital. The chemotherapy day care center provides the capacity to allow 27 patients to receive chemotherapy simultaneously.
3. The instruments of radiation oncology are located at the basement levels 1 and 2 of the Examination Building. There are 4 high energy linear accelerators and 2 of them, are equipped with updated "Intensity Modulated Radiation Therapy" function. The other facilities include 2 Cobalt 60 teletherapy machines, 1 afterload brachytherapy machine, 1 simulator and 1 CT-simulator. The above facilities provide high level radiotherapy for cancer patients.
4. Core Laboratory is established for researchers and medical doctors to perform basic research in oncology. The Laboratory is equipped with facilities for molecular biology research, including fluorescence microscopy, real-time PCR machine, flow cytometer and two-dimensional gel electrophoresis etc.
5. Clinical Trial office is equipped with computers and file cabinets.
6. Cancer Epidemiology Research Unit is equipped with computer facilities with storage of database for cancer epidemiological research.

COURSES

1. Our teaching program emphasizes the multidisciplinary property and the team work treatment philosophy in modern oncology. In contrast to the traditional "longitudinal" medical education (divided as internal medicine, surgery, gynecology, pediatrics etc.), our unique "horizontal" teaching style is based on the whole picture of each cancer case. For example, a number of our clinics are multidisciplinary, so that physicians from several disciplines, such as medical oncology, surgical oncology and radiation oncology, evaluate the patients together.
2. The Cancer Research Center provides the training platform for oncology fellows, residents, interns, clerks, research nurses and oncology nurses. All of them are expected to aggressively participate in primary care and treatment planning for the cancer patients. Thus, they will learn from different specialists and play an important role in this team work. For fellows, our training program includes an extensive clinical practice and research opportunities including basic science and clinical research. Every year, 3-5 medical oncology fellows and 1-2 radiation oncology fellows will finish their subspecialty training.
3. Our clinical researches focus on developing new treatments for endemic cancers in Taiwan, including gastric cancer, nasopharyngeal cancer, liver cancer etc. The major approach is through the clinical trials and the study treatments focus on molecular targeted therapy, anti-angiogenesis therapy and combined multi-modality treatment. Through the cooperation with global pharmaceutical and biotechnology companies, we hope to build the most important clinical trial center in Asia.
4. Our basic research focuses on relationships of microorganisms and oncogenesis, drug resistance and its reversal, and development of novel molecular targeted therapy and antian-

giogenesis therapies for endemic cancers.

Through interaction of basic science and clinical medicine, researchers and physicians will be expected to move basic research findings expeditiously from the laboratory bench to the bedside. Our goal is to build the best translational center in Asia.

ACADEMIC ACTIVITIES

1. Grand round, morbidity and mortality conference, chemotherapy case conference, adiation case conference, combined conference, morning meeting, intern seminar and research meeting are regularly held to promote the quality of patient care and to strengthen the knowledge of medical personnel.
2. Our center aggressively participates in many multicenter international clinical trials and introduces new anticancer drugs to Taiwan. All of the clinical trials strictly follow the Good Clinical Practice (GCP) guidelines. Through regular clinical trial meeting and education, the investigators and research nurses are assured to perform the high-standard clinical trials.
3. Following the policy of Bureau of Health Promotion, we regularly hold combined conferences for 6 endemic cancers in Taiwan. Through the conference, opinions from different specialties are integrated to establish the treatment consensus.
4. The basic research conference and journal discussion provide communication platform between basic science and clinical research. Through vigorous discussion between basic scientists and clinical experts, we have come up with many translational research ideas.
5. Dedicated to cancer prevention, our Cancer Epidemiology Research unit is actively conducting molecular epidemiologic and screening efficacy evaluation studies on liver cancer, cervical cancer and nasopharyngeal carcinoma.

CONTACT INFORMATION

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16 DRUG RESEARCH CENTER



INTRODUCTION

Drug Research Center was formally established on April 1, 2001. This center was organized based on a functional unit of Drug Development and Research Group, previously established on September 6, 1996. This center was entrusted with missions to integrate all drugs development groups under College of Medicine, dedicating its efforts in new drug development projects, promoting cooperation between academia and industries, and assisting governmental efforts in drug development and training of research scientists. To fulfill these mission requirements, the center has six functional units under its coordination, namely, New Drug Development Group, Chinese Herbal Research Group, Pharmaceutical

Research Group, Pharmacological Evaluation Group, Toxicological Evaluation Group, and Clinical Research Group.

The research personnel of the center is to be organized and recruited from interdisciplinary departments, and the management and operation policy is required to be self sufficient relating to research facilities, funding, and budget.

According to this requirement in management and execution of research projects, the organization of research personnel may include Principal Project Investigator, Research Fellow, Postdoctoral Research Fellow, Assistant Research Fellow, and other staff members.

Among the research projects conducted by the former Drug Development and Research Group

included the Corporation Projects between Academia and Industry from NSC, the Pharmacological Evaluation of Anticancer Agents entrusted by the Chemical Engineering Department of Industrial Research Institute, and the Advisory Program on Clinical Investigation. For the main on-going programs of this center, the following projects will be emphasized: Corporation Projects between Academia and Industry, Quality Control of Drug Products, and the Investigation on the Herbal Preparation in its Constituents, Activities and Toxicities. Currently we are devoting our efforts in coordinating the intramural resources available, in recruiting the assistance from Ministry of Economy via the Project of Academic Specialty, and also the Biotechnological Drug Development Project from Ministry of Education. All these efforts are conducted with a view to promote the research and development potential in drug industry, and put this University in a leading position in drug research and development. It is highly hoped that benefits generated from these efforts will enrich the University Trust Fund and

ultimately facilitate the long-term development of our school.

CONTACT INFORMATION

<http://www.mc.ntu.edu.tw/main.php?Page=A4B4C3>

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Ling-Wei Hsin	忻凌偉	Assistant Professor and Chief of New Drug Development Group	Pharmaceutical Chemistry	lwhsin@ntu.edu.tw
Ming-Jai Su	蘇銘嘉	Professor and Chief of Pharmacological Evaluation Group	Cardiovascular Pharmacology	mingja@ntu.edu.tw
Jaw-Jou Kang	康熙洲	Professor and Director of the Drug Research Center	Toxicology	jjkang@ntu.edu.tw
Lee-Ming Chuang	莊立民	Professor and Chief of Clinical Research Group	Metabolic endocrinology	leeming@ntu.edu.tw
Wen-Jen Lin	林文貞	Professor and Chief of Pharmaceutic Research Group	Pharmacy	wjlin@ntu.edu.tw

17 NATIONAL TAIWAN UNIVERSITY HOSPITAL



INTRODUCTION

National Taiwan University Hospital (NTUH) was inaugurated at the Da Dao Cheng area of Taipei City on June 18, 1895, and moved to its present location on the West Campus in 1898. Work on the graceful Renaissance architecture of the West Campus building dates back to 1912, and the last stone was laid in 1921. At that time, NTUH was the largest and most modern hospital in Southeast Asia.

On October 19, 1991, the completion of a large new building on the East Campus marked another milestone in the history of NTUH. Now, the East and West Campuses, connected by the Jing-Fu (two Chinese characters meaning

“vision/beauty,” and “fortune/goodwill”) Tunnel since June 19, 1995, operates smoothly, with over 5,000 employees serving approximately 2,000 inpatients and 7,000 outpatients daily.

In 2000, with the approval of the Executive Yuan, NTUH renovated the 814 Armed Forced Hospital creating NTUH's Kungkuan Campus, and later renovated the Yun-Lin General Hospital of the Department of Health (DOH) creating its Yun-Lin Campus in April 2004 and the Taipei Nursing College creating its Bei-Hu Campus. Furthermore, there is an ongoing plan to add another campus by taking over the operation of the Jin-Shan Hospital located on the north coast of Taiwan.

With the addition of the Children's Hospital

into its system, NTUH is in all respects able to serve patients with appropriate, effective, and compassionate care.

In addition to the general clinical services, NTUH has set up 17 integrated specialty centers, such as the International Medical Service Center, the Clinical Psychology Center, the Breast Center, the Allergy and Immunology Center, the Anti-Aging & Health Consultation Center and the Sleep Center. Yet, in order to bring a complete medical care system to our public, NTUH formed the Department of Geriatrics and Gerontology and the Department of Environmental and Occupational Medicine in 2006. NTUH remains the best-known and most renowned medical center in Taiwan.

NTUH has never hesitated to take strides forward towards excellence. Our long-term vision is to become a world-leading university hospital.

Our philosophy is to believe that “life is priceless” and “health is the utmost priority”.

Our mission is to:

- Uphold a tradition of excellence
- Foster outstanding health care professionals
- Conduct cutting-edge research
- Provide high quality and patient-centered care
- Set the standard for excellence in healthcare

The most important core values to us are:

- Integrity and honesty
- Innovation and excellence
- Collaboration and teamwork
- Health and dignity

EDUCATION

As a teaching hospital affiliated with the College of Medicine (NTUCM) NTUH serves the important function of teaching and training a great

variety of medical and paramedical professionals, including students, doctors, pharmacists, nurses and technologists. NTUH trains interns from the schools of Medicine, Dentistry, Pharmacy, Nursing, Medical Technology, and Physical and Occupational Therapy as well as from certain non-medical but health-related schools such as Public Health, Hospital Management, Nutrition, Psychology and Sociology. Internship training is also provided for other medical colleges on this island. Furthermore, under NTUCM's international cooperation plans, NTUH has opened its clinical training environment to exchange students from around the world. Each year NTUH has successfully trained around 600 students in medicine and 850 students in other related health fields.

Beside a broad knowledge of medicine, NTUH's training programs place a strong emphasis on helping the interns gain experience and medical skill through persistent practice. By applying standard simulation systems, interns can acquire the general knowledge and skill competencies required of clinical professionals. In addition, NTUH creates an environment that integrates interns with the clinical medical team so that the interns can learn and work closely together as a team.

In Residency Training, NTUH's systematic training program aims at developing medical doctors to have full professional knowledge and skills as well as strong medical ethics. To enrich and expand the residents' understanding of patients and the context in which they experience illness and seek care, they also take courses in such subjects as introduction of medicine, physician and the humanities, physician and society, human and medical care, medical technology and patients, life and death, and medical ethics and health behavior.

For other medical related personnel, NTUH offers courses on a regular basis, as part of the continuing education program, to a great variety of personnel, including administrative and paramedical professionals, pharmacists, nurses, therapists, technologists, dietitians, volunteers and social workers.

NTUH instills in our staff a firm commitment to a lifetime of learning, while equipping them to understand and to meet the evolving health needs of all segments of the population.

CLINICAL RESEARCH

Medical research is the major mission for National Taiwan University. The emphasis is team work, innovation, applied research and improvement of patient health care.

As a teaching hospital and a leading national medical center in Taiwan, and with the support and cooperation of the Department of Health, National Health Research Institute, Academia Sinica, and the National Science Council, NTUH has devoted enormous resources to medical research. The research mission of NTUH is to foster and support excellence in biomedical and clinical research and is based on our core principle, “Patient-Centered”.

National Taiwan University Hospital (NTUH) has made many pioneering contributions to clinical medicine in Asia and worldwide. It has achieved world wide recognition for hepatitis, cancer, bioengineering research and organ transplantation. NTUH also has an international reputation in immunology, cardiovascular research, infertility, dermatology, ophthalmology, orthopedics and microsurgery. All of these achievements are with a result of our staff's effort and perseverance in medical research.

National Taiwan University Hospital has or is developing major long-term innovative medical research programs in the following areas:

1. **Stem Cell and Developmental Biology:** stem cell (including embryonic, umbilical and adult) development, transplantation and tissue regeneration research. NTUH has achieved the first case of allogeneic stem cell transplantation in the treatment of nasopharyngeal carcinoma in the world.
2. **Tissue Engineering:** artificial bone, cartilage and regeneration, angiogenesis and artificial organs.
3. **Neuroscience:** study the basic mechanism and treatment of epilepsy and neuron stem cell and embryonic stem cell transplantation for the treatment of neurological diseases. Recently VEGF (vascular endothelial growth factor) is found to play an important role in neuroscience. NTUH is currently investigating VEGF and its downstream signal transduction pathways as targets for the treatment of stroke and motor neuron diseases.
4. **Genome Medicine (including Gene Therapy, SNP, Microarrays, Proteomics):** translational research in gene function, gene-protein expression disease mechanisms and the development of new disease markers. NTUH has made outstanding discoveries in the mechanism of neovascularization in gastric cancer, specifically the interaction between Interleukin-6 (IL-6) and endothelial growth factor and the genetics of Grave's disease, finding that the HLA locus in chromosome 6 may contain the disease susceptible gene.
5. **Cancer Treatment:** study the pathogenesis of cancer, including gene, infection and immune mechanisms, develop dendritic cell immunotherapy and cancer vaccines vaccine, prevent or treat cancer, such as cervical

cancer, rectal esophageal, oral and other cancers associated with human papilloma virus.

6. **New Medical Technology:** In recent years, there are many breakthroughs in medical technology and disease treatment. NTUH has achieved research excellence in hepatitis and liver cancer research. NTUH has also recently developed the "chronic hepatitis B virus infection animal model". NTUH is a leader in the fluorescent transgenic fish and pig research. It also has made dramatic achievements in the cryo-preservation of ovary tissue in infertility research.
7. **Bioinformatics:** develop bioinformative technology in new biomedical, pharmaceutical and clinical research, and establish the local data bank.
8. **Clinical Trials:** Phase I, Phase II and Phase III clinical trials of investigational new drugs, medical devices and other new medical therapies.
9. **Immunologic Diseases:** study immune related diseases including allergy, rheumatology, cancer immunology and infectious immunology.
10. **Medical Imaging and Medical Physics:** use new image technology in the diagnosis and treatment of clinical diseases and improve prognosis and treatment outcome. NTUH has been successful in using ^{188}Re -ECD/Lipidol radioactive drug in studying the whole body distribution of total radiation dose in evaluation of treatment response in hepatocellular carcinoma.

The ultimate goal of NTUH's medical research is to improve biomedical technology, to improve the quality of medical care and to eliminate patients' pain.

MEDICAL SERVICE

High quality and humane medical services has always been the primary concern of NTUH over the century. In the past 10 years, a variety of new medical technology research and development has been created to help patients' well-being. NTUH is able to quickly and effectively combine the latest medical knowledge into its medical services and therefore efficiently improve patient care as well as prevent diseases.

There are four characteristics of NTUH's medical services:

1. Medical care must be humane. Hence, NTUH's medical services must consider the patient's comprehensive condition, including physical, psychological, genetic and social conditions.
2. NTUH's medical care is based on humanity and provided to patients with love.
3. NTUH's medical care does not just resolve the patient's visible problem, but with comprehensive concern and understanding over the patient's living environment and social background, the patient can be helped all round and can understand the disease and seek prevention.
4. NTUH's medical care is the integration of a variety medical professionals, including medical doctors, nurses, pharmacists, medical technicians and medical rehabilitation therapists. Such cooperation offers comprehensive treatment and prevention.

NTUH emphasizes teamwork and overall high quality. With such a vision, NTUH can continue to uphold the "patient-centered" concept of its medical services. NTUH's efforts are directed at not only becoming the model of health care in Taiwan, but also for South-East Asia and other developing countries.

Below is the record of academic medical excellence of NTUH over the 10 years.

1997	* Successful surgery for the oldest hepatoma patient (93yrs) ever recorded in the medical literature.
1998	* First successful lung re-transplantation in Asia.
1999	* First in Asia to perform stereotactic microelectrode pallidotomy for parkinsonism.
2000	* First successful heart transplantation for the youngest patient (6 months of age) in Asia.
2001	* Created a unique treatment modality for advanced NPC with the highest cure rate in the world, performed by Drs. Ko, Hong and Ru (KHR). * Application of Cutaneous Epidermal Cell to Treat Limbal Insufficiency.
2002	* First cadaveric lobar lung transplantation in Taiwan.
2003	* The first patient with severe acute respiratory syndrome (SARS) in Taiwan was recognized. Cared for most SARS patients. * Successfully performed the first mini-allogeneic transplantation treatment of nasopharyngeal carcinoma in the world.
2004	* Managed the biggest site worldwide for HPV vaccine clinical trial.
2005	* The first cross match positive live donor renal transplantation accomplished in Asia.
2006	* Performed first Potassium-titanyl-phosphate laser nasopharyngectomy with nasopharyngoscopic guide * For recurrent nasopharyngeal carcinoma
2007	* Performed the first successful Bicaval Heart Transplantation to treat both superior vena cava syndrome and severe heart failure in Taiwan. * In collaboration with the Department of Pharmacology of the College of Medicine, National Taiwan University, NTUH successfully produced the first F-18 FLT (fluorothymidine) biomarkers for Positron Emission tomography (PET) in Taiwan. This is the first time in history that both the precursor and the radiotracer of the PET biomarker were produced in the same institution in Taiwan.
2008	* Successfully saved a drowning victim using Extra-Corporeal Membrane Oxygenation (ECMO) for 117 days, the longest record of ECMO use in the world. * The first to successfully deliver a “rescue baby” for Thalassemia Major in Asia. NTUH used the prenatal genetic diagnostic technique to select an HLA-matched embryo for a boy with Thalassemia Major as the future donor. The embryo was implanted through in vitro fertilization and the blood from the umbilical cord of the newborn baby girl was used to rescue her brother with Thalassemia. * Performed the first successful heart transplantation with the recipient under Extra-Corporeal Membrane Oxygenation (ECMO) for 16 days without a heart

INTERNATIONAL COOPERATION

In addition to education, clinical research and medical service mentioned above, NTUH is also committed to the promotion of international cooperation. NTUH runs a myriad of exchange programs with international academic medical centers in order to have access to additional knowledge and information for the promotion and improvement of medical research and continuing medical education, and furthermore, to upgrade the quality of medical care in Taiwan. In accordance with the principles of equality and mutual benefit, there are a number of specific international training cooperation projects in progress, including programs for medical students, attending physicians, and nursing staff. Many universities, including Harvard University, the University of Pennsylvania, Massachusetts Institute of Technology, the University of Rochester, Seattle Pacific University, Washington State University and the University of Alberta Canada, etc. are all in communication with NTUH to establish international cooperation.

In addition, NTUH is devoted to helping developing countries improve their standard of medical care in line with the government diplomatic policy. In the past, help has been provided to countries as diverse as Libya, Saudi Arabia, Swaziland and other countries, and in recent years, NTUH has carried out cooperative plans with Vietnam where NTUH agreed to help Vietnam to improve its public health and medical care by a variety of means. By signing an official cooperation agreement, NTUH sets out to share medical knowledge and skills by giving distance learning lectures, offering telemedicine consultation and accepting their medical staff for in-house training programs. Not only has this pro-

moted Taiwan's and NTUH's image in Vietnam and significantly enhanced the relationship between Taiwan and Vietnam, it has also opened a channel with Vietnam counterparts to exchange information in real-time, allowing Taiwan to prevent emerging diseases, such as SARS, avian flu and so on, from reaching Taiwan's border.

CONTACT INFORMATION

Founded: 1895

Superintendent: Ming-Fong Chen, M.D., Ph.D.

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Fax: +886-2-2322-2431

Website: [http:// www.ntuh.gov.tw](http://www.ntuh.gov.tw)

E-mail: service@ntuh.gov.tw

V. COLLEGE OF ENGINEERING



Academic Units

- Department of Civil Engineering
- Department of Mechanical Engineering
- Department of Chemical Engineering
- Department of Engineering Science and Ocean Engineering
- Department of Materials Science and Engineering
- Graduate Institute of Environmental Engineering
- Graduate Institute of Applied Mechanics
- Graduate Institute of Building and Planning
- Graduate Institute of Industrial Engineering
- Graduate Institute of Biomedical Engineering
- Graduate Institute of Polymer Science and Engineering
- Yen Tjing Ling Industrial Research Institute
- Hydrotech Research Institute
- Earthquake Engineering Research Center
- Petrochemical Industry Research Center
- Industrial Knowledge Technology Research Center
- Nano-Electro-Mechanical System Research Center
- Hydrotech Research Institute National Taiwan University

The Present and Former Deans

Tze-Hong Lu	(1945-1946)	Tung-Ying Wung	(1979-1985)
Ngou-Shou Wai	(1946-1948)	Chun-Tsung Wang	(1985-1990)
Jeou-Shen Pern	(1948-1953)	Chin-Lien Yen	(1990-1993)
Chen-Hsing Yen	(1953-1955)	Yih-Nan Chen	(1993-1999)
Kow-Kung Choong	(1955-1965)	Yeong-Bin Yang	(1999-2005)
Tsu-Nien Chin	(1965-1972)	Huan-Jang Keh	(2005-present)
Chao-Chung Yu	(1972-1979)		

HISTORY

After the retrocession of Taiwan to the Republic of China in 1945, Taihoku Imperial University became National Taiwan University. The College of Engineering began with four departments: Civil Engineering, Mechanical Engineering, Electrical Engineering, and Chemical Engineering. The Department of Naval Architecture was established in 1976, and renamed the Department of Naval Architecture and Ocean Engineering in 1993, and the Department of Engineering Science and Ocean Engineering in 2002. In addition, the Department of Computer Science and Information Engineering and the Department of Materials Science and Engineering were established in 1977 and 2001, respectively.

Graduate programs began with Electrical Engineering in 1947, Civil Engineering in 1960, Chemical Engineering in 1964, Mechanical Engineering in 1966, Naval Architecture in 1973, Environmental Engineering in 1977, Computer Science and Information Engineering in 1981, Material Science and Engineering in 1982, Applied Mechanics in 1984, Building and Planning in 1988, Electro-optical Engineering in 1992, Industrial Engineering in 1994, Biomedical Engineering in 1998, and Polymer Science and Engineering in 2002.

In 1997, the Graduate Institute of Electro-optical Engineering and the Department of Electrical Engineering were spun off to form an independent college, the College of Electrical Engineering. In August 2000, the Department of Computer Science and Information Engineering was merged into the College of Electrical Engineering, which was renamed as the College of Electrical and Information Engineering.

FACILITIES

The College of Engineering is currently composed of five departments, six graduate institutes, and twelve research centers. The research centers include the Yen Tjing-Ling Industrial Research Institute, the Center for Earthquake Engineering Research, the Manufacturing Automation Technology Research Center, the Center of Industrial Knowledge Technology Research, the Research Center for Petrochemical Industry, the Nano Electro-mechanical System Research Center, the Ship Technology Research Center, the Advanced Polymer Nano-Technology Research Center, the Environmental Pollution Prevention and Control Technology Research Center, the Rehabilitation Engineering Research Center and the Advanced Hydrotech Research Institute, a joint operation of the College of Engineering and the College of Bio-Resources and Agriculture. The College approximates a standard university in size and scope.

RESEARCH

Graduate students in College of Engineering approximately accounts for 20 percentages of every College in National Taiwan University. The annual budget exceeding one thousand million research expenditures for over 600 research projects and over 70 pieces of invention as well as nearly ten million dollars income of technology transfers feature applied science in the College of Engineering. More than 600 SCI journal papers are published by the College of Engineering per year and 3 papers for each teacher in average. It can be seen the clue that the research atmosphere grow prosperously.

The research highlights of the College of Engineering include: Innovative Experimental Techniques and Scientific Computational

Methods for Geotechnical and Structural Engineering (Dep. Civil Engineering), Building the FORMOSUN Solar Vehicle into World Contests (Dep. Mechanical Engineering), Green Production Technology for the Future Chemical Engineering (Dep. Chemical Engineering), Scientific Computation and Simulation with various Novel Applications (Dep. Eng. Sci. & Ocean Eng.), Integrated Research on Key Technologies of Submarine (Dep. Eng. Sci. & Ocean Eng.), Molecular Modeling for the Development of New Materials with Novel Electrical, Optical and Biocompatible Properties (Dep. Mat. Sci. and Eng.), Synthesis of Nanoparticles and Novel Structures for Electro-Optical Applications (Dep. Mat. Sci. and Eng.), Monitoring, Control and Evaluation of Environmental Hormone (Inst. Environmental Eng.), Smart Sensor System for Future Life Applications (Inst. Applied Mechanics), Non-invasive Diagnostic Techniques for Cancers and Diabetic Foot Microcirculation (Inst. Applied Mechanics), Biomaterials in Artificial Organs and Drug Delivery System (Inst. Biomedical Eng.), Advanced Optoelectronic Polymers and Nanotechnology (Inst. Polymer Sci. and Eng.).

GOALS

To be one of the world's premier engineering schools

Vision of the College of Engineering

To be one of the world's premier engineering schools

Mission of the College of Engineering

The mission of the College of Engineering is to provide an environment where education and research can complement and enhance one another. We strive to provide the highest quality

of education by constantly improving course curricula, cultivating both fundamentals and specializations, promoting ethics and social responsibility, as well as enhancing international vision and leadership, to produce outstanding engineers and researchers who can tackle the demands of national infrastructure and technology advancement. In research, we are dedicated to developing engineering-related fields, emphasizing both basic and applied research, and strengthening collaboration with industry to enhance both quantity and quality of research, in order for each of the College's academic fields to attain world-class standards as well as domestic leadership.

CONTACT INFORMATION

Established in: 1943

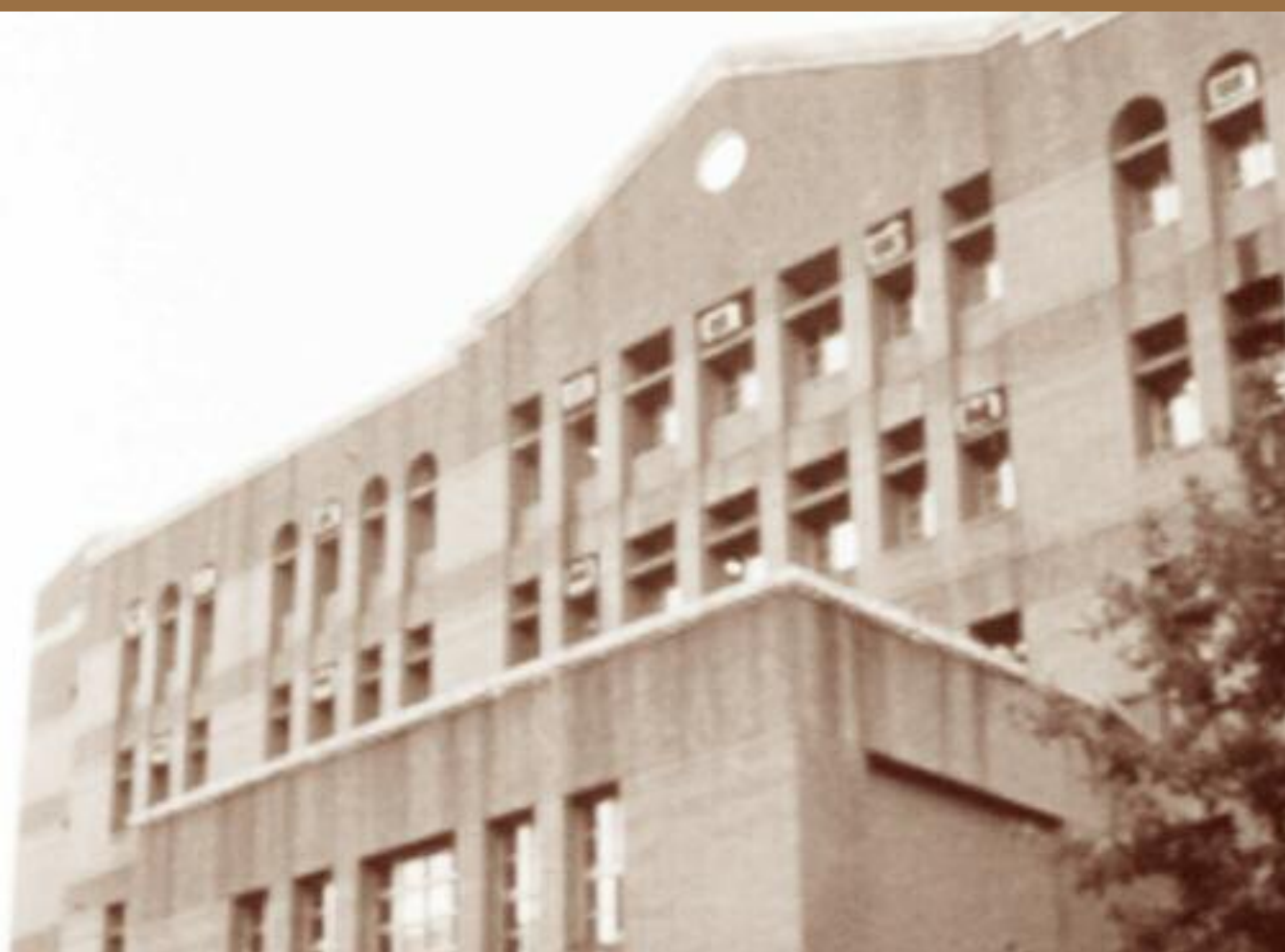
Dean: Huan-Jang Keh

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Fax: +886-2-23637585

Website: <http://www.eng.ntu.edu.tw/>

Email: huan@ntu.edu.tw





INTRODUCTION

The Department of Civil Engineering at NTU was established in 1943. It offers both undergraduate and graduate programs in civil engineering, as well as research opportunities for the society and the nation. It is recognized as the largest and leader among all of the civil engineering departments in the nation.

The Department offers the undergraduate program of study leading to the degree of Bachelor of Science and graduate program leading to the degrees of Master of Science and Doctor of Philosophy. It has an enrollment of approximately six hundred undergraduate students and three hundred and fifty graduate students, about one

fifth of the latter being doctoral students. The Department has long been actively engaged in academic research and keeps a close cooperative relation with industry and government agencies; it holds a research fund on the order of 2 million US dollars per annum.

Department teaching and research activities can be categorized into six major areas, namely, geotechnical engineering, structural engineering, hydraulic engineering, transportation engineering, computer-aided engineering, and construction management, plus surveying. Currently, an architectural engineering program is under development. The Department also collaborates in many areas with the Institute of Environmental Engineering, Institute of Applied Mechanics, and Institute of Building and Planning, sharing with

these institutes several of its faculty members. The Department of Civil Engineering works closely with other research organizations on major research projects. These organizations include the Hydraulic Research Laboratory, NTU Center for Earthquake Engineering Research, Tjing Ling Industrial Research Institute, National Center for Research on Earthquake Engineering, National Center for High Performance Computing, the Taiwan Construction Research Institute, etc. Many major constructions in this country were based on the research results carried out jointly by this Department and the aforementioned organizations.

FACULTY

Full-time: 58

Part-time: 14

Ph.D. Degree: 66

M.S. Degree: 8

Chair/ Professor

Kuo-Chun Chang Ph.D., SUNY, Buffalo, USA

Full-time

Professors

Chau-Shiung Yeh Ph.D., Cornell Univ., U.S.A.

Yue-Hwa Yu D.Sc., Washington Univ. St. Louis, U.S.A.

I-Chau Tsai M.S., NTU, R.O.C.

Tien-Li Lung Ph.D., New York Univ., U.S.A.

Yi-Hwa Chou M.S., NTU, R.O.C.

Der-Liang Young Ph.D., Cornell Univ., U.S.A.

Hong-Ki Hong Ph.D., Columbia Univ., U.S.A.

Rong-Her Chen Ph.D., Purdue Univ., U.S.A.

R.Y. Tan Ph.D., Columbia Univ., U.S.A.

Yeong-Bin Yang Ph.D., Cornell Univ., U.S.A.

Chu-Joe Hsia Ph.D., UC Berkeley, U.S.A.

Cheng-Hsing Chen Ph.D., UC Berkeley, U.S.A.

Jenn-Chuan Chern Ph.D., Northwestern Univ., U.S.A.

Gwo-Fong Lin Ph.D., Univ. of Pittsburgh, U.S.A.

Chin-Hsiung Loh Ph.D., NTU, R.O.C.

Tsan-Hwei Huang Ph.D., NTU, R.O.C.

Ting-Kuei Tsay Ph.D., Cornell Univ., U.S.A.

Hong-Yuan Lee Ph.D., Univ. of Iowa, U.S.A.

Liang-Hsiung Huang Ph.D., Univ. of Iowa, U.S.A.

Keh-Chyuan Tsai Ph.D., UC Berkeley, U.S.A.

Tzou-Shin Ueng Ph.D., UC Berkeley, U.S.A.

Meei-Ling Lin Ph.D., Univ. of Texas, Austin, U.S.A.

Shyue-Koong Chang Ph.D., Univ. of Maryland, U.S.A.

Chien-Yuan Lin Ph.D., Univ. of Washington, U.S.A.

Cheng-Fang Lin Ph.D., Univ. of Washington, U.S.A.

Chia-Pei Chou Ph.D., Univ. of Texas, Austin, U.S.A.

Ko-Fei Liu Ph.D., MIT, U.S.A.

Feng-Tyan Lin Ph.D., Northwestern Univ., U.S.A.

Liang-Jenq Leu Ph.D., Cornell Univ., U.S.A.

Tang-Hsien Chang Ph.D., NTU, R.O.C.

Sy-Jye Guo Ph.D., Univ. of Texas, Austin, U.S.A.

Shang-Hsien Hsieh Ph.D., Cornell Univ., U.S.A.

Fu-Shu Jeng Ph.D., MIT, U.S.A.

Yin-Wen Chan Ph.D., Univ. of Michigan, U.S.A.

Hui-Ping Tserng	Ph.D., Univ. of Wisconsin, Madison, U.S.A.
Lai-Yun Wu	M.S. NTU, R.O.C.
Liang-Chun Chen	Ph.D., Waseda Univ., Japan
Luh-Maan Chang	Ph.D., Univ. of Texas, Austin, U.S.A.
Shyh-Jiann Hwang	Ph.D., UC Berkeley, U.S.A.
Ming-Lang Lin	Ph.D., NTU, R.O.C.
Nien-Sheng Hsu	Ph.D., UCLA, U.S.A.

Part-time

Associate Professors

Tien-Hsiung Tso	M.S., British Columbia Univ., Canada
Tim Hau Lee	Ph.D., Univ. of Iowa, U.S.A.
Tien-Pen Hsu	Ph.D., Karlsruhe Univ., Germany
Chuin-Shan Chen	Ph.D., Cornell Univ., U.S.A.
Herve Capart	Ph.D., Univ. Catholique de Louvain, Belgium
Shih-Ping Ho	Ph.D., Univ. of Illinois at Urbana-Champaign, U.S.A.
Jen-Jer Jaw	Ph.D., Ohio State Univ., U.S.A.
H.B. Bih	Ph.D., The City University of New York, New York, U.S.A.
Jianye Ching	Ph.D., Univ. of California at Berkeley
Chung-Che Chou	Ph.D., University of California, San Diego
Wan-Shan Tsai	Ph.D., Univ. of Illinois at Urbana-Champaign, U.S.A.

Assistant Professors

Shih-Chung Kang	Ph.D., Stanford Univ., U.S.A.
Jen-Yu Han	Ph.D., Purdue Univ., U.S.A.
Yung-Cheng Lai	Ph.D., Univ. of Illinois at Urbana-Champaign, U.S.A.

Part-Time

Professors:

Ju-Jiang Hung	M.Phil., Univ. of London
Chia-Juch Chang	Ph.D., Purdue Univ.
San-Cheng Chang	Ph.D., Cornell Univ.
Lap-Lai Chung	Ph.D., SUNY Buffalo
Chen-Chang Kao	M.S. NTU
Ching-Churn Chen	M.S. Northwestern Univ.
Ching Lung Liao	Ph.D., NTU
Yen-Liang Yin	Ph.D., National Chengchi Univ.

Yung-Hsiang Chen	Ph.D., UC Berkeley, USA
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Associate Professors:

Dyi-Wei Chang	M.S. Tohoku Univ. Japan
Kung Wang	Ph.D., MIT
Ming-Teh Wang	Ph.D., MIT

Assistant Professor:

Jen-Diann Chiou	Ph.D., MIT
Jian-Neng Wang	Ph.D., Univ. of Texas, Austin

FACILITIES

The main buildings utilized by the Department include the Civil Engineering Building, the Complex Building of the College, and the Tze-Hong Building. The total floor space for research and teaching facilities is 10,658 square meters. The main facilities include research laboratories, faculty and staff offices, seminar rooms, regular classrooms, and one multimedia classroom. The multimedia classroom seats more than 100 students and is equipped with an audio mixer, an amplifier, a DVD player, a transparency projector, a video projector, a slide projector, and a state-of-the-art computer system. Other facilities serving the teaching and research needs of the faculty and students include scanners, digital cameras, VCD and DVD recorders, multimedia video projectors, poster printers, and laser printers.

COURSES

Undergraduate programs

Student Service Education(0), Calculus(8), General Physics(6), General Physics Lab.(2), General Chemistry(4), General Chemistry Lab. (2), Introduction to Engineering(1), Applied Mechanics(3), Surveying(2), Engineering Mathematics(6), Mechanics of Materials(4), Engineering Statistics(3), Computer Programming(3), Transportation Engineering (3), Practice in Surveying(1), Soil Mechanic (3), Engineering Materials(2), Fluid Mechanic (3), Engineering Material and Soil Mechanics Lab.(1), Structural Theory(3),Surveying Engineering(3), Transportation Systems(3), Engineering Graphics(2), Reinforced Concrete(3), Structural Engineering and Fluid Mechanics Lab.(1), Hydrology(3), Foundation Engineering(3), Environmental Engineering A (3), Architectural Engineering(3),Engineering Economics (2), Hydraulic Engineering(2),Water Resources Engineering (3),Environmental Engineering B(3), Construction Management(3),Engineering Geology and Its Applications(3),Introduction To Computer-Aided Engineering(3), Design of Steel Structure(3)

Graduate programs

As for graduate studies, the program leading to the Master's degree requires a minimum of 24 credits, excluding graduate seminars and degree thesis. Courses intended exclusively for graduate students are offered in addition to those open to both graduate and undergraduate students. The students are free to choose the courses offered by the Department, as well as those provided throughout the University, depending on their academic interest and career goal. The Department offers more than one hundred elective courses each academic year.

Unlike those entering the master's program, a student entering the Ph.D. program does not have to select a major field of study beforehand. However, he/she has to take the qualifying examination after one year of residence. A student has to pass the qualifying examination within four semesters of entering the program to be admitted as a formal Ph.D. candidate. He/She can then work under the guidance of his/her advisor to prepare for his/her dissertation. Taking the core courses and then completing a dissertation approved by a Ph.D. committee, a Ph.D. student can typically complete his/her study within five years of obtaining the B.S. degree, or three to four years after receiving the M.S. degree.

ACADEMIC ACTIVITIES

1. Each division of the Department holds weekly seminars with distinguished speakers from both university and industry. In addition, each division hosts several seminars and workshops on some selected topics to promote academic exchange.
2. The Department hosts two to three large-scale international conferences to pursue academic excellence and to gain international reputation.
3. The Department invites several distinguished foreign scholars each year to enhance international academic cooperation through visits, teaching and seminars. Also, the faculty of the Department and the Civil Engineering Departments of Kyoto University, Korea Advanced Institute of Science and Technology and National University of Singapore take turns hosting an annual workshop on civil engineering. In addition, regular workshops are held with the Department and the Civil Engineering Departments of Tongi University, Tsinghua University, and Hong Kong University of Science and Technology. Finally, the Department has signed letters of

intent with National University of Singapore, Nanyang Technological University, City University of Hong Kong, Norwegian Geotechnical Institute and Universit Catholique de Louvain.

CAREER AND FURTHER STUDIES

1. Professional abilities

- (1) Foundation engineering: applied mechanics, mechanics of materials and continuum mechanics.
- (2) Structural engineering: structural analysis, steel structures design, steel and prestressed concrete design, earthquake resistance engineering.
- (3) Hydraulic engineering: hydrology, fluid mechanics and hydraulic works design.
- (4) Soil engineering: soil mechanics, foundation design and tunnel engineering.
- (5) Transportation engineering: transportation system, transportation design and management.
- (6) Construction management: project engineering management, construction finance and management, architectural engineering.
- (7) Computer-aided design: computer: computer application in civil engineering, engineering graphics, construction automation.
- (8) Surveying engineering: surveying, surveying practice.

2. Further studies

- (1) Civil Engineering
- (2) Applied Mechanics
- (3) Environmental Engineering
- (4) Building and Planning
- (5) Aeronautics and Astronautics
- (6) Biomedical Engineering

- (7) Materials Science and Engineering
- (8) Transportation Engineering

3. Career options

The graduates are trained to work in the professional fields of structural engineering, architectural engineering, hydraulic engineering, soil engineering and transportation engineering offered by government units, private enterprise, and research institutes.

4. Qualifications

Civil engineer, structural engineer, architect, geotechnical engineer, hydraulic engineer, environmental engineer, traffic engineer, survey engineer, urban planning engineer, refrigeration air-conditioning engineer, industrial safety engineer, industrial hygiene engineer, mining safety engineer.

CONTACT INFORMATION

Established in: 1945

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E-mail: root@ce.ntu.edu.tw



INTRODUCTION

The Department of Mechanical Engineering was established in 1943. The educational objective of the department is “to train outstanding mechanical engineers with foresights and leadership in the mechanical engineering and technological industry.” Under this objective, the department has nurtured numerous leading talents for the mechanical engineering and precision electro-mechanical industry in Taiwan. To establish a world-class educational and research environment, the department has acquired the engineering accreditation in 2006. In the educational aspect, besides continuing improving the traditional mechanical engineering courses in areas of the solid mechanics, mechanical design, manu-

facturing, thermo-fluid science, and system control, the department also works hard in establishing multi-disciplinary courses such as the nanotechnology, integrated-circuit design, bioengineering, MEMS, optical-electro and flat display technology, polymer technology, leadership learning, RFID, new energies, precision machining, bio-chip, intelligent robotics, and so on, upon the request of the modern industry. To catch up with the progress of international mechanical engineering industry and technology, the department has promoted its research ability in the fields of precision nano-manufacturing, new energy technologies, intelligent robotics, automation of plants, CAD/CAM, precision measuring and machining, mechanical-electro integration, MEMS, nanotechnologies, clean

room technologies, fuel cells, multi-powered cars, next-generation engine and combustion technologies, equipments of semiconductor manufacturing, biomechanics, bio-chips, physiotherapy, robotics, RFID, flexible electronics, solar cars, wind power, intelligent cars, etc. The achievement is impressive. The department publishes around 100 journal papers cited by the Science Citation Index and obtains 5 to 10 patents. So far, the department has won 19 Distinct Researcher Awards with special appointment from the National Science Council (NSC), 32 NSC Outstanding Research Awards, 2 Tung-Yuan Technology Awards, 2 Distinct Engineering Professor Awards from the Chinese Institute of Engineering, 3 Distinct Engineering Professor Awards from Chinese Society of Mechanical Engineering, 2 Automation Medals from the Society of Automation in Taiwan, 1 Tso-Tsu-Chang Regius Professor, 1 Shen-Gen Professorship from the Ministry of Economy, and 7 Distinct Professorships from the National Taiwan University.

FACULTY

Distinguished Research Chair Professor : 1

Full-time: 51

Part-time: 4

Chairman

Yung-Ning Pan, Professor

Ph.D., Univ. of Wisconsin,
U.S.A.

Vice Chairman

Mei-Jiau Huang, Professor

Ph.D., California Institute of
Technology, U.S.A.

Distinguished Research Chair

Professor

Chih-Ming Ho Ph.D., Univ. of John Hopkins.

Professors

Shyan-Fu Chou Ph.D., Lehigh Univ., U.S.A

Bin-Juine Huang M.S., Case Western Reserve
Univ., U.S.A.

Yuan-Mao Huang Ph.D., Purdue Univ., U.S.A.

Yuan-Fang Chou Ph.D., Purdue Univ., U.S.A.

Shyi-Kann Wu Ph.D., Univ. of Illinois,
U.S.A.

Yunn-Shiuan Liao Ph.D., Univ. of Wisconsin,
U.S.A.

Ruey-Hor Yen Ph.D., West Virginia Univ.,
U.S.A.

Kuang-Chao Fan Ph.D., Univ. of Manchester,
England

Chien-Ching Ma Ph.D., Brown Univ., U.S.A.

Chun-Liang Lai Ph.D., Case Western Reserve
Univ., U.S.A.

Chin-Chia Su Ph.D., Univ. of Cambridge,
England

Wen-Fang Wu Ph.D., Univ. of Illinois,
U.S.A.

Hang-Pang Huang Ph.D., Univ. of Michigan-Ann
Arbor, EE, U.S.A

Sih-Li Chen Ph.D., Univ. of California,
U.S.A.

Yong-Chwang Chen
Ph.D., NTU, R.O.C.

Chow-Shing Shin Ph.D., Univ. of Cambridge,
England

Hong-Tsu Young Ph.D., Univ. of New South
Wales, Australia

Hsiao-Kang Ma Ph.D., Univ. of Illinois,
U.S.A.

Ping-Hei Chen	Ph.D., Univ. of Minnesota, U.S.A.
Yee-Pien Yang	Ph.D., Univ. of California, U.S.A.
Jung-Ho Cheng	Ph.D., Univ. of Michigan, U.S.A.
Ching-Hua Wang	Ph.D., Northwestern Univ., U.S.A.
Yau-Ming Chen	Dr.Ing., Technical University Munich, Germany
Jia-Yush Yen	Ph.D., Univ. of California, U.S.A.
Sen-Yeu Yang	Ph.D., Univ. of Minnesota, U.S.A.
Min-Shin Chen	Ph.D., Univ. of California, U.S.A.
Fuh-Kuo Chen	Ph.D., Univ. of California, U.S.A.
Shuo-Hung Chang	Ph.D., Univ. of Cincinnati, U.S.A.
Jen-San Chen	Ph.D., Univ. of California, U.S.A.
Chun-Fong You	Ph.D., Cranfield Institute of Technology, U.K.
Dar-Zen Che	Ph.D., Univ. of Maryland, U.S.A.
Su-Hua Hsieh	Ph.D., Univ. of Wisconsin, U.S.A.
Tzu-Yin Wu	Ph.D., Cornell Univ., U.S.A.
Jing-Tang Yang	Ph.D., Univ. of Wisconsin, U.S.A.
Kuang-Yuh Huang	Dr.Ing., Technical Univ., Berlin, Germany
Jyh-Jone Lee	Ph.D., Univ. of Maryland, U.S.A.

Associate Professors

Tien-Tung Chung	Ph.D., NTU, R.O.C.
Tyng Liu	Ph.D., Rutgers Univ., U.S.A.
Han-Ming Chen	Ph.D., Univ. of California, U.S.A.
Chung-Jen Lu	Ph.D., Univ. of California, U.S.A.
Yao-Joe Yang	Ph.D., MIT, U.S.A.
Shiang-Fong Chen	Ph.D., Iowa Univ., U.S.A.
Fu-Cheng Wang	Ph.D., Univ. of Cambridge, England
Wen-Pin Shih	Ph.D., Univ. of Cornell, U.S.A.

Assistant Professors

Yao-Yang Tsai	Ph.D., Univ. of Tokyo, Japan
Kuo-Long Pan	Ph.D., Univ. of Princeton, U.S.A.
Fu-Ling Yang	Ph.D., California Institute of Technology, U.S.A.
Pei-Chun Lin	Ph.D., Univ. of Michigan, U.S.A.

Adjunct Associate Professor

Chien-Yi Wang	Ph.D., Univ. of Tokyo, Japan
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Adjunct Assistant Professor

Yun-Yao Chiu	Ph.D., National Taiwan University
Chih-Yi Chang	Ph.D., National Taiwan University
Chang-Wei Chai	Ph.D., National Taiwan University

FACILITIES

The Department of Mechanical Engineering is located on campus in College of Engineering Building, Mechanical Engineering Building, Chih-Hung Hall, ME Machine Shop, and Thermal Mechanics Laboratory. These facilities provide classrooms, meeting rooms, and more than 60 various auxiliary teaching and research laboratories. Laboratories in the areas of heat transfer, fluid mechanics, thermal mechanics, thermo-fluid science, system control, solid mechanics, vibration, mechanism, CAD, measurement, MEMS, and so on, and the NTU Machine shop provide the mechanical-engineering related experimental courses for undergraduates. The department has established an excellent research environment in the fields of combustion technologies, two-phase flows, computational fluid dynamics, granular bed filters, boiler technologies, wind tunnel testing, calibration, low-temp refrigeration, solar energy, solar cars, new energies, fuel cells, multi-powered cars, wind power, fracture & fatigue, metal forming, plastic processing, mechanical materials, surface treatment, casting, machining, tribology, EDM, automation of plants, precision measuring and machining, equipments of semiconductor manufacturing, machine design, CAD/CAM, precision control, system simulation, robotics, intelligent cars, mechanical-electro integration, MEMS, RFID, nanotechnologies, nanotechnology measurement, flexible electronics, biomechanics, biochips, assistive devices for biomedical purposes, clean room technologies, etc. Additionally, the computer center provides the staffs and students with an open environment for the teaching and use of advanced computer software and hardware.

COURSES

Undergraduate Programs

To graduate, students must complete more than 140 credit hours, including 30 credits for the common and general courses, 69 credits for required professional courses, and 41 credits for selective courses. Physical courses and service courses are not accredited. Courses for the first two years are mainly required and emphasize the knowledge of fundamental science. Courses for the last two years are mostly selective and professional.

REQUIRED COURSES

MATH AND BASIC SCIENTIFIC COURSES	ENGINEERING PROFESSIONAL COURSES
CALCULUS I(A)(4), CALCULUS II (A)(4), ENGINEERING MATHEMATICS I(3), ENGINEERING MATHEMATICS II(3), GENERAL PHYSICS I (A)(3), GENERAL PHYSICS LAB. I(1), GENERAL PHYSICS II(A)(3), GENERAL PHYSICS LAB. II(1), GENERAL CHEMISTRY (C)(3), GENERAL CHEMISTRY LAB(1), STATICS(2), DYNAMICS(3), THERMODYNAMICS(3), COMPUTER PROGRAMMING LANGUAGE(2)	INPRODUCTION TO MECHANICAL ENGINEERING I(1), INPRODUCTION TO MECHANICAL ENGINEERING II(1), ENGINEERING GRAPHICS(2), WORKSHOP PRACTICE(1), ENGINEERING MATERIALS (METAL)(3), MANUFACTURING PROCESSES(3), STRENGTH OF MATERIALS(3), FLUID MECHANICS(3), HEAT TRANSFER(3), AUTOMATIC CONTROL(3), MECHANISM(3), MACHINE DESIGN THEORY(3), MEASUREMENT AND MECHANICAL ENGINEERING LABORATORY I(2), MEASUREMENT AND MECHANICAL ENGINEERING LABORATORY II(2)
Total: 69 units	

Graduate Programs

The teaching and research at the graduate institute are divided into five fields, the solid mechanics, the mechanical design, the manufacturing, the thermal-fluid science, and the system control fields. Students in the MS programs must take 24 credits of courses, besides a MS thesis. A MS degree will not be granted until the thesis is defended orally. Students in the Ph.D. programs, on the other hand, must be enrolled for at least two years, take 18 credits of courses, finish a Ph.D. thesis, publish two journal papers (at least one of them must be published in a SCI journal). Passing the Ph.D. qualifying exam and successfully defending the thesis are required for a grant of a Philosophy degree.

ACADEMIC ACTIVITIES

1. The department has acquired the IEET engineering accreditation in 2006. (Expiration 2011)
2. Prof. J. T. Yang awarded “2008 National Invention & Creation Award” on “Microfluidics Oscillator.” (2008/08/06)
3. RFID International Workshop held July 31, 2008.
4. Professor K.C. Fan named “Fellow of American Society of Mechanical Engineers.” (2008/07/15)
5. Prof. Y.P. Yang awarded the “The 3rd Y.Z. Hsu Technology Invention Award” by Far Eastern Industrial Group. (2008/07/01)
6. RFID International Workshop held May 23-24, 2008.
7. Prof. B. J. Huang et al. won “Inaugural Global Research partnership Center Grants,” provided by “King Abdullah University of Science and Technology,” Kingdom of Saudi Arabia. (2008/04/29)
8. Prof. K. C. Fan awarded “2007 Best Paper Award” by the journal of “Measurement Science & Technology.” (2008/04/25)
9. Collaboration Contract signed with SolidWiazrd Co. Ltd. (2008/04/11).
10. A speech entitled “The Stage of Mechanical Engineering” given by Mr. H.S. Bai, CEO of Foxconn Technology Co., Ltd., (2008/03/29)
11. Mr. H. A. Yang, supervised by Prof. H.K. Ma, awarded “Outstanding Paper Award of the 18th National Conference on Combustion Science and Technology.” (2008/03/29)
12. Mr. Kuo, CEO of AVerMedia Technologies Inc. visited the department for collaboration. (2008/03/02)
13. Prof. P. H. Cheng awarded “2007 Distinguished Research Award” by National Science Council. (2008/02/19)
14. Memorandum of collaboration signed with Department of Mechanical Engineering, Korea University. (2008/02/18)
15. Prof. Y. P. Yang et al. awarded “2007 National Innovation Award” for the invention of the Wheel-Motor Chair. (2008/01/18)
16. Mr. J. C. Chiu, supervised by Prof. S. Y. Yang, won “The 4th Hiwan Thesis Award.” (2008/01/08)
17. Mr. S. J. Yang, supervised by Prof. Y. P. Yang won “The 4th Hiwan Thesis Award.” (2008/01/08).
18. S. H. Huang et al., supervised by Prof. H. K. Ma, won the 4th Prize of 2008 TIC100 Winter Camp Innovation Competition. (2008/01/08)
19. “2007 New Energy Conference” held Dec. 11, 2007.
20. The department participated in “National Taiwan University Achievement Exhibition” on Solar Refrigerator, 150-W Streetlights, and Solar LED Streetlights. (2008/11/07~11/12)

- 21.. “2007 New Energy Conference” held Nov. 22, 2007.
22. “ASHRAE Hong Kong Chapter-Student Study Tour” held Aug. 6, 2007.
23. “2007 Solar Energy and Industry Interact Conference” held July 25, 2007.

CAREERS AND FRUTHER STUDIES

1 、 Professional abilities

- (1) Nanometer technology and microelectro-mechanical systems (MEMS), such as Microsensors, nanoactuators, etc.
- (2) Thermal engineering as motivity factory, engine, air conditioner, etc.
- (3) Fluid mechanics as fluid mechanism, vacuum technology, aeronautical engineering, etc.
- (4) Solidmechanics as mechanical vibration, mechanical structure, etc.
- (5) Mechanical design as computer assisted design, mechanism design, etc.
- (6) Manufacturing as cutting, casting, plastic manufacture, etc.
- (7) System control engineering as robot electromechanical systems.

2 、 Further studies

- (1) Graduate Institute of Mechanical Engineering
- (2) Graduate Institute of Applied Mechanics
- (3) Graduate Institute of Aerospace Engineering
- (4) Graduate Institute of Materials Science and Engineering
- (5) Graduate Institute of Engineering Science and Ocean Engineering
- (6) Graduate Institute of Electrical Engineering
- (7) Graduate Institute of Environment Engineering

- (8) Graduate Institute of Industrial Engineering

3 、 Career options

- (1) Research and design engineer of rising technology industry and high technology
- (2) Government Institution, such as IndustrialDevelopment Bureau, Environmental Protection Bureau, Ministry of Transports and Communications, Ministry of Economic Affairs, Ministry of National Defense, etc
- (3) Teaching in the Department of Mechanics Engineering.
- (4) Professional research center, such as Industrial Technology Research Institute, Chung-Shan Institute of Science and Technology, Academia Sinica, Committee for Aviation and Space Industry Development, etc.

CONTACT INFORMATION

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INTRODUCTION

The Department of Chemical Engineering was established in 1941 as the Department of Applied Chemistry. In 1945, it was reorganized and changed to its present status as the Department of Chemical Engineering under the College of Engineering. The department moved to its present building in 1963, which occupies a total area of 5,000 square meters. An undergraduate program leading to a Bachelor of Science degree has been offered since the establishment of the department. The Master of Science program was initiated in 1964 and the Doctoral program in 1970. The current enrollment in this department is 460 undergraduate students and 270 graduate students. Our programs emphasize the applica-

tion of chemical engineering principles to major problems in chemical engineering as it is practiced, especially in chemical process industries. Examples of current research activities conducted by our faculty include: dynamic modeling and analysis of chemical processes, colloidal and interfacial engineering, polymer composites, prediction of thermodynamic properties, membrane technology, biomaterials, electro-chemical engineering, catalysis, gas-liquid stirred reactors, boiling heat transfer, catalytic oxidation of hydrocarbon, powder technology, crystallization, process system engineering, environmental technology, biochemical and biomedical engineering, and electronic materials processing.

FACULTY

Full-time: 34

Part-time: 4

Ph.D. Degree: 38

Chair/ Professor

Li-Jen Chen Ph.D. Ch.E. Rice University

Full-time

Professor

Cheng-Liang Chen Dr.S. Ch.E. NTU.

Wen-Chang Chen Ph.D. Ch.E. University of
Rochester

Yan-Ping Chen Ph.D. Ch.E. Rice University

Wen-Yen Chiu Dr.S. Ch.E. NTU.

Kuo-Chuan Ho Ph.D. Ch.E. University of
Rochester

Hsyue-Jen Hsieh Ph.D. Ch.E. Pennsylvania
State University

Kuo-Huang Hsieh Dr. Eng. University of Detroit

Jyh-Ping Hsu Ph.D. Ch.E. Kansas State
Univ.

Hsiao-Ping Huang Dr.S. Ch.E. NTU.

Huan-Jang Keh Ph.D. Ch.E. Carnegie Mellon
University

Chung-Wen Lan Ph.D. Mater.Sci. University
of Wisconsin-Madison

Duu-Jong Lee Dr.S. Ch.E. NTU.

Keh-Chyang Lee Ph.D. Ch.E. University of
Washington

Lii-Ping Leu Ph.D. Ch.E. Oregon State
Univ.

Hwai-Shen Liu Ph.D. Ch.E. University of
Tennessee

Chung-Hsin Lu Dr. Inorg. Mater. Tokyo
Institute of Technology

Ching-An Peng Ph.D. Ch.E. The University of
Michigan

Yu-Jane Sheng Ph.D. Ch.E. University of
Delaware

Shin-Min Shih Ph.D. Ch.E. University of
Texas -Austin

Clifford Yi-Der Tai Ph.D. Ch.E. North Carolina
State University

Ben-Zu Wan Ph.D. Ch.E. Texas A & M
Univ.

Da-Ming Wang Ph.D. Ch.E. Pennsylvania
State University

Chi-Sheng Wu Ph.D. Ch.E. University of
Pittsburgh

Nae-Lih Wu Ph.D. Ch.E. Pennsylvania
State University

Shi-Chern Yen Ph.D. Ch.E. University of
Wisconsin-Madison

Cheng-Ching Yu Ph.D. Ch.E. Lehigh
University

Associate Professor

Chi-An Dai Ph.D. Mater. Sci. Cornell
Univ.

Wei-Bor Tsai Ph.D. Bio.E. University of
Washington

Sheng-Shih Wang Ph.D. Ch.E. Texas A&M
Univ.

Shiang-Tai Lin Ph.D. Mater. Sci. Cornell
Univ.

Assistant Professor

Cheng-Che Hsu Ph.D., Ch.E. University of
California at Berkeley

Chih-Chen Hsieh Ph.D. Ch.E. University of
Michigan

Chia-Wen Wu Ph.D. M.S.E The University
of Tokyo

Part-time

Professor

Chia-Soon Ku	Ph.D. Ch.E. Pennsylvania State University
Wei-Ming Lu	Ph . D.Ch.E University of Houston
Min-Hon Rei	Ph.D. Chem. Purdue University
Shih-Yow Huang	Ph.D. Ch.E. Tokyo University

FACILITIES

All Department laboratories are equipped with specialized instrumentation in various research fields. In addition, the Department consolidates the relevant equipment in two centralized laboratories: the Instrumental Analysis Laboratory and the Particulate Technology Laboratory. These two laboratories provide services to all of our faculty members and students for their research and/or teaching needs. For the purpose of developing education and research of particulate techniques, the Particulate Technology Laboratory also offers related courses every semester, and symposia and seminars are hosted, some regularly and some occasionally. Besides, the Particulate Technology Laboratory accepts the participation of industry so as to link the needs of industry with its projects and to receive support from concerned enterprises.

Particulate Technology Laboratory

This laboratory combines important equipment for particulate analysis, which includes:

Microscope, Particle Size Analyzer, Spectrophotometer, Pycnometer, Zeta-Potential Meter, Powder Bed Tester, Porosimeter, Dilatometer, Sieve, Mill, Mixer.

Instrumental Analysis Laboratory

This laboratory consolidates equipment for thermal analysis, chemical analysis, material characterization and analysis, and fluid properties analysis.

Thermal Analysis: Thermogravimetric Analysis (TGA), Differential Scanning Calorimetry (DSC), TD-DTA-DSC-Mass Spectroscopy, Dynamic Mechanical Analysis (DMA); Chemical Analysis: UV-Visible Spectrophotometer, Atomic Analyzer (AA), Gas Chromatography (GC), High-Performance Liquid Chromatography (HPLC), Gel Permeation Chromatography (GPC), Ion Chromatography (IC), Ultra Centrifuge; Materials Characterization and Analysis: Scanning Electron Microscopy (SEM), Energy-Dispersive X-Ray Spectroscopy (EDS), Polarized Optical Microscopy, Optical Microscopy, X-Ray Diffractometry (XRD), X-Ray Fluorescence Film-Thickness Analyzer, Ellipsometer, X-ray Photoelectron Spectroscopy (XPS), Atomic Force Microscopy (AFM); Fluid Properties Analysis: Viscometer, Inductively Coupled Plasma Optical Emission Spectrometry (ICP), and Rheometer.

Furthermore, various softwares, including Aspen Plus, ChemCad, Fluent, and FIDAP are used in teaching and research.

COURSES

The Department has long been engaged, not only in developing key chemical engineering technologies to create more efficient and environmentally friendly processes, but also in promoting and exploring research activities on new frontiers. Cooperative efforts are facilitated by the presence of three interdisciplinary laboratories within the Department. These include the

Particulate Technology Laboratory and the Environmental Technology and Pollution Control Laboratory. There is also the Research Center for Petrochemical Industry. Our research combining biotechnology and biochemical engineering and the development of new polymer materials and processing techniques offer good examples. Collaboration is also achieved by recruiting talented faculty and through interdisciplinary cooperation in a number of projects. The research interests covered by our faculty members have branched into chemistry, biotechnology, food science, materials science, environmental engineering, medical engineering, electronic materials, etc.

Specialized laboratories supplement much general apparatus for undergraduate laboratory courses as well as graduate research. Some of them are: Computer Room, Chemical Engineering Laboratory, Instrumental Analysis Laboratory, Particulate Technology Laboratory, Biochemical Engineering Laboratory, Bioprocessing Engineering Laboratory, Biomedical Engineering Laboratory, Biomaterials Lab, Process Systems Engineering Laboratory, Chemical Process Laboratory, Catalysis and Reaction Engineering Laboratory, Laboratory, Crystallization Engineering Laboratory, Dispersed Phase Laboratory, Two-Phase Flow Laboratory, Colloid and Interface Laboratory, Heat Transfer Laboratory, Interfacial Phenomena Laboratory, Molecular Simulation Laboratory, Polymeric Fluid Mechanics Laboratory, Energy Materials Laboratory, Electrochemical Engineering Laboratory, Electronic and Electro-Optical Ceramics Laboratory, Electro-Optical Polymer Laboratory, Electro-Optical Materials Laboratory, Polymer Materials Laboratory, Membrane Separation Laboratory, Clean Technology Laboratory, Crystal Growth Laboratory, Thermodynamics and Supercritical

Technology Laboratory, Polymer Science and Engineering Laboratory, Nano Biotech Laboratory, Plasma Engineering Laboratory Computational, Molecular Engineering Laboratory.

Undergraduate Courses

Engineering Graphics(2), Calculus (General Mathematics) (A)(I)(II)(8), General Chemistry (A)(I)(II)(6), General Chemistry Lab (I)(II)(2), General Physics (A)(I)(II)(6), General Physical Lab.(I)(II)(2), Computer Programming(3) MATLAB(3), Mass and Energy Balances(A)(3), Mechanics of Materials(3), Engineering Mathematics (I)(II)(6), Organic Chemistry (B)(I)(II)(6), Organic Chemistry Lab. (B)(I)(II)(2), Physical Chemistry (I)(II)(6), Analytical Chemistry (C)(2), Analytical Chemistry Lab. (C)(1), Transport Phenomena and Unit Operations(I)(II)(III)(9), Electrical Engineering (3), Physical Chemistry Laboratory (I)(II)(2), Chemical Engineering Thermodynamics(3), Chemical Reaction Engineering(3), Chemical Engineering Laboratory (I)(II)(2), Process Control(3), Process Design (3), Chemical Process Industries(2), Special Projects (B.S.) (B)(2), Special Projects (B.S.)(E)(2), Special Projects (B.S.)(C)(1), Literature Survey(2)

Graduate Programs

Advanced Fluid Mechanics(3), Advanced Heat and Mass Transfer(3), Advanced Chemical Engineering Kinetics(3), Advanced Chemical Engineering Thermodynamics(3), Advanced Chemical Engineering Mathematics(3)

The department offers M.S. and Doctorate programs for students with a B.S. degree in chemical engineering or related fields. Candidates for the M.S. degree must complete a minimum of 34 credits including six credits for thesis work and

two credits for graduate seminars. One additional requirement is an oral examination on the thesis by a committee organized by the department faculty.

The department offers graduate courses in many fields: Advanced biochemical engineering, Advanced chemical engineering kinetics, Advanced chemical engineering thermodynamics, Advanced theory of polymers, Advanced transport phenomena, Computer process control and optimization, Electrochemical engineering, Gas-solid reactions, Topics in particulate technology, Semiconductor processing. Students who pass the entrance and qualifying examinations may enter the doctoral program. A minimum of 15 credits of course work beyond a Master's degree, including at least 9 credits in core courses of chemical engineering, is required. A dissertation that makes a contribution to chemical engineering science and an oral examination are also required for the completion of the Doctor's degree.

ACADEMIC ACTIVITIES

The Department has been actively involved in promoting interactions between researchers from the college and industry, as well as in sponsoring or cosponsoring symposia on a range of subjects related to Chemical Engineering, including Symposium on Transport Phenomena (annually), Symposium on Computer Process Control (annually), Symposium on Nanomaterials and Electro-Optical Component Application, Symposium on Liquid Clarification Technology, Membrane Separation Workshop, Symposium on Sludge Management, Workshop on Chitosan, Workshop on Optical Communication Components and Materials, Workshop on Waterborne Resin, Workshop on Powder Coating Resin, Electrochemistry Workshop, Symposium on

Economical Analysis of Chemical Engineering Processes, Symposium on LCD materials/Technology Development, Workshop on Ferroelectric memory, Crystallization Workshop, just to name a few.

CAREERS AND FURTHER STUDIES

The Chemical Engineering Department has grown in strength and vitality and now is recognized as the best teaching and research institute in the field in Taiwan. With this excellent tradition, we are prepared for new developments in chemical engineering in the 21st century. Besides the basic fields of chemical engineering, we also offer teaching and research on New Material Science, Polymer Science and Engineering, Biotechnology, Pollution Prevention, Bioengineering and Biomedical Engineering and Specialty Chemicals. Students are trained in integrated process analysis and design, together with the key concepts of industrial safety and environmental protection. Maintaining our devotion to teaching and research, we anticipate the continued progress of this department.

CONTACT INFORMATION

Established in: 1941

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E-mail : chemeng@ntu.edu.tw



INTRODUCTION

The Department of Engineering Science and Ocean Engineering was established at 1973(Ship Model Basin 1968, Institute of Naval Architecture 1973, Department of Naval Architecture 1976, Department of Naval Architecture and Ocean Engineering 1992, Department of Engineering Science and Ocean Engineering 2002). The alumni of the department have significant contributions in the industries of ship building, Ocean engineering, Information and Opto-mechtronics and also in academic. The educational objectives of the department are to offer students training in the fundamental principles of engineering analysis and mathematical techniques and interdiscipli-

nary training of Naval Architecture and Ocean Engineering, Information and Scientific Computation, Applied Mechanics and Opto-mechtronics. On the research aspect, the research groups of the department focus in the fields of bio-photonics, intelligent wireless sensor network, smart structure, piezoelectric switching power supplies, opto-mechtronics systems, off-shore wind farm, ocean energy, underwater vehicle, shipbuilding, ocean engineering, composite material, underwater acoustics, vibration and application ultrasonic, applied acoustics, computation and simulation of health and healing, advanced fluid power control, multimedia network, bio-informatics, nano-photonics and computer aided design. The department publishes around 50 journal papers cited by Science

Citation Index and applies for 3 to 5 patents every year. There are already 2 Distinct Researchers with special appointment from National Science Council, 6 professors with NSC outstanding Research Award and 2 holders of Distinct Professorship.

FACULTY

Full-time: 28

Part-time: 6

Ph.D.: 31

M.S.: 3

Chair/ Professor

Jing-Fa Tsai Ph.D., NTU, R.O.C.

Full-time

Professor

Ya-Jung Lee Ph.D., University of Tokyo, Japan.

Ming-Chung Lin Ph.D., University of Tokyo, Japan.

Sheng-Wen Cheng Ph.D., University of Tokyo, Japan.

Chin-Hwa Kong Ph.D., University of Michigan, U.S.A.

Forng-Chen Chiu Ph.D., University of Tokyo, Japan.

Chen-Far Hung Ph.D., University of Hannover, Germany.

Jen-Shiang Kouh Ph.D., University of Hannover, Germany.

Chuan-Cheung Tse M.S., Memorial University of Newfoundland, Canada

Wen-Hann Sheu Ph.D., Purdue University, U.S.A.

Huei-Jeng Lin Ph.D., NTU, R.O.C.

Chih-Kung Lee Ph.D., University of Cornell, U.S.A.

Kuo-Tsai Chen Ph.D., NTU, R.O.C.

Te-Pu Chiang Ph.D., NTU, R.O.C.

Wei-Shien Hwang Ph.D., University of Iowa, U.S.A.

Chia-Chi Sung Ph.D., Pennsylvania State University, U.S.A.

Wen-Jeng Hsueh Ph.D., NTU, R.O.C.

Chao-Nan Wang Ph.D., NTU, R.O.C.

Chi-Fang Chen Ph.D., Massachusetts Institute of Technology, U.S.A.

Chao-Lung Ting Ph.D., University of Michigan, U.S.A.

Jen-Hwa Guo Ph.D., University of Minnesota, U.S.A.

Associate professor

Wen-Jiunn Ko Ph.D., NTU, R.O.C.

Mao-Hsiung Chiang Ph.D., RWTH Aachen, Germany.

Assistant professor

Ray-I Chang Ph.D., National Chiao Tung University, R.O.C.

Wen-Jong Wu Ph.D., NTU, R.O.C.

Chien-Kang Huang Ph.D., NTU, R.O.C.

Jia-Han Li Ph.D., Purdue University, U.S.A.

Jau-Horng Chen Ph.D., Georgia Institute of Technology, U.S.A.

Emeritus Professor

Yih-Nan Chen Ph.D., University of Tokyo, Japan.

Chun-Tsung Wang Ph.D., University of Illinois, U.S.A.

Jeng-Lih Hwang M.S., NTU, R.O.C.

Yung-Hsiang Chen Ph.D., UC Berkeley, U.S.A.

Part-time

Professor

Robert R. Hwang	Ph.D., University of Iowa, U.S.A.
Yih-Nan Chen	Ph.D., University of Tokyo, Japan.
Jeng-Lih Hwang	M.S., NTU, R.O.C.
Yung-Hsiang Chen	Ph.D., UC Berkeley, U.S.A.

Associate professor

Tsong-Neng Wu	Ph.D., NTU, R.O.C.
Chung-Sheng Chen	M.S., NTU, R.O.C.

FACILITIES

The Department occupies a main two-floor building and several laboratories nearby. The total floor space is approximately 7200 square meters, including one computer center, 22 research laboratories, and 4 experimental workshops. The computer center supports the computer network of department and provides one computer room for the undergraduate students.

The Department has 25 research laboratories:

Nano-BioMEMS Lab was established as a common lab for grand challenge nanotechnology, biomedical, and MEMS integrated large-scale research projects. The Nano-BioMEMS lab contains 4 major parts, (1) Grand challenge: the common lab for large-scale research projects. (2) Core facility: These research projects help to build common research facilities and also join the NTU virtual instrument center to share expensive research equipment. (3) Research backbone, the supporting infrastructure, a common server office and a mobile office for researchers from other institutes. (4) Interface to outside world: The Opto-Mechtronics Lab focuses on interdisciplinary research topics in biomed-

ical, nanotechnology fields, based on the basic disciplines of electronics, optics, computer science, and mechanics. MEMS Lab is concerned with design and manufacture technology for micro or nano scale of optical, electronic, mechanical and chemical sensors and actuators. Electro-Optical and Communication Lab is devoted to component and system design for optics and communication. Nanophotonics and Nanoelectronics Laboratory focuses on the scientific computing, physical modeling, and experiment measurement of the nanophotonic and nanoelectronic devices.

Computer-aided Design Lab, Computational Fluid Mechanics Lab and CAE/CIM Lab are focused on computer-aided design and manufacturing. Scientific Computing and Cardiovascular Simulation Lab and Computational Mechanics and Scientific Visualization Lab emphasize research on scientific computing and cardiovascular simulation. Information and Multimedia Laboratory focuses on internet and multimedia applications and bio informatics.

Facilities used for conducting research in structure and acoustic engineering are housed in Vibration and Ultrasound Lab, Acoustics Lab, Structure Lab, Composite Material Lab and Applied Acoustic Lab. Industrial Automation Lab, Real-time System Research and Implementation Lab provide advanced research and education in manufacturing automation and design of embedded systems.

Advanced Fluid Power Control Lab offers facilities for the design and analysis of hydraulic components and hydraulic systems. Ship Towing Tank, Cavitation Lab, Ship Motion and Control Lab, Ship Model and Propeller Workshop support researches in naval architecture. Several Labs in the Department are devoted to ocean engineering research. One is the Ocean

Engineering Lab dedicated to coastal engineering research and education. Research efforts of Underwater Acoustics Lab and Underwater Vehicle Lab are concerned with the development and application of underwater technology.

Basic Fluid Mechanics Lab, and Basic Engineering Lab, Information & Internet Teaching Lab and Electronics & Mechatronic Lab were established to provide education facilities for the undergraduate students.

COURSES

Undergraduate Programs (I)

Calculus I, II (8), General Physics (lab. Included)(8), General Chemistry (lab. Included)(4), Introduction to Engineering Science and Ocean Engineering(0), Engineering Graphics(2), Introduction to Computer(3), Computer Programming(3), Statics (2)

Engineering Mathematics I, II (6), Fluid Mechanics (3), Thermodynamics (3), Electrical Engineering (3), Material Science (3), Basic Engineering Experiments (2)

Undergraduate Programs (II)

OPTO-MECHTRONICS

Logic Circuit Design(3), Electronics(3), Numerical Methods(3), Electricity and Magnetism(3), Signals and Systems(3), Automatic Control(3), Fundamental of Optics (3), Opto-Mechtronics Laboratory(2), Electronics Laboratory(1)

INFORMATION & COMPUTAION SCIENCE

Discrete Mathematics(3),Data Structures (3), Numerical Methods (3), Linear Algebra (3), Object Oriented Programming Language (3), Finite Difference Method (3), Computer

Graphics (3), Logic Circuit Design(3)

APPLIED MECHANICS

Mechanics of Materials (3), Numerical Methods (3), Intermediate Fluid Mechanics (3), Dynamics (3), Heat and Mass Transfer (3), Advanced Strength of Material (3), Theory of Vibration (3), Mechanics Laboratory (3)

NAVAL ARCHITECTURE & OCEAN ENGINEERING

Mechanics of Materials (3), Numerical Methods (3), Dynamics (3), Theory of Structures (3)

Physical Oceanography (3), Buoyancy and Stability (3), System Dynamics (3), Mechanics Laboratory (3)

Graduate Programs

The Master degree usually takes 2 to 4 years. In addition to writing the Master's thesis, the graduate student must take at least 24 credits.

Research in the following areas are available: bio-photonics, nano-photonics , intelligent wireless sensor network, smart structure, piezoelectric switcing power supplies, opto-mechtronics systems, optoelectronics, nano-technology, biomedical engineering, offshore wind farm, ocean energy, underwater vehicle, shipbuilding, ocean engineering, composite material, underwater acoustics, vibration and ultrasound, compuaction and simulation of health and healing, advanced fluid power control, ship propulsion, ship motion, welding mechanics, computer aided design, acoustics and noise control, underwater technology, software engineering, scientific computing, internet application, multimedia network, bio-informatics, computer animation and virtual reality.

The doctoral program takes 2 to 7 years. After passing the qualifying examination, the doctoral student must complete at least 18 credits (excluding Doctoral thesis credits), two published journal papers (Includes one SCI paper), and successfully defend his/her thesis to earn a Ph.D. degree in Engineering Science and Ocean Engineering.

ACADEMIC ACTIVITIES

Weekly seminars are held on every Friday afternoon to ensure that students have ample exposure to a variety of current research topics and events through invited speakers from both university and industry. The Department also co-sponsors many domestic or international symposiums and workshops throughout the year.

Careers and Further studies

1. Professional abilities

Electro-Mechanics, Optics, Nano Technology, Optoelectronics, biomedical technology, Information Science, Computer Science, Applied Mechanics, Ship Building and Ocean Technology.

2. Further studies

Institution of Electrical Engineering, Electro-Optics Engineering, Electronic Engineering, Electromagnetics, Computer Science and Information Engineering, Applied Mechanics, Ocean Engineering, Material Science, Material Science, and Civil Engineering.

3. Career options

- (1) Research and Development Engineers in Electro-Mechanics, Optics, Information Science, Computer Science, Precision Machining, Aeronautics, Automobile Vehicle, Ship Design, and Civil Engineering.
- (2) Researcher of National Applied Research

Laboratories, Industrial Technology Research Institute, Chung-Shan Institute of Science and Technology and research institutes of Ministry of Economics Affairs

(3) Education.

CONTACT INFORMATION

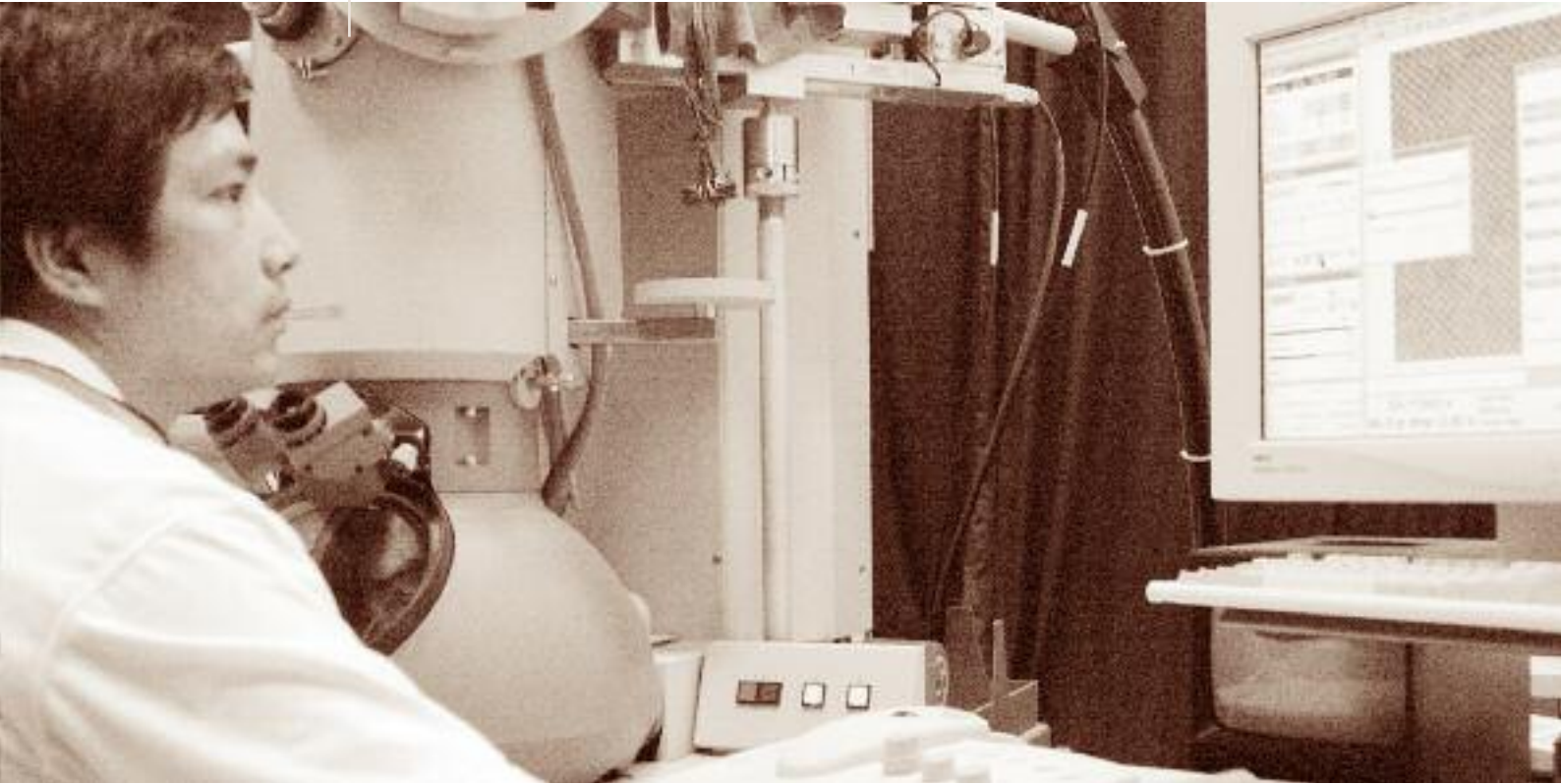
Chair: Jing-Fa Tsai

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Website: <http://www.esoe.ntu.edu.tw>

E-Mail: sheulf@ntu.edu.tw



INTRODUCTION

The establishment of NTU, the most famous university in Taiwan, can be dated back to 1928. At that time, the Japanese government founded ten imperial universities. One of these ten universities, Taihoku Imperial University, was established in Taipei. This university was transformed into NTU in 1945 after the retrocession of Taiwan to the Republic of China. The main campus, which covers an area of 284 acres, is located near the center of Taipei city. The University has nine colleges: Liberal Arts, Science, Law, Medicine, Engineering, Agriculture, Management, Public Health and Electrical Engineering. In addition, the University has several affiliated organizations, such as the

University Hospital, Experimental Forest, Industrial Research Center, Computer Center, Language Center, etc. The University offers comprehensive undergraduate and graduate courses. A total of 23,094 students enrolled for the 1997 academic year, of which 6,624 students pursued advanced degree in various fields. The College of Engineering has ten departments: Civil Engineering, Mechanical Engineering, Chemical Engineering, Naval Architecture & Ocean Engineering, Environmental Engineering, Computer Science & Information Engineering, Materials Science and Engineering, Applied Mechanics, Building & Planning, and Industrial Engineering. Among these departments, Materials, Environmental, Applied Mechanics, Building & Planning, and Industrial Engineering

Departments offer only graduate programs; others offer both undergraduate and graduate programs.

Professor Tze Hong Loh and his group initiated research in Materials Science at NTU in the Department of Mechanical Engineering forty years ago. The Institute of Materials Science and Engineering was created from the Materials Research Group in August, 1982. At the time, the Institute offered only a Masters program. The Ph.D. program was initiated in 1987. The students are admitted from various universities in Taiwan. They have to pass a very competitive examination to enter the Institute. Since the establishment of the Institute, more than 500 students have graduated. These graduates are now active in academia and industry.

The institute provides the courses on metallic materials, polymeric materials, ceramic materials and composite materials. Students, with the consent of their advisors, may take elective courses to suit their interests. However, students are encouraged to develop a broad understanding of all materials.

The Institute has three research divisions: metallic materials, polymeric materials and ceramic materials. The metallic materials division concerns the extraction, melting and casting, welding and heat treatment of various metallic materials, etc. Current research areas include phase transformation of shape memory alloys, special alloy design, welding and heat treatment of alloy steels and superalloys, processing of metallic-matrix composites, characterization of the materials in corrosive environments, etc.

The objective of the polymeric materials program is to provide the students with interdisciplinary training in polymer science and engineering. Current research activities emphasize on

high performance polymers, polymer membranes, polymer composites, functional polymers, and optoelectronic polymers.

The ceramic materials division aims at promoting the understanding of fundamental properties and principles of ceramic materials, especially the relationships between microstructure-processing properties of ceramics. Current research interests are centered on structural applications of ceramics, artificial graphite and ceramic-matrix composite. Functional ceramics are also investigated.

The Graduate Institute of Materials Science & Engineering offers a program leading to M.S. Ph.D. degrees. Candidates for the advanced degrees must take several courses and complete a thesis. An oral examination on the thesis is required for all candidates. Financial aid is available to qualified students in the form of research assistantships. Recipients of assistantships are usually associated with specific projects supported by the industry and the government. All requests for information and application forms should be addressed to the Institute as follows.

FACULTY

Full-time:23

Adjunct:4

Ph.D.:27

Chari/Professor

Jer-Ren Yang	Ph.D., Univ. of Cambridge
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Full-Time

Professor

Chun Chen	Ph.D., Rensselaer Poly. Institute
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Yuan-Haun Lee	Ph.D., Kyoto Univ.
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Tung-Han Chuang	Ph.D., Stuttgart Univ.
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Po-Cheng Kuo Ph.D., NCKU
 Shuang-Shii Lian Dr. Ing., Tech. Univ. Berlin
 Kuen-Shyang Hwang
 Ph.D., Rensselaer Poly.
 Institute
 King-Fu Lin Ph.D., Polytechnic Univ. of
 New York
 Wen-Cheng Wei Ph.D., Case Western Reserve
 Univ.
 Wei-Hsing Tuan Ph.D., Leeds Univ.
 Wei-Fan Lin Ph.D., Univ. of Massachusetts
 Wen-Bin Liao Ph.D., Univ. of Utah
 Hsin-Chih Lin Ph.D., NTU
 Cheng-Heng Kao Ph.D., Univ. of Wisconsin,
 Madis
 Chao-Sung Lin Ph.D., Univ. of Northwestern
 Ren-Kae Shiue Ph.D., MIT

Associal Professor

Chun-Wei Chen Ph.D., Univ., of Cambridge
 Hsuen-Li Chen Ph.D., NTU
 Miin-Jin Chen Ph.D., NTU
 Tzong-Lin Sheih Ph.D., Univ., of Cambridge

Assistant Professor

Feng-Yu Tsai Ph.D., Univ. of Rochester
 Chi-Yang Chao Ph.D., Cornell Univ.
 Chin-Lung Kuo Ph.D., Cornell Univ.

Adjunct

Professor

Shyi-Kaan Wu Ph.D., Univ. of Illinois
 Wen-Yen Chiu Ph.D., NTU
 Cheng-Hsuan Che Ph.D., Cornell Univ.

Assistant Professor

Jing-Jong Shyue Ph.D., Case Western Reserve
 Univ..

Professor Emeritu

Chen-Hsien Hwang BS., NTU
 Shun-Tai Chang Ph.D., Univ. of Connecticut
 Chun-Hao Koo Ph.D., Univ. of California,
 Berkeley

FACILITIES

> Electron Microscope Lab

SEM XL-30, SEM LEO1530, TEM, STEM,
 EPMA, FEG-TEM

> Material Lab

MTS, Impact Tester, Hardness Tester
 > Thermal Analysis Lab

Thermal Analysis Facilities : - TGA -DSC - DTAD -DMA

Carbon/Sulfur Determinator, Oxygen/Nitrogen
 Determinator

> Metallographic Lab

Microscopes-Optical microscope, Stereo micro-
 scope, Multi-function microscope, Measurable
 microscope , Cutting Machine, Grinding,
 Polishing Machine, Mounting Press Machine

> Electronic Packaging Lab

Ultra high vacuum sputtering system, High vacu-
 um heat treatment furnace
 Vibrating sample magnetometer, High frequency
 heating furnace

> Smart Memory Materials Lab

Ferroelectric analyzer, Precision diamond saw,
 Environment chamber
 Strain amplifier, high temperature sintering oven

> Structural Intermetallics Lab

Differential Scanning Calorimetry (DSC),
 DC/RF Sputtering Equipment
 Dynamic Mechanical Analyzer (DMA), α -step-
 per, Optical Spectrometer
 Infrared Furnace, Vacuum Arc Remelter (VAR),
 Optical Microscopy
 High Vacuum Furnace, Heating Furnace,
 Diamond Cutter, Wear Tester

> Powder Metallurgy Lab

40 ton ARBURG-injection molding machine,
Horiba carbon/sulfur analyzer, 100 ton press,
Cycrometer, Rattler tester, Four point bend tester
Vacuum furnace, Debinding furnace, Sintering
furnace, Fisher subsieve sizer

> Surface Modification Lab

Potentiostat/Galvanostat, Function/Arbitrary
Waveform Generator
NF electronic Power Amplifier TA250 W/ V0-40
Oscillator
Electrochemical Impedance Spectroscopy
(Frequency Response Detector)
Oxygen/Conductivity/pH Meter, Rotating Disk
Electrode
Data Acquisition(DAQ) Hardware

> Dynamic Test Lab

Rofin-Sinar 850, 5KW CO2 LASER

> Semiconductor Optoelectronic Materials LAB

Time-of-flight mobility measurement system
Time-resolved photoluminescence spectroscopy

> Nano-Optoelectronic Polymer Lab

1000W Xenon Arc Lamp Light Source, Vacuum
Deposition Equipment
Vacuum Evaporator, Automatic Atmosphere
Chamber

> Frontier Materials Lab

Atomic Force Microscope, Scanning Near-Field
Optical Microscopy
Photoluminescence spectroscopy, UV-Vis
absorption spectroscopy

> Nanoelectronic And Nanophotonic Materials Lab

Atomic layer deposition
Low temperature photoluminescence spec-
troscopy

> Vacuum Melting of Alloys Lab

Vacuum introduction furnace with water-cooled
copper-crucible

Plasma remelting, Electroslag remelting,
Rotating electrodes, Vacuum arc melting

> High-Temperature Ceramic Lab

New-type equipment-fluorine gas generator
High frequency introduction furnace

> Optoelectronic Thin-film Processing Lab

Atomic Layer Deposition systems
Plasma Enhanced Atomic Layer Deposition sys-
tems
Glovebox

> Structure and Properties of Polymer Lab

Differential Scanning Calorimeter
Dielectric analyzer

> Nano Optoelectronics Lab

Constant temperature & humidity Incubator-
Balance Control
finite-difference time domains (FDTD)
High temperature furnace
UV-visible spectrometer

COURSES

The Department of Materials Science and Engineering has five research divisions: metallic materials, polymeric materials, ceramic materi-
als, electronic materials, and processing.

Metallic Materials

The purpose of this division is to help the stu-
dents develop expertise in metallic science and
engineering. The students learn about the rela-
tionships between the structure and the develop-
ment processes of metals as well as about the
kinds of structural changes that can happen dur-
ing the lifetime of a metal. With this knowledge,
they investigate ways to improve the characteris-
tics of existing materials and to develop new
materials. Recently, the focus of research and
development of metallic materials has changed
from traditional materials to advanced materials

in order to deal with the worldwide energy problem. The R&D of super high strength metals and functional metals is an important task.

Polymeric Materials

The purpose of this division is to train the students in the research skills relevant to polymeric materials. The students are taught how to research and develop advanced polymeric materials and how to study the relationships between molecular design, synthesis, working abilities, physical conformation, the characteristics of materials, and industrial applications. Currently, our research is focused on functional polymers (such as electronic, optoelectronic and biomaterials) and high performance polymers (such as nanocomposites and flame retardant materials).

Ceramic Materials

The purpose of this division is to teach research skills in the area of advanced ceramics. The students learn the fundamentals of materials science and study the principles and practical matters involved in the processes used in the development of fine ceramics, conduct analyses of microstructures, and test materials to determine their characteristics. They also conduct extensive research into the processes of fine ceramics, structural ceramics, bio-ceramics, and energy source materials.

Electronic Materials

The purpose of this division is to train qualified researchers to develop future electronic, optoelectronic, and magnetic materials. The research focuses on advanced materials and processes of developing semiconductors, optoelectronic materials and devices, advanced electronic packages, optical thin film materials and processes, advanced solar cell materials and device processing, advanced storage technology,

and the technology and processes of illumination and display devices.

Processing

This department focuses on the research and development of the processes and techniques of laser welding, powder metallurgy and sintering techniques, alloy designation and high temperature smelting, high performance alloys, surface modifications, thin film coatings, and solid thin film cells.

CONTACT INFORMATION

Established in :1982

Chair: Jer-Ren yang

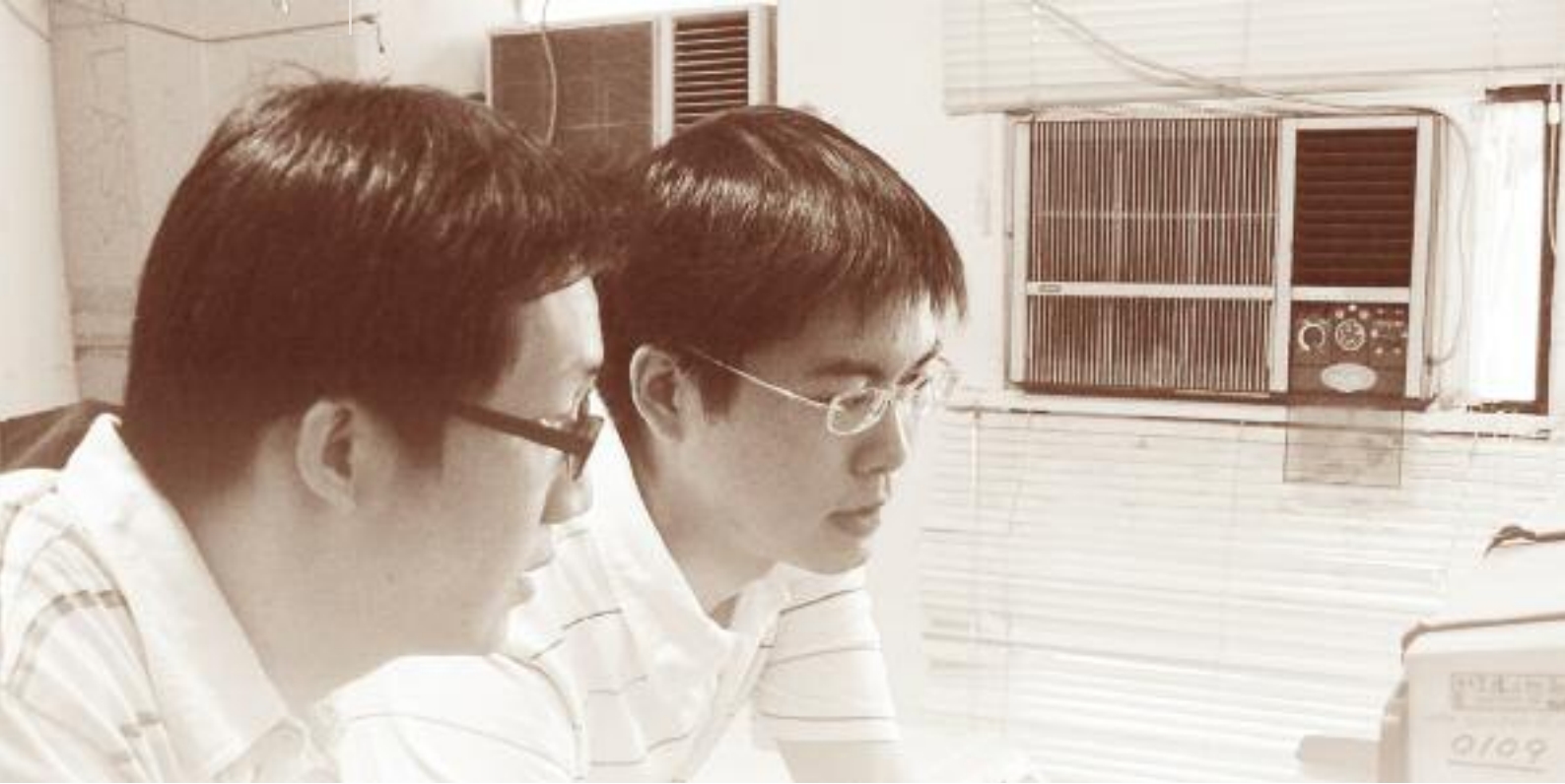
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6 GRADUATE INSTITUTE OF ENVIRONMENTAL ENGINEERING



INTRODUCTION

The Graduate Institute of Environmental Engineering (GIEE) was formerly known as the Division of Sanitary Engineering, Graduate Institute of Civil Engineering at National Taiwan University. In August 1977, GIEE was established by the Ministry of Education for the purpose of creating mature scientists and engineers in the field of Environmental Engineering. In August 1985, the Ph.D. program was established. At GIEE, basic and applied research is conducted to tackle current and future environmental problems in Taiwan. In August 1998, the master program was divided into two subprograms, Environmental Science and Engineering and Environmental Planning and Management.

Further, in August 1999 the Environmental Planning and Management program established an on-the-job master program for part-time students. There were 193 students at the Institute in 2003, including 119 master program students, and 74 doctoral students. More than 750 students have graduated from the Institute since 1980, and 14 full-time and 7 part-time faculty members are currently on staff. In addition, faculties from Civil Engineering and other departments offer courses at GIEE. The Institute cooperates with other departments to utilize all the resources of NTU.

Because of rapid economic development, a high standard of living has been achieved in Taiwan. However, heavy industrialization and a high population density have begun to degrade the envi-

ronment. With the resulting increase in public awareness, environmental engineering has become one of the most important fields of science and technology. GIEE's mission is to develop ways and means to improve our environment and to eliminate adverse effects caused by modern civilization. Thus, our goals are as follows.

Specialization and Generalization

GIEE plans to strengthen the faculty, the staff, and the research facilities, not only in water pollution control, but also in air pollution control and solid waste management. This goal can be achieved by inviting distinguished overseas scholars from various disciplines to give lectures and seminars and to conduct research programs. Also, GIEE plans to enhance useful environmental management programs in decision-making, planning, construction, control, and enforcement of environmental protection.

Interdepartmental Cooperation

Environmental Engineering is a highly diversified field of science and technology. GIEE plans to maintain close relations with other graduate schools, departments, and research centers from other universities and institutes.

Industrial Cooperation

Without practical application, the knowledge and technology developed in an academic institution is limited to the classroom. Thus, cooperation between industry and academia is beneficial to both. Academia needs support from industry to conduct research projects, and industry requires the applicable technology developed by academia to solve their problems. Only through this joint effort will the conservation of our environment become possible.

Research Center for Environmental Pollution Prevention and Control Technology

This Center consists of five research divisions: Instrumental Laboratory, Wastes Minimization and Resources Recovery and Utilization Laboratory, Water and Waste Water Treatment and Advanced Oxidation Technology Laboratory, Environmental Nano-technology Laboratory, and Clean Production and Industrial Ecology Laboratory. The center not only provides services for research cooperation with government and non-government organizations, industry, and research and academic institutes, but also enhances our educational and research capabilities.

FACULTY

Full-time: 16

Part-time: 9

Ph.D. Degree: 24

M.S. Degree : 1

Director/ Professor

Shian-Chee Wu	Ph.D. Civil Engineering, Massachusetts Institute of Technology, U.S.A.
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Full-time

Professor

Yue-Hwa Yu	Ph.D. Civil Engineering, Washington University (St. Louis), U.S.A.
Len-Fu Chang	Ph.D. Meteorology University of Oklahoma, U.S.A.
Ching-Yuan Chang	Ph.D. Chemical Engineering, Auburn University, U.S.A.
Fu-Tien Jeng	Ph.D. Civil Engineering, NTU

Pen-Chi Chiang	Ph.D. Civil Engineering, Purdue University, U.S.A.
Shang-Lien Lo	Ph.D. Civil Engineering, NTU
Cheng-Fang Lin	Ph.D. Civil Engineering, University of Washington (Seattle), U.S.A.
Kung-Cheh Li	Ph.D. Civil Engineering, University of Oklahoma, U.S.A.
Hwong-Wen Ma	Ph.D. Environmental Engineering, University of North Carolina at Chapel Hill, U.S.A.

Associate Professor

Yii-Der You	Ph.D. Environmental Planning and Conservation, University of Hannover, Germany
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Assistant Professor

Yu-Chen Lin	Ph.D. Environmental Engineering, Stanford University, U.S.A.
Hsin-Hisn- Tung	Ph.D. Environmental Engineering, Pennsylvania State University, U.S.A.
Pei-Te Chiueh	Ph.D. Environmental Engineering, NTU

Distinguished Research Chair Professor

Liang-Shih Fan	Ph.D. Chemical Engineering, West Virginia University
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Distinguished Chair Professor

Chin-Pao Huang	Ph.D. Aquatic Chemistry, Harvard University
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Part-time

Professor

Wan-Fa Yang	Ph.D. Civil Engineering, N. Caroline State University, U.S.A.
Wolfgang H. Hoell	Ph.D. Chemical Engineering, University of Karlsruhe, Germany
Szu-Kung Tseng	M.S. Civil Engineering, Manhattan College, U.S.A.
Jen-Yang Lin	Ph.D. Hydraulic Engineering, Kassel University, Germany

Timothy Clark Keener

Ph.D. Civil (Env.)
Engineering, The University
of Tennessee

Jin-Fen(Jeff)Kuo	Ph.D. Environmental Engineering, of Southern California.
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Whei-May Lee	Ph.D. Civil Engineering, Purdue University, U.S.A.
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Assistant Professor

Shui-Hway Yen	Ph.D. Environmental Engineering, NTU
Ming-Lone Liou	Ph.D. Environmental Engineering, NTU.

FACILITIES

Laboratory facilities in the GIEE include:

1. Environmental Chemistry Laboratory:
Analytical balances, pH meter, conductivity meter, spectrophotometers, electric muffle furnace, turbidimeters, oxygen analyzers, gel electrophoresis apparatus, ORP monitor and controller, ozone generators, thermostats, exhaust hoods, microwave digestion system,

germanium well detector and multichannel analyzer.

2. Environmental Microbiology Laboratory: Autoclaves, BOD incubator, cultural incubator, milipore filtration apparatus, colony counter, shaking bath, laminar flow hood, microscopes, ovens, low temperature incubator, zeta potential meter, inverted plankton microscope and epifluorescence equipment.
3. Unit Operation Laboratory: Reverse osmosis unit, centrifuge, walk-in incubator, electrodialysis units for water and wastewater treatment processing.
4. Special Instruments Room: Gas chromatograph, atomic absorption spectrophotometer, liquid chromatograph, TOC analyzer, infrared spectrophotometer, ion chromatograph, polarographic analyzer, mercury analyzer, granulometer, elemental analyzer, UV/VIS spectrophotometer, GC/MS, FTIR, fluorescence spectrophotometer and ICP.
5. Air Pollution Control Laboratory: High volume sampler, PM-10 sampler, SO_x analyzer, NO_x analyzer, CO analyzer, H₂S analyzer, Cl₂ analyzer, particle fractionating sampler, stack sampler, noise detector, O₃ analyzer, HC analyzer, high-temperature-type anemometer and portable weather system.
6. Environmental Planning and Design Room: Audio and video educational equipment.
7. Solid Waste Laboratory: Oven, calorimeter, TGA, TCLP analysis system and stabilization & solidification system.
8. Computer Room: PC, IBM-compatible PC, Apple Macintosh SE and Power Mac CDC & VAX terminals.

The University's library has more than 85,000 books on basic science, environmental science and engineering, water pollution, air pollution, instrumental analysis, environmental planning and design, and environmental impact assess-

ment, solid waste management to provide students and faculty research reference materials. Also, approximately 70 journals on environmental science and engineering are available for students' use. The Institute library's special collection includes reports on faculty projects, student theses and dissertations and conference proceeding. Funding for the purchase of these materials is provided by the University's library system, the Natural Science Foundation, the Engineering Center, and the Institute's research funds. Books and magazines are also donated to the Institute by alumni and faculty.

COURSES

Instructional Goal

Educating mature scientists, engineers, and managers in environmental conservation, environmental planning, technological research and development, and academic research.

Curricular Programs

1. The academic program is designed to adapt theory and practice. The theoretical portion is concentrated on chemistry, biology, and physics. The practical portion of the program includes laboratory work and design courses.
2. Waste water, waste gas, and solid waste treatment equipment is provided to give students practical waste management experience.
3. Prerequisite and core courses are designed to give students a thorough understanding of a wide range of subjects.
4. The curriculum includes a wide variety of environmental science and engineering technology courses.

Instructional Programs

GIEE offers a 2-year graduate program leading to a Master of Science degree. Masters degree candidates are required to complete 30 credits of course work and pass an oral examination on their research (thesis).

GIEE further offers a doctoral program in which Ph.D. candidates are required to complete at least 24 credits of course work and pass an oral examination on their research (thesis).

Research Programs

Basic and applied research is conducted at the Institute with an emphasis on solving current environmental problems in Taiwan. The current areas of research are as follows: Water Pollution Control, Water Purification Technology, Wastewater Treatment Technology, Wastewater Reclamation and Reuse, Air Pollution Control, Energy, Resources and Environment, Hazardous Waste Management, Land Disposal, Waste Minimization, Recycling of Wastes and Reuse of Biomass Energy, Soil and Groundwater Pollution, Environmental Impact Assessment, Environmental Planning, Design and Conservation, Environmental Risk Assessment, Environmental Systems Analysis, Life Cycle Analysis, Clean Production Technology, Sustainable Development, Environmental biotechnology, environmental nano-technology and environmental information technology.

ACADEMIC ACTIVITIES

1. KAIST-KU-NTU-NUS Seminar on Environmental Engineering is held annually and taken turn by Korea Advanced Institute of Science and Technology, Kyoto University, National Taiwan University, and The National University of Singapore.
2. Symposium on Environmental Protection is

annually hosted in turn by National Taiwan University, National Central University, National Chiao-Tung University, National Cheng-Kung University, Ching-Hua University, Hang-Chou University, and Tung-Chi University.

3. Other regular activities include : Workshop and Conference on Sustainable Development, Conference on Waste Water Treatment, Conference on Air Pollution Control Technology, Conference on Waste Solid Treatment Technology, and Conference on Environmental Planning and Management.
4. Edit and manage the publication of Journal of The Chinese Institute of Environmental Engineering.
5. Other special activities include : academic exchange visits, invited lectures, and workshops and conferences with industry and government agencies.

CONTACT INFORMATION

Established in: 1977

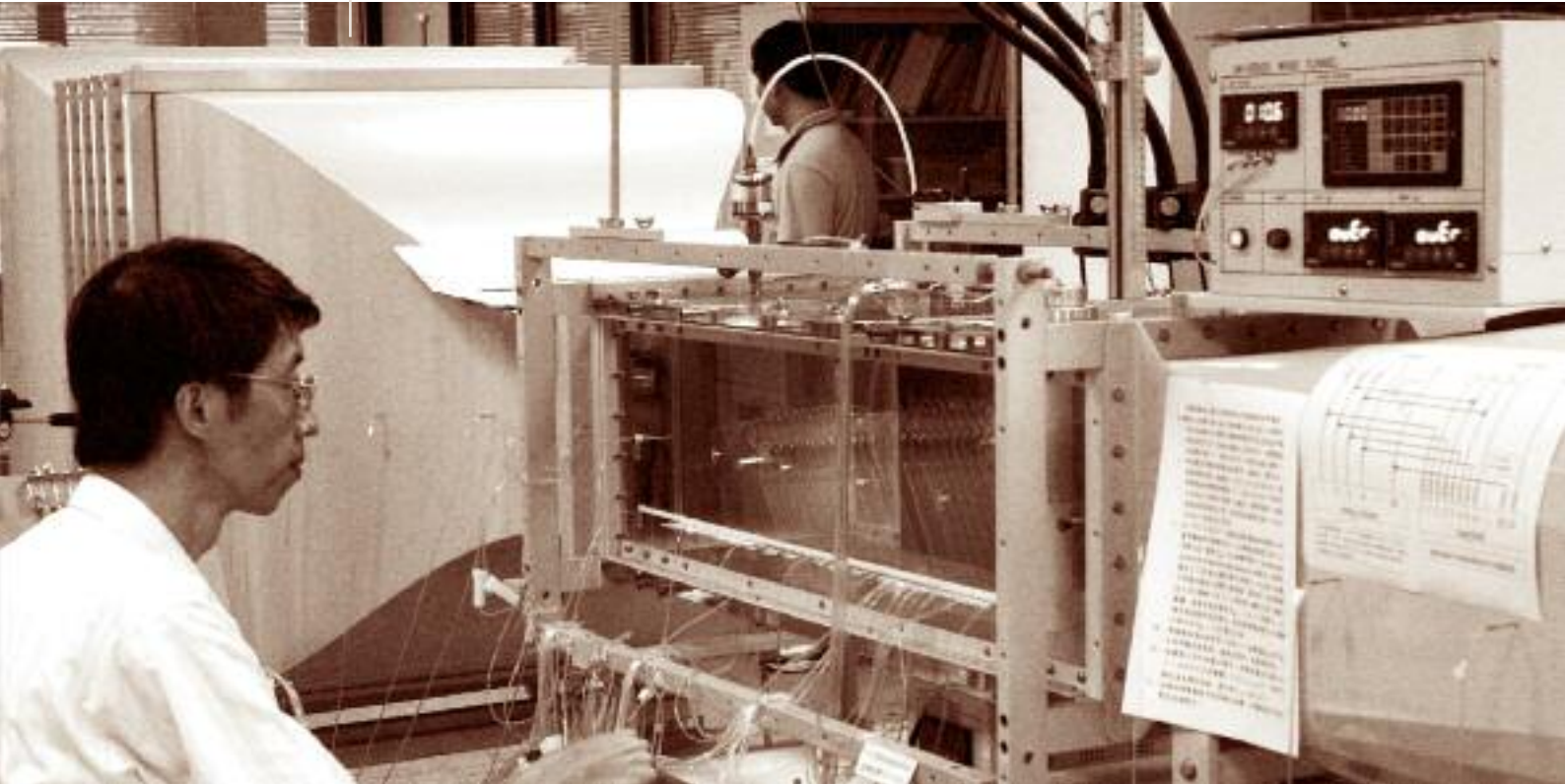
Director: Shian-Chee Wu

Tel: +886-2-23631203, 3366-4388

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Website: <http://homepage.ntu.edu.tw/~giee>

E-mail: giee@ntu.edu.tw



INTRODUCTION

The Institute was founded in 1984 under a special Government directive to establish an international standard graduate institute in applied mechanics. The Institute has grown from a faculty of 7 in 1984 to 32 at the present. Most of the research has been sponsored by grants from Government agencies and industry.

Since 1994, the Institute has been shifting course from defense-related research to an interdisciplinary and integrated research approach in step with the technological trend of the world and the development needs of the nation. This new research direction embraces such diverse areas as

medical research, information, and mechatronics. Further, the Institute has identified three major fields in connection with the "mechanics in nano-revolution." These fields are:

1. Waves and MEMS/NEMS, with focus on analyses and applications of the elastic waves and electromagnetic waves and their interactions.
2. Nano-biomechanics, focusing on the examination of characteristics and interactions of micro- or nano-scale biological structures by a mechanical approach.
3. Meso-scale mechanical systems, exploring the analytic, experimental, and computational aspects of the systems.

FACULTY

Full-time: 32

Ph.D. Degree: 32

M.S. Degree: 0

Director/ Professor

Mao-Kuen Kuo Civil Engineering,
Northwestern University

Full-time

Professor

Chau-Shiung Yeh Theoretical & Applied
Mechanics, Cornell
University

Kuang-Chong Wu Theoretical & Applied
Mechanics, Cornell
University

Chia-Ou Chang Mechanical Engineering,
University of Iowa

Jaw-Yen Yang Aerospace Engineering,
Stanford University

Chien-Cheng Chang
Mathematics, University of
California, Berkeley

Tsung-Tsong Wu Theoretical & Applied
Mechanics, Cornell
University

Jeng-Shian Chang Mechanical Engineering,
Syracuse University

U Lei Mechanical Engineering,
University of California,
Berkeley

Falin Chen Aeronautics and Mechanics,
University of Arizona

Chih-Kung Lee Theoretical & Applied
Mechanics, Cornell
University

Chan-Shin Chou Physics, St. Andrews
University, UK

Chin-Chou Chu Mechanical Engineering,
Michigan State University

Pei-Ling Liu Civil Engineering, University
of California, Berkeley

Andrew M. Wo Aeronautics & Astronautics,
Massachusetts Institute of
Technology

Li-Sheng Wang Electrical Engineering,
University of Maryland

Horn-Jiuun Sheen Mechanical Engineering,
State University of New York
at Stony Brook

Pei-Zen Chang Theoretical & Applied
Mechanics, Cornell
University

Chao-Hsun Chen Applied Mechanics,
University of Illinois,
Chicago

An-Bang Wang Fluid Mechanics, Friedrich-
Alexander-Universitat,
Erlangen- Nurnberg,
Germany

Yio-Wha R. Shau Aerospace, University of
Texas, Austin

Yi-Chung Shu Applied Mechanics,
California Institute of
Technology

Shiming Lin Institute of Biotechnology,
University of Cambridge,
U.K.

Jer-Nan Juang Virginia Polytechnic Institute
and State University, U.S.A.

Chii-Wann Lin Case Western Reserve
University, U.S.A.

Shwu-Bin Lin The Johns Hopkins
University, U.S.A.

Associate Professors

Tzong-Shyan Wung	Mechanical Engineering, University of Iowa
Long-Sun Huang	Mechanical & Aerospace Engineering & Aerospace Engineering, University of California, Los Angeles
Kuo-Ching Chen	Institute of Applied Mechanics, NTU
Ruey-Lin Chen	Institute of Applied Mechanics, NTU
Sheng-Der Chao	Physics, NTU

Assistant Professor

Jian-Zhang Chen	Princeton University, U.S.A.
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FACILITIES

The Institute now has four teaching laboratories and twenty-one research laboratories. In addition, the Institute operates the MEMS Center of the National Science Council (Northern Region).

The teaching laboratories include:

1. Dynamics Lab.
2. Fluid Mechanics Lab.
3. Mechanics of Materials Lab.
4. Electronics Lab.

The research labs include:

1. Aerodynamics Design and analysis Lab.
2. Bio-electromechanical Lab.
3. Biomedical Ultrasound Lab.
4. Bionics Engineering Lab.
5. Polymer Composite Lab.
6. Microfluidics Lab.
7. Advanced storage Technology Lab.
8. Thermal Science and Flow Control Lab.
9. Vortex Dynamics & Biomedical Microsystem Lab.
10. Structural Integrity Evaluation Lab.
11. Impact and Precision Measurement Lab.

12. Vibration dynamics Lab.
13. Micro-Channel Flow and Bio-Chip Lab.
14. Attitude Dynamics Lab.
15. Study for nano/micro mechanics.
16. Quantitative Flow Visualization Lab.
17. Ultrasonics Lab.
18. Applied Energy Environment Fluid Lab.
19. Wave and Fracture Mechanics Lab.
20. Anisotropic and Nano Materials
Computational Solid Mechanics Lab.
21. Center for Wireless NanoBio Systems
22. Micro-Fabrication Teaching Lab.
23. Atomic Force Microscope Lab.
24. Bio-Nanotechnology Lab.

The laboratories of the National Science Council MEMS Center (Northern Region) Include:

1. Photolithography Room - double-side make aligner, thick PR spin coater
2. Wet Etching Room - chemical hoods with chemical waste collecting system
3. Deposition Room - reactive ion etcher, sputter, electron-gun evaporator, thermal evaporator, furnace
4. Measurement Room - surface profiler, probe station
5. CAD Room - PC's, workstations, CAD software

COURSES

The Institute offers both Master (M.S.) and Doctoral (Ph.D.) degree programs. These graduate programs emphasize theoretical and experimental aspects of applied mechanics. Students are admitted from all disciplines of engineering and science. Approximately 70 masters, 19 doctoral, and a few foreign students are admitted each year. A total of roughly 1055 masters and 138 doctoral students have graduated thus far.

Masters students are required to complete 27 credits and write an original thesis. The course work includes: Electronics Lab, Applied Mechanics Lab. I, and Applied Math. I. In addition, two out of four courses of Dynamics, Elasticity, Fluid Mechanics and Electromagnetism are required. Doctoral course work requires Applied Mechanics Lab. II and Electronics Lab., with a total of 30 credits plus Institute seminars. A doctoral candidate must also pass the comprehensive examination and defend an original thesis.

The following graduate courses are offered in the Institute: Finite Element Method, Mechanical Vibrations & Waves, Stress Wave Propagation, Nondestructive Evaluation of Materials, Fracture Mechanics, Microstructure and Macroscopic Behavior of Materials, Introduction to Active Materials, Introduction to Turbulence, Compressible Flow, Viscous Flow, Bio-fluid Dynamics, Biomechanics and Introduction to MEMS (Micro-Electro-Mechanical System), Design And Fabrication Development of MEMS, Special Topics in Electronic Packaging, Quantum Mechanics, Experiments in Electronics, Experiments in Applied Mechanics.

ACADEMIC ACTIVITIES

We hold an Institute-wide seminar weekly, and invite prominent researchers from within Taiwan and abroad. We also regularly invite well-known researchers to visit our Institute and to teach courses. Institute faculty members organize international conferences. The Institute also organizes mini-courses on Nano/MEMS technology and holds mechanics competitions for high school students.

CONTACT INFORMATION

Established in: 1984

Director: Mao-Kuen Kuo

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Website: <http://www.iam.ntu.edu.tw>

E-mail: mkkuo@spring.iam.ntu.edu.tw



INTRODUCTION

A side door of the old building of the College of Engineering was opened in the spring of 1982. Prof. Shen-Tao Mao, the Chairperson of the Department of Civil Engineering wrote couplets for the occasion to frame the doorway: "No Famous Mountain in Front of the Green Courtyard" on the right, "Extraordinary People at the Back of the Red Tower" on the left, and "Legend of the Mountain" across on the top of the door. This place housing extraordinary people was the forerunner of the Graduate Institute of Building and Planning, and was called the Studio of Urban Planning at that time. In the autumn of 1976, the Transportation Division Section B (Urban Planning) was established in

the Graduate Institute of Civil Engineering. Twelve years later, in 1988, the Graduate Institute of Building and Planning was established as an independent Graduate Institute.

SPECIAL FEATURES

Professional Training with General Knowledge

The Institute accepts students from various undergraduate fields. It reflects the complexity of the real world. The students are expected to cultivate width and depth in their knowledge, skills, and awareness of social and political processes. The Institute seeks to produce socially responsible professional planners and designers.

Policy Analysis Based on Spatial Planning and Design

Taiwan is experiencing rapid economic liberalization and political democratization leading to increased demand for improvements in environmental quality. It offers opportunities for architects and urban planners to participate in public affairs and decisions. Many of our outstanding graduates are currently engaged in public decision making with special emphasis in empowering local communities.

Spirit of Critical Self-reflection

Emphasis is placed on the importance of learning interactively within the complexity of the real world. Courses focus not on form making, but on the social and cultural meanings of the constructed environment: special attention is paid to developing action-planning skills, which integrate theory with practice.

Inter-school Cooperation

The Institute frequently hosts international conferences and initiates multi-disciplinary projects to share knowledge with other architecture and planning schools.

FACULTY

Full-time: 8

Part-time: 14

Ph.D. Degree: 20

M.S. Degree: 1

Others: 1

Director/ Professor

Chu-Joe Hsia Ph.D. Architecture, University of California, Berkeley, U.S.A.

Full Time Professors

Professor Emeritus

Hung-Kai Wang Ph.D., Urban Planning, Columbia University, U.S.A.

Professors

Chien-Yuan Lin Ph.D., Transportation Planning, University of Washington, Seattle, U.S.A.

Feng-Tyan Lin Ph.D., Computer Science, Northwestern University, U.S.A.

Liang-Chun Che Dr. of Engineering, Waseda University, Japan

Shin-Kun Pen Ph.D., Regional Science, University of Pennsylvania, U.S.A.

John K.C. Liu Ph.D., Architecture, University of California, Berkeley, U.S.A.

Yung-Sung Huang National Taiwan College of Arts. R.O.C

Associate Professors

Herng-Dar Bih Ph.D., Environmental Psychology, The City University of New York, New York, U.S.A.

Sheng Lin Chang Ph.D., Environmental Planning, The University of California, Berkeley, CA., U.S.A.

Risharn Chiang Ph.D., Civil and Environmental Engineering, Massachusetts Institute of Technology, U.S.A.

Lan-Shiang Huang Dr. of Architecture, Kyoto University, Japan

Assistant Professors

Li-Ling Huang Ph.D., Graduate Institute of Building and Planning, National Taiwan University, R. O.C.

Part-Time Professors

Chang-I Hua Ph.D., Urban and Regional Planning, Harvard University

Hong Hsu Ph.D., History, National Taiwan University. R. O.C.

Chung-Hsin Yang Ph.D., Regional Science, University of Pennsylvania, U.S.A.

Shu-Li Huang Ph.D., Urban and Regional Planning, University of Pennsylvania, U.S.A.

Lu-Hsi Cheng Ph.D., Sociology, University of Hawaii, U.S.A.

Wan-Wen Chu Ph.D., Economics, Stanford University, U.S.A.

Chih-Chih Wang Research College of Politics and Economics, University of London, U.K.

Hsu Yu-Chien Ph.D., Civil Engineering, National Taiwan University. R. O.C.

Hsung-Hsiung Tsai Ph.D., Urban Planning, Princeton University, U.S.A.

Min-Jay Kang Ph.D., Urban Design and Planning, University of Washington, U.S.A.

Chih-hung Wang Ph.D., Graduate Institute of Building and Planning, National Taiwan University, R. O.C.

Cheng-Dar Yue Ph.D., Geography, University of Oldenburg, Germany

Wei-Ta Fang Ph.D., Rangeland Ecology and Management, Texas A&M University, Texas, U. S. A,

Kun-Jung Hsu Ph.D., Civil Engineering, National Taiwan University

FACILITIES

The Institute was founded in August 1988. The facilities, including a library, were bequeathed by the Institute's predecessor, the Studio of Urban Planning in the Graduate Institute. New teaching and research equipment is continually procured.

As to computer facilities, three computer rooms offer 12 personal computers, three laser printers, and one color printer.

COURSES

Following the emphasis on a "generalized professional training," our curriculum is designed to provide students with various core courses on essential knowledge and techniques of environmental planning and design. Therefore, the program focuses on a series of studios, which enable students to have first-hand experiences of professional practice as well as to integrate knowledge and skills of various necessary disciplines. Surrounding the studios, a range of lecture courses on History and Theory, Analysis, and Synthesis as well as Implementation and Management of the Physical environment are offered to form a basic curriculum for professionals. In addition, more technical courses in the program are to be taken according to the students' interests and their own career plans, thus making the curriculum both integrated and flexible.

Master's degree candidates must successfully

complete at least 39 credits of courses (including 12 credits of studios courses and at least 27 credits of lecture courses, excluding foreign languages), and write a thesis. Doctoral degree candidates must successfully complete at least 24 credits of courses (excluding foreign languages and dissertation).

The following courses were offered in the Graduate Institute of Building and Planning between 1994 and 2004:

Chien-Yuan Lin (Prof.):

Transportation and land use, Industrial location theory, Land development and management, Analytical methods for planning, Environmental risk management, Infrastructure planning and urban development.

Feng-Tyan Lin (Prof.):

Computer-aided architectural design, Geographic information system, Distributed geographic information system, Research method: Philosophy of science, Special topics in town and country information system, Urban and regional information system, The logic of space.

Chu-Joe Hsia (Prof.):

History writing, Information society and city, Architectural history and architectural criticism, Urban history and planning history, Urban and architectural sociology, Comparative analysis of urban and regional policy, Introduction to information society and city, Architectural theories and urban theories.

Liang-Chun Chen (Prof.):

Urban safety and disaster resistance, Planning and programming for residential environment, Planning and design of urban open space, Studio of environmental plan-

ning and design, Local plan and community empowerment, Special topic in disaster management.

John Ke-Chiang Liu (Prof.):

Basic environmental planning and design (I), Basic environmental planning and design (II), Studio of environmental planning and design, land scape and identity.

Shin-Kun Peng (Prof.):

Urban economics, Regional economics.

Yung-Sung Huang (Prof.):

Communications and representations in design, Creative industry

Herng-Dar Bih (Assoc. Prof.):

Feminist research method, Seminar on urban literature, Qualitative research, Hermeneutics, Environmental psychology, Gender and environment, Psychology of disaster, Phenomenology and space, Introduction to people-environment relations, Qualitative method and data analysis.

Sheng Lin Chang (Assoc. Prof.):

Studio of environmental planning and design

Risharng Chiang (Assoc. Prof.):

Cost-benefit analysis, Public policy analysis.

Lan-Shiang Huang (Assoc. Prof.):

Urban History in Taiwan, Reading the cultural traits from the traditional architecture of Taiwan.

Li-Ling Huang (Assist.Prof.):

Theories of environmental planning and design, Studio of environmental planning and design, Globalization of Asian cities, Globalization, urbanity and everyday life

Chang-I Hua (Adjunct Prof.):

Market, government and plan, Housing and land problem in Taiwan.

Hung Hsu (Adjunct Prof.):

Urban history.

Chung-Hsin Yang (Adjunct Prof.):
Urban land use theory and policy.

Shu-Li Huang (Adjunct Prof.):
Ecological analysis.

Lu-Hsi Cheng (Adjunct Prof.):
Gender and urban development.

Wan-Wen Chu (Adjunct Prof.):
Economic and regional development.

Chih-Chin Wang (Adjunct Prof):
History of the Western cities.

Hsu Yu-Chien (Adjunct Prof.):
The theory and practice in historic building
conservation

Hsun-Hsiung Tsai (Adjunct Assoc. Prof):
Legal and institutional bases of planning.

Min-Jay Kang (Adjunct Assoc. Prof.):
Program of environmental planning and
design,Urban design theory and guidelines.

Chih-hung Wang (Adjunct Assoc. Prof.):
Special topic in cultural studies.

Cheng-Dar Yue (Adjunct Assoc. Prof.):
Sustainable technologies and renewable
energy

Wei-Ta Fang (Adjunct Assist. Prof.):
Sustainable cities and regions

Kun-jung Hsu (Adjunct Lecturer.):
Structural concepts and systems for archi-
tecture design,Building construction and
engineering.

RESEARCH / DEVELOP-

MENT

Research:

**Globalization, Sustainable Development and
Spatial Planning:Research director: Prof.
Wang Hung-kai**

Concentrating on issues of re-evaluating and re-
developing conventional local land-use regula-
tion and control mechanisms as necessitated by
the commonly accepted ideal of sustainable
development as well as the overwhelming and
ubiquitous regional competition induced by the
economic globalization process, including issues
of regional governance and local development
strategies as observed in Taiwan and the post-
reform mainland China.

**Business/Industrial Park and National
Comprehensive Development Planning
:Research director: Prof. Chien-Yuan Lin**

Research areas include planning and develop-
ment of business/industrial park, decision sup-
port system, land development control, and envi-
ronmental conflict management, infrastructure
planning.

**Computer aided planning and
design:Research director: Prof. Feng-Tyan
Lin**

The goal of this research group is to integrate
computer technology, information science, and
theories of planning and design properly. In other
words, various technologies (including geo-
graphical information systems, computer aided
architectural design, internet, visual simulation,
virtual reality, expert systems, decision support
systems, and case based reasoning) are employed
to support studies of comprehensive plans, disas-
ter prevention programs, transportation network
plan, information city, community websites,

design reasoning, building code visualization, etc.

Seminar on Theories and Histories: Research director: Prof. Chu-Joe Hsia

This seminar aims at converging the dynamics of histories and theories in our Institute. The historical studies include architectural history, urban history, landscape history, planning history, and design history. The theoretical studies

include encouraging dialogue between design theories.

Cultural Studies and Political Economy of Space: Research director: Prof. Chu-Joe Hsia

This seminar encourages empirical studies and comparative studies on Taiwan, Hong Kong, China, and even the Asian Pacific, including the topics from urban policies, urban symbolic, to urban movements. Considering the recent contribution of the cultural studies, exploring the possibilities of theoretical dialogue between political economy and cultural studies is also one of our targets.

Gender and Space: Research director: Prof. Heng-Dar Bih

Conducting research on the physical environment from feminist perspective and publishing the Newsletter of the Research Center of Gender and Space.

Environment and Disaster Studio: Research director: Prof. Liang-Chun Chen

The research fields of large-scale disasters, hazard mitigation and response have expanded rapidly. As compared with most studies, which put emphasis on engineering, science and technology, the topics of this studio stress human concerns. Special issues include construction and

practice of hazard mitigation systems, community based hazard mitigation and hazard-prevention community, and cities' hazard mitigation planning, etc.

Community planning and design: Planning design director: Prof. John K.C. Liu

Research and practice in community planning and design including issues in participation and environmental justice. Real projects and a professional staff assist in the training of student.

Research Center for Globalizing Cities: Research Director: Prof. Liling Huang

The Research Center for Globalizing Cities was established in March 2008 under the Graduate Institute of Building and Planning with a vision to meet the challenge brought on by the increasingly integrated Asian regional and urban networks. The Center focuses on researching following issues of Asian cities: (1) How do the Mega-Urban Regions (MUR) and urban transformation take place? (2) How do the changing urban structures affect the livability of cities? (3) How does the civil society responses to the urban transformation? (4) What are the innovative initiatives from the governments of different levels to proceed on the new urban and regional governance? (5) What are the new regional interactions among the Asian cities under the global dynamics?

FUTURE DEVELOPMENT

The Institute's goal is a professional training within a liberal education framework. This orientation is particularly imperative in the profession of design and planning, which requires interdisciplinary training and calls for integrating academic learning with real world practices.

Accordingly, our educational objective is to pre-

pare the students with: (a) the sensitivity of observing the complex interactions between human being and the environment; (b) the skill of analyzing the social, economic, and political forces that shape and constrain the physical reality, the planning process, and the implementations of planning; (c) basic communication skills including writing, oral, and visual presentations.

CONTACT INFORMATION

Established in: 1988

Director: Chu-Joe Hsia

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Fax: +886-2-23638127

Website : <http://www.bp.ntu.edu.tw>

E-mail: ntubp@ntu.edu.tw





INTRODUCTION

The Institute of Industrial Engineering (IIE) was established in 1994 and started to offer the M.S. program in the same year. IIE currently offers programs in three major fields: production systems and processes, operations and information systems, and technology management. In collaboration with the Department of Mechanical Engineering, a Ph.D. program in Industrial Engineering and Management was started in 2003. IIE is especially known for its advanced research in semiconductor manufacturing systems. The co-op research funding received from the domestic companies is unrivaled in Taiwan. It is also the first institute in Taiwan to win the research grant from Semiconductor Research

Corp. and International Semiconductor Manufacturing Initiatives, Inc. It received research funding of US\$550,000 from 2001 to 2006 with two research projects. Many students have participated in the projects. Research issues and ideas were exchanged and discussed through regular international teleconferences and mutual visits with the members of semiconductor companies in the US and Germany. The semiconductor research in IIE has continued to advance, flourish and internationalize. In addition, IIE faculty members and students have won awards in numerous paper competitions. Recent awards include CIIE Master Thesis Award, U.S.A./European AEC/APC Conference Outstanding Student Paper Award, DHL Logistic Management Thesis Award and, Toyota

Management Thesis Award, Ministry-of-Economics Industrial Safety Conference Outstanding Paper Award, etc.

FACULTY

Full-Time:13

Part-time:3

Faculty with Ph.D. Degree: 16

Director/Professor

Argon Chen Ph.D., State University of New Jersey, Rutgers.
Statistical Inference, Supply Chain Data Mining, Engineering Data Mining, Biomedical Data Mining

Full-time

Professor

Yon-Chun Chou Ph.D., Purdue Univ.
Industrial Economics, Manufacturing and Capacity Strategy, Supply Chain Systems, Semiconductor Manufacturing.

Han-Pang Huang Ph.D., Univ. of Michigan Ann Arbor ,RFID Systems & Applications,Robotics, CIM, Fuzzy & Neural Systems, Machine Vision.

Wen-Fang Wu Ph.D., Univ. of Illinois at Urbana-Champaign, U.S.A.
Stochastic Processes and Applications, Reliability Engineering, Probabilistic Risk Assessment.

Shi-Chung Chang Ph.D., Univ. of Connecticut
Optimization Theory & Algorithm, High Speed Networking, Distributed Decision Making, Systems & Control.

Zsehong Tsai Ph.D., UCLA
Computer Network, Efficiency Estimation.

Dar-Zen Chen Ph.D., Univ. of Maryland, U.S.A.

Intellectual Resources Planning, Patentometrics, Mechanism Design, Kinematics.

Su-Hua Hsieh Ph.D., Univ. of Wisconsin-Madison, U.S.A
Factory Automation, Manufacturing System Design and Simulation

Ming-Huang Chiang Ph. D., Univ. of Iowa
Management Science, Production and Operations Management, Operations Research, Statistics, Logistics Management, Supply Chain Management, Enterprise Resource Planning, Electronic Business and Supply Chain Management

Chih-Jen Lin Ph.D., Univ. of Michigan
Machine Learning, Scientific Computing, Operational Research.

Associate Professor

Ming-Tzong Wang Ph.D., Purdue Univ.
Automation & Business
Logistics System, Concurrent
Engineering,
CAD/CAPP/CAM, System &
Project Management.

Feng-Cheng Yang Ph.D., Univ. of Iowa
CIM, CAD/CAM/CAE,
Object-Oriented System
Analysis & Design,
Engineering Information
Management.

Assistant Professor

Cheng-Hung Wu Ph.D., Industrial and
Operations Engineering,
University of Michigan
Operations Research,
Decisions under Uncertainty,
Stochastic Dynamic Control,
Operations Management

Chair Research Fellow

Way Kuo President and University
Distinguished Professor.
Member of the US National
Academy of Engineering.
Academia Sinica in Taiwan.
Engineering? Science 、
Reliability Engineering?

Visiting Professor

Ami Arbel Ph.D., Stanford University.
Decision Analysis; Linear
Programming and Network
Flows; Interior-Point Linear
Programming; Financial
Analysis and Economic mod-
eling; Operations Research;

Multiple-Criteria Decision-
Making; Control and
Estimation Theory; System
Acquisition and Performance
Studies.

Professional Practice Instructor

Tze-Chen Tu Director, Industrial
Economics and Knowledge
Center
Business Management,
Strategy Analysis, Marketing
Management, Technical
Industry Policy, Globalization
and National Competitiveness

Part-time Professors

Ching-Jong Liao Ph.D., Pennsylvania State
University, U.S.A.
Scheduling Theory, Inventory
Control.

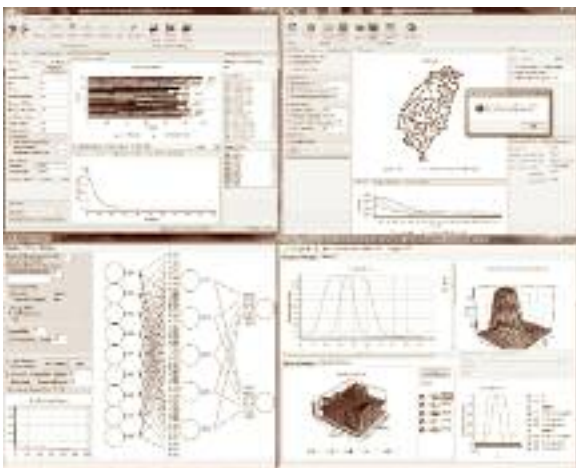
Hsiao-Fan Wang Ph.D. in Operation Research,
Cambridge University
Mathematical Programming,
Fuzzy Set Theory,
Multicriteria Decision
Analysis

Chun-Hung Chen Ph.D. Division of
Engineering and Applied
Sciences
Stochastic Simulation,
Decisions Research

COURSES

The institute offers a graduate program leading to the M.S. degree requirements include 25 credits of course work and thesis. At least 12 credits of the course work should be from courses offered by the institute and at least 6 credits should be from courses offered by other departments. An oral defense of thesis is required.

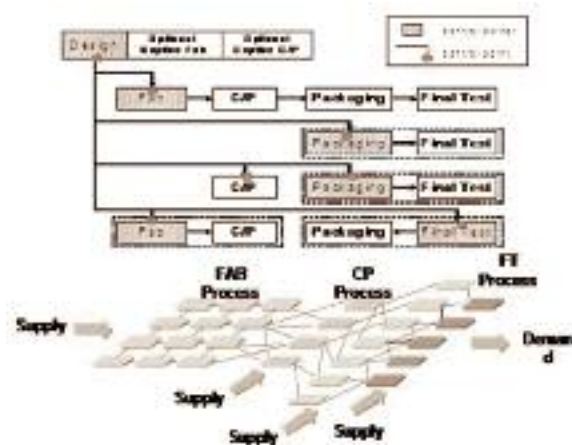
ACADEMIC ACTIVITIES



IIE is also developing new research areas, such as industrial analysis and service engineering. In particular, IIE has joined a collaboration effort by Colleges of EECS, Engineering and Management to propose an interdisciplinary research center. The center will focus its research on how to enhance the industrial added-value by integrating services, manufacturing, technologies and humanities (as shown in the figure).

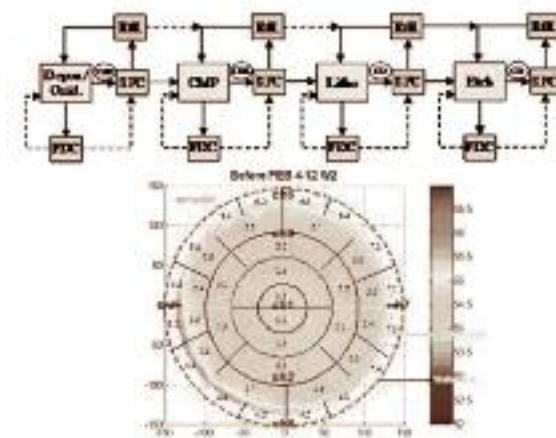


IIE is renowned for its advanced research in semiconductor manufacturing systems. In particular, the research in demand planning and supply-chain monitoring and control of the semiconductor manufacturing network (as shown in the figure) has been funded by SRC and ISMI in the US.

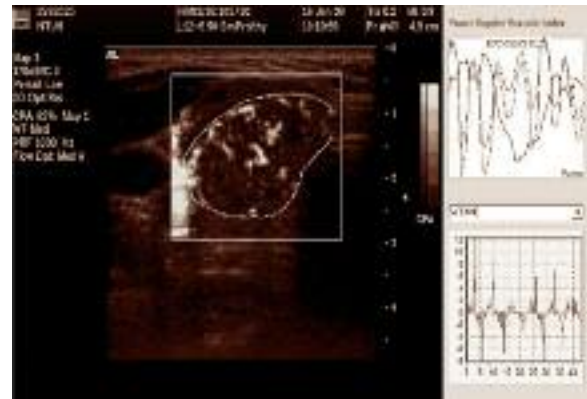


In addition to semiconductor manufacturing planning, IIE is also known for its research in advanced process/equipment control and engineering chain integration.

Besides co-op projects with domestic companies, there are also joint-development efforts with companies in the US and France. The research achievement has been internationally recognized.



Recently, IIE has extended its multidisciplinary research into biomedical research areas, such as analysis of gene expressions and clinical ultrasonography (as shown in the Figures.) In particular, IIE has collaborated with the Angiogenesis Research Center of NTU hospital to develop a computer-aided diagnosis system for thyroid cancers. IIE will continue its integrated research effort with the Medical School and the College of Life Sciences.



CONTACT INFORMATION

Established in: 1994

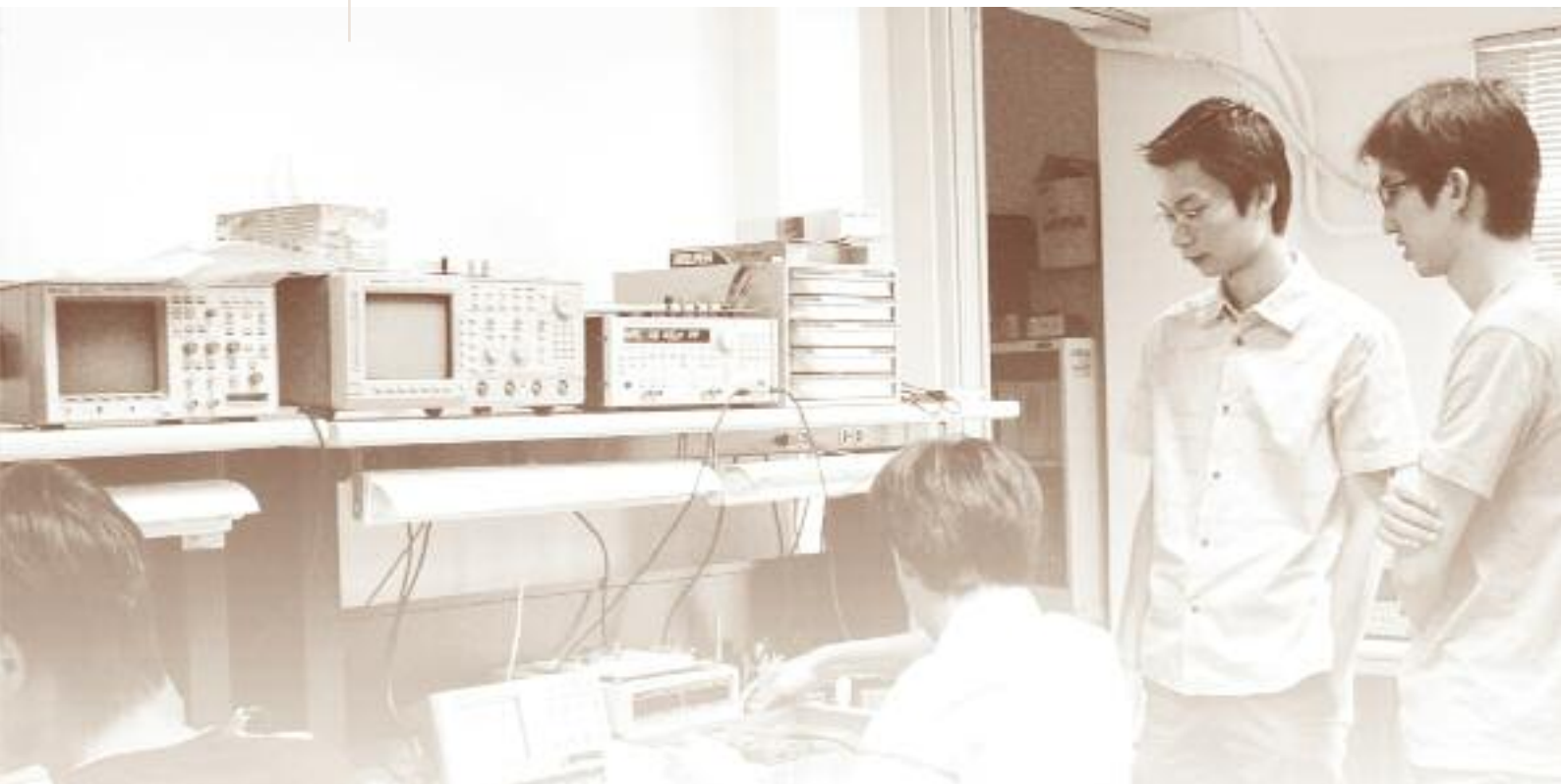
Director: Argon Chen

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Website: <http://www.ie.ntu.edu.tw>

E-mail: achen@ntu.edu.tw



INTRODUCTION

The Research Center of Biomedical Engineering was established in 1990, and changed into the Institute of Biomedical Engineering in 1998. This Institute belongs to both the College of Medicine and the College of Engineering. The Master Program was started in 1989 and the Ph.D. program in 1991. Biomedical engineering is an interdisciplinary program of biology-based engineering and problem-based learning. The students have from engineering, science, biology, and medicine backgrounds. Faculty specialties include biomaterials and tissue engineering, bioinformatics and image processing, bio-electronics, biomechanics, clinical engineering, and et al.

FACULTY

Full-time: 26

Part-time: 4

Ph.D.: 29

M.D.: 1

Director/ Professor

Tai-Horng Yaung Ph. D., NTU

Full-time

Professor

Yuan-Haun Lee Ph. D., Kyoto Univ.

Kuo-Huang Hsieh Ph. D., Detroit Univ.

Shuang-Shii Lian Dr. Ing., Technische Univ.
Berlin

Jia-Yush Yen Ph. D., UC Berkeley

Jyh-Horng Chen	Ph. D., UC Berkeley
Ching-Chuan Jiang	M.D., Ph. D., NTU
Yi-You Huang	Ph. D., NTU
Tai-Horng Young	Ph. D., NTU
Sheng-Mou Hou	M.D., Ph.D., NTU
Fong-Jou Hsieh	M.D., NTU
Win-Li Lin	Ph. D., Univ. of Arizona
Chung-Ming Chen	Ph. D., Cornell Univ.
Jan-Min Wong	M.D., Ph. D., NTU
Jui-Chang Tsai	M.D., Ph. D., NTU
Shiming Lin	Ph. D., University of Cambridge.
Chii-Wann Lin	Ph. D., Case Western Reserve Univ.
Jaw-Lin Wang	Ph. D., Ohio State Univ.
Tung-Wu Lu	Ph. D., University of Oxford
Wen-Yih Tseng	Ph.D., MIT

Associate Professor

Liang-Wey Chang	Ph. D., Purdue Univ.
Fu-Shan Jaw	Ph. D., NTU
Ming-Jium Shieh	M.D., NTU Ph. D., Tokyo Woman Medical University

Assistant Professor

Fa-Hsuan Lin	Ph. D., MIT, U.S.A.
Sung-Jan Lin	M.D., Ph. D. NTU, R.O.C.
Pen-Hsiu Chao	Ph. D., Columbia Univ. U.S.A.

Part-time

Professor

Cheng-Yi Wang	M.D., NTU., Ph. D., Tokyo Woman Medical Univ.
Te-son Kuo	Ph.D., Georgia Institute of Technology

Associate Professor

I-Jen Chiang	Ph.D., NTU
Shwu-Pong Shieh	Ph.D., University of

Wisconsin, Madison

FACILITIES

The Institute aims to promote teaching, research and development activities in biomedical engineering. Research projects are sponsored by various public and private agencies, including the National Science Council, Department of Health, National Health Research Institute, Industrial Technological Research Institute, and NTU Hospital etc. Research is conducted in the following areas:

1. Biomaterials: metal, ceramics, polymers, biological materials, and drug delivery systems. Developments are made in bioactive bone cement, bioglass ceramic and composite resin applied in orthopedic surgery and dental restoratives. Polymer research is focused on membrane technology for the improvement of kidney dialysis. Research on biological materials emphasizes tissue engineering and the related biomaterials. Applications include artificial pancreas, artificial cartilage, artificial skin, drug delivery mediators, etc. In addition, our research covers the application of various biomaterials in artificial organs and in drug delivery systems, as well.
2. Biomechanical Engineering: Research projects involve design and development of assistance devices for disabled and elderly people. The control group is also working on clinical investigation of computer control of anesthesia systems.
3. Clinical Engineering: The main goal is to carry out and supervise quality medical care and to plan safety and risk of medical equipment. We hope to make sure that the use of medical equipment is legitimate.
4. Integrated Cardiac-Pulmonary Physiological Monitoring System: The system can connect

each medical instrument by computer.

Moreover, on the basis of integrated data, we can set up expert system to assist medical staff.

5. Hyperthermia Research : The research is divided into five parts: methods of ultrasound heating design, fabrication, and evaluation of ultrasound transducers; control of ultrasound hyperthermia treatments; thermal modeling and treatment planning; clinical trials of ultrasound hyperthermia.
6. Optic Card System: the characteristics of large and undeletable memory are useful in building medical data systems and controlling insurance expenses.
7. Bioelectronics: Analog and digital circuit design and fabrication by PCB or integrated circuit processes.
8. Bioinstrumentation: Smart sensor system, Artificial neural networks for noninvasive blood glucose monitoring, Electro-physiological system, Automatic testing system for cardiac monitor, Ambulatory blood pressure monitoring system, Body surface mapping system.
9. Bioimage: Major research foci are on medical image reconstruction theory, medical image analysis, computer-assisted diagnosis and therapeutics, automatic ultrasound image segmentation and tissue characterization.

COURSES

Masters Degree Biomedical Engineering (3),
Special Topics in Biomedical Engineering (4),
Seminar in Biomedical Engineering (4),
Anatomical Physiology (For engineering graduates)(3)

ACADEMIC ACTIVITIES

We constantly hold academic seminars, lectures, and international symposia, including The 1st International Symposium held in May 1990, The 2nd International Symposium held in September 1992, The 1st Medical Engineering Week of the World held in September 1994, and The 3rd Asian-Pacific Conference on Medical & Biological Engineering held in May 1996. We also publish a scientific journal, the Journal of Biomedical Engineering, Applications, Basis, and Communications. This bimonthly journal has been accepted and included into the following famous databases: COMPENDEX (EI), INSPEC, EMA, Research Alert (ISI), Biomedical Engineering Citation Index (ISI), and EMBASE. Furthermore, the journal was evaluated by National Science Council as one of the excellent journals published in Taiwan.

CONTACT INFORMATION

Established in: 1998

Director: Tai-Horng Yaung

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E-mail: chimei@ntu.edu.tw



INTRODUCTION

The Institute of Polymer Science and Engineering (IPSE) at the NTU is devoted to graduate teaching and research in polymer synthesis, characterization, morphology, rheology, physics, and engineering. IPSE's primary goals are to prepare skilled polymer scientists and engineers to fill the growing needs of industry, academia and government. At the same time, the institute pursues fundamental and applied polymer research to understand the basics of polymer materials and to expand the applications of polymers to human needs.

Over the past fifty years, the growth of polymer science and engineering has been extremely fast.

With their processibility and high performance, polymers have become the material of choice of modern life from food packaging, clothing, housing, transportation, communication, to electronics and aerospace equipment, etc. Consequently, many departments at NTU have carried out extensive teaching and research programs on polymers for more than thirty years.

The founding of a graduate institute devoted to polymer science and engineering was advocated from 1994. Finally, following the long-term efforts of the College of Engineering and the Department of Chemical Engineering, approval was obtained from the Education of Ministry in 2001 to set up an Institute of Polymer Science and Engineering for Ph.D. and M.S. level instruction and training. IPSE currently has 75

M.S. students and 62 Ph.D. students. At present, we have 4 full-time faculty, 23 co-junct faculties and 1 part-time faculty. IPSE will continue to seek and hire distinguished experts in the field of polymer science and engineering.

IPSE strives to maintain a state-of-the-art research environment and perform cutting-edge research programs sponsored by government and industry. The research directions and emphases are always in cutting-edge areas of polymer application:

1. Synthesis, morphology, and application of polymers for microelectronic and communication devices.
2. Design, synthesis, and application of polymer-inorganic hybrid materials
3. Design, synthesis, and application of advanced organic optical, electronic, and magnetic materials.
4. Design, synthesis, and application of biomaterials.
5. Preparation and characterization of smart polymer materials.
6. Synthesis and reaction mechanism of high performance polymers.
7. Preparation, structural analysis, and processing principle of high performance composite materials.
8. Numerical modeling of polymerization, structural formation, and process control of polymers.
9. Rheology and thermodynamics of polymers and polymer blends.
10. Molecular modeling and polymer interface science and technology.

FACULTY

Full time: 4

Cojunct faculty: 22

Part time: 1

Ph.D. Degree: 27

Director/ Professor

Wen-Chang Chen Ph.D. University of Rochester

Full-Time

Professor

Jiang-Jen Lin Ph.D. Georgia institute of Technology

Guey-Sheng Liou Ph.D. Tokyo Inst. Technology

Ching-I Huang Ph.D. Northwestern University, U.S.A.

Assistant Professor

Shih-Huang Tang Ph.D. University of Maryland

Adjunct

Professor

Chao-Hsun Chen Ph.D. University of Illinois

Li-Jen Chen Ph.D. Rice University

Wen-Chang Chen Ph.D. University of Rochester

Yan-Ping Chen Ph.D. Rice University

Wen-Yen Chiu Ph.D. NTU

Kuo-Chuan Ho Ph.D. University of Rochester

Kuo-Huang Hsieh Ph.D. University of Detroit

Jyh-Ping Hsu Ph.D. Kansas State University

Keh-Chyang Lee ph.D. University of Washington Seattle

Man-Kit Leung Ph.D. University of Iowa

Wen-Bin Liao Ph.D. University of Utah

Chun-Pin Lin Ph.D. University of Minnesota

King-Fu Lin Ph.D. Polytechnic University of New York

Tien-Yau Luh Ph.D. University of Chicago

Wei-Fang Su	Ph.D. University of Massachusetts
Yu-Jane Sheng	Ph.D. Cornell University
Da-Ming Wang	Ph.D. Pennsylvania State University
Lee-Yih Wang	Ph.D. Chemistry, University of Minnesota
Shi-Chern Yen	Ph.D. University of Wisconsin-Madison
Tai-Horng Young	Ph.D. NTU

Associate Professor

Chi-An Dai	Ph.D. Cornell University
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Assistant Professor

Feng-Yu Tsai	Ph.D. University of Rochester
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Part-Time

Professor

Leo-Wang Chen	Ph.D. University of Tokyo
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FACILITIES

IPSE is located in the building previously named the National Institute for Compilation and Translation, occupying an area of approximately 1500 square meters, with one administrative office, two classrooms, two conference rooms and several laboratories. We are continuing to seek more space and resources to house the increasingly numerous faculties, students and facilitate cutting-edged research.

COURSES

Required courses

Thesis, Subject research

Elective/Required courses:

MS:

Advanced Polymer Chemistry, Polymer Physics, Seminar.

MS students need to select three courses from the following list, respectively.

Functional Polymers, Polymer Physical Chemistry, Polymer Physics I: Solid State Physics, Polymer Characterization, Polymer Morphology, Fundamentals and Applications of Polymer Processing.

Ph.D:

Seminar.

- A. Chemistry (at less 2 courses): Advanced Polymer Chemistry, Functional Polymers, Special Topics in Polymer.
- B. Physics (at less 2 courses): Polymer Morphology, Polymer Physics I: Solid State Physics, Polymer Physical Chemistry.
- C. Characterization and Others (at less 1 courses): Polymer Characterization, Fundamentals and Applications of Polymer Processing.

Requirements for the M.S. Program

The M.S. students fulfill the following requirements to be awarded the M.S. degree:

1. 25 credits are required from elective courses. (Approval is required for courses taken outside the institute.)

Requirements for the Ph.D. Program

Ph.D. students must fulfill the following requirements to be awarded a Ph.D. degree:

1. 24 credits are required from among the elective courses. (Advisor's approval is required for courses taken outside the institute.)
2. The candidate is required to pass the qualifying examination by the end of second year.

3. The candidate is required to publish scientific papers with total SCI impact factor equal or higher than 3.0.

ACADEMIC ACTIVITIES

We organize conferences on polymer materials and offer seminars and training courses for academia, industry, government and the general public on a regular basis to expand our education base and outreach.

CONTACT INFORMATION

Established in: 2002

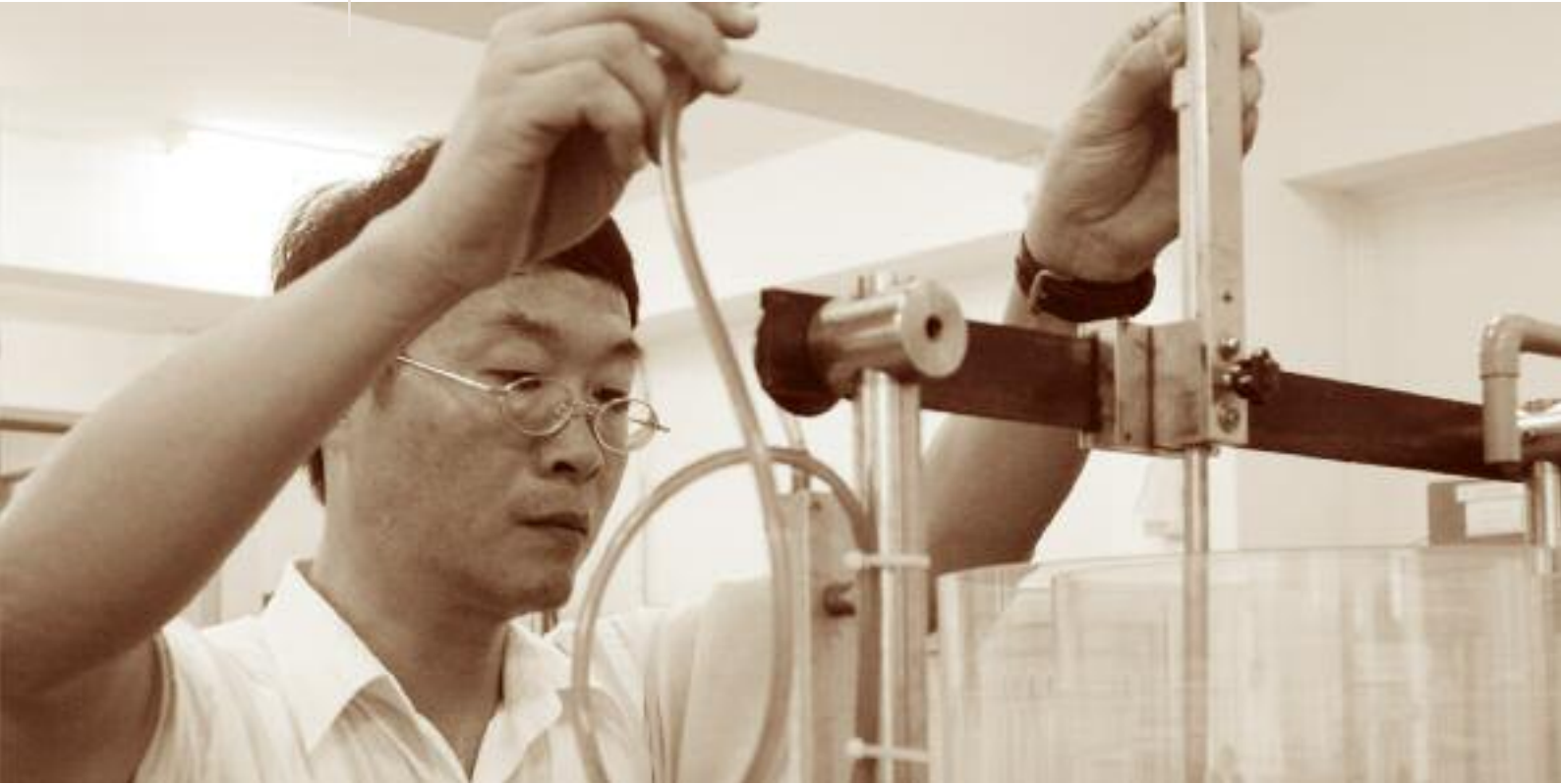
Director: Wen-Chang Chen

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Fax: +886-2-33665237

Website: <http://www.pse.ntu.edu.tw>

E-mail: ntuipse@ntu.edu.tw



INTRODUCTION

Tjing Ling Industrial Research Institute (TLIRI) was established in March 1975 under a contract signed by NTU and Yen Tjing Ling Industrial Development Foundation, for the purpose of engaging in engineering technology R&D, thus promoting cooperation between industry and the university to facilitate national economic growth and infrastructure development.

TLIRI building is located at No. 130, Section 3, Keelung Road, on the NTU campus. The building was donated by the Yen Tjing Ling Foundation and has operated from March 1977.

TLIRI is a nonprofit research organization in the NTU College of Engineering. The Institute's

operating expenses are generated from the service overhead. The Foundation also sponsors annual research grants on project base. TLIRI shares its service overhead with the University as feedback.

ORGANIZATION

The TLIRI supervisory council reviews the Institute's development goals, activity plans and expenditure budget for TLIRI, and monitors its performance and results. The dean of the College of Engineering is the chief commissioner of the council, and the dean of the College of Electrical Engineering and Computer Science is the vice-chairman of the council. The director and deputy-director of TLIRI are appointed from College of Engineering faculty .

MAJOR TASKS

TLIRI is a bridge between the University and outside organizations, including industrial enterprises, government bodies and research units. TLIRI activities fall mainly into the categories of entrusted and cooperative research, professional training, industrial testing and international conference servicing, etc.

1. Prospective technology development

Yen Tjing Ling Industrial Development

Foundation sponsors research projects aimed at enhancing industrial technology. Project results are transferred to related industries to enhance their technology or facilitate their new product development.

2. Cooperative research between industry and university

TLIRI is familiar with the R&D resource and expertise of the College of Engineering, the College of Electrical Engineering and Computer Science, and related colleges at NTU. TLIRI also has ample professional service experience for managing cooperation between industry and university. Embracing the win-win approach, TLIRI provides ever-improving service for medium and administration management.

Agencies that entrust research cooperation include government units, the military, national businesses, corporate foundations, private enterprises, etc.

3. Extension education and training

To cultivate talent and provide on-the-job training for the military, the government and private enterprise, TLIRI also plans hi-tech integrated training programs and appoints foreign and local professionals to train various manpower in the latest technology and processes.

The categories of training courses conducted by TLIRI include the following:

- (1) Expert environmental protection training for the Environment Protection Administration
- (2) Civil aeronautics pilot training for the Civil Aeronautics Administration
- (3) Short-term professional supplemental training for post-masters talents for the National Youth Commission
- (4) 2nd grade specialized training (including employment guide) of technicians for new industries
- (5) On-the-job training of qualified instructors for every employment & vocational training center of the Bureau of Employment & Vocational Training
- (6) Wireless communication industry talent training for Industrial Development Bureau, Ministry of Economics Affairs
- (7) Enterprise university (master class)
- (8) On-the-job advanced training of industrial technology labor for the Bureau of Employment & Vocational Training
- (9) Electronics talent training for Construction and Planning Administration, Ministry of the Interior
- (10) Talent training in application technology on special chemical production for the Industrial Development Bureau, Ministry of Economic Affairs
- (11) Talent training in semiconductor technology for the Industrial Development Bureau, Ministry of Economic Affairs: Semiconductor Academy & Digital Content Academy
- (12) Talent training of computer and information software and core capability for the Council of Labor Affairs, Executive Yuan
- (13) Program of industry talent training for the Bureau of Employment and Vocational Training

4. Industrial technology service

TLIRI operates more than 70 laboratories under the research factory system of the College of Engineering and the College of Electrical Engineering and Computer Science at NTU. These laboratories provide various technology services and equipment resources, and offer technical consulting, analysis and test services for industry and university.

The fields of technology service include chemical engineering, civil engineering, environmental engineering, hydro engineering, stress testing, naval architecture and ocean engineering, electrical engineering, computer science and information engineering, electro-optical engineering mechanics and materials engineering, biomedical engineering, etc.

5. International conference service

Since August 2000, TLIRI was officially assigned by the NTU president, Prof. Chen Wei-Chao, to be the sole service unit in charge of providing logistical assistance to NTU faculty members holding international academic conferences. It provides the following services to help the organization offer and international quality conference and image:

- (1) Coordination and Management
- (2) Call-for-Paper and Review Processing (in Coordination with Technical Committee)
- (3) Printing, Publication and Publicizing
- (4) Banquet, Accommodation and Spouse Program
- (5) Finance & Accounting Operation
- (6) Exhibition
- (7) Technical Visits & Sight-seeing
- (8) Transportation & Special Airport Pick-Up Service
- (9) Registration
- (10) Program Flow Control
- (11) Conference Site Planning
- (12) Conference Management System

CONTACT INFORMATION

Established in: 1975

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INTRODUCTION

The Hydrotech Research Institute (HRI) is affiliated with the College of Engineering and the College of Bio-Resources and Agriculture at NTU. HRI evolved from the Taipei Hydraulic Research Laboratory, which was first jointly managed by the NTU and the Ministry of Economic Affairs from 1950 to 1961. After 1961, the Laboratory came under the sole proprietorship of the University, and was known as HRI.

OBJECTIVES

The objectives of HRI include the following: assist graduate and undergraduate teaching; conduct hydraulic and fluid-mechanic experiments;

pursue hydraulic modeling studies -- physical, numerical, and analytical; perform academic research in water issues, particularly those related to Taiwan; and provide continuing education and extension service.

ACHIEVEMENTS

1. Teaching and Research

- (1) Four classes of fluid-mechanics experiments are held at HRI each year for students of the Departments of Civil Engineering and Bioenvironmental Systems Engineering. In addition, the graduate students of Civil Engineering also use the facilities to conducting intermediate fluid-mechanics experiments. In recent years, approximately 160 students use its facilities annually.

- (2) HRI also provides graduate students with facilities for conducting research work. Several tens of master and doctoral theses depended on HRI facilities for their completion.
- (3) In the past three years, HRI has facilitated over 100 basic research projects, with main topics including:
- Hydraulics
 - Hydraulic structures
 - Sediment transport
 - Hydrology
 - Fluid Dynamics
 - Disaster prevention
 - Multidisciplinary areas

2. Extension Services

- (1) Development of simulation models:
- For hydraulic analysis: Models for unsteady river/estuary flows in channel network and in 2-D water bodies.
 - For sediment transport: Alluvial channel, sediment transport, reservoir sedimentation models.
 - For Hydrologic analysis: Rainfall frequency analysis; catchment hydrology models.
 - For drainage analysis: 2-D flood inundation model, drainage system model, etc.
- (2) Completion of sponsored projects: Over the years, the HRI has executed and completed about 300 projects sponsored by government agencies and private sectors.
- (3) Workshops/Seminars:
- Open-channel hydraulics
 - Flood routing in river channels
 - Hydrologic analysis
 - Reservoir operation
 - Water-quality modeling

FUTUR PROJECTS

Instructional:

1. Addition of educational video tapes for fluid mechanics experiments.
2. Promotion of computer-aided experiments, teaching and project execution.
3. Strengthening the intermediate fluid mechanics experiments.

Research:

1. Experimental research: With laser doppler velocimetry and imagery processing equipment, precision experiments can be conducted in various research areas.
2. Numerical modeling: Given the past achievements in numerical modeling, and the fast-advancing computer science and technology in Taiwan, the future outlook of research by numerical modeling appears very bright.

Extension Services:

1. Hydraulic analysis: Focus on promotion, use and development of numerical models for analysis of the critical problems that will confront Taiwan in the future, such as reservoir sedimentation, river channel stability, flood forecasting analysis, flow and sediment measurements and debris flow, etc.
2. Hydrologic analysis: Demand is increasing for dissemination of hydrologic analysis models for use in organizing and classifying hydrologic data in Taiwan, and for hydraulic engineering planning, design and operation.
3. Water resources system analysis: Increasing promotion and use of up-to-date techniques for water-resources system analysis to assist decision making in problems, such as water distribution, reservoir operation, etc., in accordance with the state of water-resources deficiency and ill-distribution in Taiwan.
4. Compilation of water resource problems: Compilation of information and data concern-

ing water-resources problems of Taiwan, including social, economical, institutional, legal, and etc., will be carried out. Such information and data compilation may lead to schemes and measures for solving these problems and to suggestions for government decision-making.

Cooperation:

To promote cooperation with internationally renowned institutes for technical information exchange, arrangements are made from time to time to invite scholars and specialists world wide to the HRI for collaborative research and/or lectures.

FACULTY

Senior Research Fellow : 22

Associate Research Fellow : 5

Assistant Research Fellow : 1

Research Engineer : 5

Ph.D. : 30

M.S. : 3

Director

Yih-Chi Tan Ph.D., Cornell University

Senior Research Fellow

Ru-Yih Wang Ph.D., Kyoto University

Chin-Lien Yen Ph.D., University of Iowa

Der-Liang Young Ph.D., Cornell University

Ming-Hsi Hsu Ph.D., National Taiwan University

Gwo-Fong Lin Ph.D., University of Pittsburgh

Hong-Yuan Lee Ph.D., University of Iowa

Liang-Hsiung Huang Ph.D., University of Iowa

Fi-John Chang Ph.D., Purdue University

Ke-Sheng Cheng Ph.D., University of Florida

Ko-Fei Liu Ph.D., M.I.T

Jen-Chen Fan Ph.D., Purdue University

Chen-Wuing Liu Ph.D., UC Berkeley

Ting-Kuei Tsay Ph.D., Cornell University

Ming-Daw Su Ph.D., Utah State University

V. Chintu Lai Ph.D., University of Michigan

Fu-Chun Wu Ph.D., UC Berkeley

Ching-Pin Tung Ph.D., Cornell University

Chien-Ching Ma Ph.D., Brown University, U.S.A.

Jong-Dao Jou Ph.D., University of Washington

Chia-Chi Sung Ph.D., Pennsylvania State University

Tsang-Jung Chang Ph.D., University of Illinois

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Herv'e Capart Ph.D., Universit? catholique de Louvain

Yu-Pin Lin Ph.D., Georgia Institute of Technology

Jihn-Sung Lai Ph.D., UC Berkeley

Assistant Research Fellow

Cheng-I Hsieh Ph.D., Duke University

Research Engineer

Ming-Jen Chen Ph.D., National Taiwan University

Chen-Ho Chien M.S., National Taiwan University

Cheng-Yu Ho M.S., National Taiwan University of Science and Technology

Gwo-Wen Hwang M.S., National Cheng Kung University

FACILITY

Teaching Facilities

1. Experimental facilities for basic fluid-mechanics courses.
2. Experimental facilities for the intermediate fluid-mechanics course:
 - Apparatus for surge and water hammer
 - Wind tunnel
 - Seepage apparatus
 - Cavitation apparatus
 Other items are also provided for graduate students.
3. Audio-Visual Equipment.

Library

The HRI library is a literature/data repository for water science and engineering. Currently it holds over 3,000 volumes of books and articles, approximately 4,500 reports (of which about 450 were published by HRI), more than 400 Ph.D./M.S. theses, and other reference materials.

Computing Facilities

Hardware

1. Network system.
2. Personal computers: HRI presently has over 60 and higher class PCs.
3. Satellite display system.
4. Global positioning system.

Software

1. Geographical information system: ARC/INFO.
2. Interactive virtual reality softwares.
3. Computer system.
 - Sets of HRI-staff-developed computer software and numerical models.

Experimental sites, flumes, and equipment
Sites

HRI is located on the main campus of the university, facing Chow-Shan Road, and

consists of a four-story main building, an old annex building, and outdoor experimental grounds. The main building has ground space of about 4,000 square, filled with a fluid-mechanics classroom, an audio-visual classroom, library, office, etc.

- The annex building occupies 800 square meters to house indoor experimental grounds, including an inlet testing setup, a debris-flow experimental quarter, a density-current experimental sector, a re-circulation flume, and some office space. Adjoining the two buildings are four outdoor segments of experimental grounds: a velocity-meter calibration flume, east experimental area, west experimental area, and a channel-bend experiment court.

Since 1997, two off campus outdoor units were established to provide more facilities for physical modeling.

Flumes

There are 11 flumes in HRI;

1. The Large Flume: Adjustable slope, suitable for experiments on fixed-bed as well as movable-bed channel flows.
2. The High-precision Flume: Adjustable slope, available for use with laser doppler measurements.
3. Other Flumes: Nine other flumes are available for specific studies such as high-velocity flow, density-stratified flow, sediment transport, waves, etc.

Instrumentation

1. Precision measurement instruments, including 2-D laser doppler velocimeter, laser sheet and image processor.
2. There are more than 100 instruments for general use in hydraulic laboratory work.

MAIN FUNCTIONS

Aids in Teaching

1. To compile and enhance teaching materials for the undergraduate and graduate curricula.
2. To upgrade the facilities for laboratory courses and update the visual-aid system for experiments by which to enhance teaching quality.
3. To improve experimental facilities and research environments for the research work associated with theses of graduate students.

Extension Services

1. Hydraulic analyses: Hydromechanic analyses of hydraulic structures, river mechanics, movable-bed flow computation, and flood inundation simulation.
2. Physical model tests: Hydraulic structure, river engineering, dam engineering, reservoir sedimentation, surface runoff, surface erosion, debris flow, and so forth.
3. Hydrologic analyses: Precipitation-data analysis, rainfall-runoff simulation, hydrologic monitoring system, and the like.
4. Water resources system analyses: Reservoir operation, conjunctive use of surface and ground water, watershed management, hydrologic information system, and the like.
5. Numerical model developments: Numerical methods and analyses, programming aspect of model development, engineering aspect of model development, prototype modeling and simulation, unsteady-flow modeling, development of forecasting systems, advanced modeling techniques, etc.
6. Virtual Reality Technology:
To increase the efficiency of communication among designers, decision makers and the public, the useful 3D/VR (virtual reality) techniques are used to generate interactive

scenes, which create delicate 3D models such as buildings, levees, river flow, topography, etc. Through internet, the applications of 3D/VR techniques systems become important tools for display the results by simulation or experiment. Some of the applications are related to the Keelung river flood mitigation project such as Yuanshanzi flood diversion and levee construction with eco-engineering concept.

ACADEMIC RESEARCH

1. To steer, in view of the inherent characteristics prevailing in the hydraulics of Taiwan, research directions toward such areas as: (1) river hydraulics, (2) hydromechanics of hydraulic structures, (3) reservoir sedimentation, and (4) hydrologic/stream forecasting.
2. To promote scholarly exchange and cooperation with international hydraulic laboratories.
3. To sponsor symposia, conferences, lecture series, seminars, and workshops.

CONTACT INFORMATION

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INTRODUCTION

The Center for Earthquake Engineering Research (CEER) was established in January 1978 as a research unit under the College of Engineering. The Center's missions are carried out under the Supervisory Committee on which the Dean of the College of Engineering, Prof. Huan-Jang Keh serves as the Chairman. Committee members include the Heads of the Graduate Institute of Civil Engineering, Mechanical Engineering, Naval Architecture, Applied Mechanics as well as several outstanding specialists and scholars in related areas. Professor Y.W. Chan of the Civil Engineering Department has been the director of the center since August 2006.

RESEARCH AIMS

1. Carry out basic and applied research on earthquake engineering.
2. Promote technologies on resistant design and analysis.
3. Collect, compile and distribute technical information about earthquake engineering.
4. Carry out of reconnaissance of earthquake disasters.
5. Promote academic activities concerning earthquake engineering.
6. Carry out research coordinated by the National Center for Research on Earthquake Engineering.

ORGANIZATION

Facilities Supporting CEER for Earthquake Engineering Research:

1. Ambient vibration measuring system.
2. Dynamic soil resonant column test system.
3. Cyclic soil dynamic triaxial test system.
4. Pseudo dynamic structural test system.
5. Acceleration transducer measuring and recording system.
6. More than twenty sets of SMA strong motion accelerographs.
7. More than one thousand volumes of reference books and research reports.
8. Actuators and Reaction Systems.

CURRENT ACTIVITIES

1. Science & Technology Researches on Natural Disaster : Planning and Promotion on Earthquake Engineering and Seismology Research Field
2. The Study on Strategy of Seismic Design and Retrofit of Scoured Bridges for Minimum Cost(I)
3. Mechanical Behavior Analysis Of Circular Added Damping And Stiffness Device by using FEM
4. Design and Integration of Wireless Sensing System with Structural Control and Health Monitoring (I)
5. Smart Ventilation for Superior Living Environment
6. Develop Structural Health Monitoring and Early Warning Damage Detection System for Bridge Structures Using Smart Sensing Network (I)

FUTURE PROJECTS

1. Smart Ventilation for Superior Living Environment
2. Design and Integration of Wireless Sensing System with Structural Control and Health Monitoring (II)
3. Science & Technology Researches on Natural Disaster : Planning and Promotion
4. Develop Structural Health Monitoring and Early Warning Damage Detection System for Bridge Structures Using Smart Sensing Network (II)
5. Materials and Design Parameters of High Strength Concrete for Taiwan New RC project
6. The Study on Strategy of Seismic Design and Retrofit of Scoured Bridges for Minimum Cost (II)

CONTACT INFORMATION

Established in: 1978

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INTRODUCTION

The Research Center for Petrochemical Industry was established in November 1997 as an independent research unit under the College of Engineering. The petrochemical industry is important to the economic progress in Taiwan. Research for improving manufacturing processes for cleaner production, energy conservation and pollution prevention are the main objectives of this research center.

Policies of this research center are set by a steering committee, of which the Dean of Engineering serves as the chairman. The director of this research center, nominated by the Dean of the College of Engineering and appointed by the

NTU President, is responsible for the operations under the steering committee. This research center is closely related with the Department of Chemical Engineering and other units at NTU.

RESEARCH AIMS

1. Cooperate with other units at NTU for integrated researches and establish a consulting team for industrial development.
2. Establish experimental laboratories and computation facilities for petrochemical related researches.
3. Promote basic and applied researches for petrochemical and related industries and train and educate future human resources.
4. Collaborate with domestic and foreign research institutes and supply information for future energy policy.

CURRENT ACTIVITIES

1.Process Simulation and Design

- (1) Computer aided process simulation and design
- (2) Process synthesis and integration
- (3) Improvement and evaluation of design software

2.Physical Properties and Thermodynamics

- (1) Phase equilibrium experiments and calculations
- (2) Molecular simulation and product design
- (3) Thermodynamic data-bases
- (4) Development of equations of state
- (5) Phase equilibria at high pressures

3.Catalysis and Reaction Engineering

- (1) Development of Catalysts
- (2) Reactions of hydrocarbon mixtures
- (3) Catalytic membrane reactors
- (4) Simulation of chemical reaction systems
- (5) Fluidization engineering

4.Process System Engineering

- (1) Process control and optimization
- (2) Feasibility of industrial processes
- (3) Dynamic simulation
- (4) Neural network and fuzzy control

5. Separation Technology

- (1) Fluid transport and unit operations
- (2) Heat and mass transfer
- (3) Supercritical fluid extraction
- (4) Bioseparation technology
- (5) Inorganic membrane separation
- (6) Surface science and electrochemical engineering

6.Environmental Protection

- (1) Waste treatment technology
- (2) Resource utilization
- (3) Industrial safety
- (4) Cleaner production processes

7.Energy Policy and Technology

- (1) Energy saving separation processes
- (2) Biomass utilization
- (3) Energy policy and economic evaluation
- (4) Nano materials for Energy storage

8.Polymer Engineering

- (1) Physical properties of polymers
- (2) Polymer reaction engineering
- (3) Polymer materials
- (4) Molecular simulation on polymer systems
- (5) Process engineering for polymer systems

CONTACT INFORMATION

Established in: 1997

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INDUSTRIAL KNOWLEDGE TECHNOLOGY RESEARCH CENTER (IKTRC)



INTRODUCTION

The Industrial Knowledge Technology Research Center (IKTRC) of National Taiwan University was established out of the ashes of its predecessor, the Center of Excellence for Research in Computer Systems (CERICS), in February 2002, to be an independent research unit under the College of Engineering. The objectives of the Center are to coordinate and consolidate research efforts and expertise in Knowledge Technology and Electronic Business among different departments in the College of Engineering, and to interact with related local industries to promote their use of cutting-edge applications of Knowledge Technology and Electronic Business.

The highest governing body of IKTRC is the Supervisory Committee. Committee members are nominated by the Dean of the College of Engineering and appointed by the President of the University. The Dean of the College of Engineering is also the chairman of the Supervisory Committee. The Director of IKTRC, also appointed by the Dean, is responsible for the actual operations of the Center. The current Director is Professor Dar-Zen Chen of the Department of Mechanical Engineering.

GOALS

1. Applications of Electronic Technologies

- (1) Knowledge-Based System
- (2) Product Data Management (PDM)

- (3) e-Marketplace
- (4) Interactive Electronic Technical Menu (IETM)

2. Knowledge Management

With the coming of Knowledge Economy Age, the competitiveness of an enterprise or a country is no longer only a function of its material resources. Recently, the importance of Intellectual Property rights has been emphasized, and this affects the competitiveness of an enterprise or even a country. Therefore, effective and secure knowledge management is a topic of crucial importance today.

3. Patent Information Analysis

To analyze intellectual property, we have to analyze patents or research papers. According to the report of WIPO, patent documents cover 90%~95% of the research in the world, and if we took advantage of it, while doing research, we could save much time and capital. Therefore, when doing research or intellectual property analyses, it is important to analyze the Patent Information.

The center has developed the newest technology In building a dynamic search index for the search and analysis of patent technology in order to master the R&D movements of various enterprises within the domain of technology, and assist these enterprises in terms of strategic planning for R&D. Such technical research enhances the ability to apply for patents successfully. Regarding any particular technological theme and domain search, the developmental direction of the key technology must be mastered to prevent infringements of other companies' rights during patent application, as well as to provide assistance In drafting the overall arrangement and maintenance strategy of the patent technology. Regarding structured analyses of patents, efforts shall be

devoted to quality patent analysis and the R&D capacity analysis of inventors, patent holders and the entire country within the technical domain. As to analysis of a particular technical theme, in addition to the above technical analyses, the analysis on movements within the technical domain of R&D and technological development predictions are also undertaken, which shall include technical property analyses on the cycle and effectiveness of the technology, as well as strategic analyses on the R&D direction and technology arrangements.

4. Industry and Technology

Development Tendency Analysis

By analyzing intellectual documents like patents, we not only get the technical information but also learn about recent developments of industry and technology.

For effective utilization of industrial and technical trend analyses, the center discusses and analyzes the patent number growth in the industrial and technical domain, and cooperates with the current technical development status of various industries to propose the prediction for future developmental directions, industry and market movements, and future economic prosperity. Industrial competitive analysis will lead to transfer of authorized analyses of the patent technology and vertical/horizontal analyses of the R&D. As to competitive analyses of national industrial technology development, the objectives will be focused on the current status and global trend predictions of our national industrial patent technology, development condition and global competitive analyses in the industrial regions, as well as national technology development ability and competitive analyses.

CURRENT ACTIVITIES

The center is responsible for the arrangement of short courses for on-the-job training.

Such courses include

- 1.Applications of Electronic Technologies
- 2.Knowledge Management skill training
- 3.Patent search and patent analysis skills
- 4.Seminar of Industry and Technology Development Tendency Analysis

Academy-Industry Link

For vocational training in Knowledge Management, the relationship of the center to industry is linked through the following units of the government.

- 1.Employment and Vocational Training Administration
- 2.National Youth Commission
- 3.Institute For Information Industry

Future Prospects

- 1.Continue to win over the financial support for vocational training in knowledge management, to educate high-level and skilled manpower and to cover demand in this field.
- 2.Be in tune with "Program for Promotion of E-Business and Automation of Industries", draw up suitable research plan according to the manpower and facilities in the College of Engineering to compete for participations in consulting service of EB.
- 3.Search for proper enterprises, by acting in concert with the reward program provided by the Government, to introduce EB into business operations and increase its effects, so that a tough cooperation between industries and universities can be built up.

CONTACT INFORMATION

Established in: 2002

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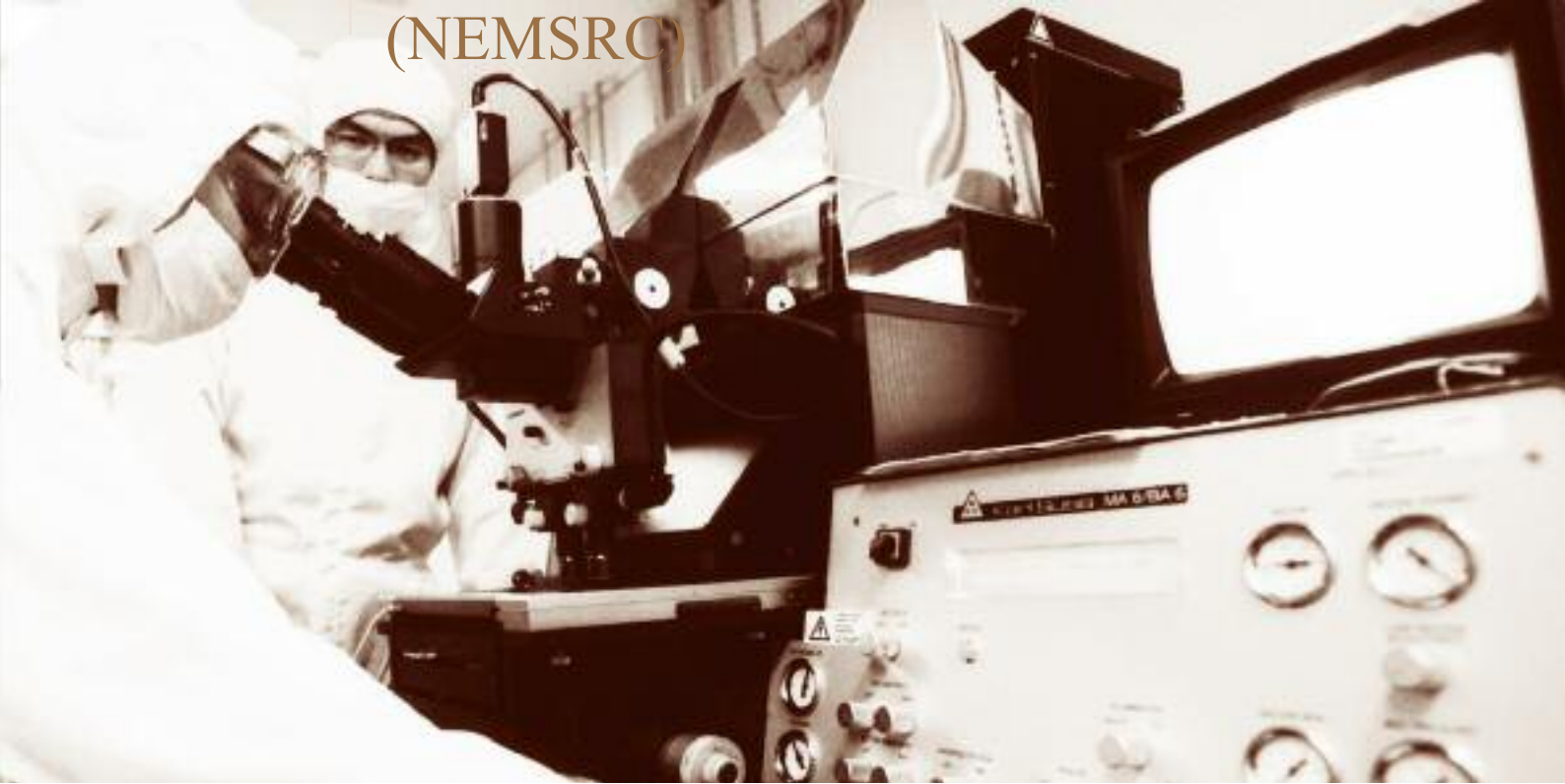
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NANO-ELECTRO-MECHANICAL SYSTEM RESEARCH CENTER (NEMSRC)



INTRODUCTION

The mission of the Nano Electro Mechanical System (NEMS) Research Center is to cultivate talents and basic technologies in micro and nano electro mechanical systems to promote the country's industrial development. Simultaneously, the research center is working on cultivation of talents, R&D and integration of technologies and promotion of industrial development.

NEMS's operation team stresses cultivating innovative talents and technologies in the micro nano electromechanical fields so as to spur Taiwan's development and competitiveness. Their strategies for success include:

1. Create mutual trust mechanisms and recognition through bi-directional communication and to jointly draw up the organization strategy and departments to ensure stable long-term operations.
2. Maintain high-standard research environment and culture to encourage researchers in each institute and department to participate enthusiastically and work diligently.
3. Coordinate integrated cross-institute / Interdisciplinary research talents and facilities to carry out large-scale research and talent cultivation.
4. Enhance cooperation with industry in order to sustain development of the Center.

With a total area of 300 square meters, the Center is located at the Institute of Applied Mechanics, and generally divided into administration offices, lithography room, testing room, etching room, furnace room and facility rooms. Also, a system design room, with an area of 36 square meters, is set up at the Department of Mechanical Engineering. The total capital investment so far exceeds NT 200 million dollars. To ensure that the open laboratory system enables all faculty, students and staff members to make good use of the center laboratory facilities, NEMS's laboratory operation management stresses four key issues, safety, environmental protection, quality and service:

1. Safety: Operation management personnel and all laboratory users must be qualified with training in industrial safety and sanitation and hazardous chemical substance handling.
2. Environmental Protection: A variety of liquid waste and disposal recycling process equipment has been installed to meet environmental protection regulations and prevent biohazards from entering the campus environment.
3. Quality: All laboratory management procedures and documents are drawn up in accordance with ISO 9000 standards and announced on the center's website: <http://nems.ntu.edu.tw>.
4. Service: Several computer networks and online technical databases are in operation and reservation systems for equipment application and educational training networks are also available.

RESEARCH OBJECTIVES

The research center strives to facilitate and undertake system integration and basic process technology research. The role that each institute and department plays is to have vertical work-sharing, develop relevant professional technologies and carry out lateral integration through various key industrial development plans, such as information, communication, semiconductor, automation and biomedicine. In the seven years since the establishment of the Research Center, it has joined many universities, colleges, research institutes and industries together to involve them in research in micro electromechanical systems, and has obtained three worldwide patent rights.

CURRENT ACTIVITIES

The center plans a series of educational training courses and special subjects to provide academics and industrial technicians with complete professional training. The current educational training includes credit courses, basic technological training courses, industrial safety and sanitary training courses, equipment training courses, factory training courses and factory special subjects. More than 4,000 students are taking these professional training courses and special subjects provided by the center; more than 3,800 students have qualified for general operation of the center's laboratory and 3,000 students have qualified for operation of partial equipment and facilities.

UNIVERSITY-INDUSTRY LINK

In developing the micro electromechanical industry and the sustainable operation of the center, cooperation between industry and university include technological services and cooperative technological development. As for technological

services, the center provides on-site technological training (e.g., Hsin-Chu Enterprise and Taiwan Si-Wei Electronic Company). In addition, the center develops technologies and applies for patent rights together with industry.

So far, negotiated joint developments include back-light baffle and polarized transformer of LCD monitor, surface acoustic wave (SAW) device, temperature and pressure sensors in a mold and integrated microwave passive device.

FUTURE PROSPECTS

Future R&D activities will be focused on nanotechnology. A long-term R&D project for 2002~2017 was drawn up, which can be divided into three phases. In the first phase (2002~2006), nano-manipulation technique and lab-on-a-chip for bio-diagnosis will be the major R&D focus. In the second phase (2007~2011), embedded wireless bio-diagnosis systems will be the major R&D focus. To overcome the miniaturized system requirement, the COMS compatible process for miniaturized RF-module and the bio-compatible material for in-vivo will be developed. In the third phase (2008~2011), swallowed biomedical diagnostic and therapy system is our objective.

The focal efforts include:

1. Nano chemical thin film
2. Nano bio thin film
3. Nano metrology for biochip
4. Nano mechanics of the thin film of biochip
5. Nano chemical dynamics of the thin film of biochip
6. Laboratory testing of biochip

As to operation management, in order to utilize the Center research resources effectively, develop the process technological margin, ensure high-quality R&D and speed up the talent cultivation, key points in future planning are:

1. Micro/nano electromechanical technologies,
2. Database of standard technologies,
3. Common teaching materials for network version micro/nano electromechanical system.

In its future development, the Research Center will be the crucial bridge between university and industry to promote innovative research and a window for technological exchange of micro/nano electromechanical systems around the world in hopes of making Taiwan one of the world leaders in micro/nano electromechanics

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INTRODUCTION

The Hydrotech Research Institute (HRI) is affiliated with the College of Engineering and the College of Bio-Resources and Agriculture at NTU. HRI evolved from the Taipei Hydraulic Research Laboratory, which was first jointly managed by the NTU and the Ministry of Economic Affairs from 1950 to 1961. After 1961, the Laboratory came under the sole proprietorship of the University, and was known as HRI.

OBJECTIVES

The objectives of HRI include the following: assist graduate and undergraduate teaching; con-

duct hydraulic and fluid-mechanic experiments; pursue hydraulic modeling studies -- physical, numerical, and analytical; perform academic research in water issues, particularly those related to Taiwan; and provide continuing education and extension service.

ACHIEVEMENTS

1. Teaching and Research

(1) Four classes of fluid-mechanics experiments are held at HRI each year for students of the Departments of Civil Engineering and Bioenvironmental Systems Engineering. In addition, the graduate students of Civil Engineering also use the facilities to conducting intermediate fluid-mechanics experiments. In

recent years, approximately 160 students use its facilities annually.

(2) HRI also provides graduate students with facilities for conducting research work. Several tens of master and doctoral theses depended on HRI facilities for their completion.

(3) In the past three years, HRI has facilitated over 100 basic research projects, with main topics including:

- Hydraulics
- Hydraulic structures
- Sediment transport
- Hydrology
- Fluid Dynamics
- Disaster prevention
- Multidisciplinary areas

2. Extension Services

(1) Development of simulation models:

For hydraulic analysis: Models for unsteady river/estuary flows in channel network and in 2-D water bodies.

For sediment transport: Alluvial channel, sediment transport, reservoir sedimentation models.

For Hydrologic analysis: Rainfall frequency analysis; catchment hydrology models.

For drainage analysis: 2-D flood inundation model, drainage system model, etc.

(2) Completion of sponsored projects: Over the years, the HRI has executed and completed about 300 projects sponsored by government agencies and private sectors.

(3) Workshops/Seminars:

- Open-channel hydraulics
- Flood routing in river channels
- Hydrologic analysis
- Reservoir operation

- Water-quality modeling

FUTUR PROJECTS

Instructional:

1. Addition of educational video tapes for fluid mechanics experiments.
2. Promotion of computer-aided experiments, teaching and project execution.
3. Strengthening the intermediate fluid mechanics experiments.

Research:

1. Experimental research: With laser doppler velocimetry and imagery processing equipment, precision experiments can be conducted in various research areas.
2. Numerical modeling: Given the past achievements in numerical modeling, and the fast-advancing computer science and technology in Taiwan, the future outlook of research by numerical modeling appears very bright.

Extension Services:

1. Hydraulic analysis: Focus on promotion, use and development of numerical models for analysis of the critical problems that will confront Taiwan in the future, such as reservoir sedimentation, river channel stability, flood forecasting analysis, flow and sediment measurements and debris flow, etc.
2. Hydrologic analysis: Demand is increasing for dissemination of hydrologic analysis models for use in organizing and classifying hydrologic data in Taiwan, and for hydraulic engineering planning, design and operation.
3. Water resources system analysis: Increasing promotion and use of up-to-date techniques for water-resources system analysis to assist decision making in problems, such as water distribution, reservoir operation, etc., in accordance with the state of water-resources deficiency and ill-distribution in Taiwan.

4. Compilation of water resource problems:

Compilation of information and data concerning water-resources problems of Taiwan, including social, economical, institutional, legal, and etc., will be carried out. Such information and data compilation may lead to schemes and measures for solving these problems and to suggestions for government decision-making.

Cooperation:

To promote cooperation with internationally renowned institutes for technical information exchange, arrangements are made from time to time to invite scholars and specialists world wide to the HRI for collaborative research and/or lectures.

FACULTY

Senior Research Fellow : 22

Associate Research Fellow : 5

Assistant Research Fellow : 1

Research Engineer : 5

Ph.D. : 30

M.S. : 3

Director

Yih-Chi Tan Ph.D., Cornell University

Senior Research Fellow

Ru-Yih Wang Ph.D., Kyoto University

Chin-Lien Yen Ph.D., University of Iowa

Der-Liang Young Ph.D., Cornell University

Ming-Hsi Hsu Ph.D., National Taiwan
University

Gwo-Fong Lin Ph.D., University of
Pittsburgh

Hong-Yuan Lee Ph.D., University of Iowa

Liang-Hsiung Huang Ph.D., University of Iowa

Fi-John Chang Ph.D., Purdue University

Ke-Sheng Cheng Ph.D., University of Florida

Ko-Fei Liu Ph.D., M.I.T

Jen-Chen Fan Ph.D., Purdue University

Chen-Wuing Liu Ph.D., UC Berkeley

Ting-Kuei Tsay Ph.D., Cornell University

Ming-Daw Su Ph.D., Utah State University

V. Chintu Lai Ph.D., University of Michigan

Fu-Chun Wu Ph.D., UC Berkeley

Ching-Pin Tung Ph.D., Cornell University

Chien-Ching Ma Ph.D., Brown University,
U.S.A.

Jong-Dao Jou Ph.D., University of
Washington

Chia-Chi Sung Ph.D., Pennsylvania State
University

Tsang-Jung Chang Ph.D., University of Illinois

Nien-Shen Hsu Ph.D., UCLA

Associate Research Fellow

Wen-Shyang Hou Ph.D., Tokyo University

Tim-Hau Lee Ph.D., University of Iowa

Herv'e Capart Ph.D., Universit? catholique
de Louvain

Yu-Pin Lin Ph.D., Georgia Institute of
Technology

Jihn-Sung Lai Ph.D., UC Berkeley

Assistant Research Fellow

Cheng-I Hsieh Ph.D., Duke University

Research Engineer

Ming-Jen Chen Ph.D., National Taiwan
University

Chen-Ho Chien M.S., National Taiwan
University

Cheng-Yu Ho M.S., National Taiwan
University of Science and
Technology

FACILITY

Teaching Facilities

1. Experimental facilities for basic fluid-mechanics courses.
2. Experimental facilities for the intermediate fluid-mechanics course:
Apparatus for surge and water hammer
Wind tunnel
Seepage apparatus
Cavitation apparatus

Other items are also provided for graduate students.

3. Audio-Visual Equipment.

Library

The HRI library is a literature/data repository for water science and engineering. Currently it holds over 3,000 volumes of books and articles, approximately 4,500 reports (of which about 450 were published by HRI), more than 400 Ph.D./M.S. theses, and other reference materials.

COMPUTING FACILITIES

Hardware

1. Network system.
2. Personal computers: HRI presently has over 60 and higher class PCs.
3. Satellite display system.
4. Global positioning system.

Software

1. Geographical information system: ARC/INFO.
2. Interactive virtual reality softwares.
3. Computer system.
Sets of HRI-staff-developed computer software and numerical models.
Experimental sites, flumes, and equipment

Sites

HRI is located on the main campus of the university, facing Chow-Shan Road, and consists of a four-story main building, an old annex building, and outdoor experimental grounds. The main building has ground space of about 4,000 square, filled with a fluid-mechanics classroom, an audio-visual classroom, library, office, etc.

The annex building occupies 800 square meters to house indoor experimental grounds, including an inlet testing setup, a debris-flow experimental quarter, a density-current experimental sector, a re-circulation flume, and some office space. Adjoining the two buildings are four outdoor segments of experimental grounds: a velocity-meter calibration flume, east experimental area, west experimental area, and a channel-bend experiment court.

Since 1997, two off campus outdoor units were established to provide more facilities for physical modeling.

Flumes

There are 11 flumes in HRI;

1. The Large Flume: Adjustable slope, suitable for experiments on fixed-bed as well as movable-bed channel flows.
2. The High-precision Flume: Adjustable slope, available for use with laser doppler measurements.
3. Other Flumes: Nine other flumes are available for specific studies such as high-velocity flow, density-stratified flow, sediment transport, waves, etc.

Instrumentation

1. Precision measurement instruments, including 2-D laser doppler velocimeter, laser sheet and image processor.
2. There are more than 100 instruments for general use in hydraulic laboratory work.

MAIN FUNCTIONS

Aids in Teaching

1. To compile and enhance teaching materials for the undergraduate and graduate curricula.
2. To upgrade the facilities for laboratory courses and update the visual-aid system for experiments by which to enhance teaching quality.
3. To improve experimental facilities and research environments for the research work associated with theses of graduate students.

Extension Services

1. Hydraulic analyses: Hydromechanic analyses of hydraulic structures, river mechanics, movable-bed flow computation, and flood inundation simulation.
2. Physical model tests: Hydraulic structure, river engineering, dam engineering, reservoir sedimentation, surface runoff, surface erosion, debris flow, and so forth.
3. Hydrologic analyses: Precipitation-data analysis, rainfall-runoff simulation, hydrologic monitoring system, and the like.
4. Water resources system analyses: Reservoir operation, conjunctive use of surface and ground water, watershed management, hydrologic information system, and the like.
5. Numerical model developments: Numerical methods and analyses, programming aspect of model development, engineering aspect of model development, prototype modeling and simulation, unsteady-flow modeling, development of forecasting systems, advanced modeling techniques, etc.
6. Virtual Reality Technology:

To increase the efficiency of communication among designers, decision makers and the public, the useful 3D/VR (virtual reality) techniques are used to generate interactive scenes, which create delicate 3D models such as buildings, lev-

ees, river flow, topography, etc. Through internet, the applications of 3D/VR techniques systems become important tools for display the results by simulation or experiment. Some of the applications are related to the Keelung river flood mitigation project such as Yuanshanzi flood diversion and levee construction with eco-engineering concept.

ACADEMIC RESEARCH

1. To steer, in view of the inherent characteristics prevailing in the hydraulics of Taiwan, research directions toward such areas as: (1) river hydraulics, (2) hydromechanics of hydraulic structures, (3) reservoir sedimentation, and (4) hydrologic/stream forecasting.
2. To promote scholarly exchange and cooperation with international hydraulic laboratories.
3. To sponsor symposia, conferences, lecture series, seminars, and workshops.

CONTACT INFORMATION

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VI. COLLEGE OF BIORESOURCES AND AGRICULTURE



Academic Units

- SCHOOL OF VETERINARY MEDICINE
 - DEPARTMENT OF VETERINARY MEDICINE OF VETERINARY CLINICAL SCIENCE
- DEPARTMENT OF AGRONOMY
- DEPARTMENT OF BIOENVIRONMENTAL SYSTEMS ENGINEERING
- DEPARTMENT OF AGRICULTURAL CHEMISTRY
- DEPARTMENT OF PLANT PATHOLOGY OF MICROBIOLOGY
- SCHOOL OF FORESTRY AND RESOURCE CONSERVATION
- DEPARTMENT OF ANIMAL SCIENCE AND TECHNOLOGY
- DEPARTMENT OF AGRICULTURAL ECONOMICS
- DEPARTMENT OF HORTICULTURE
- DEPARTMENT OF BIO-INDUSTRIAL MECHATRONICS ENGINEERING
- DEPARTMENT OF BIO-INDUSTRIAL COMMUNICATION AND DEVELOPMENT
- DEPARTMENT OF ENTOMOLOGY
- GRADUATE INSTITUTE OF FOOD SCIENCE AND TECHNOLOGY
- GRADUATE INSTITUTE OF BIOTECHNOLOGY
- AGRICULTURAL EXHIBITION HALL
- EDUCATION AND RESEARCH CENTER FOR BIO-INDUSTRIAL AUTOMATION

The Present and Former Deans

Peng-Hwa Tsai	(1945-1946)	Chao-Chen Chen	(1977-1983)
Yi-Tao Wang	(1947-1948)	Yuan-Chi Su	(1983-1989)
Chen-Tuo Chen	(1948-1952)	Tsong-Shien Wu	(1989-1995)
Cheng Chow	(1952-1954)	Tian-Fuh Shen	(1995-1998)
Paul C. Ma	(1954-1961)	Wen-Shi Wu	(1998-2001)
Yen-Tien Chang	(1961-1965)	Ping-Shih Yang	(2001-2004)
Yuen-Liang Ku	(1965-1972)	Bean-Huang Chiang	(2004-2005)
Tang-Shui Liu	(1972-1977)	Bao-Ji Chen	(2005-present)

HISTORY

National Taiwan University's College of Bioresources and Agriculture was originally founded as the College of Science and Agriculture of Taihoku Imperial University. In 1943 the College of Science and Agriculture was divided into the Colleges of Science and of Agriculture. In August 2002, the College of Agriculture was renamed the College of Bioresources and Agriculture.

There were seven departments in the College when Taiwan was restored to the Chinese Government in 1945. They were Agronomy, Agricultural Engineering, Agricultural Chemistry, Agricultural Biology (the present Plant Pathology & Entomology Department), Animal Husbandry and Veterinary Medicine, Agricultural Economics, and Horticulture. Since 1945 the College has steadily expanded its programs to meet the growing demands of agricultural research. There are twelve departments now. They are Agronomy, Bio-Environmental Systems Engineering, Agricultural Chemistry, Plant Pathology and Microbiology, Entomology, Forestry and Resource Conservation, Animal Science and Technology, Horticulture, Veterinary Medicine, Bio-Industry Communication and Development, Agricultural Extension and Bio-Industrial Mechatronics Engineering. Each department has a graduate institute, offering both Master and Ph.D. degrees. There are also Graduate Institute of Food Science and Technology, Graduate Institute of Biotechnology, Graduate School of Veterinary Clinic Science.

FACILITIES

The academic program of the college includes basic biology, the knowledge of life science theory, and the various applied skills involved in promoting production, and biological protection. The goal is to train students to understand basic life phenomena, and related knowledge and testing methods, in order to cultivate a working knowledge of applied biological technology.

In order to satisfy the national need for agricultural development, we have eight affiliated organizations: the Experimental Farm, the Experimental Forest, the Veterinary Teaching Hospital, the Highlands Experiment Farm, the Agricultural Exhibition Hall, the Agricultural Extension Committee, the Education and Research Center for Bio-Industrial Automation, and the Hydrotech Research Laboratory. In addition, four organizations are informally affiliated with our college: the Farm Machinery Workshop, the Phytotron Laboratory, the Electron Microscope Laboratory, and the Isotope Laboratory.

The buildings of the College of Bioresources and Agriculture are widely scattered around the main campus of the university. They include General Building, Agronomy Hall, Agricultural Engineering Hall, Agricultural Chemistry Halls No. 1 and 2, the Food Processing Plant, Entomology Hall, Forestry Hall, Horticulture Hall, the Horticulture Green House, the Horticultural Products Processing Plant, Landscape Gardening Hall, Agricultural Machinery Hall, Food Science and Technology Hall, and Floriculture Hall.

RESEARCH

Our college is actively developing all agriculture-related fields. We have moved rapidly to develop agricultural production technology in order to reach international agriculture research standards. We research agricultural management, agricultural environment protection and agricultural sustainability in order to meet the national agricultural demands. We also promote agricultural standards in Taiwan. The Institutes of Entomology and Forestry have offered graduate programs for on-the-job students since 1999 and the Institute of Agricultural Economics has done so since 2000.

GOALS

The twenty-first century will be the century of bioresources, bioinformation, and biotechnology. At the beginning of the 21st century, the college was renamed to better focus on the richness of bio-resources and bio-variety. The College will play a leading role in promoting sustainable agricultural development in Taiwan and Asia.

CONTACT INFORMATION

Established in: 1928

Dean: Bao-Ji Chen

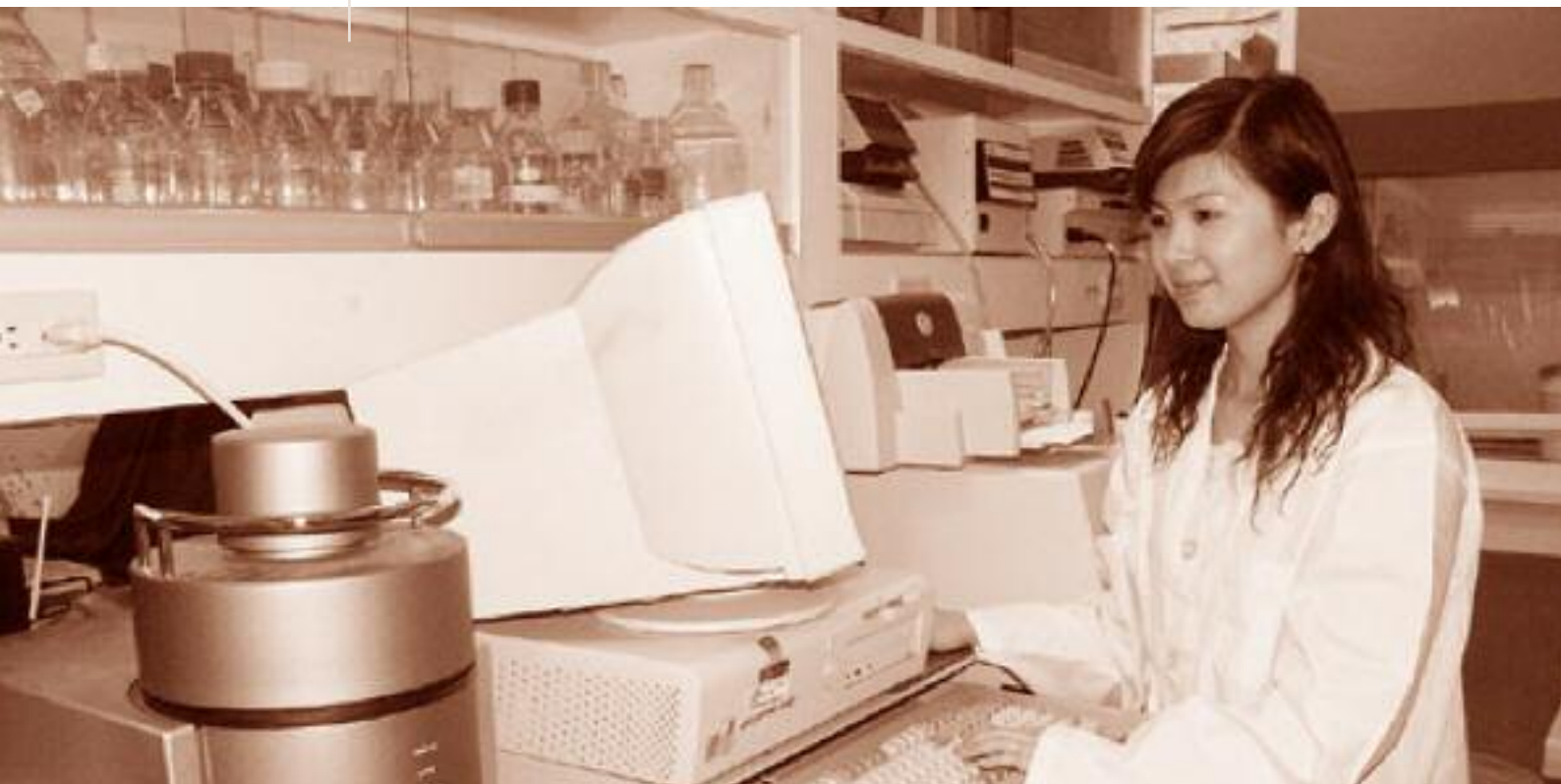
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Fax: +886-2-23919626

Website: <http://bioagri.ecaa.ntu.edu.tw/>

E-mail: ecaa@ntu.edu.tw





CURRENT ACADEMIC PROGRAMS

1. Department and Graduate Institute of Veterinary Medicine (baccalaureate, master and PhD program)
2. Graduate Institute of Veterinary Clinical Sciences (master program)

BRIEF INTRODUCTION

The profession of veterinary medicine encompasses areas of public health involved in safeguarding human health, zoonoses, food safety of animal products for human consumption, and medical diagnosis and treatments for animal diseases, animal health inspection and quarantine as well concern for animal welfare. In accor-

dance with current worldwide trends towards veterinary education, on August 1, 2008, the Department of Veterinary Medicine in National Taiwan University has been promoted to the title of “School of Veterinary Medicine (SVM)”. Under the SVM, there are two organizations including the Department and Graduate Institute of Veterinary Medicine (baccalaureate program since 1942, master program since 1968, and the PhD program since 1977), the Graduate Institute of Veterinary Clinical Sciences (master program since 2007). The Graduate Institute of Comparative Pathobiology and The Graduate Institute of Veterinary Public Health and Preventive Medicine will be established to meet the need of global trends.

GOALS

The establishment of the SVM is not only a milestone of innovation to veterinary education in Taiwan but also a critical step for the school to meet international veterinary education developments. Moreover, this is also an important step towards the regulation and prevention of zoonoses, the protection of food safety of animal products, establishment of modern veterinary medical techniques, identification of animal welfare issues, and enhancement of lab-animal research. Furthermore, it is essential to develop the veterinary specialties and continuing education.

TEACHING RESOURCES

In addition to the Department and Graduate Institute of Veterinary Medicine and the Graduate Institute of Veterinary Clinical Sciences, the Zoonoses Research Center, Animal Disease and Livestock Hygiene Technology Center and the Office of the NTU-Yonglin Humane Project are divisions of the SVM. All school programs are located in VM1, VM2, and VM3 Halls in addition to the NTU Veterinary Teaching Hospital.

ACADEMIC RESEARCH

The research achievements of the SVM are renowned not only nationally but worldwide as well. The number of published SCI journal articles averaged 43 annually during the 2005 and 2006 academic years. The total increased to 65 articles in 2007.

FUTURE PROSPECTS

Veterinary education at the college or school level has been a contemporary trend throughout the world. We believe that elevating the original departmental DVM level to SVM would improve the teaching quality and help attain more financial resources. Meanwhile, it would be beneficial to facilitate the integration of modern bio-medical technology and veterinary medical research; unifying the international academic community while maintaining a principal role in Asian veterinary education.

SPECIAL FEATURES

The education and training programs under the new SVM will foster an enhanced quality of veterinarian graduates as well as train research individuals. The SVM will continue the progression of the veterinarian specialties system in keeping with our excellent traditions.



INTRODUCTION

The Division of Animal Science of National Taiwan University (formerly, Taipei Imperial University) was established back in 1940's when Taiwan was still a colony of Japan. The Division of Animal Science was instituted about 1942. After the return of Taiwan in 1945, Taipei Imperial University was renamed National Taiwan University, and the Division of Animal Science was changed to the Department of Animal Science and Veterinary Medicine. In 1955, the Department of Animal Science and Veterinary Medicine was divided into two divisions: Animal Husbandry and Veterinary Medicine. Four years later, both divisions became departments in their own right. Since

then the Department of Veterinary Medicine has offered a five-year program leading to a degree of Bachelor of Veterinary Medicine. In 1968, the Graduate Institute started and a master degree program offered. In 1977, a Ph.D. degree program was also inaugurated. In 1990, the veterinary undergraduate classes began to be expanded according to new developments in the field. In 1995, the newly built six-story National Taiwan University Veterinary Teaching Hospital was officially opened. It is a well-equipped veterinary teaching hospital, which offers excellent clinical learning resources and environment for senior year veterinary students and graduates.

The Department's objectives in veterinary education are to educate and train students to become professional veterinarians or competent scientists in veterinary medicine and biomedical sciences.

In accordance with the global improvement of veterinary education plan and the long-term development program of the university, the School of Veterinary Medicine has been established from the current Department on August 1st, 2008. The school will include one department (Veterinary Medicine), two centers (Development Center for Animal Disease and Livestock Hygiene Technology and Center for Zoonosis Research) and one graduate institute (Veterinary Clinical Sciences). This development is aimed to educate and train students to become highly competent veterinarians and biomedical scientists. The twenty-first century is the century of life science and biotechnology. To upgrade our knowledge and techniques in veterinary and biomedical sciences to a world class level and meet challenges successfully in this century is the goal of all members of this Department and Graduate Institute!

FACULTY

Full-time Faculty: 32

Adjunct Faculty: 14

Project-Appointed Faculty: 1

Professors: 15

Associate Professors: 8

Assistant Professors: 6

Instructors: 3

Project-Appointed Assistant Professor: 1

Academic Qualifications of Full-time Faculty

PhD degree: 29

Master degree: 3

Academic Qualifications of Project-Appointed Faculty

PhD degree: 1

Chair/ Professor

Chen-Hsuan Liu Ph.D., University of California-Davis, USA.

Professor

Fun-In Wang Ph.D., University of Illinois at Urbana-Champaign, USA.

Ching-Ho Wang Ph.D., Louvain University, Belgium.

Chang-Yung Fei Ph.D., NTU, ROC.

Victor Fei Pang Ph.D., University of Illinois at Urbana-Champaign, USA.

Rea-Min Chu Ph.D., Iowa State University, USA.

Dah- Sheng Lin Ph.D., Cornell University, USA.

Tzong-Fu Kuo Ph.D., NTU, ROC.

Hui-Pei Huang Ph.D., Glasgow University, UK.

Peng-Heng Chang Ph.D., Auburn University, USA.

Lih-Sen Yeh Ph.D., NTU, ROC.

Ling-Ling Chueh Ph.D., Kyushu University, Japan.

Chin-Cheng Chou Ph.D., University of California, L.A., USA .

Hsiang-Jung Tsai Ph.D., Ohio State University, USA.

Chung-Tien Lin Ph.D., University of Cambridge, UK.

Associate Professor

In-Lin Wu	Ph.D., NTU, ROC.
Jeou-Jong Shyu	Ph.D., University of Illinois at Urbana-Champaign, USA.
Shao-Kuang Chang	Ph.D., North Carolina State University, USA.
Chian-Ren Jeng	Ph.D., North Carolina State University, USA.
Mei-Mei Chen	Ph.D., NTU, ROC.
Jiann-Gwu Lee	Ph.D., North Carolina State University, USA.
Chau-Hwa Chi	Ph.D., NTU, ROC.
Ivan-Chen Cheng	Ph.D., University of Florida, USA.

Assistant Professor

Bi-Ling Su	Ph.D., University of Munich, Germany.
Tong-Rong Jan	Ph.D., Michigan State University, USA.
Cho-Hua Wan	Ph.D., University of Missouri at Columbia, USA.
Fang-Chia Chang	Ph.D., University of Texas Medical Branch at Galveston, USA.
Chung-Hsi Chou	Ph.D., Mississippi State University, U.S.A.
S.H. Vincent Hsiao	Ph.D., University of Illinois at Urbana-Champaign, USA.

Instructor

Chiung-Hsiang Cheng	M.S., NTU, ROC.
Ji-Jong Lee	M.S., Louisiana State University, USA.
Ya-Pei Chang	M.S., University of Glasgow, UK.

Project-Appointed Assistant Professor

Albert Taiching Liao	Ph.D., NTU, ROC.
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BUILDINGS AND FACILITIES**BUILDINGS**

The Department of Veterinary Medicine is housed in three buildings, designated VM I, II and III. VM I and III are primarily for teaching and research, and VM II is primarily for laboratory animal housing, but also has laboratories and classrooms. Clinical education is supported by a 6-story Veterinary Teaching Hospital. Teaching and research are the major activities for students, veterinarians, and research scientists. There are many well-equipped laboratories, including labs of vet. physiology, vet. anatomy, vet. pathology, vet. pharmacology, vet. bacteriology, vet. virology, vet. parasitology, vet. clinical pathology, vet. immunology, vet. public health, electron microscopy, diseases of wild animals, diseases of swine, diseases of poultry, diseases of fish, diseases of horse, diseases of large animals, small animal internal medicine and surgery, etc.

SPECIAL FACILITIES

Transmission and scanning electron microscopes, Flow cytometer, Ultramicrotome, DNA thermal cycler, Real time quantitative PCR, ELISA reader, Capillary electrophoresis, 15-parameters semi-automated hematology analyzer, Fraction collector, Electrocardiograph, Operation microscope, Automatic clinical chemistry analyzer, Blood gas analyzer, ST4 Compact 4 channel coagulation instrument, Cryostat, Noninvasive blood pressure monitor, Inverted microscope. HPLC, Speed refrigerated centrifuge, QBC-V Hematology, Animal clinical physiological monitor, Cytospin centrifuge, Isoelectric focusing facilities, Echocardiograph, Ultrafiltration concentrator, Transcutaneous PO₂ and PCO₂ monitor, Vet fibroscope, Ultracentrifuge, Heart and Lung supportive system, Endoscopic teaching system, X-ray machine, Gastrointestinal endo-

scope, Ion coater, Critical point dryer, Vacuum evaporator, Ultrasonic endoscope, and Aperio digital pathology system.

CURRICULUM

UNDERGRADUATE PROGRAMS

The department offers a five-year program leading to a Bachelor's degree of veterinary medicine (BVM). Students must complete and pass all required courses during the first four years before they are allowed to proceed to the final year's course. A minimum of 182 credit units is required for the degree of BVM.

Core Courses for the Undergraduates:

General Chemistry and Lab (4), Organic Chemistry and Lab (4), Biochemistry and Lab (6), Embryology (2), Veterinary Anatomy and Lab (8), Veterinary Physiology and Lab (8), Animal Histology and Lab (4), Veterinary Bacteriology and Lab (3), Veterinary Parasitology and Lab (3), Veterinary Virology and Lab (3), Veterinary Pathology and Lab (8), Veterinary Immunology and Lab (3), Biostatistics (2), Veterinary Diagnostic Imaging and Clinical Diagnosis (3), Veterinary Pharmacology and Lab (7), Veterinary Clinical Pathology and Lab (4), Veterinary Theriogenology (4), Veterinary Public Health and Lab (3), Animal Feeding and Management (3), Veterinary Genetics (2), Veterinary Anesthesiology and Lab (2), Small Animal Surgery Skills and Lab (2), Large Animal Surgery Skills and Lab (2), Small Animal Surgery (3), Ruminant Medicine (2), Diseases of Swine (4), Poultry Diseases (4), Equine Diseases (2), Animal Hospital Practices (1), Aquatic Animal Diseases (3), Small Animal Internal Medicine (4), Veterinary Epidemiology (2), Veterinary Jurisprudence and Ethics (1), Clinical Conference (2), Clinical rotation (10), Necropsy (2)

GRADUATE PROGRAMS

The graduate institute consists of four divisions, namely, veterinary pathobiology, veterinary public health, basic veterinary science and animal welfare. A new graduate institute of Veterinary Clinical Sciences was established in year 2007. The graduate school currently offers a two to four year Master's degree program and a two to seven year Ph.D. degree program. A minimum of twenty-four credit units (six units of thesis not included) is required for the Master's degree. All Ph.D. students must fulfill both course and research requirements for their Ph.D. degree. A minimum of eighteen credit units (twelve units of thesis not included) is required for the Ph.D. degree. In addition, three Ph.D. research-related publications, including at least two published or accepted by SCI-listed journals, are graduation requirements for all Ph.D. candidates.

ACADEMIC ACTIVITIES

Weekly clinical case conferences are held as oral presentations by final year veterinary interns. In the graduate institute, graduate seminars are held weekly. In addition, scientific seminars are held regularly and local or international speakers are invited to give the talks.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Clinical veterinary medicine
- (2) Research on basic/preclinical veterinary sciences
- (3) Biotechnology
- (4) Comparative medicine
- (5) Laboratory animal medicine
- (6) Public health

2. Further studies

Our graduates are eligible to apply for most postgraduate schools of veterinary medicine and biomedical science in Taiwan and abroad.

3. Career options

Clinicians in general practice; Clinicians in public sectors, Biotechnology related industries; Universities/research institutes; Administrative positions as public servants of government (e.g. council of agriculture, local animal disease control center; disease quarantine, animal welfare and conservation); Meat inspection; Consultants for animal pharmaceutical or pet food companies.

CONTACT INFORMATION

Established in: 1942

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INTRODUCTION

The Department of Veterinary Medicine at the National Taiwan University has been established for 65 years since 1924. With time, clinical veterinary medicine has been playing much more important roles for veterinary education in the university. The veterinary graduate school started to set up clinical divisions for advanced clinical training of veterinary graduate students twenty years ago. Graduate studies combined with residency training started in the divisions of small animal surgery and internal medicine ten years ago. In this combined program, the graduate students of surgery and internal medicine will be awarded a master degree and a certificate of residency training following completion of three to

four years of clinical training as well as master's study. The Graduate School of Clinical Veterinary Science was newly established in the College of Bio-Resources and Agriculture on 1 August 2007.

The Institute of Clinical Veterinary Science consists of divisions of companion animal medicine, farm animal medicine, and wild animal medicine. Annually, twelve graduate students in different disciplines are admitted to the graduate school to receive clinical training. Besides, there is a 3-year full-time small animal residency program offered by the National Taiwan University Veterinary Hospital. There are currently 10 clinical faculty members in the graduate school. Faculty from the NTU medical and dental schools are also involved in clinical teaching and training in the school.

The aims of future development of the institute are to provide advanced clinical training for clinical graduate students/residents being more competitive in the veterinary profession. Besides, we also select promising senior veterinarians to train as clinical faculty. Because a well organized veterinary residency program has been developed only at the National Taiwan University to date, we will help other veterinary schools/departments to develop veterinary residency training system in the future. In addition, the schools will also contribute to continuous education for practicing veterinarians and establishment of the Associations of veterinary specialties in Taiwan.

FACULTY

Full-time Faculty: 10

Professors: 3

Associate Professors: 3

Assistant Professors: 2

Instructors: 2

Academic Qualifications of Full-time Faculty

PhD degree: 8

Master degree: 2

Director / Professor

Lih-Sen Yeh Ph.D., NTU, ROC.

Professor

Hui-Pei Huang Ph.D., Glasgow University, UK.

Chung-Tien Lin Ph.D., University of Cambridge, UK.

Associate Professor

In-Lin Wu Ph.D., NTU, ROC.

Chau-Hwa Chi Ph.D., NTU, ROC.

Ivan-Chen Cheng Ph.D., University of Florida, USA.

Assistant Professor

Bi-Ling Su Ph.D., University of Munich, Germany.

Chung-Hsi Chou Ph. D., Mississippi State University, U.S.A.

Instructor

Ji-Jong Lee M.S., Louisiana State University, USA.

Ya-Pei Chang M.S., University of Glasgow, UK.

FACILITIES

EKG, respiratory monitor, noninvasive blood pressure monitor (Oscillatory & Doppler), veterinary anesthesia apparatus, animal physiological monitor, Doppler cardio ultrasound, endoscopy, electroencephalogram, hemodialysis machine, X-ray, C-arm, MRI, operating microscope, electrotal high speed bone drill, ultrasound phacoemulsification machine, diode laser, laser blade, lactate analyzer, blood gas analyzer, urinalysis analyzer, joint motion function analyzer, full automatic biochemistry analyzer, blood coagulation analyzer, electrolyte analyzer, acid/base ion analyzer.

CURRICULUM

The graduate institute consists of two divisions, namely, economic and zoo animal group and companion animal group. The graduate school currently offers a two to four year Master's degree program. A minimum of twenty-four credit units (six units of thesis not included) is required for the Master's degree.

Courses for the Graduates:

Thesis (6), Independent Study (I)(1), Independent Study (II)(1), Independent Study (III)(1), Independent Study (IV)(1), Seminar (I)(1), Seminar (II)(1), Seminar (III)(1), Seminar (IV)(1), Companion Animal Medical and Surgery Practice (I)(4), Companion Animal Medical and Surgery Practice (II)(4), Companion Animal Medical and Surgery Practice (III)(4), Companion Animal Medical and Surgery Practice (IV)(4), Seminar On Small Animal Emergency and Critical (I)(1), Seminar On Small Animal Emergency and Critical (II)(1), Seminar On Small Animal Emergency and Critical (III)(1), Seminar In Small Animal Orthopedics (2), Small Animal Ophthalmology (2), Special Topics In Small Animal Clinical Pathology (2), Large and Wild Animals Practice (I)(4), Large and Wild Animals Practice (II)(4), Large and Wild Animals Practice (III)(4), Large and Wild Animals Practice (IV)(4), Principles Of Horse Behavior (1)

ACADEMIC ACTIVITIES

- a. Clinical case meeting every evening
- b. Mortality and morbidity seminar every week
- c. Summer training program for new residents
- d. Construction of manuals, videos and reference books for clinical teaching and training.
- e. Continuous education (CE) programs for practicing veterinarians.
- f. Research projects supported by the National Science Council, Council of Agriculture.
- g. Establishment of Taiwan Companion Animal Medical Association to promote small animal specialty training, CE, and certification.
- h. Attending national and international conferences and publishing papers

CAREERS AND FURTHER STUDIES

- a. To offer high quality of veterinary medical services to the society:
 - I. Small animal internal medicine
 - i. General internal medicine
 - ii. Cardiovascular
 - iii. Endocrinology
 - iv. Dermatology
 - v. Kidney and urinary system
 - vi. Oncology
 - II. Small animal surgery
 - i. Soft tissue surgery
 - ii. Orthopedics
 - iii. Ophthalmology
 - iv. Dentistry
 - III. Diagnostic Imaging
 - IV. Large animals and wild animals
 - V. Clinical pathology
- b. Private practice
- c. Clinical teachers
- d. Biotechnology industries
- e. Further education and training in the Europe or America

CONTACT INFORMATION

Establishment year: 2007

Director: Lih-Sen Yeh

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2 DEPARTMENT OF AGRONOMY



INTRODUCTION

The antecedent of this department was the Crop Science Lectureship and the Plant Breeding Lectureship of Taihoku (Taipei) Imperial University founded by Japan in 1928. Following Taiwan's retrocession to Chinese Sovereignty in 1945, these two Lectureships were reorganized and renamed the Department of Agronomy. This was one of the oldest departments in the College of Agriculture at that time. The Biometry Lab and the Seed Technology Lab were established in 1946 and 1957, respectively. From that time on, this Department gradually expanded, and M.S. and Ph.D. programs were formally started in 1956 and 1967, respectively.

Aiming to promote basic and applied research in crop science, the Department has recently made efforts to recruit faculty with strong backgrounds in modern agriculture and bioscience, as well. Improving research facilities is also a major concern. As to teaching and research, the faculty keep track of the developments in high technology. In the applied field, they work hard to contact, guide and solve the problems of today's agriculture.

The Goal of this department is to offer students a broad basic knowledge on which a solid career in Crop Science can be built. The undergraduate program prepares the students for a career in various fields of Crop Science as well as for further study. The graduate program, leading to the degrees of master of science (M.S.) and doctor of

philosophy (Ph.D.), aims to prepare the students for a career in teaching and/or research.

Each year the Department of Agronomy has research projects in cooperation with National Science Council, Commission of Agriculture and various agencies of the governments.

The future research will emphasize the fields of molecular breeding, biotechnology, molecular genetics, crop production and management, crop physiology, turfgrass management and weed control, germplasm preservation, statistics and bioinformatics.

FACULTY

Full-time: 21

Part-time: 6

Ph.D. Degree: 25

M.S. Degree: 2

Chair/ Professor

Yun-Ming Pong Ph.D., University of Kentucky

Full-Time

Professor

Jaw-Shu Hsieh Ph.D., NTU
 Ching-Huei Kao M.S., NTU
 Ching Liu Ph.D., University of Idaho
 In-Shong Hsia M.S., NTU
 Huu-Sheng Lur Ph.D., Cornell University
 Warren H.J. Kuo Ph.D., NTU
 Jen-Pei Liu Ph.D., University of Kentucky
 Chen-Tuo Liao Ph.D., Colorado State University

Associate Professor

Kae-Kang Hwu Ph.D., Washington state University

Hsiu-Yung Su Ph.D., Calgary University

Yuh-Chyang Charng Ph.D., Ludwig-Maximilians University, Munich, Germany

Shu-Jen Wang Ph.D., NTU

Assistant Professor

Yue-Wen Wang Ph.D., Texas A&M University

Shun-Fu Lin Ph.D., Iowa State University

Men-Chi Chang Ph.D., Cornell University

Li-Yu Liu Ph.D., Texas A&M University

Song-Bin Chang Ph.D., Wageningen University

Kai-Yi Chen Ph.D., Cornell University

Yann-Rong Lin Ph.D., Texas A&M University

Instructor

Wen-Dar Huang Ph.D., NTU

Part-Time

Su-May Yu Ph.D., University of Arkansas

Kuo-Renn Chen Ph.D., NTU

Chi-Ming Yang Ph.D., University of Nebraska

Chen-Hung Kao Ph.D., North Carolina State University

Chin-Fu Hsiaq Ph.D., University of Wisconsin

Ming-Shu Chiang Ph.D., NTU

FACILITIES

Nucleic acid-protein analyzing equipment, Scanning electron microscope, Gene-particle Gun, gas chromatography, High performance liquid chromatography, NIR, LI-6200 portable photosynthesis system, Fluorescent spectrophotometer, Densimeter, LS6000TA, Liquid scintillation counter, PCR machine, ELISA reader, AFLP,

Differential display analyzer, Electrophoresis equipment, Atomic absorption spectrophotometer, UV-VIS spectrophotometer, Refrigerated ultracentrifuge, Stereo microscope, Invert phase-contrast microscope, Phase-contrast-dark field microscope, Fluorescent microscope, Ultracut-E, etc.

COURSES

Undergraduate Programs

The department offers a four-year program for undergraduate students leading to the Bachelor's degree of Agronomy. Students must complete a minimum of 128 credit hours of course work.

Organic Chemistry & Lab.(4), Calculus(6) (either one of the above 2), Plant Physiology & Lab.(4), Introduction to Applied Mathematics(4), (either one of the above 2) General Chemistry & Lab.(4), Introduction to Crop Science(2), General Botany & Lab.(4), Soil Science & Lab.(3), Genetics & Lab.(4), Statistics(3), Experimental Design(3), Crop Breeding(3), Introduction to Crop Production(3), Plant Disease Control & Lab.(4), Crops (I)(II)(6), Crop Lab. (I) (II)(2), Thesis (I)(II)(2), #@Regression Analysis(I)(3), Plant Cell and Tissue Culture & Lab.(4), *Introduction of Seed Science & Technology(3), *Weed Control & Lab.(3), *Plant Germplasm Resources(2), *Introduction to Agricultural Economics(2), *Agricultural Marketing(3), %#Crop Physiology(3), %Biology Chemistry(4), %Crop Growth & Development(3), %Cell Biology(4), %#Molecular Biology(4), % Molecular Genetics(4), %Crop Genetics Engineering(3), %Management of Biotechnologically Modified Plants(2),%Cell biology(3), #Methodology of Plant Breeding(3), #Quantitative Genetics(3), #@Techniques of Factorial Experimentation(3), @Method of Advanced Biometrics(I)(3),

@Method of Advanced Biometrics(II)(3), @Statistical Computations and Analysis(3), @Introduction to Statistical Genetics(3), @Statistical Methods in Biological Assay(3), @Statistical Analysis for Genomics Data(3), @Introduction to Bioinformatics(3). A minimum of 12 credit hours is required from the courses marked "*" or "%" or "#" or "@"

Master's Programs

The Graduate Institute comprises two divisions of Crop Science and Biometry. Each offers a 1 to 4 year program toward the Masters degree of Agronomy. Candidates for a Master's degree must complete a minimum of 24 credit hours and Master's thesis.

The required courses and credits are listed as follows:

Crop Science division

*@Seminar (2), *Advanced Crop Science(3), *Advanced Crop Physiology(3), *Crop Physiology Lab.(2), *Research Method in Crop Science(2), @Advanced Crop Breeding(3), @Research method in Crop Breeding(2)

"*" indicates courses for crop science team

"@" indicates courses for genetic breeding team

Biometry division

Seminar(2)

Doctoral Programs

The Graduate Institute comprises two divisions of Crop Science and Biometry. Each division offers a 2 to 7 year program toward the Doctor's degree of Agronomy. Candidates for Doctor's degree must have completed a minimum of 18 credit hours and dissertation.

The required course and credits is: Seminar(2)

ACADEMIC ACTIVITIES

1. Seminars: The department of Agronomy holds the seminars once a week, each of which lasts two hours. The faculty and graduate students are invited to present papers on issues in Crop Science and recent laboratory experiment reports.
2. Co-sponsor the annual meetings of Chinese Society of Agronomy and the Weed Science Society of the Republic of China.
3. To edit a quarterly publication, *Corp, Environment & Bioinformatics*.
4. To edit a semiannually publication, *Weed Science Bulletin*.
5. Invite domestic and overseas scholars to give occasional talks and seminars.
6. Occasional short-term training programs to introduce the latest theory and technique application.
7. Each year the Department of Agronomy has research projects in cooperation with National Science Council, Commission of Agriculture and various agencies of the Governments.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Production management: cultivation technology, weed control, seed and seeding production.
- (2) Biological technology: crop response to environmental stress, gene translation, cell raise, crop anatomy, immunity, histochemistry localization, management of biotechnologically modified plant, crop functional genomics.
- (3) Molecular Breeding: crops heredity characteristic, gene analysis, breeding method.
- (4) Biological Statistics and Bioinformatics: The statistical method applies to the crops

correlation experimental designs and data analysis, explanation and deduction;
Application of Bioinformatics.

2. Further studies

Graduates can do further study in any of the following fields: biology information, statistics, molecular biology, agronomy, and life science.

3. Career options

Graduates may get jobs in educational institutions, biology and biotech industries, information business, research institutions, agricultural laboratories, overseas units, agricultural technique group, and so on.

CONTACT INFORMATION

Established in: 1945

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INTRODUCTION

The Department of Bioenvironmental Systems Engineering (DBSE) originated from the Agricultural Engineering Chairs of Taihoku Imperial University, and thus is one of the oldest departments of the university. It was named the Agricultural Engineering Department during the period from 1945 to 2001. In response to the needs of the changing society, the department was renamed the Department of Bioenvironmental Systems Engineering in 2001. Currently, the department has 21 faculty members (13 full professors, 5 associate professors and 3 assistant professors) and offers engineering degrees for bachelor, master and Ph.D. programs. There are approximately 170 undergraduate and

140 graduate students enrolled in DBSE. The department also houses the following laboratories: Surveying Lab., Environmental Chemistry Lab., Soil mechanics and Erosion Lab., Fluid mechanics Lab., Environmental Biology Lab., Irrigation and Drainage Lab., and computer lab. The department focuses teaching and research on three interrelated categories: soil and water resources engineering, bioenvironmental engineering, and environmental informatics and systems engineering. Curriculum subjects cover a very broad spectrum. In particular, the department initiated an inter-college ecological engineering curriculum program, aimed at integrating engineering and ecological practices. The faculty researches actively and productively. Research funding comes from the National

Science Council, the Council of Agriculture, Water Resources Agency, Environmental Protection Administration, irrigation associations and many consulting companies. The department also maintains long-term and close collaborations with the Hydrotech Research Institute of NTU and the Agricultural Engineering Research Center.

FACULTY

Full-time: 21

Part-time: 11

Ph.D. Degree: 21

M.S. Degree: 0

Bachelor's Degree: 0

Chair/ Professor

Hung-Pin Huang Ph.D., Univ. of Iowa

Full-Time

Professor

Tsun-Kuo Chang Ph.D., Purdue Univ.
 Ming-Hsi Hsu Ph.D., NTU
 Jen-Chen Fan Ph.D., Purdue Univ.
 Fi-John Chang Ph.D., Purdue Univ.
 Sii-an-Tang Han Ph.D., Universitat Karlsruhe
 Chen-Wuing Liu Ph.D., UC Berkeley
 Yih-Chi Tan Ph.D., Cornell Univ.
 Wen-Lian Chang Ph.D., UC Davis
 Ming-Daw Su Ph.D., Utah State Univ.
 Chung-Min Liao Ph.D., Iowa State Univ.
 Ke-Sheng Cheng Ph.D., Univ. of Florida
 Fu-Chun Wu Ph.D., UC Berkeley
 Ching-Pin Tung Ph.D., Cornell Univ.
 Tsang-Jung Chang Ph.D., Univ. of Illinois at U.C.
 Yu-Pin Lin Ph.D., Univ. of Illinois at U.C.

Associate Professor

Wen-Shan Hou Ph.D., Univ. of Tokyo

Hsiu-Chuan Liao Ph.D., Duke Univ.

Assistant Professor

Cheng-I Hsieh Ph.D., Duke Univ.

Hwa-Ling Yu Ph.D., Univ. of North Carolina at Chapel Hill

Sau-Wai Yam Ph.D., Univ. of HongKong

Part-Time

Professor

Yii-Soong Tsao M.S., Kansas State Univ.

Victor J. Yih B.S., National Northwestern Agricultural College

Charles C.C. Shih Ph.D., Univ. of Tokyo

Yuh-Piau Hsu B.S., NTU

Ming-Tang Wu M.S., NTU

Chun-E Kan Ph.D., Univ. of Tokyo

Chia-Ming Liu M.S., Cornell Univ.

Ru-Yih Wang Ph.D., Kyoto Univ.

Yuan-Chiuan Lee Ph.D. Chinese Culture Univ.

Associate Professor

Kuang-Cheng Huang

Candidate of Dr., T.U.

Braunschweig

Jihn-Sung Lai Ph.D., UC Berkeley

FACILITIES

The department occupies teaching and research space in several neighboring buildings. Building No. 5 houses the department office, faculty offices, classrooms, conference and colloquium rooms, Surveying Lab. and a computer lab. A two-story experimental building houses Environmental chemistry Lab., Soil mechanics and Erosion Lab., Irrigation and Drainage Lab., and Environmental Biology Lab. All laboratories are equipped with state-of-the-art facilities. The Hydrotech Research Institute also has much advanced equipment to support fluid mechanics experiments. The department also occupies approximately four-stories of space in two other buildings for faculty offices, laboratories, and study rooms for graduate students.

COURSES

Undergraduate Programs

The normal period of undergraduate study is four years and the minimum credit hours required for graduation is 134. Graduates are accredited the Bachelor of Engineering degree.

Calculus (I)(II)(8), General physics (including laboratory)(8), General Biology (including laboratory)(4), General Chemistry(c) (including laboratory)(4), Engineering Mathematics (I)(II)(6), Bioenvironmental Systems Engineering(2), Engineering Mechanics(4), Fluid Mechanics (including laboratory)(4), Environmental Chemistry (including laboratory)(4), Hydrology(3), Statistics(3), Water Resources Engineering(3), Soil Mechanics (including laboratory)(4), Computer Application and Programming(2), General Ecology(3), Environmental Engineering (3), Environmental Systems Analysis(3), Ecological Engineering(3),

Spatial information(3)

Master Programs

The duration of the master program is from two to four years with a minimum requirement of 30 credit hours (including six hours for the thesis) for graduation. After completing the requirements, the graduates are accredited the Master of Engineering degree.

Ph.D. Programs

The doctoral program requires a minimum of 36 credit hours including 12 hours for Ph.D. dissertation. Doctoral students must complete all degree requirements within seven years.

ACADEMIC ACTIVITIES

Various lectures and symposia are held each year at the department. Domestic and foreign scholars and specialists are invited on an occasional basis.

CAREERS AND FURTHER STUDIES

1. Professional abilities

Environmental Engineering

- (1) Bioenvironmental engineer
- (2) Architectural design and environmental planning

- (3) Bioenvironmental toxicology
- (4) Bioenvironmental mechanics
- (5) Environmental microclimate

Land and Water Resources Engineering

- (1) Ecological engineering
- (2) Soil and water conservation
- (3) Groundwater
- (4) Irrigation and drainage
- (5) Watershed management Environmental Informatics and Systems Engineering
- (1) Geographic information systems
- (2) Remote sensing

- (3) System analysis and sustainable development
- (4) Artificial neural networks and expert systems
- (5) Water resources planning and management

2. Further studies

- (1) Bioenvironmental systems engineering, biological engineering, medical engineering
- (2) Environmental engineering, water resources engineering, civil engineering
- (3) Information engineering, information management

3. Career options

- (1) Civil servants in Environmental Protection Administration, Water Resources Agency, Soil and Water Conservation Bureau, Council of Agriculture, Irrigation Association, etc.
- (2) Academic and research institutes including universities/colleges and Agricultural Engineering Research Center
- (3) Consulting industries related to environmental engineering, water resources engineering, civil engineering, etc.

CONTACT INFORMATION

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INTRODUCTION

This department was one of the earliest instituted disciplines when the University was founded by the Japanese government as the seventh Imperial university back in 1928. The department established one of the earliest graduate institutes of the University and started implementing a Master's program in 1947. The undergraduate program was divided into two divisions, namely, Agricultural Product Processing, and Soils and Fertilizer in 1961. Ph.D. programs were started in 1968.

The Department of Agricultural Chemistry of the College of Bioresources and Agriculture is a unit of the graduate school and offers a flexible program of study for the M.S. and Ph.D. in various disciplines: soil chemistry, soil survey and classification, molecular microbiology, environmental

microbiology, industrial microbiology, plant nutrition, transgenic technology, pesticide chemistry, food chemistry, plant biochemistry, and others.

The curriculum usually begins with emphasis on laboratory research experience. The doctoral program begins with one year of courses fitted to each student's particular needs. In the second and subsequent years, essentially full time research is required. The doctoral program particularly emphasizes competent independent research. Graduate students need to enroll in one seminar course per semester in their first and second years. Creativity is provided by the participation with the faculty in discussion groups. At least one paper published in international scientific journal is required for graduates seeking the degree of Ph.D.

FACULTY

Full-time: 18

Part-time: 5

Ph.D. Degree: 18

Chair/ Professor

Dar-Yuan Lee Ph.D., Univ. of California

Full-time

Professor

Yei-Shung Wang Ph.D., NTU
 Min-Hsiung Lee Ph.D., Rutgers Univ.
 Zueng-Sang Chen Ph.D., NTU
 Ming-Kuang Wang Ph.D., Rutgers Univ.
 Ren-Shih Chung Ph.D., NTU
 Chao-Ming Lai Ph.D., NTU
 Chia-Yin Lee Ph.D., Univ. of Kentucky
 Jui-Hung Yen Ph.D., NTU
 Hsi-Mei Lai Ph.D., Univ. of Illinois
 Lean-Teik Ng Ph.D., Univ. of Paris 6

Associate Professor

Whi-Fin Wu Ph.D., Univ. of Iowa
 Nan-Wei Su Ph.D., NTU

Assistant Professor

Chien-Teh Chen Ph.D., Cornell Univ.
 Chwan-Yang Hong Ph.D., NTU
 Nai-Chun Lin Ph.D., Cornell Univ.
 Chun-Hua Hsu Ph.D., NTU
 Pei-Jen Chen Ph.D., Duke Univ.

FACILITIES

The major buildings include: Two Buildings for Agricultural Chemistry, soil environmental chemistry laboratory, and soil survey and classification laboratory.

Major teaching and research facilities include various models of UV-VIS spectrophotometers, preparative ultracentrifuges, fraction collectors, fermentors, freeze driers, gas chromatographs, high-pressure liquid chromatographs, CNS analyzers, X-ray refractometer, flame photometers and atomic absorption spectrophotometer, conductivity meters, supercritical fluid extractor, dynamic light scattering spectrophotometer, plant growth chambers, amino acid analyzer, Laminar flows, automatic image analyzer, capillary electrophoretic apparatus, ELISA photometric system, HPLC Quadrupole-time of flight tandem mass spectrometer and inductively coupled plasma atomic emission spectrophotometer, etc.

COURSES

Undergraduate Programs

After students complete a minimum of 128 credits of course work, the degree of B.S. in Agricultural is conferred.

Calculus(6), General Physics and Lab.(8), General Chemistry and Lab.(8), General Biology and Lab.(6), Analytical Chemistry and Lab.(6), Organic Chemistry and Lab.(8), Physical Chemistry(6), General Microbiology and Lab.(4), Biochemistry and Lab.(5), Seminar(2), Soil Science and Lab.(3), Plant Nutrition(2), Soil Chemistry(2), Environmental Chemistry(2), Food chemistry I (2), Environment Microbiology(2), Environment Soil Physics(2), Natural Products Chemistry(2), Plant Physiology(2), Plant Tissue Culture(2), Microbial Physiology(2), Molecular Biology(2), Bioinformatics(2), Chemical Analysis of Biomaterials(2), Lab of Chemical Analysis of Biomaterials(2), Food chemistry II(2).

Graduate Programs

In the Master program, students must complete a minimum of 24 credits of course work and a thesis (which is approved before a 3 to 5 member thesis committee in a 2 to 4 year period) to be awarded the degree of M.S. in Agriculture.

In the Doctoral program, students must complete a minimum of 18 credits of course work and a thesis (which is approved before a 5 to 9 member thesis committee in a 2 to 7 year period), to receive the degree of Ph. D. in Agriculture.

ACADEMIC ACTIVITIES

This year, the Department of Agricultural Chemistry received a total of 39 research grants, totaling NT\$46,895,000, from the National Science Council, the Council of Agriculture, Department of Health and various institutes. Prominent scholars and professionals are frequently invited to give special lectures for the staff and graduate students.

CAREERS AND FURTHER STUDIES

Today's graduates in the Department of Agricultural Chemistry are qualified for a variety of challenging and rewarding careers. With graduate training, a host of opportunities with universities, government agencies and private enterprise are open to be professors, scientists and managers. These include work with biotechnology companies, pesticide and fertilizer research, pharmacy industry, environment monitoring specialist, bioresource management and university-level teaching and research. Many of our undergraduates enter our graduate school to refine their skills, some even go on to seek higher

degrees overseas. Each year students pursue MS or Ph.D. degrees in other fields, such as chemistry, biology, microbiology, biotechnology, bioinformatics, biochemistry, chemical engineering, environmental engineering, environmental science, environment protection, biomedicine and food science.

CONTACT INFORMATION

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INTRODUCTION

The Department of Plant Pathology and Microbiology at National Taiwan University was founded to confront the need for experts in plant pathology and microbiology. Studies on plant pathology have long been the focus of research conducted in the Department. The issue of plant quarantine has become increasingly important, especially since Taiwan acceded to the World Trade Organization in 2002. Students and research personnel in the department are well qualified for this responsibility. To expand the research fields of the Department and also reveal the solid training of scientific personnel in microbiology, microbiology field has been included in the Department.

Although the Department of Plant Pathology and Microbiology was founded on August 1, 2003, the study of Plant Pathology at NTU has a long and distinguished history. The Department of Plant Pathology and Entomology was established in 1949, making it one of the first education and research units at the University. It was originally divided into the Division of Plant Pathology and the Division of Entomology, but these two divisions became independent departments in 1998. The Department of Plant Pathology further became the Department of Plant Pathology and Microbiology to provide more thorough training in basic and applied microbiological science and broaden the careers for students.

The goals of teaching are to nurture students with a solid background in plant pathology and microbiology, to establish research personnel for the country, and to train experts specialized in plant pathology and microbiology. To graduate from the Department of Plant Pathology and Microbiology, students must take courses in the fields of plant pathology microbiology, cell biology and molecular biology and also be trained in various techniques in biotechnology. Courses provided by the Department include basic and applied subjects in microbiology (microbiology, mycology, bacteriology, virology, nematology, applied microbiology, etc.), molecular genetics (molecular biology, molecular virology, genetics, etc.) and plant pathology (plant pathology, methods in plant pathology, plant etiology, plant disease and diagnosis, plant disease control, etc.). (Graduates have excelled in various fields and made valuable contributions to society.) Following this academic tradition, students who graduate from the Department of Plant Pathology and Microbiology will surely contribute their learning and expertise to society.

The main research foci of the Department of Plant Pathology and Microbiology are: to study the biological nature of various plant pathogenic and useful microorganisms, including fungi, bacteria, nematodes, viruses and phytoplasmas; to understand the importance of noninfectious plant diseases; to become familiar with techniques for diagnosing plant diseases and methods for managing plant disease; to dissect interactions between pathogens and their plant hosts; to explore the bioresources of microorganisms and their metabolites for practical application.

Looking into the future, the department has three development goals. Firstly, it aims to increase the facilities and resources for research. Finally, it works to establish a public system of plant protection personnel and plant doctors for the coun-

try. Secondly it strengthens the basic research and applied technology in plant pathology and microbiology and health inspection and graduate and develop a strong and close relationship with and biotechnology industry.

FACULTY

Full-time: 12

Part-time: 8

Ph.D. Degree: 20

Chair/ Professor

Chao-Ying Chen Ph.D., Univ. of California,
Davis, U.S.A.

Full-time

Professor

Shean-Shong Tzean

Ph.D., McGill Univ., Canada.

Chan-Pin Lin Ph.D., Rutgers Univ., U.S.A.

En-Jang Sun Ph.D., NTU

Ruey-Fen Liou Ph.D., Indiana Univ., U.S.A.

Chao-Ying Chen Ph.D., Univ. of California,
Davis, U.S.A.

Ya-Chun Chang Ph.D., Univ. of California,
Berkeley, U.S.A.

Associate Professor

Bie-Yun Tsai Ph.D., Univ. of California,
Riverside, U.S.A.

Wei-Chiang Shen Ph.D., Texas A&M Univ.,
U.S.A.

Ting-Hsuan Hung Ph.D., NTU

Assistant Professor

Hsin-Hung Yeh Ph.D., Univ. of California,
Davis, U.S.A.

Tang-Long Shen Ph.D. Cornell Univ., U.S.A.

Part-time

Professor

Hong-Ji Su	Ph.D., Michigan State Univ., U.S.A.
Mei-En Liu	Ph.D., NTU
Wen-Shi Wu	Ph.D., Cornell Univ., U.S.A.
Tsung-Che Tseng	Ph.D., Massachusetts Univ., U.S.A.
Yu-Chan Chao	Ph.D., Univ. Arkansas, U.S.A.
Tun-Tschu Chang	Ph.D., Hawaii University, U.S.A.

Associate Professor

Yuan-Hsun Hsu	Ph.D., Osaka Prefecture Univ., Japan
Ying Yeh	Ph.D., Texas A&M Univ., U.S.A.

Assistant Professor

Erh-Min Lai	Ph.D., Univ. of California, Davis, U.S.A.
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FACILITIES

The department has classrooms, laboratories and offices located on the eastern site of the second floor and the whole third floor of Building #1 as well as on the third and forth floors of Sino-African Building. In addition to classrooms, laboratory exercise rooms, discussion rooms, conference rooms, greenhouse, herbarium and instrument rooms, the department consists of laboratories of Plant Bacteriology, Fungal Physiology, Plant Viral Disease, Applied Mycology, Cell Biology, Plant Nematology, Forest Pathology and Mycology, Plant Virology, Pollution and Plant Disease, Molecular plant Pathology, Molecular Fungal Biology and Molecular Plant Virology.

The department is well equipped for research, including temperature control equipment, sterilizing manipulation equipment, individual ventilation cage system incubator, research microscopes, phase contrast-dark field microscope, fluorescence microscope, scanning electron microscope, transmission electron microscope, microscope camera system, microtome, ultramicrotome, nucleic acid-protein analyzing equipment, ELISA reader, fluorescent spectrophotometer, PCR-thermal cycler, electroporator, pulsed field gel electrophoresis apparatus, high-speed centrifuge, ultracentrifuge, speed vacuum dryer, HPLC, FPLC, microbial identification system (Biolog, MIDI)

Over 2000 books and 400 journals of the Department of Plant Pathology and Microbiology have been moved to the main library and are valuable references for students and faculty.

COURSES

Undergraduate Programs

The department offers a four-year program leading to the degree of Bachelor of Science. The students must complete a minimum of 128 credits.

Required Course

Special, Microbiology and Lab.(4), Mycology and Lab(3), Plant Virology and Lab(3), phytopathological Nematology(3), Plant Physiology and Lab.(4), Methods in Phytopathology and Lab.(3), Biochemistry(4), Biochemistry Lab.(2), Plant Pathology and Lab.(4), Plant Disease Control(3), Genetics(3), Statistics(3), Molecular Biology(3), Applied Microbiology(3)

Compulsory-optional Special Course

Plant Etiology(3), Noninfectious Plant Diseases(2), Plant Diseases and Diagnosis(3), Introduction to Agriculture(2), Modern Agriculture Experience Agricultural Entomology and Lab.(3), Methods in Microbiology Microbial Physiology(2), Microbiology Genetics(2), Advances in Microbial (3), Ecology and Application of Mushroom(2), Direct Research(4), Paper Discussion(2)

Graduate Programs

The graduate level of the Department of Plant Pathology and Microbiology offers a 1-4 year program leading to the degree of Master of Science. The minimum requirement of credits is 24, plus 6 credits of thesis.

The Doctoral level of the Department of Plant Pathology and Microbiology offers a 2-7 year program leading to the degree of Doctor of Philosophy in Science. The minimum requirement of credits is 18, plus 12 credits of thesis.

ACADEMIC ACTIVITIES

1. Hold open seminars related to Plant Pathology and Microbiology.
2. Sponsor the annual meetings and symposium of Phytopathological Society, Plant Protection Society and Mycological Society.
3. Hold international symposium related to phytopathology and microbiology.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Techniques for culture and manipulation of microbes
- (2) Techniques for biological and genetic engineering

- (3) Techniques for plant disease diagnosis and control
- (4) Techniques for plant health inspection and quarantine
- (5) Techniques for development and applications of chemical and bio pesticides

2. Further studies

- (1) Plant pathology
- (2) Microbiology
- (3) Botany
- (4) Biotechnology
- (5) Food science
- (6) Biological chemistry
- (7) Cellular and molecular biology
- (8) Research related to agriculture, life science and medicine.

3. Career options

- (1) Positions in research institute of biochemistry, molecular biology, or medicine
- (2) Positions in institutes of biodiversity, conservation, or environmental protection
- (3) Teaching in all levels of school
- (4) Positions in companies of agricultural pesticides, biotechniques, foods, or chemical engineering
- (5) Positions in Bureau of Animal and Plant Health Inspection and Quarantine, Agricultural Research and Extension Station, Agro technology company etc.

CONTACT INFORMATION

Established in: 2003

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INTRODUCTION

The Japanese Government founded National Taiwan University in 1928 as "Taihaku Imperial University." Upon the restoration of Taiwan to the Republic of China after the Second World War, the ROC government took over Taihaku Imperial University and renamed it "National Taiwan University" on November 15, 1945. In 1964, the master degree was initiated and the department was subdivided into Silviculture, Forest Management, Forest Industry and Forest Botany in 1967. In 1974, the Ph.D. program was added. The subdivision of Forest Botany was renamed Resource Conservation in 1987 and subdivision of Forest Management was renamed Resource Management in 1991. In response to

the global change of forestry education and the trend of environmental conservation, the department changed the name to "School of Forestry and Resource Conservation" in 2003 and divided the program into four divisions: Forest Biology, Forest Environment, Biology Material, and Forest Conservation and Management.

FACULTY

Full-time: 23

Part-time: 3

Ph.D. Degree: 25

M.S. Degree: 1

Chair/ Professor

Shing-Rong Kuo Ph.D., NTU

Full-time

Professor

Hsin-Hsiung Chen	Ph.D., Tokyo Univ., Japan
Song-Yung Wang	Ph.D., Tokyo Univ., Japan
Hann-Chung Lo	Ph.D., NTU
Shang-Tzen Chang	Ph.D., Virginia Polytechnic Institute & State University, U.S.A.
Ya-Nan Wang	Ph.D., NTU
Shao-Shan Ying	Master, NTU
Chinlong Zheng	Ph.D., Univ. of Massachusetts, U.S.A.
Ming-Chieh Chen	Ph.D., NTU, R.O.C.
Biing-T. Guan	Ph.D., Univ. of Illinois (Urbana-Champaign), U.S.A.
Hsiao-Wei Yuan	Ph.D., Cornell Univ., U.S.A.

Associate Professor

Lih-Jih Wang	Ph.D., Univ. of Washington, U.S.A.
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Assistant Professor

Chyi-Rong Chiou	Ph.D., Colorado State Univ.
Ming-Jer Tsai	Ph.D., Freiburg Univ., Germany
Chun-Han Ko	Ph.D., U.C.L.A., U.S.A.
Dau-Jye Lu	Ph.D., Univ. of Wales, U.K.
Tzung-Su Ding	Ph.D., Univ. of California, Davis, U.S.A.
Erh-Yang Lu	Ph.D., Univ. of Minnesota
Fang-Hua Chu	Ph.D., National Chung Hsing University
Hui-Ting Chang	Ph.D., NTU
Far-Ching Lin	Ph.D., Purdue Univ., U.S.A.
Chih-Hsin Cheng	Cornell University, U.S.A.
Kuo-Fang Chung	Washington University in St. Louis

Part-time

Professor

Hong-Jye Su	Ph.D., NTU
Chi-Chuan Cheng	Ph.D., Pennsylvania State University, U.S.A.

Associate Professor

Jung-Tai Chao	Ph.D., University of Georgia, U.S.A.
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FACILITIES

Buildings

One 4-story forestry building, one 2-story forest aerial-photo mensuration building, one 4-story forest products building and one greenhouse.

Research offices

Wood physics, wood processing, wooden construction, wood chemistry, pulp and paper, erosion control, forest hydrology, forest tree breeding, tree physiology, forest soil science, forest tree techniques, forest management, forest economics, remote sensing, surveying forest harvesting, marketing of forest products, forest mensuration, tree taxonomy, plant taxonomy, forest ecology, tree anatomy resource inventory and wildlife ecology.

Equipment

Gas chromatography, computers, wood-working machinery, pulping and paper making equipment, surveying equipment, chemical balance, spectroscopy, microscope, atomic absorption spectrophotometry microtome knife sharpener, precision radiation thermometer, electric resistivity instrument, Zesis Planicrt E3, jena Zeiss plotter. Image processor, high frequency generator digital con/plate viscometer, compact low temperature thermostats Densimeter, heatflow

meter, Overall thermal resistance test, Machine stress wave timer system, ultrasonic testing machine.

Books

The numbers of forestry related books and journals collected in our main library are 40847 and 42, respectively.

COURSES

Undergraduate Programs

The undergraduate program requires four years of study and a minimum of 128 semester credits. Students must complete residence and course requirements to receive a Bachelor's degree in Agriculture.

1. The required courses of the Department
Calculus, Introduction of Forestry, Silviculture and Practice, Dendrology and Practice, Forest Products and Practice, Forest Management and Practice, Statistics, Forest Camp Practice, Forest Policy and Administration, Forest Ecology and Practice, Seminar.
2. The required courses of the Divisions
(1)The required courses of Forest Biology Division:
a.The required courses:
General Chemistry, General Chemistry Lab., General Zoology, General Botany, General Zoology Lab., General Botany Lab.
- b. The selective courses: (24 credits required)
Soil Science, Soil Science Lab., Forest Soil and Lab., Forest Genetics and Lab., Plant Taxonomy, Tree Physiology, Tree Physiology and Laboratory, Plant Physiology, Plant Physiology Lab., Microbiology, Microbiology Lab,

Morphology And Anatomy of Trees and Lab., Forest Protection, Regional Silviculture, Forest Nutrition, Anatomy of Trees and Lab., Introductory to Forest Biotechnology, Physiological Ecology of Forest Tree & Lab., Tissue Culture of Woody Plants Economic Trees, Nearly Extirpated Animals and Plants and their Conservation, Silvology, Ecology, Ecology Lab., Environmental Planting and Nursing, Public Benefits of Forest, Bird Ecology and Conservation, Functions of Forest, Ecology and Management of Forest Insects, Tree Mycorrhizae, Wildlife Zoology, Plant Geography, Dendrology and practice (1), Dendrology and practice (2), Surveying and practice (I), Introduction of forest biology, Introduction biodiversity, Monitoring forest environment, River/Stream ecology and Conservation.

- (2) The required courses of Forest Environment Division:

- a.The required courses:

General Physics, General Physics Lab., General Chemistry, General Chemistry Lab., Forest Soil and Lab., Forest Climate & Practice, Forest Environment Conservation, Forest Hydrology, Soil and Water Conservation.

- b.The selective courses: (9 credits required)

Earth and the Environment, Introduction to Geology, Geomorphology and Lab., Forest Recreation, Environmental Ecology and Lab., Laws and Policies of Natural Environment, Introduction to Environmental Engineering, Forest Protection, Forest Photogrammetry, Forest Engineering and Practice, Watershed Management, Tree Ring and Environmental Changes, Remote Sensing, Environmental and Resource Economics,

Forest Geographic Information Systems, Monitoring Forest Environment, Environmental Planting and Nursing, Public Benefit of Forests, Functions of Forest, Plant Geography, Resource Inventory and Evaluation, Forest Environment Management and Planning, Climate Change and Environmental Ecology, Forest Ecosystem Management, Dendrology and practice (1), Dendrology and practice (2), Surveying and practice (I), Surveying and practice (II), Forest Resource Economics, River/Stream ecology and Conservation.

(3) The required courses of Biology Material Division:

a. The required courses:

General Physics, General Physics Lab., General Chemistry, General Chemistry Lab., Wood Chemistry and Lab., Wood Physics and Lab., Wood Anatomy and Lab., Wood Adhesives and Practice, Design of Wooden Structures(I), Wood Finishing and Practice.

b. The elective courses: (9 credits required)

Analytical Chemistry, Analytical Chemistry Lab., Organic Chemistry, Organic Chemistry Lab., Wood Identification and Grading, Wooden Furniture, Wood Seasoning, Economic Trees, Wood Cutting, Wood Extractives, Polymer Chemistry, Instrumentation, Pulp Manufacturing and Lab., Paper Making and Lab., Design of Wooden Structures (II), Environmental Engineering Application of Forest Product Industry, Thesis (b.a.), Introduction to Degradation of Biomaterials.

(4) The required courses of Forest Conservation and Management:

a. The required courses:

General Zoology, General Botany, General Zoology Lab, General Botany Lab., Economics, Conservation Biology.

b. The elective courses: (15 credits required)

Forest Climate & Practice, Forest Environment Conservation, Forest Hydrology, Forest Recreation, Forest Photogrammetry, Watershed Management, Organic Resources in Forest, Tree Ring and Environmental Changes, Remote Sensing, Environmental and Resource Economics, Forest Geographic Information Systems, Environmental Planting and Nursing, Public Benefit of Forests, Functions of Forest, Plant Geography, Forest Soil and Lab., Forest Genetics and Lab., Plant Taxonomy, Tree Physiology, Tree Physiology and Laboratory, Forest Protection, Forest Nutrition, Anatomy of Trees and Lab., Wildlife Zoology, Plant Geography, Computer Science Applied In Forestry, Forest Bionomics, Anatomy of Trees and Lab., Forest Resource Measurements and Inventory, Forest Recreation Management, Forest Environment Conservation, Forest Hydrology, Organic Resources In Forest, Forest Resource Economy, Bird Ecology and Conservation, Decision-Making in Forest Administration, Resource Inventory and Evaluation, River/Stream Ecology and Conservation, Dendrology and practice (1), Dendrology and practice (2), Introduction of forest biology, Introduction biodiversity, Monitoring for-

est environment, Social change and conservation, Wildlife management, Community-based conservation-discourse and methods, Management of natural protected areas.

The Master of Science Programs

The master of science degree is an academic degree granted by the Graduate Institute of Forestry and Resource Conservation. Full-time students must be in residence for one to four years and must complete at least 24 credits of appropriate courses and 6 thesis credits, and must submit an acceptable thesis based on original research. A student must fulfill all these requirements and pass thesis defense to receive a Master of Science in Agriculture. The required courses for all divisions are listed as followed: Seminar (2 credits), Special Topic Research (2 credits), Thesis (6 credits)

The Doctor of Philosophy Programs

The Graduate Institute of Forestry and Resource Conservation programs leading to a Doctor of Philosophy degree require two to seven years of study beyond the master's degree, completion of 30 semester credits, (4 special seminar credits and 12 thesis credits included), and defense of an acceptable dissertation based on original research. Graduates are accorded a Doctor of Philosophy in Agriculture.

ACADEMIC ACTIVITIES

1. Seminars and symposia are conducted on an occasional basis. Scholars and other specialists from abroad may be invited to attend such meetings to exchange ideas and information on the latest developments in forestry research and technology.
2. The Department of Forestry publishes the Journal of the NTU Experimental Forest, and other cooperative research reports.

3. Each year, School of Forestry receives a total of about 20 research grants from the National Science Council, the Council of Agriculture, the Forestry Bureau, the Tourism Bureau and other governmental agencies.

VISION

About 58 percent of the land of Taiwan is covered with forests, which are extremely valuable natural resources of the country. The forests have produced a wide variety of timber products and also conserved and improved the quality of the physical environment by stabilizing stream flow, reducing soil erosion, ameliorating climate, maintaining water resource, accommodating wildlife and providing favorable sites for outdoor recreation.

In recognition of these advantages, there has been a demand for professional foresters to maintain, produce, protect, improve, manage, harvest, and utilize the forest resources for the benefit of society. A professional forester requires technical training to have the knowledge and skills needed for performing forestry and forest related activities. This department was therefore established to provide education and training in forestry and related sciences.

CONTACT INFORMATION

Established in: 1947

Chair: Hann-Chung Lo

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Fax: +886-2-23654520

Website: <http://www.fo.ntu.edu.tw>

E-mail: forestry@ntu.edu.tw





INTRODUCTION

This department originated in the College of Science and Agriculture, Taihoku (Taipei) Imperial University. In 1943, the College of Science and Agriculture was separated into two colleges, the College of Science and College of Agriculture. At that time, Animal Husbandry and Tropical Animal Husbandry was one of the 19 Lectureships in the College of Agriculture. In 1945, the Department of Animal Husbandry and Veterinary Medicine was placed in the College of Agriculture, National Taiwan University. In the fall of 1959, this Department was divided into Department of Animal Husbandry and Department of Veterinary Medicine. The Graduate Institute of Animal Husbandry started

in 1969 with a Master program. The Ph.D. Programs began in 1981. In 1992, the Department of Animal Husbandry was renamed Department of Animal Science. In 2005, the Department of Animal Science was renamed Department of Animal Science and Technology.

The department is located in a fully integrated research park with teaching, research, practical training and leisure animal farm. Our teaching and research areas include two groups of animal science and production technology. The animal science group focuses on animal genetics, nutrition, physiology, molecular biology, and transgenic technology with research areas of animal functional genomics, regeneration biology and animal physiological regulation. The Production technology group focuses on animal breeding,

feeding, farm management and milk/meat/egg processing with research areas of animal products and health, establishment of animal nutrition standards and animal production management. These two groups put teaching, research and practical training together to develop our students' theoretical competence as well as practical ability.

To keep pace with the teaching and research of the University, as well as with the future development of the College of Bio-resources and Agriculture, the teaching and research of the Department of Animal Science and Technology have expanded from the animal production related areas to animal biotechnology. We propose to establish a transgenic animal research center. To develop the teaching and research of companion and laboratory animals, we plan to build new laboratory animal houses. The establishment of these medium- and large-sized animal research facilities for pigs, cattle, goats, dogs, chickens, and ducks will involve collaboration with the College of Medicine and the Department of Veterinary Science. Our facilities and faculty support Taipei City Zoo on wild animal feeding and management research and help the Animal Husbandry Division of the university Agriculture Research Farm to plan research projects. The overall goal is to establish a molecular farm. The areas of research and teaching evolved in the Department of Animal Science and Technology are not limited to the field of traditional animal husbandry, but also include the field of molecular biology. Therefore, biotechnology-trained graduates from this department will contribute to the industry.

FACULTY

Full-Time: 19

Part-Time: 4

Ph.D. Degree: 23

M.S. Degree: 0

Chair/ Professor

Leang-Shin Wu Ph.D., NTU

Full-Time

Professor

Bao-Ji Chen Ph.D., Cornell University

Ning-Sun Yang Ph.D., Michigan State University

Hou-Pin Su Ph.D., NTU

Jih-Tay Hsu Ph.D., University of Illinois

Ming-Ju Chen Ph.D., Ohio State University

Shih-Torng Ding Ph.D., Ohio State University

Associate Professor

Chu-Ying Chyr Lou Ph.D., Iowa State University

Mei-Fong Lin Ph.D., NTU

Yan-Nian Jiang Ph.D., NTU

De-Shien Jong Ph.D., University of Cincinnati

Yo-Tein Ju Ph.D., National Yang-Ming University

Assistant Professor

Hen-Wei Wei Ph.D., University of Aberdeen

Shinn-Chih Wu Ph.D., NTU

En-Chung Lin Ph.D., Iowa State University

Pei-Hwa Wang Ph.D., NTU

Chiu-Hsien Chiu Ph.D., NTU

Je-Ruei Liu Ph.D., NTU

Ching-Yi Chen Ph.D., Texas A&M University

Part-time

Professor

Hui-Shen Lin Ph.D., Iowa State University

Simon S.P. Chi Ph.D., University of
Mississippi

Associate Professor

Keh-Sheng Chang Ph.D., NTU

Assistant Professor

Chung-Ping Ho Ph.D., Louisiana State
University

FACILITIES

The Department consists of nine Laboratories of Animal Breeding, Animal Physiology, Genetics and Animal Production, Animal Nutrition, Poultry Nutrition, Hygiene of Animal Product, Farm Management, Chemistry and Technology of Milk, Meat Products and Molecular Biology. Currently, the Department has animal husbandry building, animal product plant, milk-processing plant, feed mill and animal farm for teaching and studies.

The Department has much important equipment. The library holds more than 1,500 textbooks and more than 70 titles of periodical journals in Chinese, English and Japanese. The computer room is equipped with 6 personal computers, a jet printer and a laser printer.

COURSES

Undergraduate Programs

The required courses are in animal science and production technology groups. The animal science group is designed with three areas of biotechnology, reproduction physiology, and genetic nutrition. The production technology group studies breeding and statistics, farm management and functional product processing areas.

The undergraduate student is able to choose courses of a specific group according to his/her interest and future career plan.

Undergraduate students in our department have to take at least 128 credits (including 18 credits of general required courses, 78 credits of departmental required courses, 12 credits of general education courses, and 20 credits of elective courses) for the B.S. degree of agriculture, which usually takes 4 years. The 78 credits of departmental required courses include 50 credits of professional required courses and 28 credits of group required courses. The required courses are listed below:

Professional required courses (50 credits)

First year: General Chemistry (C) and Lab.(4), Organic Chemistry and Lab.(4), Anatomy and Physiology of Animals and Lab.(6), Statistics(3), Introduction of Animal Science and Technology(2)

Second year: Biochemistry (B) and Lab.(6), Genetics and Lab.(4), Logic and Methodology(3), Animal Nutrition Lab.(4)

Third year: Poultry Production(3), Dairy Animals(3), Farm Practice(1)(1), Meat Animals(3), Livestock Farm Practice(2)(1)

Fourth year: Farm and Laboratory Practice (1), Experiment Animals (2)

Animal Science Group required courses (28 credits)

Second year: Animal Cell Biology(2), Animal Reproduction(3)

Third year: Animal Digestive Physiology (2), Molecular Biology (4), Animal Cell Culture and Preserve (2), Animal Endocrinology (3), Animal metabolism (3)

Fourth year: Developmental Biology (3), Biotechnology (3), Introduction of Genomics (2), Introduction of Bioinformatics (2)

Production Technology Group required courses (28 credits)

Second year: Animal Breeding (3), Feedstuffs (2), Chemistry of Animal Products (2)

Third year: Dairy Technology and Lab.(3), Meat Technology and Lab.(3), Farm animal Behavior and Welfare(2), Environmental Physiology of Animals(2), Automation of Animal Production(2)

Fourth year: Animal Sanitation (2) Companion Animals(2), Animal Products Processing Plant Management (2), Management of Animal Resources(3)

Graduate Programs

The graduate program of 1-4 years for a Master of Science degree is divided into majors in Animal Science (required courses: Seminar 4 credits, Research Methods of Animal Science A 3 credits, Thesis Writing 2 credits, the M.S. level courses in this department 9 credits) and in Production Technology (required courses: Seminar 4 credits, Research Methods of Animal Science B 3 credits, Thesis Writing 2 credits, those M.S. level course in this department 9 credits). Students will be granted the Master of Science degree after taking 24 credits of required and optional courses, submitting the research thesis and passing the oral defense.

Graduate program of 2~7 years for a Doctor of Philosophy degree requires seminar 4 credits, the Ph.D. level courses in this department 6 credits. Those students will be granted Doctor of Philosophy degree after taking 18 credits of courses, passing the second exam of GEPT High-Intermediate level test (or other equivalent English proficiency test), passing the qualified exam, submitting the research thesis and passing the oral defense.

ACADEMIC ACTIVITIES

The Department invites experts to give seminars and speeches, hosts feed manufacturing technology proceedings and feed microscopic examination technique training courses, and extends animal productions and technology. Many of our faculty are invited to be review committee members in the National Science Council and the Council of Agriculture, CNS examination committee members, technique examination committee members of National Animal Industry Foundation and Taiwan Grains and Feeds Development Foundation. Our faculty also are involved in the examination of CAS meat products, on-farm evaluation of Good Practice Pig and Cow farm as well as those extension education and training program for poultry, market pigs, dairy cow and processing products of livestock, which provided great assistance to the development of the industry. Faculty members are also actively involved in various research projects supported by National Science Council, Council of Agriculture, Department of Health and National Animal Industry Foundation, in the past four years, 130 projects were funded about NT\$150 million, and 110 papers were published in SCI journals.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Animal raising and reproduction
- (2) Animal nutrition and feed formulating
- (3) Chemical analysis
- (4) Food processing (milk, meat, egg)
- (5) Biomedical and genetic engineering
- (6) Animal genetic and breeding
- (7) Animal physiology and endocrinology
- (8) Management and statistical analysis
- (9) Computer science
- (10) Biotechnology, gene transfer, animal cloning

2. Further studies

- (1) Nutrition, animal feeding and management
- (2) Processing, food science and technology
- (3) Physiology, genetic and breeding
- (4) Biostatistics
- (5) Food microbiology
- (6) Molecular biology, genetic engineering
- (7) Biotechnology
- (8) Farm management

3. Career options

Animal science technician, dietician, teacher, researcher, farm staff, research and development specialist and quality controller, feed and animal drug salesman, zoo technician, environment technician, animal industry management, animal industry related government official.

CONTACT INFORMATION

Established in: 1946

Chair: Leang-Shin Wu

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INTRODUCTION

The predecessor of Department of Agricultural Economics was the Premier Lecture of Agriculture & Tropical Agriculture Study at Taihoku Imperial University. The University was founded in 1928 during the time of Japanese Colonization.

After World War II and Taiwan's retrocession to Chinese Sovereignty, the R.O.C. government resumed the administration of Taihoku Imperial University, and renamed it as National Taiwan University. To adapt to the U.S. academic system, College of Agriculture was then set up. Department of Agricultural Economics was one of the seven departments directly under the administration of the College.

In order to meet the needs of Taiwan's agricultural development, the Graduate Institute of Rural Society and Economics was established in 1960, which later in 1970 was reorganized as the Graduate Institute of Agricultural Economics. In 1987, the Department started to provide a Ph.D. Program aiming at producing outstanding researchers in applied economics and policy analyses, specializing in problems of agriculture, natural resources, and the environment.

Our major goal of teaching is to provide top training in agricultural economics. The undergraduate courses are designed to offer students systematic exposition of applied analyses and to build up their intuitive grasp of analytic tools. The core requirement for the undergraduate major includes economics, statistics, accounting,

agricultural development, marketing of agricultural products, and economics of natural resource, etc. Our undergraduate program prepares students for employment opportunities in academic or nonacademic careers. Many of our graduates have distinguished public service records for playing a major role in shaping agricultural policies of the country.

The Master program is designed to give students a sound foundation in economic theory and quantitative methods to prepare them for advanced study or profession needs. The Department of Agricultural Economics has a strong tradition of one-on-one mentoring of graduate students. Our Ph.D. program not only stresses the state-of-the-arts theory but also provide an academic environment conducive to teamwork research among faculty and students. The training helps students develop the ability of original thinking and researching in specialized fields.

In light of the era emphasizing globalization and internationalization, the Department has been engaged in internationalizing its teaching and research dynamics towards the needs of the society. Our concurrent efforts include supporting faculty members attending international conferences and publishing papers in international journals, initiating multinational collaboration of researchers, encouraging exchange visits of international academic groups and students, providing great opportunities for foreign students to pursue a degree in the Department, and sponsoring international or cross-strait academic conferences. Before and after Taiwan became a member of WTO in 2002, the Department of Agricultural Economics has been in the process of forming new perspectives on both teaching and researching. Faculty of the department endeavors to impel an innovative path on course design and research prospects, and this, we

believe will help the department keep its high standard of excellence and respond to evolving challenges in the future.

FACULTY

The Department of Agricultural Economics has twenty-nine faculty members, sixteen of them are full-time and the rest are part-time. Twenty-eight of the faculty has a Ph.D. degree in Agricultural Economics or related fields.

Chair/ Professor

Shih-Hsun Hsu Ph.D. in Economics, Texas A & M University, U.S.A.

Areas of Interest: Applied General Equilibrium Analysis, Resource and Environment Economics, International and Agricultural Trade, Production Economics.

Full-Time

Professors (in alphabetic order)

Yu-Hui Chen Ph.D. in Agricultural Economics, University of Wisconsin at Madison, U.S.A.

Areas of Interest: Agricultural Marketing, Agricultural Price, Agricultural Trade, Agricultural Policy.

Jerome Geaun Ph.D. in Economics, University of Vanderbilt, U.S.A.

Areas of Interest: Welfare Economics, Environment Economics, Economic Growth.

Li-Fen Lei Ph.D. in Agricultural Economics, Iowa State University, U.S.A.

Areas of Interest: Futures and Options Market, Agricultural Finance, Price Analysis and Market Structure.

Kuo-Ching Lin Ph.D. in Economics, North Carolina State University, U.S.A.

Areas of Interest: Microeconomic Analysis, Agricultural Policy Analysis, Econometrics, Land Economics.

Alan Yun Lu Ph.D. in Agricultural Economics, Texas A & M University, U.S.A.

Areas of Interest: Institutional Economics, Agricultural Finance, Environment Economics, Chinese Agriculture.

Yir-Hueih Luh Ph.D. Agricultural Economics, Pennsylvania State University, U.S.A.

Areas of Interest: Production Economics, Applied Econometrics, Industrial Studies.

Rhung-Jieh Woo Ph.D. in Economics, Iowa State University, U.S.A.

Areas of Interest: Agricultural Trade, Agricultural Finance, Agricultural Marketing, Econometrics Modeling and Policy Analysis.

Pei-Ing Wu Ph.D. in Agricultural Economics and Rural Sociology, Ohio State University, U.S.A.

Areas of Interest: Applied Welfare Economics, Applied Econometrics, Environment Economics.

Ching-Cheng Chang Ph.D. in Agricultural Economics, Pennsylvania State University, U.S.A.

Areas of Interest: Agricultural Production, Agricultural Policy, Quantitative Methods, Agricultural Trade. (jointly appointed with the Institute of Economics, Academia Sinica)

Tsu-Tan Fu Ph.D. in Agricultural Economics, University of Georgia, U.S.A.

Areas of Interest: Consumer Economics, Applied Econometrics, Efficiency Analysis, Resource Management. (jointly appointed with the Institute of Economics, Academia Sinica)

Associate Professors (in alphabetic order)

Cheng-Wei Chen Ph.D. in Agricultural Economics, Washington State University, U.S.A.

Areas of Interest: Fishery Economics, Biology Economics, Econometrics, Operations Research.

Fang-Mei Huang Ph.D. in Economics, University of Wisconsin-Madison, U.S.A.

Areas of Interest: Demographic and Labor Economics, Econometrics, Health Economics.

Lih-Chyun Sun Ph.D. in Agricultural Economics, Michigan State University, U.S.A.

Areas of Interest: Environment and Resource Economics, Econometrics, Production Economics.

Assistant Professors (in alphabetic order)

Hung-Hao Chang Ph.D. in Applied Economics
and Management, NTU

Areas of Interest: Agricultural Household, Risk
and Uncertainty, Applied Micro-Econometrics

Chu-Ping Lo Ph.D. international
Economics, UC, Santa Cruz

Areas of Interest: Demographic and Labor
Economics, Econometric

Emeritus Professors

Wen-Fu Xu Ph.D. in Agricultural
Economics, Pennsylvania
State University, U.S.A.

Areas of Interest: Agricultural Policy,
Agricultural Marketing

Hsi-Huang Chen Ph.D. in Agricultural
Economics, University of
Georgia, U.S.A.

Areas of Interest: Agricultural Development
and Policy.

Ming-Chien Chen Ph.D. in Economics, Utah
State University, U.S.A.

Areas of Interest: Resource and Environment
Economics, Agricultural Economics, Fishery
Economics.

Chiang-Ren Show Ph.D. in Agricultural
Economics, Purdue
University, U.S.A.

Areas of Interest: Agricultural Marketing,
Agricultural Price, Food Problems.

Shun-Cheng Lee Ph.D. in Applied Economics,
University of Minnesota,
U.S.A.

Areas of Interest: Resource Economics,
International Trade, Price and Marketing,
Economic Development.

Part-Time**Professors (in alphabetic order)**

Chin-Jung Huang Ph.D. in Agricultural
Economics, Goettingen
University, German.

Areas of Interest: Agricultural Policy,
Agricultural Finance, Marketing and
Management.

Fu-Shan Liu Ph.D. in Agricultural
Economics, University of
Illinois, University of

Areas of Interest: Agricultural Marketing,
Agricultural Finance, Agricultural Policy.

Associate Professors(in alphabetic order)

Wu-Hsiung Cheng Ph.D. in Agricultural
Economics, University of
Illinois, U.S.A.

Areas of Interest: Agricultural Policy,
Agribusiness Management, Trade and
Negotiation.

Chin-Hui Huang Ph.D. in Economics, Chinese
Cultural University, Taiwan,
Post-Doctor in Economics,
Oxford University, UK

Areas of Interest: International Trade Theory
and Policy, Monetary Theory and Policy,
Technology Management, Economic Growth and
Policy.

Pai-Po Lee Ph.D. in Industrial Planning
(Divison of Agriculture),
Chinese Cultural University,
Taiwan.

Areas of Interest: International Agriculture,
International Development and Cooperation,
Human Resource Development.

Kao-Chao Li M.S. in Economics,
University of Vanderbilt,
U.S.A.

Areas of Interest: Macroeconomic Analysis,
Economic Development, Energy and Production.

Chea-Yuan Young Ph.D. in Agricultural, NTU
Areas of Interest: Environmental Planning and
Management, meteorology, Air Pollution
Control.

FACILITIES

The Department of the Agricultural Economics is located in Agricultural Composite Science Building. The basement has two classrooms, two Master students' study rooms and one stack room. The office of student affairs and a student affiliation room are on the same floor. Two classrooms, Master students' study rooms, seminar rooms, the AGECEC library and the Computing Center are on the first floor; Chairman's office, Office of Departmental Staff, faculty's offices, Ph.D. students' study rooms, and conference rooms are on the second.

The Computing Center is equipped with twenty-five on-line PCs, one World-Wide-Web and Electronic Mail server, three laser printers, three Tri-DLP /LCD multimedia projectors, two digital cameras, four laptop computers, and three optical scanning device. The Department of Agricultural Economics possesses ample resources in all sorts of computer software. Besides Windows and Microsoft Office Series, a variety of statistical software such as SAS, SHAZAM, GAUSS, LIMDEP, STATA, EVIEWS, GAMS and MATLAB& Simulink are made available to the students and all faculties.

The AGECEC library provides current issues of more than 120 Chinese periodicals and 23 international periodicals. Most of our collection has been merged with the University Library. In addition to providing a reading area for students, the AGECEC library has a differential collection of Master's theses, Ph.D.'s dissertations, faculty staff papers, official publication of academic institutions, and bound volumes of Chinese periodicals.

COURSES

Undergraduate Programs

The department offers a four-year program leading to the degree of Bachelor of Science in Agriculture. Students must complete at least 130 credits.

Courses offered

Introduction to Agricultural Economics (2 credits), Microeconomics (6 credits), Statistics (6 credits), Modern Agriculture Political Administration Experiences (2 credits), Agricultural Prices (3 credits), Agricultural Regulations (3 credits), Agricultural Marketing (3 credits), Agricultural Policy (3 credits), Advanced Statistics (3 credits), Introduction to Futures and Options Markets (3 credits), Introduction of Ecological Economics (3 credits), Operations Research (3 credits), The Economics of Fisheries Resources (3 credits), Land Economics (3 credits), Biological Resources Statistics (3 credits), Fish Product Consumptions and Marketing (3 credits), Econometrics (3 credits), Managerial Economics (3 credits), Outward Investment And International Agribusiness (3 credits), Agricultural Economic Issues In Mainland China (3 credits), Linear Programming (3 credits), Fishery Economics (3 credits), Introduction to Bioeconomics (3 credits)

Graduate Programs

Students can pursue Master of Science (M.S.) or Doctor of Philosophy (Ph.D) degrees. The minimum requirement for the Master degree is twenty-eight credits, not including the six credits of M.S. Thesis. Students must fulfill the requirement of minimum credits and a thesis before the end of the fourth year in the program. The tenta-

tive requirements for the Ph.D. degree in Agricultural Economics are two to seven years of enrollment and the completion of at least forty-six credits, not including the twelve-credit doctoral dissertation.

The Graduate Institute offers four fields of specialization including (1) Agricultural Policy, Institution and Regulations; (2) Agricultural Marketing, Trade and Consumption; (3) Agricultural Production Economics and Management; and (4) Agricultural Resources and Environmental Economics. Students in the Ph.D. program are required to select two fields of specialization, and to take three courses for each field. M.S. students, although not limited to select an area of specialization, are required to take any three field courses.

Courses offered

Microeconomics (6 credits), Institutional Economics (3 credits), Advanced Agricultural Finance (3 credits), Advanced Consumption Theory (3 credits), Special Topics in Land Economics (3 credits), Introduction to Bioeconomics (3 credits), Agricultural Price Analysis (3 credits), Linear Programming (3 credits), Special Topics on Microeconomics (3 credits), Special Topics on Mathematical Programming Modeling (3 credits), Econometrics (3 credits), Managerial Economics (3 credits), Advanced Agricultural Marketing (3 credits), Fishery Products Consumption and Marketing (3 credits), Biological Resource Statistics (3 credits), Advanced Statistics (3 credits), Operations Research (3 credits), Biological Economics (3 credits), Agricultural Economic Issues In Mainland China (3 credits), Fishery Economics (3 credits)

ACADEMIC ACTIVITIES

1. Seminars relate to agricultural economic policy and development issues are held several times each semester.
2. Inviting speeches given by the government staff and domestic and foreign experts.
3. Staff take part in domestic and international conferences, and participate in various international researches.
4. Publish Academic Periodical Journal of Agriculture and Economics every half a year.

CAREERS AND FURTHER STUDIES

1. Professional abilities

Agricultural Economics Analysis, Financial Management, Quantitative Analysis, Futures and Options Investment Management, Agricultural Business Administration, International Agricultural Trade, Environmental Economics and Resource Management, Mainland China Agricultural Economics Analysis.

2. Further studies

Students are encouraged to continue graduate studying in fields related to agricultural economics, economics, statistics, commerce, accounting, finance and management.

3. Career options

Civil Service (Departments concerning agriculture, economic development and finance), Teaching, Statistical Analyst, Accounting, Computer Programming, Banking, Insurance Actuaries, Business, Agriculture and Fishing organizations.

CONTACT INFORMATION

Established in: 1928

Chair: Shih-Hsun Hsu

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9 DEPARTMENT OF HORTICULTURE



INTRODUCTION

In its previous incarnation, the Department of Horticulture was the "Horticultural Schoolroom" of the Agricultural Division in Taipei Imperial University; it became the Department of Horticulture in 1945. To our students, we offer specialized teaching, precision equipment, complete training courses and sophisticated horticulture research units.

FACULTY

Full-time: 24

Part-time: 15

Ph.D. Degree: 34

M.S. Degree: 4

Bachelor's Degree: 1

Chair/ Professor

Yann-Jou Lin Ph.D., Northwestern Univ.

Full-Time

Professor

Chou-Tou Shii Ph.D., Oregon State Univ.

Tzong-Shyan Lin Ph.D., UC Davis

Yuan-Tay Shyu Ph.D., North Carolina State Univ.

Yann-Jou Lin	Ph.D., Northwestern Univ.
Pung-Ling Huang	Ph.D., Koeln Univ.
Yuan-Tay Shyu	Ph.D., North Carolina State Univ.
Yu-Sen Chang	Ph.D., NTU
Der-Ming Yeh	Ph.D., Nottingham Univ.
Chun-Yen Chang	Ph.D., Univ. of Pennsylvania

Associate Professor

Ming-Jen Sheu	Ph.D., Univ. of Maryland
Tsu-Tsuen Wang	Ph.D., UC Davis
Tsu-Liang Chang	Ph.D., NTU
Loong-Sheng Chang	Ph.D., Michigan State Univ.
Wendy Wen-Ju Yang	Ph.D., Purdue Univ.
Iou-Zen Chen	Ph.D., NTU
Jocelyn Shing-Jy Tsao	Ph.D., Univ. of Hawaii

Fu Sheu	Ph.D., NTU
Yi-Yin Do	Ph.D., NTU

Assistant Professor

Hou-Nan Tsai	Ph.D., NTU
Yao-Chien Chang	Ph.D., Cornell Univ.
Chun-Ta Wu	Ph.D., UC Davis
Kuo-Tan Li	Ph.D., Cornell Univ.
Hui-Mei Chen	Ph. D., NTU
Chia-Kuen Cheng	Ph.D., Texas A&M University

Lecturer

Jung-Huei Hsu	M.S., NTU
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Part-Time

Professor

Der-Lin Ling	B.S., NTU
Nean Lee	M.S., Cornell Univ.
Albert C. Tsao	Ph.D., Univ. of Wisconsin
Cheng-Yung Cheng	Ph.D., Justus Liebig Univ.
Doris C.N. Chang	Ph.D., Utah State Univ.

Ching-Lung Lee	Ph.D., Hannover Univ.
Hsiao-Lin Wang	Ph.D., Univ. of London

Associate Professor

Tsui-Hsing Hou	M.S., Oklahoma State Univ.
Sz-Reng Chen	Ph.D., Michigan State Univ.
Min-Tze Wu	Ph.D., Colorado State Univ.
Kai-Hsien Chen	Ph. D., Maryland State Univ.

Assistant Professor

Wen-Chin Huang	Ph.D., NTU
Weng-Sheng Tzeng	Ph.D., NTU
Yu-Shan Liu	Ph.D., NTU

Lecturer

Her-Ching Wang	M.S., UC Berkeley
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FACILITIES

The Department and Graduate Institute of Horticulture occupy four buildings, namely: Horticultural Science Hall, Floriculture Hall, Horticultural Crops Processing Building, and Landscape Horticulture Hall. The Department has laboratory located in the greenhouse annex. located in the Isotope Research Building and the greenhouse annex. Major teaching and research laboratories cover various specialized fields, including horticultural crop physiology, genetics, breeding, electron microscopy, tissue culture, molecular biology, isotope technique, postharvest physiology, processing, and landscape horticulture. Besides these laboratories, the Department also has a landscape design studio, refrigerated storage, pilot processing plant, common and automatic greenhouses, experimental farms, etc. for teaching and research. All laboratories are equipped with up-to-date scientific instruments. The larger instruments include a scanning electron microscope, gas chromatograph, HPLC, ultrafiltration, liquid scintillation spectrometer, ultra-centrifuge/ Beckman photosynthesis system, several sets of tissue culture

facilities, UV-VIS, Fluorescence spectroscopy, Micro Refrigerated Centrifuge, freeze dryer, Fluorescence dissecting microscope, Flow cytometry, IVC system, fruit juice concentration and flavor compound recovery system, microscope and projector set, HR 2500 hybrid recorder, etc.

COURSES

The goals of undergraduate and graduate education of the Department include training top quality research horticulturists, extension horticulturists, horticultural teachers and administrators, and production and management specialists for the horticultural industry. Typical undergraduate students complete a B.S. degree in four years with a minimum of 128 credits. Graduate students are divided into three divisions, namely: horticultural crops science division, postharvest horticulture and processing division, and landscape horticulture division. M.S. students complete the degree in two to four years with a minimum of 24 credits of courses and 6 credits of thesis research. Ph.D. students complete the degree in 3 to 7 years with a minimum of 18 credits of courses and 12 credits of thesis research. Completion and successful defense of a thesis is also required for an M.S. or Ph.D. degree.

The minimum 128 credits of undergraduate courses includes 24 credits of general science and humanities, 51 credits of basic plant and horticultural sciences, 31 to 35 credits of specialized courses and 9 to 9 credits of elected courses required by the "Concentration group." There are five concentration groups: horticultural crops group, biotechnological group, horticultural crops processing group, landscape horticultural group and combination group, for students to choose from according to their special interest.

Each student has to complete required courses in at least one concentration group for graduation. Besides those required courses, students are free to take many elective courses offered by the Department, or by other departments within or outside of the College of Bio-resources and Agriculture.

The Required Courses

Calculus (General mathematics) (B)(6), General Botany & Lab.(B)(4), General Chemistry & Lab.(C)(4), General Physics (D)(2), Statistics(3) or Biostatistics(3), Principles of Horticulture(3), Pomology (3), Olericulture(3), Floriculture(3), Landscape Gardening & Lab.(3), Postharvest Technology of Horticulture Crop & Lab.(3), Processing of Horticulture Crop & Lab.(3), Horticulture Technology(4), Prospects of Horticulture Science(2), Plant Protection (3), Research(2)

The Required Courses and Elected Courses of Horticultural Crops Group

1.The Required Courses of Concentration

Group(31): Seminar(2), Organic Chemistry & Lab.(4), Outlines of Biochemistry(4), Biochemistry Lab.(2), Analytical Chemistry & Lab.(4), Plant Physiology & Lab.(4), Genetics & Lab.(4), Horticultural Plant Breeding & Lab(4), Plant Propagation & Lab.(3)

2.The Elected Courses of Concentration

Group(6): Physiology of Horticultural Crops(3), Ecophysiology of Horticultural Crops(3), Evergreen Fruits and Lab. (I) (3), Evergreen Fruits and Lab.(II)(3), Deciduous Fruit(II)(3), Growth and Development of Vegetable Crops (2), Woody Ornamental Plants(3), Herbaceous Ornamental Plants(3), Protected Horticulture(I)(2), Protected Horticulture (II)(3).

The Required Courses and Elected Courses of Biotechnology Group:

1. The Required Courses of Concentration

Crops(33): Seminar(2), Organic Chemistry & Lab.(4), Outlines of Biochemistry(4), Biochemistry Lab.(2), Analytical Chemistry & Lab.(4), Plant Protection(3), Plant Physiology & Lab.(4), Genetics & Lab.(4), Microbiology & Lab.(3), Introduction to Biotechnology(2), Fundamentals of Plant Molecular Biology(3)

2.The Elected Courses of Concentration

Group(3): Recombinant DNA Technology(3), Immunoassay Technology (3), Plant Gene Transfer(3)

The Required Courses and Elected Courses of Horticultural Crops Processing Group

1.The Required Courses of Concentration

Group(29): Seminar(2), Organic Chemistry & Lab.(4), Outlines of Biochemistry(4), Biochemistry Lab.(2), Analytical Chemistry & Lab.(4), Plant Protection(3), Processing of Horticultural Crops (II) & Lab.(3), Analysis for Horticultural Products & Lab.(3). Microbiology & Lab.(3), Food Chemistry (3).

The Required Courses and Elected Courses of Landscape Horticultural Group

1.The Requires Courses of Concentration

Group(34): Landscape Drawing & Rendering(2), Landscape Basic Design(2), Landscape Design & Practice (I)(3), Landscape Design & Practice(II)(3), Landscape Design & Practice(III)(3). Graduation Design(I)(1), Graduation Design (II)(2), Landscape Ecology(3), History of Landscape(2), Landscape Engineering and

Practice(I)(3), Landscape Engineering and Practice(II)(3), Landscape Profession Practice(2).

2.The Elected Courses of Concentration

Group(12): Landscape Management and Maintenance(3), Planting Design & Lab.(3), Computer Application in Landscape Architecture(3),Computer-Aided Landscape Design(3), Computer-Aided Landscape Simulation and Visualization(3), Geographic Information System Application In Resource Management(3), Intern-ship(3), Site Planning(2), Park and Recreation Planning(3), Principles on Landscape Planning(2), Theories of Landscape Architectural Design(3), Ecological Design(3), Woody Ornamental Plants(3), Revegetation Techniques for Special Environments(3), Turfgrasses and Ground Covers(3), Herbaceous Ornamental Plants(3), Principles of Nursery Management(3), Foliage Plants(3), National Park Planning and Management(3).

ACADEMIC ACTIVITIES

Besides sponsoring the "Annual Conference of the Chinese Society for Horticultural Science," the Department frequently holds seminars on various topics relevant to horticultural sciences. Scholars and experts on or off campus are often invited as speakers. Undergraduate and graduate student associations of horticulture often sponsor educational activities, such as "horticultural week," horticultural camp, and horticultural study tours, either domestic or overseas. Faculty members are actively engaged in research, extension, and consulting activities and in organizing national and international seminars of workshops. Students are often involved in those activities. Extramural grants for those activities most often come from the National Science Council, Council of Agriculture, and Environmental Protection Agency.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Physiology and ecology of horticultural crop
- (2) Horticultural crop culture
- (3) Horticultural crop improvement and biotechnology
- (4) Horticultural crop postharvest (Including phystology, transportation, preservation)
- (5) Horticultural crop processing and utilizing
- (6) Landscape (Garden design)

2. Further studies

Horticulture, Botany, Biochemistry, Microbiology, Landscape, Building and Planning, Agronomy, Agricultural Chemistry, Plant Pathology, Forestry, Biotechnology, Environmental Engineering, Agricultural Economics, Food Science and Technology, Agricultural Extension, Information Engineering, etc.

3. Career options

Teacher (professor of university and college, teacher of agricultural school and the middle school, etc.), Scientific Researcher, Civil Servant and Technical Staff, Biotechnology, Extension Worker, Horticulture Industry Managerial Personnel, Processing Technician, Agricultural Product's Technician, Landscape Designer, Garden Designer and Horticulture Entrepreneur.

CONTACT INFORMATION

Established in: 1945

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INTRODUCTION

The domain of bio-industry covers various fields, such as medical health care, pharmaceuticals, environment conservation, biological materials, agriculture, foods, and so on. The “Bio-Industrial Mechatronics Engineering” (BIME) program integrates engineering disciplines, such as Mechanics, Electronics, Computer Science, Automatic Control, and Chemical Engineering with applications to bio-industry. BIME can upgrade the competitiveness and automation level of bio-industry and lay the important engineering foundation for the bio-industry in Taiwan. BIME focuses on fulfilling the demand of mechatronics system integration for traditional and emerging bio-industries. In this regard,

BIME serves as a department of multi-engineering disciplines (graduates are granted engineering degrees), and is involved in developing bio-mechatronics technologies including automation, bio-engineering, bio-sensor, bio-signal processing, intelligent control, Nano-BioMEMS, biomaterials, bio-informatics, bio-reactor engineering, etc., to keep abreast with the global trend of industrialization and automation in the domain of bio-industry.

FACULTY FACULTY AND PERSONNEL

Full-time : 22

Part-time : 1

Ph.D.Degree : 23

Department Chairman

Ta-Te Lin Ph.D., Cornell University

Emeritus Professors

Yi-Luen Chen Ph.D., Texas A&M University
 Hang-Sun Chang Ph.D., North Carolina University
 Din-Sue Fon Ph.D., Iowa State University

Professors

Jai-Tsung Shaw Ph.D., University of Saskatchewan
 Fu-Ming Lu Ph.D., University of California at Davis
 Sen-Fuh Chang Ph.D., University of California at Davis
 Suming Chen Ph.D., University of California at Davis
 Yuan-Nan Chu Ph.D., Texas A&M University
 Jyh-Cherng Shieh Ph.D., National Taiwan University
 Jui-Jen Chou Ph.D., University of California at Los Angeles
 Wei Fang Ph.D., Rutgers University
 Joe-Air Jiang Ph.D., National Taiwan University

Associate Professors

Yeun-Chung Lee Ph.D., University of Massachusetts
 Chu-Yang Chou Ph.D., University of Florida
 Yew-Shing Ouyang Ph.D., Purdue University

Chung-Kee Yeh Dr.-Ing., Tech. University of Berlin

Ri-Chie Chen Ph.D., Kyushu University

Chien-Yu Chen Ph.D., National Taiwan University

Assistant Professors

Tzong-Jih Cheng Ph.D., National Cheng Kung University

Lin-Chi Chen Ph.D., National Taiwan University

Chen-Kang Huang Ph.D., Univ. of California at Berkeley

Cheng-Ying Chou Ph.D., Rice University

Kuo-Chi Liao Ph.D., University of Michigan,

Yen-Wen Lu Ph.D., University of California at Los Angeles

Part-time Assistant Professors

Chih-Huang Ho Ph.D., Rice University

Teaching Assistants

Ching-Yen Yang

Technicians

Jing-Shyr Jea
 Chin-Fa Lee
 Wan-Chung Ho
 Ching-Lung Huang

Staff

Jui-Chu Lin
 Wu-Shen Chen
 Yu-Mei Chen

FACILITIES

Space and Facilities

Bio-Industrial Mechatronics Engineering Department is located at the east side of the campus. Three main buildings of the Department, including Tomotake Hall, Main Department Hall and Building No. 2, occupy a total floor area of 6,270 square meters. The four-story Tomotake Hall contains welding and mechanic practice training factories on the first floor; classrooms, discussion rooms, and chemistry laboratory on the second floor; and, Electronics & Electrical Engineering Lab, research laboratories, Prof. Tomotake Takasaka Memorial Chamber, and conference room on the third and forth floors. Main Department Hall is a three-story building. The first floor has laboratories, clean room and Information Center for Agricultural Mechanization & Automation. Professors' offices, information room, multimedia chambers, department office and conference rooms are located on the second and third floors. Building No. 2 is utilized as BIME Student Association office, study rooms for Ph.D. students, research laboratories, and Education & Research Center for Bio-Industrial Automation.

The department is equipped with numerous facilities and equipment for teaching and research. The teaching aid facilities include various kinds of multimedia equipment, such as digital projectors for real objects, computer beamer projectors, slide projectors, overhead projectors, electronic blackboard, DVD, VCR and so on. The teaching apparatus and facilities include mechatronics, microprocessor control, hydraulics and pneumatics, automatic control, electronics and electrical, bio sensing, the micro-nano system, drawing, and so on. As for the research equipment, the department has Shop-type Dynamometer,

Viscosity Meter, Universal Testing Machine, Respiration Heat Meter, Frequency Analyzer, NIR Spectrophotometers, High Speed Video Recording System, High-density Magnifier, Gas Chromatography, Leaf Temperature Meter, Ultrasonic Instrument, Electrical Network Analyzer, Portable Laser Dust Monitor, NMR Analyzer, Cell Electroporator, Capillary Electrophoresis System, Global Positioning System (GPS), Multi-Spectral Remote Imaging System, Precision Controlled Temperature and Humidity Chamber, High Frequency Signal Generator, Spectral Imaging System, etc.

Computer instruction software includes fluid dynamic analysis, finite element analysis, computer-aided design and manufacture, hydraulic system design, numerical analysis, the image analysis, statistical analysis, Labview, MATLAB, geography information system, and so on.

As to network, our department has an academic network connecting all our offices, classrooms, research laboratories, with hookups to academic institutions around the world, as well. In addition, we also built up our website for remote teaching and academic resource sharing.

COURSES

Undergraduate Programs

The undergraduate curriculum provides the knowledge of mechatronics engineering and biological applications, and focuses on the accumulation of practice and experience as well. Our department's philosophy is to prepare students with engineering knowledge and application ability to face the challenge of new era.

Undergraduate students must take is 141 credits in total, including 30 credits of university requirements and 12 of electives. The remaining

99 credits, including 6 credits of BIME professional elective courses, are categorized into basic biology related courses, basic engineering courses, mechatronics engineering courses, professional courses and elective courses. The following is a breakdown of the required courses for each year:

Freshman

Calculus, General Physics & Lab, General Biology, Computer Programming Language, Engineering Drawing and Computer Graphics, General Chemistry & Lab, Introduction to Bio-industrial Mechatronics Engineering.

Sophomore

Engineering Mathematics, Thermodynamics, Applied Mechanics, Engineering Materials, Organic Chemistry & Lab, Mechanism, Hydraulics and Pneumatics, Machine Shop Practice, Strength of Materials, Introduction to Electrical Engineering & Lab.

Junior

Electronics & Lab, Fluid Mechanics, Automatic Control, Design of Machine Elements, Heat Transfer, Principles and Applications of Microprocessor, Measurement Principles and Applications, Bio-industrial Machinery, Bio-industrial Engineering Practice.

Senior

Mechatronics & Lab, Project for Undergraduate.

Professional Electives

Students must take two courses from among Introduction to Biological Chemistry, Power Machinery, Bioprocess Engineering, Measurement of Biological Systems.

Graduate Programs

The graduate program aims to cultivate students in independent thinking, analysis, creativity, and synthesis. The graduate program offers three specialization fields: “Machinery and System”, “Measurement and Control”, and “Materials and Process”. Each graduate student should select his/her major field. Each major field has its specific core curriculum and elective curriculum, coordinated with students’ personal research direction.

The core curriculum in each field covers the following:

1. Machinery and System : “Advanced Design of Machine” and “Systems Engineering” ;
2. Measurement and Control : “Design of Automated Systems” , and “Signal Processing” ;
3. Materials and Process : “Biomaterials” and “Unit Operations in Bio-Industry” .

In addition, each field has its own elective curriculum providing the required knowledge for thesis research.

Within two to four years, graduate students for Master degree must take at least 32 credits (excluding the credits on MS thesis), to fulfill the graduation requirement. These credits include 14 credits of required courses: Special Topics on Bio-Mechatronics, Seminar, and Special Graduate Topics; and at least 18 credits from elective courses. Among the 18 credits of elective courses, students are required to take 9 credits from the major field of their graduate program, including at least 3 credits from the core curriculum. The graduate students with outstanding performance are eligible to apply directly to the doctoral program upon approval.

The Ph.D takes two to seven years of study. Ph.D. students must take a minimum of 36 credits (excluding the credits on doctoral dissertation). These credits include 14 credits of required courses: Special Topics on Biological Mechatronics, Seminar, and Special Graduate Topics; and at least 22 credits from elective courses. Among these 22 credits, students are required to take 15 credits from the major field curricula or core curriculum of their graduate program, including at least 6 credits from the core curriculum of the three major fields, and among these 6, at least 3 credits must be from the core curriculum of the student's major field.

ACADEMIC ACTIVITIES

1. Holding seminars related to BIME topics.
2. Organizing domestic and international conferences.
3. Publishing symposium proceedings.
4. International academic visits and exchanges

CAREERS AND FURTHER STUDIES

1. Professional abilities :

BIME integrates the engineering disciplines such as Mechanics, Electronics, Computer Science, Automatic Control, Chemical Engineering with applications to bio-industry, thus students can build up their professional skills such as Bio-industrial Mechatronics Engineering Design, Automation and Control, Bioprocess Engineering, Biomaterials, Waste Treatment, and Measurement in Biological Systems.

2. Further studies :

- (1). BIME graduate program
- (2). Graduate programs in Electrical Engineering, Mechanical Engineering, Information Engineering.
- (3). Graduate programs in Information Management, Business Management, Business Administration
- (4). Other related graduate programs, such as Environmental Engineering, Biomedical Engineering, Food Science and Technology, Material Science, Bio-engineering, etc.

3. Career options

Graduates are suitable for job positions as engineers, researchers, educators and more in the BIME-related fields including Bio-mechatronics Engineering, Mechanical Engineering, Electrical Engineering, Information Management, etc.

CONTACT INFORMATION

Established in : 1981

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INTRODUCTION

The Department of Agricultural Extension was established by famous rural sociologist, Dr. Martin M. C. Yang in 1960. The department is renamed as “Bio-Industry Communication and Development” starting from August 2008 to cope with the dramatic social cultural change and industrial development.

Nowadays the marketing communication of bio-industry and social cultural development of human beings have become the prominent focus of teaching, research and extension in the area of bio-industry. This field is an integrated program covering food science, natural resources, biotechnology, health care, human ecology, leisure

and green industry, ecological communication, etc. The advancement in this field can greatly improve the academic capability and competitiveness of students in this department.

The course design of the department has two foci, one is on bio-industry communication, and the other one is on social cultural development. On the area of bio-industry communication, internally it is to upgrade the knowledge and skills of people who work in the industry. Externally, it aims to increase the understanding of the public toward bio-industry. On the area of social cultural development, the focus is to apply bio-industry information and knowledge to improve the quality of people's life.

We are confident that under the endeavor of all colleagues and students, this department has very bright future and should be able to develop highly competent graduates and workers to contribute to the area of bio-industry development.

FACULTY

Full-time: 11

Adjunct: 5

Ph.D. Degree: 13

M.S. Degree: 2

Chair/ Assistant Professor

Erh-Rou Lai Ph.D., Iowa State Univ., USA

Full-Time

Professor

Shu-Kwei Kao M.S., NTU, ROC

Kun-Sun Shiao Ph.D., Ohio State Univ., USA

Yeu-Sheng Hsieh Ph.D., Penn. State Univ.,
USA

Associate Professor

Shu-Ken Sun Ph.D., Paris 7th Univ., France

Hsiu-Ping Yueh Ph.D., Penn. State Univ.,
USA

Assistant Professor

Jiun-Hao Wang Ph.D., Kassel Univ., Germany

Ho-Chia Chueh Ph.D., Univ. of Auckland,
New Zealand

Yu-Hua Chen Ph.D., Penn. State Univ.,
USA

Shou-Cheng Lai Ph.D., Lancaster Univ., UK

Li-Chun Huang Ph.D., Kansas State Univ.

Adjunct

Professor

Chao-Lang Chen Ph.D., Ohio State Univ., USA

Ping-Hung Chen Ph.D., Penn. State Univ.,
USA

Associate Professor

Yei-Fei Su Ph.D., Univ. of Texas
(Austin), USA

Assistant Professor

Yung-Chung Chiu Ph.D., NTU, ROC

Lecturer

Gee Chin Paul Hou M.A., Univ. of Iowa, USA

FACILITIES

The department is located on the fourth and fifth floors of Agricultural Hall. In order to cultivate the students' technical skills for producing interactive multimedia and using innovative learning technologies, many facilities, such as interactive sound and video production, nonlinear video editing and VOD systems, are installed in the department audio-visual laboratory. Two computer labs equipped with personal computers, laser printers and color scanners are open for students to work on their projects and study.

Moreover, notebooks, projectors and internet access are available in all classrooms to facilitate teaching and learning.

COURSES

Undergraduate Programs

The Department's undergraduate education program offers Bachelor of Social Science degree. Students must complete 128 credits, including 67 core courses, as follows:

Academic Year	Core Courses	Credit
1st	INTRODUCTION TO THE BIO-INDUSTRY	3
	SOCIOLOGY	3
	ECONOMICS(I)	3
	ECONOMICS(II)	3
	GENERAL PSYCHOLOGY(C)	3
	HAND-ON EXPERIENCE OF MOD-ERN AGRICULTURE(I)	1
	HAND-ON EXPERIENCE OF MOD-ERN AGRICULTURE(II)	1
2nd	STATISTICS(1)(2)	6
	INTRODUCTION TO QUALITY OF LIFE	3
	INTRODUCTION TO COMMUNICA-TION STUDIES	3
	MARKETING	3
	SOCIAL PSYCHOLOGY	3
3rd	METHODS OF SOCIAL RESEARCH(1)(2)	6
	INNOVATION AND COMMUNICA-TION	3
	POPULATION AND DEVELOPMENT	3
	CULTURE AND CONSUMPTION	3
	DIGITAL COMMUNICATIONS	3
	SOCIAL ECOLOGY	3
	BIO-INDUSTRY DEVELOPMENT AND COMMUNICATIONS	3
4th	STRATEGIC PLANNING AND PROBLEM-SOLVING	3
	MANAGEMENT OF BIO-INDUSTRY	3
	PRACTICE	2

Graduate Programs

The Department's graduate education program offers M.S.S. (Master of Social Science) and Ph.D. (Doctor of Philosophy). The minimum requirements for the master and doctor degrees are 30 and 52, respectively.

Program	Required Course	Credit
Master Program	SEMINAR (1) (2)	4
	THESIS	6
	THEORIES OF COMMUNICATION	3
	THEORIES OF DEVELOPMENT	3
	ADVANCED RESEARCH METHODS FOR SOCIAL SCIENCE(I)	3
	ADVANCED RESEARCH METHODS FOR SOCIAL SCIENCE(II)	3
	GLOBALIZATION AND LIFE INDUSTRY DEVELOPMENT	3
	Optional	5
	TOTAL	30
Doctoral program	SEMINAR (1) (2)	4
	DISSERTATION	12
	CULTURE AND THE AESTHETICS OF EVERYDAY LIFE	3
	PROFESSIONAL ETHICS	3
	METHODOLOGY OF SOCIAL SCIENCE	3
	ADVANCED STATISTICAL ANALYSIS METHODS or ADVANCED QUALITATIVE RESEARCH	3
	Optional (including one advanced research course)	24
	TOTAL	52

ACADEMIC ACTIVITIES

1. Publishing academic journal the Review of Agricultural Extension Science, Taiwan Journal of Rural Studies annually.
2. Organizing conferences and symposium on bio-industry communication and social cultural development periodically.
3. Offer colloquia, workshops and lecture series to foster professional development and intellectual exchange among faculty and students.
4. Develop, manage and conduct externally funded research projects related to extension education and rural sociology.
5. Collaborating with agricultural agencies and farmers' associations on activities such as consulting, planning, and evaluation.

CAREERS AND FURTHER STUDIES

1. Career Options

Besides to be employed as government officers, the college graduates can also find their jobs in private sector to work in the fields of marketing, human resource development, program planning, media planning, strategic planning, and advertisement, etc.

2. Further Studies

The college graduates can advance their expertise in the following areas based on their interests:

1. Life-long education, adult education, instructional technology, cultural studies, industry communication, innovation and diffusion, non-profit organization, community marketing, green marketing, etc.
2. Sociology, environmental resources, leisure industry, green industry, industry operation and management, community development, community communication, etc.

CONTACT INFORMATION

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12 DEPARTMENT OF ENTOMOLOGY



INTRODUCTION

National Taiwan University (NTU), formerly called Taihoku Imperial University was founded in 1928 by the Japanese Government, but reestablished in 1945 when Taiwan was restored to the Nationalist Chinese Government. Three laboratories, namely, Plant Pathology, Entomology and Sericulture, then under the College of Science and Agriculture, were merged into the Department of Agricultural Biology and College of Agriculture, NTU. The Department was renamed the Department and Graduate Institute of Plant Pathology and Entomology, with two divisions—Division of Plant pathology and Division of Entomology. The Ph.D. program, which was among the first ones offered in the College of Agriculture, has been offered since

1967. The Department was recently divided into two separate departments. Thus, the independent Department of Entomology was established on August 1, 1998.

Our goals are to train students with comprehensive knowledge and state-of-the-art techniques in entomology, plant quarantine and integrated pest management in order to meet the needs of society. The students who graduate from the Department will have a wide range of careers in both the private and the public sector related to teaching, research, extension and administration in plant protection and quarantine, ecological conservation, environmental pollution, disease vector control and biotechnology.

FACULTY

Full-time : 13

Part-time : 7

Ph.D. Degree : 20

Chair/ Professor

Shih, Cheng-Jen Ph.D., National Taiwan University, Taiwan

Full-time

Professor

Yang, Ping-shih Ph.D., National Taiwan University, Taiwan

Chang, Hwei-Yu Ph.D., University of California, Davis, CA, USA

Wang, Chung-Hsiung Ph.D., National Taiwan University, Taiwan

Wu, Wen-Jer Ph.D., National Taiwan University, Taiwan

Lee, How-Jing Ph.D., University of California, Berkeley, CA, USA

Ko, Chiun-Cheng Ph.D., National Taiwan University, Taiwan

Rong-Nan Huang Ph.D., National Taiwan University, Taiwan

Associate Professor

Shiao, Shiuh-Feng Ph.D., National Taiwan University, Taiwan

En-Cheng Yang Ph.D., Australian National University, Australian

Assistant Professor

Chun-Che Chang Ph.D., University of Cambridge, UK

Ju-Chun Hsu Ph.D., National Taiwan University, Taiwan

Toshinori Okuyama

Ph.D., University of Florida, USA

Adjunct Professor

Chow, Yion-Shing Ph.D., University of Auburn, USA

Kao, Sjeuey-Sheng Ph.D., University of Minnesota, USA

Wang, Shun-Cheng Ph.D., National Taiwan University, Taiwan

Ho, Kai-Kuang Ph.D., National Taiwan University, Taiwan

Peng, Wu-Kang Ph.D., National Taiwan University, Taiwan

Hsu, Tung-Ching Ph.D., National Taiwan University, Taiwan

Chen, Chiou-Nan Ph.D., University of Illinois, Urbana, IL, USA

FACILITIES

The Department of Entomology has laboratories of Physiology, Toxicology, Ecology, Insect Conservation, Ecological Modeling, Taxonomy, Insect Pathology, Biological Control, Behavior, Genetics, Biotechnology and Agricultural Entomology. Each laboratory is well equipped for research. Research topics emphasize not only pest control and management for plant protection, but also medical and urban pests, as well as researches in useful insects, microbiology, biodiversity and biotechnology.

COURSES

The department offers a four-year undergraduate program leading to the degree of Bachelor of Agricultural Science as well as graduate programs for the Master of Science and the Ph.D. degree. The undergraduate students must complete a minimum of 130 credits.

Undergraduate Programs

General required courses

Calculus (General Mathematics) (B)(I)(I I)(6) 、General Chemistry (Lab.)(4) 、Organic Chemistry (Lab.)(4) 、General Botany (Lab.)(6) 、Fundamental Entomology (Lab.)(3) 、Insect Identification(Lab.)(3) 、The Art of Insect Science(1) 、Statistics(3) 、Applied Entomology (Lab.)(3) 、Biochemistry (B) (I)(I I)(2) 、Insect Functional Morphology And Physiology (I)(I I)(Lab.)(6) 、Genetics(3) 、Ecology(3)

Junior student is encouraged to choose one of the three programs with special course requirement listed below:

A : Pest Management Program(16credits) :

1.Introduction to Agriculture (2) 、2. Farm Crops (A)(3)／Principles of Horticulture (3) 、3.Principles of Insect Pest Management (2) 、4.Economic Entomology (Lab)(2,1) 、5. Pesticides(3) 、6.Medical Entomology(3)／Urban Entomology (3)

B : Biodiversity Program(16credits) :

1.Insect Taxonomy & Lab (4) 、2.Evolution (3) 、3. Research Technique In Entomology (3) 、4. Introduction of Biodiversity (3) 、5. Insect Conservation?(3)

C : Biotechnology Program(16credits) :

1. 【Biotechnology Core Techniques (4)】 / 【Insect Biotechnology (2)+Direct research In Biotechnology (2)】 、2. Molecular Biology (3) 、3. Microbiology (3) 、4. Basic Cell Biology (3) 、5.Insect Histology (3)

Graduate Programs

At the graduate level we offer a 2-4 year program leading to the degree of Master of Agricultural Sciences. The minimum requirement of credits is 24, plus 6 credits of thesis. The Ph.D. program requires 18 course credits, plus 12 credits of dissertation. It can be completed in 2 to 7 years. The student must pass both oral and written qualified examinations and defend the Ph.D. dissertation before the chosen committee.

ACADEMIC ACTIVITIES

1. Participate in national/international conferences.
2. Organize national/international conferences related to Entomology.
3. Co-sponsor annual meetings of the Formosan Entomological Society and the Plant Protection Society of the Republic of China.

CONTACT INFORMATION

Established in : 1998

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INTRODUCTION

History

This institute was established in 1976 as the only graduate institute that was independent of an undergraduate department in the College of Bioresources and Agriculture. The domestic food industry began to take off in the 70s. A great demand for graduates trained in food science and technology arose at that time. National Taiwan University filed in the application to establish this institute to the Ministry of Education and received approval based on the suggestion from Dr. Stephen S. Chang, a professor at the Food Science Department of Rutgers University and a consultant to the Ministry of Economic Affairs of the ROC, and his col-

leagues, with the support from the Ministry of Economic Affairs, the Council of Agriculture, and local food industries. It was the first food science graduate school in this country.

This institute started with an M.S. program. The first class graduated in June 1978. Later, to help in upgrading the technological level of domestic industry, with the support of an increased number of faculty members and quantity and quality of teaching and research facilities, the Ph.D. program was started in 1983. The first Ph.D. student graduated in 1987.

Purpose

The major purpose of this institute is to train graduates capable of doing advanced research in food science and technology. Both the M.S. and Ph.D. programs are divided into "Food Science" and "Food Technology" units. The former emphasizes food chemistry and food microbiology, but also covers nutrition, food hygiene and safety, etc.; the latter emphasizes food processing and food engineering, but also covers food packaging, food machinery and related areas. Students who graduated from undergraduate programs in Food Science and Technology, Agricultural Chemistry, Nutritional Science, Agronomy, Horticulture, Animal Science, Veterinary Science, Forestry, Plant Pathology, Botany, Zoology, Chemistry, Applied Chemistry, Chemical Engineering, Mechanical Engineering, Pharmacy, Medical Technology, Nursing, etc. are all welcome to apply for admission to this institute.

To integrate relevant undergraduate departments in training graduates in food science and technology, this institute inaugurated the Interdepartmental Food Science and Technology Program in 2000 as an important step leading to an undergraduate Department of Food Science in the future.

New Developments

"Health and Nutrition" was taken as an independent group in the application for admission of M.S. and Ph.D. programs in this Institute since 2002 and 2006, respectively. Education in health food is being strengthened. Besides existing specialized areas, many faculty members are involved in joint research programs in health foods. Several companies have awarded grants to this institute for cooperative research in this area.

A new annex named "NTU Food R/D Building" that houses the "Center for Research and Development of Foods with High Added-Value" was commissioned in 2004. This center is used to help farmers' associations to upgrade their technology in food processing, to verify the health function of foods, and to develop new products.

FACULTY

Full-time: 12

Part-time: 3

All with Ph.D. degree

Director/ Professor

An-I Yeh Doctor of Philosophy in
Chemical Engineering,
Montana State University

Full-Time

Professor

Cheng-Chun Chou	Doctor of Philosophy in Food Science, University of Wisconsin
Lucy Sun Hwang	Doctor of Philosophy in Food Science, Rutgers University
Wenchang Chiang	Doctor of Agriculture, University of Tokyo
James Swi-Bea Wu	Doctor of Philosophy in Food Science, Purdue University
Been-Huang Chiang	Doctor of Philosophy in Food Science, University of Illinois
Shun-Yao Hsu	Doctor of Philosophy in Agricultural Engineering, Purdue University
Roch-Chui Yu	Doctor of Philosophy in Food Science, Cornell University

Lee-Yan Sheen Doctor of Philosophy in Food Science, National Chung-Hsing University
(including scholarship from Taiwan government to Rutgers University for one year)

Associate Professor

Ting-Jang Lu Doctor of Philosophy in Food Science and Human Nutrition, Iowa State University

Assistant Professor

Yi-Chen Lo Doctor of philosophy in Reproductive and Development Sciences

Shu-Chen Hsieh Doctor of Philosophy in Biochemistry

Part-Time

Emeritus Professor

Wei-Hsien Chang Doctor of Philosophy in Biochemistry, Michigan State University

Chin-Fung Li Doctor of Philosophy in Food Science, University of Wisconsin

Professor

Bonnie Sun Pan Doctor of Philosophy in Food Science, Rutgers University

FACILITIES

The graduate institute has a four-floor "Food Science and Technology Building" and an annex that houses a pilot plant and an R & D center. Besides common laboratory apparatus, the institute has many important instruments and equipments, including:

Food Analysis Instruments

High Performance Liquid Chromatograph System; LC-MS; Gas Chromatograph; Atomic Absorption Emission Spectrophotometer; UV-VIS Double-Beam Spectrophotometer; Fluorescence Spectrophotometer; Far-red Spectrofluorometer; TLC; Superspeed Refrigerated Centrifuges; Dietary Fiber Determination Apparatus; Color Difference Meter; Rheometer; Fermenter; Environmental Chamber; Electrodialysis Unit; Vacuum Concentrator; Short Path Distillation Apparatus; Supercritical Fluid Extraction System; ICP Emission Spectrophotometer; Differential Scanning Calorimeter; Automated Capillary Rheometer; Capillary Electrophoresis; Controlled Stress Rheometer; Microwave Moisture & Solids Analyzer; Laser Particle Analyzer; Manometric Gas Permeability Tester.

Food Processing Equipments

Twin-screw and Single-screw Extruders; Centrifugal Separator; Spray Dryer; Freeze Dryer; Double Drum Dryer; Contact Freezer; Plate Heat Exchanger; Solid-Liquid Extraction System; RO/UF Membrane Concentration Unit; Vacuum Concentrator; Filter Press; Auto-retort; Steam Kettle; Automatic Can Steamer; Vacuum Package Sealer.

COURSES

1. The M.S. students are required to complete a minimum of 24 credits of course work in addition to 6 credits of thesis. The courses offered are as follows: Required courses: Seminar(4), Research Training(I)(II)(2), Research Experimental Methods in Food Science & Technology(I)(II)(2)
2. The student holding a master degree are required to complete a minimum course work of 20 credits in the Ph.D. program plus 12

credits of thesis. Students without a master degree must complete a minimum course work of 30 credits plus 12 credits of thesis. The courses offered are as follows: Required courses: Seminar(4), Research Training(I)(II)(III)(IV)(4)

ACADEMIC ACTIVITIES

1. Academic activities such as lectures and symposia are held or given by domestic and foreign scholars or specialists frequently.
2. The graduate institute has a cooperative agreement with the Food Industry Research and Development Institute (located in Hsin-Chu City) to strengthen the cooperation in research and to share facilities.

CONTACT INFORMATION

Established in: 1976

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INTRODUCTION

This new institute has just been established on the 1st of August, 2006 and has taken in PhD students for the academic year 2006. The mission for our institute is to provide great research and teaching environment for the following fields that fits the direction of our national development: Bioinformatics, Nano-Biomedical research, Tissue engineering and Recombinant Medicine, Genomics and Proteomics. Our outstanding faculties have got extensive research experience abroad and have thus formed a strong international collaborative research team. In addition, since the establishment of this new institute, we have been involved in integrating inter-departmental and inter-College teaching

and research resources in the fields related to Biotechnology. This power has been catalyzed further by introducing training in Law and Management. Our research and teaching resources has provided the best incubator for the PhD students to become tomorrow's leaders in both Biotechnology industry and research community.

FACULTY

Fulltime: 8

Part-time Faculties: 22

Faculties with PhD degrees: 100%

Director/ Professor

Huu-Sheng Lur Ph.D., Cornell University,
USA

Full-Time

Associate Professor

Hsuan-Shu Lee Ph.D., NTU

Assistant Professor

Shau-Ping Lin Ph.D., University of
Cambridge, England, U.K.

Je-Ruei Liu Ph.D., NTU

Mong-Hsun Tsai Ph.D., National Yang-Ming
University

Chen, Jen-Chih Ph.D., University of
California at Davis, USA

Sung, Li-Ying Ph.D., University of
Connecticut, Storrs, USA

Chi-Te, Liu Ph.D., University of Tokyo,
Japan

Shih-Shun Lin Ph.D., National Chung-Hsing
University

Part-Time

Professor

Fong-Hue Lin Ph.D., National Cheng-Kung
University

Red-Man Chu Ph.D., Iowa State University,
USA

Ching-Ho Wang Ph.D., Louvain University,
Belgium

Shih-Torng Ding Ph.D., Ohio State University,
USA

Winston T.K. Cheng

Ph.D., University of
Cambridge, England, U.K.

Chu-Fang Lo Ph.D., University of Tokyo,
Japan

Pung-Ling Huang Ph.D., University of Cologne,
Germany

Jaw-Shu Hsieh Ph.D., NTU

Huu-Sheng Lur Ph.D., Cornell University,
USA

Chung-Hsiung Wang
PhD, National Yang-Ming
University

Chan-Pin Lin Ph.D., Rutgers, the State
University of New Jersey,
USA

Shean-Shong Tzean
Ph.D., McGill University,
Canada

Ruey-Fen Liou Ph.D., Indiana University,
USA

Rong-Huay Juang Ph.D., National Yang-Ming
University

Yen-Jen Oyang Ph.D., Stanford University ,
USA

Associate Professor

Kuo-Long Lou Ph.D., University of Basel,
Switzerland

Assistant Professor

Shinn-Chih Wu Ph.D., National Yang-Ming
University

Shun-Fu Lin Ph.D., Iowa State University,
USA

Jung-Hsin Lin Ph.D., Duisburg University,
Germany

Chun-Che Chang Ph.D., University of
Cambridge, England, U.K.

Chwan-Yang Hong Ph.D., NTU

Chii-Shen Yang Ph.D., University of Illinois at
Chicago, USA

FACILITIES

Core facility room: Milli-Q water purifier, Ice maker, ELISA reader (UV/vis), Ultracentrifuge (Beckman L8-70, SORVALL RC5C+, TOMY MX-301), Fluorescent photographing system, Freeze Drier, Freezer (-80 °C), Radio Imaging system, Scanning and Imaging analysis system, RT-PCR, 2-D gel electrophoresis, Cell culture facilities, Nanodrop ND-1000, UVP Bio Spectrum AC, Olympus CKX41, Nikon Eclipse 80i, Leica MZ16F.

COURSE

Ph.D. progeam

Minimal Credits for Graduation: 20

- 1.Frontiers in Biotechnology I (1)
- 2.Frontiers in Biotechnology II (1)
- 3.Seminar (4)

Another including at least 2 of the 7subjects
listed below:

- 1.Epigenetics (3)
- 2.Stem Cell Biology (3)
- 3.Structure Biology & Bioinformatics (3)
- 4.Immunological Techniques: Antibody tools (3)
- 5.Transgenic and Cloning Technology in
Animal (3)
- 6.Special Topics in Biotechnology (3)
- 7.Special Topics in Microbiology (3)

CONTACT INFOMATION

Established: 2006

Director: Professor Huu-Sheng Lur

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PREFACE

Since the retrocession of Taiwan to the Republic of China, the successful implementation of the land reform program has solved fundamental problems of agriculture and improved farmers' living. The late Vice President Chen Cheng of the Republic of China, and Dr. Chiang Mon-Lin, the late Chairman of the Sino-American Joint Commission on Rural Reconstruction (JCRR) recognized agricultural development in Taiwan as an excellent model for developing countries. Therefore, the Agricultural Exhibition Hall was built on the main campus of National Taiwan University in 1964 to demonstrate this success.

In the beginning, the Agricultural Exhibition Hall displayed the implementation and achievement of the land reform program and introduced the progress of agricultural and rural development in Taiwan. Since then, the exhibition content has been renewed and changed many times in response to the progress of agricultural and rural developments.

GOALS

Agriculture is the industry most intimately associated with people's lives. It is an economic industry providing food, an ecological industry sustaining the environment and a living industry possessing rich cultural connotations. The main purpose of this Hall is to bring up-to-date infor-

mation on agricultural development to students, trainees, as well as visitors from domestic and foreign countries. The Agricultural Exhibition Hall is also an important site for them to understand the general picture of rural development in Taiwan.

Recently, due to rapid social and economic changes, the concepts of "Biodiversity" and environmental education have become more and more important, so has the impact of natural environment maintenance on regional development and life quality improvement. Therefore, Agricultural Exhibition Hall had redefined its exhibition policy and contents in 2003 to activate its diverse social and educational function.

ORGANIZATION

The Agriculture Exhibition Hall is organized as follows: one director and two sections. The director manages and directs the operation of the hall. The technical section is in charge of the following: survey and analysis of the bio-resources and agricultural information, publishing, planning and designing of exhibition contents, as well as holding exhibition activities. The administration section is in charge of general affairs for documentation, property management, accounting, procurement, exhibition place maintenance, and the logistics support for exhibition activities.

CURRENT ACTIVITIES

Facing the impact of international and domestic socio-economic changes, Taiwan's agricultural sector has been expected to improve the living condition and to protect the human environment in addition to increasing farmers' income. Environmental protection and ecological education have become more and more important nowadays in every country. Since the NTU cam-

pus is full of various green resources, and has become an excellent niche for ecological education, the Agricultural Exhibition Hall was remodeled to present the abundance of these bio-resources for better environmental education. The first floor is an area for displaying special topics, the second floor is for the exhibition of "A View of Bio-diversity from NTU Campus", while the third floor is designed as a conference room and the education center for bio-resources with agricultural audio-visual publications. With lively guides and impressive exhibition and conference activities, we hope the audiences can understand the importance of environment maintenance, as well as the ability and sentiment to guard and to protect the earth on which we live.

PLANS

As the leading university in Taiwan, NTU is expected to play the leading role in educational ideology and concurrent social issues. In the future, The Agricultural Exhibition Hall will keep on designing environment-related exhibitions and conducting various educational activities, including lectures, workshops, conferences, and publications. These efforts are being made to sustain our beautiful living space forever for future generations.

CONTACT INFORMATION

Established in: 1964

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EDUCATION AND RESEARCH CENTER FOR BIO-INDUSTRIAL AUTOMATION



GOALS

The mission of Education & Research Center for Bio-Industrial Automation (ERCBA) is to cultivate qualified manufacturing, R/D and management professionals for bio-industrial automation to upgrade the bio-industry in Taiwan.

BACKGROUNDS AND HISTORY

To solve the labor shortage and to increase productivity in Taiwan agriculture, the central government launched a ten-year project, named the "Agricultural Automation Project" in 1990. In accordance with the policy, the ROC Council of Agriculture sponsored a ten-year research and

extension project. Besides that, the Ministry of Education provided a special fund for promoting training and education in automated agriculture.

The College of Bio-Resources and Agriculture at National Taiwan University took this opportunity to establish the Education Center for Agricultural Automation (ECAA) in 1992. ECAA was upgraded into the Education and Research Center for Agricultural Automation (ERCAA) in 1997 to conduct advanced research in automated agriculture. Finally, to accommodate the rapidly developing bio-industry, the center was renamed the Education and Research Center for Bio-Industrial Automation (ERCBA) in 2005.

ORGANIZATION

The Center brings together faculty members from the College of Bio-Resources and Agriculture, and coordinates an interdisciplinary program in the study of automated bio-industry. The Center is governed by an advisory committee. The Dean of Bio-Resources and Agriculture serves as the chairman of the committee, and each department elects one member (the elected member should be a full-time faculty member of the College). Currently, there are 13 committee members. The Director of the Center is appointed by the Dean of the College from among the members of the committee. The section chief of Teaching and Research is also appointed and responsible for the internal management of research and teaching related affairs.

CURRICULA PROGRAM FOR BIO-INDUSTRIAL AUTOMATION

The Center coordinates a curricula program on bio-industrial automation. The curricula program consists of two parts: the program of Mechatronics, and the program of Computational Biology. Both programs offer introductory, fundamental, and professional courses. The former focuses on automation techniques applied in bio-industrial sectors, which equip students with the usage, design and research abilities of bio-industrial automated systems. The program of computational biology provides students with essential knowledge about using computational methods in the emerging bio-industries.

FACILITIES

The Center is located on the second floor of the Biomechatronics Building II. The Center offers students and faculty in the College licensed software, mechatronics and hydraulic/pneumatic equipment, as well as a network for their teaching and research projects. The Center network is connected to all departments in the College to assist in training future professionals in automated bio-industrial production and management.

The facility includes a mechatronic classroom and two computer rooms. The mechatronic classroom is equipped with the facilities of mechatronic equipment, such as: automation design/simulation systems, high speed data transfer interfaces, sensor modules, system testers, machine vision systems, hydraulic/pneumatic systems, and various controllers, etc. for education and internship purposes. The computer rooms have 50 PCs, with network connected to the Internet, which is accessible for multimedia instruction, internship and seminars. Other facilities include video projectors, slide projectors, VCR, TV sets, and projective screens, etc.

With facilities and classrooms for information and mechatronics, the Education and Research Center for Bio-industrial Automation has the responsibilities of promoting and coordinating the research projects and education of automated bio-industry professionals.

ACTIVITIES

The ERCBA provides essential educational facilities and environment for agricultural and bio-industrial automation. More than 25 routine courses, seminars and training classes are held every year. In summary, the usage rate is remained over 80% constantly.

Currently, on-going projects include the Education Upgrading Program for Automated Agriculture (sponsored by MOE), Automated teaching facility training program (sponsored by MOE), and agricultural automation projects (sponsored by COA). Further liaison, promotion service will be engaged in the future. Detailed information regarding the educational and research resources can be accessed in our web-site at <http://www.ecaa.ntu.edu.tw>.

Since the Center now functions with only one full-time staff specialist, it is limited in capacity and space. Research projects are mainly carried out in individual departments. Capacity and space will be expanded once the Agriculture Science Building, or the Bio-Industrial Mechatronics Building, is built.

CONTACT INFORMATION

Established in: 1992

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VII. COLLEGE OF MANAGEMENT



Academic Units

- Business Administration
- Accounting
- Finance
- International Business
- Information Management

The Present and Former Deans

Paul S. C. Hsu	(1987.8-1993.7)	Chan-Jane Lin (Acting)	(2003.8-2004.2)
Yu-Tsung Lin	(1993.8-1996.7)	Mao-Wei Hung	(2004.2-present)
Hong-Chang Chang	(1996.8-1999.7)		
Neng-Pai Lin	(1999.8-2000.5)		
Yun Lin (Acting)	(2000.5-2000.7)		
Chen-En Ko	(2000.8-2003.7)		

HISTORY

The history of the NTU College of Management can be divided into three stages, the Initial Stage, from 1919 to 1947; the Growth Stage, from 1948 to 1986, and the Expansion Stage, from the establishment of the College of Management in 1987. Business education in Taiwan traces its roots back to 1919 when the Japanese colonial government established the Taiwan Imperial Government Commercial High School. After Taiwan's retrocession in 1946, the school was renamed the Provincial College of Law and Commerce. The school was finally merged into the College of Law at NTU in 1947, and the Department of Commerce was organized within the College of Law the next year. This was the Initial Stage in Taiwan's business education.

After the Department of Commerce was founded in 1948, many different fields of business and management were founded. In 1959, the Department of Commerce was divided into three divisions: Industrial Management, Accounting and Banking and International Trade. In order to offer students an integrated education and to foster more professional abilities, the Graduate Institute of Commerce was established in 1972. In 1985, the Department of Commerce was further splitted into several independent departments: the Department of Business Administration, the Department of Accounting, the Department of Finance, the Department of International Trade (it had changed its name to International Business), and a new Department of Information Management. This completed the expansion of the fields of commerce. This was the Growth Stage in Taiwan's commercial education.

In 1987, the Doctoral Program of the Graduate Institute of Commerce was formally established.

At the same time, due to the efforts of many chairs and professors, the College of Management was formally reorganized as the seventh College of NTU, and also the first new college of the university after Taiwan's retrocession.

The NTU Executive MBA (EMBA), which commenced in 1997, is the first Executive MBA in Taiwan designed for senior executives seeking up-to-date knowledge of business operation. More than 1,000 top managers with minimum 10 years of working experience have enrolled to the program.

In 2004, NTU English MBA program was launched to promote internationalism and to gear the College towards a globally recognized business institution. This program is differentiated by its distinctiveness since students from diverse educational and nationality backgrounds are encouraged to enroll to interact and learn at this unique platform. Since its inception in 2004, the NTU English MBA Program has attracted a large number of international graduates from world leading universities and from over 20 countries around the world.

CHARACTERISTICS

After its establishment, the development of the College of Management has been the rapidest of NTU colleges. To collaborate with society in training management talent and in pursuing academic research, the College expects its students to become innovative, broad-sighted, and team-building. With the goal of becoming a leading institution, the College establishes programs cautiously and emphasizes its teaching, research, service to society and academic exchanges. The College seeks to develop a first-class faculty of both excellent researchers and outstanding teachers. Its goal is to offer students a quality manage-

ment education with a global perspective. The College is dedicated to maintaining its position as a forerunner in both theoretical study and the application of knowledge. It aims to integrate its resources, to expand cooperation with companies, to strengthen collaboration with society, and to raise overall competitiveness. By emphasizing these ideas, the College ensures that it will remain a leading position in management education.

FACILITIES

The main library of the college has 53,537 volumes in Chinese, Japanese and Korean, 40,886 volumes in western languages, 177 titles of Chinese, Japanese and Korean periodicals, 1,158 non-Chinese professional periodicals, and 1,071 titles of western periodicals, and 601 titles of non-book data. In addition, the computer center of the College of Management has 146 PCs, and over forty software and database applications, such as TEJ, BPO, CRSP, DataStream, Compustat and Worldscope.

RESEARCH

Over the past ten years, the faculty members have published more than 100 articles in SSCI and SCI journals; their intellectual contributions ensure that the international academic reputation of the College has been maintained. The College recognizes the importance of integration in interdisciplinary studies; it encourages its faculty to undertake interdisciplinary research in order to contribute to its future orientation and to upgrade research standards. The College has recently emphasized the promotion of international exchanges: it plans to set up cooperative programs with other foreign academic institutions. By supporting international exchange programs with internationally renowned institutions, the

College seeks to provide students with a world-class education that will attract talented students with broad international outlooks to support international cooperation.

GOAL

As the most prestigious business education provider in Taiwan, the College of Management is dedicated to maintaining its position as a leader in the creation, dissemination, and application of knowledge in the management and business fields. The vision of the College is committed to become one of the premier and influential business schools in the Asian Pacific region.

The mission of the College is to cultivate PRIME professionals who are Perceptive, Responsible, Innovative, Motivated, and Ethical. It is our commitment to cultivate perceptive faculty and students who utilize and extend knowledge to the immediate community and locals, to develop responsible, insightful leaders and entrepreneurs who create value for their organizations and communities, to engage in innovative, high-impact, and leading-edge research within and across disciplines, to encourage faculty and students of the school to be proactive and motivated in pursuing knowledge and truth, and to gear faculty and students of the school with business ethics and moral principles.

CONTACT INFORMATION

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a



1 DEPARTMENT & GRADUATE INSTITUTE OF BUSINESS ADMINISTRATION



INTRODUCTION

History

In 1948, the Ministry of Education authorized NTU to establish the Department of Commerce under the College of Law. In 1959, the department was divided into three divisions: business administration, was one of them. In 1985, the Business Administration Division was upgraded to the department status, and the Department of Business Administration was officially established. In 1992, the Department of Business Administration was further divided into two divisions: the Business Administration Division and the Technology Management Division. It's been 50 years since the Business Administration Division was established, and the number of

alumni has exceeded 3,250.

In 1972, the Graduate Institute of Business Administration was established, and we began the MBA program. We have around 1,622 alumni serving well-known companies in various sectors of business.

In 1987, the Graduate Institute of Business Administration introduced the Ph.D. program. Our Ph.D. program focuses on marketing management, operation management, organizational behavior and human resource management, strategy management, and technology management. To date, 153 Ph.D. students have been graduated from our doctoral program.

In 1998, we started the EMBA program. In 2002,

the College of Management integrated all of the EMBA programs. The original EMBA program at our Graduate Institute of Business Administration became the EMBA Business Administration program under the College of Management.

Characteristics

New generation business operation model

1. Knowledge competition model-Emphasis on knowledge management and "human resource management".
2. Time-based competition model-Emphasis on information technology and "operation management".
3. Innovation competition model-Emphasis on technology innovation, exchange and "technology management".
4. Integration of industries model-Emphasis on business model innovation and "strategic management".
5. Service-oriented model-Emphasis on customer relations and "marketing management".

Objectives

1. Curriculum design and periodical evaluation.
2. Curriculum effectiveness evaluation and improvement.
3. Cooperation between academia and industry; parallel learning from businesses.
4. Implement e-learning, on-line discussion, and distance learning.
5. Develop curriculum uniqueness among each field (organizational behavior and human resource management, marketing management, operation management, technology management, and strategic management); design new courses.
6. Develop case studies.
7. Electronic assisted teaching.
8. Encourage crossing field of study.
9. Educate students with language skills, management

abilities, and global visions.

10. Build business consulting centers to provide learning opportunities for faculties and students.
11. Build business information data centers for the use of education and research.
12. Strengthen knowledge exchange and professional network with top foreign universities.

MISSION

1. Raise the overall research quality.
2. Integrate teaching and research resources with the other departments; provide unique courses.
3. Improve trainings in technology and system integration skills.
4. Raise the overall competitiveness.
5. Enhance academic researches in management.

Future Development & Emphasis

1. Expand collaboration of courses within NTU and among other universities.
2. Expand knowledge exchange with foreign countries.
3. Raise research and teaching qualities.
4. Raise the number of graduate students; train top business managers for the development of the country.
5. Strengthen collaboration with Academia Sinica; introduce the Ph.D. programs for international students.
6. Strengthen cooperation with companies; provide students with a better learning environment.

FACULTY

Full-time: 22

Part-time: 16

Ph.D. Degree: 33

M.S. Degree: 5

Chair/ Professor

Shucheng Chi Ph.D., State University of
New York at Buffalo

Full-time

Professor

Chung-Chau Chang Ph.D., National Chengchi
University

Chia-Shen Chen Ph.D., NTU

Chang-Sung Yu Ph.D., Carnegie-Mellon
University

Tsung-Chyan Lai (1996-) Ph.D., Stanford
University

Jong-Tsong Chiang Ph.D., MIT

Wun-Hwa Chen Ph.D., State University of
New York at Buffalo

Andy Ruey-Shan Guo Ph.D., MIT

David Ming-Huang Chiang
Ph.D., University of Iowa

Houn-Gee Chen Ph.D., University of
Wisconsin

Luo Lu Ph.D., University of Oxford

Chung-Jen Chen Ph.D., Rensselaer polytechnic
Institute

Associate Professor

Sung-Pei Yu M.S., University of South
Carolina

Chung-Hsing Huang
Ph.D., University of Texas,
Austin

Shan-Yu Chou Ph.D., University of Chicago

Wenyi Chu Ph.D., London Business

School, University of London

Ai-Chia Chuang Ph.D., Minnesota University

Chun-Yao Huang Ph.D., London Business
School, University of London

Assistant Professor

Nai-Hwa Lien Ph.D., Cornell Graduate
School, University of Cornell

Yi-Wen Chien Ph.D., Purdue University

Jiun-Yu Yu D.Phil., University of Oxford,
U.K.

Chia-Wei Kuo Ph.D., University of
Michigan, U.S.A.

COURSES

Undergraduate programs

Compulsory Courses for Business Administration

Calculus(6), Business Management(3),
Economics(6), Elementary Accounting(6),
Statistics(6), Civil Law(3), Commercial Law(3),
Information Management(3), Management
Accounting(3), Organizational Behavior(3),
Management Science Models(3), Marketing
Management(3), Financial Management(3),
Operations Management(3), Business Policy(3),
Module courses(12)

Compulsory Courses for Technology Administration

Calculus(8), Business Management(3),
Economics(6), Elementary Accounting(6),
Programming Design(3), Statistics(6),
Operations Management(3), Management
Science Model Database Management(3),
Organizational Behavior(3), Management
Accounting(3), Linear Algebra(3), Financial
Management(3), Marketing Management(3),
Information Management(3), Management of

Science And Technology (3), Science and Technology Law(3), Strategy Management(3), Analysis of Industry & Competition(3), Innovation Management And Entrepreneurship / project Management(3)

Graduate programs

The Graduate Institute of Business Administration offers a two-year program leading to the degree of Master of Business Administration (MBA). Students must complete at least 24 required credits, 21 selective credits of graduate courses and 6 credits of thesis; the required courses are listed below:

MBA

Quantitative Methods (3), Strategy Management (3), Financial Management (3), Marketing Management (3), Operation Management (3), Management Accounting (3), Organizational Behavior (3), Information Management (3)

Ph.D.

There are five groups in Ph.D. Program the web site: <http://www.ba.ntu.edu.tw/phd/web> has detail courses.

ACADEMIC ACTIVITIES

Our department encourages all kinds of researches in academic areas, including publications from faculty and students and participation in international conferences.

Besides, in order to promote the exchange of research results and improve the Academic research in the field of management, several conferences and seminars have been held in our department in the past 10 years.

In 1996, a symposium on Chinese Business Organization and Management and the first Conference on Doctoral Dissertation in Management of NTU. In 2006&2008, we invited alumni to attend the reunion activity and present their academic papers.

Sun Yun-Hsuan Management Forum and the "Seminar on Contemporary Leadership" sponsored by HP, TSMC and China Steel Corp., was established in March 1998 at the NTU, the most prestigious university in Taiwan. From 2001, this forum was also sponsored by the Far Eastern Group, the Cathay Group and China Steel Corp. The goal of the Sun Yun-Hsuan Management Forum is to introduce world-class leaders, not only to the students of NTU, but also to the general public. Top leaders from business, government, or other domains are invited to be the forum's distinguished speakers.

In order to promote learning for students, the Sun Yun-Hsuan Management Forum is integrated into an ongoing MBA-level course (3 credits) entitled "Seminar on Contemporary Leadership." The course is structured around key issues on leadership and is offered to both MBA and senior undergraduate students. The lectures by professors focus mainly on theories and concepts of leadership.

The Conference on Taiwanese Enterprises in Southeast Asia; in Vietnam & Thailand and in Mainland China was hosted on 2000, 2001, 2003. In 2003-2004, we hosted Marketing Professional Speech Series, and the Forum on Information Innovation Application to Financial Issues was held on 2004. In 2001, we had CSMOT Conference, we also had Drive National Defence Industries Seminar and Excellence in global management.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1)Entrepreneurial management
- (2)General Management
- (3)Technology Management
- (4)Operations Management
- (5)Strategy
- (6)Marketing
- (7)Organizational Behavior
- (8)Finance

2. Further Studies

- (1)Entrepreneurial management
- (2)General Management
- (3)Technology Management
- (4)Operations Management
- (5)Strategy
- (6)Marketing
- (7)Organizational Behavior
- (8)Finance

3. Career options

- (1)Product/ Brand Marketing
- (2)Entrepreneurial Management
- (3)Consulting/ Strategy
- (4)Operations/ Production Management
- (5)Corporate Finance/ Mergers and Acquisition
- (7)General Management
- (8)Product Development
- (9)Research
- (10)Sales
- (11)Trade

CONTACT INFORMATION

Established in: 1959

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Website: <http://www.ba.ntu.edu.tw>

E-mail: ba@management.ntu.edu.tw

2 DEPARTMENT OF ACCOUNTING



INTRODUCTION

The Accounting Department provides talented students with the knowledge necessary to successfully compete in tomorrow's business environment. The department upholds its tradition of excellence by recruiting highly respected and knowledgeable faculty, preparing students for professional licenses in accounting, and supporting theoretical and applied research projects relevant to accounting profession. In order to keep up with the quick pace of domestic and international economic development and to meet the need for high-level executives in the field of accounting, the Accounting Department established the master program (MBA, with major in Accounting) in 1990. Aspiring to raise the stan-

dards of research and education in accounting, the department also established a doctoral program in 1994.

The core curriculum of the Accounting Department can be divided into four different concentrations: general accounting, auditing, taxation, and accounting information systems. In order to give students a broad knowledge of business fundamentals, the department also offers various elective courses that combine accounting and other business disciplines. Because accounting is by nature an applied social science, the department puts a tremendous emphasis on the connection between theoretical study and practical application. Most core courses are designed to include case studies, and experts in the field are frequently invited to

speak and interact with students at seminars and roundtable discussions organized by the department. Furthermore, many students volunteer for VITA (Voluntary Income Tax Assistants), helping individuals and small businesses file income tax returns, and gaining valuable experience in tax preparation process. Students wishing to obtain international exposure can participate in the exchange program between the University of Illinois at Urban-Champaign (UIUC), and the Department of Accounting at NTU. The program allows our students to simultaneously earn a Master of Science in Accounting degree (MSA) from Illinois and an MBA degree with a concentration in accounting from NTU.

FACULTY

Full-time: 25

Part-time: 15

Ph.D. Degree: 30

M.S. Degree: 10

Chair/ Professor

Shu-Hsing Li Ph.D., New York University

Full-time

Professor

Rong-Ruey Duh Ph.D., University of Minnesota

Chen-en Ko Ph.D., University of Minnesota

Jimmy, Yang-Tzong Tsay
Ph.D., University of Maryland

Rebecca, Chung-Fern Wu
Ph.D., UCLA

Chan-Jane Lin Ph.D., University of Maryland

Taychang Wang Ph.D., University of Pennsylvania

Yann-Ching Tsai Ph.D., UCLA

Chi-Chun Liu Ph.D., New York University

Suming Lin Ph.D., Arizona State University

Shui-Liang Tung Ph.D., University of Wisconsin, Madison

Shuen-Zen Liu Ph.D., University of Pittsburgh

Shu Yeh Ph.D., UCLA

Associate Professor

Hwey-Jane Lin M.A., University of Pennsylvania

Kuo-Tay Chen Ph.D., University of Texas, Austin

Chiawen Liu Ph.D., NTU

Ken Yaotsung Chen
Ph.D., Syracuse University

Assistant Professor

Pei-Cheng Liao Ph.D., University of Washington

Chuan-San Wang Ph.D., University of Manchester

Wen-Hsin Hsu Ph.D., Lancaster University

Chih-Yang Tseng Ph.D., University of Maryland

Yen-Jung Lee Ph.D., Michigan State University

Chih-Hsien Liao Ph.D., Case Western Reserve University

Adjunct

Professor

C.Y. Cyrus Chu Ph.D., Michigan University

Hsiou-Wei Lin Ph.D., Stanford University

Part-Time

Professor

Hong-Chang Chang

Ph.D., University of
Pennsylvania

Soushan Wu

Ph.D., University of Florida

Eric Liluan Chu

Ph.D., New York University

Kevin, C.W. Chen

Ph.D., University of Illinois
Urbana-Champaign

Yu-Hui Su

Ph.D., NTU

Associate Professor

Ruey-Hsia Wan

M.A., Soochow University

Min-Chih Chuo

M.A., National Cheng-Chi
University

Sheng-Ford Chang

M.A., University of Iowa

Assistant Professor

Chi-Chang Yu

Ph.D., Stanford University

Lecturer

Yen-Sung Li

M.A., Soochow University

Tzong-Li Lee

M.B.A., Drexel University

Kuei-Fu Li

M.A., National Cheng-Chi
University

Professional

Albert Hsueh

M.B.A., Bloomsburg
University of Pennsylvania
M.A., Soochow University

Gary, Kuo-Lieh Tseng

M.B.A., Harvard University
Kennedy School

James Wang

M.B.A., National Chengchi
University

FACILITIES

Library

The main Library of NTU houses over 1,500,000 volumes of books and 20,000 articles of academic

journals, which provide for a treasure of knowledge. In addition, the College presently maintains a Management Library adjacent to the College of Management Building. It contains nearly 9,000 volumes in Chinese and 30,000 in English. It also has a collection of over 1,000 periodical titles, including 800 in English and 200 in Chinese.

Computer Center

In addition to the main computing center of the University, which maintains two VAX machines and one Cray Super Computer, the College of Management operates a computer center catering to its own faculty members and students. Housed in the center are the following:

1. PC Lab

File Server(1), Network: Novell Netware(1),
Laser Printer(2), PC(50), Projector(1)

2. Teaching Classroom

Color Liquid Crystal Project(1), File
Server(1), Network: Novell Netware(1), Laser
Printer(2), PC(70)

3. Information System Lab

HP 750 Workstation, HP 710 Workstation PC
Lab of the Department of Accounting, PC(17),
Laser Printer(2), Scanner(2)

COURSES

Undergraduate Programs

The Department offers a four-year program leading to the degree of Bachelor of Business Administration. A student must complete a minimum of 139 credit hours, of which 102 are required.

Undergraduate Core Courses

Accounting Information Systems (3), Advanced
Accounting (6), Auditing (6), Business
Management (3), Cost & Management

Accounting (6), Economics (6), Intermediate Accounting (6), Principles of Accounting (6), Statistics (6)

Undergraduate Courses

Business Law (3), Calculus (6), Financial Management (3), Outline of Civil Code B(3), Tax Regulation (6), Special Topics on Intermediate Accounting(3)

Master Programs (MBA and EMBA)

The Department of Accounting offers a two-year program leading to the degree of Master of Business Administration in Accounting. A minimum of 45 coursework plus a master thesis is required for this MBA program.

Graduate Required Courses

Accounting Information Systems Seminar(3), Advanced Auditing(3), Advanced Financial Accounting Theory (3), Advanced Management Accounting Seminar (3)

Among elective courses, our MBA program requires at least 9 credits in the accounting category, 3 credits in the methodology category, and 12 credits in management category.

Ph.D. Programs

The Department of Accounting offers the degree of Doctor of Philosophy. A minimum of 40 credits of coursework, which includes 12 credits in required courses, 19 credits in imperative elective courses and 9 credits in general elective courses are required. In addition, a doctoral dissertation is also necessary for the fulfillment of the requirement of a Ph.D. degree.

1. Prerequisites

The following courses are prerequisites and can be waived with the approval of the chairman:

Intermediate Accounting, Cost Accounting/ Management Accounting, Advanced Statistics/Mathematical Statistics, Auditing.

2. Required Courses:

Empirical Research in Accounting (4), Analytical and Behavioral Research in Accounting (2), Seminar on Thesis Writing (I) (3), Thesis Writing(II) (3)

3. Imperative Elective Courses:

Accounting Research Workshop(I) (1), Accounting Research Workshop(II) (1), Accounting Research Workshop(III) (1), Accounting Research Workshop(IV) (1), Research methodology courses have to be elected: Econometric theory (I) (3), Microeconomics (I) (3), Microeconomics (II) (3)

At least two of the following research methodology courses have to be elected: Econometric theory (II) (3), Econometric theory (III)(3), Multivariate Analysis (3), Experimental Design (3)

ACADEMIC ACTIVITIES

1. Workshops: The Department of Accounting holds the departmental workshops once a week, each of which lasts two hours. The faculty and graduate students at the department are invited to present papers covering issues in accounting.
2. Accounting Theory and Practice Conference: The annual Accounting Theory & Practice Conference has been organized and hosted by the Department of Accounting since 1989. The conference has attracts participants from all over the world and has been recognized as one of the major academic activities in the region. In the past, joint conferences had been co-organized with American Accounting Association CSU-Fresno, IFAC and the University of Illinois.

3. The NTU Management Review :The Review is published twice a year by the College. Each Department of the College takes charge of the editorship in turn for each year.
4. In November 1997, the Department of Accounting signed a Joint Master Program with the University of Illinois at Urbana-Champaign. Under this program, a NTU master student in accounting, after the fulfillment of requirements at both universities, is conferred both a MBA degree from NTU and a MSA degree from UIUC.
5. In November 1998, the Departments of Accounting of NTU, Fudan University in Shanghai, and Peking University in Beijing, as well as the School of Accounting of the Chinese University of Hong Kong started a strategic alliance called "the Dragon League" with the aim of promoting academic exchange and cooperation among the four leading institutions. Each school is responsible for sponsoring the academic activity in turn annually. It is hosted by our department this 2002 academic year in Taipei. Students of our department gain extraordinary performance through these years.

CAREERS AND FURTHER STUDIES

1. Professional abilities

Accounting, Auditing, Financial Management, General Management, Financial Planning and Analysis

2. Further studies

- (1) Graduate Institute of Accounting
- (2) Graduate Institute of Finance
- (3) Graduate Institute of Business Administration
- (4) Graduate Institute of Management
- (5) Graduate Institute of Law

(6) Graduate Institute of Media

3. Career options

Most students graduating from department of accounting or with an MBA in accounting seek jobs in accounting firms. There are also students choose to work in accounting or finance departments in companies, which others take the national exams to work in governmental accounting, auditing, tax, and SEC departments. After staying in CPA firms for three to five years, some transfer to other companies according to their interests and opportunities. Actually, it is not difficult for those in the accounting profession to transfer to other fields related to business. However, vice versa, those majoring in other fields might struggle to surpass accounting professionals. Our mission is to provide solid accounting training along with overall management skills. With integrated accounting training, we are confident our students will become outstanding leaders in public or private institutions in future.

CONTACT INFORMATION

Established in: 1985

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3 DEPARTMENT OF FINANCE



INTRODUCTION

The history of Department of Finance at NTU dated backed to the era of Department of Business under the College of Law. In 1963, there were four divisions within the Department of Business: Banking, Business Administration, International Trade and Accounting. Each of four divisions, subsequently, became an independent department in 1985. The Department of Finance was emerged from the division of banking in line with the trend and demand of domestic and international finance.

The Department of Finance was established for 22 years until now. With the rapid change and development of financial industries, financial service has become one of mainstream for economic

development. In order to respond the huge demand of professional from Taiwan society, Graduate Institute of Finance was founded officially in 1990 and the Ph. D program began its first enrollment in 1993. Besides, the EMBA program was launched in 2001 which responded the need of high-level talented people from the financial industries. In addition, divisions of Financial Engineering and Insurance within the Graduate Institute of Finance were offered separately in 1998 and 2001. In 2001, our Ph. D program was divided into three divisions (Finance, Financial Engineering and Insurance) and began to recruit students at that time.

In order to respond to the trend and challenge of the financial industries, our department intensive-ly recruits the most excellent faculty members and

expands the facilities. Moreover, our faculty trains and teaches the students what's happening outside the campus and attitude of service with proactive teaching. Our department emphasizes on the interaction between technology and finance, teaches our students about ethnics, and asks them to develop international view. All these actions aim to make them top managers in financial industry of the coming century. In addition, in order to deepen the interplay of theory and its application, our department works with the domestic and international companies to provide our students with internship opportunities in the summer and winter vacations and offer abundant scholarship for our students.

Owing to the collaborative efforts by our whole faculty, students and alumni, the department of Finance, the department of Medicine and the department of Electrical Engineering are the highest-ranking departments in Taiwan. In the future, our department will continue to cultivate more excellent students and make more remarkable academic contribution. Based upon these achievements and efforts, our department wishes to become one of excellent departments in the world.

FACULTY

Full-time:25

Part-time:16

Chair/Professor

Ming-Shen Chen Ph.D., Michigan State University

Full-time

Professor

Hsiaw-Chan Yeh Ph.D., University of California, Riverside
Hsien-Chan Ho Ph.D., University of Texas at Austin

Yueh-Chu Yen National Taiwan University
Yun Lin Ph.D., University of Illinois, Urbana-Champaign
Tsun-Siou Lee Ph.D., University of California, Berkeley
Chau-Chen Yang Ph.D., University of Illinois, Urbana-Champaign
Shean-Bii Chiu Ph.D., University of Washington
Dar-Yeh Hwang Ph.D., Rutgers University
Shyan-Yuan Lee Ph.D., Columbia University
Yu-Ren Tzeng Ph.D., Temple University
Sheng-Syan Chen Ph.D., SUNY-Buffalo
San-Lin Chung Ph.D., Lancaster University, U.K.
Shing-Yang Hu Ph.D., University of Rochester
Yeh-Ning Chen Ph.D., University of California, Los Angeles
Chung-Hua Shen Ph.D., Washington University
Hsien-Hsing Liao Ph.D., Rutgers University
Hwai-Chung Ho Ph.D., Wayne State University
Chung-Ming Kuan Ph.D., University of California, San Diego
Yun-Dauh Lyuu Ph.D., Harvard University

Associate Professor

Chyi-Mei Chen Ph.D., Massachusetts institute of technology
Yong-Chern Su Ph.D., Syracuse University
Yau-Huei Wang Ph.D., Lancaster University
Keng-Yu Yo Ph.D., University of Warwick, UK.
Pai-Ta Shih Ph.D., University of Texas at Austin

FACILITIES

Our department offers many resources for students and faculty-books, magazines, journals, and access to various databases, including ABI/INFORM, BPO, DIALOG, STICNET, SEC-online, EBDS, ASIA-PACIFIC, INTLEC, MARS, INFOTRAC-BUSINESS INDEX, COMPUTER SELECT, TEJ, Thomson Financial Datastream, CRSP(Center for Research in Security Prices CRSP US Stock Databases), COMPUSTAT, and The Asia Wall Street Journal.

In addition, our department also maintains a computer cluster equipped with applied software Microsoft Visual Basic 6.0, Microsoft Visual C++ 6.0, SPSS 10.0, SAS. All of three facilities are intended to provide a state-of-the-art technology environment for students' learning and growth.

PROGRAMS

Undergraduate Programs

The department of Finance offers the four-year undergraduate program leading to the degree of Bachelor of Business Administration (BBA). Students must complete 141 units of credits, and can require the Bachelor Degree. The compulsory coursework comprises of 87 units of core courses and 42 units electives.

The learning goal of undergraduate program is to cultivate professional for the financial market. Thus, combined with the need of the theory and its application, the teaching of our faculty will focus on the students' balanced development in their study. In course, our department will require students to learn the basic knowledge in economics, accounting, monetary and banking, and investment when they are in the first and second grade. Further, our department will

require students to select professional courses such as financial management, financial statement analysis, insurance and management of financial institutions to enhance their professional capacity when they are in the third and fourth grade. These training will establish a solid base for students' future professional career and studying abroad.

Graduate Institute of Finance

Graduate Institute of Finance provides two years full-time study. Students must complete a minimum of 42 credits, including 12 core units and 6 units of the thesis. Before graduation, the graduated students must pass the English test. They must gain the 79 points or above in TOEFL IBT Test) or 780 points or above in TOEIC test.

Program Core courses are Investment Management (3 credits), Quantitative Analysis (credits 3), Financial Institutions and Markets (3 credits) and Financial Theory (3 credits).

There are three divisions composing Graduate Institute of Finance including the Division of Finance, Division of Financial Engineering, and Division of Insurance. The learning goal of each division is to foster the talented people with professional knowledge of financial management. In order to respond both the developments of theoretical framework and its applications, our graduate program will constantly offer the professional courses to our students. Further, our department aims to educate professionals who are good at theoretical knowledge and practice and encourages our students to employ their knowledge to improve the efficiency of financial operations and accelerate Taiwan economic growth.

EMBA Program

Our EMBA program offers an authentically learning channel that equips senior executives

with the knowledge and perspective they need to address business challenges on a global scale. Further, our faculty offers more professional courses and programs. Therefore, students will have more opportunities to acquire both fundamental and specialized skills. In addition, students in our EMBA program can work together with our professors and high-impact executives from a wide range of industries. They learn not only from their formal classes but also from the perspectives and experiences of other students. Our EMBA program is designed for experienced professionals from a diverse range of backgrounds. There are three semesters in one year and most courses are arranged at night and on the weekend. Students who complete all works will be offered Master degree in Business.

Ph.D. Programs

The Ph. D programs of study and research focusing on finance leading to the degree of Doctor of Philosophy is available for qualified candidates.

Students must complete a minimum of 45 units to complete their coursework, of which 21 units are core courses, and 12 credits are for the dissertation of Ph.D.

Mandatory Courses: Microeconomic Theory (I)(3 credits), Econometrics (I) (II)(6 credits), Seminar on Capital Market Theory (I)(3 credits), Seminar on Corporate Finance Theory (I)(3 credits), Seminar on Finance (I) (II) (III) (IV)(12 credits). In addition to finance courses, our program strongly recommend that students take courses in other management-related areas.

There are three divisions composing Ph. D program, including the Division of Finance, Division of Financial Engineering, and Division of Insurance. The learning goal of each division is to foster the talented people with professional knowledge of financial management. The

emphasis of the program is followed: 1) to require students to choose basic courses such as economics, financial management and capital market. These courses will enhance students' professional ability and establish a solid base for their theoretical analysis. 2) to provide students with rigorous training in research and students will enhance their research ability and cultivate their communication abilities in foreign language. 3) the strength of the program is the close interaction it provides between the faculty and students. The faculty work intensively with students, offering their time, expertise, and experience to facilitate the students' understanding of financial markets and institutions and their research. As part of this process, Professors and students frequently collaborate in joint research and publication. The goal of our Ph. D program is to produce high-quality scholars and to prepare them for successful academic careers.

ACADEMIC ACTIVITIES

1. Exchange Program

We encourage students to participate in Exchange Program to broaden their global view. By exchanging with famous international universities, students could share academic activities with each other and experience different cultures. During the year 2008-2009, there will be 45 students who acquire the admission to participate the Exchange Program.

2. NTU International Conference on Finance

The First NTU International Conference on finance was held in 1995 and continuously flourishes to five conferences at 1998, 2000, 2002, 2004 and 2006. The conference has become a powerful indicator for the financial field in Taiwan as well as an opportunity for the business

world to exchange ideas with the academics. The past keynote speakers have always being very reputable, including: Professor William Sharpe, The winner of 1997 Nobel Prize winner for economic sciences. Professor Myron S. Scholes, The winner of 1997 Nobel Prize, the co-inventor of the famous Black-Scholes formula. Professor Richard Roll, the chairman of AFA and the author of APT model. Professor Edward Altman, who provides the Z-score model, is the pioneer for the credit risk. All information about the conference can be checked on <http://www.fin.ntu.edu.tw/~conference>.

3. Seminar

Many Seminars will be held in every semester. We invite popular scholars and celebrities to make a speech every week. We also encourage Professors and students to publish their research papers in famous journals and join the international conferences all over the world.

4. Global MBA Program

To increase students' foreign languages, we hold the Global MBA Program. Students could choose five of the eight English courses which they are interested in. All the courses are taught in English. After they fill the requirement, they could be offered the diploma.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) Corporate Finance Field
- (2) Security Investment and Analysis Field
- (3) Financial Institutions and Markets Field
- (4) Financial Engineering Field
- (5) Real Estates
- (6) Economic and Mathematical Field

2. Further studies

Any ability in finance can be extended.

3. Career options

Security Analysis, Security Investment Advisor, Mutual Fund Manager, Pension Fund Manager, Financial Institution Employee, Insurance Company Employee, Corporate Financial Management, Certified Public Accountants, Ministry of Finance, R.O.C. (National Treasury Agency, Taxation Agency, Bureau of Monetary Affairs, Securities and Futures Commission), Central Bank of China, Council for Economic Planning and Development.

CONTACT INFORMATION

Chair: Ming-Shen, Chen

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INTRODUCTION

Having grown out of the Department of International Trade of the College of Management, NTU, the Department of International Business was created in 1992 in response to the trend toward internationalization in business and related academic research.

Also in 1992, the Graduate Institute was granted the right to award master degrees, with the right to award doctorates being granted in 1995.

Continuing a fine tradition established for many years, the department's teaching, and the recruiting of faculty, are concentrated in five main areas: International Economic & Policy Analysis, International Marketing Management,

International Finance & Banking, Business Strategies; and Management & Organization of International Businesses.

The department aims to give students sound academic training, so they graduate with a broad international outlook and capable of multifaceted development as managers in international business. With the trend towards internationalization and liberalization, businesses in R.O.C. have gradually found themselves facing keen international competition. Also, there is an increasing demand for people with international management skills. The excellent teachers and comprehensive course structure offered provide a perfect environment for those interested in International Business management. Our graduates are, not only competent to assume important

management responsibilities, but in a position to make meaningful contributions to improving the R.O.C.'s international competitiveness.

FACULTY

Full-time: 23

Part-time : 29

Ph.D.: 47

Chair/ Professor

Hsiou-Wei Lin Ph.D., Stanford University

Full-time

Professor

Cheng-Kun Kuo Ph.D., University of Texas at Austin

Ching-Sung Wu Ph.D., University of California at Los Angeles

Yi-Long Jaw Ph.D., Ohio State University

Mao-Wei Hung Ph.D., Northwestern University

Ming-Je Tang Ph.D., Massachusetts Institute of Technology

Heng-Chiang Huang Ph.D., University of Michigan

Cheng-Min Chuang Ph.D., University of Washington

Shi-Kuan Chen Ph.D., Yale University

Ji-Ren Lee Ph.D., University of Illinois, Urbana-Champaign

Homin Chen Ph.D., NTU

Li-Chung Jen Ph.D., Ohio State University

Associate Professor

Yong-Chang Chen Ph.D., in Marketing, University of Pennsylvania

Jyh-Dean Hwang Ph.D., University of Wisconsin, at Madison

Hong-Jen Chiu Ph.D., University of

Washington, Seattle

Hsin-Chang Lu Ph.D., University of Chicago

Ming-Huei Hsien Ph.D., University of Warwick, U.K.

Hsueh-Liang Wu Ph.D., University of Birmingham, U.K.

Chun-Chung Chen Ph.D., University of Texas at Dallas

Jiun-Sheng Lin Ph.D., University of Maryland

Assistant Professor

Yao-Wen Hsu Ph.D., Cambridge University, U.K.

Yung-Chin Lien Ph.D., King's College London, U.K.

Jr-Yan Wang Ph.D., NTU

Part-time

Professor

Yu-Yuen Bian Ph.D., NTU

Chieh-Chien Chao Ph.D., NTU

Chih-Kang Wang Ph.D., Texas A & M University

Simon H. Yen Ph.D., Ohio State University

Tzue-Shuh Chiang Ph.D., University of Minnesota

Chi-Ruey Hwang Ph.D., Brown University

Shuenn-Jyi Sheu, Ph.D., Brown University

Chen-Lung Chin Ph.D., National Cheng Chi University

Wen-Ruey Lee Ph.D., NTU

Ching-Ter Chang Ph.D., National Chiao Tung University

Yang Li Ph.D., Iowa State University

Associate Professor

Shao-Liang Liu J. D., University of Chicago

Shih-Ju Wang Ph.D., NTU

Sheng-Yung Yang Ph.D., Drexel University

Hui-Mei Wang Ph.D., NTU

Assistant Professor

Shang-E Tai Ph.D., Yale University

Wen-Chung Guo Ph.D., NTU

Chih-Wei Lee Ph.D., NTU

Huei-Ling Chen Ph.D., NTU

Li-Chen Lin J.D., National Taipei
University

Chia-Hui Lu Ph.D., University of
Wisconsin, at Madison

Chien-Hung Chen Ph.D., NTU

Jia-Han Guo Ph.D., NTU

Ming-Jen Chang Ph.D., NTU

Lecturer

Jui-Tsan Hung Master, NTU

Chih-Hua Liu Master, NTU

Sophia Cheng Master, Golden Gate
University

Louis T. Kung Master, St.John's University

Stanley Chu Master, NTU EMBA

FACILITIES

Situated on the 8th floor of College of Management Building, the department includes a Department office, a Chairman's Office, a Seminar Room, a Conference Room, and a Faculty Lounge.

In addition, the department is equipped with personal computers, laptops, scanners, printers, projectors, and digital cameras.

The department owns approximate 92,934 books and 2,409 professional journals, which are in either English or Chinese.

COURSES

Undergraduate Programs

Calculus (6), Accounting (6), Economics (8), Statistics (6), Introduction to International Business (3), Management (3), Investments (3), Money & Banking (3), Financial Management (3), Outline of Civil Code (3), Marketing Management (3), Introduction to Management Information Systems (3), Mathematics for Management (3), Multinational Business Management (3), International Marketing Management (3), Marketing Research (3), International Financial Management (3), International Business Strategy (3), International Trade: Theory & Policy (3), International Finance : Theory & Policy(3), International M&A and Joint Venture Strategy(3), Economics Academy(3)

Graduate Programs

Industrial Economics (3), Financial Management (3), Marketing Management (3), Managerial Accounting (3), International Economics (3), Multinational Business Management (3), International Marketing Managements (3), International Financial Investments (3), International Business Strategy (3)

Ph.D. Programs

International Business Management Division : Seminar in Economics of Organization, Theoretic Foundations of Strategic Management, Econometric Theory, Doctoral Seminar on Theories of Multinational Enterprises, Industrial Economics, Doctoral Seminar on International Management, Research Methodology, Managing International Alliance, Multivariate Analysis, Quantitative Models in Marketing, Special Topics on International Business

Strategic Management Division:

Microeconomics Theory, Theoretic Foundations of Strategic Management, Econometric Theory, Industrial Economics, Seminar in Economics of Organization, Doctoral Seminar on Theories of Multinational Enterprises, Multivariate Analysis, Quantitative Models in Marketing, Special Topics on Strategy Research

Marketing Management Division: Doctoral

Seminar on Theories of Multinational Enterprises, Microeconomics Theory, Psychology of Cognition, Econometric Theory, Seminar on Marketing Management, Mathematical Statistic, Seminar in Economics of Organization, Applied Time Series Analysis, Industrial Economics, Multivariate Analysis, Quantitative Models in Marketing, Special Topics on Marketing

International Finance & Banking Division:

Doctoral Seminar on Theories of Multinational Enterprises, Theory of Quantitative Economics, Microeconomic Theory, Seminar on International Financial Markets, Seminar on International Economics, Seminar of International Corporate Finance, Seminar on Financial Engineering, Financial Mathematics

ACADEMIC ACTIVITIES

- (1) Seminars: Held without a fixed schedule, attended by the faculty of the management college and other invited renowned scholars to present papers.
- (2) NTU Management Review: A yearly publication of the management college. The five departments of the college take turns to be the editor in chief.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) International Business Management
- (2) International Finance
- (3) International Trade
- (4) International Financial Management
- (5) International Marketing Management
- (6) International Economic & Policy Analysis

2. Further studies

The department aims to give students a thorough professional training, so they will graduate with a broad international outlook and capable of multi-faceted development as managers in international business.

- (1) International Business Management
- (2) International Economic
- (3) International Marketing
- (4) International Financial Management
- (5) International Finance: Theory & Policy
- (6) International Economic & Policy Analysis
- (7) International Business Strategy

3. Career options

International financial market employee, marketing and planning personnel, investment banking specialist, financial management specialist/executive, business executive/general manager, etc.

CONTACT INFORMATION

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INTRODUCTION

The Department of Information Management at NTU was established in 1991. After a few years of rapid growth, the Department now has seventeen full-time faculty members, four adjunct faculty members, 226 undergraduate and 227 graduate students.

The educational goal of the Department is to provide the students with a solid training of information technologies and proficient management skills, so as to enable them to obtain a broad view of the field. Our graduates are expected to use their management skills to promote applications of information technologies, create innovative computerized environments, and hence to

steer the development of their organizations.

Our teaching and research focuses include: (1) applying information technologies to support organizational activities; (2) improving the efficiency of decision-making process and the quality of production through the deployment and development of information systems; and (3) by doing so, contribute to realize an information society in the foreseeable future.

Featuring highly professional yet comparatively junior faculty members, genuinely free atmosphere, and substantial interaction with other department in the College of Management, the Department can safely be named as one of the best academic units to train specialists in information management science. In recent years,

moreover, the Department has made persistent attempts to expand its overall scale, and recruit best possible new faculty members.

FACULTY

Full time: 17

Adjunct: 4

Ph.D.: 21

Chairperson/Professor

Ching-Chin Chern Ph.D., University of Texas at Dallas

Professor

Seng-Cho Timothy Chou

Ph.D., University of Illinois at Urbana-Champaign

Yeali Sun Ph.D., UCLA

Yuh-Jzer Joung Ph.D., University of New York at Stony Brook

Ming-Hui Huang Ph.D., University of Wisconsin-Madison

Chorng-Shyong Ong

Ph.D., National Taiwan University

Juei-Tine Lee Ph.D., University of Illinois at Urbana-Champaign

Associate Professor

Ching-Chia Hsieh Ph.D., National Chiao-Tung University

Yih-Kuen Tsay Ph.D., UCLA

Yeong-Sung Lin Ph.D., USC

Robin Bing-Yu Chen

Ph.D., University of Tokyo

Tyng-Ruey Chuang Ph.D., University of New York

Assistant Professor

Ling-Ling Wu Ph.D., University of Chicago

Bow-Yaw Wang Ph.D., University of Pennsylvania

Chien Chin Chen Ph.D., National Taiwan University

Carol Hsu Ph.D., London School of Economics and Political Science

Kwei-Long Huang Ph.D., University of Pennsylvania

Adjunct Professor

Wen-Hsien Chen Ph.D., University of California, Berkeley

Gwo-Hshing Tzeng Ph.D., Osaka University

Adjunct Associate Professor

Kuo-Chung Chu Ph.D., National Taiwan University

Adjunct Assistant Professor

Chung-Yang Chen Ph.D., Arizona State University

FACILITIES

The Department has a computing center and six research laboratories, including Content and Knowledge Management Lab., Network System and Services Lab., Distributed Information Systems Lab., Computer Multimedia Lab., E-Business and Supply Chain Management Lab., and Information and Behavior Lab., equipped with more than 20 Linux Servers and workstations, more than 100 Pentium PCs, and plentiful multimedia equipments.

COURSES

Undergraduate Programs

The Department of Information Management offers a four-year program leading to the degree of Bachelor of Business Administration in Information Management.

A student must complete a minimum of 141 credit units of course work, of which 111 units are core courses. The core courses requirements are as follows:

Core Course:

Freshman: Calculus (4,4), Accounting (3,3), Managerial Mathematics (3), Introduction to Computer Science (3), Programming Design (3), Discrete Mathematics (3).

Sophomore: Statistics (3,3), Introduction to Information Management (3), Computer Organization and Architecture (3), Management (3), Operations Research (3), Algorithms (3), Operating Systems (3).

Junior: System Analysis and Design (3), Computing Networks and Application(3), Seminar on Information Management(1), Topics in Information Management I (2),

Database Management Systems (3), Two of the following five: Marketing Management(3), Financial Management(3), Operations Management(3), Human Resource Management(3), Organization Behavior(3), One of the following three: Programming Languages(3), Theory of Computing(3), Software Development Methods(3),

Senior: Topics in Information Management II (2).

MBA Programs

The Graduate Institute of Information Management offers a two-year program leading to the degree of Master of Business Administration. A student must complete a minimum of 35 credits of course work, of which 11 are to be gained from required courses, 18 from elective courses, and the remaining 6 from the master's thesis.

The course requirements are as follows:

Information Management (3), Seminar on Information Management(2); Elective courses (2 out of 6): Information Technology & Competitive Strategy(3), Advanced Database Management(3), Distributed Information Systems(3), Advanced Computer Networks(3), E-Business(3), Knowledge Management(3).

EMBA Programs

The program leading to the degree of EMBA requires a minimum of 43 credits of course work, including the Master's thesis. Of the 43 credits, 10 are to be gained from core required courses, 10 from core elective courses, 8 from group required courses, 9 from elective courses, and the remaining 6 from the master's thesis.

Ph.D. Programs

The Graduate institute also offers a Ph.D. program with two tracks: Information Management and Information Technology. Both require a minimum of 32 units and a doctoral dissertation. Doctoral candidates must complete all the requirements in seven years or, if permitted, in nine years.

Course Requirement:

1. Core Courses: 7 units
 - a. Advanced Information Management(3)
 - b. Information Management Ph.D.Forum(I)(1)
 - c. Information Management Ph.D.Forum(II)(1)
 - d. Information Management Ph.D.Forum(III)(1)
 - e. Information Management Ph.D.Forum(IV)(1)
2. Elective Courses: 12 out of 25 units should be approved by dissertation advisor.
3. All PhD candidates must satisfy the information management breadth requirement in their PhD program at this department. The requirement is satisfied by mastering the content of five undergraduate courses: Computer Networks and Applications, Database Management, Systems Analysis and Design, Economics, and Management. Competence may be demonstrated in one of two ways.
 - a. Satisfactory completion of the course or more advance equivalence at the IM department with a grade 60 or better.
 - b. Satisfactory completion of an equivalent course at another university with a grade of 60 or better.

To reiterate as a final note, students in our programs shall acquire the capabilities for information management, strategic management, project management, network planning, systems analysis, design, and development, business renovation projects, etc.

ACADEMIC ACTIVITIES

1. Seminars are held once or twice every week. We invite experts, managers, and researchers from the public and private sectors related to the field of Computer Technology and Information Management.
2. Laboratories research performance seminars are held once every week.

3. The Department also sponsors or cosponsors symposia, workshops and short courses.

CAREERS AND FURTHER STUDIES

1. Professional abilities

In regard to undergraduate students, we expect them to become the new blood of information industry, invigorating particularly its technological and management advancements.

In regard to MS students, we expect them to become extraordinary maintainers of information industry, applying and developing informative systems, in a steady progress.

In regard to EMBA students, we expect them to become genuine masters of information industry, practicing their knowledge of information and business management in their professions.

In regard to Ph. D. students, we expect them to become solid pillars of information industry, creating and developing effective operative systems and management strategies based on their knowledge of information sciences and business management.

Briefly, students in our programs shall acquire abilities as follows: information management, strategy management, project management, network planning, system analyses, designation and development, business renovation projects, etc.

2. Further studies

Most of our graduates choose information management as the subject of their advanced studies. However, since our programs cover fields related to information as well as management, graduates may also choose any of the following fields for further studying: information sciences/engineering, technology management, industry management, management sciences, strategy science, business management, accounting and finance, etc.

3. Career options

Our interdisciplinary programs cover the many areas of information science, technology and management, in theory and in practice, emphasizing in particular foundational knowledge that will lay a solid ground for the students. Apart from the comprehensive selection of courses, our students have the opportunities to participate in computer-based administration of the University as well as projects sponsored by national research agencies or commercial entities. Their experience in developing and applying large-scale information systems enables them to work as creative engineers in the software industry. Our rich curriculum also enables our students to work as professional managers in various businesses or even to launch business of their own. Our alumni work in prestigious companies, institutions, and international trusts and have earned high acclaims from the society.

It should be noted that alumni of our Department are not restricted to traditional areas of MIS, but rather can actively participate in newly developed business such as those related to design of databases and calculative methods. Other than undertaking software design, cases in EC and EDI, or some supporting information systems project within business, guide a few alumni nowadays are in charge of product development, users' interface design and maintenance, and information systems certificating as well as consulting. To summarize, the positions that our graduates are likely to hold are of a great variety, including software designer, technical engineer, system analyst, project manager, senior manager or consultant, information administrator(CIO), general manager(CEO), and so on.

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VIII. COLLEGE OF PUBLIC HEALTH



Academic Units

- Department of Public Health
- Graduate Institute of Health Policy and Management
- Graduate Institute of Occupational Medicine and Industrial Hygiene
- Graduate Institute of Epidemiology
- Graduate Institute of Health Care Organization Administration
- Graduate Institute of Environmental Health
- Graduate Institute of Preventive Medicine
- Master of Public Health program
- Research Center for Environmental Health and Occupational Hygiene
- Research Center for Health Promotion
- Center for International Health Research
- Center for Health Insurance Research
- Center for Biostatistic Consultation and Research
- Center for Genetic, Environmental and Research

The Present and Former Deans

Ruey-Shiung Lin	(1993.08-1996.07)	Ruey-Shiung Lin	(2002.04-2002.09)
Chiu-Sen Wang	(1996.08-1999.07)	Jung-Der Wang	(2002.10-2005.07)
Chien-Jen Chen	(1999.08-2002.03)	Tung-liang Chiang	(2005.08-present)

HISTORY

In 1993, the College of Public Health was born from the College of Medicine as the eighth college of National Taiwan University so as to upgrade the standards and quality of public health in Taiwan. Currently, the College of Public Health consists of one undergraduate department and six graduate institutes.

The Institute of Tropical Medicine, established in 1939, was the forerunner of the College of Public Health. After Taiwan was returned to the Republic of China at the end of the Second World War, the Institute of Tropical Medicine was renamed as the Graduate Institute of Public Health. In the early years, the Graduate Institute of Public Health aimed at training public health workers and conducting public health researches. It was not until 1965 that the Graduate Institute of Public Health began to offer master programs. A doctoral program was initiated twenty years later in 1985. Following the inauguration of the College of Public Health, four graduate institutes that were independent of the Graduate Institute of Public Health were established: Graduate Institute of Occupational Medicine and Industrial Hygiene (1993), Graduate Institute of Epidemiology (1994), Graduate Institute of Health Care Organization Administration (1995), and Graduate Institute of Environment Health (1996). Afterwards, the Graduate Institute of Public Health was renamed as the Graduate Institute of Health Policy of Management in 1998, and the sixth graduate department, the Graduate Institute of Preventive Medicine, was set up in 2001. Recently, the Master of Public Health program was established in 2008.

The Department of Public Health, an undergraduate program, was established in 1972. To increase the versatility of the students, and help

them to integrate academic learning into public health practices to meet the increasing societal demands in the future, summer internships and the Public Health Service Team have been offered each year since 1972. Both of these have become guiding traditions of the College.

FEATURES

The College of Public Health is a mini-National Taiwan University itself, with teaching and research activities involving disciplines not only in natural and biological sciences but also in humanities and social sciences. The essence of public health dictates that we are concerned greatly about the health rights of the people and pursue the ultimate goal of health for all. Our endeavors have been focused on disease prevention and health promotion, environmental protection and sustainable development, and the operating and management of health care industry.

FACILITIES

Because the National Taiwan University students are brilliant, outgoing and energetic, full of potential and eager to pursue excellence, our education has been directed to cultivate new concepts, introduce new techniques and technology, emphasize teamwork, foresee social needs, and shape international vision. Hence, we encourage students to undertake pioneering original works, and to promote health welfare for our society wherever the needs are. College alumni are distributed all over the society, to advocate the public health ideology of "prevention surpasses cure" and to work from community health to international health.

RESEARCH

Unique research contributions of the NTU College of Public Health have included: the Taiwan island-wide control of goiter with iodized salt, the control of the black-foot disease, the control of occupational diseases, nasopharyngeal carcinoma research, the prevention and control of hepatitis and hepatoma, the formulation of arsenic standards in water, the surveillance and control of occupational pollutants, the health care of the elderly, tobacco control, gene and environment research, and health reform and National Health Insurance policy.

Besides, the College has six research centers: Center for Health Insurance Research 、Center for Biostatistic Consultation and Research 、Center for Genetic, Environmental and Research, Research Center for Environmental Health and Occupational Hygiene , Research Center for Health Promotion, and Center for International Health. The three centers were established in response to indigenous health needs in Taiwan, and are engaged in activities of research and service provision that focus on specific issues in Taiwan.

GOALS

The missions of the College of Public Health are to provide the best education to nurture future public health scientists, practitioners, and leaders in Taiwan and Asia, to integrate research findings in formulating the best public health policies at various levels, to promote human health, and finally to reach the idealistic goal of "Health for All". The College of Public Health will develop programs and projects in the three following areas:

- (1) Incorporate frontiers in molecular signature, biomarkers, genetics, epidemiology, biostatistics, bioinformatics, and health behavior sciences in formulating the evidence-based approach to making continuous improvements in health promotion and preventive medicine;
- (2) Develop technologies in environmental hazard identification, exposure assessment and risk assessment for formulating evidence-based environmental and occupational health policies;
- (3) Health sector reforms, focusing on research and demonstrations in quality and efficiency of health care, long-term health-care system, health information system, and health insurance policies.

CONTACT INFORMATION

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1 DEPARTMENT OF PUBLIC HEALTH



INTRODUCTION

The Graduate Institute of Public Health, NTU had three predecessors, including Hygiene Laboratory, Institute of Tropical Medicine, and Department of Ho-Sen of Taipei Imperial University during the Japanese colonial period. In addition to engaging in research, these predecessors also offered several instruction programs, such as Entomology, Environmental Health, and Public Health Administration, for medical students in Taiwan at that time.

After Taiwan's Retrocession in 1945, the Taipei Imperial University was renamed National Taiwan University and the Hygiene Laboratory was renamed Department of Public Health in

1948. The Institute of Tropical Medicine was reorganized in 1951 to become the Institute of Public Health in the College of Medicine, which provided post-graduate training for physicians and collaborated closely with the Department of Public Health in offering research, teaching, and service for the College of Medicine. The Institute of Public Health offered extramural training programs for physicians of health care agencies, administrators, public health nurses, and other public health workers since 1955. With funding from local governments, the Taipei Public Health Teaching and Demonstration Center was established in 1958. The Center had spared no pains to be active in educational outreach of Public Health by providing training for the students of the College of Medicine.

When the College of Public Health was founded in 1993, the Department of Public Health was renamed Department of Social Medicine which was still affiliated to the College of Medicine.

The Department of Public Health, established in 1972 in the College of Medicine, is now a Department in the College of Public Health. At present, there are over 800 alumni from the undergraduate programs. Many of them are working in the Executive Yuan Department of Health, the Environmental Protection Administration, local health agencies, and hospitals.

The undergraduate programs in public health at NTU include health policy and management, hospital administration, epidemiology, biomedical statistics, environmental health, and industrial hygiene. The objective of the curriculum is to offer graduating seniors an academically sound as well as practical background in public health.

A minimum of 128 credits in course work is required to receive a B.S. degree in public health. The Department offers laboratory, epidemiology laboratory, population and health statistics, health care for women and children, health education, medical and health laws, health policy and management, environment health, field work in public health, and current topics in public health. In the summer of the senior year, students are mainly engaged in field work at health agencies and factories.

FACULTY

Full-time : 42

Part-time : 4

Ph.D. Degree : 42

M.S. Degree : 3

B.S. Degree : 1

Honorary Professor

Wang, Chiu-Sen Doctor of Philosophy,
California Institute of
Technology

Chairman/ Professor

Chen, Wei-Jen Sc.D., Harvard University

Full-time

Professors

Chie, Wei-Chu Doctor of Philosophy,
National Taiwan University

Wang, Gen-Shuh Doctor of Philosophy, State
University of New York at
Albany

Hsiao, Chuhsing Kate Ph.D., Carnegie Mellon
University, USA

Associate Professor

Yang, Ming-Chin Doctor of Public Health,
University of Texas

Lew-Ting, Chih-Yin Doctor of Philosophy,
University of California at
Los Angeles

Wu, Chang-Fu Doctor of Philosophy,
Department of Environmental
Health, University of
Washington

Assistant Professor

Wu, Wen-Chi Doctor of Philosophy,
National Taiwan University

Adjunct Professor

Yu, Ming-Whei Ph.D., National Taiwan
University

Chang, Shu-Hui Ph.D., The Johns Hopkins
University School of Hygiene
and Public Health

Chen, Hsiu-His Ph.D., Cambridge University

Cheng, Shou-Hsia Ph.D., Yale University
Research Methods in Health
Care Services

Chan, Chang-Chuan Sc.D., Harvard University

Wang, Jung-Der Sc.D., Harvard University

Chen, Chih-Chieh Ph.D., University of
Cincinnati

Cheng, Tsun-Jen Sc.D., Harvard University

Lee, Wen-Chung Ph.D., National Taiwan
University

King, Chwan-Chuen Ph.D., University of
California at Los Angeles

Lin, Jia-Ming Ph.D., University of
Cincinnati

Chiang, Tung-liang Sc.D., The Johns Hopkins
University

Yen, Lee-Lan Sc.D., The Johns Hopkins
University

Lai, Mei-Shu M.D. and Ph.D., National
Taiwan University

Su, ?Syi? Sc.D., Johns Hopkins
University

Lin, Neng-Pai Professor Ph.D., Univ. of
Ohio State

Adjunct Associate Professor

Hwang, Yaw-Huei Ph.D., University of
Cincinnati Industrial Hygiene

Chung, Kuo-Piao Ph.D., The Johns Hopkins
University

Chen, Pau-Chung Ph.D., University of London

Ma, Yee-Chung Ph.D., University of Delaware

Chang, Ching-Wen Ph.D., University of
Cincinnati

Chang, Chueh Sc.D., The Johns Hopkins
University

Chang, ?Ray-e ??? Ph.D., University of Texas

Chen, Duan-rung Ph.D., University of
Columbia

Cheng, Ya-wen Sc.D., Epidemiology, Harvard
School of Public Health

Chien, Kuo-Liong M.D. and Ph.D., National
Taiwan University

Chen, Chia-Yang Ph.D., University of North
Carolina at Chapel Hill

Tsai, Shih-Wei Ph.D., Department of
Environmental Health
Sciences, University of
California, Los Angeles

Wu, Kuen-Yuh Ph. D., North Carolina State
University

Adjunct Assistant Professor

Fang, Chi-Tai Doctor of Medicine, National
Taiwan University

Huang, Jiun-Hau Sc.D., Harvard University

Chen, Yen-Ching Sc.D., Harvard University

Lin, Ching-Yu Ph.D., Pharmacology &
Toxicology, University of
California, Davis

Part-time

Associate Professor

Wang, Cheng-Hsiung Bachelor of Agriculture,
National Chung Hsing
University, W.H.O. fellowship
DIP course

Hsu, Hsu-Mei Master of Public Health, The
Johns Hopkins University,

Lecturer

Lee, Sheng-Long Master of Law, National
Taiwan University

Fan, Bih-Yuh Master of Hospital
Administration, China
Medical College

FACILITIES

In the beginning of 2006, the Department of Public Health is moved to its current location with more commodious spaces, including faculty offices, seminar rooms and student offices so as to optimize the teaching/learning environment. Student offices include the undergraduate student association office, the Public Health Service Team office and one office for each grade. Student offices are in close proximity to faculty offices and seminar rooms located on the 5th, 6th and 7th floors in order to promote mutual interaction and support among teachers and pupils.

The Public Health Building offers a number of professional resources for students learning, such as the Statistical Consultation Room and High-level Computer Room which are located on the 5th floor. The building is also equipped with modern research facilities in both 9th and 10th floors, such as P1 and P2 levels Biological Labs, the Environmental Chemistry Lab, the Air Pollution and Health Effects Lab, the Environmental Microbiology Lab, and the Environmental Exposure Assessment Lab. In addition, there are the organic and inorganic chemistry core facilities equipped with analytical instruments, the balance room, the CO₂ incubator room, the refrigeration room, and water distillation and de-ionization facilities. Those facilities mentioned above could indeed culminate the students to acquire more comprehensive Lab training experience.

Besides, NTU Medical Library provides our department with extensive resources both qualitatively and quantitatively, including collections and periodicals. To meet the requirements of our professors and students, the College of Public Health annually funds the Medical Library to provide academic books and periodicals in pub-

lic health. All of the hardware facilities of the College of Public Health and College of Medicine, including all teaching facilities, classrooms, equipment, and conference halls, are open for public use.

COURSES

A minimum of 128 credits in course work is requested to pursue a B.S. degree in public health. The Department of Public Health offers a constellation of diversified courses from Science to Art. Therefore, we employ not only teachers who specialize in relevant professional fields, but part-time teachers who work for government health department or environmental protection department so that students can be trained well from theories into practices. Junior students can choose one of major areas in accordance with preference, including, epidemiology/preventive biostatistics, health policy/health care management, occupational/environmental health. Besides, students in the third year are obliged to practice in at health agencies and factories related to public health. It enables students not only to apply theory to practice but also to develop communication skills with folk people.

For those who enroll after academic year of 2007(Graduation Credits128):

1. General Courses(18)
2. Cross-disciplinary General Education(12)
3. Basic Natural Sciences(12-14)
Calculus(General Mathematics) B(6), General Zoology B or General Biology(3)/(4), General Physics B(3), General Chemistry C and Lab(4) 【Any One of the Two】
4. Basic Social Sciences(3)
Economics A(3), Sociology D(3), Psychology C(3) 【Any One of the Three】
5. Basic Medical Sciences(10)
Anatomy(3), Physiology(4), Microbiology and

Immunology + Lab(3)

6. Basic Public Health(26)

Introduction to Public Health(2), Introduction to Medical Statistics(I)(3), Introduction to Medical Statistics(II)(3), Epidemiology(2), Case Study on Epidemiology(2), Fundamentals of Environmental Health(2), Laws and Regulations in Medicine and Health(2), Health Education(2), Occupational Health(2), Principles of Public Health Administration(2), Field Practice in Public Health(4)

7. Group Required courses(16-36)

Group “Epidemiology and Preventive Medicine” (20), Group “Health Policy and Health Care Organization Administration” (26), Group “Environmental and Occupational Health” (31-36), Group “Biomedical Statistics” (16) 【Any One of the four】

8. Selective Courses(9-31)

ACADEMIC ACTIVITIES

Since the areas of public health are extensively wide, the research topics are abundant.

Conferences and academic speeches regularly organized by colleges and departments are many and well attended. Besides, professors and students of College of Public Health attend the conferences of the Taiwan Public Health Association and other related societies to present papers and research achievements every year. The quality of research of public health is substantially improved due to such effort. Every summer vacation, we make up "Public Health Service Team" to serve the various communities and conduct a survey of hygiene and health care.

Many students take part in a community service project for a period of seven days during the summer. The project provide an excellent oppor-

tunity for students to interact with local communities and to work on practical problems in public health.

CAREERS AND FURTHER STUDIES

1. Core competencies (abilities)

The students are supposed to learn core competencies, such as:

- (1) Basic Biomedical Science
- (2) Basic Quantitative Analysis and Biostatistics
- (3) Epidemiology
- (4) Environmental Health Sciences
- (5) Health Policy and Management
- (6) Social and Behavioral Sciences

2. Further studies

The Students can apply to graduate school related to public health in the country for further education. For example, in the College of Public Health at National Taiwan University has six graduate institutes, including:

Institute of Health Policy and Management
Institute of Occupational Medicine and Industrial Hygiene
Institute of Epidemiology
Institute of Health Care Organization Administration
Institute of Environmental Health
Institute of Preventive Medicine

If the students want to go abroad for further study, the relevant graduate institutes of public health offer more choices and opportunities. Prominent examples include Harvard School of Public Health, Johns Hopkins University, etc.

3. Career options

The directions to employment for the students of the Public Health Department are various and general. It can be chosen by student's individual interests. For example:

- (1) Teaching and Research - - Serve as a biology or health related teacher in all levels of primary and secondary school after finishing the additional required courses for Professional Education.
- (2) Research Fellowship - - Serve as research fellow in a research organization, such as Academia Sinica, National Health Research Institute, etc, or in a research and development department of health care in the industry sector.
- (3) Professional Technician - - Get a technician's certificate by taking the required examination. Then, serve as a health management professional, industrial safety technician, environmental examiner, professional technician, etc.
- (4) Administration Manager - - Serve as administration managers in the government's health and environmental protection organizations, or in various health care organizations.
- (5) Statistical Consultant - - All kinds of biotech companies, pharmaceutical factories and health and environmental foundations need statistical consultants who have profession health knowledge. The students also can use their bio-statistical background to serve in a market research company, statistical consulting company or insurance business company.
Furthermore, the students may develop a career in actuarial business.
- (6) Journalist - - Serve as a health and medical reporter in the press, or as an editor in a health related magazine. Moreover, serve as even a presenter in a health related program. In fact, all trades and profes-

sions need various professionals with different specializations, and this certainly includes public health professionals.

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INTRODUCTION

The Institute of Health Policy and Management (IHP&M), previously known as the Institute of Public Health (IPH), was established in 1951. In 1961 and 1985 the IPH initiated its master program and Ph.D. program, separately. In 1998, the IPH was renamed the Institute of Health Policy and Management, with its new identity and missions.

The IHP&M offers both master and doctoral degree programs. A special on-service master degree program designed for professionals and public health officers was further established in 2001. Currently, the student body of IHP&M consists of 28 doctoral students, 36 master stu-

dents, and 19 master students in the on-service master degree program.

On the faculty of the IHP&M are 6 full-time professors, 3 joint professors, and 7 part-time professors. These professors are leading figures in their fields of expertise.

On-going research projects of the IHP&M include, health and long-term care policy research for the elderly, a cohort study of newborns to investigate multiple determinants of health outcomes, a cohort study of children and adolescents to assess impacts of various factors on health behaviors, studies on women's health and gender-specific health issues, studies of organizational behaviors in the health care industry and of health services quality, studies of care

seeking behaviors, epidemiologic studies with regard to work characteristics and socioeconomic status, etc. These research activities have generated publications both in domestic and international journals, with results that are of great value for policy makers. From 2001 to 2005, faculty members of the IHP&M had published 12 SCI papers, 6 SSCI papers, 18 papers in other international journals, 55 papers in domestic journals, 61 conference papers, and 34 scientific reports.

Curricula of the IHP&M are designed with emphases on developing students' critical and independent thinking as well as for promoting teamwork. Courses at the beginning level include research methodology, data analysis, principles of health policy and behavior, and principles of health behaviors science. Advanced courses include: long term care, health sociology, health economy, and analysis of health policy, community intervention, health promotion, public mental health, women's health, and care seeking behaviors. Students benefit further from being able to cross-register for courses offered by the National Yang-Ming University, Departments of Public Health and Health Welfare, and the National Taiwan Normal University, Department of Health Education.

We are devoted in our research work to improve the quality of health policy and enhance public health. To achieve this goal, members of the IHP&M are expected to be actively involved in prospective research projects and to take lead in health policy research in the Asia-Pacific region. The IHP&M is also devoted to education. Students are encouraged to get involved in the nation's policy-making processes. Through education and involvement in policy-making, we aim to achieve the final goal of enhancing public health in Taiwan.

FACULTY

Full-time: 6

Joint: 3

Part-time: 5

Ph.D. Degree: 14

Director/ Professor

Lee-Lan Yen Sc.D., The Johns Hopkins University

Full-time

Professor

Tung-liang Chiang Sc.D., The Johns Hopkins University

Shou-Hsia Cheng Ph.D., Yale University

Associate Professor

Chueh Chang Sc.D., The Johns Hopkins University

Yawen Cheng Sc.D., Epidemiology, Harvard School of Public Health

Assistant Professor

Jiun-Hau Huang Sc.D. Harvard University

Joint

Professor

Chin-Hua Chang Ph.D., University of Iowa

Mei-Shu Lai M.D. and Ph.D., NTU

Chih-Yin Lew-Ting Ph.D., University of California, Los Angeles

Part-time

Professor

Ti-Yuen Lee Dr.P.H., Columbia University

Chih-Liang Yang Ph.D., University of Michigan

Chung-Fu Lan Dr.P.H., The Johns Hopkins University

Te-Hsiung Sun Ph.D., University of Michigan

Associate Professor

Weng-Hong Huang Ph.D., University of Minnesota

FACILITIES

Instruments: Slide Projectors, 3 LCD Data Projector, Radio Cassette-Recorder, Video Camera, Sphygmomanometers Skinfold Measure, Glucometer, Video Editing System, Imagelink Retrieval Workstation, Automatic Reflexodiagnostic System etc.

COURSES

Compulsory subject courses for full-time master candidates:

Research Methods in Health Policy (3), Statistics (3), Seminar on Public Health Policy Research Methods I (1), Seminar on Public Health Policy Research Methods II (1), Health Policy and Behavior Principle (3), Public Health Ethic (1).

Compulsory subject courses for part-time master candidates:

Comprehensive Topics on Health Policy and Health Behavior (2), Data Analysis of Health(2), Research Methods in Health Services (2), Seminar on Health Policy and Management (2).

Compulsory subject courses for MPH candidates:

- (1) Principles in Health Policy
- (2) Public Health Ethics
- (3) Principles of Epidemiology
- (4) Medical Statistics(I)
- (5) Fundamental on Occupational
- (6) Environmental Health
- (7) Health Social Science
- (8) Topics on Health Care System
- (9) System Analysis of Taiwan's National Health Insurance
- (10) Health Industry and Policy Development

Compulsory subject courses for doctoral candidates:

Seminar on Health Policy and Behavior I (1), Seminar on Health Policy and Behavior II (1), Special Topics in Health Policy and Behavior (2). Choose one option from the following: Special Topics in Society and Health (2), Special Topics in Long Term Care (2), Special Topics in Health Economics (2), Special Topics in Public Mental Health (2), Special Topics in Health Promotion (2), Health, Culture and Society (2), and Special Topics in Labor and Health (2).

ACADEMIC ACTIVITIES

1. A faculty seminar is regularly held every month. Distinguished scholars from here and abroad are invited to give lectures.
2. Our Institute also sponsors or cosponsors symposiums and workshops.
3. Editing Annual Report of Faculty Research Publications.

CONTACT INFORMATION

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GRADUATE INSTITUTE OF OCCUPATIONAL MEDICINE AND INDUSTRIAL HYGIENE



INTRODUCTION

The Institute of Occupational Medicine and Industrial Hygiene was established in 1993. This is the first graduate institute specializing in occupational medicine and industrial hygiene in Taiwan. The mission of the Institute of Occupational Medicine and Industrial Hygiene is to advance the health of all people in occupational and community settings in Taiwan, and around the world through teaching, research and service in occupational and environmental health.

Faculty members in the institute investigate causes, mechanisms and prevention measures of environmentally and occupationally related health issues, provide advanced education pro-

grams of occupational health with master and doctoral degrees, and provide scientifically based public health services to the public, governments, industries, and the labors. Research approaches range from the molecular to the epidemiologic, in physical scales from nano to micro, and by multiple disciplines of physics, chemistry, biological sciences and economics.

The Institute of Occupational Medicine and Industrial Hygiene focuses on complex, important public health problems that require integrated contributions of many advanced specialties. The department's faculty, research staff, and students reflect the multidisciplinary nature of the field and include chemists, engineers, epidemiologists, ergonomics, physicians, molecular biologists, exposure assessors, and risk assessors.

Teaching and research activities of the institute are carried out through six concentrations: (1) occupational medicine and industrial hygiene, (2) occupational and environmental epidemiology, (3) risk assessment, (4) environmental toxicology genomics, (5) aerosol technology, (6) ergonomics.

FACULTY

Full-time

Professors: 10

Associate professors: 3

Adjunct

Professors: 3

Associate professors: 1

Assistant professors: 1

Lecturer: 1

Specialist: 1

Teaching assistants: 1

Director/ Professor

Tsun-Jen Cheng M.D., Taipei Medical University
Sc.D., Harvard University

Full-time Faculty

Professor

Jung-Der Wang M.D., National Taiwan University
Sc.D., Harvard University

Chang-Chuan Chan Sc.D., Harvard University

Chin-Chieh Chen Ph.D., University of Cincinnati

Pau-Chung Chen Ph.D., University of London
M.D., Kaohsiung Medical College

Associate Professor

Yaw-Huei Hwang Ph.D., University of Cincinnati

Kuen-Yuh Wu Ph.D., North Carolina State University

Joint-appoint Faculty

Professor

Min-Yung Lai M.D., Ph.D., National Taiwan University

Yang-Chyuan Chang M.D., National Taiwan University

Shoei-Sheng Lee Ph.D., Ohio State University

Shiou-Hwa Jee M.D., Ph.D., National Taiwan University

Yue-Leon Guo M.D., National Taiwan University

Sc.D., Johns Hopkins

University

Associate Professor

Chang-Fu Wu Ph.D., University of Washington

Adjunct Faculty

Professor

Shu-Wei Yu Ph.D., Tulane University

Hong-Wei Shiao Ph.D., Michigan University

Lung-Chi Chen Ph.D., New York University

Associate Professor

The-Sheng Su M.P.H. University of California at Berkeley

Assistant Professor

Chung-Li Du Ph.D., National Taiwan University

Lecturer

Jong-Dar Chen M.S., National Taiwan University

Specialist

Chongi-Paul Lo Ph.D., Tulane university

Teaching Assistant

Yi-Chen Chen M.S., National Taiwan
University

COURSES

Master Degree

Core course for all student: Environmental and Occupational Health Case Conference (4 semester), and Environmental and Occupational Health tract: methods of epidemiologic research, statistics methods in environmental& occupational health, fundamental on occupational health, environmental and occupational toxicology, environmental and occupational disease or enterprise health management.

Industrial Hygiene tract: monitoring for health hazard at work I, II, industrial htgiene engineering I, II, exposure assessment.

Risk Assessment and Management tract: risk assessment, environment, society and public health.

Doctor Degree

Environmental and Occupational Health Seminar (4 semester, English), Special topic on environmental occupational health I, II (English).

ACADEMIC ACTIVITIES

Our institute regularly host seminars wish Institute of Environmental Health inviting domestic and international scholars for presentation. We also hold a poster day each semester inviting master and doctor students to present their thesis. Through this activity, we exchange research knowledge and experience.

CONTACT INFOMATION

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INTRODUCTION

Medical College of National Taiwan University set up an M.S. program at the Institute of Public Health in 1961 that was the first academic institute to emphasize epidemiological research in Taiwan. At that time, the institute had three divisions, one of which included preventive medicine, epidemiology and biomedical statistics. This division was the predecessor of the Institute of Epidemiology. The Institute of Epidemiology was established in 1994, and it has become the first and the only professional institute of epidemiological research in Taiwan. Under the plan and the design of Professor Chien-Jen Chen, the first director of the Institute, we were permitted by the MOE to open both M.S. and Ph.D. pro-

grams at the beginning. Our research fields consisted of three divisions: Epidemiology, Biomedical Statistics and Preventive Medicine. The Division of Preventive Medicine became an independent institute in August 2001. We presently have 10 faculty members, 1 teaching assistants and a staff member. We annually recruit 28 students of M.S. program (16 for Epidemiology, 12 for Biomedical Statistics) and 13 students of Ph.D. program (6 for Epidemiology, 7 for Biomedical Statistics).

The Institute of Epidemiology aims to pursue cutting-edge research. The specialties of our professors are diversified, therefore creating an inspiring learning environment for the students. Through the efforts of teachers and students, the Institute conducts outstanding research. Among

the departments in the College of Public Health, the Institute published most papers listed in the SCI. Three teachers have won the Outstanding Research Award of National Science Council (Ming-Whei YuJen John Tai, Wei J. Chen). In addition, our faculty members have been granted Excellent Research Award of National Science Council in successive years. In other research awards sponsored by research foundations, several faculty members have been granted as recipients, such as Excellent Research of K.P. Chen Preventive Medicine Foundation (Ming-Whei Yu, Wen-Chung Lee), Young Investigator Award of Academia Sinica (Wen-Chung Lee), Medical Award of Green Apricot Foundation (Wei J. Chen, Tony Hsiu-Hsi Chen), Research Achievement Award of National Taiwan University (Wen-Chung Lee). To strengthen our faculty members and develop our students, we arrange the course offerings and student activities carefully. For example, we set the obligatory credits at the lowest limit, and suggest that students take more elective courses. To increase the interaction in research among teachers and students, we publish annual report of research, which collect the abstracts of published papers of our faculty members. In addition to doing research, our faculty members write textbooks. Professor John Jen Tai first published *Introduction to Biomedical Statistics* in 1998 and then *Genetic Epidemiology: Genetic Design and Analysis Methods for Gene Mapping* in 2002. Their spirit in writing textbooks will inspire other faculty members to follow suit and write more useful textbooks.

GOALS

The goals of the Division of Epidemiology are to train students to be advanced epidemiologists to investigate community diseases and detect outbreaks, to study disease risk factors and patho-

genic mechanisms, and to provide the methods of disease prevention, health promotion, and life prolongation. To compete in international competitions in research and transitions of disease types in Taiwan, the future directions of the Division include developing methods of epidemiology and genetic epidemiology, epidemiological research of infectious diseases, psychiatric diseases and chronic diseases. Meanwhile, the directions of the Division of Biomedical Statistics are to let students to obtain sufficient knowledge in the development, design, and implementation of statistical principles, and to experience in cooperation in biomedical research. The major themes of current research include genetic statistics analysis, general linear models, factor analysis, path analysis, survival analysis, LISREL models, longitudinal evaluation, Bayesian analysis, clinical trial, statistical in epidemiology, statistical modeling, and transmission model of infection diseases.

While the Institute of Epidemiology is not a new one, it still has much to learn in academia. In the teaching field, the amount of students is increasing; how to stimulate interactions between professors and students is a challenge. In research, the rapid progress of the human genome project is impacting epidemiology and biomedical statistics substantially. In past few years, many professors have adjusted their research direction to genetics. We face the challenge to master some vital new topics in the field. In the presentations of research results, the "consciousness transformations" of the research community in Taiwan have passed beyond the stage of pure quantitative assessment. Our next goal should be to emphasize the achievements in subject matter itself. From the point of view of public health, we will face greater challenges to actively and effectively convert the research results into relevant policies. These are not only be our chal-

lenges, but also our goals.

FACUTY

Full-time Professors: 9

Adjunct Professor: 6

Adjunct Associate Professor: 0

Part-time Professor: 3

Part-time Associate Professor: 4

Teaching Assistant: 1

Director/ Professor

Wen-Chung Lee Doctor of Philosophy, NTU

Emeritus Professor

Tung-Ming Lin Doctor of Medicine, Japanese
Medical College, Japan

Full-time

Professor

Chwan-Chuen King Doctor of Philosophy,
University of California Los
Angeles, USA

Ming-Whei Yu Doctor of Philosophy, NTU

Wei J. Chen Doctor of Science, Harvard
University, USA

Jen John Tai Doctor of Philosophy,
Medical University of South
Carolina

Shu-Hui Chang Doctor of Philosophy, Johns
Hopkins University, USA

Hsiu-Hsi Chen Doctor of Philosophy,
Cambridge University, UK

Project assistant professor

Tai-Hung Wen Doctor of Philosophy, NTU

Pi-Hua Liu Doctor of Philosophy, NTU

Assistant Professor

Chi-Tai Fang Doctor of Philosophy, NTU

Adjunct Professor

Chen-Hsin Chen Doctor of Philosophy,
Stanford University, USA

Wen-Harn Pan Doctor Philosophy, Cornell
University, USA

Hung Chen Doctor of Philosophy,
University of Californian at
Los Angeles, USA

Hai-Gwo Hwu Doctor of Medicine, NTU

Chuhsing Kate Hsiao Doctor of Philosophy,
Carnegie Mellon University,
USA

Part-time

Professor

Ling-Ling Hsieh Doctor of Philosophy,
Columbia University, USA

Jing-Shian Hwang Doctor of Philosophy,
Harvard University, USA

Chien-Jen Chen Doctor of Science, Johns
Hopkins University, USA

Associate Professor

Mei-Shan Ho Doctor of Medicine, Indiana
University, USA; Master of
Public Health, Harvard
University, USA

Ming-Yi Liao Doctor of Veterinary Science,
NTU

Chen-Yang Shen Doctor of Philosophy,
University of North Carolina,
USA

Wei-June Chen Doctor of Philosophy,
University of California at
Los Angeles, USA

FACILITIES

Our facilities include: biomedical statistical consulting center, molecular and cellular laboratory, seroepidemiologic laboratory, genetic laboratory, virological laboratory, biospecimen bank, and computer network. Our equipment in these laboratories include: personal computers, Macintosh computers, genetic work station, high performance liquid chromatography, atomic absorption spectrometry, chemical hood, serum chemistry auto-analyzer, enzyme-linked immunosorbant assay reader, high-pressure autoclave, cell counter, laminar flow, stirrer, distilled water generator, CO2 incubator, DNA analysis system, MJ PCR, spectrophotometer, centrifuger, speed vac, hybridization oven, IS-500 imager, pH meter, mixer, dry bath, phase contrast microscope, Dotting machines, CO2 hood, ultra-low temperature freezer, computer-aided nitrogen freezer, ultrasonography, colposcope, spirometer, computerized electrocardiogram, balance, neurophysiological test batteries, 3 LCD data projector with document imaging camera, etc..

COURSES

There are two programs in teaching and research in the institute: general epidemiology, biomedical statistics. Besides, the Doctor Degree of Preventive Medicine is managed with the institute of Preventive Medicine. The program in general epidemiology offers courses such as: Principles of Epidemiology, Biomedical Statistics, Epidemiological Study Design and Data Analysis, Cases Study on Epidemiology, and Special Seminar on Epidemiology. The program in biomedical Statistics, Mathematical Statistics, Seminar on Biostatistics, Generalized Linear Model, Advanced Statistical Inference, and exciting courses on Biomedical Statistical Consultation. Moreover, there are many optional

courses covering various topics in epidemiology, biostatistics and preventive medicine. E.g. epidemiology of chronic disease, epidemiology of infectious disease, genetic epidemiology, psychiatric epidemiology, theoretical epidemiology, statistical genetics, Bayesian statistical analysis, survival analysis, health life quality, disease screening, community medicine, clinical trials, decision making in preventive medicine, etc.

Required Subjects

Doctor Degree

1.Division of Epidemiology: Advanced Methods in

Epidemiology(2), Special Seminar on Epidemiology (I)(1), Special Seminar on Epidemiology (II)(1), Design of Teaching Module in Epidemiology(2), Case Study in Epidemiologic Research (I)(1), Case Study in Epidemiologic Research (II)(1)

2.Division of Biostatistics: Medical

Statistical Consultation I(2), Medical Statistical Consultation II(2), Advanced Medical Statistical Consultation I(2), Advanced Medical Statistical Consultation II (2), Seminar on Biomedical Statistics I (1), Seminar on Biomedical Statistics II (1), Seminar on Biomedical Statistics III (1), Seminar on Biomedical Statistics IV (1)

Master Degree

1.Division of Epidemiology: Medical

Statistics I (3) 、Principles of Epidemiology (2) 、Epidemiological Study: Design and Data Analysis (2), Case Study in Epidemiologic Research (1), Study Design of Epidemiology (1)

2.Division of Biostatistics: Medical

Statistics I (3), Medical Data Analysis I (2),

Medical Data Analysis II (2), Seminar on
Biomedical Statistics I (1), Seminar on
Biomedical Statistics II (1)

ACADEMIC ACTIVITIES

The institute holds a faculty seminar or guest speech several times per month, and sponsors occasional academic symposia. By inviting scholars and specialists of relevant fields to give talks, these activities provide the opportunities for communications and discussions. In our course curriculum, we also arrange various seminar classes to intensify student responsiveness, comprehension, and expression. We publish an annual report of faculty research achievements and activities.

CONTACT INFORMATION

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GRADUATE INSTITUTE OF HEALTH CARE ORGANIZATION ADMINISTRATION



INTRODUCTION

The major goal of the Institute of Health Care Organization Administration (IHCOA) is to develop various graduate programs for providing high and middle level professional training in Health Care Organizations.

Three kinds of graduate programs have been established: a master program for college undergraduates, a master program for executives in Health Care Organizations, and a doctoral program. The doctoral program, formerly affiliated with the Institute of Public Health, has been moved to the Institute (IHCOA) and integrated into the master programs in 1998. The executive program of Hospital Human Resource

Management and Development was founded in 1997 but closed in 2002. The program for executive level was started in 2000.

【FACULTY】

Director

Ming-Chin Yang Dr.P.H., Univ. of Texas

Full-Time

Professor

Syi Su	Sc.D., Johns Hopkins Univ.
Neng-Pai Lin	Ph.D., Univ. of Ohio State
Su-Ming Hsu	M.D., National Taiwan Univ.
Jin-Chuan Sheu	DMsc, National Taiwan Univ.

Associate Professor

Ray-E Chang	Ph.D., Univ. of Texas
Kuo-Piao Chung	Ph.D., Johns Hopkins Univ.
Duan-Rung Chen	Ph.D., Univ. of Columbia

Assistant Professor

Heng-Shuen Chen	Ph.D., National Taiwan Univ.
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Part-Time

Professor

Wei-Jao Chen	D.M.sc, Tohoku Univ. MPH., Johns Hopkins Univ.
Chih-liang Yaung	Ph.D., Univ. of Michigan
Chien-Te Fan	Juris Doctor, Univ. of Puget Sound
William T. Lin	D.B.A., Boston University
Ren-Jieh Kuo	Ph.D., Pennsylvania State University

Associate Professor

Kuei Han	M.H.A., Univ. of Minnesota
Sing-chew Tam	MSA.& MA., Univ. of Michigan
Hsin-ginn Hwang	Ph.D., Univ. of Texas at Arlington
Ya-Seng Hsueh	Ph.D., Univ. of Michigan
Fan Wu	Ph.D., National Taiwan Univ.

Assistant Professor

Chung-Liang Shih	Ph.D., National Taiwan Univ.
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Part-time Practical Teacher

Wen-Cheng Chang	MS, National Taiwan Univ.
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COURSES

Master Programs

The graduate institute offers a one to four-year Master Degree program. The minimum requirement of credits is 30, plus 6 credits of thesis. The curriculum designed for master program consists of three phases: The first phase includes statisti-

cal training, research methods and methodology. The second phase includes basics of management for Health Care Organizations, health economics and introductory courses on health policy and organizations. The third phase includes a series of practice-oriented advanced courses on Health Care Organizations, such as financial management, human resources management, quality assurance and management, inventory management, organizational behavior, independent studies, and health informatics, etc. Students are provided with a widespread knowledge of management for Health Care Organizations and a solid professional training in health care administration prior to their graduation.

Executive Master Programs

The executive master program offers a Master's Degree, which has a maximum limit for study of six year. The minimum number of credits required is 42, plus 6 credits of thesis. The maximum number of credits the students can take each semester is ten.

Doctoral Programs

The doctoral program offers Ph.D. Degree with a maximum year for study of seven years. The minimum number of credits required is 24, plus 12 credits of dissertation. Doctoral Program courses are distributed across the following three major study areas:

1. Health Care Organization Administration:
Organizational Behavior, Strategic Management, Human Resource Management, and Quality Management.
2. Quantitative and Information Management:
Operations Research, Simulation, Information Management, and Financial Management.
3. Health Care System:
Health Care System, Health Economics, Medical Sociology, Medical Laws, Policy Evaluation, Health Care Insurance, and Long Term Care.

ACADEMIC ACTIVITIES

This institute organizes regular seminars weekly; it also invites guest speakers in related areas on a less regular basis. In order to exchange the experience of teaching and research, faculty members also hold conferences jointly with faculty of other institutions.

The current research is concentrated on three major topics: health care organization administration, quantitative and information management and health care delivery system. Results are presented in relevant journals and conferences.

FUTURE PROSPECTS

The course planning is aimed at meeting dynamic social changes, so that the students, after graduation, can apply what they learned. In the near future, we will also incorporate management-related courses of health care industry to reflect the newly emerged demands.

As for research, besides continuing their own research projects, faculty members integrate into interdisciplinary teams to conduct more advanced and profound research so as to upgrade institute research to a global level and impact.

As for services, besides acting as consultants for various levels of governmental health organizations, our faculty members also give academic lectures at hospitals, and conduct projects for them.

In order to prevent faculty members from overload, we will re-evaluate the service pattern in order to achieve three wins in a more efficient way: strengthening faculty practice, student experience and hospital practice level.

CONTACT INFORMATION

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INTRODUCTION

The Institute of Environmental Health, established in August 1996, was originally the Division of Environmental Health and Management in the Institute of Public Health (IPH). The Institute of Public Health was organized in 1951 out of the Institute of Tropical Medicine, which was established during the Japanese era. In its early stage, IPH filled the role of conducting public health research and training the personnel on-the-job for local public health services. In 1961, IPH began to offer two master programs, Preventive Medicine and Public Health. In 1985, IPH initiated Ph.D. programs, including the Environmental Health Program for training specialists in environmental

health. To meet the needs of society, the Ministry of Education authorized the establishment of the Division of Environmental Health and Management in 1991. The division separated from IPH to become the Institute of Environmental Health (IEH) in August 1996. In 1998, the Ph.D. program, originally one of the IPH programs, was also incorporated into the newly established IEH.

Based on the expertises of the faculties, the IEH focuses its teaching and research on the following fields: conventional environmental health, environmental health technology, environmental health management, environmental toxicology, and environmental epidemiology. The goal is to train students solidly in environmental health, disease prevention, and health promotion, in

research and in practice. The graduates of IEH are active in industry, government, as well as academia playing the roles of technicians, administrators and researchers.

The role of environmental health in disease prevention as well as health promotion evolves with changes of the society. Adapting to such changes, IEH collaborates closely with other institutes, while increasing its faculty members and instrumentation. On the basis of health sciences, we are applying the state-of-the-art technology and management to prepare our students for the demands of industry and government, which will ensure the students have potential to plan and execute the work for environmental protection and sustainable development.

Faculty/student research presently concentrate on air pollution, water sanitation, bioaerosol, environmental toxicology, environmental epidemiology, environmental microbiology, industrial hygiene, physical environment and so on. Results are presented in relevant journals and conferences.

Looking into the future, IEH will integrate the modern administrative knowledge, life sciences, and environmental protection technology into conventional environmental health in order to continuously to play an active role in education, research, and services in environmental health.

FACULTY

Full-time: 8

Part-time: 5

Ph.D. Degree: 13

Director/ Professor

Gen-Shuh Wang Ph.D., State University of
New York at Albany

Full-time

Professor

Jia-Ming Lin Ph.D., University of
Cincinnati

Associate Professor

Yee-Chung Ma Ph.D., University of Delaware

Ching-Wen Chang Ph.D., University of
Cincinnati

Shih-Wei Tsai Ph.D., University of
California at Los Angeles

Chia-Yang Chen Ph.D., University of North
Carolina at Chapel Hill

Chang-Fu Wu Ph.D., University of
Washington

Assistant Professor

Ching-Yu Lin Ph.D., University of
California, Davis

Part-time

Professor

Jih-Ching Lien Ph.D. in Medical Sciences,
Nagasaki University, Japan

Fung-Chang Sung Ph.D., University of
Washington

Associate Professor

Yi-Chang Lin Dr. P.H., University of Texas,
Houston

Chiou-Jong Chen Ph.D., Kyoto University,
Japan

Shih-Chun Lung Sc.D., Harvard University

FACILITIES

Our laboratories are located on the 9th and 10th floors of Public Health Building. The majority of the 9th floor is dedicated to P1 and P2 levels biological laboratories. The 10th floor is shared with OMIH. It currently contains the Environmental

Chemistry Lab, the Air Pollution and Health Effects Lab, the Environmental Microbiology Lab, and the Environmental Exposure Assessment Lab. In addition, there are the organic and inorganic chemistry core facilities equipped with analytical instruments, the balance room, the CO₂ incubator room, the refrigeration room, and water distillation and de-ionization facilities. There is also a common laboratory space for general chemistry experiments and sample pretreatments. Most instruments in the labs are for taking measurements of toxins, bioaerosols, and the working environments include GC, IC, GC/MS, LC/MS, AAS, HPLC, ICP and PCR.

The Medical Library in the College of Medicine supplies essential reference materials.

COURSES

Master Degree

Candidates for MSPH in Environmental Health must complete courses that provide 24 credits of fundamental knowledge in environmental health in addition to the six-credit thesis. The required courses are: Medical Statistics I (3), Environmental and Occupational Toxicology (2), and three of the following: Risk Assessment for Environmental Health (2), Environmental and Occupational Epidemiology (2), Environmental Measurement and Analysis (2), Environmental Health (2), Environmental Health Policy (2).

Ph.D. Degree

Candidates for Ph.D. degree in Environmental Health are required to take a minimum of 26 credits in addition to the 12-credit dissertation. Students with excellent academic achievements who have completed at least one year of master study can apply for Ph.D. Study. The core credits are: Seminar on Environmental Health (2), Seminar on Industrial Hygiene (2), Internship

Consultation of Environmental Health (I) (1), Internship Consultation of Environmental Health (II)(1).

ACADEMIC ACTIVITIES

1. Weekly seminar
2. Invite savants from other institutions for student seminar hours monthly
3. Encourage faculty and students to join academic associations and attend international conferences
4. Collaborate with other institutions in the medical campus to achieve academic excellence in teaching and research
5. Share academic resources with governmental agencies of environmental protection, health, as well as industrial hygiene.

CONTACT INFORMATION

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INTRODUCTION

Since 1961, the Division of Preventive Medicine, Institute of Public Health (IPH), has offered MS programs. When the Institute of Epidemiology was established in 1994, the institute took over the responsibility of teaching and research of the Division of Preventive Medicine from IPH. The Institute of Preventive Medicine was established in 2001 after 3 years preparation. In addition, The Ph.D. Program of the Institute of Preventive Medicine was launched since 2005. Currently, the Institute of Preventive Medicine offers both MS and Ph.D. programs for its students.

FACULTY

Professor: 7 including 5 with joint appointment with other Departments,

Associate Professors: 3, including 2 with joint appointment with other Department

Assistant Professor : 1

Part-time Professors: 2

Part-time Associate Professors: 2

Part-time Assistant Professors: 5

Director/Professor

Wei-Chu Chie M.D. and Ph.D., NTU

Full-time

Professor

Mei-Shu Lai M.D. and Ph.D., NTU

Associate Professor

Kuo-Liong Chien M.D. and Ph.D., NTU

Assistant Professor

Yen-Ching Karen Chen

Sc.D, Harvard University,
U.S.A.

Adjunct**Professor**

Wei-Jen Chen Sc.D, Harvard University,
USA

Keh-Sung Tsai M.D. and Ph.D., NTU

Li-Min Chuang M.D. and Ph.D., NTU

Li-Min Huang M.D. and Ph.D., NTU

Chuen-Den Tseng M.D. and Ph.D., NTU

Associate Professor

Chao-Wen Weng M.D. and Ph.D., NTU

Hui-Ming Ma Ph.D., Johns Hopkins
University, USA

Part-time**Professor**

Hung-Chang Sung Ph.D., Washington University,
U.S.A.

Tai-Ann Andrew Cheng

Ph.D., London University,
U.K.

Associate Professor

Shiing-Jer Twu Ph.D., University of
California at Los Angeles,
U.S.A.

Long-Teng Lee M.D. and Ph.D., NTU

Assistant Professor

Ming-Neng Shiu M.D. and Ph.D., NTU

Yen-Po Yeh M.D. and Ph.D., NTU

Ming-Fang Yen Ph.D., University College
London

Li-Chen Hsieh M.D. and Ph.D., NTU

Wen-An Lai

M.D. and Ph.D., NTU

FACILITIES

Besides periodicals, books, and internet resources possessed by the library of the College of Medicine the Institute of Preventive Medicine has a total of 1200 volumes consisting of a variety of periodicals, books, and reports whereby students and teachers can be provided with updated and professional information.

COURSES

The mission of the Institute of Preventive Medicine is to promote the health and well-being of individuals and communities through excellence in research, teaching and community service. The Institute seeks support for research in priority areas using interdisciplinary integration including epidemiology, biostatistics, health economic evaluation, decision-making, health promotion, and health care management. The Institute integrates these disciplines into evidence-based preventive medicine that enables the Institute to implement disease prevention and to translate scientific advances to community-based programs for prevention of disease morbidity, mortality and disability. The program focuses as on the following areas:

1. Prevention of chronic diseases such as coronary heart disease, diabetes, obesity and strokes through life style factor intervention.
2. Prevention of cancer through screening and evaluation of screening.
3. Promotion of mental health in the community through health education and screening.
4. Surveillance and control of re-emerging or new infectious diseases.
5. Promote maternal and child health through reduction of premature births and prevention of prenatal morbidity and mortality, adequate

nutritional intakes by mothers and infants, childhood injury control and prevention of disability.

6. Formulate health policy for prevention and management of cancer and chronic diseases.

The Institute offers the following courses:

Introduction to Preventive Medicine, Case Studies in Preventive Medicine, Statistics in Preventive Medicine, Practice of Statistics in Preventive Medicine, Seminar on Preventive Medicine Methods, Seminar on Preventive Medicine Practice, Advanced Principles of Preventive Medicine, Research Method in Preventive Medicine I and II.

REQUIRED COURSES

Doctor Degree

Advanced Methods in Epidemiology (2)
Advanced Theory of Preventive Medicine I (2)
Advanced Theory of Preventive Medicine II (2)
Advanced Seminar on Preventive Medicine Methods I (1)
Advanced Seminar on Preventive Medicine Methods II (1)
Advanced Seminar on Preventive Medicine Methods III (1)
Advanced Seminar on Preventive Medicine Methods VI (1)

Master Degree

Advanced Statistics in Medicine I (3)
Introduction to Preventive Medicine (2)
Seminar on Preventive Medicine Methods (2)
Seminar on Practice of Preventive Medicine (2)
Study Design of Preventive Medicine I (2)
Clinical Practice in Preventive Medicine (2)
Analysis and Writing of Thesis on Preventive Medicine (1)
Principles of Epidemiology (2)
Data Management in Preventive Medicine (1)

ACADEMIC ACTIVITIES

The research activities are based on population-based studies. The Institute builds upon established population laboratories for new research programs, especially those that require long-term follow up. Seminars are conducted weekly or monthly to enhance disseminations of new research findings, to generate new research concepts and to enhance communications within the medical communities, and interactions between students and faculty members as well as colleagues in the community. Teaching is conducted both in classroom settings and in the field. Small group discussions are held regularly with students assigned to field studies.

CONTACT INFORMATION

Established in: 2001

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INTRODUCTION

Since the initiation of the National Health Insurance by the government in 1995 and the SARS outbreak in 2003, the need for public health professionals has been rapidly increasing. Besides, due to the rapid social and economic development, the government needs more professionals of environment and occupation health. Therefore, the health units, hospitals and related organizations require on-job training of their employees. In the past, these professionals were sent to the United States to get the degree of Master of Public Health (MPH) by a cooperative project between Taiwan government and the College of Public Health of Johns Hopkins and Tulane Universities. Being concerned that for-

eign experiences cannot fulfill local needs, the College of Public Health in Taiwan University decided to start the Program of MPH to equip local manpower with practical experiences and cultivate future professional human resources for the society.

The MPH program was established in October in 2007 and was the first master degree “program” in Taiwan. This program is different with other master degrees provided by regular departments or graduate institutes such as Master of Science (M.S.) which emphasize development of masters for academic research. On the contrary, the characteristics of this program are to integrate resources in the college, combine theory and practice, and cultivate scientific evidences and strategic thinking of public health professionals.

At first, we planned four mutually related fields, including Community Health Scientific Field, Environmental and Occupational Health Field, Health System Management Field and Health Fitness Field. However, the size of student body is limited to 15 according to the policy of the Ministry of Education. Therefore, only Community Health Scientific Field and Health System Management Field started to recruit student in first year. Other Fields will be suitable for recruit students in the near future.

FACULTY

The faculties of the MPH are supported by the all Institutes of the College of Public Health. The students of the Community Health Scientific Field are directed by the faculties of Institute of Preventive Medicine, and the students of the Health System Management Field are directed by the faculties of Institute of Health Policy and Management.

COURSES

The program offers a Master's Degree, which has a maximum of six year. The minimal number of credits required is 42. The curriculum designed for the program consists of basic core courses, the correlation required courses, elective courses and practicum course. After finishing the basic core courses, the student will have 300 hours practicum curricula. The program office coordinates the relevant Institutes to deliver the courses for the students every school year.

FUTURE PERSPECTIVES

The vision of the MPH is to establish the outstanding human resources which a healthy country needs. According to the reality social environment and the professional characteristic

stockpile a security, fair, effective, and qualified medical health system. The affiliation by the college of public health and the medical college in the past and the future that remarkable teaching and the research, combination of theory and the service, under multi-social environment, will raise student's scientific evidence and the strategy. Furthermore, the combination of the public health practice and research to provide the students and the faculties advanced the knowledge, and a deep understanding of the overall cost, quality and equity of the national health care system.

CONTACT INFORMATION

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IX. COLLEGE OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE



Academic Units

- Electrical Engineering
- Computer Science and Information Engineering
- Photonics and Optoelectronics
- Communication Engineering
- Electronics Engineering
- Networking and Multimedia
- Biomedical Electronics and Bioinformatics
- Communication Research Center

The Present and Former Deans

Powen Hsu	(1997-2003)
Soo-Chang Pei	(2003-present)

INTRODUCTION

The history of the College dates back to August 1997 when the College of Electrical Engineering, the ninth college within National Taiwan University, was formed from three existing institutes which spun off from the College of Engineering: the Department and Graduate Institute of Electrical Engineering, the Graduate Institute of Electro-Optical Engineering, and the Communication Research Center, and one new institute, the Graduate Institute of Communication Engineering. In August 2000 the College was renamed the "College of Electrical Engineering and Computer Science" when the Department and Graduate Institute of Computer Science & Information Engineering was merged into the College, again spinning off from the College of Engineering. The Graduate Institute of Electronics Engineering and the Graduate Institute of Networking and Multimedia were established in August 2001 and 2004, respectively. In August 2006, the new Graduate Institute of Biomedical Electronics and Bioinformatics was established. At present, with its two departments and seven graduate institutes, the College employs about 210 full-time and adjunct faculty members, and has an enrollment of almost 1,390 undergraduate students, and about 2,50 Master's and Ph.D. students.

The Department of Electrical Engineering was founded in 1945 when Taiwan was returned to the Republic of China after the Japanese occupation and Taihoku Imperial University was renamed National Taiwan University. The Graduate Institute of Electrical Engineering was established in 1947 with an M.S. degree program, and it started to offer programs of study leading to a Ph.D. degree in 1968. The Department of Computer Science & Information Engineering was founded in 1977 and the

Graduate Institute of CSIE was later established in 1981, starting its M.S. and Ph.D. degree programs in 1981 and 1984, respectively. In 1992, the Electro-Optics Group of the EE Graduate Institute was made administratively independent to become the Graduate Institute of Electro-Optical Engineering, offering an M.S. degree program. Its Ph.D. degree program started three years later. Also in 1992, the Communication Research Center was established in accordance with the national policy of communication technology development. Since then, industry related to electrical engineering in Taiwan has made a tremendous contribution to both the technological development and the economic growth of the country. The need for EE personnel has continuously increased. In order to provide our society with EE education and curriculum of a high standard and hence to fulfill the human resource need in industry, guided by the planning of Professor Powen Hsu, the EE Department and the above related institutes were grouped with the newly established Graduate Institute of Communication Engineering, which was formed from the Electromagnetic Wave Group and the Communication and Signal Processing Group within the EE Graduate Institute, to establish the College of Electrical Engineering. It was then enlarged to become the College of EECS, with the Department and Graduate Institute of CSIE becoming new members. With its outstanding performance in both research and education, the College of EECS has become one of the most important organizations responsible for the country's continuous advances in EECS-related high technology. The Graduate Institute of Electronics Engineering, was founded in August 2001, offering M.S. and Ph.D. degree programs, and was based on the existing faculty and facilities of the Solid State Electronics Group and the Integrated Circuits and Systems Group within the EE Graduate Institute. The Institute is expected to

make great contributions to promoting further advances in the country's electronic technology industry. The Graduate Institute of Networking and Multimedia was founded in August 2004, offering M.S. and Ph.D. degree programs. The College's newest institute, the Graduate Institute of Biomedical Electronics and Bioinformatics was founded in August 2006. Starting August 1st, 2007, the Graduate Institute of Electro-Optical Engineering had change its name into the Graduate Institute of Photonics and Optoelectronics.

FACILITIES

All the departments and institutes continuously enlarge and improve the facilities for teaching, including the library collections, laboratory equipment, computers, and networks, in order to provide a satisfactory environment for teaching and learning. The College has five buildings for research and teaching, the Electrical Engineering Building I, the Electrical Engineering Building II, Barry Lam Hall, the CSIE Building, and Ming.Da Hall, with a total floor space of about 53,500 square meters.

RESEARCH

The research work conducted in this College is extremely productive. There are 167 full-time faculty members and about 2,500 M.S. and Ph.D. students. over 400 research projects are conducted every year, with an annual budget exceeding 20 million US dollars. Two key projects sponsored by the Ministry of Education are currently in progress: Program for Promoting Academic Excellence of University (PhaseII) and Aim for Top University Project Under the latter, the NTU Center for Information and Electronics Technologies has recently been established. The number of original research articles published in

international prestigious journals such as IEEE transactions or SCI journals approaches 500 every year. The faculty members have been elected as Fellows by prestigious international institutes such as IEEE and the Optical Society of America (OSA), demonstrating the recognition by international communities of this College's research achievement. Thus, the College of EECS has become one of the most important organizations responsible for the country's continuous development in EECS-related high technology.

GOALS

The College aims toward the promotion of economic growth of this country through advanced applied research and development and the training of high-technology personnel. Academic fields of interest include: communication and signal processing, automatic control, computer science, power / power electronics, nano—electronics, integrated circuits & system, electromagnetic waves, photonics and optoelectronics, biomedical engineering, and electronic design automation for the EE division, and computer architecture, computer systems, artificial intelligence, distributed computing, computer networking, multimedia systems, natural language processing, parallel computing, intelligent robotics and automation, financial computing, scientific computing, and automated reasoning for the CS division. This broad spectrum in research makes the College the most complete EECS organization nationwide and offers deep as well as broad education and training for the students.

The EECS alumni, in addition to having excellent achievements in academic research both internationally and domestically, have made outstanding contributions in leading the rapid and successful advanced technological industry

growth in Taiwan, in promoting the economic development of this country, and even in advancing the nation's higher education. Members of the College have been working hard with the goal of keeping up with international progress in both industrial and academic fields. The College also has a well-organized long-term plan of facility improvement, in order to better train outstanding scholars and to define research directions. It is to be expected that with such continuous progress, the College of EECS will turn itself into one of the most competitive research organizations in the world.

CONTACT INFORMATION

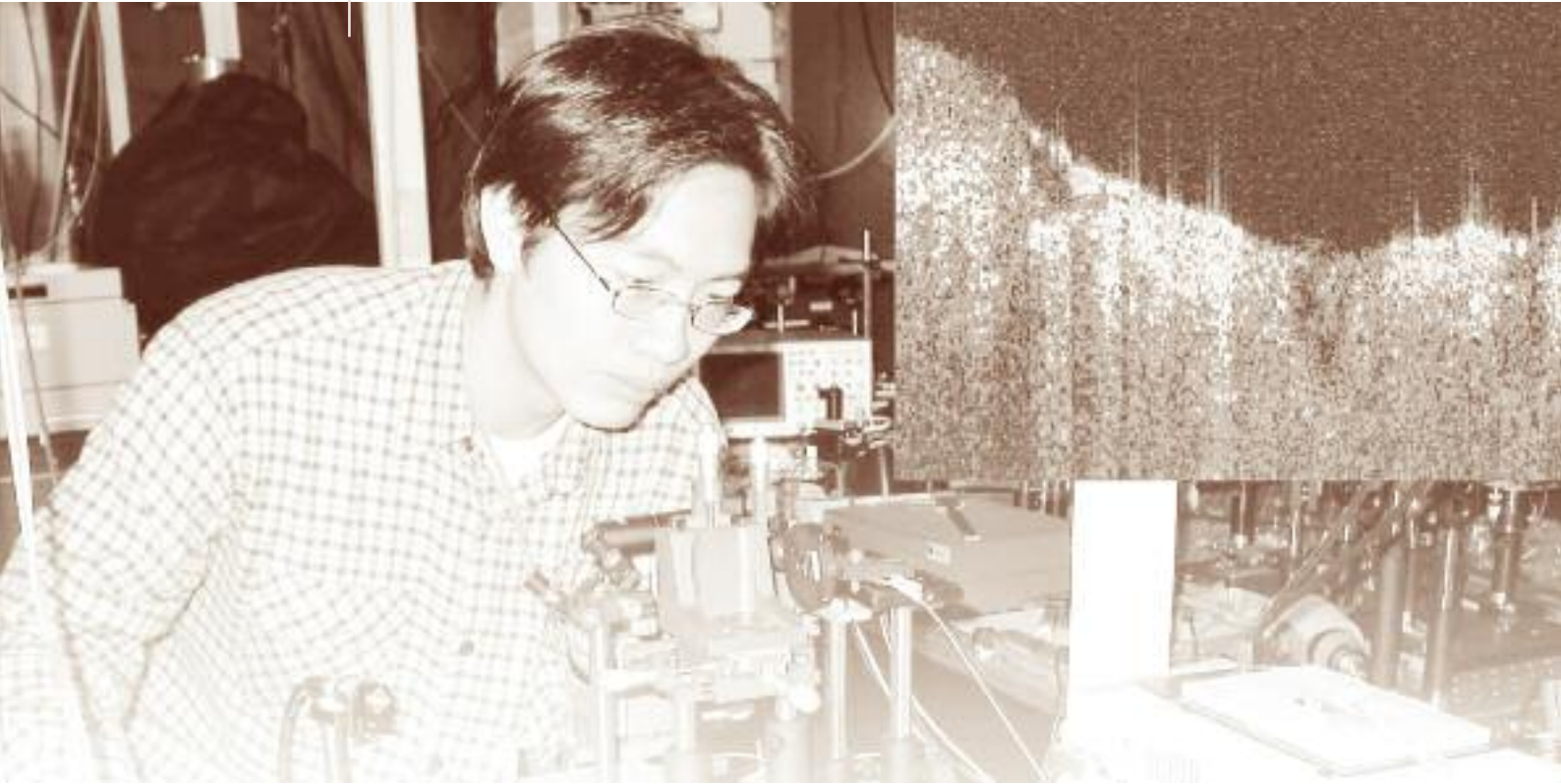
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E-mail: college@cc.ee.ntu.edu.tw



INTRODUCTION

The Department of Electrical Engineering was founded in 1945. The Graduate Institute of Electrical Engineering was established in 1947 with a Master degree program, and the Ph.D. degree program was inaugurated in 1968. The Graduate Institutes of Electro-Optical Engineering, Communication Engineering, Electronics Engineering, and Biomedical Electronics and Bioinformatics were founded in 1992, 1997, 2001, and 2006 respectively. The Department and the Graduate Institutes together form the Electrical Engineering Division and are in the College of Electrical Engineering and Computer Science.

The Electrical Engineering Division at NTU has ten research groups: Automatic Control, Power/Power Electronics Engineering, Computer Science, Biomedical Engineering, Photonic and Optoelectronics, Electromagnetic Waves, Communications and Signal Processing, Nano-Electronics, Integrated Circuits and Systems, and Electronic Design Automatic. The Photonic and Optoelectronics group is in the Graduate Institute of Photonic and Optoelectronics Engineering. The Electromagnetic Waves, Communications and Signal Processing research groups belong to the Graduate Institute of Communication Engineering. The Nano-Electronics and Integrated Circuit and Systems, and Electronic Design Automatic research groups are in the Graduate Institute of Electronics Engineering.

The Electrical Engineering Division at NTU has four Buildings: EE building I, EE building II, Barry Lam Hall and Ming-Da Hall. EE building I was constructed in 1969 and has about 2000 square meters. Currently it is mainly used as teaching laboratories for undergraduate students. The administration office of the Department, the faculty offices, and the research laboratories are mostly located in EE building II, which has a space of about 16,000 square meters. This building has classrooms, conference rooms, and several rooms for lectures, instruction, or discussion. Barry Lam Hall was donated by Barry Lam, and has a space of about 12,000 square meters. Ming-Da Hall was donated by K. Y. Lee, and has a space of about 13,000 square meters. The two buildings are mainly for teaching, research and holding academic seminars and workshops.

Electrical Engineering at NTU employs about 125 full-time and 20 adjunct faculty members. Among these faculty members, twenty have been promoted to IEEE Fellow, three have been promoted to OSA Fellow, eight have won the Award for Distinguished Academic Contribution in Engineering sponsored by the Ministry of Education, R.O.C., five are the recipients of the Ten Outstanding Young Men Award of the Republic of China, one is the recipient of the Ten Outstanding Young Women Award of the Republic of China.

The Department, through its Course Planning Committee, has developed a strong curriculum providing students with broad basic knowledge on which a solid career in Electrical Engineering can be built. In addition, the committee also reviews and revises this curriculum regularly to reflect the changing needs of industry and society.

The Department of Electrical Engineering offers an undergraduate program preparing the students

for a career in various fields of electrical engineering as well as for advanced study. The undergraduate students can freely select their studies in any field based on their interests.

The Graduate Institutes offer graduate programs, leading to the degrees of master of science (M.S.) and doctor of philosophy (Ph.D), and aiming to prepare the students especially for a career in teaching and/or research. The graduate students are admitted in one of the ten fields to do their research.

The members of Electrical Engineering at NTU commit themselves to maintaining a leading role in different areas in industry and in academia, and Electrical Engineering at NTU has made its long-term planning in recruiting faculty members, strengthening facilities and budget, and defining research directions. The main objective is to promote it gradually to become an internationally recognized institution of applied science and advanced technology.

The long-term strategic plan of the department is to offer complete research environment for the research needs of all the graduate institutes in Electrical Engineering Division. With this "one-undergraduate-program-multiple-graduate-institute" structure, the Department of Electrical Engineering in National Taiwan University endeavors to cultivate more capable human resources for society and to achieve research excellence and recognition among international academic community.

FACULTY

Full-time: 125

Part-time: 20

Ph.D. Degree: 144

B.S. Degree: 1

Chair/ Professor

Jenn-Gwo Hwu Ph.D., NTU.

Full-Time

Professor

Soo-Chang Pei Ph.D., Univ. of California.

Lin-Shan Lee Ph.D., Stanford Univ.

Way-Seen Wang Ph.D., Univ. of Southern California.

Jing-Shown Wu Ph.D., Cornell Univ.

Si-Chen Lee Ph.D., Stanford Univ.

Yuan-Yih Hsu Ph.D., NTU.

Wei-Song Lin Ph.D., NTU.

Hsueh-Jyh Li Ph.D., Univ. of Pennsylvania.

Hung-Chun Chang Ph.D., Stanford Univ.

Power Hsu Ph.D., Univ. of Southern California.

Shyh-Kang Jeng Ph.D., NTU.

Ju-Hong Lee Ph.D., Rensselaer Polytechnic

Tah-Hsiung Chu Ph.D., Univ. of Pennsylvania.

Hen-Wai Tsao Ph.D., NTU.

Ruey-Beei Wu Ph.D., NTU

Fan-Ren Chang Ph.D., Univ. of Houston.

James B. Kuo Ph.D., Stanford Univ.

Yean-Woei Kiang Ph.D., NTU.

Sheng-De Wang Ph.D., NTU.

Li-Chen Fu Ph.D., Univ. of California, Berkeley.

Hsu-Chun Yen Ph.D., Univ. of Texas.

Hao-Hsiung Lin Ph.D., NTU.

Liang-Gee Chen Ph.D., National Cheng-Kung Univ.

I-Kong Fong Ph.D., NTU.

Mao-Chao Lin Ph.D., Univ. of Hawaii.

Sy-Yen Kuo Ph.D., Univ. of Illinois at Urbana-Champaign, USA

Chih-Chung Yang Ph.D., Univ. of Illinois, Urbana-Champaign.

Fei-Pei Lai Ph.D., Univ. of Illinois, Urbana-Champaign.

Shi-Chung Chang Ph.D., Univ. of Connecticut.

Tzi-Dar Chiueh Ph.D., California Institute of Technology.

Chern-Lin Chen Ph.D., NTU.

Shey-Shi Lu Ph.D., Univ. of Minnesota.

Ying-Jay Yang Ph.D., Univ. of North Carolina.

Sao-Jie Chen Ph.D., Univ. of Southern Methodist.

Chin-Laung Lei Ph.D., Univ. of Texas.

Zse-Hong Tsai Ph.D., Univ. of California, Los Angeles..

Ming-Syan Chen Ph.D., Univ. of Michigan, Ann Arbor.

Huei Wang Ph.D., Michigan State Univ.

Kwang-Cheng Chen Ph.D., Univ. of Maryland.

Ching-Fuh Lin Ph.D., Cornell Univ.

Chong-Kuang Wang Ph.D., Univ. of California, Berkeley.

Shen-Iuan Liu Ph.D., NTU.

Yung-Yaw Chen Ph.D., Univ. of California, Berkeley.

Lon A. Wang Ph.D., Univ. of Arizona.

Jean-Fu Kiang Ph.D., Massachusetts Inst. of Technology.

Jhy-Horng Chen Ph.D., Univ. of California, Berkeley.

Chee-Wee Liu Ph.D., Princeton Univ.

Chieh-Hsiung Kuan Ph.D., Princeton Univ.

Chih-Wen Liu Ph.D., Cornell Univ.
 Chi-Kuang Sun Ph.D., Harvard Univ.
 Lung-Han Peng Ph.D., Harvard Univ.
 Pai-Chi Li Ph.D., Univ. of Michigan.
 Zhe-Chuan Feng Ph.D., Univ. of Pittsburgh, USA.
 Dan Chen Ph.D., Duke Univ.
 Ching-Kuang Tzuang Ph.D., Univ of Texas, Austin
 Homer H. Chen Ph.D., Univ. of Illinois at Urbana-Champaign.
 Hsiao-Wen Chung Ph.D., Univ. of Pennsylvania.
 Yao-Wen Chang Ph.D., Univ. of Texas, Austin.
 Wan-Jiun Liao Ph.D., Univ. of Southern California.
 An-Yeu Wu Ph.D., Univ. of Maryland.
 Farn Wang Ph.D., Univ. of Texas at Austin.
 Char-Dir Chung Ph.D., Univ of Southern California .
 Sheng-Lung Huang Ph.D., Univ. of Maryland.
 See-May Phoong Ph.D., California Institute of Technology.
 Chii-Wann Lin Ph.D., Case Western Reserve Univ.
 Chung-Chi Wu Ph.D., Princeton Univ.
 Tzong-Lin Wu PH.D., NTU
 Gong-Ru Lin Ph.D., National Chao-Tung Univ.
 Chen-En KO PH.D., Univ of Southern California .
 Tian-Wei Huang Ph.D., UCLA
 Reng-C. Luo Ph.D., Technical Univ. of Berlin, Germany
 Chung-Ping Chen Ph.D., Univ. of Texas at Austin.
 Yao-Yu Chuang Ph.D., Harvard Univ.
 Liang-Hung Lu Ph.D., Univ. of Michigan

Associate Professor

Fok-Ching Chong B.S., NTU.
 Jen-Ho Tsao Ph.D., Univ. of Pennsylvania.
 Tsung-Nan Lin Ph.D., Princeton Univ.
 Ming-Hua Mao Ph.D., Technical Univ. of Berlin, Germany.
 Hong-Yan Lin Ph.D., NTU
 Hsuan-Jung Su Ph.D., Univ. of Maryland
 Da-Shan Shiu Ph.D., Univ. of California, Berkeley.
 Tai-Cheng Lee Ph.D., Univ. of California, Berkeley
 Chien-Mo Li Ph.D., Stanford Univ.
 Polly Huang Ph.D., Univ. of Southern California
 Jiun-Haw Lee Ph.D., NTU.
 Chih-I Wu Ph.D., Princeton Univ.
 Jian-Jang Huang Ph.D., Univ. of Illinois
 Jiun-Lang Huang Ph.D., Univ. of California, Santa Barbara.
 Feng-Li Lian Ph.D., Univ. of Michigan
 Yi-Cheng Lin Ph.D., Univ. of Michigan
 Tsung-Hsien Lin Ph.D., UCLA
 Jri Lee Ph.D., UCLA
 Yaow-Ming Chen Ph.D., University of Missouri
 Yi-Jan Chen Ph.D., Georgia Institute of Technology.
 Guo-Dung Su Ph.D., UCLA
 Shao-Yi Chien Ph.D., NTU.
 Hung-Yun Hsieh Ph.D., Georgia Institute of Technology

Assistant Professor

Yih-Peng Chiou Ph.D., NTU
 Hsin-Chia Lu Ph.D., NTU
 Hsin-Shu Chen Ph.D., Univ. of Illinois
 Chung-Yang Huang Ph.D., Univ. of California, Santa Barbara

Wing-Kit Choi	Ph.D., Univ. of Cambridge
Ding-Wei Huang	Ph.D., NTU
Kuen-Yu Tsai	Ph.D., Stanford Univ.
Jui-Che Tsai	Ph.D., UCLA
Jie-Hong Jiang	Ph.D., Univ. of California, Berkeley
Hung-Yu Wei	Ph.D., Univ. of Columbia
Ping-Cheng Yeh	Ph.D., Univ. of Michigan
Kun-You Lin	Ph.D., NTU
Kung-Bin Sung	Ph.D., Univ. of Texas
Shih-Yuan Chen	Ph.D., NTU
Jian-Jiun Ding	Ph.D., NTU
Chih-Ting Lin	Ph.D., Univ. of Michigan
Yu-Hsuan Kuo	Ph.D., Stanford Univ.
I-Chun Cheng	Ph.D., Princeton Univ.
Jr-Hau He	Ph.D., National Tsing Hua Univ.
Yuh-Renn Wu	Ph.D., Univ. of Michigan
Tian-Li Yu	Ph.D., Univ. of Illinois, Urbana-Champaign
Chen-Mou Cheng	Ph.D., Harvard Univ.
Chun-Ting Chou	Ph.D., Univ. of Michigan
Po-Ling Kuo	Ph.D., Harvard Univ.

Part-Time

Adjunct Professor

M.C. Lui	Ph.D., Univ. of California, San Diego
Y.H. Jea	Ph.D., Univ. of Texas, Austin.
H.C. Meng	Ph.D., Ruhr Univ., Germany.
S.J. Yong	Ph.D., Univ. of Michigan
W.S. Feng	Ph.D., NTU.
W.K. Wang	Ph.D., Johns Hopkins Univ.
J.F. Chang	Ph.D., Univ. of California, Berkeley.
T.S. Kuo	Ph.D., Georgia Institute of Technology
Burn J. Lin	Ph.D., Ohio State Univ.

C.M. Chen	Ph.D., Univ. of Maryland
C.H. Chen	Ph.D., National Taiwan Univ.

Adjunct Associate Professor

Richard M. Hong,	Ph.D., Univ. of Michigan.
T.C. Shih	Ph.D., Grenoble Univ., France.
Y.K. Tu	Ph.D., NTU.
C.Y. Wu	Ph.D., National Tsing-Hua Univ.
M.C. Tsai	Ph.D., Univ. of California, Berkeley.
T.Y. Huang	Ph.D., Univ. of Illinois

Adjunct Assistant Professor

Y.M. Tsai	Ph.D., NTU.
L.H. Yeh	Ph.D., Univ. of California, Berkeley.

FACILITIES

The department is currently housed in four buildings with a total floor space of about 35,000 square meters. There are 12 undergraduate laboratories, more than 150 graduate research laboratories, more than 19 classrooms, 201 faculty offices, more than 30 meeting rooms, and 27 administrative offices. Computing facilities include more than one thousand personal computers and workstations, which are connected to the supercomputers of the campus computer center through high-speed optical networks. Other major laboratories include Integrated Optics Laboratory, Anechoic Chamber Laboratory, Integrated Circuits Laboratory, Molecular Beam Epitaxy Laboratory, Magnetic Resonance Imaging Laboratory, and E-beam Laboratory.

Major teaching laboratory facilities in the Department of Electrical Engineering for the undergraduate curriculum include:

Electrical Circuits Laboratory, Electrical Electronics Laboratory, Electrical Machinery Laboratory, Digital Electronics Laboratory, Electromagnetic Wave Laboratory, Semiconductor Laboratory, Communications Laboratory, Automatic Control Laboratory, Opto-electronics Laboratory, Networks and Multimedia Laboratory, Embedded System Laboratory, and Biomedical Engineering Laboratory.

In addition, there are more than 130 research laboratories in the department to support research projects and graduate study. Herewith only laboratories associated with the Automatic Control group the Power / Power Electronics Engineering group and the Computer Science group, are listed. Detailed information about other laboratories can be found in the sections introducing the other graduate institutes.

Automatic Control

Intelligent and Precision Motion Control Laboratory, Advanced Control Research Laboratory, Advanced Sensing and Computer Control Laboratory, and Control and Decision Laboratory, Networked Control Systems Laboratory.

Power/ Power Electronics Engineering

Electrical Power Research Laboratory, Power Delivery Automation Research Laboratory, and Power Electronics Research Laboratory.

Computer Sciences

Microprocessor Research Laboratory, Computer System Research Laboratory, Distributed System Laboratory, Networks Security Laboratory, Networks Database Laboratory, Networks and Multimedia Research Laboratory, Supercomputer Research Laboratory, and Department Computer Center.

COURSES

The department, with the help of its course planning committee, has developed a strong curriculum providing students with broad basic knowledge on which a solid career in Electrical Engineering can be built. In addition, the committee also reviews and revises this curriculum regularly to reflect the changing needs of industry and society.

Undergraduate Programs

The undergraduate program includes required courses in basic sciences and humanities as well as basic courses in electrical and computer engineering:

Freshman Year: Calculus I & II, Physics I & II, Physics Laboratory I & II, Chemistry and Laboratory / Introduction of Biological Science, Computer Programming, Introduction to Computer, Linear Algebra. Sophomore Year: Electric Circuits, Electronics I & II, Electromagnetics I, Signal and Systems, Differential Equation, Probability and Statistics, Complex Variables or Discrete Mathematics, Switching Circuits and Logic Design, Electronic Circuits Laboratory I & II.

Junior Year: Electronics III, Electromagnetics II, Electronic Circuits Laboratory III.

Required Electives in Junior and Senior years are further divided in two categories: Applied Sciences: Modern Physics, Fundamentals of Electro-Optics, Solid-State Electronics, Electromagnetic Wave Engineering, Introduction to Biomedical Engineering, RF Microwave Wireless Systems.

Systems: Principles of Communications, Data Structures and Program Design. Introduction to Electronic Design Automation Introduction to

Power Engineering, Control Systems, Integrated Circuits Design, Introduction to Electronic Design Automation.

Two out of the following ten laboratory courses are also required: Electric Machinery Laboratory, Automatic Control Laboratory, Digital Circuits Laboratory, Electromagnetic Wave Laboratory, Semiconductor Laboratory, Communications Laboratory, Networks and Multimedia Laboratory, and Embedded System Laboratory, Biomedical Engineering Laboratory, and Optoelectronics Laboratory.

Graduate Programs

The graduate program of the department consists of three major areas: Automatic Control, Power / Power Engineering, and Computer Science. The programs in other areas are provided by the Graduate Institute of Photonics and Optoelectronics Engineering (established in 1992), the Graduate Institute of Communication Engineering (established in 1997), the Graduate Institute of Electronics Engineering (established in 2001), and the Graduate Institute of Biomedical Electronics and Bioinformatics (established in 2006). The program leading to the Master of Science in Electrical Engineering requires a course work of 24 credits, excluding Seminar, Special Projects, Department Colloquium, and Thesis. The thesis must be presented to and approved by a committee in less than four academic years.

The program leading to the Doctor of Philosophy in Electrical Engineering requires course work of at least 18 credits and the following qualifications: (1) passing the Ph. D. candidacy qualification examination within the first four academic semesters, and, (2) pass the dissertation proposal and credit review and (3) presentation of a dissertation approved by a committee. First-year

students with distinguished qualification in the M.S. program or students with a B.S. degree can apply to enter the Ph.D. program without a M.S. degree. In this case, the course work requirement is 42 credits.

ACADEMIC ACTIVITIES

Regular lectures as well as seminars are held every week for effective exchange of research experience. In addition, workshops, academic symposia, and international conferences are organized by the Department or the Graduate Institutes to invite outstanding international scholars and experts to present their scientific studies.

In the 2007, department faculty conducted more than 300 projects. These projects were sponsored by the National Science Council, Ministry of Education, Ministry of Economic Affairs, Defense Technology Coordination Agency, Chung-Shan Institute of Science and Technology, Chung-Hwa Tele-communication, Industrial Technology Research Institute, United Microelectronics Corp., Taiwan Semiconductor Manufacturing Corp., etc.. The yearly project budgets sum up to more than N.T. 600 million.

More than 384 of those are published in SCI journals and around 136 of those in IEEE/IEE journals in 2007.

CAREERS AND FUTURE STUDIES

1. Professional abilities

- (1) Automatic Control
- (2) Power/Power Electronics Engineering
- (3) Computer Science
- (4) Biomedical Engineering
- (5) Electro-Optics

- (6) Electromagnetic Waves
- (7) Communications and Signal Processing
- (8) Integrated Circuit and Systems
- (9) Nano-Electronics.
- (10) Electronic Design Automation

2.Future studies

Related research institutes in the areas of electrical engineering, electro-optical engineering, communications engineering, electronics engineering, and biomedical electronics engineering.

3.Career options

Electrical engineer, Electronics engineer, Computer scientist, Computer engineer, Researcher, etc.

CONTACT INFORMATION

Chair: Jenn-Gwo Hwu

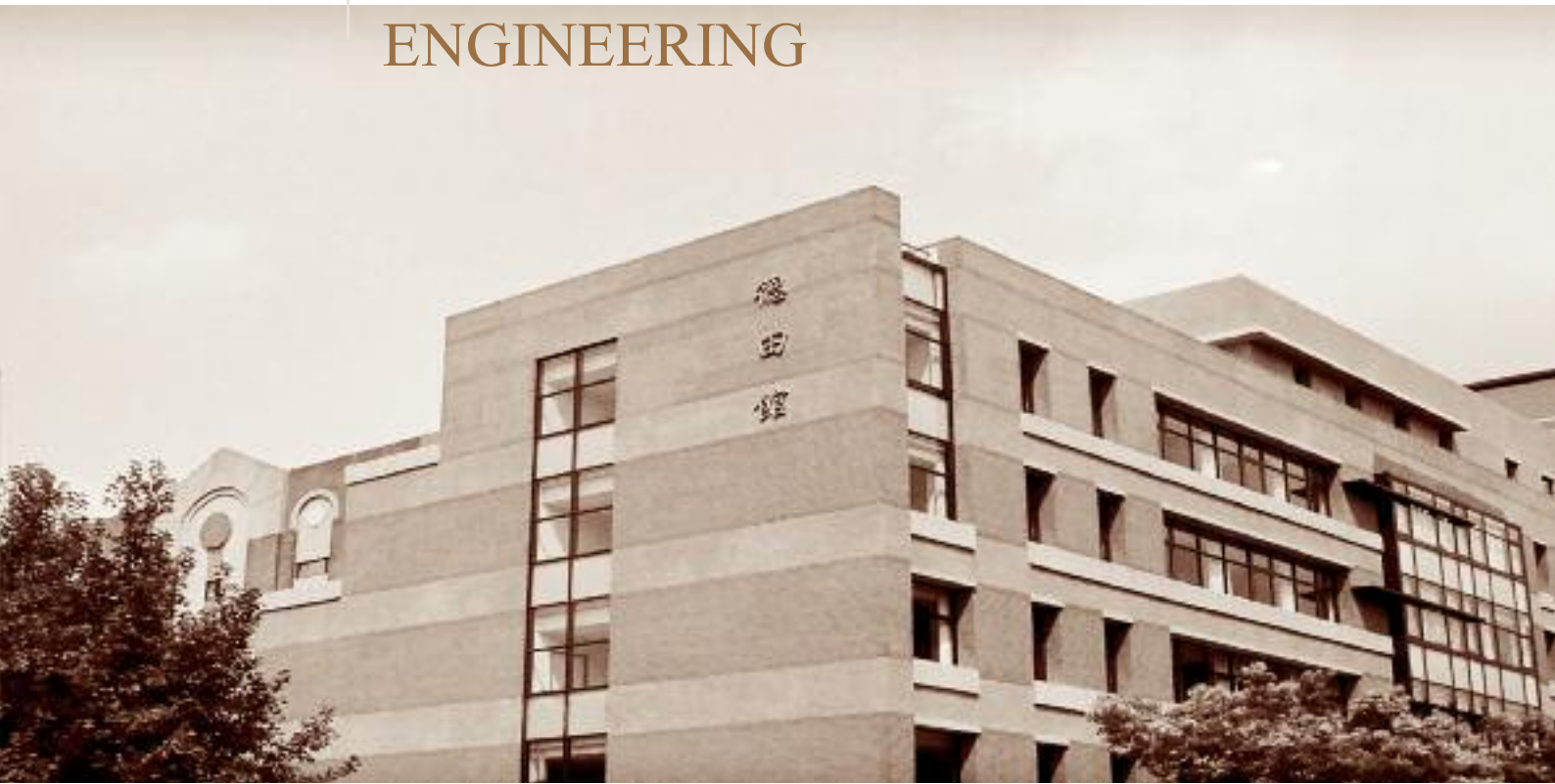
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DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING



INTRODUCTION

History

In 1977, Taiwan's Ministry of Education approved the establishment of the Department of Information Engineering and its undergraduate degree program in the College of Engineering, National Taiwan University. It also marked the first time the name information engineering was adopted by academic departments in Taiwan. The department's master degree program was established in 1981, and three years later its doctoral degree program was established. From 1984, a complete academic program of information engineering with both undergraduate and graduate studies has been in place.

In August 2000, the department partnered with the EE department to form the EECS College. Since then, the EECS College has become a center of excellence among Taiwan's research departments in electrical engineering and computer science. At present, the department admits about 110 undergraduate students, 159 master's students, 7 part-time master's students, and 36 Ph.D. students each year. The total student enrollment includes 478 undergraduate students, 286 master's students, and 135 doctoral students.

The undergraduate curriculum lays the foundation for advanced studies in computer science and information engineering. The master's curriculum prepares students for a future career as senior software engineers in research and development. The doctoral curriculum allows students

to specialize in research areas of their interests and prepare them for a future career in academic or industrial research labs. The department currently employs 35 full-time faculty members and 12 part-time faculty members. Faculty members are dedicated to both research and teaching in order to provide students with the state-of-art education in computer science. In addition, most faculty members participate in joint research collaboration with both local and international industrial partners in developing new and practical technologies.

Visions

The computer industry has become one of the most important sectors in the global economy. Currently, it also ranks as Taiwan's No. 1 exporting industry. As the source of future computer industry's top talents, the department has worked aggressively in the following directions:

1.To meet Taiwan's demands for large numbers of information professionals in the twenty-first century, steps have been taken to increase the number of undergraduate students and graduate institutes.

(1)In 2000, an additional undergraduate class was added. The undergraduate program now has two classes with a total student body of approximately 100 per year.

(2)The newly established Graduate Institute of Networking and Multimedia” starts admitting tudents in 2004.

(3)A new Graduate Institute of Biomedical Electronics and Bioinformatics is under planning.

2.To develop technologies of more immediate use the industry, the department collaborates closely ith national and international corporations and participates in Industry-University Co-op Research projects. The department's involvement in the Industry-University Co-op Research

represents the earliest and longest-running case of such research in Taiwan.

3.To raise its global academic standing and competitiveness, the department shall aggressively conduct exchanges with national and international academic institutions.

FACULTY

Distinguished Research Chairs: 3

Full-time Professors: 44

Adjunt Professors: 13

Visiting Professors: 4

Those with Ph.D. Degree: 63

Those with M.S. Degree: 1

Department Chairman

Professor

Yuh-Dauh Lyuu Ph.D., Harvard University

Distinguished Research Chairs

Der-Tsai Lee Ph.D., University of Illinois at Urbana-Champaign

Andrew C. C. Yao Ph.d., Harvard University

Wen-Hsiung Li Ph.D., Brown University

Full-time

Professors

Ruey-Feng Chang Ph.D., National Tsing Hua University

Kun-Mao Chao Ph.D., Pennsylvania State University

Gen-Huey Chen Ph.D., National Tsing Hua University

Hsin-Hsi Chen Ph.D., National Taiwan University

Wen-Chin Chen Ph.D., Brown University

Li-Chen Fu Ph.D., University of California, Berkeley

Chiou-Shann Fuh Ph.D., Harvard University

Jieh Hsiang	Ph.D., University of Illinois at Urbana-Champaign
Jane Yung-jen Hsu	Ph.D., Stanford University
Yi-Ping Hung	Ph.D., Brown University
Cheng-Yan Kao	Ph.D., University of Wisconsin, Madison
Tei-Wei Kuo	Ph.D., University of Texas at Austin
Feipei Lai	Ph.D., University of Illinois, Urbana-Champaign
Lin-Shan Lee	Ph.D., Stanford University
Chih-Jen Lin	Ph.D., University of Michigan
Phone Lin	Ph.D., National Chiao Tung University
Cheng-Yuan Liou	Ph.D., Massachusetts Institute of Technology
Pangfeng Liu	Ph.D., Yale University
Hsueh-I Lu	Ph.D., Brown University
Yuh-Dauh Lyuu	Ph.D., Harvard University
Ming Ouhyoung	Ph.D., University of North Carolina at Chapel Hill
Yen-Jen Oyang	Ph.D., Stanford University
Ja-Ling Wu	Ph.D., Tatung Institute of Technology

Associate Professors

Bing-Yu Chen	Ph.D., University of Tokyo
Chuen-Liang Chen	Ph.D., National Chiao Tung University
Cheng-Fu Chou	Ph.D., University of Maryland at College Park
Hao-Hua Chu	Ph.D., University of Illinois at Urbana-Champaign
Yung-Yu Chuang	Ph.D., University of Washington
Hsiu-Hui Lee	Ph.D., National Taiwan University

Tzao-Lin Lee	Ph.D., Carnegie Mellon University
Shih-Wei Liao	Ph.D., Stanford University
Ai-Chun Pang	Ph.D., National Chiao Tung University
Chi-Sheng Shih	Ph.D., University of Illinois at Urbana-Champaign
Yufeng Jane Tseng	Ph.D., University of Illinois at Chicago
Chia-Lin Yang	Ph.D., Duke University

Assistant Professors

Pu-Jen Cheng	Ph.D., National Chiao Tung University
Winston H. Hsu	Ph.D., Columbia University
Chih-Wen Hsueh	Ph.D., University of California, Irvine
Shih-Hao Hung	Ph.D., University of Michigan
Mong-kai Ku	Ph.D., University of California, Los Angeles (UCLA)
Ming-Sui Lee	Ph.D., University of Southern California
Hsuan-Tien Lin	Ph.D., California Institute of Technology
Shou-De Lin	Ph.D., University of Southern California
Chieh-Chih Wang	Ph.D., Carnegie Mellon University

Adjunct Professors

Professors

Kuo-Young Cheng	Ph.D., State University of New York, Stony Brook
Ching-Chi Hsu	Ph.D., National Taiwan University
Tsan-Sheng Hsu	Ph.D., University of Texas at Austin
Wen-Lian Hsu	Ph.D., Cornell University

Chi-Ying Huang	Ph.D., Iowa State University
Jau-Hsiung Huang	Ph.D., University of California, Los Angeles
Share-Young Lee	Ph.D., National Taiwan University
I-Peng Lin	Ph.D., University of Illinois at Chicago
Ferng-Ching Lin	Ph.D., State University of New York at Buffalo
Mu-Shieung Liu	Ph.D., State University of New York at Stony Brooks

Associate Professors

Hsiao-Kuang Wu	Ph.D., University of California, Los Angeles
Wen-Ming Yan	M.S., National Taiwan University

Assistant Professor

Tsung-Tso Kan	Ph.D., National Taiwan University
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Visiting Professors

Professors

Hsiao-Wuen Hon	Ph.D., Carnegie Mellon University
Feng-Hsiung Hsu	Ph.D., Carnegie Mellon University
Jane W.-S. Liu	Ph.D., M.I.T.
Wei-Ying Ma	Ph.D., University of California, Santa Barbara

FACILITIES

The whole 5-story building, including the basement, is equipped with indoor access points to support wireless access to the network. The department currently has four shared laboratories: the Intel laboratory, the workstation laboratory, the PC laboratory, and the logic laboratory. There are also more than twenty laboratories

supervised by individual professors. Please refer to the department's Web site for further information.

Intel Laboratory

To promote computer science research and development in universities, the Intel Corporation denotes an Intel laboratory to the department (and another one to the EE department). The lab offers PCs equipped with the newest 2.4GHz Pentium IV CPU. All PCs run Microsoft Windows and software for course works. The connection to the backbone is over an 100Mb Ethernet. Students do their class projects in the lab on a regular basis. Those participating in programming contests also pick the lab for training purposes.

Workstation Laboratory

The workstation laboratory is used for the department-wide services of mails, files, and Web services. Its list of hardware includes 9 Intel Dual Xeon IBM workstations and Pentium dual-CPU workstations. A variety of operating systems are supported: Sun Solaris, Debian Linux, and FreeBSD. The workstation laboratory provides computing facilities needed by students from other departments within the university who take courses offered by the CSIE department.

PC Laboratory

The PC laboratory has 60 Pentium II- and III-class PCs. It provides computing facilities for students' course projects. The room is divided into two sections through a movable partition. Two sections can accommodate 40 and 20 students each. The moveable partition can be detached to create space for 60 students. The lab's hardware is composed mainly of newest Intel Pentium-powered PCs. For operating systems, both Linux and Microsoft Windows are

available to meet students' programming needs in course works.

Logic Laboratory

The logic laboratory provides facilities to support network and hardware experiments in courses such as Digital Circuits, Computer Networks, and Computer Systems. It has a diverse array of hardware resources such as wireless LAN cards, wireless access points, bluetooth PCMCIA cards, hubs, oscilloscopes, logic analyzers, PCs, digital scopes, power supplies, function generators, IC testers, extension interface protectors, IC burners, FPGA prototype boards, microprocessor emulators, ROM emulators, hardware toolboxes, and so forth. The lab offers reference manuals, electronic design automation tools, C compilers and assemblers for various microprocessors. Students can use these equipments to practice hands-on experiences such as implementing network operations and designing system hardware/software. The computers in the lab are connected to the university's Computer Network Center backbone for high-speed network services.

COURSES

The goal here is to promote independent thinking, analytical skills and creativity in preparation for the student's future professional career. Each undergraduate student is expected to complete 136 course credits in order to graduate. Among them, the required courses make up 78 credits, general-education non-departmental courses 18 credits, core-curriculum courses 12 credits, and elective courses 28 credits (among which at least 18 credits must be awarded by department-offered courses).

Required Courses

The courses are divided into five main categories. The philosophy behind this structure is

for freshman and sophomore courses to concentrate on the fundamental skills in computer science, and for junior and senior courses to focus on more advanced, specialized areas. They also offer various elective courses for students to pursue their fields of interests and to establish a research direction. The five categories are listed below.

Mathematical and Theoretical Foundations:

Calculus (General Mathematics) (I)(II); General Physics (I)(II); Discrete Mathematics; Linear Algebra; Probability; Formal Languages and Automata Theory

Computer Fundamentals:

Introduction to Computer Programming; Introduction to Computers; Principles of Information Systems; Object-Oriented Programming; Data Structures and Algorithms (I)(II)

Software Systems:

Computer Organization and Assembly Languages; Systems Programming; Operating Systems; Compiler Design; Database Systems

Hardware Structures:

Digital Electronics; Digital System Design; Digital Circuit Lab.; Computer Architecture

Computer Networks:

Computer Networks

Graduate Courses

Master's courses are geared towards providing necessary education and training needed for a successful senior software engineering career in technology development. Doctoral courses are designed to prepare students into thesis research in specialized research areas. The required credit counts for each program are listed below.

Minimum Credit Count Requirements for the Master's Program

At least 21 credits for courses offered by the department (but excluding Master's thesis, seminar, and research courses). The credit count requirement is 21 for in-service Master's students (part of the Ministry of Education's Continuing Education initiative).

Minimum Credit Count Requirements for the Doctoral Program

At least 18 credits for courses offered by the department. The credit count requirement is 30 for students who apply directly to the doctoral program (but excluding doctoral thesis, seminar, and research courses).

The graduate institute offers a wide selection of advanced elective courses for students to choose from according to their research areas of interests. Please refer to the department booklet for detailed information.

ACADEMIC ACTIVITIES

The Transnational Information Technology

Educating world-class information professionals has always been on our top educational agenda. To demonstrate their capabilities, in recent years students have been encouraged to participate in research and development projects as well as in international contests. With the strong efforts of the students and the coaching faculty members, our students have competed in numerous national and international contests and repeatedly won top prizes. Among the more representative international prizes are:

- 1997, fourth place in the ACM International Collegiate Programming Contest won by a team of six students.
- 2000, second place in the IEEE First Annual Computer Society International Design Competition (CSIDC) won by a team of six students, who were subsequently honored with a

reception by Taiwan President Shui-Bian Chen.

- 2001, fifth place in the IEEE Second Annual Computer Society International Design Competition (CSIDC).
- 2001, gold medal in Chinese Chess of the Sixth Computer Olympiad won by a team led by Professor Shun-Chin Hsu.
- 2002, gold medal in Chinese Chess of the Seventh Computer Olympiad won by a team led by Professor Shun-Chin Hsu.
- 2003, first place in the IEEE Fourth Annual Computer Society International Design Competition (CSIDC) won by a team of four students, who were subsequently honored with a reception by Taiwan President Shui-Bian Chen.
- 2004ACM International Collegiate programming Contest, Asia champion and sixth place in the world.

It is a long-held department policy to evaluate its competitiveness based on the international standards. As a consequence, our students have been encouraged to compete internationally and pursue recognitions beyond the national boundary.

CAREERS AND FURTHER STUDIES

1. Professional abilities

- (1) computation theory
- (2) system software
- (3) data management
- (4) computer algorithms and Data Structure
- (5) computer hardware
- (6) communication and networking
- (7) multimedia

2. Further studies

- (1) computer science
- (2) computer network and multimedia
- (3) bio-informatics
- (4) electrical engineering
- (5) tele-communication

- (6)automatic control
- (7)applied mathematics
- (8)business management

3.Career options

Our graduates have a very broad range of job opportunity, including computer software design and management, research/development in computer networking, financial computing, IC designs, telecommunication, multimedia, office automation. Our graduates are also fully capable of performing excellent research, and have been an important part of global academic society.

We believe that as the computer industry advances rapidly, computers and digital information will revolutionize every aspect of our society and everyday lives. The graduates of our department will play many key roles in this global information trend, including academic researchers, R/D engineers in IT industry, system analysts, and so forth. As the most prestigious computer science department in Taiwan, we will work relentlessly towards our goal, and create great impacts on the information society that is yet to come.

CONTACT INFORMATION

Establishment: 1977

Chair: Yuh-Dauh Lyuu

Tel: +886-2-33664888

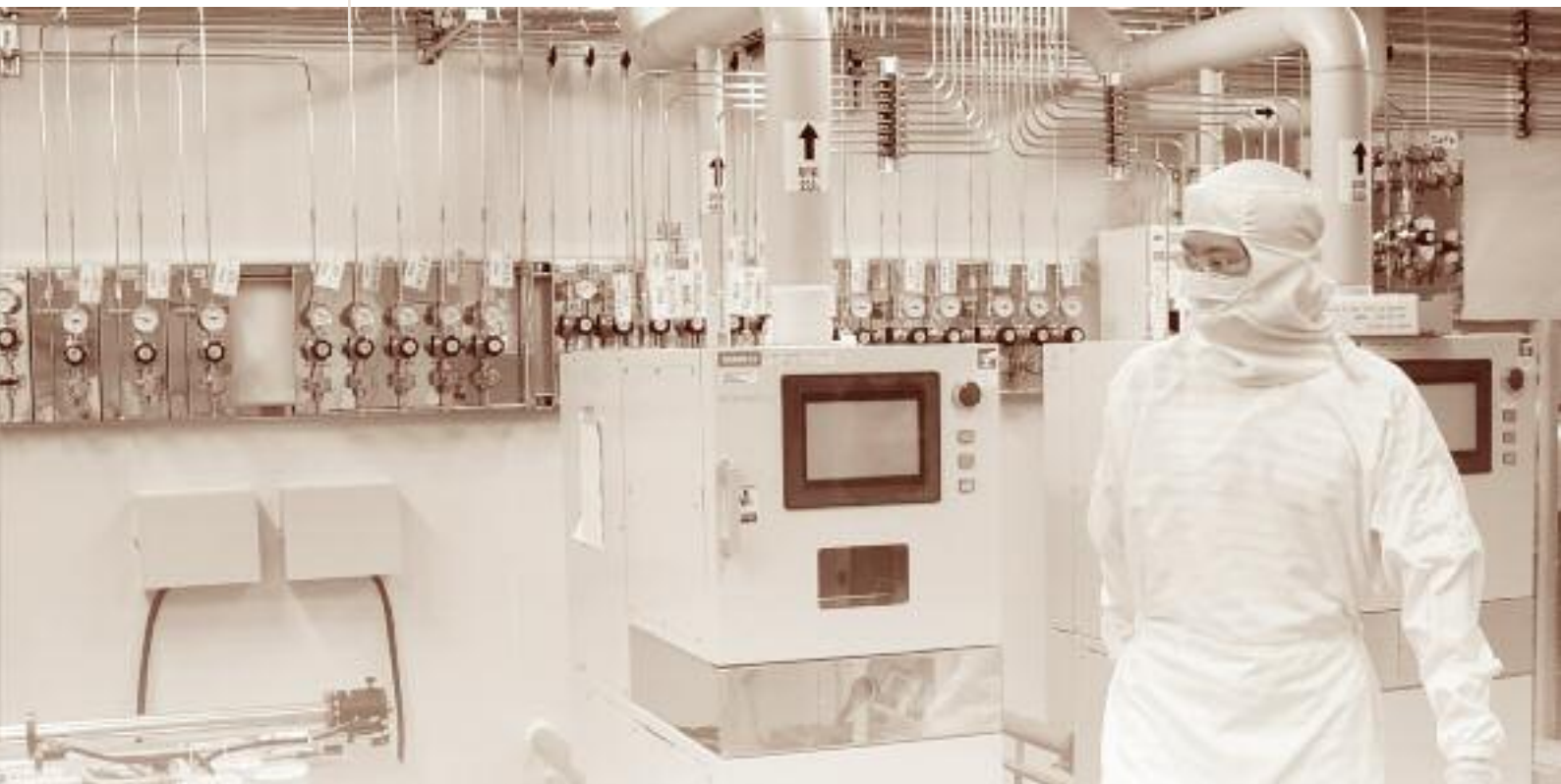
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3 GRADUATE INSTITUTE OF PHOTONICS AND OPTOELECTRONICS



HISTORY

The history of the Graduate Institute of Photonics and Optoelectronics (GIPO) at National Taiwan University dates back to 1987. It was then a Research Group of the Graduate Institute of Electrical Engineering. In August 1992, GIPO was established as part of the College of Engineering. Professor Hung-Chun Chang was the first Chairman. At the time, the Institute offered a Master's program. Three years later, in August 1995, the Institute started to offer its Ph.D. program. Since August 1997, the Institute has become part of the newly established College of Electrical Engineering. The College was renamed to the College of Electrical Engineering and Computer Science with the

inclusion of the Department of Computer Science and Information Engineering. Professor Hen-Wai Tsao served as the second Chairman of the Institute from August 1998 through July 2001. From August 2001 to July 2007, Professor C. C. Yang served as the Chairman. Since August 2007, Professor Sheng-Lung Huang has been serving as the Chairman of the Institute.

FACULTY

Currently, there are 33 full-time faculty members and 1 adjunct professor in the Institute. The 33 faculty members include 18 professors, 6 associate professors, and 9 assistant professors.

Chairman

Sheng-Lung Huang Ph.D., Univ. of Maryland,
U.S.A.

Professors

Jing-Shown Wu Ph.D., Cornell Univ., U.S.A.

Zhe-Chuan Feng Ph.D., Univ. of Pittsburgh,
U.S.A.

Way-Seen Wang Ph.D., Univ. of Southern
California, U.S.A.

Powen Hsu Ph.D., Univ. of Southern
California, U.S.A.

Si-Chen Lee Ph.D., Stanford Univ., U.S.A.

Hen-Wai Tsao Ph.D., National Taiwan Univ.,
R.O.C.

Hung-chun Chang Ph.D., Stanford Univ., U.S.A.

C. C. (Chih-Chung) Yang Ph.D., Univ. of Illinois at
Urbana-Champaign, U.S.A.

Yean-Woei Kiang Ph.D., National Taiwan Univ.,
R.O.C.

Hao-Hsiung Lin Ph.D., National Taiwan Univ.,
R.O.C.

Lon A. Wang Ph.D., Univ. of Arizona,
U.S.A.

Chih-Fu Lin Ph.D., Cornell Univ., U.S.A.

Chee-Wee Liu Ph.D., Princeton Univ.,
U.S.A.

Lung-Han Peng Ph.D., Harvard Univ., U.S.A.

Chi-Kuang Sun Ph. D., Harvard Univ., U.S.A.

Gong-Ru Lin Ph.D., National Chiao Tung
Univ., R.O.C.

Chung-Chih Wu Ph.D., Princeton Univ.,
U.S.A.

Associate Professors

Hoang Yan Lin Ph.D., National Taiwan Univ.,
R.O.C.

Ming-Hua Mao Dr.-Ing., Technical Univ. of
Berlin, Germany

Chih-I Wu Ph.D., Princeton Univ.,
U.S.A.

Jiun-Haw Lee Ph.D., National Taiwan Univ.,
R.O.C.

Jian-Jang Huang Ph.D., Univ. of Illinois,
Urbana-Champaign, U.S.A.

Guo-Dung Su Ph.D., Univ. of California,
Los Angeles, U.S.A.

Assistant Professors

Yih-Peng Chiou Ph.D., National Taiwan Univ.,
R.O.C.

Ding-Wei Huang Ph.D., National Taiwan Univ.,
R.O.C.

Snow H. Tseng Ph.D., Northwestern Univ.,
U.S.A.

Wing Kit Choi Ph.D., Cambridge Univ., UK

Min-Chen Ho Ph.D., Stanford Univ., U.S.A.

Yun-Li (Charles) Li Ph.D., Rensselaer Polytechnic
Institute, U.S.A.

I-Chun Cheng Ph.D., Princeton Univ.,
U.S.A.

Jui-Che (Ted) Tsai Ph.D., Univ. of California,
Los Angeles, U.S.A.

Yuh-Renn Wu Ph.D., Michigan Univ., Ann
Arbor, U.S.A.

Jr Hau (JH) He Ph.D., National Tsing Hua
Univ., R.O.C.

Adjunct Professors

Chen-Shui Tsai Ph.D., Stanford Univ., U.S.A.

Distinguished Chair Professors

Chen-Shui Tsai Ph.D., Stanford Univ., U.S.A.

Tingye Li Ph.D., Northwestern Univ.,
U.S.A.

RESEARCH

Research Scope

The research topics of the faculty in GIPO cover a broad spectrum of photonics and optoelectronics technologies, including

- (1) Display technologies: liquid crystal displays (LCD), design and fabrication of organic light-emitting diodes (OLEDs) displays, poly-Si and amorphous thin film transistors for LCD and OLED display, projector techniques, and optical MEMS for display applications.
- (2) Energy technologies: solid-state lighting, solar cells, wide-band-gap semiconductors, novel materials and nanostructures for light-emitting devices.
- (3) Nano-technologies: semiconductor quantum dots, photonic crystals, surface plasmonic crystals, and nm-scale measurements.
- (4) photonic crystals, wavelength conversion, and micro-structure optics.
- (5) Optical fiber communication technologies: active and passive fiber-based devices, and modules and subsystems in optical fiber communications.
- (6) Optoelectronic devices: LiNbO₃ waveguides, silicon-photonics, laser diodes and amplifiers, photo-detectors, waveguide devices, optical MEMS devices, and numerical modeling techniques.
- (7) Bio-photonic technologies: bio-sensing, bio-photonic instrumentation, optical coherence tomography, harmonic imaging, and THz imaging.

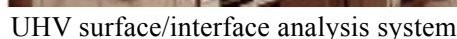
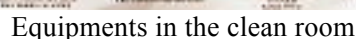
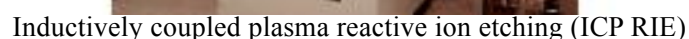
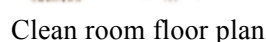
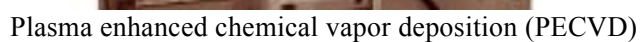


Major Equipment

Molecular beam epitaxy facilities, metal-organic chemical vapor deposition reactor, laser heated pedestal growth system, X-diffractometry equipment, I-V measurement equipment, organic-semiconductor thin-film deposition system, high-vacuum evaporation purifier, photo-luminescence measurement systems, electro-luminescence measurement systems, evaporator, dry-etching facilities, polishing facilities, temperature-variable photo-excitation time-of-flight carrier transport measurement system, low-temperature systems, high-frequency sampling oscilloscope, high-frequency signal generator, high-frequency signal amplifier, high-frequency optical sampling system, modulated photo reflectance measurement system, ellipsometer, excimer laser, ultrafast Ti:sapphire lasers, ultrafast Cr:forsterite lasers, ultrafast fiber laser, streak camera, Q-switched Nd:YAG lasers, wide-range tunable narrow-band semiconductor laser, monochromators, spectrum analyzers, optical coherence tomography systems, multi-photon confocal microscope, fiber splicer, etc.



Metal organic chemical vapor deposition (MOCVD)



An Photonics Processing laboratory managed by the Graduate Institute of Photonics and Optoelectronics, is just established. This clean room laboratory is located at Room 331, Electrical Engineering Building II, occupying a total area of 114.6 m². A compartment of 12.5m² is designated for the yellow room. The processing laboratory, including all its facilities, is open to all faculty members and researchers at National Taiwan University. The facilities include, but are not limited to, dielectric E-gun, metal RIE, sputter evaporator, mask aligner, RTA, surface profiler, etc.

Courses

The educational goal of GIPO is to provide quality education to students who will work in photonics- and optoelectronics-related areas in the future. The training emphasizes not only fundamental knowledge, but also the most updated technologies. GIPO offers more than fifty graduate-level elective courses relevant to photonics. GIPO participates in university-wide teaching evaluations to ensure competitive course quality.

Admission

The Institute admits annually about 100 master students and 30 Ph.D. students. The Institute offers a two-year graduate program leading to a degree of Master of Science. Students can apply for the program through two different processes. Qualified undergraduate students from related departments may apply for admission without taking the entrance examination. Students can also take the written entrance examination held in April every year. The Institute also offers a

program leading to a Ph.D. degree. The entrance examination is held annually in May.

For detailed and updated information, please visit <http://gipo.ntu.edu.tw>.

Degree Requirements

In the Master's program, at least 24 credits of major course work are required. Students are also asked to submit their theses under the supervision of a faculty member and pass an oral examination on their thesis work for receiving the degree.

In the Ph.D. program, at least 18 credits of major course work are required. In addition, students are asked to pass the qualifying examination, submit a dissertation under the supervision of a faculty member, and pass an oral examination on their research work before the degree is awarded. For more information, please visit <http://gipo.ntu.edu.tw>.

ACADEMIC ACTIVITIES

International Cooperation

Moscow State University, Russia
 Moscow State Technical University of Radio Engineering, Electronics and Automation (MIREA), Russia
 National University of Singapore, Singapore
 Seoul National University, Korea
 AOARD, US Air Force, U.S.A.
 Arizona State University, U.S.A.
 Georgia Institute of Technology, U.S.A.
 Northwestern University, U.S.A.

Research Accomplishments

In 2007, total research funding of the Institute exceeded 160 million NT dollars. In the same year, more than 100 SCI journal papers were published by the faculty of the Institute. Most of them were published in journals of high impact factors.



Program for Academic Exchange between the Doctoral Students of National Taiwan University and Seoul National University, 2007

FUTURE DEVELOPMENT

Photonics and optoelectronics have become key technologies in the new century for display, lighting, communication, storage, sensing, and biomedical applications. With the demands of energy saving, explosive use of Internet, high quality displays, multimedia entertainment, and improved medical care, the development and application of photonics and optoelectronics technology have become the indicators of living standards and economic power of a modern society. The Institute will continue to provide high-quality graduate education in photonics and to enhance cooperation with other institutions both within and outside Taiwan.

CONTACT INFORMATION

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E-mail : GIPO@cc.ee.ntu.edu.tw





INTRODUCTION

The Graduate Institute of Communication Engineering (GICE) of NTU was founded on August 1, 1997, comprised of two groups: the Electromagnetics Group and the Communication and Signal Processing Group. GICE was established to educate students to expand their international perspectives and broaden their academic vision.

Electromagnetics Group was originally Radio Wave Research Lab established in March 1970 at the Department of Electrical Engineering of NTU by Professor Jian Feng. This group now has 18 full-time and 1 part-time faculty members. The researches include Electromagnetic

Theory and Applications, Antennas, Electromagnetic Interference and Compatibility, Electromagnetic Simulation, RFIC and MMIC, Microwave and Millimeter-Wave Technologies.

Communication and Signal Processing Group, which was the first academic group in Taiwan engaged in the research of communication and signal processing, belonged to the Department of Electrical Engineering before 1997. Now it has 26 full-time and 1 adjunct faculty members. The researches include Wireless Communication, Optical Communication, Computer Communication, Image Processing, Speech Processing, Digital Signal Processing, Communication System and Networking.

The faculty members make GICE one of the

strongest institutes in the field nationwide. Seventeen GICE professors have received the Distinguished Research Award from the National Science Council, nine professors are the Distinguished National Science Council Research Fellows, and ten of them are IEEE Fellows. Besides, Prof. Chun-Hsiung Chen, Prof. Soo-Chang Pei and Prof. Lin-Shan Lee received the National Chair Professor of the Ministry of Education successively, five professors have received the Academic Achievement Award from Ministry of Education, Prof. Chun-Hsiung Chen and Prof. Lin-Shan Lee received the Outstanding Scholar Award from the Foundation for the Advancement of Outstanding Scholarship successively. The newly employed professors also perform well.

GICE has received international attention to its research contributions accumulated over the years, and thus gained opportunities for hosting major international conferences in Taipei. For instance, with 555 scholars from 25 countries, IEEE APMC 2001, one of the three most important international conferences of the microwave field, was hosted by the professors in the Electromagnetics Group. Thanks to the persistent endeavors of Professor Lin-Shan Lee and Kwang-Cheng Chen, we had the honor to host IEEE PIMRC 1996 and IEEE Globecom 2002, which are the most important annual conferences in the communication field worldwide. Globecom 2002 happened to be held during the IEEE Communications Society's 50th Anniversary. Fourteen hundred participants attended this impressive academic conference.

FACULTY

Full-time: 42

Part-time: 2

Distinguished Research Chair Professor: 1

Ph.D. Degree: 45

Director/ Professor

Huei Wang Ph.D., Michigan State University, USA

Professor

Lin-Shan Lee Ph.D., Stanford University, USA

Soo-Chang Pei Ph.D., University of California, Santa Barbara, USA

Jingshown Wu Ph.D., Cornell University, Ithaca, NY, USA

Powen Hsu Ph.D., University of Southern California, USA

Hsueh-Jyh Li Ph.D., University of Pennsylvania, Philadelphia, USA

Hung-Chun Chang Ph.D., Stanford University, USA

Shyh-Kang Jeng Ph.D., NTU, ROC

Ju-Hong Lee Ph.D., Rensselaer Polytechnic Institute, Troy, NY, USA

Tah-Hsiung Chu Ph.D., University of Pennsylvania, Philadelphia, USA

Hen-Wai Tsao Ph.D., NTU, ROC

Ruey-Beei Wu Ph.D., NTU, ROC

Yean-Woei Kiang Ph.D., NTU, ROC

Mao-Chao Lin Ph.D., University of Hawaii, USA

Shi-Chung Chang Ph.D., University of Connecticut

Zsehong Tsai	Ph.D., University of California, Los Angeles, USA
Ming-Syan Chen	Ph.D., University of Michigan, Ann Arbor, USA
Kwang-Cheng Chen	Ph.D., University of Maryland, USA
Jean-Fu Kiang	Ph.D., Massachusetts Institute of Technology, USA
Chin-Kuang Tzuang	Ph.D., University of Texas at Austin, USA
Homer H. Chen	Ph.D., University of Illinois at Urbana-Champaign
Char-Dir Chung	Ph.D., University of Southern California, USA
Wanjiun Liao	Ph.D., University of Southern California, USA
See-May Phoong	Ph.D., California Institute of Technology, USA
Tzong-Lin Wu	Ph.D., NTU
Tian-Wei Huang	Ph.D., University of California, Los Angeles, USA
Liang-Hung Lu	Ph.D., University of Michigan, USA

Associate Professor

Jenho Tsao	Ph.D., University of Pennsylvania, Philadelphia, USA
Tsung-Nan Lin	Ph.D., Princeton, USA
Hsuan-Jung Su	Ph.D., University of Maryland at College Park, USA
Da-Shan Shiu	Ph.D., University of California at Berkeley
Polly Huang	Ph.D., University of Southern California, USA

Yi-Cheng Lin	Ph.D., University of Michigan, USA
Yi-Jan Chen	Ph.D., Georgia Institute of Technology, USA
Hung-Yun Hsieh	Ph.D., Georgia Institute of Technology, USA

Assistant Professor

Shin-Chia Lu	Ph.D., NTU
Ping-Cheng Yeh	Ph.D., University of Michigan, USA
Hung-Yu Wei	Ph.D., Columbia University, USA
Kun-You Lin	Ph.D., NTU
Shih-Yuan Chen	Ph.D., NTU
Jian-Jiun Ding	Ph.D., NTU
Chun-Ting Chou	Ph.D., University of Michigan, USA

Adjunct Professor

Chun-Hsiung Chen	Ph.D., National Taiwan University
Jin-Fu Chang	Ph.D., University of California at Berkeley, USA

Distinguished Research Chair Professor

Thomas S. Huang	Ph.D., Massachusetts Institute of Technology, USA
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FACILITIES

The institute is located on the 5th floor of the Electrical Engineering Building and Barry Lam Hall of EECS. Main laboratories include Electromagnetics Research Lab, Electromagnetic Simulation Lab, Microwave Anechoic Chamber, Microwave/Millimeter wave Circuit Lab, Wireless Communication, Image Processing Lab, Speech Processing Lab, Optical Communication Lab, Digital Signal Processing Lab, Signal Transmission Lab, Computer System Lab, Coding Theory and Its Applications Lab,

Wireless Broadband Communication Lab, Multimedia Processing and Communications Lab, Signal Processing for Communication Lab, Distributed Multimedia Computing Lab, Communications, Signal and Information Processing Lab, Computer Music Lab, TONIC Lab, Digital Communications Systems Lab, Advanced Wireless Communication Lab, High-Speed Optical Networking Lab, and Next Generation Wireless Lab.

COURSES

1. Master Program

The M.S. degree program requires at least one year of graduate study and must be completed within four years upon matriculation. Admission into the M.S. degree program is nominally offered to students with an earned degree of Bachelor of science or equivalent. Requirements of the M.S. degree may be summarized as follows:

The student must complete

- (1) at least 24 credits of graduate-level course, (excluding Department Colloquium, Seminar, Special Project, Thesis, and Foreign Languages), including at least 12 credits in the student's respective group,
- (2) a written thesis,
- (3) an oral examination that is a defence of thesis and is taken near the completion of the program.

2. Ph.D. Program

The degree of doctor of philosophy is offered under the the general regulations of the University. the Ph.D. degree program requires at least two years of graduate study, and must be completed within seven years upon matriculation. admission into the Ph.D. degree program is nominally offered to students who

have earned a M.S. degree or equivalent, although students in the M.S. degree program may apply for admission into the Ph.D. degree program before earning their M.S. degrees. For students with earned M.S. or equivalent degrees, requirements of the Ph.D. degree may be summarized as follows:

The students must complete

- (1) at least 18 semester-credits of graduate-level courses, (excluding Department Colloquium, Seminar, Special Project, Dissertation and Foreign Languages), including at least 9 credits in the student's respective group,
- (2) a qualification exam given by the faculty of the college which must be completed within 2 years after admission into the
- (3) a written dissertation based on original research,
- (4) an oral examination that is a defense of dissertation research and is taken near the completion of the program,
- (5) M.S. students who are admitted into the

3. Ph.D. program

before earning their M.S. degrees are required to complete, in addition to the Ph.D. program, at least 42 credits of graduate-level course(excluding Department Colloquium, Seminar, Special Project, Dissertation and Foreign Languages), inciuding at least 21 credits in the student's respective group.

ACADEMIC ACTIVITIES

- 1 Weekly colloquia given by renowned scholars and experts.
2. Weekly seminars held for effective exchange of research experience.
3. Workshops, academic symposia, and international conferences are organized from time to time by the Institute.

CONTACT INFORMATION

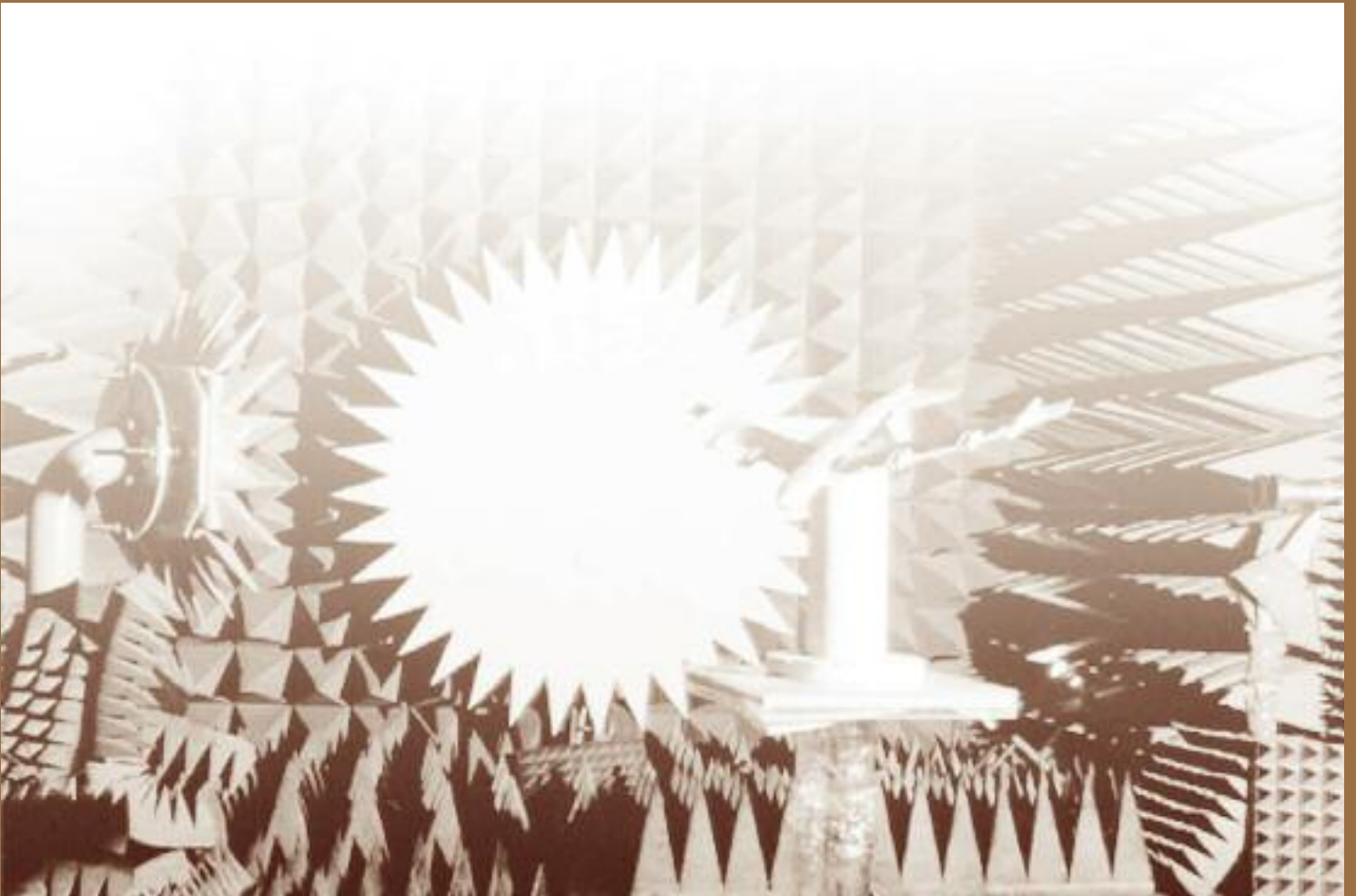
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INTRODUCTION

The Graduate Institute of Electronics Engineering (GIEE), established on August 1st, 2001, is the second youngest institute in the College of Electrical Engineering and Computer Science. Aiming for a leading research organization in the new millennium, the GIEE consists of three research groups: Integrated Circuits and Systems (ICS), Nano-Electronics (NE), and Electronic Design Automation (EDA). The research activities at GIEE are highly related to the current and future needs of the global electronics industry. The faculty and students at GIEE continue to conduct innovative researches while maintaining close interaction with industrial partners. The ICS group focuses on the design

and testing of communication ICs, system-on-a-chip (SoC) integration, and high-performance circuits for analog, mixed-mode, and digital applications. The NE group emphasizes group IV and compound semiconductor devices, optoelectronic/organic components, device modeling, microelectromechanical systems (MEMS), and display devices. The EDA group is devoted to SoC design methodologies, physical designs, signal integrity, verification, and circuit testing.

Our objective is to give our students, not only the cutting-edge technological knowledge and applications, but also a multidisciplinary engineering background for various career directions.

Developing lasting partnerships with prominent international research organizations and semiconductor corporations, GIEE produces more

than 150 highly-motivated graduates each year, serving the country and the world with well-balanced, up-to-date technical knowledge. With the best research environment, we are confident and well prepared for the challenges in the ultra-competitive electronics industries. The faculty and the students at GIEE will continue to work for more outstanding research results and contribution to our industry and society.

FACULTY

Full-time: 42

Adjunct: 1

Ph.D. Degree: 42

M.S. Degree: 1

Director/ Professor

Shey-Shi Lu Ph.D., University of
Minnesota, U.S.A.

Professor

Way-Seen Wang Ph.D., University of South
California, Los Angeles,
U.S.A.

Si-Chen Lee Ph.D., Stanford University,
U.S.A.

Jenn-Gwo Hwu Ph.D., NTU, R.O.C.

Hen-Wai Tsao Ph.D., NTU, R.O.C.

James B. Kuo Ph.D., Stanford University,
U.S.A.

Hao-Hsiung Lin Ph.D., NTU, R.O.C.

Liang-Gee Chen Ph.D., National Cheng-Kung
University, R.O.C.

Sy-Yen Kuo Ph.D., University of Illinois at
Urbana-Champaign, U.S.A.

Tzi-Dar Chiueh Ph.D., California Institute of
Technology, U.S.A.

Chern-Lin Chen Ph.D., NTU, R.O.C.

Ying-Jay Yang Ph.D., North Carolina State
University, U.S.A.

Sao-Jie Chen Ph.D., Southern Methodist
University, U.S.A.

Ching-Fuh Lin Ph.D., Cornell University,
U.S.A.

Shen-Iuan Liu Ph.D., NTU, R.O.C.

Chorng-Kuang Wang Ph.D., University of
California, Berkeley, U.S.A.

Der-Tsai Lee Ph.D., University of Illinois at
Urbana-Champaign, U.S.A.

Chee-Wee Liu Ph.D., Princeton University,
U.S.A.

Chieh-Hsiung Kuan Ph.D., Princeton University,
U.S.A.

Yao-Wen Chang Ph.D., The University of
Texas at Austin, U.S.A.

An-Yeu Wu Ph.D., University of
Maryland, U.S.A.

Farn Wang Ph.D., The University of
Texas at Austin, U.S.A.

Chung-Chih Wu Ph.D., Princeton University,
U.S.A.

Chung-Ping Chen Ph.D., The University of
Texas at Austin, U.S.A.

Liang-Hung Lu Ph.D., University of
Michigan, Ann Arbor, U.S.A.

Associate Professor

Hung-Hsiang Cheng Ph.D., Oxford University, UK

Ming-Hua Mao Ph.D., Institut für Festkörper
Physik, Technische
Universität Berlin, Germany.

Jiun-Lang Huang Ph.D., University of
California, Santa Barbara,

	U.S.A.
Tai-Cheng Lee	Ph.D., University of California, Los Angeles, U.S.A.
Chien-Mo Li	Ph.D., Stanford University, U.S.A.
Yi-Jan Chen	Ph.D., Georgia Institute of Technology, U.S.A.
Shao-Yi Chien	Ph.D., NTU, R.O.C.

Assistant Professor

Hsin-Shu Chen	Ph.D., University of Illinois at Urbana-Champaign, U.S.A.
Chung-Yang Huang	Ph.D., University of California, Santa Barbara, U.S.A.
Tsung-Hsien Lin	Ph.D., University of California, Los Angeles, U.S.A.
Jri Lee	Ph.D., University of California, Los Angeles, U.S.A.
Hsin-Chia Lu	Ph.D., NTU, R.O.C.
Kuan-Yu Tsai	Ph.D., Stanford. U.S.A.
Jie-Hong Roland Jiang	Ph.D., University of California, Berkeley, U.S.A.
Chih-Ting Lin	Ph.D., University of Michigan, Ann Arbor, U.S.A.

Adjunct Specialist

Tah-Kang Ting	Ms., Case Western Reserve University, U.S.A.
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FACILITIES

The laboratories of GIEE are located among the three buildings of Electrical Engineering School (i.e., EE Building I, II, and III). Main laboratories include: Access IC Design Lab., CAD System Lab., DSP/IC Design Lab., IC Design Lab., Dependable Distributed System and Networks Lab., Microelectronics Lab., NTU-MTK Wireless Research Lab., RF IC Lab., Electronic Design Automation Lab., VLSI Testing and Verification Lab., Infrared Spectrum Lab., Microsystem Research Lab., VLSI Circuit and System Lab., C-V Lab., Molecular Beam Epitaxy Lab., Applied Electronics Lab, Nano-electronics Lab., Integrated Optics Lab., Semiconductor Laser and Ultrafast Optoelectronics Lab., Electronic Circuits Lab., A-Si/Poly-Si TFT Lab., Optoelectronic Material and Device Lab., Organic Optoelectronics, Lab., Photoluminescence Spectrum Lab., E-beam lithography Lab., and Advanced Silicon Device and Process Lab.

The rapidly-growing computer network in GIEE comprises hundreds of computers and workstations, connected to a 100 Mbps network with multiple parallel T3 lines running to individual research laboratories and computer rooms. Research equipment consist of, but is not limited to: spectrum analyzer, network analyzer, rapid thermal processor, reactive ion etching, mask aligner, plasma enhanced chemical vapor deposition, infrared spectrometer, noise measurement system, Aptix fast prototyping system, and sputtering system.

COURSES

GIEE offers programs of study for the Master of Science degree and the Doctor of Philosophy degree, both in Electronics Engineering. In the M.S. program, students must complete a thesis and pass the oral defense in addition to general course requirements. The Ph.D. degree program requires the completion of a qualifying examination, a dissertation based on original research, and an oral dissertation defense. Research areas at GIEE include:

- (1) Integrated circuits and systems, involving digital, analog, mixed-signal, communication IC designs, SOC design, low power ICs, DSP architecture and multimedia ICs
- (2) Computer-aided design, including IC testing, hardware/software co-design technology, VLSI physical design, design automation, circuit simulation system, and MCM/PCB layout design;
- (3) Power electronics system;
- (4) Microsystems with nanometer devices;
- (5) Infrared electro-optics devices;
- (6) Semiconductor devices and ICs, including GaAs and SiGe devices;
- (7) Device simulation and circuit simulation.

CURRICULAR ACTIVITIES

Department colloquium and group seminars are scheduled weekly. Special talks by leading experts in each of the major fields and other fields are presented frequently to broaden the learning experiences of the graduate students at GIEE.

CONTACT INFORMATION

Director: Prof. Shey-Shi Lu

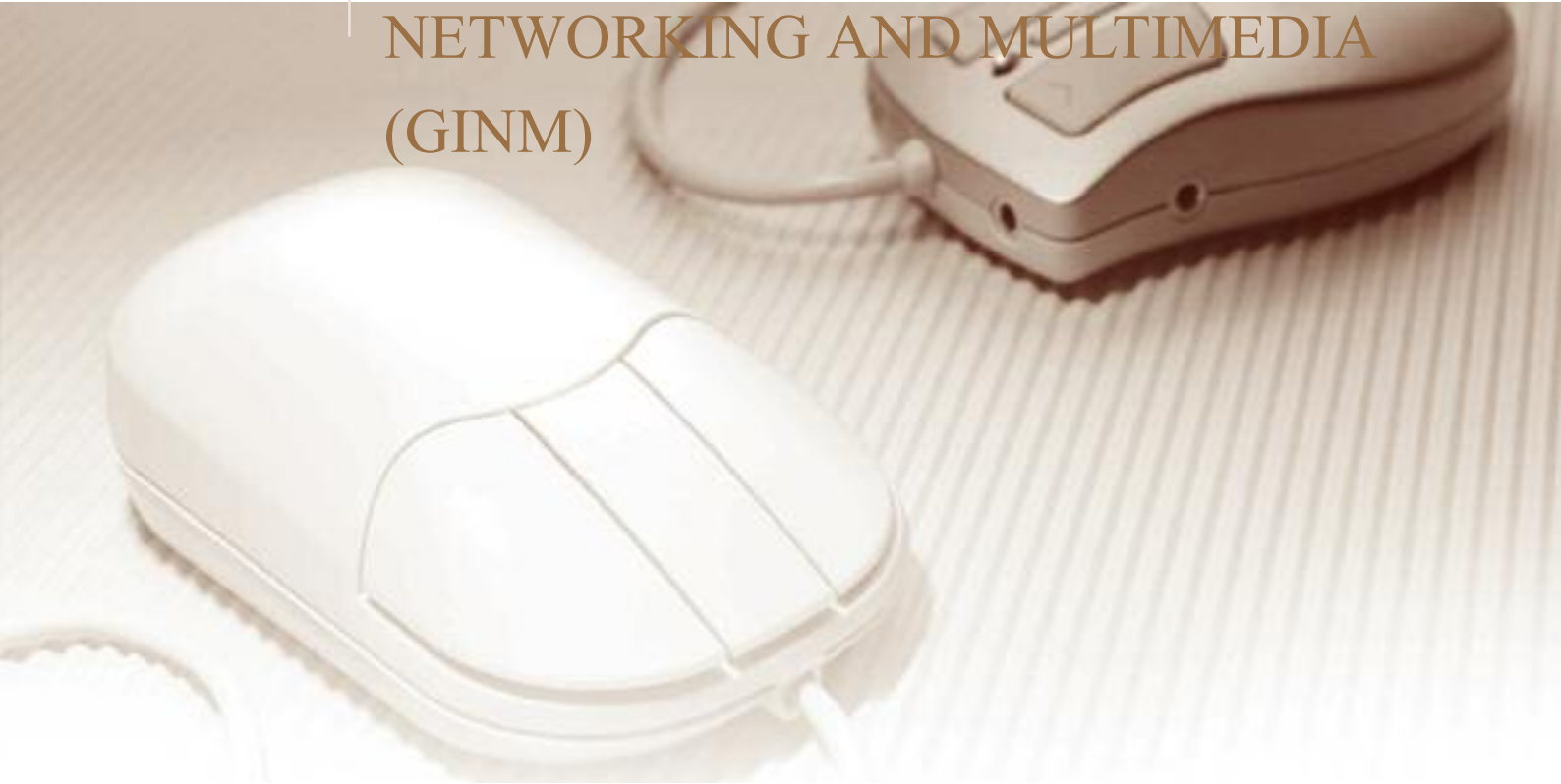
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6 GRADUATE INSTITUTE OF NETWORKING AND MULTIMEDIA (GINM)



INTRODUCTION

The Graduate Institute of Networking and Multimedia (GINM) is the latest graduate institute in the College of Electrical Engineering and Computer Science (EECS) at National Taiwan University (NTU). The Ministry of Education approved the GINM to offer master and doctoral programs starting in August 2004. GINM pursues an educational and research mission to educate the information technology professionals who will support the development of industry and research institutes in the country for the next century, and has brought together research disciplines such as multimedia, networking, and embedded systems.

Over the last decade, computer networking and multimedia have become an important part of our daily life. With the strong support of academic institutes and government, the Computer, Communication, Consumer Electronics, and Content (so called 4C) industry has become a strong and important business section in the country. To meet the great demand of information technology professionals, the members of the Department of CSIE and CML have increased remarkably. In order to provide better education programs and research facilities, Prof. Ja-Ling Wu started organizing the GINM Planning Committee in 2000. The committee members were well-established faculty members included Prof. Shyh-Kang Jeng, Prof. Hsu-Chun Yen, Prof. Sy-Yen Kuo, Prof. Ming-Syan Chen,

Prof. Wan-Jiun Liao from the Computer Science division of the Department of Electrical Engineering, Prof. Ching-Chi Hsu, Prof. Ja-Ling Wu, Prof. Ming Ouhyoung, Prof. Wen-Chin Chen and Prof. Tei-Wei Kuo from the Department of CSIE. Prof. Ja-Ling Wu served as the committee chairman. With the strong support of the Ministry of Education and NTU, the GINM debuted in August 2004.

With the strong support of the Ministry of Education and NTU, the GINM was founded in August 2004. With the lead of Prof. Ja-Ling Wu, the first Director of GINM, and the full cooperation of whole faculty, the institute affairs ran smoothly and a solid foundation for different aspects has been established. In the year 2007, Prof. Yi-Ping Hung was elected as the new Director of GINM. We expect that GINM will have further developments in education and research, and can make a better contribution in improving the quality of life for the whole human being.

GOAL

GINM pursues four closely related missions: education, research, university-industry collaboration, and multi-university collaboration missions. Nurturing first-class information technology professionals has always been the most important goal in our educational mission. GINM provides the curriculum that minimizes the gap in educational goals between industry and academia. The Curriculum Planning Committee has designed the programs so that the students graduate with most needed information technology skills, cultivated skills and hands-on experience. In particular, the curriculum of the GINM focuses on networking, multimedia, and system applications. The goal is to educate the students with advanced technology, which meets

the needs of the industry in the 4C field.

For the research mission, the GINM encourages multi-discipline researches among the faculty within the institute or with other universities so as to foster the high-quality and advanced researches. We firmly believe that the GINM will be recognized throughout the world as a leader in the research of computer networking and multimedia in the near future. Moreover, the faculty in GINM will incorporate the key goals and directions for future stages of sci-tech development planned by National Science Council as part of our research direction. The research results can, hence, benefit the development of industry in the country.

For cooperation with research institutes and industry in the country, GINM pursues cooperation with other departments/institutes within NTU to promote the research results to the industry. GINM encourages interaction with industry and technology transfer to industry in hopes of advancing the research capability of the industry. With the interaction with industry, the research agenda in the GINM is closely related to research and design needs of industry so as to advance technology development.

GINM also seek the cooperation with research institutes/universities in the country or all over the world. To promote the research results of the GINM, the faculty members are encouraged to attend the international conferences, invite well-established researchers, and organize the international conferences. GINM also accepts the admission from foreign countries and welcomes the faculty member from foreign countries.

FACULTY

GINM comprises 45 full-time faculties (including 13 faculties from Department of CSIE, 2 faculties from Graduate Institute of Biomedical Electronics and Bioinformatics, 3 faculties from Graduate Institute of Electrical Engineering, 6 faculties from Graduate Institute of Communication Engineering, 2 faculties from Graduate Institute of Electronics Engineering and 1 faculty from the Department of Information Management), 18 of them are dedicated to GINM. All the GINM faculties hold Ph.D. degrees. In addition, 3 adjunct faculties have joined GINM since August 2005.

Full-Time Dedicated Faculty members:

GINM Director/Professor

Yi-Ping Hung Ph.D., Brown University

Professors

Ja-Ling Wu Ph.D., Ta-Tung Institute of Technology.

Wen-Chin Chen Ph.D., Brown University

Ming Ouhyoung Ph.D., University of North Carolina, Chapel Hill

Tei-Wei Kuo Ph.D., University of Texas (Austin)

Jane Yung-jen Hsu Ph.D., Stanford University

Associate Professors:

Chia-Lin Yang Ph.D., Duke University

Hao-Hua Chu Ph.D., University of Illinois at Urbana-Champaign

Cheng-Fu Chou Ph.D., University of Maryland

Ai-Chun Pang Ph.D., National Chiao-Tung University
Chi-Sheng Shih Ph.D., University of Illinois at Urbana-Champaign

Yung-Yu Chuang Ph.D., University of Washington

Assistant Professors

Chieh-Chih Wang Ph.D., Carnegie-Mellon University

Pu-Jen Cheng Ph.D., National Chiao Tung University

Chih-Wen Hsueh Ph.D., University of California (Irvine)

Shou-De Lin Ph.D., University of Southern California

Ming-Sui Lee Ph.D., University of Southern California

Winston H. Hsu Ph.D., Columbia University

Joint-Appointment Faculty members:

Professors:

Dept. of CSIE: Gen-Huey Chen, Jieh Hsiang, Hsin-Hsi Chen, Chiou-Shann Fuh, Pang-Feng Liu, Ruey-Feng Chang, Chih-jen Lin, Hsueh-I Lu and Phone Lin.

Graduate Institute of Biomedical Electronics and Bioinformatics: Yen-Jen Oyang and Kun-Mao Chao.

Graduate Institute of Electrical Engineering: Sy-Yen Kuo and Chin-Laung Lei.

Graduate Institute of Communication Engineering: Soo-Chang Pei, Lin-Shan Lee, S.K. Jeng, Ming-Syan Chen, Hung-Ming Chen and Wan-Jiun Liao.

Graduate Institute of Electronics Engineering: Liang-Gee Chen.

Associate Professors:

Department of CSIE: Shih-Wei Liao.

Graduate Institute of Electrical Engineering: Polly Huang.

Department of Information Management: Bing-Yu Chen.

Assistant Professors:

Department of CSIE: Mong-Kai Ku, Shih-Hao Hung and Hsuan-Tien Lin.

Graduate Institute of Electronics Engineering:
Shao-Yi Chien

FACILITIES

The GINM maintains an array of powerful computers and software for instruction, as well as research laboratories maintained by individual faculty. The facilities are available to all the students and faculties. In the coming years, the GINM will continue to expand its facilities to serve our educational and research mission.

The faculties in the GINM lead nine laboratories:

- Communications and Multimedia Laboratory
- Embedded Systems and Wireless Networking Laboratory
- Image and Vision Laboratory
- Intelligent Agents Laboratory
- Ubicomp Laboratory
- Embedded Computing Laboratory
- Robot Perception and Learning Laboratory
- Web Mining and Information Retrieval Laboratory
- Machine Discovery and Social Networking Mining Laboratory

PROGRAMS REQUIREMENTS AND COURSES

Courses in the GINM are categorized into three categories: Multimedia technology, Networking technology and Systems and Application. Each category includes courses offered by our faculty or courses approved by the Committee of Curriculum. With the approval of the director, students can apply for course exemption for related courses taken in other departments.

Master Program

(1) Required Courses

1. Master thesis (must be taken during the last year of study)
2. Special project (selective for the first semester, required from the second semester on. This course cannot be taken while taking the Master Thesis Course.)
3. Seminar (should be taken for at least 4 semesters)

- (2) To graduate, each GINM master student has to earn at least 24 credits (excluding master thesis, special project and seminar). Among these 24 credits, at least 6 should be from the multi-media technology, at least 6 from networking technology category, and at least 3 from the systems and application category.

Ph. D. Program

(1) Required courses

1. Doctoral Dissertation (12 credits)
2. Special Project (required for every semester until the student is eligible to take the Doctoral Dissertation course)
3. Seminar (at least 4 semesters before graduation)

- (2) To graduate, students have to take at 18 credits from GINM (for those entering through direct admission to the Doctoral Program, the minimum credit required is 30). Among these credits, at least 6 credits must be from the category of multi-media technology, credits from networking technology, and at least 3 credits must be from the systems and application category. The credits earned from Doctoral Dissertation, Special Project and Seminar courses cannot be used to satisfy the graduation credits.

COURSE LISTS

Multimedia

Introduction to Digital Signal Processing, Information Theory and Coding Techniques, Multimedia Security, Computer Graphics, Virtual Reality, Computer Vision, Digital Image Processing, Pattern Analysis and Classification, Image-Based Modeling and Rendering, Digital Speech Processing, Video Compression Technique, Standard and Implementation, Video Signal Processing, Geometric Modeling, Digital Image Synthesis, Digital Visual Effects, Artificial Intelligence, Medical Image Graphics, Game Programming, Multimedia Analysis and Indexing, Introduction to Digital Speech Processing, Advanced Topics in Multimedia Analysis and Indexing, Advanced Human Computer Interaction, Machine Learning, Statistical Methods for Intelligent Information Processing, ...etc.

Networking

Advanced Computer Networks, Internet Telephony, Performance Modeling, Personal Communications Services, Network System Management, Software Engineering, Cryptography and network security, Game theory, Strategies of software industry, An introduction to advanced performance modeling, Network and computer security, Complexity-based cryptography, Electronic commerce systems, Advanced web technology, Net arts, Network Simulation and Testing...etc.

Systems & Application

Information Retrieval and Extraction, Advanced Operating System, Web Retrieval and Mining, Networked SoC Embedded Software Design, Machine Discovery, Advanced Computer Architecture, Real-Time Systems, Intelligent Agents, Multiagent Systems, Fundamentals of Software Patent Practicing, Pervasive & Ubiquitous Computing, Multimedia System-on-chips Design, Robot Perception and Learning, Low Power System Design, Technical Writing and Research Method, Multicores and Their Compilation, Computer Gaming Theory, Machine Discovery, Overseas Internship Program, Embedded Operating System Implementation, Fuzzy Systems and Applications, Lower Power Embedded System Design, Multicore Embedded Systems and Software...etc.

CONTACT INFORMATION

Director: Yi-Ping Hung

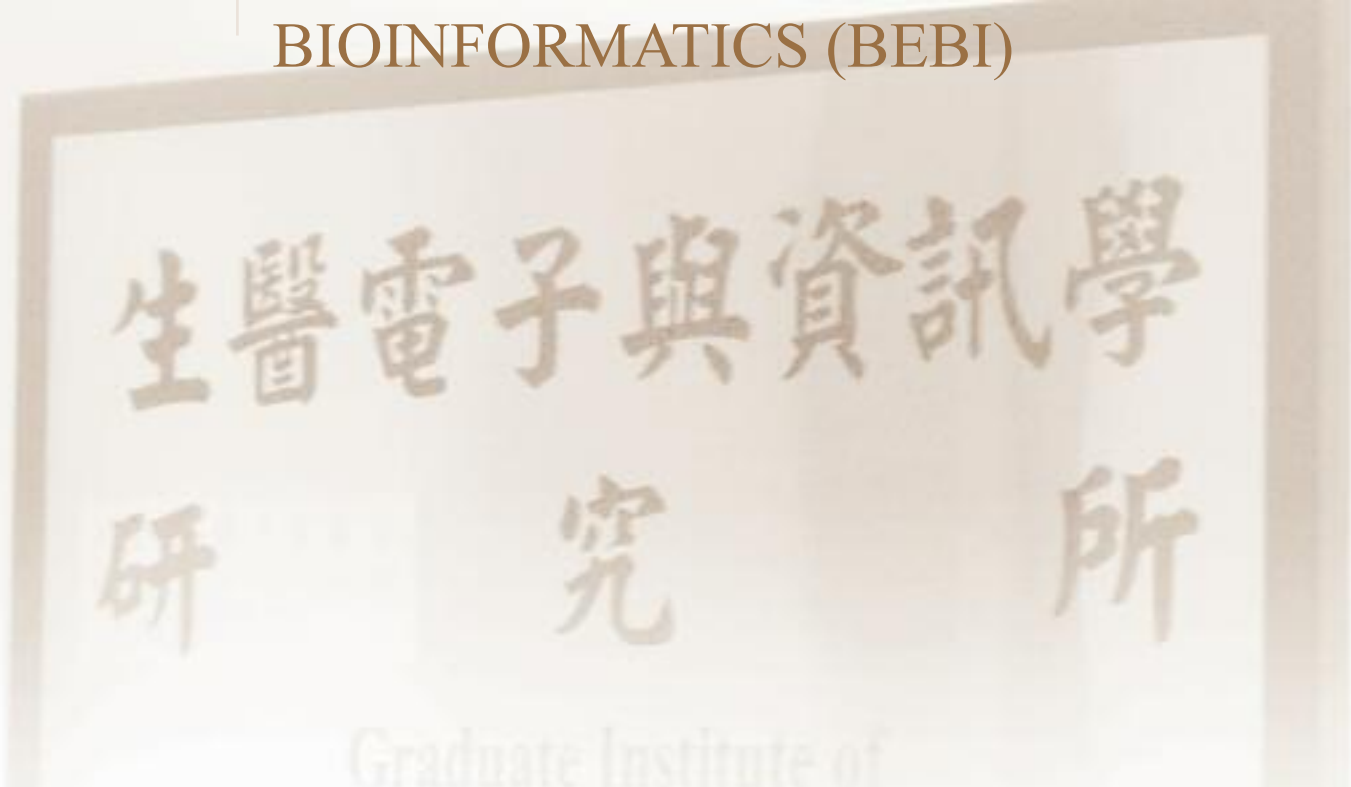
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Website: <http://www.inm.ntu.edu.tw>

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GRADUATE INSTITUTE OF BIOMEDICAL ELECTRONICS AND BIOINFORMATICS (BEBI)



INTRODUCTION

Established in August, 2006, our mission is to combine the professional knowledge of electronics and informatics, and to cultivate outstanding and knowledgeable researchers through the integration of the research concerning medical science, life science, and biotechnology so that we can not only fit the direction of our national development but also play an leading role in the cutting edge biotechnology areas around the globe in the next decades.

Biomedical Engineering research covers wide range of various sciences such as biomedical materials, biomedical mechanics, biomedical electronics, bioinformatics, biomedical imaging,

biomedical photonics, and clinical engineering.

We, NTUBEBI, will devote ourselves to the research of visionary and promising topics, including bioinformatics in post genome era, nano-biomedical technology, and the medical technology needed in aging society. Our research currently focuses on the following areas:

1. Nano-Biomedical Technology
2. Bioinformatics
3. Medical Imaging
4. Medical Informatics
5. Biochip and Biomedical Microelectronics System
6. Electro-Optical Technology

In the past few years, by putting numerous efforts from our talented researchers and distinguished faculties in above areas, we have been

able to demonstrate our exceptional capabilities on researches and publish our research results on many international journals which are well known and recognized in academy. Other than that, we also closely cooperate with other schools and departments for multi-disciplinary research, and share our research results through collaboration with institutes and industries to achieve our ultimate goal of improving competitive strength for both companies and individuals in biomedical industry domestically.

FACULTY

Director/Professor

Pai-Chi Li Ph.D., Univ. of Michigan.

Biomedical Electronics Group

Professors

Si-Chen Lee Ph.D., Stanford Univ.
 Ju-Hong Lee Ph.D., Rensselaer Polytechnic.
 Yung-Yaw Chen Ph.D., Univ. of California, Berkeley.
 Jyh-Horng Chen Ph.D., Univ. of California, Berkeley.
 Chieh-Hsiung Kuan Ph.D., Princeton Univ.
 Hsiao-Wen Chung Ph.D., Univ. of Pennsylvania.
 Chii-Wann Lin Ph.D., Case Western Reserve.
 Eric Y. Chuang Ph.D., Harvard Univ.

Associate Professors

Fok-Ching Chong B.S., National Taiwan Univ.
 Jen-Ho Tsao Ph.D., Univ. of Pennsylvania.
 Chung-Ping Chen Ph.D., Univ. of Texas

Assistant Professors

Kung-Bin Sung Ph.D., Univ. of Texas.
 Chih-Ting Lin Ph.D., Univ. of Michigan.
 Po-Ling Kuo Ph.D., Harvard Univ.

Bioinformatics Group

Professors

Cheng-Yan Kao Ph.D., Univ. of Wisconsin, Madison.
 Jieh Hsiang Ph.D., Univ. of Illinois Urbana-Champaign.
 Feipei Lai Ph.D., Univ. of Illinois, Urbana-Champaign.
 Yen-Jen Oyang, Ph.D., Stanford Univ.
 Chiou-Shann Fuh Ph.D., Harvard Univ.
 Ruey-Feng Chang Ph.D., National Tsing Hua Univ.
 Kun-Mao Chao Ph.D., Pennsylvania State Univ.
 Hsueh-I Lu Ph.D., Brown University

Associate Professors

Hsueh-Fen Juan Ph.D., National Taiwan Univ.
 Y. Jane Tseng Ph.D., Univ. of Illinois.

Adjunct Professors

Te-Son Kuo Ph.D., Georgia Institute of Technology.
 Wei-Kung Wang Ph.D., Johns Hopkins Univ.
 Tzer-Bin Lin Ph.D., National Taiwan Univ.

FACILITIES

Babinet Compensator, Laser Source, Positioning Platform, Optical table, 3 Tesla MRI, Spectrum Analyzer, Clinical Ultrasound Scanner, 4-Axis Scanning System, Flow Simulation System, Servers and Computer Clusters etc.

COURSES

Curriculum Design

(1) Required Course

Master Program: Fundamentals of Biomedical Engineering, Introduction to Biomedical Informatics, Group Seminar, Research, and Special Topics.

Doctoral Program: Group Seminar, Research, and Special Topics.

(2) Required Course: Master Program

Non-Biomedical Related Major (Select one in four): Physiology, Molecular Biology, Biochemistry, and Introduction of Biological Sciences.

Non-Technology Related Major (Select one in three): Applied Electrics or Electromegnetics (Advisor's approvement needed), Object-Oriented Software Design, and Signals and Systems.

(3) Elective Course

The elective courses of Biomedical Electronics Group are divided into "Biomedical Signal and Image Processing" and "Biomedical/ Nanometer Electronics" . The former includes: Digital Signal Processing, Biomedical Signal Processing, Digital Image Processing, Medical Imaging Systems, Fundamentals of Molecular Imaging, Principles of Medical Ultrasound, Magnetic Resonance Imaging: Principles and Its Applications, Magnetic Resonance Imaging Lab, Special Topics on Medical Ultrasound, and Advanced MR Imaging Technique. The later includes: Advanced Medical Instrument, Medical Electronics, Medical Microsensor, Fabrication and Design in Optical MEMS, Medical Photonics, Fundamentals of Lasers, Optoelectronic Electromagnetics, Biomedical Optical Spectroscopy and Imaging

Techniques, Introduction of Biochip

Techniques, and Genechips Methods and Data Analysis.

The elective courses of Bioinformatics Group are divided into "Bioinformatics" and "Medical Informatics" . The former includes: Bioinformatics Algorithms, Introduction of Biochip Technologies, Statistical and Computational Methods in Bioinformatics, Mathematics for Computational Biologists, Bioinformatics and Computational Molecular Biology, Data Mining and Machine Learning, Algorithms for Analyzing Biological Sequences, Data Mining Algorithms for Bioinformatics, Genechips Methods and Data Analysis, Mathematical Modeling and Systems Biology, Theory of Statistics, and Special Topics on Graph Algorithms. The later includes: Introduction to VLSI, Medical Information System, Personal Communications Services, Computer Systems Architecture, Advanced Computer Networks, Internet Telephony, Computer Graphics, Computer Vision (I), Digital Visual Effects, Topics in Parallel, Real-times Systems, Advanced Compiler Design, Performance Modeling, Advanced Operating System, Networked SOC Embedded Software, Virtual Reality, and Computer Vision (II).

ACADEMIC ACTIVITIES

Workshops, academic symposia, international conferences, or trainings are organized by the Institute.

CONTACT INFORMATION

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PREFACE

The objective of Communication Research Center is to focus on the research and development of the communication-related technologies, to promote academic activities, and to enhance the cooperation with other departments. In addition, the center will also pursue extensive profound study of their impacts on society, politics, economy, and culture.

ORGANIZATIONS

The Communication Research Center was founded in March 1992. The goal of the center is to promote the long-term national policy on telecommunication development, to train future

communication engineers and managers, and improve local communication industry.

Based on the well-established foundation laid down by the Department of Electrical Engineering, and Department of Information Engineering, and Graduate Institute of Communication Engineering, and the Center will carefully select the direction of research and development and provide professors with a favorable research environment.

CURRENT ACTIVITIES

The center research projects are conducted in cooperation with industry. The main cooperation organizations are Chung-Hwa Telecommunication Research Laboratory (中華電信研究所), Computer and Communication Research Institute of ITRI (CSIST, 工研院資通所), Chung-Shan Institute of Science and Technology (中科院), Directorate General of Telecommunication of Ministry of Transportation and Communications (交通部電信總局) and other industry companies. The center also cooperates with YEN TJING LING industrial Research Institute (慶齡工業研究中心) and offers several training programs.

The Communication Research Center has arranged Chunghwa Telecom Co., Ltd. (CHT, 中華電信) to sign the collaboration to agreement with NTU on Jan. 16, 2008. The collaboration activities will include special research projects and training courses. Besides, we are also planning many other programs, such as

1. Academic Activities

· Academic research projects

Regarding the projects funded by the government, the main funding sources are National Science Council and the National Technology Program for Telecommunication (國科會電信國家型計畫). The participants include the professors from College of Electrical Engineering and Computer Science, and other universities such as National Tsing Hua University, National Chiao Tung University, National Taipei University of Technology. On the other hand, we also have collaborative projects from other industries and research institutes, such as CHT, ITRI, CSIST, Directorate General of Telecommunication of Ministry of Transportation and Communications.

· International Interactions

We have invited a number of IEEE Fellows for seminars and short courses. On the other hand, we also worked together with IEEE Taipei Section, Microwave Theory and Techniques Society, Signal Processing Society and Communications Society to arrange the visit of international researchers and scholars to our center.

2. Training Programs

We have been collaborated with YEN TJING LING industrial Research Institute, Department of Industrial Technology and Industrial Development Bureau of Ministry of Economic Affairs (經濟部技術處與工業局) to offer various training programs. Besides, we further coordinated to form the “Cross-University Centers” under the “MOE Human Resource Program for ICT (教育部資通訊人才培育先導型計畫)” to promote the training of human resources for the information and communication related areas. Our center also planed to offer the “2008 EM Education Initiative- Summer Program”. This program is supported by IEEE EM related societies under Taipei Section and will provide a overview of the EM area for graduate level to the fresh master students in Taiwan.

3. Industrial Collaborations and Interactions

Besides the research projects from Chunghwa Telecom and other institutes, we have collaborated with Communication Industry Alliance of Taiwan Electrical and Electronic Manufacturers Association (CIA, 通訊產業聯盟), to host an on-campus recruiting activity in Feb. 2008. The participated companies include MediaTek Inc. (聯發科技), Taiwan Semiconductor Manufacturing Company Limited (TSMC, 台積

電), MiTAC International Corporation (MiTAC, 神達電腦), Gemtek Technology Co., Ltd. (Gemtek, 正文科技), and etc. This activity has attracted more than 150 students, and received positive feedbacks from the participated companies.

FUTURE PROSPECT

The center will lead key research projects in cooperation with government, research organizations, and industry. The center will also cooperate with the YEN TJING LING Industry Research Institute to offer several communication area training programs. The future research areas will include the following:

1. Advanced networking, including multimedia (such as voice, data, image, and video), high-speed integrated service networks, and high-speed switching technology.
2. Communication electronics, including electronic devices, systems, microwave and millimeter wave circuits and related VLSI technology required by the development of communication.
3. Digital signal processing, including digital video and speech processing, wavelets, and signal processing for wireless communications.
4. Fiber optical communication, including research on system and applications of broad bandwidth, large capacity, and high-speed fiber optical communication.
5. Wireless communication, including areas in packet radio, satellites, microwave communication, personal communication services, and optical wireless communications.
6. Electromagnetic wave theory and applications, including problems of EM waves and light waves encountered along the transmission path.

7. New switching technology, including multimedia, high-density, high-capacity, high-speed new switching technology and photonic switching in optical communication.
8. Communication theory and coding techniques, including fundamental devices of communication systems, coding techniques for the improvement of reliability and security.
9. Other areas, such as photonic switching and quantum communications, and etc.

CONTACT INFORMATION

Formation Date: March 1992

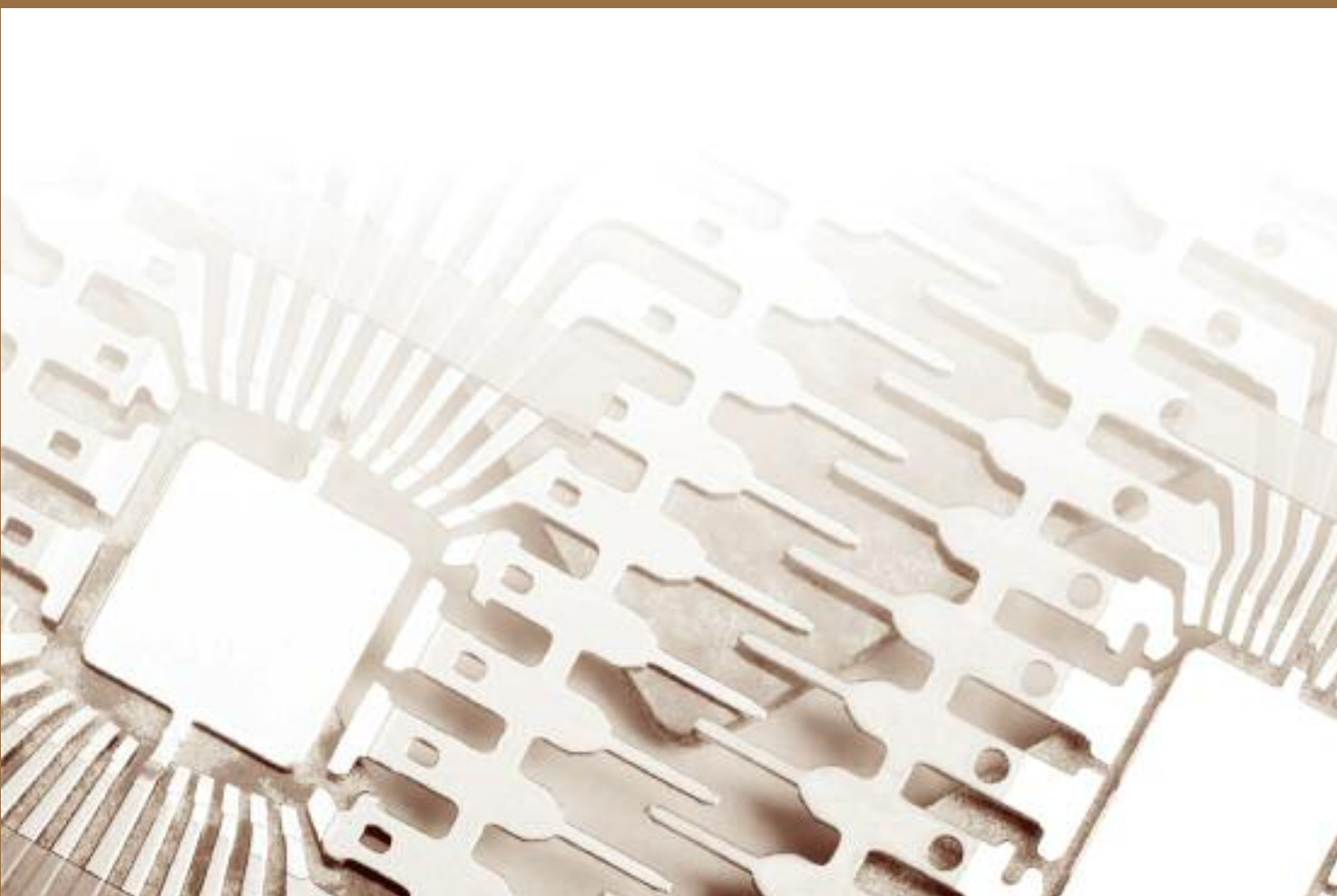
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X. COLLEGE OF LAW



Academic Units

- Law
- Graduate Institute of Interdisciplinary Legal Studies

The Present and Former Deans

Yih-Nan Liaw	(1998-2002.7)	Chang-Fa Lo	(2003.10-2006.7)
Tzong-Li Hsu	(2002.8-2003.9)	Ming-Cheng Tsai	(2006.8-present)

HISTORY

The College of Law used to be the Law Department of the previous College of Law, which also included the Departments of Political Science, Social Science and Economics. On June 15, 1996, it was resolved at the second meeting of the University Council during the spring term of 1995 academic year to transform the Law Department into the College of Social Science, effective from August 1, 1999. At present, under the College of Law, there are the Law Department (with Graduate Institute) and the Graduate Institute of Interdisciplinary Legal Studies.

There are three Division of Legal Science, the Division of Judicial Administration and the Division of Economic and Financial Law. Undergraduate legal education provides basic training for legal professionals and facilitates the development of state and society. It has been the college's educational policy to maintain a balance between theoretical research and practical training. We also support the teaching staff of the Division of Continuing Education and Professional Development. The goals of our graduate legal education are to expand academic frontiers and to train top-level academic researchers. The Graduate Institute of Law is divided into six divisions: Fundamental Legal study," "Public Law," "Criminal law," "Civil and Commercial Law," "Economic Law," "Financial and Tax Law," "International Law." In recent years, we have striven to promote the quality and quantity of our research. The Graduate Institute of Interdisciplinary Legal Studies has been concentrating on interdisciplinary legal studies. We expect that law professionals with expertise in other fields will not only provide practical talent, but also stimulate the academic research environment in Taiwan.

In order to advance mutual scholarly research, several research centers containing various law fields have been set up. Those eight centers are: "Center for Law and Society," "Center for Law and Technology and Ethic," "Public Law Center," "Finance and Economic Law Center," "Center of Criminal Justice," "Center for Corporate and Financial Law," "Fundamental Legal Studies center," "Civil and Commercial Law Center," "Center for Human Rights and Jurisprudence," and "Asian Center for WTO and International Health Law and Policy."

FACILITIES

Collections

The Law and Political Science Departments share the Law Research Library. This Library has a distinctive collection of professional periodicals in foreign language, as well as manuscripts, books and treatises in Chinese and foreign languages, related to law and to political science.

The Library's collection includes more than 65,000 volumes, 400 current periodicals and electronic databases, including Fa Yuan Law Sources, Root Grand Legal Database, Westlaw International Hein-On-Line, and so on. The library also provides access to various on-line databases in Chinese and foreign languages, via the connection to the NTU Intranet (campus network), the Taiwan Sci-Info Network of National Science Council, and the Legislative data System of the Legislative Yuan.

Teaching and Practical Training Facilities

(1) Moot Court

Reserved for moot court training.

(2) Computer Room

Provided as teaching and students trainings.

(3) Legal Aid Society

Under the supervision of Professor from the Law Department, the Society has been providing free legal consultation to the public on Saturday afternoons.

RESEARCH

NTU Law Journal

The journal was first published in 1971 as a semi-annual periodical; since October 2001 (Vol. 30, No.1), it has been issued bimonthly. The NTU Law Journal is one of the top-ranked legal periodicals in Taiwan and is available in the Libraries of more than one hundred universities and academic and foreign. This Law Journal is collected as a TSSCI periodical by the National Science Council Science Research Center.

NTU Law Review

NTU Law Review was established in 2006 as an English periodical in response to the trend of internationalization. It aims to elevate the international academic status of College of Law, NTU, and to provide Taiwanese scholars with more opportunities to present their research results to the world. The Review publishes the papers and articles which investigate the judicial precedents and the legal science in Taiwan and abroad and reflects the latest academic interest. By its biannual publication in March and September, the Review serves as a pluralist and international platform for Taiwanese scholars to share their academic results with the international academia and also for the foreign scholars to

introduce their own research to Taiwan. It is hoped that the Law Review will further and better the development of the legal studies in Taiwan.

NTU Legal Series

A series of law books published by faculty members; 180 separate volumes have already been published.

GOALS

The College of Law will continue to bring together professors with different specialties through each research center, and encourage development of advanced, profound interdisciplinary issues. By holding major domestic and international conferences, the self-styled “Pioneer of Legal Study in Taiwan” would be realized via these researching performances.

The College of Law has been actively promoting international academic exchange. We have agreements with outstanding universities in Asia, Europe, and America. Cooperative research plans have been undertaken and conferences held regularly. We hope to bring forth Taiwan’s legal experiences and fresh ideas of professors into international academic circles, and elevate the NTU College of Law to a leading position of international law study.

As mentioned, the newly established Graduate Institute of Interdisciplinary Legal Studies has started the legal education for non-law graduates. With diverse professionals and excellent teaching contents, this initiative has received recognition from all circles and attracted large numbers of applications. We expect that not only legal professionals with expertise other than law would become practical talents, but that some would join in our academic researches and pour

life into the law circle in Taiwan.

To adjust the education goal and methods is one of our main aims, as well. We believe that interdisciplinary ability is required to analyze and effectively solve real cases. Thus the combination of substantive and procedural law is especially emphasized. The Curriculum aims to fulfill this need, and the integration of European Law and Anglo-American Law are another main focus.

As to alumni relations, we have brought the function of National Taiwan University Law Foundation into full play. We hope that the alumni will cooperate and contribute generously to the construction of new school buildings so that our professors and students will have better teaching and research environment. The College of Law is also considering the way to respond and to give feedback for the loyal support of the alumni.

CONTACT INFORMATION

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1 DEPARTMENT OF LAW



INTRODUCTION

The Department of Law dates back to the Law Faculty under the College of Liberal Arts and Political Science, Taihoku (Taipei) Imperial University while Japan ruled over Taiwan. After the Second World War, the Imperial University was renamed National Taiwan University, and the College of Liberal Arts and Political Science was separated into the Colleges of Liberal Arts and of Law, while the Law Faculty was also renamed the Law Department. Together with the later re-established Department of Political Science and the Department of Economics, the Law Department was administrated under the College of Law for many years. In August 1999, the College of Law was formally upgraded from

the Law Department under the Former College of Law, and the Department of Law has been under the College of Law since then.

Initially, there were no divisions within the Law Department. In 1953, the Law Department established a "Special Program for Legal Study," at the request of the Ministry of Judicial Administration. Two years later, this Program was merged into the Law Department and became a new "Division of Judicial Administration". The original Law Department thus was renamed again the "Division of Legal Science." The course requirements for both Divisions are slightly different: the Division of Legal Science emphasizes the study of Anglo-American Law, while the other Division puts more weight on court proceedings. In 1990, the

Law Department started its third division, "Division of Economic and Financial Law", in hope of coping with rapid social changes and growing demand for legal professionals capable of handling economic and financial issues. This latest Division offers courses related to finance, taxation, trade and economic law. Ever since, the Law Department has included these three Divisions. The undergraduate legal education is aimed at providing basic training for legal professionals facilitating the development of state and society. It has been our educational policy to maintain a balance between theoretical research and practical training. Thus, our Department has long supported a public service student organization, "Legal Aid Society." The society has proved to be an excellent forum for students to practice law and to provide feedback to society.

The Graduate Institute of Law was initially the graduate (master) program started in 1955, which had two Divisions: "Public Law" and "Economic Theory." In the following year, both Divisions were upgraded into three different graduate Institutes: Law, Political Science and Economics, each affiliated with its own Department. In 1970, the Graduate Institute of Law was further separated into three Divisions: "Fundamental Legal study," "Public Law" and "Civil and Criminal Law." In 1990, the "Division of Civil and Criminal Law" was then divided into two Divisions: "Criminal Law" and "Civil and Commercial Law." The doctoral program (Ph.D. in Law) was established in 1971, but did not admit its first student until 1974. The goals of graduate legal education have been to pursue expanding academic frontiers and train top-level academic researchers. In recent years, we have been making extra efforts to promote both the quality and quantity of our researches. Also, we have been expanding the library collection in order to meet the needs of teaching and research-

ing.

Adjusting the inherent education goal and methods is one of the main aims, as well. We believe that interdisciplinary training is required to analyze and effectively solve real cases. Thus, the combination of substantive and procedural law is especially emphasized. The curriculum aims to fulfill this need, and the integration of continental European Law and Anglo-American Law is another main focus.

FACULTY

Full-time: 39

Part-time: 13

Doctoral Degree Holders: 49

Master Degree Holders: 3

Chair/Professor

Ming-Cheng Tsai Dr. jur., Munich Univ.,
Germany

Full-Time

Professor

Mao-Rong Huang Dr. jur., Tübingen Univ.
Germany

Tze-Lung Chen Dr. jur., Frankfurt Univ.,
Germany

Jiunn-Rong Yeh S.J.D., Yale Univ., U.S.A.

Chang-Fa Lo S.J.D., Harvard Univ., U.S.A.

Jung-Chien Huang Dr. jur., Bonn Univ., Germany

Ming-Yan Shieh Dr. jur., Munich Univ.,
Germany

Sheng-Lin Jan Dr. jur., Frankfurt Univ.,
Germany

Keh-Chang Gee LL.M., NTU, Visiting Fellow
in Munich Univ., Germany

Tay-sheng Wang Ph.D. in Law, Univ. of
Washington at Seattle, U.S.A.

Mau-Sheng Lee	Dr. jur., in Law, National Hitotsubashi Univ., Japan
Ming-Chiang Lin	Dr. jur., Heidelberg Univ., Germany
Wen-Yu Wang	S.J.D., Stanford Univ., U.S.A.
Chueh-An Yen	Dr. jur., Munich Univ., Germany
Maw-In Tsai	Dr. jur., in Law, National Nagoya Univ., Japan
Tzu-Chiang Chen	Dr. jur., Munich Univ., Germany
Jau-Yuan Hwang	S.J.D., Harvard Univ., U.S.A.
Ming-Jye Huang	National Hitotsubashi Univ., Japan
Jaw-Perng Wang	S.J. D., Univ. of Chicago, U.S.A.
Tsung-Fu Chen	S.J.D., New York Univ., U.S.A.
Chung-Wu Chen	Ph.D. in Law, Paris I Univ., France
Wang-Ruu Tseng	Ph.D. in Law, London Univ., U.K.

Associate Professor

Chin-Bi Lin	Ph.D. in Law, National Keio Univ., Japan
Huang-Chih Chiang	Ph.D. in Law, London Univ., U.K.
Shu-Huan Shyuu	Ph. D. in Law, NTU
Tze-Shiou Chien	S.J.D., Univ. of Georgetown, U.S.A.
Chien-Liang Lee	Dr. jur., Gottingen Univ., Germany
Miao-Fen Chen	Dr. Jur., Gottingen Univ., Germany
Tzung-Jen Tsai	Dr. jur., Munich Univ., Germany

Yu-Hsiung Lin	Dr. jur., Munich Univ., Germany
Andrew Jen-Guang Lin	S.J.D, Univ. of Duke, U.S.A.
Kuan-Ling Shen	Dr. jur., Heidelberg Univ., Germany
Wen-Chen Chang	S.J.D., Yale Univ., U.S.A
Huang-Yu Wang	Dr. jur., Heidelberg Univ., Germany

Assistant Professor

Neng-Chun Wang	Dr. jur., in Law, National Tokyo Univ., Japan
Chao-Ju Chen	S.J.D., Univ. of Michigan, U.S.A
Hsin-Chun Wang	Ph.D in Law, London Univ., U.K.
Ming-Hsin Lin	Dr. jur., Munich Univ., Germany
Ying-Hsin Tsai	Dr. jur., in Law, National Tokyo Univ., Japan

Part-Time

Professor

Tong-Schung Tai	Dr. jur., Mainz Univ., Germany
Peter Jen-huong Wang	Dr. jur., Heidelberg Univ., Germany
Jen-Kong Ko	LL.M., NTU
Tse-Tung Ko	Ph.D. in Law, Paris Univ., France
Dominique T.C. Wang	Ph.D. in Law, Univ. of Lausanne, Switzerland
Tsung-jung Liu	Ph.D. in Law, NTU
Yih-Nan Liaw	Dr. jur., Tübingen Univ., Germany

Syue-Ming Yu	S.J.D., Univ. of California at Berkeley, U.S.A.
Tzong-Li Hsu	Dr. jur., Gottingen Univ., Germany
Tzu-Yi Lin	S.J.D, Cornell Univ., U.S.A.
Lian-Gong Chiou	Dr. jur., in Law, National Tokyo Univ., Japan

Associate Professor

Chih-Hsiung Hsu	LL.M., NTU, Visiting Fellow in National Tokyo Univ., Japan
Peh-Sung Chu	Dr. jur., candidate, National Tokyo Univ., Japan

FACILITIES

1. Collection

At present, the College of Law does not possess its own Law Library. However, there is a one-story library called "Law Research Library" shared by both the Law and Political Science Departments. This Library has a distinctive collection of professional periodicals in foreign languages, manuscripts, books and treatises in both Chinese and foreign languages, related to both subjects of law and political science.

Until now, the College of Law has bought more than 65,000 books and more than 400 periodicals. In addition, we have indented various Electronic Archives in Chinese and other foreign languages, such as Fa Yuan Law Sources, Root Grand Legal Database, Westlaw International, and Hein-On-Line. The library also provides access to various on-line databases in both Chinese and foreign languages, via the connection to the NTU Intranet (campus network), the Taiwan Sci-Info Network of the National Science Council, and the Legislative Data System of the Legislative Yuan.

2. Teaching and Practical Training Facilities

- (1) Moot Court : Reserved for moot court training.
- (2) Computers and Computer Room:
Being in the information-surrounded conditions, the computer room is on the 5th floor of the Integration Building. Insides, there are tens of computers and other digital facilities for teaching and students trainings. The Law College has also set up stations of wireless Internet under two rows of classrooms and the professors research rooms. So far, the power and speed are still under the initial development. Besides, to build better quality TANet, College of Law would also endeavor to connect to the better-qualified Taiwan Northern Intranet.
- (3) Legal Aid Society
The society is under the supervision of Professor of Law Department. There are copy machines and abundant legal references and periodicals in the office, and this Society has been providing free legal consultation to the public on Saturday afternoons.

COURSES

The Law Department is separated into three Divisions: Legal Science, Judicial Administration, and Economic and Financial Law. Each student has to complete a minimum of 150 credits to receive a law degree (LL.B.). In terms of required courses, the Division of Legal Science emphasizes the study of Anglo-American Law, comparative law and legal theory. Students of this Division have to take "Introduction to Anglo-American Law" in their sophomore year, and then both "Contract Law" and "Tort Law" in the junior year. The Division of Judicial Administration focuses on court pro-

ceedings and practical training courses. Students of this Division therefore have to take "Criminal Trial Practice", and certain credits from the pool of judicial procedural courses during the forth year. The Division of Economic and Financial Law instead concentrates on study of laws involving taxation, economy and finance. Students of this Division have to take "Economics" and at least sixteen credits from the specially designed pool of courses before graduation

Graduate Institute of Law

The Graduate Institute of Law offers both the LL.M. and Ph. D. in Law programs. The master program is separated into several Divisions: Fundamental Legal Study, Public Law, Criminal Law, Civil and Commercial Law (will be divided into Civil Law division and Commercial Law division since the academic year of 2009), Financial and Tax Law, Economic Law, and International Law established in the academic year 2005. Each student has to choose a specific Division upon taking the admission exam. The minimum course requirement for the master program is 24 credits, and 18 credits for doctoral students. In addition, each graduate student has to pass a qualifying exam, then submit a written master thesis or doctoral dissertation, and complete a successful oral examination to fulfill the degree requirements.

The aim of the Graduate Institute is to train advanced legal researchers. All the graduate courses are conducted in seminar format, with special emphasis on students' foreign languages. For this very purpose, each year our Graduate Institute offers selected readings on English, German, French and Japanese legal materials to improve graduate students' reading ability.

ACADEMIC ACTIVITIES

1. The College of Law publishes NTU Law Journal (with occasional special issues) once two months. We also sponsor publication of law books as the NTU Legal Series, which is published till volume 180 so far.
2. On-going exchange programs with Graduate Institute and Law Department of University of Hokkaido (Japan), , that each year, 2 students would be exchanged to Japan for 1 year.
3. On-going exchange agreement with Vrije University Amsterdam, the Netherlands, that 2-4 students would join the exchange program of half year every semester.
4. Students economic aid agreement with Law Faculty, Indiana University, USA, that 1 student graduating from the Law Department would be recommended to Indiana Uni. For LL.M. program, and receive half discount of tuition fee.
5. Graduate students reciprocal credit award agreement with Wisconsin University, USA.
6. The College of Law is one of the founding members of Asian Law Institute, ASLI. We participate in the Council every year and recommend professors to visit and do research in Singapore University, Singapore.
7. We also have academic exchange agreement or memorandum with Korean Legislation Research Institute, Korea, Aix-Marseille 3eme University, France, Osaka University of Economics and Law, Japan, College of Law, Nagoya University, Japan, Institute of Intellectual Property, Japan, Institute for Economic Law, the University of Hamburg, Germany, Georg-August-Universit?t G?ttingen, Germany, College of Law, National Mongolia University, Mongolia, University of Malaya, Malaysia, Hitotsubashi University, Japan, National Law School of India University, India. Between all the academic

institutes, the professors interchange often and the performances are outstanding.

CAREERS AND FURTHER STUDIES

1. Professional abilities

Professional knowledge in legal science and basic knowledge in social science

2. Further studies

Domestic and abroad Graduate Institute of Law

3. Career options

Judge, lawyer, legal consultant, legal assistant in public and private institutes, academic researcher, government official, member of Parliament, member of the Control Yuan, assistant in Legislative Yuan, etc.

CONTACT INFORMATION

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INTRODUCTION

After years of preparation, the Graduate Institute of Interdisciplinary Legal Studies started to admit students of the first class in the 2004 academic year. The establishment of the Institute reflects the challenges faced by the traditional legal education and responds to the need of legal experts in various fields.

Legal education in the 21st century encounters enormous challenges, one of which comes from the development of telecommunication and information technology. This results in sharp competition among countries and creates new legal issues. Genetic science, or more broadly, biotechnology, has also broadened the dimension

of legal researches/studies/practices, particularly with regard to morality, ethics and environment. As educationists, we just cannot avoid asking ourselves whether the current legal system is able to reflect and to cope with the changes we have observed, and whether the current system of legal education is sufficient to nurture experts to respond to the global trend.

Another challenge is caused by the introspection on value conflicts among the main civilizations in the world. The economic weakness and social problems in the third world countries have prevented these countries from enjoying stable constitutionalism and democratic system. There is also the rugged and rough situation of human rights protection in many countries after the post cold war era. Even in Taiwan, although the con-

stitutionalism and democratic system have come to become the common values in the mind of Taiwanese people, there are still different views about the specific ways of realizing the two common values. Legal education must take this situation into account in all seriousness.

After the establishment of the WTO, the political and economic globalization has also posed another challenge to the legal education. The new relations created by the WTO have forced countries to adjust their domestic policies and the diplomatic policies toward other countries. In addition to these new relations, Taiwan would also have to deal with its complicated relations with China. The legal education in the past had focused less on macro political, social and economic aspects, and less on nurturing law experts with financial and economic expertise. Thus it is necessary to create new system of legal education to respond to such demand.

Considering these new challenges and the relevant legal issues brought about by such challenges, we decided to establish the Graduate Institute of Interdisciplinary Legal Studies to enroll students with strong backgrounds in other fields to be trained as legal professionals or researchers with legal knowledge. We believe that the students from various fields of studies, such as economics, political science, commerce, sociology, philosophy, among others, are capable of integrating their previous learning into the studies of law. The College of Law of National Taiwan University has its long tradition of legal research and legal education. Likewise the University itself is a well-developed integrated university with a wide variety of different and strong fields of studies. The College of Law already has ample experience in interdisciplinary studies. These should help ensure the success of this Institute. We hope that the Institute will be able to play a leading role in the legal education

and academic researches with particular foci on technology and sustainable development; human right protection and constitutionalism; and finance, taxation, economics, trade and national development.

We expect that the founding of this Institute will bring new changes to the legal education and lead it into a new era, in which a new paradigm can be established.

FACULTY

Director/Professor

Tay-Sheng Wang Ph.D., University of Washington, U.S.A

Full-time

Professor

Sheng-Lin Jan Dr. jur., Frankfurt University, Germany

Ming-Jye Huang Dr. jur., National Hitotsubashi University, Japan

Associate Professor

Yu-Hsiung Lin Dr. jur., Munich University, Germany

Andrew Jen-Guang Lin Dr., Duke University, USA

Assistant Professor

Ming-Hsin Lin Dr. jur., Munich University, Germany

Ying-Hsin Tsai Ph.D., National Tokyo University, Japan

Adjunct professor

Wen-Yeu Wang J.S.D., Stanford University, U.S.A.

Tsung-Fu Chen J.S.D., New York University, U.S.A.

Jau-Yuan Hwang	S.J.D., Harvard University, U.S.A.
Jaw-Perng Wang	S.J.D., University of Chicago, U.S.A.
Maw-in Tsai	Dr. jur., National Nagoya University, Japan

FACILITIES

College of Law facilities are shared by the Department of law and Graduate Institute of Interdisciplinary Legal Studies. A broad description of these facilities follows.

Library

We consider the Library being the center of intellectual life at the College of Law. The library system comprises three libraries on the Hsu-chow campus (including college of law, and the college of social sciences). The library is well on its way to establishing a research-caliber library sufficient to support the ambitious scholarly agenda of faculty and students.

The library of college of law owns a large collection of print, microform, audio-visual, and electronic resources. Currently the Law Library collection has more than 230,000 print volumes, including 80,000 rare volumes publishing during Japanese colonial period. The Law Library also subscribes to WESTLAW, and other major sources of legal information available electronically. The collection also includes a large number of law reviews, treatises, and other secondary sources needed for comprehensive legal research.

Computers

The college has computer facilities for student use. The computer lab features about 50 Windows-based computers that include word

processing, excel calculating, presentations software, and provide access to the Internet browsing and online research via web database, WESTLAW. Laser and inkjet printer are available in the computer lab.

In addition, law student using windows-based laptop computers may connect to the Internet and selected research database via several network outlets located throughout the Law library. Our well-established web facilities help to build excellent communications between faculties and students and also enhance the teaching and learning. Moreover, this College is planning to establish an all-aspects e-learning and e-teaching environment once moved back to the main campus. In the near future, wireless network will be available everywhere in Hsu-chow campus.

COURSES

Each student has to complete a minimum of 96 credits to receive a master degree, 50 credits of them required. Those required courses include: Constitutional Law (4), Administrative Law (4), Introduction of Civil Code (4), Civil Code-General Provisions of Obligation (6), Civil Code-Kinds of Obligations (4), Civil Code-Property (2), Code of Civil Procedure (6), Company Code(4), Code of Bills and Notes(2), Criminal Code-General Principles (6), Criminal Code- Kinds of Offenses (4), Code of Criminal Procedure (4).

There are 46 credits for selective courses, among which 6 credits are interdisciplinary courses. Students can decide to take course of this kind from other graduate institutes in the University. They can also take the selective courses offered in the Department of Law for up to 22 credits. Students must complete a master thesis before graduation. They are given master of law degree after successful completion of the credits.

ACADEMIC ACTIVITY

The establishment of the Institute is based on the diverse social developments and the increasing complication of norms. In order to promote interaction between the legal science and other research fields, the Institute holds occasional interdisciplinary seminars and forums.

CONTACT INFORMATION

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XI. COLLEGE OF LIFE SCIENCE



Academic Units

- Life Science
- Biochemical Science and Technology
- Graduate Institute of Zoology
- Graduate Institute of Plant Biology
- Graduate Institute of Molecular and Cellular Biology
- Graduate Institute of Ecology and Evolutionary Biology
- Graduate Institute of Fisheries Science
- Graduate Institute of Biochemical Sciences
- Graduate Institute of Microbiology and Biochemistry

The Present and Former Deans

Yao-Sung Lin	(2003.8-2006.7)
Chu-Fang Lo	(2006.8-present)

INTRODUCTION

The College of Life Science originated in the Division of Zoology, Botany and Agricultural Chemistry of the Taihoku Imperial University during the Japanese Occupation. The University was renamed as National Taiwan University in 1945 after the retrocession of Taiwan to the Republic of China. The three former divisions were restructured as the Departments of Zoology and Botany in the College of Science, and the Department of Agricultural Chemistry in the College of Agriculture. The Department of Agricultural Chemistry was further divided into the Division of Agricultural Product Processing and the Division of Soil and Fertilizer in 1961. The Graduate Institute of Biochemical Sciences was established in 1972 and the Graduate Institute of Fisheries Sciences in 1986 in the College of Science. In the last twenty years, research and development in the life sciences and related fields have advanced rapidly. In order to elevate educational and research standards to higher levels and to attract the best students, the College of Life Science was established in 2003.

The College of Life Science includes two undergraduate departments and seven graduate institutes. The two undergraduate departments, the Departments of Life Science and of Biochemical Science and Technology, provide resources for the study of life sciences in both its biological and chemical aspects. This organization provides both variety as well as many research opportunities. The Department of Life Science was restructured from the former Departments of Zoology and Botany, and from the former Institute of Fisheries Science. The members of these departments and institute were also reorganized into five graduate institutes, including the Institutes of Zoology, Plant Biology, Molecular and Cellular Biology, Fisheries

Science, and Ecology and Evolutionary Biology. The Department of Biochemical Science and Technology was restructured from the former Department of Agricultural Chemistry in the College of Agriculture and the Institute of Biochemical Sciences in the College of Science. The members of the two organizations were also reorganized into the Institute of Microbiology and Biochemistry, and the Institute of Biochemical Sciences. Students enrolled in undergraduate programs are required to complete four-year programs. All seven institutes offer both master's and doctoral programs, which require one to four years of study for the master's degree and two to seven years of study for the doctoral degree.

FACILITIES

The College of Life Science has more than one hundred faculty members, whose research interests are deep and diverse; their research covers not only traditional basic biology but also contemporary applied biosciences.

The buildings of the College of Life Science are widely spread across the main campus of the University. They include: the Life Science Building, the Fisheries Science Building, the Biochemical Science Hall, parts of the Agricultural Chemistry Hall No. 1 and No.2, and a part of the first floor of the Agronomy building. Other facilities of the college include the Fishery Specimen Hall, Herbarium Botanical Specimen Hall, the Culture room, three temperature-controlled research environments, student research laboratories on the 3rd, 4th and 5th floors of the Shin-Liang Hall, and the Wen-Shan Botanical Garden.

Two scientific journals, *Taiwania* and the *Acta Zoologica Taiwanica* are published periodically by the college.

RESEARCH

Our research focuses on molecular and cellular biology, biochemistry, biotechnology, functional genomics, proteomics, genetic engineering, and bioinformatics techniques in order to study basic morphology, physiology, metabolism, genetics, environmental adaptation and other related issues. Further, we also emphasize research in biotechnology, fish biology and tissue and cell-based research in order to meet the industrial need.

GOALS

1. Our undergraduate educational goal is to provide our students with a broad scientific background and spectrum of knowledge related to life sciences.
2. The educational goal for our graduate programs is to train future researchers and educators specializing in diverse of life science fields.
3. Our research goal is to promote collaboration between research groups in different fields and to train cross-disciplinary scientists to elevate the research standards of the University. The ultimate goal is to advance research related to the life sciences in order to support the future development of the biological industry of our country.

CONTACT INFORMATION

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1 DEPARTMENT OF LIFE SCIENCES



INTRODUCTION

Developments in life science (or bioscience) have made essential contributions to human life during the past two decades. It's expected that the applications of biotechnology will pave the way for the next industrial revolution. Advances in the fields of medicine and agriculture should relieve human suffering from diseases and food shortages. It is expected that advances in life science research will enhance ecological conservation, which will ensure a better quality of life for future generations.

Recent trends in modern biological science have broken up the traditional disciplines of biology, such as general zoology, botany, entomology and

fishery science, and restructured them into new disciplines, including molecular biology, cytology, physiology, ecology and evolutionary biology. Our country is zealously encouraging fundamental research in modern biological science as a key direction for development. This effort includes genomic research, biotechnology, cellular differentiation, embryo development, neuroscience & behavior science, adverse-circumstance physiology, ecology and conservation biology.

Following the footsteps of reorganization and revolutionary trends at other famous foreign universities, the College of Life Sciences was established in 2003 from the reorganization of former Departments of Zoology and Botany, and Institute of Fishery Science. The College of Life

Science also includes five graduate institutes: the Institutes of Zoology, Plant Biology, Fishery Science, Molecular & Cell Biology, and Ecology & Evolutionary Biology. These institutes provide major research and teaching task forces for the new department.

The department of Life Sciences has its origin in the division of Zoology and Botany of the Taihoku Imperial University during the Japanese Occupation in the late 19th and early 20th century. The university was renamed as National Taiwan University in 1945 after the retrocession of Taiwan to the Chinese Nationalist government. In the meantime, the former divisions were restructured into the departments of Zoology and Botany. The Department of Zoology was separated into the divisions of Zoological Biology and Fishery Biology in 1954, and the Graduate Institute of Fishery Science was established in 1986.

The faculty members have excellent teaching and research records. Their areas of research and teaching include both traditional & modern biology.

The educational goals of the department of life science are to train students in the fundamentals of life sciences. We balance each fields of modern life sciences, such as molecular biology, genomics, cell biology, neurobiology, biological system modeling, and theoretical ecology. We have also hired several accomplished young scholars to keep up with the rapid development of the modern life sciences. Our goals are to promote collaboration between research groups in different fields and to train cross-discipline scientists to elevate the research standards of the University. In brief, the education goals of our department are to advance research in life sciences in order to support the future development of the biological industry of our country.

FACULTY

Full-time: 63

Part-time: 3

Ph. D. Degree: 63

M. S. Degree: 1

Chair/ Professor

Kuo-Chieh Ho Ph.D., University of North Carolina, U.S.A.

Full-Time

Professor

Andrew H.-J. Wang Ph.D., University of Illinois, U.S.A.

Tung-Tien Sun Ph.D., University of California, Davis, U.S.A.

Shiu-Nan Chen Ph.D., Liverpool University, U. K.

San-San Tsay Ph.D., Okalahoma State University, U.S.A.

Wann-Nian Tzeng Ph.D., University of Tokyo, Japan

Chu-Fang Lo Ph.D., University of Tokyo, Japan

Huai-Jan Tsai Ph.D., Oregon State University, U.S.A.

Tai-Sheng Chiu Ph.D., Oregon State University, U.S.A.

Chen-Tung Yen Ph.D., Thomas Jefferson University, U.S.A.

Su-Hwa Chen Ph.D., University of Gottingen, Germany.

Yen-Lin Song Ph.D., Oregon State University, U.S.A.

Hung-Non Chou Ph.D., University of Rhode Island, U.S.A.

Chang-Fu Hsieh Ph.D., NTU.

Lien-Siang Chou	Ph.D., University of California, Davis, U.S.A.	Show-Wan Lou	Ph.D., University of Tokyo, U.S.A.
Ling-Long Huang	Ph.D., University of Bonn, Germany	Wen-Liang Liao	Ph.D., University of Tokyo, U.S.A.
His-Yuan Yang	Ph.D., Northwestern University, U.S.A.	Ying-Chou Lee	Ph.D., NTU.
Kai-Wun Yeh	Ph.D., NTU.	Fon-Chun Ke	Ph.D., University of Illinois, U.S.A.
Tsan-Piao Lin	Ph.D., Oregon State University, U.S.A.	Yen-Yu Kao	Ph.D., NTU.
Hon-Tsen Yu	Ph.D., University of California, Berkeley, U.S.A.	His-Jen Tao	B.A., National Taiwan Normal University.
Shih-Tong Jeng	Ph.D., University of Illinois, U.S.A.	Hsin-Yu Lee	Ph.D., University of California, San Francisco, U.S.A.
Shau-Chi Chi	Ph.D., NTU.	Ming-Yuan Min	Ph.D., University of Leeds, U.K.
Ling-Ling Lee	Ph.D., University of California, Davis, U.S.A.	Hsueh-Fen Juan	Ph.D., NTU.
Hsiu-Hui Shih	Ph.D., NTU.	Chau-Ti Ting	Ph.D., NTU.
Pei-Fen Lee	Ph.D., University of Michigan, U.S.A.	Wei-Pang Huang	Ph.D., University of California, Davis, U.S.A.
Yi-Chun Wu	Ph.D., Massachusetts Institute of Technology, U.S.A.	Shyh-Jye Lee	Ph.D., Iowa State University, U.S.A.
Wen-Yuan Kao	Ph.D., University of Maryland, U.S.A.	Hsu-Liang Hsieh	Ph.D., University of Texas, Austin, U.S.A.
Jiun-Hong Chen	Ph.D., Oregon State University.	Jer-Ming Hu	Ph.D., University of California, Davis, U.S.A.
Fon-Jou Hsieh	B.A., NTU.	Chien-Yuan Pan	Ph.D., National Yang-Ming University
Ming-Kuang Wang	Ph.D., Rutgers University, U.S.A.	Keqiang Wu	Ph.D., University of Saskatchewan, Canada.
Yen-Jen Oyang	Ph.D., Stanford University, U.S.A.	Assistant Professor	
Ji-Wang Chern	Ph.D., University of Michigan, U.S.A.	Reui-Feng Chen	Ph.D., NTU.
Eric Y. Chuang	Ph.D., Harvard University, U.S.A.	Kuei-Shu Tung	Ph.D., Pennsylvania State University, U.S.A.
Associate Professor		Tsung-Luo Jinn	Ph.D., NTU.
Shue-Mei Wang	Ph.D., University of South Carolina, U.S.A.	Yu-The Lin	Ph.D., University of Illinois, U.S.A.

Chun-Neng Wang	Ph.D., University of Edinburgh, U.K.
Yi-Sheng Cheng	Ph.D., National Defense Medical Center.
Laurent Zimmerli	Ph.D., University of Fribourg, Switzerland
Chiu-Ping Cheng	Ph.D., University of Minnesota, U.S.A.
Chih-Tien Wang	Ph.D., University of Wisconsin-Madison, U.S.A.
Yu-Shan Han	Ph.D., NTU.
Ing-Feng Chang	Ph.D., University of California, Riverside, U.S.A.

Lecturer

Fun-Ming Lee	M.S., NTU.
Siang-Jiuun Chen	Ph.D., NTU.

Part-time

Professor

Yao-Sung Lin	Ph.D., Cornell University, U.S.A.
Yung-Ruei Chen	Ph.D., Michigan State University, U.S.A.

Lecturer

Shio-Wei Huang	Ph.D., NTU.
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FACILITIES

The twelve-floor, 100,000 sq. foot Life Science Building is located on the main campus of the university. The facilities of the department are located throughout the entire building, except for part of the first floor and the entire second floor, which is shared with the College Entrance Examination Center. The department facilities include fifty six individual research laboratories, incubation rooms, animal culture rooms, six general teaching laboratories, and specimen collecting and display centers for animals, plants and

fishes.

The major research equipment of the department includes: SEM, TEM, fluorescent microscope, ultra thin microtometer, imaging systems, phosphoimager, flow cytometer, micro-injector, electropotator, ELISA plate reader, HPLC, GC, Infrared detector, real-time PCR, automatic DNA sequencer, DNA sequence analytic system, spectrophotometer, LKB computerized analyzer, cold rooms, radioisotope detector, artificial climate control room and incubators, respiration analyzer, autoclave, fermentator, ultrasonicator, lyophilizer, cell and tissue culture facilities, fluorimeter, atomic analyzer, GPS, long range image detection and analyzing system, and geographic information system.

Most of the book collections and specialized journals subscribed to by the department are in the main NTU Library and open to the public. The department also has multiple teaching videotapes, DVDs and software collections to facilitate teaching in the department.

COURSES

The Department offers a four-year program leading to the degree of the Bachelor of Science majoring in Life Science. The Bachelor's degree requires a minimum of 128 credits and includes following courses:

1. Common required courses for all groups

General Biology and Lab. (6,2), Calculus(6), General Chemistry and Lab. (3,1), Analytical Chemistry and Lab. (3,1), Organic Chemistry and Lab (3,1), General Physics and Lab. (6,2), Biochemistry(4), Biometry(3), Cell Biology(3), Genetics(3), Biological Technology Core Lab. (4), Seminar(2).

2. Core courses

(18 credits are required, at least 1 course from each group)

A Group:

Animal Physiology(3), Plant Physiology(3),

B Group:

Molecular Biology(4),

Genomics(3), Bioinformatics(3),

Developmental Biology(3)

C Group:

Animal Histology(3), Comparative Anatomy of Vertebrates(2), Plant Anatomy(3), Animal Physiology(3), Plant Physiology(3), Aquatic Physiology (3), Immunology (4)

D Group:

Microbiology(3), Vertebrate Zoology (3), Invertebrate Zoology (3), Biodiversity of Fishes (3), The Flora and Vegetation of Taiwan(3), Plant Diversity (3).

E Group:

Population Biology(3), Evolutionary Biology(3), Systematics(2), Oceanography(3), Fishery Biology (3), Aquaculture(3)

3. Technique and laboratory

(Minimum requirement four courses four credits)

Zoological Technique (3), Plant Science Technique (3), Aquatic Biological Technique (3), Bioinformatics: Database(3), Biochemistry Lab. (1), Cell Biology Lab.(1), Developmental Biology Lab.(1), Genetics Lab. (1), Animal Histology Lab. (1), Comparative Anatomy Lab.(1), Plant Anatomy Lab.(1), Animal Physiology Lab.(1), Plant Physiology Lab.(1), Microbiology Lab.(1), Vertebrate Zoology Lab.(1), Invertebrate Zoology Lab.(1), The Flora and Vegetation of Taiwan Lab.(1), Plant Diversity Lab.(1), Ecology Lab.(1), Undergraduate Research in Life Science (1), Bachelor Thesis (1).

ACADEMIC ACTIVITIES

The Department of Life Science aims to arrange a curriculum and a spectrum of courses, and to provide educational guidelines for students who are interested in the field of life sciences. We provide diverse educational resources for students. The developmental directions of this department are expressed in professional guidelines given to the students when they are choosing their courses. The professional courses are divided into five major academic groups, including Molecular & Cellular Biology, Zoological Science, Botanical Science, Biology of Aquatic Organisms, and Evolution & Ecology. In addition, we offer an undergraduate advising system to help our students chart out their learning careers.

Various seminars and international academic symposia are frequently organized covering various fields of life science. We also publish three academic journals annually, including *Acta Zoologica Taiwanica*, *Fish Disease Research*, and *Taiwania*. In addition, a database and information retrieval system of endemic species and their life histories is under constructions in collaboration with the Agricultural Commission.

CAREERS AND FURTHER STUDIES

1. Professional abilities

Basic life sciences: molecular biology, cell biology, morphology, physiology, development, systematics, evolution, behavior and ecology.

Applied biology: conservation, bio-diversity, biotechnology, marine biology.

2. Further studies

Zoology, plant sciences, biology, biochemistry and molecular biology, molecular and cell biology, microbiology, immunology, natural resources, ecology, ecology and evolution, fish sciences, oceanography, life sciences, medicine.

3. Career options High school biology teachers, researcher or technician devoted to life science, biotechnology, conservation, environmental protection, marine biology, agriculture or aquiculture, civil servant or researcher in government.

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INTRODUCTION

The Department of Biochemical Science and Technology was founded in 2003, as part of the newly established College of Life Science, on the initiative of the Division of Agricultural Production in the Department of Agricultural Chemistry, and the Institute of Biochemical Sciences in the College of Science. The matriculation of first year students commenced from 2003. The Department pursues excellence in preparing students for future careers in academic research or the application of biotechnology in industry. The graduates are expected to be equipped with strong backgrounds in Biology and Chemistry and to be prepared to meet the ever-increasing challenges in the fields of basic

research and scientific discovery. Also, the graduates are expected to know how to transform their knowledge to practical applications in the development of biotech value-added products. To achieve these two goals, we design our courses to provide both extensive basic knowledge and intensive experiments.

The research conducted in the department covers a wide range, including biochemistry, molecular biology, biotechnology, microbiology, bio-industry, fermentation, food science and nutrition. The members of the faculty are dedicated, not only to teaching, but also to conducting fruitful research. The Department won a special position among peer departments in Taiwan for the following outstanding features in its approach to teaching: First, the Department emphasizes both Biology

and Chemistry. Second, the Department coordinates basic research and practical applications. And third, all the living systems, animal, plant and microorganism, are employed in teaching and training.

The Department expects to develop in the following areas: (1) Research in functional genomics, biochemical metabolism, gene regulation and basic microbiology and molecular biology; (2) Utilization of microorganisms and eukaryotes as tools for the production of biotech value-added products; (3) Evaluation the practical usefulness of biotechnological products. (4) Development of the processes for industrialized biotech products. In facing the emerging fields of biochemical science and technology in the new era, the Department is committed to forming a strong partnership with bio-industry to push Taiwan steady, healthy economic growth. In the meantime, the department will pursue excellence in research to form a beneficial interaction between research and application.

FACULTY

The department comprises of 37 academic staffs, where 37 of them hold Ph.D. degree.

Professor Emeritus: 7

Full-time: 30

Ph.D.: 37

Chair/ Professor

Ching-Jang Huang Ph.D., NTU.

Professor Emeritus

His-Hua Wang Ph.D., Hokkaido University,
Japan

Wei-Hsien Chang Ph.D., Michigan State Univ.,
USA

Jong-Ching Su Ph.D., University of
California, Berkeley, USA

Yuang-Chi Su Ph.D., University of Tokyo,

Japan

Liang-Ping Lin Ph.D., Louisiana State Univ.,
USA

Hsien-Yi Sung Ph.D., NTU

Wen-Hsiung Liu Ph.D., University of Tokyo,
Japan

Full-Time

Professor

Shang-Shyng Yang Ph.D., NTU.

Ping-Du Lee Ph.D., NTU.

Min-Hsiung Lee Ph.D., Rutgers University,
USA

Rong-Huay Juang Ph.D., NTU.

Jan-Hsiung Huang Ph.D., NTU.

Ning-Sing Shaw Ph.D., Cornell University,
USA

Chien-Yuan Chen Ph.D., NTU.

Bi-Fong Lin Ph.D., University of
California, Berkeley, USA

Tzu-Ming Pan Ph.D., NTU.

Ruey-Shyang Hseu Ph.D., NTU.

Ai-Yu Wang Ph.D., NTU.

Yee-Hsiung Chen Ph.D., University of
California, San Francisco,
USA

Wen-Chang Chang Ph.D., NTU.

Andrew H.-J. Wang Ph.D., University of Illinois
at Urbana Champaign, USA

Inn Ho Tsai Ph.D., Northwestern
University, Illinois, USA

Shih-Hsiung Wu Ph.D., University of
Wisconsin, Madison, USA

Ching-Tsan Huang Ph.D., Duke University, USA

Hsi-Mei Lai Ph.D., University of Illinois,
USA

Associate Professor

Chung-Ming Liou	Ph.D., University of Tokyo, Japan
Chia-Lam Kuo	Ph.D., California Institute of Technology, Pasadena, USA
Whi-Fin Wu	Ph.D., University of Iowa, USA
Kung-Ta Lee	Ph.D., University of Tokyo, Japan
Nan-Wei Su	Ph.D., NTU.

Assistant Professor

Chien-Chih Yang	Ph.D., University of Cambridge, UK
Chii-Shen Yang	Ph.D., University of Illinois, USA
Chun-Jen Chen	Ph.D., University of Texas at Austin, USA
Li-Kwan Chang	Ph.D., Chang-Gung University.
Shih-Chung Chang	Ph.D., NTU
Kuo-Kan Liang	Ph.D., NTU

FACILITIES

The department is located mainly in the new and old (Building 3) Agricultural Chemistry buildings. A number of microbiology laboratories are located on the first floor and basement of the Agronomy Building. In addition to the department office and meeting room, shared core facility laboratories, five shared classrooms and four student laboratories, each staff member has an independent laboratory. The department is equipped with modern research equipment, such as peptide synthesizer, monoclonal antibody production laboratory, real time-PCR, thermal cyclers for PCR, capillary electrophoretic system, ultracentrifuges, HPLC, 96-well reader for luminescence, fluorescence, UV and visible

spectrometer, UV-vis spectrophotometers, fluorimeters, fraction collectors, jar fermentors with microprocessor, image analyzers, beta-counters, microscope with fluorosepectro-system, various electrophoretic systems, freeze dryers, electroporator, mammalian cell culture lab., plant cell culture lab., lab animal room and related facility, transmission and scanning electron microscope, X-ray diffraction system etc.

COURSES

Besides the basic requirements, students can select courses from a range of required categories of courses, based on their interests and capabilities.

1. Absolute required courses: Calculus B (3,3), General Chemistry C(3), General Chemistry Lab(1), General Physics B(3, 3), General Physics Lab(1,1), General Biology (2,2), General Biology Lab(1,1), Organic Chemistry(3), Organic Chemistry Lab(1), Analytical Chemistry B(2,2), Analytical Chemistry Lab(1,1), Biochemistry(4,4), Biochemistry Lab(2), Physical Biochemistry(2,2), Microbiology (2,2), Microbiology Lab (1), Molecular Biology(4), Core course of Biotechnology Lab(4), Seminar I,II(1,1).
2. Elective required courses: This segment of required courses is divided into four categories including: microbiology, biochemistry, structure biology and others. Students are required to take at least one course from each category.
 - (a) Microbiological Science and Technology: Applied Microbiology(3), Applied Microbiology Lab (1), Microbial Genetics(2), Microbial Metabolism(2), Immunology(2), Virology(2).
 - (b) Biochemistry: Principles of Biochemical Technology(2), Nutritional Biochemistry

(2), Nutritional Biochemistry Lab(1),
Hormones and Regulators (2), Clinical
Biochemistry(2), Plant Secondary
Metabolism(2), Biomolecular Kinetis(2)

- (c) Structure Biology: Molecular
Biophysics(2), Proteomics (2), Protein
structure and function (2), Bioinformatics
(2), Introduction to Structural Biology(2).
- (d) Others: Biometrics(3), Genetics(3), Bio-
organic chemistry(2), Chemical analysis
of Biomaterials(2,2), Chemical analysis
of Biomaterials Lab(1), Cell Biology(3)

ACADEMIC ACTIVITIES

International and local scientists in related fields are invited to give academic seminars. Symposia on focal issues are held for the enhancement of research and development. Staff, faculty and students regularly attend meetings and symposia of international and local academic societies of related fields, including: biochemistry and molecular biology, biotechnology, microbiology, nutrition and food science.

CONTACT INFORMATION

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3

GRADUATE INSTITUTE OF ZOOLOGY



INTRODUCTION

The Graduate Institute of Zoology is the continuation of the graduate section of the former Department of Zoology. The Department of Zoology was founded in 1945. The M.S. program and Ph.D. program started in 1960 and 1985, respectively. In 2003, after the reorganization of the Department of Life Science, the Graduate Institute of Zoology became an independent graduate institute. Nevertheless, the Graduate Institute of Zoology remains tightly connected with the Department of Life Science, sharing teaching resources and lab space.

The mission of the Graduate Institute of Zoology is to train modern zoologists. We offer training

in a wide spectrum of fields in fundamental zoology and applied zoology. The thirty full-time and adjunct professors are organized into two groups: (1) Life Sciences, (2) Neurobiology.

FACULTY

Full-time:16

Part-time:11

Ph.D. Degree: 24

M.S. Degree: 0

Director/ Professor

Jiun-Hong Chen Ph.D., Oregon State
University, U.S.A.

Full-time**Professor**

Hon-Tsen Yu Ph.D., University of California, Berkeley, U.S.A.

Chen-Tung Yen Ph.D., Thomas Jefferson University, U.S.A.

Chu-Fang Lo Ph.D., University of Tokyo, Japan

Tai-Sheng Chiu Ph.D., Oregon State University, U.S.A.

Yen-Lin Song Ph.D., Oregon State University, U.S.A.

Shau-Chi Chi Ph.D., NTU

Hsiu-Hui Shi Ph.D., NTU

Associate Professor

Wei-Pang Huang Ph.D., University of California, Davis, U.S.A.

Ming-Yuan Min Ph.D., University of Leeds, U.K.

Hsi-Jen Tao B.A., National Taiwan Normal University

Hsin-Yu Lee Ph.D., University of California, San Francisco, U.S.A.

Chau-Ti Ting Ph.D., NTU

Chien-Yuan Pan Ph.D., National Yang-Ming University

Shyh-Jye Lee Ph.D., Iowa State University, U.S.A.

Assistant Professor

Ruei-Feng Chen Ph.D., NTU

Part-time**Professor**

Shih-Chieh Shen Ph.D., University of Tokyo, Japan

Tien-Hsi Tan B.A., NTU

Nin-Nin Chuang Ph.D., Cambridge University, U.K.

I-Chiu Liao Ph.D., University of Tokyo, Japan

Guang-Hsiung Kou Ph.D., University of Tokyo, Japan

Associate Professor

Jen-Chyuan Lee Ph.D., Auburn University, U.S.A.

Ruey-Ping Lin B.A., NTU

Fang-Yuh Lin Ph.D., University of California, Santa Barbara, U.S.A.

Assistant Professor

Chin-Cheng Chen Ph.D., University College London, U.K.

Yung-Feng Liao Ph.D., University of Georgia, U.S.A.

Wen-Chin Yang Ph.D., University of the Mediterranean, France

FACILITIES

The Graduate Institute of Zoology is located in the Life Science Building, which is shared with the Department of Life Science, the Graduate Institute of Plant Science, the Graduate Institute of Molecular and Cell Biology, the Graduate Institute of Ecology and Evolutionary Biology, and the College Entrance Examination Center. The animal collection accumulated over the years is open for public viewing on the 1st floor of the east side of the building. In addition, the Institute is in charge of animal rooms, cell biology lab., and an isotope lab., all on the 1st floor. All of the lecture rooms, administration offices and laboratories are located from the 4th floor to the 8th floor. On the 4th floor are three lecture rooms and seven teaching laboratories. The

administrative office of the Institute and the labs of systematic zoology are located on the 5th floor. Laboratories of environmental studies and related subjects, including ecology and fishery biology, are situated on the 6th floor. The laboratories on the 7th floor are for the fields of morphology and functional biology, including cell biology, physiology, and neurobiology. The laboratories of molecular biology and fish pathology are situated in the 8th floor.

The Institute has excellent facilities and equipment needed for teaching and research. Principal research and teaching equipment include scanning and transmission electron microscopes, confocal microscope, a variety of light microscopes, flow cytometer, ultramicrotomes, spectrophotometers, DNA sequencer, etc. The Institute also runs a freshwater aquarium, several fish ponds, and a fish collection with more than 7,000 specimens.

COURSES

The Graduate Institute offers a 1 to 4 year program leading to the degree of Master of Science in Zoology. The master degree requires a minimum of 30 graduate credits, which must include six credits of thesis. A master thesis is required for the degree. The Institute also offers a 3 to 7 years program leading to the Doctor of Philosophy degree in Zoology. The requirements for the Ph.D. degree include 18 graduate credits and 12 credits of dissertation. Students must finish the qualifying examination by the end of their third year.

ACADEMIC ACTIVITIES

In order to raise the academic level and strengthen international cooperation, the Graduate Institute has sponsored many international symposia, such as in aquaculture diseases, neurobiology, biotechnology, etc. Fish Disease Research are published annually. A database for endemic species and their life history information retrieval system on mammals, amphibians and fish have been established.

Research fields of the faculty emphasize, not only basic biology, but also practical application of biological knowledge. In basic biology, faculty members are studying molecular evolution, molecular systematics, genomics of virus, cellular endocrinology, cell recognition and communication, developmental biology, neurobiology, neurophysiology, etc. In applied fields, two strong research teams, i.e., the fish disease group and the shrimp genome group are currently studying prevention and treatment of fish disease, aquaculture, and conservation of natural resources.

CONTACT INFORMATION

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INTRODUCTION

Department of Botany was affiliated with the College of Science and Agriculture when Taihoku (Taipei) Imperial University was established in 1928. After World War II, Taihoku Imperial University was reorganized and renamed as National Taiwan University. The Master and the Ph.D. programs of the Botany Department were initiated in 1947 and 1973, respectively. When College of Life Science was established in 2003, Department of Botany and Department of Zoology were merged as Department of Life Science. The Institute of Plant Biology was thereafter established, providing Master and Ph.D. programs for prospective graduate students.

This Institute focuses on plant biology research using modern molecular biological techniques. We offer diversified courses such as molecular biology, genetics, cell biology, transgenic techniques, and plant-microbe interaction. Our research in plant biology consists of the following categories: plant physiology, stress physiology, signal transduction, microbiology, macromolecule structure, and biotechnology. Research in the Institute can be divided into the following topics:

1. Exploitation of useful genes
2. Plant stress biology
3. Regulation of growth and development
4. Development and application of transgenic plants

FACULTY

Full-time: 16

Part-time: 8

Ph.D. Degree: 22

M.S. Degree: 2

Director/ Professor

Kai-Wun Yeh Ph.D., NTU, Taiwan

Full-Time

Professor

Tsan-Piao Lin Ph.D., Oregon State Univ., USA
 San-San Tsay Ph.D., Oklahoma State Univ., USA
 Shih-Tong Jeng Ph.D., Univ., Illinois, USA
 Kuo-Chieh Ho Ph.D., Univ., North Carolina at Chapel Hill, USA
 Ning-Sun Yang Ph.D., Michigan State Univ., USA
 Tuan-Hua Ho Ph.D., Michigan State Univ., USA

Associate Professor

Shue-Mei Wang Ph.D., Univ., South Carolina, USA
 Keqiang Wu Ph.D., Univ., Saskatchewan, Canada
 Hsu-Liang Hsieh Ph.D., University of Texas, USA

Assistant Professor

Tsung-Luo Jinn Ph.D., NTU
 Laurent Zimmerli Ph.D., Univ. of Fribourg, Switzerland
 Chiu-Ping Cheng Ph.D., University of Minnesota, USA
 Yi-Sheng Cheng Ph.D., National Defense Medical Center, Taiwan
 Ing-Feng Chang Ph.D., Univ., California, USA

Lecturer

Fen-Ming Lee M.S, NTU, Taiwan

Part-Time

Professor

Chu-Yung Lin Ph.D., University of Oklahoma, USA
 Chi-Ying Huang Ph.D., University of Illinois, USA
 Bai-Lin Lin Ph.D., Ohio State University, USA
 Chia-Yin Tsai Ph.D., Purdue University, USA
 Chih-Sheng Tsou Ph.D., University of Amsterdam, Netherlands.
 Yih-Ming Chen M.S., NTU, Taiwan
 Ching-Te Chien Ph.D., Univ. Idaho, USA

Associate Professor

Ming-Tsair Chan Ph.D., NTU, Taiwan

FACILITIES

Research laboratories in our institute are located on the 9th, 10th and 11th floors of the Life Science Building. There are core facilities available on each of these floors. Two isotope laboratories are located on the 9th and 10th floors. We are well equipped with various instruments, such as DNA microarray system, two-photon confocal microscope, SEM, TEM, real-time PCR, ProteomeLab PF 2D, Las 3000, Typhoon 9400 Imager, fluorescent dissecting microscope, ultracentrifuge, GC-MS, Dionex HPLC, etc.

COURSES

MasterDegree

This is a 2 to 4 year program. All graduate students should finish 24 credits including a thesis for the degree. Seminar (4 credits), research training (4 credits), teaching practice in biology (2 credits) are required.

Ph.D. Degree

This is a 3 to 7 years program. All graduate students should finish 18 credits, pass the preliminary examination for qualification, complete the doctoral dissertation and publish one paper in international journals at a high ranking. Seminar (6 credits), research training (6 credits) and teaching practice in biology (2 credits) are required.

ACADEMIC ACTIVITIES

Internationally known scientists were invited to present their researches in our institute.

Symposia on various topics were held to promote the interaction in our research community.

International students, postdoctoral fellows and visiting scholars are welcome to join our Institute.

CONTACT INFORMATION

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INTRODUCTION

As an inaugural member of the College of Life Science, the Institute of Molecular and Cellular Biology faculty is specialized in the fields of molecular biology, cell biology, genetics, and developmental biology. We use various model organisms, such as Yeast, *C. elegans*, *Drosophila*, and Zebrafish *Arabidopsis*, to study the structure and function of genes and cells, the mechanisms of inheritance and development, and the structural and functional genomics of these organisms. The faculty members are also responsible for teaching related courses in the Department of Life Science and the Institute. The curriculum is aimed to instruct students in the essential life science concepts, from molecular biology of the

gene, to chromosome structure and function, to organization and function of cells (the fundamental subunits of life), to tissue, and finally, to the development of an individual. We also aim to stimulate the interest and increase the potential of the students in modern life sciences.

Institute goals are to train researchers and teachers in modern biology, and to provide experts and support for our country's ascendancy in the highly competitive field of life science research and development.

FACULTY

Full-time: 8

Part-time and Adjunct: 5

Ph.D. Degree: 13

Director/ Professor

Huai-Jen Tsai Ph.D., Oregon State
University, U.S.A

Full-time

Professor

His-Yuan Yang Ph.D., Northwestern
University, U.S.A

Yi-Chun Wu Ph.D., Massachusetts Institute
of Technology, U.S.A.

Associate Professor

Yen-Yu Kao Ph.D., NTU

Fon-Chun Ke Ph.D., University of Illinois,
U.S.A.

Tze-Bin Chou Ph.D., State University of
New York at Stony Brook ,
U.S.A.

Assistant Professor

Kuei-Shu Tung Ph.D., Pennsylvania State
University, U.S.A.

Chih-Tien Wang Ph.D., University of
Wisconsin-Madison, U.S.A.

Part-time

Professor

Fore-Lien Huang Ph.D., University of Windsor,
Canada

Yung-Reui Chen Ph.D., Michigan state
University, U.S.A.

Adjunct

Associate Professor

Hsou-Min Li Ph.D., University of
Wisconsin-Madison, U.S.A.

Yi-Fang Tsay Ph.D., Carnegie-Mellon
University, U.S.A.

Assistant Professor

Xue-Fan Ruan Ph.D., NTU

FACILITIES

The administration office, faculty office and laboratories are located in the Life Science Building on the main campus. Conference rooms, discussion rooms, classrooms, and student laboratories are also located in the Life Science Building, and are maintained by the Department of Life Science. The institute has excellent facilities and equipment for teaching and research, including: scanning and transmission electron microscopes, confocal microscope, fluorescence and other various microscopes, ultracentrifuges, spectrophotometers, PCR machines, gene transfer equipment, flow cytometer, etc.

COURSES

The institute offers programs leading to the M.S. and Ph.D. degrees. The M.S. degree requires a minimum of 24 graduate credits and 6 credits of thesis. The Ph.D. degree requires 18 graduate credits and 12 credits of thesis. Molecular Cell Biology (3) and Teaching Practice of Biology (2) are required for students of both the master and Ph.D. programs. Advanced Molecular Cell Biology (3) is additionally required for Ph.D. students. Other courses offered by the programs include: Cytogenetics, Molecular Genetics, Gene and Development, Cell Cycle, Cytoskeleton and Matrix, Developmental Biology, Special topics on Molecular Biology, Microscopy, Molecular

Developmental Biology, Cellular Signal
Transduction, Genomics, Protein Structure and
Function, Structural Biology, Bioinformatics,
Virology, Immunology, Gene Technology,
Marine Molecular Biology and Biotechnology
etc.

ACADEMIC ACTIVITIES

1. Weekly seminar by invited speakers.
2. Frequent workshops and conferences in
Molecular and Cellular Biology.

CONTACT INFORMATION

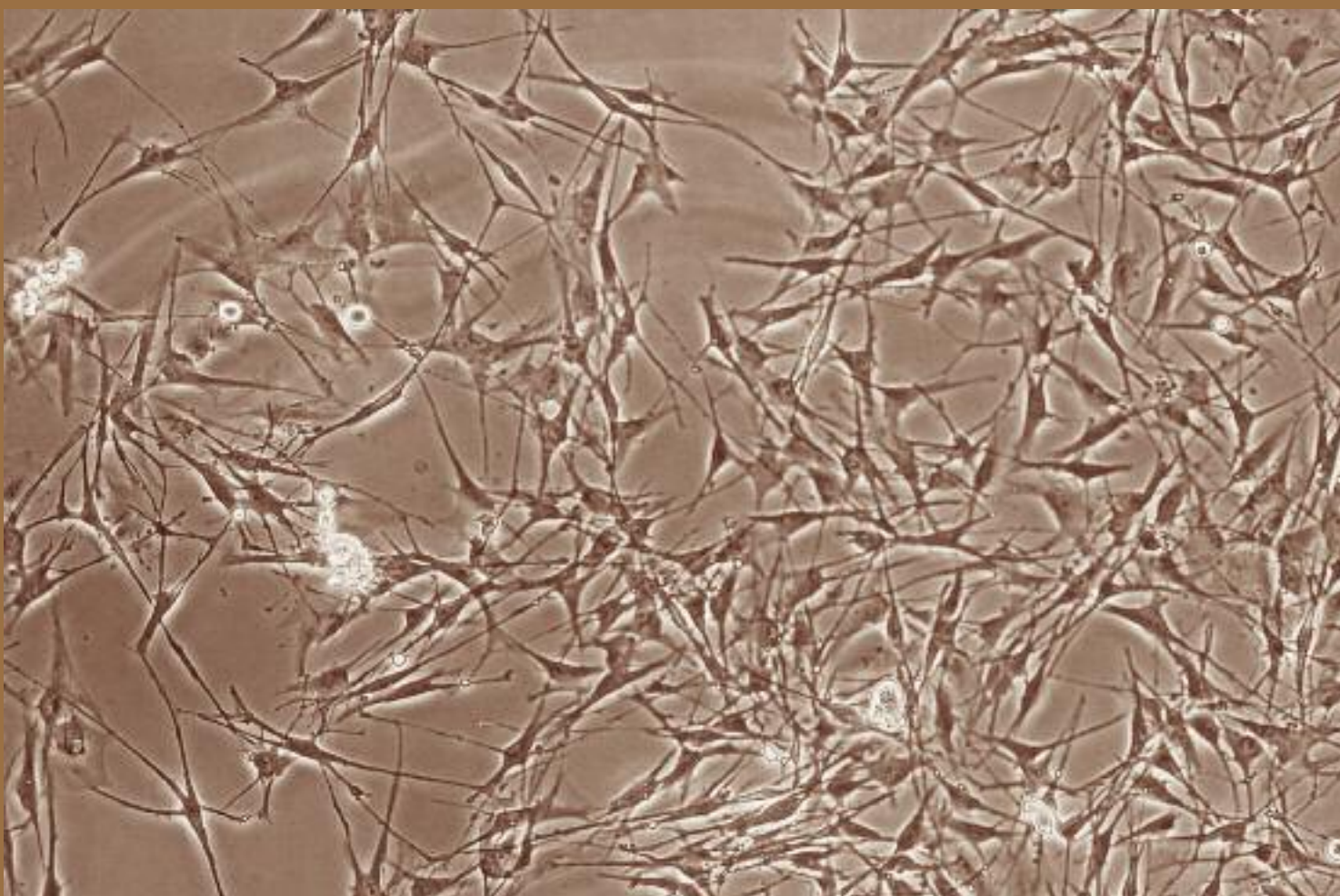
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GRADUATE INSTITUTE OF ECOLOGY AND EVOLUTIONARY BIOLOGY



INTRODUCTION

In response to the growing need for biodiversity conservation and sustainability, NTU reorganized the Department of Zoology and the Department of Botany into the Institute of Ecology and Evolutionary Biology in 2003. The aims are to provide the best education program in this field to graduate students, and to serve as the best research integration for biodiversity research in Taiwan.

We now have 19 faculty, and approximately 90 graduate students and post doctorates. In addition, we plan to invite some faculty within NTU with related interests to form an integrated ecology and evolution group. Our offices and labora-

tories are located in the Life Science Building, but our research often takes us to various field sites in Taiwan. The Institute has four informal research foci: molecular evolution, systematics, plant ecology, and wildlife ecology. There is a great deal of interaction and collaboration within these groups, though projects often cross these boundaries as well.

Although faculty and students in the Institute study a wide range of biological problems, ecology and evolution are the central themes, and a mixing of theory and empiricism is the style that guides us. Despite our breadth, we are deep in the areas of ecology, evolution, behavior and biodiversity. Many of the research projects are interdisciplinary and have resulted in strong links to the other institutes of Molecular and Cell

Biology, Zoology, Plant Science and Fishery Sciences within the College of Life Science. The excitement and quality of the research that is done in the Institute creates an exceptional learning environment for graduate students.

Graduate study in the Institute leads to the M.S. and Ph.D. degrees. The special areas of strength in the institute are behavioral ecology, theoretical ecology, population and community ecology, landscape ecology, molecular evolution, and conservation biology. The interests and research of faculty range widely over these areas, and incoming students are able to select their adviser from among several professors working in the chosen discipline. Graduate students also have excellent opportunities for combining several areas for innovative interdisciplinary work.

Our graduate program is designed to develop both the breadth and depth of understanding that will enable graduates to respond to future advances in the field. At the same time, students acquire the detailed knowledge and techniques needed to become effective scientists. Each student is guided in developing a comprehensive but flexible course of preparation that is designed to meet his or her educational needs and goals. There are only a few formal course requirements and independent research begins early.

FACULTY

Director/ Professor

Pei-Fen Lee Landscape ecology, Remote sensing and GIS

Professor

Su-Hwa Chen Paleoecology and climate change, Pollen biology and evolution, Pollen sterility

Lien-Siang Chou Dolphin and whale conservation, Plant and animal coevolution

Chang-Fu Hsieh Forest ecology, Biodiversity of vascular plants in Taiwan

Wen-Yuan Kao Physiological ecology, Ecosystem physiology

Ling-Long Kuo-Huang Evolutionary and ecological plant anatomy, Structure and function of the secondary plant body

Ling-Ling Lee Ecology and behavior of Taiwan mammals, Mammal research in long-term ecological research

Jiunn-Tzong Wu Aquatic ecology, Ecological physiology, Algae biochemistry, Water pollution and environmental indicator, Paleolimnology

Associate Professor

Jer-Ming Hu Plant molecular evolution, Systematic taxonomy, Developmental evolution of flowers

Chau-Ti Ting Genetics of speciation, Population genomics

Assistant Professor

- Yu-Te Lin Landscape ecology,
Theoretical ecology, Small
mammal ecology
- Chun-Neng Wang Flower morphogenesis,
Developmental evolutionary
genetics, Reproductive and
pollination biology,
Population biology,
Conservation, Biodiversity

Adjunct Professor

- Yao-Sung Lin Biodiversity research,
Wildlife ecology
- Lucia Liu Severinghaus
Avian ecology and behavior,
Avian biogeography,
Biodiversity, Integrative
aspect of natural resources
conservation

Adjunct Associate Professor

- Chen-Meng Kuo Pteridology, Phytogeography,
Applied ecology
- Yu-Ming Ju Systematic studies on pyreno-
mycetous fungi
- Shau-Ting Chiu Plant evolution, Plant ecologi-
cal physiology

Adjunct Assistant Professor

- Benny K.K. Chan Intertidal ecology and bio-
geography, supply-side ecolo-
gy, larval biology and crus-
tacean (especially barnacles)
ecology

Distinguished Chair Professor

- Chang-Hung Chou Plant physiology, Plant ecolo-
gy, Plant chemical ecology

CONTACT INFORMATION

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INTRODUCTION

To integrate fisheries-related teaching and research units in the campus of NTU, the Fisheries Science Research Building was constructed in 1979 with the financial support of the Council of Agriculture. Subsequently, the Institute of Fisheries Science was founded in promote the fishery and aquaculture industries by educating fisheries scientists and advancing new technologies. Master of science degrees in Aquaculture and Fishery Science were offered in 1986 and the Ph.D. program began in 1997. To date, more than 300 students have completed their Masters degrees and 20 students received their Ph.D. degrees. These graduates have devoted themselves to the industry, government

and academia. The advanced knowledge and the exposure to high technology these students receive enable them to make their contribution in fishery development and management in the era of the knowledge economy

In 2003, the Institute of Fisheries Science was reorganized with the fisheries-related faculties of the Department of Zoology of the College of Science to become a member of the newly established College of Life Science. The new institute is responsible for providing basic courses for students of the Department of Life Science of the new college, including marine life science, aquatic biology, marine fisheries ecology, aquaculture, and modern aquatic biotechnology for fish reproduction and disease control in raising fishery production. The concepts of environmen-

tal conservation and resource management are also taught to underline the need to consider the equilibrium of ecosystems. Meanwhile, innovated technologies developed in the laboratory are transferred to different marine biotech industries to improve aquaculture products, production and sustainable utilization of aquatic life resources.

In the future the Institute will continue to do its best to focus its human and capital resources on the principal tracks of (1) Marine biotechnology and molecular biology; (2) Reproductive physiology and ecology of aquatic animals; and (3) Fisheries biology and resource management.

FACULTY

Full-time:7

Adjunct:5

Emeritus Professor:1

Part-time:1

Ph.D. Degree:14

Director/ Professor

Wann-Nian Tzeng Ph.D. University of Tokyo,
Japan

Professor Emeritus

Ching-Ming Kuo Ph.D. University of
California, San Diego, USA

Full-Time

Professors

Shiu-Nan Chen Ph.D. Liverpool University,
U.K.

Hong-Nong Chou Ph.D. University of Rhode
Island, U.S.A

Associate Professors

Show-Wan Lou Ph.D. University of Tokyo,
Japan

Wen-Liang Liao Ph.D. University of Tokyo,

Japan

Ying-Chou Lee Ph.D. National Taiwan
University

Assistant Professor

Yu-San Han Ph.D. National Taiwan
University

Adjunct Professors

Jen-Leh Wu Ph.D. University of Arkansas,
U.S.A

Pung-Pung Hwang Ph.D. University of Tokyo,
Japan

Hong-Yuong Yan Ph.D. University of Texas at
Austin, U.S.A.

Associate Professor

Chi-Yao Chang Ph.D. National Tsing-Hua
University

Assistant Professor

Chung-Yen Lin Ph.D. National Taiwan
University

Part-Time

Professor

Hon Cheng Chen Ph.D. Liverpool University,
U.K.

FACILITIES

The Institute of Fisheries Science is located on the main campus of NTU. Fifty-six rooms of various sizes are arranged for offices, auditoriums, conference rooms, laboratories, hatcheries, greenhouse culture ponds, cold rooms, walk-in incubators, herbaria, and controlled areas for radioisotope operations and cell culture. The Institute is well equipped with facilities and instruments for culture and breeding of aquatic organisms, water quality analysis, microscopic observations, recording and transgenic operations. There are also instruments for biochemical

and bioorganic analysis, such as, automatic DNA sequencer, thermocycles polymerase chain reactor, UV-Vis spectrophotometer, fluorescence spectrometer, Fourier-transform infra-red spectrometer, capillary electrophoresis, high performance liquid chromatography, gas chromatography mass selective detection, and matrix assisted laser desorption ionization time of flight mass spectrometer. Facilities that house the scanning electron microscope, electron probe micro-analyser and inductively coupled plasma mass spectrometer for fish ageing and otolith micro-chemistry are operated in collaboration with Academia Sinica and the National Cheng-Kung University.

Annually a budget of around NT\$500,000 is allocated for subscriptions to more than 16 fisheries-related journals, and NT\$100,000 for books. All the assigned journals and books are housed in the Main Library of the university and open to the public.

COURSES

We offer programs towards both Masters and Ph.D. degrees.

Masters Degree:

Students in our Masters program must obtain 24 credits in addition to the thesis research (6 credits) for the Masters degree, including the prerequisite courses which are four semesters of Seminar on Fisheries Science, 1 credit each, one semester of Marine Fisheries Ecology, 2 credits, one semester of Aquaculture Technology, 2 credits and one semester of Teaching Practice of Biology, 1 credit (excluding foreign students and on-the-job students). After finishing the required courses, students must submit the draft manuscript of the thesis for approval by advisory committee before application for an oral examina-

tion. Typically it takes two years (maximum of 4 years) to be granted a Masters degree in Life Sciences.

Ph.D. Degree:

Students in our Ph.D. program must obtain 18 course credits in addition to the 12 credits of dissertation research. Seminar courses for four semesters, 1 credit each, and Special Topics in Fisheries Science for two semesters, 2 credits each, and one semester of Teaching Practice of Biology, 1 credit (excluding foreign students and on-the-job students), are required for Ph.D. students. Students who bypass the Masters defense after remaining one year in the Masters program will need 30 course credits in total before applying for the qualification examination. All students must take the qualification examination within 3 years in the program before they become a Ph.D. candidate. It is required that the Ph.D. candidate must publish two or more academic papers, in which the candidate must be the first author with the corresponding address as the Institute of Fisheries Science, NTU. Of the two published papers at least one should be on the SCI journal list. After fulfilling the above requirements and passing the dissertation examination, the candidate will be granted a Ph.D. degree in Life Sciences.

ACADEMIC ACTIVITIES

A weekly course of Special Topics in Fisheries Science invites prominent industrial representatives, government officials or outstanding scholars to give lectures on their expertise and special experience. This two-hour course is open to all the students and faculty members.

The Institute holds an annual contest and poster demonstration of the graduation thesis or dissertation in May.

All the students and faculty members actively participate in paper presentations and meetings at the annual convention of the Fisheries Society of Taiwan. Our faculty members are also actively involved in board and committee activities.

Our institute keeps close contact with the Institute of Zoology and the Institute of Oceanography in our university, related departments and institutions in the National Taiwan Ocean University, National Sun Yat-Sen University, the Institute of Cellular and Organismic Biology at Academia Sinica and the Taiwan Fisheries Research Institute. Members of our faculty are encouraged to attend international conferences, engage in collaborative studies, and to apply for research funding from the National Science Council, Council of Agriculture, Fisheries Administration, Environmental Protection Administration, County governments, and the private sector, so as to have joint effort in biotechnology exploration in academia, government and industry.

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INTRODUCTION

The Institute of Biochemical Sciences was established in 1972 at the exhortation of the late Professor Cho-Ho Li, who was the Director of the Hormone Research Laboratory at the University of California, San Francisco. After his first 8-week University lectureship in 1958, Professor Li became deeply involved in the preparation of an educational and research institute to train students in the modern interdisciplinary science of Chemistry and Biology and to promote the Protein Research in Taiwan. From 1958-1971, through a process of exchange and consultation between Professor Li and the President of Academia Sinica, Minister of Education and Chairman of National Science

Council, a consensus was reached to set up a joint collaborative Institute between the University and Academia Sinica. The counterpart institute was named Institute of Biological Chemistry. Both institutes maintain close collaboration in teaching and research. Since 1973 the Institute of Biochemical Sciences has attracted many undergraduates with degrees in diverse fields from various colleges and universities to pursue the Master degree (M.S.). The Institute set up its Ph.D. program in 1984 and currently has a student body of 65 M.S. and 94 Ph.D. students.

PREVIOUS DIRECTORS

Professors Tung-Bin Lo, Yee-Hsiung Chen, Wen-Chang Chang, Chen-Sheng Liu, Mu-Chin Tzeng, Inn-Ho Tsai, Shyh-Horng Chiou, and Wen-Chang Chang.

Current Director

Professor Geen-Dong Chang.

At the time of its inception, the Institute embraced two important goals and resolutions: 1. Cultivate students with a strong background in the biochemical sciences and a perspective to open new ground in the biological sciences. 2. Train the new-generation scientists to be leaders in the biochemical sciences and technology in order to promote the emerging biotechnology in Taiwan. As its long-term objective, the Institute devotes itself to the study of biologically active proteins. It selected the biochemical characterization of snake venom proteins as the initial short-range objective, and gradually expanded and diversified to various fields in the life sciences, which include molecular and cell biology, bio-organic chemistry, glycobiology and structural biology. Over the years, the Institute has steadily expanded to include graduate students and postdoctoral fellows. The Institute recruits 32 M.S. and 14 Ph.D. students of diverse background from various colleges and universities in the country each year. Currently, the graduate programs rank highly among the peer graduate programs around the island.

The focus and emphasis of the Institute have always been on integrated basic and biotech research. The development of the Institute has emphasized six major research areas: (1) Reproductive biochemistry and cell biology; (2) Protein chemistry and proteomics; (3) Bio-organic chemistry; (4) Glycobiology; (5) Molecular immunology and gene regulation; (6) Structural

biology and molecular biophysics. In the coming years, the Institute will be leading the efforts to build a strong protein and proteomics program which will become an integral part of the Functional Genomics in the post-genomic era.

FACULTY

Full-time : 23

Part-time: 11

Ph.D. Degree : 33

M.S. Degree: 1

Currently the Institute employs 23 full-time faculty, including 15 professors, 5 associate professors, 2 assistant professors and 1 lecturer. In addition, 11 faculty members of the Institute of Biological Chemistry, Academia Sinica, are available to support teaching and research.

Director/ Professor

Geen-Dong Chang Ph.D., University of Illinois at Urbana Champaign, U.S.A.

Full-time

Professor

Yee-Hsiung Chen Ph.D., University of California, San Francisco, U.S.A.

Shyh-Horng Chiou Ph.D., Colorado State Univ., U.S.A.

Inn-Ho Tsai Ph.D., Northwestern Univ., U.S.A.

Shih-Hsiung Wu Ph.D., University of Wisconsin, U.S.A.

Wen-Chang Chang Ph.D., NTU

Andrew Hwai-Jiung Wang Ph.D., University of Illinois at Urbana Champaign, U.S.A

Shui-Tein Chen Ph.D., NTU

Chi-Huey Wong	Ph. D, Massachusetts Institute of Technology, U.S.A.
Chang-Jen Huang	Ph.D., NTU.
Po-Huang Liang	Ph.D., University of Maryland, U.S.A.
Ruey-Hwa Chen	Ph.D., Michigan State University, U.S.A.
Ming-Daw Tsai	Ph.D., Purdue University, U.S.A.
Chun-Hung-Lin	Ph.D., Scripps Research Institute, U.S.A.
Lung-Chih Yu	Ph.D., NTU

Associate Professor

Chia-Lam Kuo	Ph.D., California Institute of Technology, U.S.A.
Sin-Tak Chu	Ph.D., NTU
Ming-Ting Lee	Ph.D., Auburn University, U.S.A.
Hung wen Chen	Ph.D., University of Florida, U.S.A.
Ching-Jin Chang	Ph.D., NTU

Assistant Professor

Mau-Sun Chang	Ph.D., NTU
Yung-Shu Kuan	Ph.D., University of North Carolina at Chapel Hill, NC, U.S.A.

Lecturer

Chia-Hsing Ho	M.S., NTU
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Part-Time

Professor

Tung-Bin Lo	Ph.D., Tohoku University, Japan
Mu-Chin Tzeng	Ph.D., Rockefeller Univ., U.S.A.

Associate Professor

Yu-May Lee	Ph.D., NTU
Kay-Hooi Khoo	Ph.D., University of London, U.K.

Assistant Professor

Tzu-Ching Meng	Ph.D., University of Nebraska Medical Center, U.S.A.
Rita P.Y.Chen	Ph.D., University of Cambridge, U.K.
Guang-Chao Chen	Ph.D., University of Texas at Austin, U.S.A.
Yu-Ling Shih	Ph.D., University of Cambridge, U.K.
Wei-Yuan Yang	Ph.D., University of Illinois at Urbana-Champaign, U.S.A.

Lecturer

Ming-Jhy Hseu	Ph.D., NTU
Shun-Chang Wang	Ph.D., NTU

FACILITIES

The institute occupies a space of about 2970 sq. meters, including the front building of 1980 sq. meters and a new back-wing 5-story annex building of 990 sq. meters. The Institute provides 16 units of research laboratories with 100-115 sq. meters per unit for each of the faculty members. In addition, there are several class rooms and rooms of common facilities, including group-meeting and discussion rooms, and a library for students and faculty. The university also provides one floor in the administrative building of the College of Natural Sciences for undergraduate lab courses. Some members with joint appointments at the Institute of Biological Chemistry of Academia Sinica are also provided some lab space for research at the Nankang campus. The major research equipment in the Institute include: Ultracentrifuge, HPLC, UV and Fluorescence spectrophotometers, Dynamic

light-scattering spectrophotometer, Circular dichroism spectropolarimeter, polygraph, EIA reader, Automatic pH titrator, Gamma-counter, Nucleic acid sequencer, Amino acid sequencer, Carbohydrate analysis system, DNA synthesizer, Peptide synthesizer, and Mass spectrometer, etc. The library has about 2,000 books in biochemistry and related areas and more than 50 biochemical periodicals. Some teaching aids for lectures and seminar courses are also available, which include state-of-the-art computers and projectors plus VCD/DVD movie viewing room.

COURSES

The Institute offers Ph.D. and M.S. programs. The candidates for the Ph.D. degree must fulfill a minimum of 18 credits in course work, pass the qualification examinations, and complete a doctoral dissertation (12 credits in addition) with publications in high-level refereed journals. The candidates for the M.S. Degree must fulfill a minimum of 24 credits in course work and complete a M.S. thesis of 6 credits. The required courses and credits for Ph.D. students are: Research training (4), Seminar (2), Group discussion (2), Discussion in advanced biochemistry (3). The required courses for M.S. students are: Research training (4), Seminar (2), Group discussion (2), Cellular and Molecular Biology (4), Chemical and Structural Biology (2,2), Methods and Experiments in Biochemistry (2). Besides, the Institute is also in charge of undergraduate "Biochemistry" courses for students on the university campus and the "Experiment in biochemistry" course for the students of the Colleges of Life Science and Natural Sciences, the Department of Animal Science and Technology, the Department of Veterinary Medicine, and the Department of Plant Pathology and Microbiology. In August 2003, the Institute moved from the College of Natural

Sciences to the new College of Life Science. To face the new challenge of integrating interdisciplinary sciences, the Institute was authorized to establish a new undergraduate department of Biochemical Sciences and Technology by teaming up with the Department of Agricultural Chemistry starting from the fall semester of 2003.

ACADEMIC ACTIVITIES

Research fields

Protein Chemistry and Proteomics, Physical Biochemistry and Biophysics, Structural Biology, Genetic Engineering and Genomics, Reproductive Physiology, Neurochemistry and Signal Transduction, Molecular and Cell Biology.

Research focus and projects

1. Molecular Biology of cell surface glyco-structure expression.
2. Molecular mechanism and signaling pathway involved in cell membrane repair.
3. Proteomics studies of the early stages in zebrafish embryogenesis.
4. Proteomic Study of *Helicobacter pylori* under Oxidative Stress and Development of Diagnostic Markers against Gastroduodenal Diseases.
5. Investigate neuronal generation and wiring using zebrafish habenulo-interpeduncular circuit as a vertebrate model
6. Studies of Expression Mechanisms and Functions of Human T Cell Receptors.
7. DNA damage responses in Cancer Biology.
8. The role of P12 from male accessory sexual glands in the modulation of mouse sperm activity; covalent cross link in the seminal coagulation.

Many of our research reports are published in prestigious international periodicals, or presented

at international meetings. The Institute has regularly invited speakers of related biochemical sciences for lectureships and symposia. The faculty and students also actively participate in the activities of Taiwan Biochemical and Molecular Biology Society, which include international meetings and domestic annual conferences of biochemistry and molecular biology.

CONTACT INFORMATION

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INTRODUCTION

The Institute of Microbiology and Biochemistry (MBC) was founded in 2003 as part of the newly established College of Life Science on the initiative of the Institute of Agricultural Chemistry in the College of Agriculture, which was founded as early as 1947. Four divisions, namely, microbiology, bioindustry, biochemistry and nutritional science, are built-in as majors for the recruitment and training of graduate students. The Institute aims to pursue excellence in research and education. Graduate students are trained for future careers in academic research or applications of biotechnology in industry.

The development for microbiology and bioindustry will focus on researches and product development of: (1) Industrial microbiology, (2) Environmental microbiology, (3) Mycology, (4) Microorganism as functional foods. The function, ultrastructure and ecology of microbes will also be emphasized. For biochemistry, fundamental research in plant biochemistry and molecular biology as well as application of plant biotechnology are principal goals. More specific aims include: (1) carbohydrate metabolism and aging mechanism in plants, (2) development and application of transgenic plants as human foods, and (3) environmental remediation using plant biotechnology. For nutritional science, research will be focused on the fundamental biochemistry and metabolism of human nutrition and its appli-

cation. Specific goals include: (1) The physiological and biochemical effects of dietary pattern, nutrients, food components or their derivatives, as well as the molecular mechanism of regulation and its application, (2) Metabolism and utilization of minerals and the molecular mechanism of regulation, (3) Development of methods and reagents for the biochemical assessment of nutritional status, and (4) Improvement of nutrition and dietary quality of Taiwan.

The institute covers a wide range of life science fields. The research and development of each field has its own special features. Furthermore, there is integration among the different fields so as to make a strong team for the research and development of biotechnology. The basic research in microbiology and biochemistry provides the fundamentals, whereas fermentation and nutritional science groups strongly support the product development and biological functional evaluation. In facing the emerging fields of biochemical science and technology in the new era, the institute is committed to forming a strong partnership with bio-industry to push the economic growth of Taiwan. In the meantime, the institute will pursue excellence in research to form a beneficial cycle between research and application.

FACULTY

The institute comprises of 31 academic staffs, all holding Ph.D. degree. Professor Emeritus: 7
Full-time: 24

Director/ Professor

Tzu-Ming Pan Ph.D., NTU.

Professor Emeritus

Hsi-Hua Wang Ph.D., Hokkaido University,
Japan

Wei-Hsien Chang Ph.D., Michigan State Univ.,
USA

Jong-Ching Su Ph.D., University of
California, Berkeley, USA
Yuan-Chi Su Ph.D., University of Tokyo,
Japan
Liang-Ping Lin Ph.D., Louisiana State Univ.,
USA
Hsien-Yi Sung Ph.D., NTU
Wen-Hsiung Liu Ph.D., University of Tokyo,
Japan

Full-time

Professor

Shang-Shyng Yang Ph.D., NTU
Ping-Du Lee Ph.D., NTU
Ching-jang, Huang Ph.D., NTU.
Rong-Huay Juang Ph.D., NTU.
Jan-Hsiung Huang Ph.D., NTU.
Ning-Sing Shaw Ph.D., Cornell University,
USA
Chien-Yuan Chen Ph.D., NTU.
Bi-Fong Lin Ph.D., University of
California, Berkeley, USA
Ruey-Shyang Hseu Ph.D., NTU
Ai-Yu Wang Ph.D., NTU.
Jin-Lieh Wu Ph.D., Arkansas University,
USA
Wen-Harn Pan Ph.D., Cornell University,
USA
Ching-Tsan Huang Ph.D., Duke University, USA
Lie-Fen Shyur Ph.D., NTU

Associate Professor

Chung-Ming Liou Ph.D., University of Tokyo,
Japan
Kung-Ta Lee Ph.D., University of Tokyo,
Japan
Chin-Tin Chen Ph.D., University of
Kentucky, U.S.A

Yee-Yung Charng Ph.D., Michigan State
University, U.S.A

Assistant Professor

Chien-Chih Yang Ph.D., University of
Cambridge, UK
Chii-Shen Yang Ph.D., University of Illinois,
USA
Chun-Jen Chen Ph.D., University of Texas at
Austin, USA
Shih-Chung Chang Ph.D., NTU
Li-Kwan Chang Ph.D., Chang-Gung
University

FACILITIES

The institute is located mainly in the new and old (Building 3) Agricultural Chemistry buildings. A number of microbiology laboratories are located on the first floor and basement of the Agronomy Building. In addition to the institute office, meeting room, shared core facility laboratories, five shared classrooms and four student laboratories, each staff member has an independent laboratory. The institute is equipped with modern research facilities, such as peptide synthesizer, monoclonal antibody production laboratory, real time-PCR, thermal cyclers for PCR, capillary electrophoretic system, ultracentrifuges, HPLC, 96-well reader for luminescence, fluorescence, UV and visible spectrometer, UV-vis spectrophotometers, fluorometers, fraction collectors, jar fermentors with microprocessor, image analyzers, beta-counters, microscope with fluoroseptro-system, various electrophoretic systems, freeze dryers, electroporator, mammalian cell culture lab., plant cell culture lab., lab animal room and related facility, transmission and scanning electron microscope, X-ray diffraction etc.

COURSES

1. Master Program: Minimal requirement: 24 credits of courses plus 6 credits of master thesis

- (1) Absolute required courses: Seminars (4), Research methods in microbiology and biochemistry I,II (1,1), Master thesis (6)
- (2) Selective required courses: Students of each division are required to select minimally 10 credits from courses listed under that division.

Bioindustry division: Microbial physiology(2),Industrial microbiology(2),Enzyme purification and analysis(1),Enzyme purification and analysis Lab(3),Protein structure and function(2),Biotechnological diagnosis of microorganism(2),Breeding of industrial microorganism(2),Genetically modified food(2),Functional food(2),Plant cell culture and industrial application(2),Molecular virology(2),Virology(2).

Biochemistry division: Plant carbohydrate metabolism and gene regulation (1), Plant secondary metabolism in plant (2), Enzyme purification and analysis (1), Enzyme chemistry Lab (3), Plant molecular biology (3), Molecular biology (4), Molecular genetics (4), Culture of plant cells and tissues (2), Culture of plant cells and tissues Lab.(2), Biomolecular kinetics (2)

Nutritional science division:Enzyme chemistry (2), Enzyme purification and analysis (1), Enzyme purification and analysis Lab (3), Nutrition Epidemiology (2), Nutrition and immunology (2), Mineral nutrition (2), Vitamin nutrition (2), Endocrinology & metabolism (2), Epidemiological study: design and data analysis (2), Nutrigenomics (2)

Microbiology division: Industrial microbiology(2), Enzyme purification and analysis(1), Enzyme purification and analysis Lab(3), Protein structure and function(2), Practical protein crystallization(1), Research methods in molecular microbiology(1), introduction to structural biology(2), Virology(2), Proteomics(1), genomics(2), Genomics lab(2), Tools for proteomics(1).

2. Ph.D. Program: Minimal requirement: 18 credits of courses plus 12 credits of Ph.D. thesis.

Bioindustry Division: Seminars (4), Ph.D. thesis (12)

Biochemistry division: Seminars (4), Ph.D. thesis (12)

Nutritional Science Division: Seminars (4), Ph.D. thesis (12)

Microbiology division: Seminars (4), Ph.D. thesis (12)

ACADEMIC ACTIVITIES

International and local scientists of related fields are invited to give academic seminars. Symposia on focal issues are held for the enhancement of research and development. Staff, faculty and students regularly attend annual meetings and symposia of international and local academic societies of related fields, including biochemistry and molecular biology, biotechnology, microbiology, nutrition and food science.

CONTACT INFORMATION

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10 INSTITUTE OF FISHERY BIOLOGY



INTRODUCTION

Fishery is a traditional and economically important industry in Taiwan. The main objective of fisheries biology is to clarify the structure, dynamics of fisheries resources and the interaction with related environmental variation. For the purposes of improving research on fisheries resources, the Institute of Fishery Biology was established in 1954 based on the cooperation of the Ministry of Economics Affairs and this university. The building of the Institute sat at the back of Department of Zoology until 1983. With the expansion of research projects, a new building, Fisheries Science Building, was built and supported by the Council of Agriculture in 1983. This institute is focused on biology and ecology

of fisheries resources, including far-sea, neritic, coastal fisheries, aquaculture, and freshwater resources.

FACULTY

Full-time fellows:

Part-time fellows:

Part-time research fellow: 4

Technicians: 3

Director

Chu-Fang Lo

Ph.D., University of Tokyo,
Japan.

FACILITIES

The Institute of Fishery Biology conducts research on the biology and ecology of economic fisheries resources in far-sea, neritic, coastal fishery, aquaculture, and freshwater ecosystem. This institute has no educational responsibilities, but we provide long-term monitoring on fisheries resources in Taiwan, and support research facilities to professors, research fellows and senior students of other departments and institutes.

PROGRAMS

Our researches mainly consist in long-term monitoring of fisheries resources and ecosystems.

The recent projects are:

- (1) Far-sea squid fisheries resources: including population structure, stock assessment, fisheries oceanography, and fisheries management.
- (2) Freshwater ecosystem: including systematics of freshwater fishes, freshwater ecology, coastal watch on fishery impacts, and water pollution.
- (3) Aquaculture: including pathological studies on aquatic organisms, control of fish disease, improvement of aquatic environment, stock enhancement.

ACADEMIC ACTIVITIES

Occasional conferences are held.

CONTACT INFORMATION

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INTRODUCTION

The Committee of Fishery Extension (CFE), NTU (NTUCFE) was established in 1986 with the approval of the Ministry of Education, Executive Yuan. In the meantime, CFEs at National Taiwan Ocean University, National Sun Yat-sen University and National Kaohsiung Marine University were established, respectively. The purpose of the establishment of CFE is to coordinate fishery and aquaculture, education, research and extension of fishery and aquaculture technology, to assist fishery organization in obtaining new techniques and management in fishery work.

Four Extension Professors, one Secretary and one Administrative staff are involved in the Committee. All staff members are elected from among the professors in the College of Life Science in the field of fishery and aquaculture, except for the administrative staff. The extension professors make efforts in supporting research assignments beneficial for fishery extension.

The Committee's responsibilities include:

1. Assist fishery organization to improve the coordination of fishery extension.
2. Assist in processing courses related to the special fishery talents.
3. Provide technical services on fishery science.
4. Coordinate fishery administration and fishery extension organization to conduct the production techniques and education affairs of fishermen.
5. Consult on the technical problems in providing technical services and management information.
6. Participate in and consult for conferences on fishery and related associations.
7. Assist in electing outstanding fishermen and fishery extension staff.
8. Supply guidance for improving techniques in the related members for fishermen's association.
9. Coordinate fishery administration and hold workshops on fishing and aquaculture techniques.
10. Publish fishery extension newsletter.

The extension professors can be invited by related organizations and give circuit lectures or short-term training courses around Taiwan. The professors should visit fishery areas and give advice on resolving the problems related to fishermen.

To date the CFE has created various new concepts for the improvement of aquaculture technology. For the success of fishery industries, we will continue do our best to reach these stated goals.

CONTACT INFORMATION

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