The NTU Emblem

The NTU Emblem carries special historic significances for the university and will continue its official functions on diplomas and certificates, letters of appointments and contracts of instructors, and other formal documents. The emblem features either multi- or mono-color versions with no other visual divergences.

The New NTU Branding Presents a Fresh Outlook

NTU’s new branding is concise, modern, and cosmopolitan. It will be the designated logo for the university widely circulated at school activities and boldly emblazoned on publications, the university website, commemorative items, and other miscellanies.

The logo is crowned with an upward-pointing arrow, signaling NTU’s soaring pursuit of excellence and piercing vigor against impediments. The 21 parallel lines represent the melodious 21 chimes of the Fu bell, communicating the grace and steadiness that NTU maintains and effectuates. The stylish lines are inspired by the university’s 13-groove tiles, an original feature of the university architecture. These design facets highlight the pride of NTU in upholding our legacy bequeathed over the generations. The lines also represent NTU’s Royal Palm Avenue, hinting at the Chinese idiom: “It takes a decade to nurture a tree, but a century to cultivate a talent;” this is the way for a university to assuming the role of an enduring educationist. The letter “T” presented in the negative space of the logo stands for Taiwan which is both in the name of the university and to symbolize NTU as the top Taiwanese university since founded in 1928. The open-ended design of the letter “T” further illustrates the open and free campus as well as the boundless influence of NTU.
Contents

04
Message from the President

06
Milestones

08
Data NTU

14
Campus Learning

30
Top Research

38
Global NTU

42
A Dwelling Place for Wisdom:
90 Years of NTU Old Main Library
Message From The President

2020 was filled with challenges. COVID-19 struck, and, with its swift escalation to an intercontinental pandemic, sowed debilitating disruptions across educational institutes around the world. Facing such a severe public health crisis, NTU promptly implemented a series of countermeasures to uphold campus safety and to safeguard our exemplary environment for students and faculty. These pre-emptive initiatives ensured that NTU continues to move stalwartly onward.

Amidst a myriad of changes, NTU remains steadfast in its pursuit to become “the pinnacle of Asia and the navigator for Taiwan.” To this end, we endeavor upon four key foci: institutional innovation, talent cultivation, faculty recruitment, and international correspondence. The aim is to strengthen our capacity and influence in all areas of research, education, and social contributions.
For institutional innovation, NTU continues to pursue an ever-progressing environment rich in cultural diversity and creative entrepreneurship. Unfalteringly, we explore emerging trends and foster interdisciplinary integrations. Apart from educational and research concerns, each university policy also strengthens our social commitment in accordance to the tides of time.

For talent cultivation, NTU focuses on core capacities and material social issues. By encouraging dialogues between faculty and students across different disciplines, we perpetuate new perspectives. Through continual advancements in e-learning platforms, we hone teaching efficiency. To facilitate learning among students and members of the general public, we offer a broad selection of OpenCourseWare lessons and NTU Speech videos. Besides providing major improvements in specialization and equipment, we have also overhauled our feedback and review systems in order to monitor and adapt our talent cultivation policies.

For faculty recruitment, we make recruiting and retaining capable individuals a core mission, a necessity to combat talent loss in a global village. NTU has introduced a number of concrete measures, including advanced talent selection mechanisms, increased merit pay and bonuses for new personnel, improved academic evaluation mechanisms, and expanded flexible pay and honor systems. Concurrently, we encourage alumni and professionals to return to learn a second specialty or pursue another degree at NTU. This weaves together academic, industrial, and social resources to augment our talent attraction and retention efforts, thus cementing NTU as an enduring national conservatory for talent cultivation.

For international correspondence, NTU strengthens partnerships, creates opportunities for cooperation, and pioneers the promotion of academic exchanges in Taiwan. Besides highlighting international education and research segments with NTU’s distinct forte, we introduce new overseas educational planning methods, expand international short-term courses, offer comprehensive Chinese-language courses, and arrange dual- (multi-) degree programs while affixing our voice and value to global issues. All NTU faculty and students should exercise a global vision with a broad awareness of world affairs. Our ultimate objective is for NTU to be not only the pinnacle of Taiwan but also the zenith of the entire globe.

Quacquarelli Symonds (QS), a leading U.K. evaluator of global university performance, and Times Higher Education (THE), recently announced their 2021 world university rankings and ranked NTU respectively at 66th and 97th. These are record performances for NTU, Taiwan’s sole university in the top 100. Such recognitions are not only ratifying proofs of NTU's excellence but also constant motivators for our ongoing refinement.

During the past year, NTU’s commendable accomplishments, in terms of campus epidemic prevention, R&D achievements, innovative teaching, social responsibility, service practice, and international connections, are all emblematic of our role as Taiwan’s forerunner in higher education. In these tumultuous times, NTU will unequivocally continue “contributing higher education to the world,” and, with persistent vigor and endeavor, reify boundless possibilities by breaching new horizons.
Milestones

National Taiwan University’s predecessor, Taihoku Imperial University (TIU), was founded by the Japanese government in 1928. Following the Nationalist government’s victory over Japan in the Second Sino-Japanese War in 1945 and Taiwan’s retrocession, the ROC government took over the school, which was reestablished as National Taiwan University (NTU).

The university’s roots, however, go further back to 1895, when the Japanese instituted Taiwan Hospital, the precursor of NTU Hospital.
1937 1938 1941 1943 1945

July
Forests in Central Taiwan’s mountainous region are acquired for highland farming experiments (Highland Experimental Farm, an affiliated organization of the College of Agriculture, will be established in 1961).

1947
January
The Provisonal College of Law and Commerce (originally Tainoku College of Commerce) is annexed into NTU. The annexation includes the college campus and buildings on Xuzhou Road.

1948
March
The Faculty of Science & Agriculture is divided into two separate faculties: the Faculty of Science and the Faculty of Agriculture.

May
The Faculty of Engineering is established.

1949
January
Ssu-Nien Fu takes on the mantle of the university’s fourth president (The Fu Bell and Fu Garden are later built to commemorate him).

May
The First Demonstrative Tree Farm is handed over to NTU by the provincial government and renamed the Experimental Forest Office under the College of Agriculture the following year.

1950
January
Noted NTU alumnus, Dr. Yuan-Tseh Lee, is awarded the Nobel Prize in Chemistry.

2016
March
The Ministry of Education approves the establishment of the NTU System, which comprises NTU, National Taiwan Normal University (NTNU), and National Taiwan University of Science and Technology (NTUST).

2017
August
The Center for Continuing Education is re instituted as the School of Professional Education and Continuing Studies (SPECS).

2018
November
NTU celebrates its 90th anniversary.

December
NTU Cancer Center, funded with donations from YongLin Healthcare Foundation, is inaugurated.

2019
January 8
Dr. Chung-Ming Kuan takes office as the 12th president of NTU.

November
Due to political unrest in Hong Kong, NTU welcomes Taiwanese students and students of other nationalities at universities in Hong Kong to enroll in and study at NTU as project-based visiting students.

2020
March
Due to the COVID-19 outbreak, the start of the 2nd semester of the 2019 academic year is delayed by two weeks. Campus access control is enforced late in the month.

June
The Social Responsibility and Sustainability Report is published, presenting a comprehensive record of the university’s endeavors in campus governance, teaching, research, and social services to fulfill its social responsibility effectively and sustainably.
DATA NTU 2020-2021

Established in 1928
Students 32,974
Faculty and Staff 5,550
Note: Includes full-time faculty, adjunct faculty, staff, and contract employees
Campus Area 34,166 hectares
Note: NTU’s seven campuses occupy 1% of the land of Taiwan

5,291 international students from 63 countries
643 partner universities in 66 countries

5 out of the 6 Taiwanese members of the US National Academy of Sciences are NTU alumni.
The only Nobel Prize laureate in Taiwan, the only ethnic Chinese winner of the Turing Award, and the only two Wolf Prize laureates in Taiwan are NTU alumni.
Liberal Arts
Science
Social Sciences
Medicine
Engineering
Bioresources and Agriculture
Management
Public Health

Electrical Engineering and Computer Sciences
Law
Life Science

Center for General Education
School of Professional Education & Continuing Studies

School of Dentistry
School of Pharmacy
School of Veterinary Medicine

NTU Hospital: Jin-Shan Branch, Bei-Hu Branch, Hsin-Chu Branch, Chu-Tung Branch, Yun-Lin Branch
NTU Cancer Center

Libraries
(Main Library, Koo Chen-Fu Memorial Library, Medical Library, Law Library)

Housing a collection of over **4 million** books and **70,000** journals

**130,000** journals (including over 100,000 e-journals) and **600** databases

The first Library Automated Storage and Retrieval System (ASRS) in the country was officially launched on October 2018, adding high-density storage for 1.2 million volumes. Through the ASRS a requested book can be retrieved in 2 minutes.
Number of Faculty and Staff

5,550

**Faculty**
- Professors: 1,127
- Associate Professors: 504
- Assistant Professors: 382
- Lecturers: 16
- Total Faculty: 2,029

**Staff**
- Full-Time Staff (Including Rare Technicians): 597
- Contract Employees: 968
- Total Staff: 1,565

**Adjunct Faculty**
- Professors: 488
- Associate Professors: 200
- Assistant Professors: 307
- Lecturers: 384
- Specialists and Teachers: 130
- Research Fellows: 157
- Clinical Teachers: 286
- Total Adjunct Faculty: 1,952

**Number of Students**

32,974

**Bachelor's** (Male): 9,448  (Female): 7,325
**Master's** (Male): 7,510  (Female): 5,023
**PhDs** (Male): 2,554  (Female): 1,114

Note: The data do not include teaching assistants, researchers, project personnel, guest staff, security guards, or technical and maintenance workers.
NTU used self-financing and fundraising drives to raise more than NTD 370 million for scholarships.

The Hope Scholarship grants NT$ 60,000-100,000 to local underprivileged freshmen in their first year of college (NT$ 100,000 for students from low-income households and NT$60,000 for students from middle-low-income households and families in hardships). Recipients whose grades rank in the top 30% of their departments may continue to receive the scholarship from their 2nd year of study until graduation (the scholarship is allocated in two phases, once every semester).

Note: Includes degree and short-term exchange students

Top Research Rankings 2021: 97

QS World University Rankings 2021: 66

Global NTU

5,291 international students from 63 countries
643 partner universities in 66 countries

685 student exchange programs with 395 universities in 49 countries

NTU MOOCs have more than 1,000,000 enrollments and over 30,000 course completions.

NTU OCW offers 230 online courses and has accumulated more than 16,000,000 visits.

NTU has formed over 70 social-service groups.

The Times Higher Education World University Rankings 2021: 97

Carefree Learning

Social Responsibility

More than 14,000 students benefit.

Which were joined by 2,000 students and served more than 7,000 people.

(exclusive of all kinds of governmental grants, public scholarships, and emergency aid)
Taiwan’s COVID-19 Response Experience Published in Top International Journal

The preparedness that Taiwan has shown in the midst of the COVID-19 outbreak, including that of school campuses across the country, has been exemplary and is now recognized worldwide. An article detailing Taiwan’s experience in countering the spread of the disease was published in the Annals of Internal Medicine, a leading international medical journal. It was co-authored by Associate Professor Shao-Yi Cheng (NTU Health Center director), Professor Shan-Chwen Chang (NTU executive vice president), Professor April Chiung-Tao Shen (NTU vice president for student affairs), and Associate Professor C. Jason Wang (Stanford University School of Medicine).

The article was published online on July 2, at which time there was intense debate in the U.S. regarding the appropriateness of allowing students to attend classes in person for the fall semester, and it was cited and discussed by a number of major international news outlets, including Time magazine. Taiwan’s response to the pandemic was lauded as the blueprint for reopening colleges and universities in the U.S. and across the world. The article has also inspired 500 tweets with over a million followers.

The article mentions that when confronted with the menacing pandemic, NTU reacted swiftly by setting up a response task force and promptly announcing implementation measures. It provided guidance on ventilation and disinfection practices, infection notification procedures, safety measures to protect students, and regulations on home quarantine for international students. In addition, NTU immediately established an online
epidemic prevention contact group and began to deploy technology to implement campus building access control with “NTU Epidemic Prevention No. 1,” a temperature-taking and tracking system. This system has proven extremely effective, and as of publication no confirmed cases of COVID-19 infection were reported.

The article also focuses on the vital role played by the NTU Health Center (under the administration of the Office of Student Affairs) in keeping the epidemic in check. Established for over half a century, the Health Center is backed by the National Taiwan University Hospital (NTUH) and provides the NTU community with preventive healthcare, emergency medical care, diagnosis, treatment, and infectious disease prevention and control services, making it a comprehensive and unique campus polyclinic.

Since 1995, physicians specializing in family medicine have offered primary care at the Health Center. Our doctors provide members of the NTU community with complete medical care, and as such the center is thoroughly prepared to support the university’s epidemic prevention policies and to achieve excellent results. The center is currently staffed by two full-time physicians, Dr. Yi-Chin Lee and Dr. An-Hsuan Chih, who, together with Health Center Director Dr. Shao-Yi Cheng, graduated from NTU College of Medicine with residency training at NTUH’s Department of Family Medicine, are all professional practitioners with exceptional public health expertise.

Following the outbreak of the COVID-19 pandemic, the first challenge confronting NTU was the emergency quarantine of students returning from abroad. Based on their travel history, the center proactively arranged for home isolation (for COVID-19 contacts), home quarantine (for returning travelers), and self-management of health for faculty, staff and students returning to the country. The center also reached out to these individuals on a daily basis to ensure their well-being. More than a thousand members of the NTU community have since benefited from these services. To safeguard the campus, the center has also assisted the university in formulating epidemic prevention strategies, effectively forestalling any community spread of the virus. By sharing our experience in containing the pandemic, National Taiwan University is once more spotlighting Taiwan’s global contributions to the world.

The Taiwanese universities COVID-19 pandemic countermeasures article, co-authored by NTU Health Center Director and Associate Professor Shao-Yi Cheng, NTU Executive Vice President and Professor Shan-Chwen Chang, NTU Vice President for Student Affairs and Professor April Chiung-Tao Shen, and Associate Professor C. Jason Wang of Stanford University School of Medicine, was published in the Annals of Internal Medicine.
Nurturing Global Leaders

To nurture global leaders, NTU established a variety of scholarships, including the PhD Direct-Entry Program and the Outstanding PhD Award. These benefits help students concentrate on their research and studies while attracting outstanding young scholars from Taiwan and abroad to pursue doctoral studies at NTU.

Continuance Research for PhD Scholarship

NTU piloted a test version of the Continuance Research for PhD Scholarship in the 2016 academic year, supporting each of the 60 accepted students, who continued directly to respective PhD programs after their undergraduate/graduate degrees at NTU, with a monthly grant of NT$ 24,000 for three years. The program was officially launched in the 2018 academic year, with the number of recipients increased to 100. Starting from the 2017 academic year, the program was open to students at other member universities in the NTU System. In the 2019 academic year, the total number of enrollments was raised to 151.
The number of students enrolled in the PhD Direct-Entry Program (2013-2019 academic years)

<table>
<thead>
<tr>
<th>Year</th>
<th>Enrollments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>69</td>
</tr>
<tr>
<td>2014</td>
<td>65</td>
</tr>
<tr>
<td>2015</td>
<td>95</td>
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<td>2016</td>
<td>93</td>
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<td>2017</td>
<td>97</td>
</tr>
<tr>
<td>2018</td>
<td>92</td>
</tr>
<tr>
<td>2019</td>
<td>151</td>
</tr>
</tbody>
</table>
Scholarship for Outstanding Doctoral Students

Jointly offered by NTU and the Ministry of Science and Technology, this scholarship was awarded to 53 students in the 2019 academic year and 58 in the following year. The scholarship, with a monthly stipend of NT$ 40,000 for four years, is open to domestic, international, and overseas Chinese PhD students across all fields at NTU.

Key Technology Doctoral Scholarship

Funded by the Xin Miao Education Foundation, NTU began awarding the Key Technology Doctoral Scholarship to local students in the 2019 academic year. Students from the following six designated disciplines are eligible: electrical engineering, information engineering, communications engineering, artificial intelligence, biomedical engineering, and sustainable development. Every awardee receives a monthly grant of NT$ 30,000 for three years.
Cultivating Global Professionals

To nurture professionals who are competitive and versatile on a global scale, the International College of NTU established cross-college, interdisciplinary master’s and PhD degree programs conducted in English that highlight Taiwanese industry and culture.

For the initial stage, the college is focusing on three main fields: biological agronomy, sustainable disaster prevention, and smart technology. It first launched the Master Program in Global Agriculture Technology and Genomic Science (Global ATGS), with the inaugural class in September 2020. Next it will establish the Master’s Program of Biodiversity, which will welcome the inaugural class of students in fall 2021.

The college is also planning to collaborate with world-renowned universities abroad to establish degree-based or specialized programs, including joint degrees and credits. Promoting bilateral cooperation, observation, and scholarship with established international institutes will enable NTU to attract outstanding students from neighboring countries, thus expanding Taiwan’s talent pool.

In addition, the college will establish specialized online and short-term programs in the three main fields mentioned above, providing students with a wider variety of study options. The International College, which marks a new milestone in NTU's achievements in globalizing higher education, will continue to propel Taiwan across the world-stage by dutifully observing national and global sustainability.
Strategic Spectrum of Talent Development

- Expertise development
- Bachelor’s honors programs
- Specializations
- Department majors
- Credit programs
- Interdisciplinary specializations
- Minors
- Double majors
- Independent-study programs
- Non-departmental programs
- Cross-disciplinary innovation
Expertise Development in Interdisciplinary, Innovative Education

To cope with international changes and to meet social demand, NTU proposed a strategic spectrum of new-era talent cultivation that incorporates general-skill training, expertise development, and cross-disciplinary innovation throughout our general education and departmental specialization curriculum. This curriculum highlights NTU’s accomplishments in advanced and frontier research while fully leveraging a diverse learning environment. Besides the existing double majors and minors, we provide a more comprehensive and flexible combination of options for students in all fields.

For expertise development, we established bachelor’s honors programs that encourage academically promising students to cultivate their expertise through advanced courses and a bachelor’s thesis. In addition, departments are actively grouping and incorporating courses with different foci (e.g., theory, methodology, and application) under one specialized branch based on related core capabilities and career paths. By so doing, we strengthen connections between courses while integrating theory and practice to more effectively enhance students’ learning motivation.

For cross-disciplinary innovation, our long-term goal is to offer alternative academic options such as non-departmental programs and interdisciplinary independent-study programs. The objective is to encourage students to explore a related field systematically, establish practical learning goals, and develop interdisciplinary problem-solving capacities and innovations.
Electronic Academic Services

E-Academic Affairs

NTU began providing e-transcripts on June 15, 2020, enabling students and alumni to more conveniently access their university records for further studies, job applications, or record-keeping without being limited by time or place. Generated in PDF format, an e-transcript consists of a credibility statement, academic records, and notes on grading. Our e-transcripts support third-party online verification and can be accessed and verified by Adobe Acrobat Reader with digital signatures and timestamps. The launch of e-transcripts further upgrades our administrative services and upholds NTU’s determined commitment to sustainability.
Study at Ease Measures

In response to the COVID-19 pandemic, NTU introduced “Study at Ease” measures for students who were unable to enter Taiwan due to the pandemic in the 2nd semester of the 2019 academic year. These measures included reducing tuition fees, integrating courses of the three member universities of the NTU System to offer synchronous or asynchronous online courses, adjusting course content and grading, extending the term of study for students unable to enter Taiwan, and discounting any pandemic-induced suspension toward the maximum permissible period of suspension. By introducing these measures, we ensured continuous learning and protected students’ right to education.
Bachelor's Honors Programs

To encourage undergraduate students with research potential to engage in research activities, NTU issued the Review Guidelines for the Undergraduate Student Thesis Award in January 2016. From 12 recipients in the first year (2017) to 31 in the fourth year (2020), NTU has seen more and more students aspire to take an academic career path. Originally, a total of 27 departments offered specialized courses for juniors and seniors, including Seminar, Special Topics, and Thesis Writing. To extend such option to sophomores, we introduced the Implementation Guidelines for Bachelor's Honors Programs in June 2020. These new guidelines encourage 2nd year or above undergrads interested in research to utilize the departments’ specialized advanced courses to build an appropriate knowledge base, improve research capabilities, and determine their research fields and directions. Upon the completion of relevant courses and thesis approved by the departments and the Office of Academic Affairs, prospective students will earn the right to emblazon “Bachelor’s Honors Program” on the their diplomas, transcripts, and other related certificates.
Social Responsibility and Services

NTU students have always manifested their care and compassion for their surrounding land and people through various commendable undertakings. In the 2019 academic year alone, a total of 74 social service teams were formed and sent to places across Taiwan and abroad, involving 2,043 students and serving approximately 10,908 people. NTU offers over 700 service-learning courses every semester, raises subsidies for specialization and remote-area services, and supports long-term, region-specific service projects. Our exemplary initiatives, such as NTU Ladakh Overseas Medical Service Team, World Volunteer Society, and Malaysia Overseas Medical Service Team, encourage and allow students to extend their concern for underprivileged people abroad and to participate personally in international volunteer work.

The Social Devotion Special Award and the Altruistic Award commend altruism in students who enthusiastically value their social responsibility and tirelessly devote themselves to the well-being of the underprivileged. Recipients of the 2020 Social Devotion Special Award are as follows:

WANG, WEN-YI

Wang initiated the “Hospice Care Service Team,” which promotes “peaceful passing” via diversified care and individual needs. Through a series of physical and mental exercises as well as life education activities, the general public, especially present-day youths, are encouraged to appreciate and respect life further.

Global Health and Service-Learning Club

The club is an overseas service team dedicated to the health of the underprivileged in Ladakh, India. From a local perspective, the club aims to develop a model of "empowerment aid," helping the community establish a system of autonomy and bringing about long-term and lasting changes in the region.

Epidemic Prevention Corps

As COVID-19 continues to ravage the globe in 2020, the corps, by combining automated forehead thermometry and access control, has successfully implemented a smart digital control tracking system for epidemic prevention. The EPC has safeguarded the lives of more than 70,000 people on campus and continues to contribute its expertise in the ongoing battle.

In addition, the NTU Comprehensive Support Program for Underprivileged Students was launched to meet the need of economically or culturally underprivileged students. The six major areas of the support program include empowerment, financial support, academic studies, international exchanges, career development, and cultural and social services.
Striving for a Sustainable, Brighter Future
NTU Publishes Inaugural USR Report and Sustainability Blueprint

An upstanding university does not shirk away from shouldering its social responsibilities. NTU has always played an active and critical role in the face of various global and local challenges. As NTU teachers, students, and alumni utilize their specialized knowledge and abilities to bring profound influences to the professional fields in which they serve, NTU released its first University Social Responsibility Report (USR Report) in June 2020, detailing the school’s sustainable development and social responsibility achievements in the areas of university governance, teaching, research, and service.

The report encompasses the long-term contributions of NTU teachers and students in fields such as health care in remote areas, global public health, disaster response, food and agriculture education, long-term care services, smart cities, and energy transition. It adopts the Sustainability Tracking, Assessment & Rating System (STARS) in accordance with international trends in higher education, and echoes the United Nation’s Sustainable Development Goals (SDGs). Hopefully, the publication of this report encourages more teachers and students from colleges and universities at home and abroad to undertake further social responsibilities and to generate greater social impacts. In the future, NTU will continue to periodically publish USR Reports, which serve as a management tool for self-inspection and self-improvement. The university will live up to the ideals of the SDGs as it strives for a sustainable future.

To download the USR Report in English, please go to:

The 5 Goals of our Sustainability Blueprint
iNTU for Future

- Sound Campus Governance
- Nurture Talent in Innovation
- Pursue Elite Teaching and Research
- Link Local Communities to the World
- Towards a Sustainable Future

STRENGTHEN MORE
INSPIRE MORE
CHALLENGE MORE
ENGAGE MORE
REALIZE MORE
From Campus to Corporate: A Broad Avenue for NTU Students

To equip students with required workplace skills and to increase their competitiveness, NTU has devised a learning framework for career development. Besides offering career aptitude evaluation and counselling, diverse competency development courses and programs essential for cross-disciplinary and international talent, such as “Globalized Talent Development Camp,” “Introduction to Business Administration,” and the “NTU AI Series Lectures”. NTU also launched the National Taiwan University Internship Program (NTUIP), with a total of 4,174 recorded internships in 2019, to encourage students participation in internships by providing new project-based or overseas internship opportunities so as to bridge academia and industry and to effectuate knowledge and practice.
D-School@NTU - We inspire societies to change our world for better futures.

D-School is committed to promoting interdisciplinary education and action-based learning. It features course series surrounding “innovative education,” “university social responsibility” (USR; community revitalization), the Creativity and Entrepreneurship Program, and the Leadership Program, as well as a makerspace for students to develop hands-on capabilities and validate their proposed solutions. By widely inviting all faculty and students to join D-School while offering in-depth perspectives in the two specialized programs, we encourage community-based social innovations. At the same time, by leveraging USR-related external resources, we boost creativity, innovation, entrepreneurship, and revitalization, turning these traits into our competitive edge over other universities in Asia.
Students Gain Hands-On Experience in Rural Agriculture

Associate Prof. Hiroshi Takeyama led a delegation from the Awaji Landscape Planning & Horticulture Academy (ALPHA), a partner university of NTU, to participate in the course “Rural Agriculture Work Experience” in Yilan from November 30 to December 1, 2019. Launched by Dr. Ho-Chia Chueh, associate professor of NTU’s Department of Bio-Industry Communication and Development, this course is a part of “University PLUS,” a new social responsibility platform that promotes environmentally-friendly food consumption and lifestyles.

Associate Prof. Chueh started the initiative of countryside agricultural experience in 2015, taking dozens of students to Shengou Village, Yilan to assist local farmers in their farming activities.

Based on hands-on pedagogical practice, this course provided students from non-agricultural backgrounds with the opportunity to learn about and experience the varied aspects of agriculture, being a farmer, and rural life. It helped the students understand agriculture on a personal level, namely, to realize that farming is more than just a job and that farming is an indispensable part of life.

In this course, students with an agricultural background attempted to solve rural developmental problems through hands-on field investigations. By participating in farm work and getting to know local farmers, the students learned to appreciate not only the importance of food production but also the value of farming villages, agriculture, and farmers.

Throughout the course, farmers enlightened the students about their work, the plight of rural development, as well as present-day agricultural issues. Over time, with the village serving as a base for hands-on learning, NTU faculty and students have become a vital driving force in realizing rural revitalization.

Students from both NTU and ALPHA spoke at length with the farmers about the aging rural population, the opportunities for young farmers, and how to improve citizens’ understanding of the relationship between agriculture and daily life.

Associate Prof. Takeyama fully endorsed this hands-on course as it offered students a new learning experience through farming while substantiating further collaboration and exchange between NTU and ALPHA.
“Action Incubation”: Starting with Problems, Fueled with Actions

With problems as a starting point and actions as fuel, D-School students and youths of the current generation across Taiwan apply such “action incubation” to help make the world a better place. While it is not possible to save the society or overcome life’s hardships simply by taking part in an activity, we, through our efforts, were able to test the limit of our actions and to see that everyone is a factor of change and that uncertainty was not as frightening as we imagined.

The third round of the “Rethink Taiwan 2027” program lasted for 98 days and closed on Pitch Day on December 28, 2019. Participating teams presented their entrepreneurial proposals while action partners and professionals served as jury members and offered their feedback. The jury provided professional support as the prize for the winning teams, encouraging and assisting them to continue their actions so the event would be more than a one-time competition.

By organizing the “Rethink Taiwan 2027” program at the commission of the Youth Development Administration of the Ministry of Education, NTU D-School intends to build an action incubator that targets social issues and integrates resources across public and private sectors. We encourage youths to make their business ideas a reality and develop critical thinking by observing real problems as field researchers. By asserting their own capabilities while realizing the importance of practicing social collaboration in daily life, our youths are on their path to realizing their dreams.
D-School Facilitates Senior High School Exchanges between Taiwan and Japan

As the 2019 new curriculum guidelines take effect, colleges and high schools have been working together to incorporate diversity into their curriculums.

NTU D-School has collaborated with various local high schools to transform existing educational models in the past few semesters. For greater reach, on December 30, 2019, D-School invited Japan’s Toyooka Senior High School to an international exchange event hosted by D-School Director Bing-Yu Chen, with participants from Wesley Girls High School and Jhih Shan High School.

At the event, students from Taiwan and Japan participated in five games, designed during three semesters of collaboration between the D-School and Wesley Girls High School, on sustainable development and the circular economy. Chi-Ping Li, the teacher in charge of the high school’s practical education curriculum, commented that the 18 months of collaboration between NTU and Wesley Girls High School have already given the students an opportunity to learn more about such important subjects as natural disaster prevention, food and agriculture, and game design.

This event integrated reality-inspired gaming experiences with Taiwan-Japan cultural exchanges. Besides fulfilling USR, D-School students interacted with high school students and proposed various interdisciplinary, innovative course designs for the new curriculum guidelines. By marking a successful collaboration among universities, high schools, and local communities, the event opened more opportunities for future international exchanges.
Top Research

Breaking a 50-Year Theoretical Bottleneck in Near-Infrared OLEDs

Unveiling the Black Box of AI: Explainable Facial Recognition

NTU-TKU Team Advances Typhoon-Related Flood Forecasts by Two Days

Major Findings in Early Lung Adenocarcinoma Detection
Breaking a 50-Year Theoretical Bottleneck in Near-Infrared OLEDs

Prof. Pi-Tai Chou led a multinational team to resolve a 50-year theoretical bottleneck and realize the application of near-infrared OLEDs in large-surface 2D and flexible components used in biomedical infrared imaging, infrared medicine, infrared recognition on handsets, and distance measuring and night vision devices. The team published its findings under the title, “Overcoming the Energy Gap Law in Near-infrared OLEDs by Exciton–Vibration Decoupling,” in the leading photonics journal Nature Photonics in June 2020.

Prof. Chou joined Prof. Yun Chi of National Tsing Hua University and his student Sheng-Fu Wang to design and synthesize new Pt(II) complexes, enabling spontaneous self-assembly of these complexes through intermolecular coupling and extending their emission wavelength to an unprecedented 960 nm. Other collaborators include Prof. Liang-Sheng Liao of Soochow University in China, Prof. Wen-Yi Hung of National Taiwan Ocean University, and Prof. Hsiu-Fu Hsu of Tamkang University in Taiwan. The most challenging part of this study was conducted by lead author Yu-Chen Wei, a doctoral student of chemistry at NTU, who used theory and experimental observation to overcome a 50-year assumption that high-performance near-infrared OLEDs are impossible to achieve, laying a foundation for potential research on near-infrared OLEDs, and its practical applications in the industry.

*Nat. Photonics* (2020).
Unveiling the Black Box of AI: Explainable Facial Recognition

A team led by Prof. Winston Hsu at the MOST Joint Research Center for AI Technology and All Vista Healthcare (AINTU) presented xCos, a facial recognition module with explainable AI developed under the support of the Ministry of Science and Technology (MOST). Pioneeringly applied to facial recognition, this explainable AI (XAI) module not only explains recognition results but also facilitates deep learning networks involving millions of parameters. To expand application, the team made this XAI module compatible with other facial recognition systems and shared it as open source software for industry/research teams at home and abroad (https://github.com/ntubiolin/xcos). The team is also seeking to extend XAI to other fields where key AI solutions commonly omit clear and sound explanations. For example, where AI only suggests that a power plant increase output in the following hour, XAI can also offer valid justifications for its suggestions (e.g., predicted weather changes or special holidays). Besides reading an X-ray image to identify signs of lung cancer, XAI, as opposed to conventional AI, can further interpret the deductive results and project the possible positions of manifestation with the prescribed symptoms. XAI applications enhance people’s trust in AI and help system developers examine the rationale and reliability of AI’s interpretations, thus improving AI models and advancing AI-related technology and industry both in and outside of Taiwan.

NTU-TKU Team Advances Typhoon-Related Flood Forecasts by Two Days

Typhoons often bring torrential rains, leading to tremendous floods in a matter of hours. With Taiwan's steep terrain and short rivers, the downpour could quickly fill up reservoirs and cause enormous pressures and risks associated with flood discharge. A multinational research team led by Prof. Fi-John Chang of NTU’s Department of Bioenvironmental Systems Engineering has now developed AI technology to predict flood patterns two days in advance based on projected typhoon tracking, significantly enhancing the timing and accuracy of flood warnings as well as the effectiveness of reservoir flood control and integrated water resources management. This study was published in the internationally renowned journal *Nature Communications*.

Reservoir management faces the dilemma of minimizing damage from storms and floods while maintaining a high water level to meet demands. The research team collected hydrological and meteorological data of 97 typhoons during the past five decades, extracting complex high-dimensional data structures with AI technology for typhoon track cataloging and flood forecasting. After capturing complex correlations among typhoon tracks, flood history, hydrological data, and geographical features with AI technology, the team developed a model that is capable of predicting flood patterns and total rainfall two days in advance. With live data from the Central Weather Bureau, this model provides responsive updates on the flood forecast as the typhoon progresses, substantially enhancing forecast accuracy and timeliness.

Major Findings in Early Lung Adenocarcinoma Detection

Dr. Pan-Chyr Yang, professor of internal medicine at NTU Hospital, and Prof. Yu-Ju Chen, director of the Institute of Chemistry, Academia Sinica, collaborated with Academia Sinica, Taipei Medical University, and Taichung Veterans General Hospital, to generate multiomics big data using documented lung cancer cases in Taiwan, and discovered that lung cancer is associated with the prevalence of the APOBEC mutational signature in the human body as well as exposure to carcinogens. The research consortium also defined a new subtype of lung cancer and demonstrated its differences in oncogene mutations. The findings contribute toward accurate early detection of potential clinically high-risk lung cancer patients.

This achievement marks the first collaboration between the Taiwanese consortium and the Clinical Proteomic Tumor Analysis Consortium (CPTAC) of the United States. The researchers worked together to unveil the underlying biology of lung cancer in patients from both countries through proteogenomics. Two independent papers were simultaneously published in the top international journal Cell on July 9, 2020. They were jointly featured on the journal cover for facilitating the development and research of innovative diagnostic methods and new drugs using proteogenomic big data.

*Cell* (2020) 182, 226-244.
Global NTU
Enhancing Extensive International Collaborations

Launching the Strategic Partnership Project: Having recently formed ties with 652 renowned universities abroad, NTU has focused its internationalization efforts on expanding the scope of these relationships. The Strategic Partnership Project follows this aim by strengthening ties with key partners, including the University of Illinois at Urbana-Champaign, the University of Sydney, the University of Tokyo, and Kyoto University. By holding corresponding bilateral events and by providing initial collaboration funds, NTU deepens and broadens international exchanges with its potential partners. Furthermore, NTU promotes funded seed programs for international collaborations and interdisciplinary research teams to encourage discussions between teachers and students to find solutions to current social problems.

Joining International Higher Education Organizations: In order to raise international visibility and enhance academic social impact around the world, NTU strengthens ties with international organizations such as APRU, AEARU, ASAIHL, and SATU. It joins with partner universities in synergizing speeches at the annual conferences of international higher education organizations such as APAIE, AIEA, and NAFSA. In addition, NTU collaborates with AEARU to launch online classrooms, which facilitate interaction among teachers and students of universities in the organizations. These initiatives have provided NTU with the most international recognition among the academic institutes here in Taiwan. The creativity and flexibility NTU displays in international exchanges impressed Minerva Schools at KGI, an innovative and experimental campus-free university that enlisted NTU as a learning base, making Taipei one of only seven viable cities across the globe for Minerva students.
Strengthening Students’ International Mobility, Cultivating International Talents

Diversifying Study Abroad Programs: Reinforcing international perspectives of students has always been a critical strategy at NTU. By offering nearly 700 exchange student programs in 49 countries, NTU sends around 1,300 students abroad for exchange, short-term study, or internships every year, enabling nearly a third of the student body to study overseas before graduation. These programs not only provide students with international exposure but also serve as channels for professional training and foreign language proficiency. NTU cooperates with several prestigious universities in organizing around 60 dual-degree and triple-degree programs while developing diverse co-learning models such as GIP-TRIAD. Furthermore, overseas summer programs let NTU students study and conduct research during summer vacations at esteemed universities such as Stanford University, the University Oxford, and the University of Heidelberg. Participants receive complete training in professional courses while experiencing diverse cultures.

Encouraging Students to Pursue Their Dreams Abroad: To broaden students’ international perspectives and experiences, to facilitate academic and cultural exchanges with other higher education institutions across the globe, and to cultivate future talents with international competitiveness, NTU adroitly utilizes the Sprout Project to offer financial grants to exchange students from low income households. In addition, the Y.L.Lin Hung Tai Education Foundation provides Yu Lin Scholarships to nurture international talents in Taiwan in six major fields: media literacy, knowledge society, aging society, industrial innovation, regional positioning, and immigrants and migrant workers. Moreover, the National Taiwan University Voyage of Aspirations Scholarship was launched in 2019 to open more doors for underprivileged students to join exchange programs. With the support of the scholarship, the financial burden of studying abroad is greatly mitigated, so students can fully develop their international competitiveness and freely explore potential opportunities on the international stage.
Building an Internationalized Campus by Enrolling Overseas Talents

Designing International Degree Programs: In order to build a campus that is friendly to international students, NTU provides courses taught entirely in English to nearly 1,000 international degree students and dual-degree students. The international degree programs, which focus on both professional knowledge and practices, are application-oriented, with an emphasis on internships and hands-on learning. By actively cooperating with the industrial sector at home and abroad, the programs offer internship opportunities that closely connect learning and work. There are 53 degree programs available in English, including civil engineering, agricultural economics, the Global MBA, MSc/PhD in Global Health, as well as a cross-college, cross-disciplinary master’s degree program that combines Global Agriculture Technology and Genomic Science (Global ATGS) with the Biodiversity Program.

Offering Diverse Courses and Activities on Campus: NTU provides more than 1,000 courses taught fully in English as well as additional courses taught in more than 10 different languages for the benefit of nearly 1,200 exchange and visiting students. With more professional courses available in multiple languages, international students have a wide range of choices available. There is also NTU Plus Academy, which offers short-term programs for international students and Chinese language courses. Other bonding events, featuring Taiwanese and international cultural exchange, include the World Carnival Festival, the Chinese New Year Ceremonies, and the Indonesian Culture and Language Corner. Around 800 overseas students take part in free Chinese language courses each semester, and NTU recruits and trains student ambassadors to serve as counselors in short-term programs. By encouraging participation in campus-wide international activities, NTU bonds both local and overseas students in a truly a globalized campus.
As a Member of the International Community, NTU Has Global Responsibilities

Bearing Responsibility for Global Issues: NTU subsidizes teachers and students to join international organizations and conferences such as Global Health, Women Leadership, and Sustainable Cities and Landscape to promote cooperation in professional fields related to sustainability. Currently, we are collaborating with various teams to tackle urban problems defined in the Sustainable Development Goals by the UN. In addition, NTU launched the Hong Kong Visiting Students Special Project in 2019, in which nearly 400 international students in Hong Kong were unconditionally accepted into programs at NTU. Moreover, the pioneering COVID-19 Special Visiting Student Program brought 287 doctoral and master’s students from nearly 40 partner universities across Europe, the U.S., Asia, and Australia to study in NTU as visiting students. Many partner universities followed this lead or arranged new cooperation projects with NTU to adapt academic exchange in the face of the COVID-19 pandemic.

Improving Administrative Knowledge and Capabilities in Handling of International Affairs: In order to strengthen connections with international administrative personnel, NTU continues to implement important measures such as staff exchange plans connected to the Erasmus+ European Union program, the week-long NTU Family Meeting event (with representatives from 22 partner universities in 10 countries), and the 13th University Administrators Workshop (with representatives from 23 universities in 12 countries). NTU also recommended executive officers of international affairs to participate in staff exchange programs at the University of California, Davis in the U.S., the University of Hamburg in Germany, the University of Sydney in Australia, and Chulalongkorn University in Thailand. In addition, NTU organized two-week learning workshops for administrative personnel in cooperation with prestigious universities such as Kyushu University in Japan and Kuwait University in Kuwait. In the workshops, staff share their internationalization experiences, take part in international exchanges, and become immersed in international environments, all of which provided learning opportunities through both observation and practice.
A Dwelling Place for Wisdom: 90 Years of NTU Old Main Library

Introduction

Construction on NTU Old Main Library began in 1929 during the period of Taihoku Imperial University (TIU; predecessor of NTU), with the front building completed on November 29. In celebration of the library’s 90th anniversary in 2019, the exhibition “A Dwelling Place for Wisdom: 90 Years of NTU Old Main Library” was jointly curated by NTU Library, the Gallery of NTU History, and the NTU Museums to commemorate the building’s previous functions as a library, a historic theater, and a university history gallery, as well as its future potential to become a museum. It is our hope that by presenting the Old Main Library’s cultural and historical significance, we may win your support to remodel the historical monument into a museum that preserves and passes on knowledge.

Features of a University Library

Libraries can be categorized into national libraries, university libraries, public libraries, specialized libraries and information centers, and school libraries.

The library is the heart of a university, serving the purposes of teaching/research support and cultural preservation for both faculty and students. The duties of a university library are to provide data and resources required for teaching and research, to preserve and convey knowledge through a variety of media, to support university education and research, and to archive research records. A longstanding university library is a veritable trove of cultural treasure.
From TIU to NTU

During Japanese colonial rule, TIU adopted the chair-faculty system from Germany for teaching and research at the early stage of its establishment. Each faculty and its professors led the procurement of faculty-specific books and journals, setting up their own libraries where all the books purchased on campus were separately collected and managed. Students could check the union catalogue at the Main Library to locate all the libraries on campus. This decentralized mode of library management ended in 1998 when NTU moved its main library from the Old Main Library to the New Main Library at the end of Palm Boulevard, and consolidated all 34 individual department libraries under the same roof.

During the TIU period, the library adopted the then-advanced Universal Decimal Classification (UDC) for cataloging. After WWII, recognizing the shortcomings of UDC, in 1950 NTU Library abandoned the system and turned to new classifications out of practical needs. The New Classification Scheme for Chinese Libraries was used for Chinese books while the Library of Congress Classification was adopted for books in Western languages. The Medical Library on the Downtown Campus catalogues books according to the National Library of Medicine Classification.

The Earliest Library on Campus

The earliest library on campus dated back to the library of the Taihoku College of Agriculture and Forestry (now National Chung Hsing University). With four graceful Corinthian columns inside, the library encompassed the present-day VIP Room and the Office of Vice President for General Affairs within the Administration Building. After the college was integrated into TIU, the library space was first remodeled as a military instructors' room and then later refurbished as a major meeting room during the post-war NTU period prior to its current incarnation.
Old Picture Gallery

For 90 years, the Old Main Library has borne the memories of so many NTU members. Let us travel back in time and see a piece of that history!

Milestones of the Old Main Library

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>Nov. 29, 1929</td>
<td>The TIU Affiliated Library Office (front building of the Old Main Library) is completed.</td>
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<tr>
<td>Sept. 8, 1931</td>
<td>The TIU Affiliated Library reading room and stack room (rear building of the Old Main Library) are completed.</td>
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<tr>
<td>June 1956</td>
<td>Extensions to the east and west wings of the rear building of NTU Library (now the Chyun-liu Exhibition Hall of the Gallery of NTU History and the Museum of Anthropology) are completed.</td>
</tr>
<tr>
<td>Oct. 4, 1972</td>
<td>Extension to the east wing of the front building of NTU Library (now the office of the Graduate Program of Teaching Chinese as a Second Language) is completed.</td>
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Document recording the date of completion of the front building of the Old Main Library. (Source: University Archive No. uh0501172, NTU Library)

Reading room of the Old Main Library in 1950 (now a permanent exhibition area of the Gallery of NTU History). The quaint wooden round chairs, featuring smooth swiveling seats, were all unfortunately discarded during the 1998 relocation.
Extension to the west wing of the front building of NTU Library (now housing research rooms of the Department of Chinese Literature) is completed.

NTU Library is moved to the new building and the Old Main Library becomes available to departments under the College of Liberal Arts.

The reading room in the rear building is remodeled as the historic theater of the Department of Drama and Theatre.

The reading room in the rear building is remodeled as the Gallery of NTU History.

The west wing of the rear building is renovated as the Museum of Anthropology.

April 13, 1982

1998

2000

June 22, 2005

Nov. 2011

A picture from the graduation yearbook of the 1978 academic year shows that diligent students lined up early in the morning to access the library.

(Source: Special Collections, NTU Library)

Old Main Library (above) and New Main Library (below)

The visual resemblance is due to the fact that the current library adopted a similar façade to memorialize its predecessor.

Students of drama and theater present All in the Timing, adapted from a play by famed playwright David Ives (Director: Gwen Yao) in their 2003 production.

(Source: Department of Drama and Theatre)
互动式电子地图查询
Interactive map of the NTU Campus
http://map.ntu.edu.tw