2024-2025

# National Taiwan University

# in FOCUS

# NATIONAL TAIWAN UNIVERSITY IN FOCUS

2024 - 2025

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# MESSAGE FROM THE PRESIDENT

It is with great pride that we share the recent highlights of NTU's continued pursuit of academic excellence, innovation and societal contribution. At NTU, we remain steadfast in our commitment to fostering a dynamic academic community distinguished by world-class research and transformative education. Our persistent investments in infrastructure, faculty and research ensure that NTU remains at the forefront of addressing both local challenges and global issues.

A cornerstone of our institutional progress this year is the ongoing development of the Zhubei Campus, envisioned as a premier hub for cutting-edge research in semiconductor technology, quantum sciences, artificial intelligence (AI) and smart healthcare. These strategic areas are not only pivotal to NTU's growth, but also integral to Taiwan's technological advancement and economic resilience. In addition, the establishment of the Next-Generation Smart 3D National Land Information Center represents a milestone in our commitment to promoting sustainability with data-driven environmental solutions.

Our faculty continues to lead pioneering interdisciplinary research that advances key technologies and offers new healthcare and sustainable solutions. From the creation of new chip-based models for drug testing, to AI-powered robots assisting with early dementia screenings, our researchers integrate advanced technologies with public health. In the face of escalating environmental threats, our faculty utilizes scientific innovations and medical expertise to overcome emerging health hazards.

Education remains at the core of NTU's mission. Breaching the traditional disciplinary boundaries of classrooms and departments, we continue to develop interdisciplinary programs that empower students to excel in a rapidly changing global landscape. Through our NTU Beyond Borders initiative, students have a diverse range of international opportunities that broaden their perspectives and prepare them for leadership roles in an interconnected world.

At the same time, we are equally committed to preparing students to launch successful careers. By partnering with domestic and international institutions, our growing internship programs enable students to translate their classroom learning into professional experience. Among these programs, the International Mentorship Program was recognized with two international awards this year.

NTU's impact extends beyond academia, reaching communities far and wide. From pioneering advancements in medical science to leading sustainable agricultural practices, NTU continues to make meaningful strides in improving lives. This year, we proudly launched the Top 100 Contributions initiative to recognize NTU's most significant achievements across research innovation, industry collaboration, and social welfare.

As we look ahead to our centennial celebrations in 2028, we are driven by the vision of NTU as a university that empowers its students, faculty and alumni to be leaders, innovators and change-makers. Together, we will honor our legacy while shaping a brighter, more impactful future for generations to come.

Wen-chang Chen

**Wen-Chang Chen**
**President**
**National Taiwan University**

# NTU FOCUS

## Base

- 34,000+ students
- 6,400+ faculty members
- 17 colleges
- 61 departments
- 152 graduate institutes
- 100+ research centers

## Employability

- QS Graduate Employability 2022: 51
- THE Global Employability Rankings 2024: 80
- No. of patents obtained: 3873
- No. of startups: 36

## Global NTU

- 7000+ International students from 96 countries, comprising 22% of all students
- 11% International Faculty
- 750+ study abroad programs in 54 countries
- 100+ dual degree programs in 20 countries
- 1300+ students studying abroad



## USR & Reputation

- NTU manages approximately 1% of Taiwan's total land area.
- 25 NTU alumni are members of the US National Academy of Sciences.
- Alumni include the only Taiwanese recipient of the Nobel Prize, the only two Taiwanese recipients of the Wolf Prize and the only ethnically Chinese recipient of the Turing Award.

QS WORLD UNIVERSITY RANKINGS

- QS World University Rankings 2024: 69
- QS Asia University Rankings 2024: 21

THE Times Higher Education

- THE Impact Rankings 2024: 55
- THE World Reputation Rankings 2023: 126-150

# DATA

## Top Research

- Ranks in top 1% of the world in 19 Essential Science indicator metrics
- 800+ highly cited papers
- Citation frequency rose by 200% in the last decade

01

02

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# NTU AWARDS AND HONORS

**01** Professor Chih-Kung Lee of the Institute of Applied Mechanics became a fellow of the US National Academy of Inventors in 2024, the highest honor for academic inventors.

**02** Professor Pei-Jer Chen of the College of Medicine was awarded the 2025 Baruch S. Blumberg Prize by the Hepatitis B Foundation, which recognizes scientists who have made outstanding contributions to the research of hepatitis B.

**03** NTU ranked 21st out of 794 universities globally in the first Interdisciplinary Science Rankings published by Times Higher Education in November 2024.

**04** HoloXMed, designed by Dr. Chieng-Chang Lee of NTU Hospital's Department of Emergency Medicine, won the gold medal in the engineering and robotics cutting-edge tools category at the 2024 Edison Awards.

**05** Professor Cho-Yun Hsu, a distinguished alum of NTU and scholar of Academia Sinica, was awarded the 2024 Tang Prize in Sinology for his contributions to Chinese history.

**06** At the 46th International Collegiate Programming Contest World Finals in April 2024, NTU earned a bronze medal, ranking 12th out of 263 teams. Professor PJ Cheng of the Department of Computer Science and Information Engineering received the Senior Coaching Award.

**07** NTU ranked 58th globally in the US National Academy of Inventors' "Top 100 Worldwide Universities Granted Utility Patents in 2023," released in February 2024. NTU granted 55 patents, surpassing top institutions like Kyoto University and Oxford University.

**08** In the QS 2025 World University Rankings by Subject, seven of NTU's academic disciplines were ranked in the top 50, and 38 were ranked in the top 100.

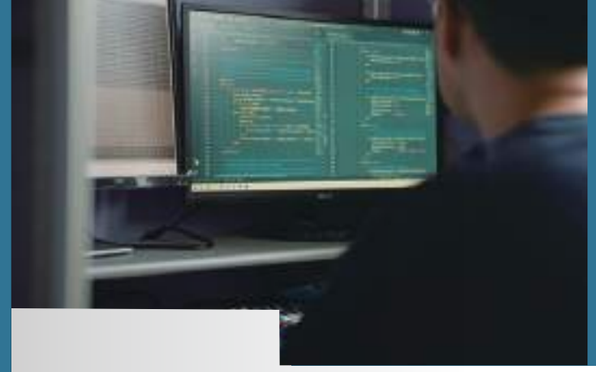
# RESEARCH TO ADVANCE US

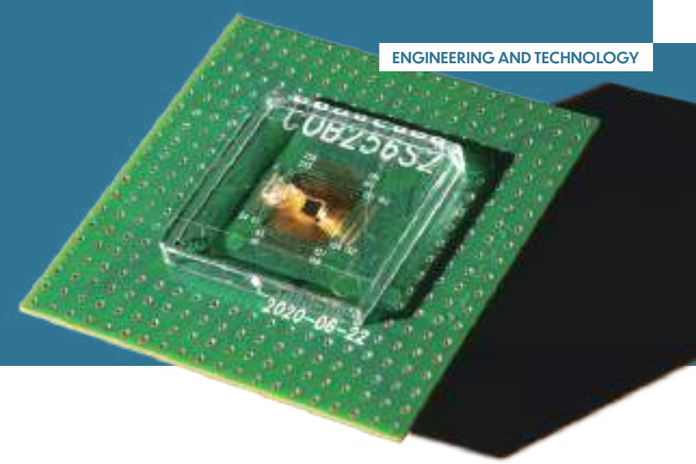
- Engineering and Technology
- Medicine and Life Sciences
- Natural Sciences
- Humanities and Social Sciences

# CIRCUIT LAB SHOWCASES GLOBAL VLSI DESIGN BREAKTHROUGHS





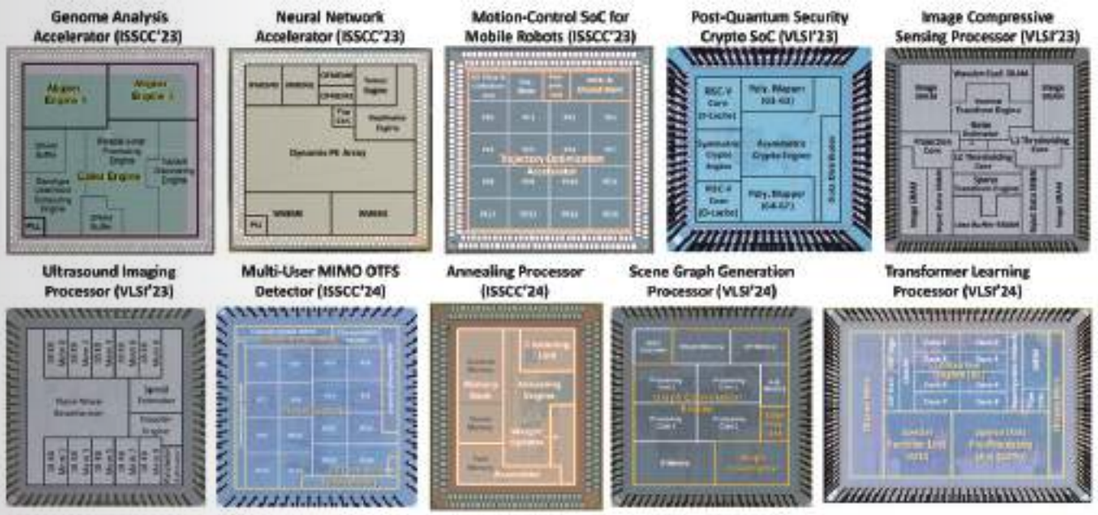





The Digital Circuits and Systems Laboratory (DCS Lab) at NTU focuses on energy-efficient VLSI designs for diverse signal processing applications. VLSI (very large-scale integration) design is a process of devising integrated circuits (ICs) by integrating thousands, millions, or even billions of transistors on a single chip. Led by Professor Chia-Hsiang Yang, the team's significant breakthroughs have been showcased at top-tier conferences, including the IEEE International Solid-State Circuits Conference (ISSCC) and the IEEE Symposium on VLSI Technology and Circuits (VLSI).

In recent years, the DCS Lab has designed dedicated ICs that improve processing efficiency in artificial intelligence (AI), biomedical technology, imaging and more. The team introduced a neural network accelerator to speed up AI computing at ISSCC 2023 and a transformer learning processor for generative AI at VLSI 2024. In biomedical technology, the team presented an accelerator for next-generation DNA sequencing at ISSCC 2023 and an ultrasound imaging processor at VLSI 2023. For visual applications, they showcased an image reconstruction processor for IoT (Internet of Things) at VLSI 2023 and a scene graph generation processor for visual context understanding at VLSI 2024. The team also developed a motion-control IC for autonomous mobile robots and a cryptographic IC for post-quantum secure neural interfacing, published at ISSCC 2023 and VLSI 2023 respectively. In ISSCC 2024, the DCS Lab presented an annealing processor for large-scale autonomous navigation optimization and a multi-user MIMO (multiple-input multiple-output) detector for high-speed wireless communications. The team presented three works at ISSCC 2025, showcasing their leading position in the field.

Full text →

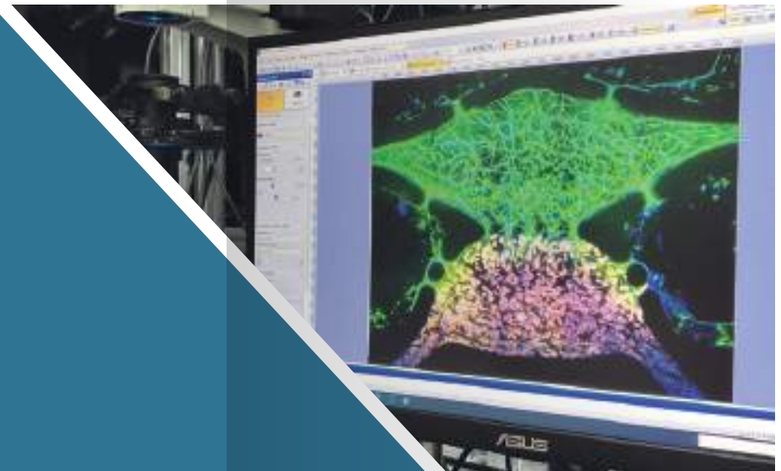


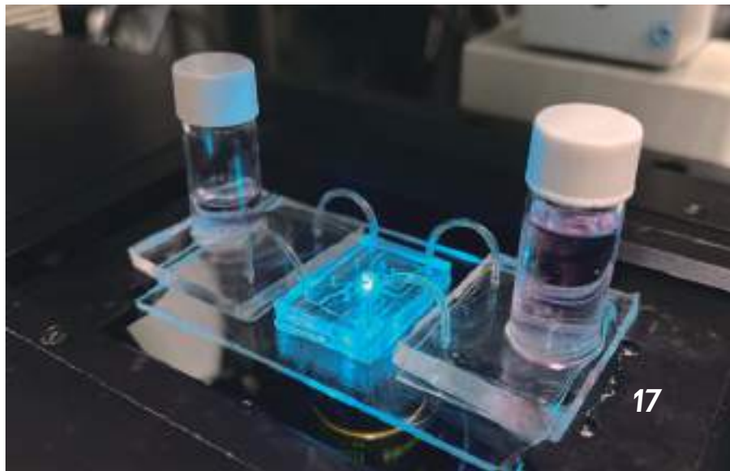
# MPS CHIP: TUMOR MODEL TO TEST NEW DRUGS

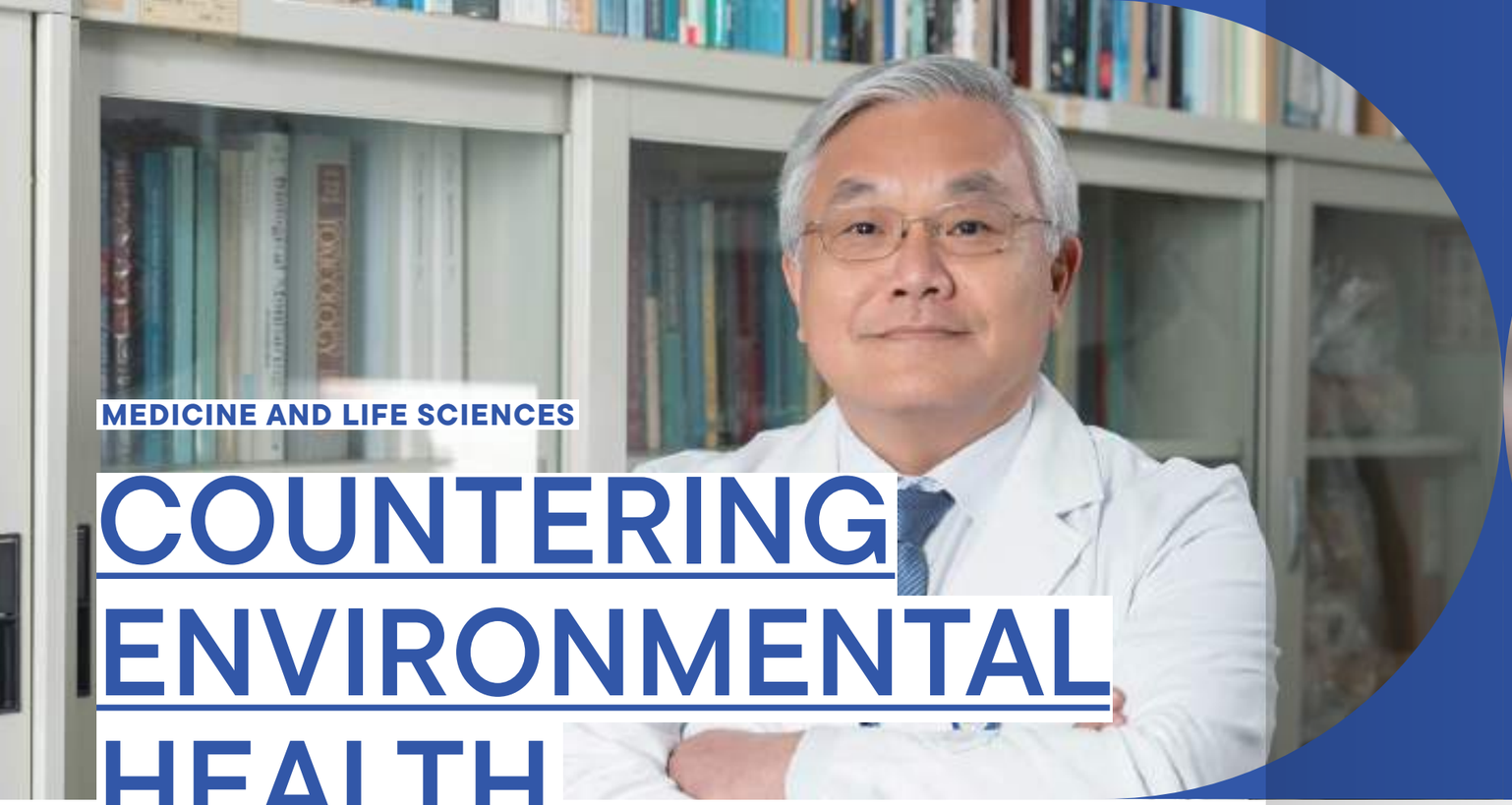
Currently, preclinical trials for drugs are primarily based on animal studies. These animal studies can stress and harm animals, and the developed drugs may be less effective on humans due to genetic differences. This has become a significant burden on the pharmaceutical and healthcare industries. Developing representative human organs and disease models could accelerate the discovery and development of new drugs and replace animal models.

A team led by Professor Yu-Hsiang Hsu of the Institute of Applied Mechanics developed a new microphysiological system (MPS) that can control the environment of a MPS device using a microfluidic resistive circuit. It can simultaneously develop a human vasculature in one chamber and tumor tissue in the other linked chamber. After the vasculature and tumor have developed, they can interact with each other to develop an in vitro tumor model with a vessel network. This MPS tumor model provides a more biomimetic human tumor microenvironment. It simulates the delivery of drugs to the tumor through human blood vessels similar to the route in the human body. Since the cells are all from humans, it largely reduces the uncertainty of drug efficacy and toxicity from preclinical to clinical trials. This tumor model was verified using commercial chemotherapy drugs and can feasibly conduct preclinical drug screenings. It could replace animal models and reduce the cost and time of developing new drugs.

Full text







MEDICINE AND LIFE SCIENCES

# COUNTERING ENVIRONMENTAL HEALTH CHALLENGES WITH SCIENCE AND MEDICINE

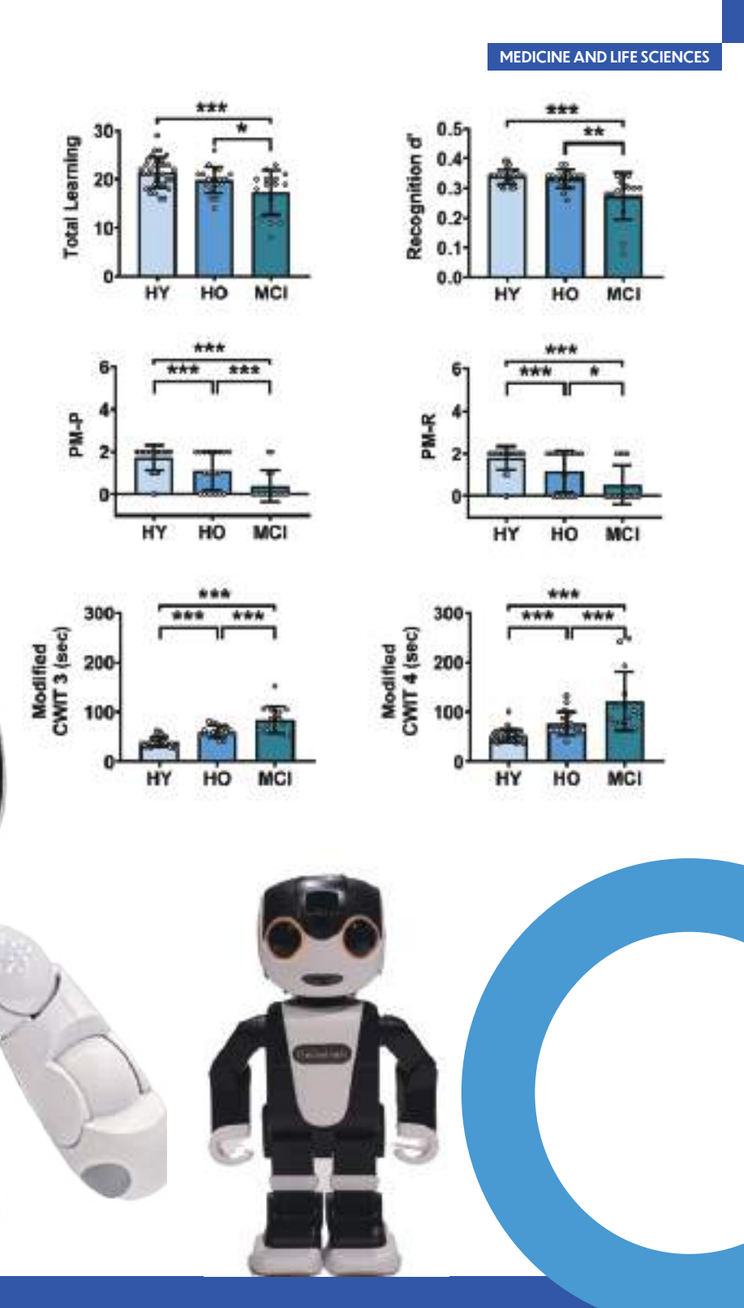
The Precision Environmental Medicine (PEM) Lab addresses complex health issues by bridging environmental science and precision medicine, developing proactive and adaptive solutions to environmental health challenges. Research at NTU's PEM Lab focuses on cutting-edge measurements to inform personalized and population-level health strategies that address emerging environmental risks. By considering both immediate and long-term health outcomes, the lab provides strategies to safeguard future generations from the evolving and unpredictable environmental health challenges of the modern world.

In collaboration with the National Institute of Environmental Health Sciences, the lab's key projects include the Taiwan Longitudinal Cohort Study of Children and Families, which investigates how early environmental exposures, such as microplastics,


Full text

impact children's neurodevelopment. Another major initiative is the Taiwan Alliance for Precision Environmental Medicine, which examines specific environmental exposures, such as risk factors for lung adenocarcinomas in non-smokers. Additionally, the lab conducts cross-generational studies on aerotropolis development and the health of shipbuilders. Its Taiwan Human BioMonitoring Program collects biomonitoring data across the country to assess environmental health trends. Finally, its Taiwan Net Zero and Sustainable Health Program evaluates the effects of climate change on health, focusing on neurological and mental health impacts as part of a broader effort to understand the consequences of environmental changes on human health.

# ADVANCING PATIENT CARE THROUGH HUMAN-ROBOT INTERACTIONS

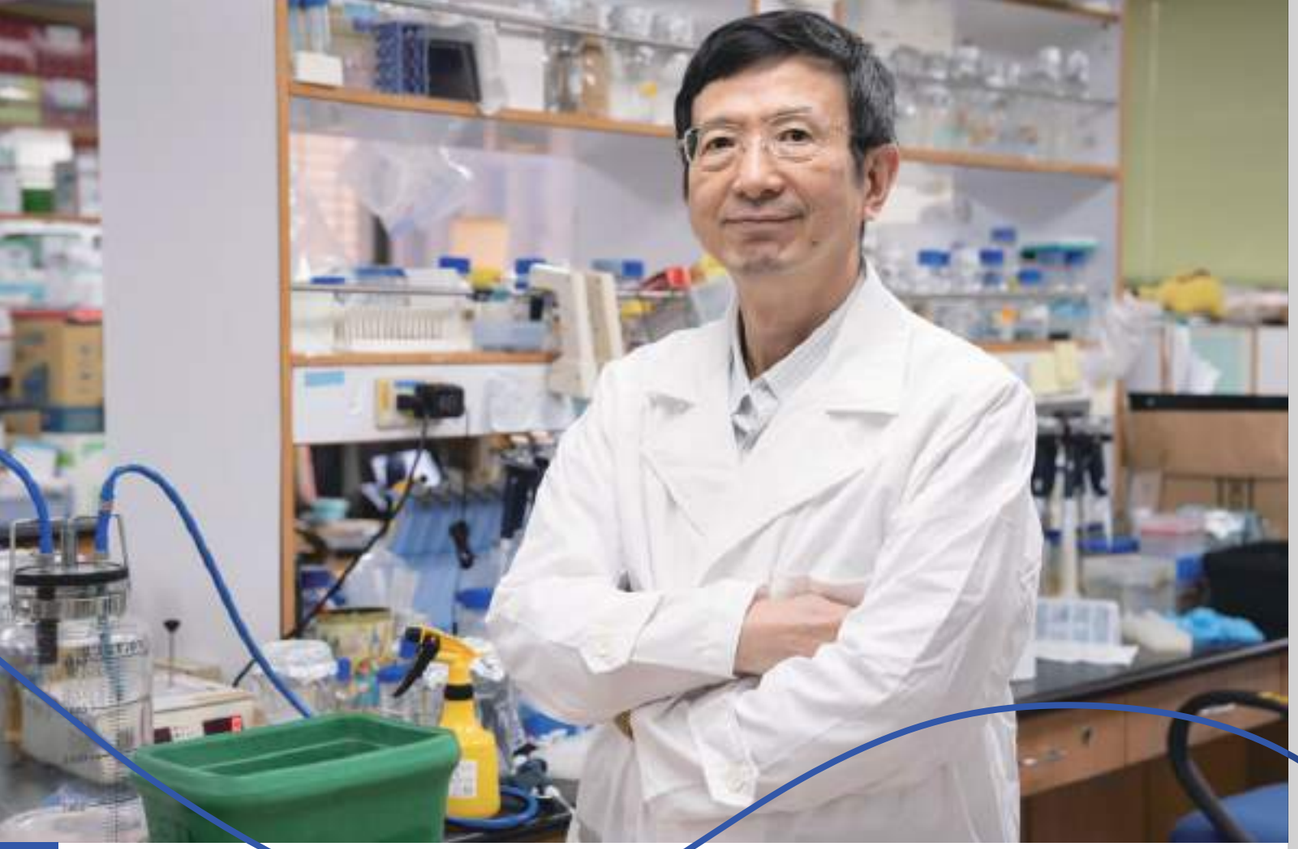



Combining medical care with artificial intelligence, Professor Yu-Ling Chang of NTU's Department of Psychology is developing a social robot that monitors cognitive changes through non-invasive interactions to screen for dementia. Her research investigates cognitive patterns linked to dementia in high-risk older adults, emphasizing early detection of mild cognitive impairment, a key risk factor for Alzheimer's disease. This protocol aligns with clinical standards and demonstrates promising sensitivity and specificity, indicating its potential as a valuable tool for clinicians and researchers.

Professor Chang's team is exploring the use of robots for non-pharmaceutical cognitive training. Their human-robot training has shown promising preliminary results, with older adults demonstrating improvements in cognitive function and emotional well-being after 10-15 minute interactions with the robot three times a week for 3-6 weeks. AI-driven robots have the potential to enhance both early detection and cognitive and emotional health.

These projects bring together experts from psychology and computer science. Professor Chang and her team, recipients of the 2024 FutureTech Award from the National Science and Technology Council, are developing pioneering solutions that are both scalable and accessible. Their work bridges clinical diagnostics with everyday care, significantly advancing the prevention and management of dementia.

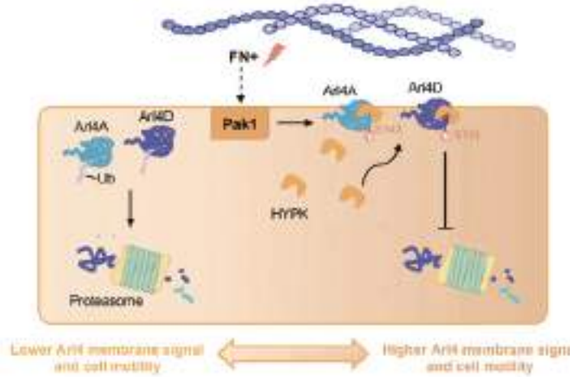
Graph Caption:
Performance on the cognitive tests administered by the robot for young healthy adults (HY), older healthy adults (HO), and individuals with mild cognitive impairment (MCI).



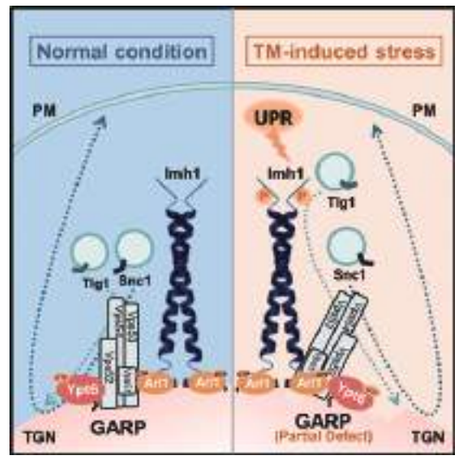
# UNCOVERING THE MOLECULAR MECHANISMS THAT DEVELOP CANCER

Vesicle transport is fundamental to cell biology and has far-reaching impacts on signal transduction, as well as cell growth and migration. Through his research, Professor Fang-Jen Lee of NTU's Institute of Molecular Medicine has made important contributions to the understanding of the molecular mechanisms of cancer development and opened up new paths to develop novel anticancer therapies. His research not only elucidates the molecular mechanisms critical for Arl1 activation, but also bears significant implications for the origins of human diseases. His lab has demonstrated that Arl1 forms a ternary complex with the guanine nucleotide-exchange factor Gea2 and the flippase Drs2, which is important for the establishment of Golgi membrane asymmetry and protein transport to and from the Golgi. His recent studies have offered remarkable insights into the functions of the Golgi under ER stress and revealed the communication between the ER and the Golgi. This lays the foundation for future studies on Golgi protein homeostasis and quality control under stress.

A series of important publications from his lab has becoame the cornerstone for the study of vesicle transport governed by the Arl1 GTPase. Professor Lee's lab also discovered that the small GTPase Arl4 plays a role in cancer development. He has not only extensively researched the molecular mechanism by which Arl4 and its effectors regulate cell migration, but also discovered that fibronectin triggers the stability of the small GTPase Arl4 proteins to increase cell migration ability. His lab further demonstrated that endosomal Arl4A attenuates EGFR degradation by binding to the ESCRT-II component VPS36 in cancer cells. These studies highlight Professor Lee's innovative thinking and pioneering scientific insight.




The model of FN-Pak1-triggered signaling for Arl4A/D protein stabilization. In Arl4A/D-expressing cells, Arl4A/D undergo rapid degradation. Under FN stimulation, Pak1-dependent phosphorylation at S143/S144 of Arl4A/D on the plasma membrane potentiates local and efficient HYPK binding for protein protection. HYPK-mediated protection not only stabilizes Arl4A/D from fast proteasome degradation, but also strengthens their membrane targeting for cell migration.




Golgin Imh1 and GARP complex cooperate to restore the impaired SNARE recycling transport induced by ER stress.

# UNTOLD STORIES OF PEOPLE ON THE MOVE: MIGRANT HEALTH IN TAIWAN

The number of people migrating for better work opportunities is rapidly increasing, driven and intensified by globalisation. In Taiwan, migrant workers face persistent health challenges despite access to National Health Insurance. Barriers including language difficulties, cultural differences, legal constraints and workplace mistreatment often cause them to delay, avoid or not consider healthcare. Many lack trust in the authorities, compounded by financial concerns and limited knowledge of Taiwan's health system. Professor Po-Han Lee of NTU's College of Public Health joined forces with Isaiah Christian Felix Antonio to examine healthcare decisions and non-decisions among Filipino workers in Taiwan's electronics and technology sector. They combined the 3C model (communication, continuity of care and confidence in healthcare) and the 'sociology of nothing' (a phenomenology of the negative existence of things) to frame their project.

Their research highlights the urgent need for structural and institutional reforms to address migrant workers' underutilisation of healthcare and the discrimination they face due to legal, financial and cultural barriers. Education on health literacy and human rights awareness can provide a temporary yet valuable solution.

Full text

Professor Lee co-supervised two other projects that amplify these workers' voices and draw attention to their marginalisation within Taiwan's health and labour systems. One, by research intern Charlotte Steuten, focused on reproductive health barriers faced by domestic care workers. The other, by graduate student Juliet Balkian, studied the mental health struggles of Indonesian live-in care workers. These studies shed light on the distinct challenges faced by workers across different industries.

NATURAL SCIENCES

# PROTECT THE BEES: PROMOTING SUSTAINABLE POLLINATION PRACTICES





Bees play an indispensable role in both natural ecosystems and agricultural landscapes. Professor En-Cheng Yang of NTU's Department of Entomology researches the neurobehavioral patterns of bees, focusing on how bees adapt to physiological challenges in adverse environments. His team studies how bees respond to environmental stressors and potential risks to their survival. Understanding these adaptive mechanisms holds practical implications for agriculture, particularly in enhancing pollination services under increasingly unpredictable climatic conditions.

With bee populations declining worldwide, Professor Yang's research team helped understand how neonicotinoid pesticides contribute to colony collapse. Combining laboratory experiments and field studies, the team identified the subtle yet devastating effects these chemicals have on bee cognition and colony behavior. These findings reveal the broader environmental impacts of neonicotinoids, promoting the development of more bee-friendly agricultural practices and highlighting the need for sustainable approaches to pest management that balance agricultural productivity with ecosystem health.

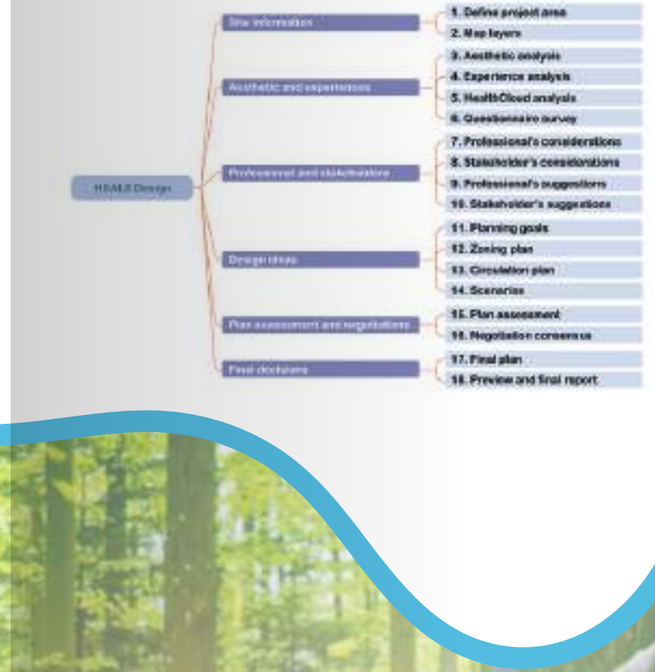
Professor Yang's team developed an innovative solution to support pollination in Taiwan's small-scale agricultural systems. Recognizing that introducing honeybees is often impractical due to cost and scale, the team pioneered a technique that involves creating queenless bee colonies. By utilizing queen pheromones to guide and motivate worker bees, this approach enhances pollination efficiency across diverse crops. This method not only mitigates the risks associated with invasive bee species, but also lowers the overall carbon footprint of agriculture by reducing dependence on imported pollination services.
It demonstrates a sustainable pathway forward, promoting local agriculture while ensuring resilience in the face of environmental pressures.

# OPTIMIZING URBAN LANDSCAPES FOR MENTAL AND PHYSICAL HEALTH

Professor Chun-Yen Chang from the Department of Horticulture and Landscape Architecture is an expert in landscape design, health landscapes and neuropsychology. His groundbreaking work in 2017 was the first to employ fMRI technology to investigate how different landscapes affect brain activity. In 2023, he further expanded the field by researching the impact of horticultural activities on emotional responses and brain activation, offering new insights into the connection between nature and brain health.

In 2024, Professor Chang introduced the innovative HEALS Design system. This tool integrates AI technologies such as Google Street View, Google Review, ChatGPT and wearable devices to collect large-scale psychophysiological data. The HEALS system assists urban planners in optimizing natural environments to maximize health benefits. It incorporates a "Health Landscape Indicator Score" to support decision-makers in designing spaces that promote well-being.

Currently ranked first in the world for landscape design on Google Scholar, Professor Chang's contributions are not just theoretical; they're transforming cities, enhancing public health and ensuring the sustainability of urban environments for generations to come. His vision continues to guide researchers and urban planners alike in designing healthier, more resilient communities.

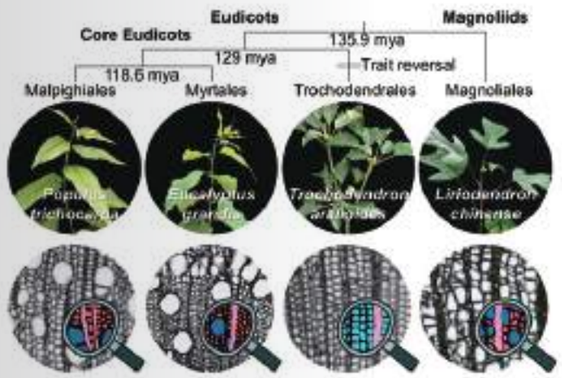



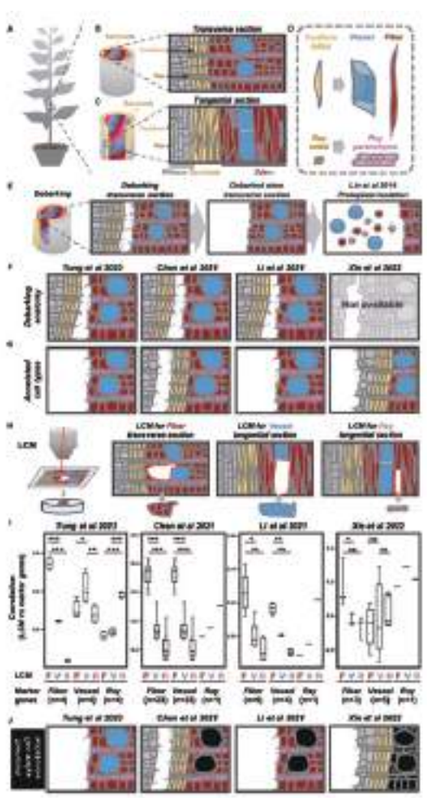

# UNVEILING XYLEM SECRETS TO BOOST TREE PRODUCTIVITY

Professor Ying-Chung Jimmy Lin from the Institute of Plant Biology and the Department of Life Science researches xylem development and evolution, a foundational area in plant biology. Xylem, the most abundant tissue on Earth, is essential for plant structure and lateral growth. Over the past decade, from completing his doctoral studies to leading his own lab, Professor Lin has focused on plant secondary cell walls and xylem research.

Professor Lin has collaborated with global researchers, significantly advancing this field. Together with Dr. Chuan Ku from Academia Sinica's Institute of Plant and Microbial Biology, they established a single-cell xylem sequencing platform. In partnership with Dr. Tien-Hsien Chang from Academia Sinica's Genomics Research Center and Dr. Vincent Chiang from North Carolina State University, they developed a highly efficient yeast single-hybrid system, unveiling the transcriptional regulatory network behind secondary cell wall synthesis. This breakthrough offers new genetic strategies to enhance forest tree productivity.

Recently, Professor Lin's team, in collaboration with Dr. Jo-Wei Hsieh and Dr. Ying-Lan Chen from National Cheng Kung University, uncovered critical insights into xylem cell development. Trees are vital to human civilization, providing essential materials such as paper and furniture, and this research could lead to more efficient, cost-effective methods for forest resource production.



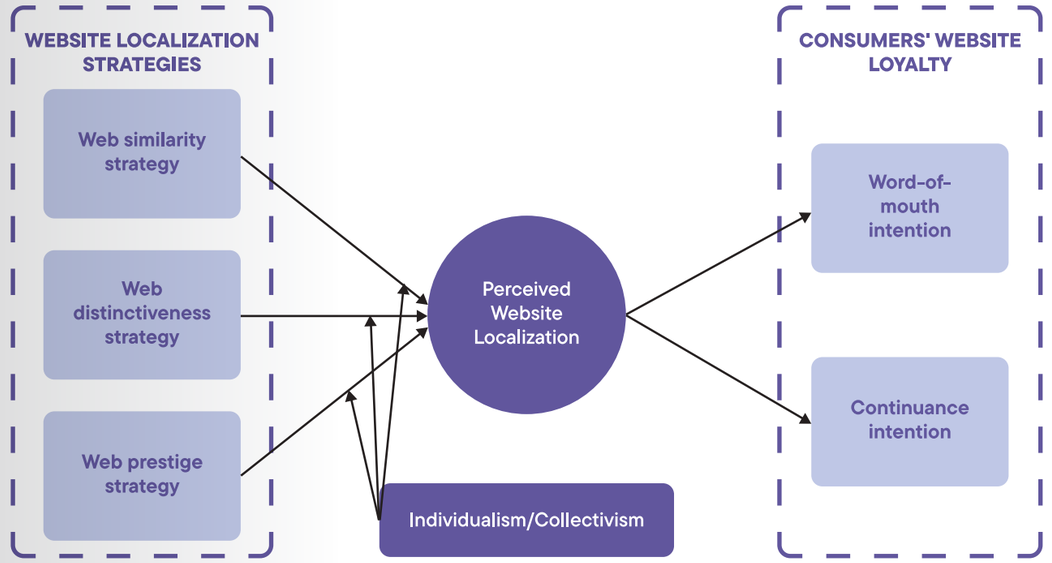



TUNG ET AL., 2023

CHEN ET AL., 2024

KAO ET AL., 2024

# WEBSITE LOCALIZATION STRATEGIES TO PROMOTE GLOBAL E-COMMERCE




Website localization plays an important role in guiding firms on how to customize websites for each country in which they have a local presence. However, few studies on website localization have systematically examined this topic from a theoretically grounded perspective. Drawing upon the theoretically driven consumer-company identification perspective, Professor Chih-Hung Peng from the College of Management proposed three website localization strategies, web similarity, web distinctiveness and web prestige, which have positive effects on local users' perceived website localization. This, in turn, is related to local users' website loyalty.

Professor Peng further investigated the effects of these website localization strategies in cross-cultural settings, focusing on the individualism-collectivism dimension of culture. Based on online experiments in both the US and China, these website localization strategies have significant impacts on consumers' perceived website localization, which builds consumers' website loyalty. Web distinctiveness and web prestige were found to be more effective for people from collectivistic societies than for those from individualistic societies, whereas web similarity did not differ across societal types. These findings highlight the importance of website localization strategies in customizing websites for global e-commerce.

Full text

# NEW BOOK EXPLORES AMERICAN AND TAIWANESE LEGAL ISSUES

The newly released book Current Legal Issues in American and Taiwanese Law presents the results of a series of academic workshops held over a four-year period between Berkeley Law and the NTU College of Law. Beginning with the first workshop at Berkeley Law in 2016, faculty members met alternately at each law school to discuss and compare recent legislative reforms and judicial decisions that took place in their respective countries. Comparative evaluations outlined the benefits and shortcomings of legal solutions developed in response to seemingly common social and economic challenges. These evaluations offered another layer of interpretation to the domestic legal provisions and the reasons for the success or the failure of their implementations.

In an era of increased transnational exchanges and global legal developments, these workshops also provided an opportunity to reassess the ideological context of the legal transplant model and the validity of the convergence/divergence dichotomy. Professor Kuan-Ling Shen of NTU co-edited the momentous book alongside Professor Mayali, Director of the Robbins Collection at UC Berkeley School of Law.

Full text

INNOVATION TO TRANSFORM US


- **Breaching Classroom Boundaries**
- **Academia Meets Industry**

# NTU BEYOND BORDERS: EMPOWERING STUDENTS THROUGH GLOBAL LEARNING



A new University-wide initiative integrates resources to promote academic mobility, experiential learning and student-initiated projects. It's called NTU Beyond Borders. Supporting a breadth of international exchange and exploratory learning programs, this initiative makes NTU the starting point of students' journeys around the world.

Students at NTU have a diverse range of opportunities to study abroad. With over 640 partner institutions in 67 countries, students can participate in exchange programs, dual degree programs or join short-term and summer courses overseas, allowing them to earn academic credits while gaining international perspectives.

The experiential learning component offers overseas research internships, where students work on research projects at international institutions, and overseas professional internships, providing hands-on work experience with global companies and organizations. Additionally, overseas traineeships allow students to explore professional environments through short-term observational programs.

In terms of supporting student-initiated projects, student organizations can apply for up to NT$70,000 in funding to participate in international exchanges, like conferences and competitions. Supporting student altruism, NTU provides up to NT$400,000 in funding for award-winning students to start their own service projects overseas. In addition, students interested in exploratory learning can pursue overseas projects related to sustainable development goals.

By providing these opportunities, NTU Beyond Borders fosters cultural respect, adaptability and global citizenship, ensuring students are well-prepared for an interconnected world. This initiative reflects NTU's commitment to empowering students with the skills and experiences necessary to thrive in a global society.

For more information

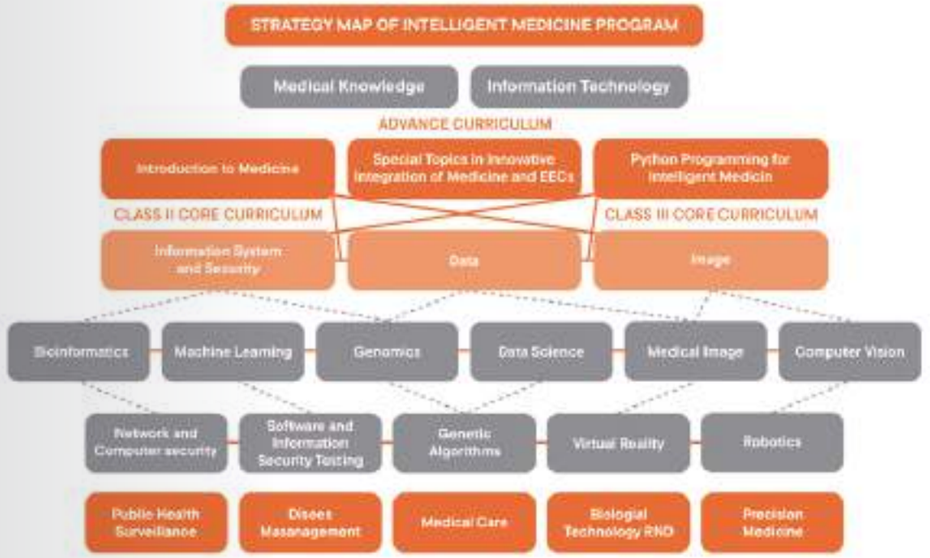

# INTERDISCIPLINARY SKILLS FOR INTELLIGENT MEDICINE PRACTITIONERS

The Intelligent Medicine Program was established in 2020 as a joint initiative between the College of Medicine and the College of Electrical Engineering and Computer Science. By combining world-leading medicine with cutting-edge technologies, the program fosters an integrated interdisciplinary learning environment. It equips students from both colleges with skills in programming, artificial intelligence, information security, big data and advanced medicine, applicable in the healthcare and biomedical industries. The program aims to cultivate interdisciplinary talents in smart healthcare and precision medicine, ultimately enhancing the quality of healthcare in Taiwan.

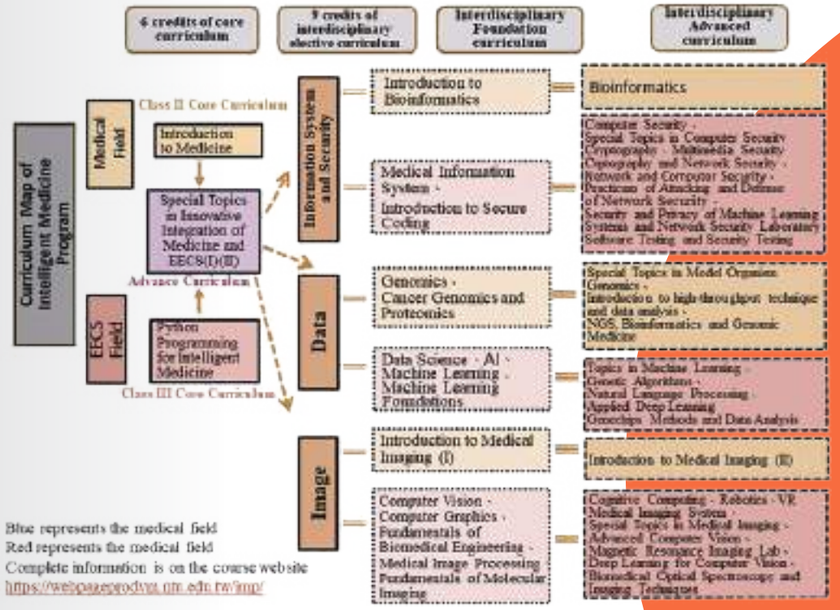




The course design includes three main areas: imaging, data and information systems and security. Students must take six credits of core courses and nine credits of interdisciplinary courses in order to complete the program. Each academic year, students produce at least 10 interdisciplinary reports that integrate information technology with medical practices, encouraging them to leverage cross-disciplinary concepts to develop medical innovations. Topics covered include telemedicine, information security, machine learning, logical verification, natural language processing, medical imaging and the application of smart healthcare in critical care. Currently, a total of 197 students have enrolled in the program. For the past five years, it has ranked among the top eight out of 60 programs in the school.




Strategy Map of Intelligent Medicine Program




Curriculum Map of Intelligent Medicine Program


# A NEW SYSTEM FOR SELF-DIRECTED AND INTERDISCIPLINARY LEARNING

NTU's INT (illuminating, navigating, transforming) system integrates academic advising, modular curricula and student-designed degree programs to comprehensively support students in reaching their academic and career goals. A survey revealed that around 40% of students seek more guidance to navigate the complexities of today's volatile, uncertain, complex and ambiguous world. The INT system addresses this need by helping students explore academic paths, offering structured curricula and transforming traditional degrees into personalized learning experiences. The INT system has achieved growing success, with over 130 students pursuing self-designed degrees.

**Illuminating:** The Academic Advising Office (AAO) uses the four-quadrant academic advising strategy model to quickly assess students' needs and connect them with suitable resources. AAO's network includes industry experts, faculty and peer mentors, helping students design academic paths aligned with their personal goals. Since 2021, AAO has supported over 2,300 students, with demand increasing each year.

**Navigating:** The NTU Specialization Program (NTU-SP) offers 270 well-defined, theme-based modules such as Information Security and Sustainable Development. Each program consists of four to five courses, covering fundamental and methodological content and culminating in a capstone project. NTU-SP promotes interdisciplinary learning, allowing students to efficiently use credits to build cohesive knowledge across various fields.

**Transforming:** The University Interdisciplinary Bachelor's Program empowers students to design their own interdisciplinary majors, utilizing NTU's extensive course offerings. Advisors guide students through the process, ensuring their degrees align with both academic interests and career goals.

The INT system earned the Outstanding Support for Students award at the 2025 THE Awards Asia. This recognition highlights NTU's commitment to student-centered innovation and shows international acclaim for its transformative educational model.


# BRIDGING ACADEMIA AND SERVICE: PUBLIC HEALTH TEAM SUPPORTS RURAL COMMUNITIES

Established in 1976, the NTU Public Health Service Team is an integral part of the College of Public Health. Guided by faculty members and operated by students, the team applies classroom knowledge to real-world challenges. It bridges the gap between classroom teaching, academic learning and practical public health practices. Over the years, it has expanded from providing health services to engaging in research and community outreach, offering faculty and students valuable opportunities for both in-field learning and community involvement.

The 52nd Service Team was divided into three specialized branches to support the Fangyuan Township in Changhua County in summer 2024. The Health Education branch tailored lessons for local children on topics such as cybersecurity, wound care, environmental hygiene and preventing injuries and infectious diseases. The Community Service branch assessed the lifestyles of Wanggong Village residents and organized activities to prevent frailty among seniors. They also visited local businesses to understand key industries such as egg, poultry and oyster farming. The Environmental Investigation branch focused on analyzing air and water quality, assessing pollutants with field instruments and conducting surveys to understand residents' perceptions of environmental health.

By integrating academic knowledge, community service and research practice, the NTU Public Health Service Team addresses pressing rural health and environmental issues while providing students with hands-on experience. Their work continues to support underserved communities and foster the professional growth of future public health workers.

# PLANT DOCTORS IN-TRAINING PROMOTE SUSTAINABLE AGRICULTURE

Initiated to connect students and local farmers, the course Case Study for Clinic Plant Science (CSCPS) trains students in the Master's Program in Plant Medicine to become plant doctors. Plant doctors improve food safety by providing farmers with guidance on crop production, including the careful and effective use of pesticides and fertilizers, which is crucial for sustainable agriculture.

The College of Bioresources and Agriculture has been promoting a plant doctor system in Yunlin County. In addition to holding workshops and counseling farmers, it introduced a food and agriculture education program to deliver important information about the plant doctor system. Students taking the CSCPS course in 2023 proposed the program, "Plant Doctor Is Coming," and implemented it across three elementary schools in Yunlin. The lesson plans are interactive and engaging, including lectures, activities and games. These activities introduce the plant doctor system and demonstrate how it supports sustainable agriculture. This year, the program was upgraded to offer more hands-on experiences and motivate more young people. By getting involved in this project, students earn course credits while actively contributing to local sustainability.


## ACADEMIA MEETS INDUSTRY

# PREPARING STUDENTS FOR SUCCESSFUL CAREERS

NTU's Career Center expanded its offerings this year with the course "Get Ready for Your Career," aimed at enhancing students' cross-disciplinary collaboration skills. The course featured guest lecturers, including the CEO of the TSMC Charity Foundation, the CSO of Taiwan Cement Corporation and the CEO of KPMG Taiwan, who shared insights on industry trends, essential skills and workplace communication.

The Career Center also launched the "Fostering Future Leaders" course in fall 2024. This course is supported by a professional consulting team made up of 11 senior executives from various industries.

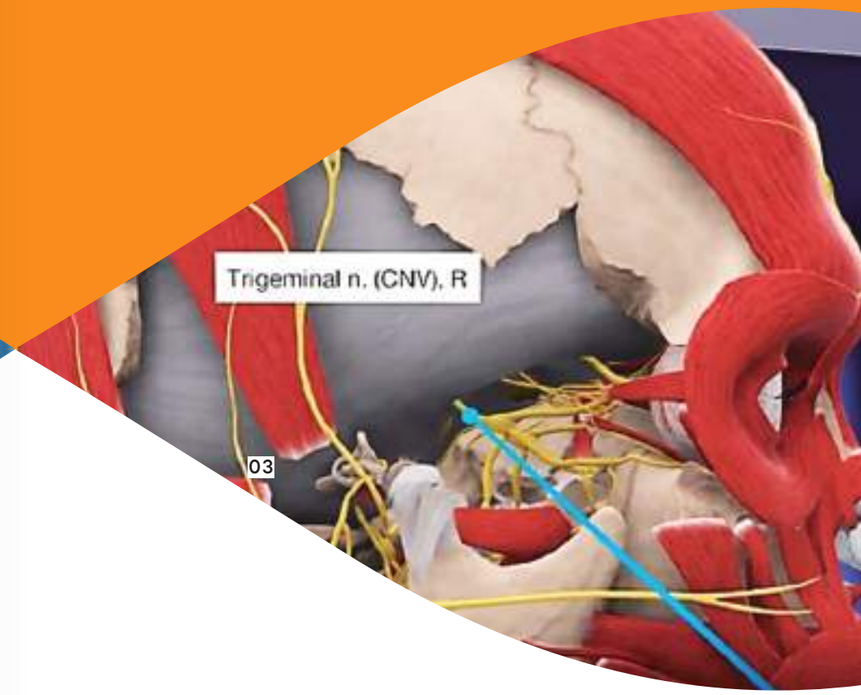
This team coaches students, improving their communication, employability and decision-making skills through industry-academia collaboration. The course also integrates online learning with flipped classroom sessions to deepen students' understanding of key concepts, providing practical guidance from the coaching team to help students apply what they learn in real-world situations.


01

# DECODING THE BODY: EXPLORING HUMAN ANATOMY THROUGH VIRTUAL REALITY

Virtual reality (VR) anatomy software provides an immersive learning experience, allowing students to intuitively explore human anatomy. Students can interactively examine, rotate and zoom in on body parts in a virtual environment. This technology supports independent learning without the spatial and resource limitations of traditional anatomy education, enabling anatomical studies anytime, anywhere.

Over the past year, Associate Professor Shu-hao Hsu of the Department of Anatomy and Cell Biology has incorporated VR anatomy equipment into the “Gross Anatomy Lab” course. This technology enables real-time projection and recording, allowing students to collaborate while exploring anatomical structures and create instructional videos. Students can utilize the slicing feature to examine cross-sections of the human body from various angles, allowing them to effectively study structures presented in plastinated specimens and computed tomography. The collaborative aspect further enriches the learning experience. Towards the end of the course, Professor Hsu created personalized exam questions to assess individual student learning outcomes. These innovative approaches align with university goals, promoting interdisciplinary learning and helping students better identify structures in clinical imaging.




03

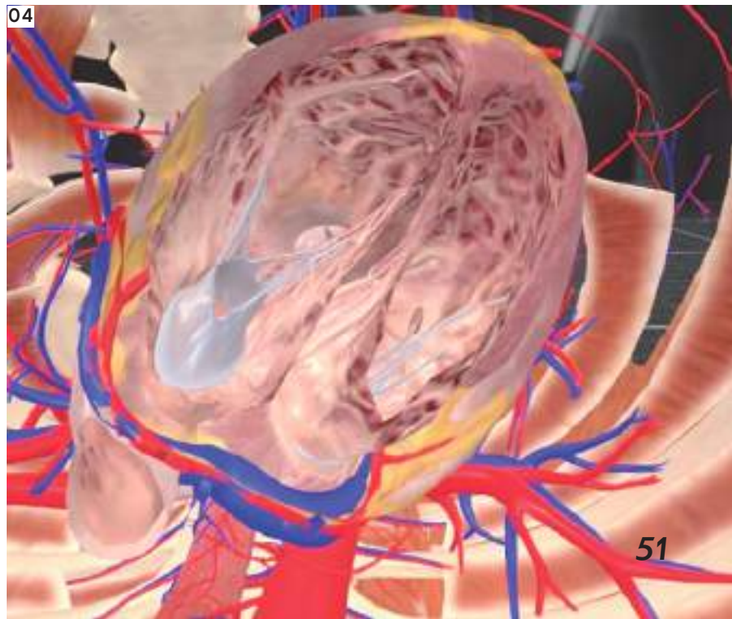
**Applying VR in the course**

01 Students use VR technology during ( 2 ) a medical school-level human anatomy course and ( 1 ) a high school-level anatomy camp.

03 An instructional anatomy video created by graduate students using 3D Organon software.

04 A cross-sectional image of the heart generated from MAI BodyMap software.

02



04

# INTERDISCIPLINARY LEARNING AND GLOBAL COLLABORATION IN LIFE SCIENCES

For nearly a decade, the College of Life Sciences has cultivated interdisciplinary curricula and advanced teaching innovations. The College has introduced a range of Specialization Programs, grouping courses into modules that highlight emerging areas. These programs are offered in partnership with multiple departments and institutes, fostering a dynamic interdisciplinary learning environment.

In 2023, the College launched its Interdisciplinary Bachelor's Program, which combines the expertise of the Department of Life Sciences and the Department of Biochemical Science & Technology. Supported by local and international faculty, this program offers a robust selection of English-taught courses, broadening students' global perspectives and enhancing their future prospects.

Further innovating its teaching curriculum, the College organizes an annual international field course in collaboration with Tunghai University and Thailand's Prince of Songkla University, rotating the host institution each year. Last year, the course took place in southern Thailand, led by Prince of Songkla University. This year, the course returned to Taiwan, and students explored natural landscapes at the Fushan Botanical Garden and Nantou Lotus Pond. These field courses allow students to engage directly with diverse ecosystems while fostering collaborative academic connections across international borders.

# EVENTS TO CONNECT US




- **Bringing the World to NTU**
- **Connecting with the World**
- **Launching Career Development**
- **Fostering an Altruistic Spirit**

BRINGING THE WORLD TO NTU

# ANNUAL SYMPOSIUM FOSTERS DIALOGUE ACROSS SECTORS

The 15th Global Initiatives Symposium was held at NTU in July 2024. The theme, “Rebuild and Revive,” drew on the metaphor of a butterfly emerging from its chrysalis, symbolizing the process of mental rebirth through the reconstruction of ideas. Esteemed guests such as Weiwei Wu, General Manager for Hong Kong and Taiwan at LinkedIn, and Giuseppe Izzo, General Manager for Taiwan at STMicroelectronics, spoke at the symposium. Students from 11 countries participated in the event, representing the US, Indonesia, Ireland, Japan, Malaysia, Honduras and more.

Discussions and activities were categorized under three key topics: smart cities, artificial intelligence and sustainable finance. The symposium fostered dialogue between professionals from various industries, government officials, academics and student representatives, offering diverse and enriching experiences.


# TRI-UNIVERSITY CENTER EXPANDS ACADEMIC EXCHANGE AND COLLABORATION

On February 19, 2024, President Tatsurou Ishibashi of Kyushu University in Japan and President Robert Jones of the University of Illinois at Urbana-Champaign (UIUC) in the US led delegations to visit NTU. Together with NTU President Wen-Chang Chen, they signed a memorandum of understanding for the NTU-Kyushu-UIUC Joint Center and unveiled the center's plaque. This collaboration aims to expand inter-university cooperation, systematically promoting faculty and student exchanges, as well as research collaborations in fields such as medicine, engineering, agriculture, humanities and social sciences.

As Kyushu University and UIUC are key partner institutions of NTU, collaborations including student exchanges and dual-degree programs have been steadily developing. Numerous bilateral meetings have further connected their engineering, electrical, agricultural and social sciences departments. Kyushu University and UIUC established a key partner relationship in 2019.


# JOINT PROGRAM TRAINS US HIGH SCHOOL STUDENTS

NTU and the University of Delaware collaborated to host the US Department of State's National Security Language Initiative for Youth Program this year. The program cultivates Mandarin Chinese language proficiency among talented US high school students. It supports the students to become future leaders in US-Taiwan relations and contributes to the strengthening of bilateral ties.

Twenty-three exceptional students from across the US were selected to participate in the six-week intensive language and cultural immersion program in Taiwan. The program, supported by the US Department of State and Taiwan Ministry of Education, was led by Director Jianguo Chen, a professor at the University of Delaware.

During their stay in Taiwan, the students took rigorous Mandarin language courses at NTU and participated in cultural enrichment activities, including calligraphy, martial arts and indigenous weaving. These experiences provided them with a deeper understanding of Taiwanese customs, traditions and history.

# LINKEDIN VISITS NTU TO PROMOTE GLOBAL TALENT CULTIVATION

NTU was the only university a LinkedIn delegation visited during their inaugural Aria trip to Japan and Taiwan this year. The delegation included LinkedIn co-founder Allen Blue, Editor-in-Chief Dan Roth and General Manager of Hong Kong and Taiwan Mei Mei Ng.

NTU Vice President for International Affairs Hsiao-Wei Yuan, accompanied by professors from the College of Social Sciences, welcomed the delegation. Vice President Yuan emphasized that both NTU and LinkedIn place great importance on talent development and skill enhancement. The two institutions worked together at NTU's Career Fair in March, 2024, jointly promoting the LinkedIn platform. Sharing a common vision, NTU and LinkedIn will continue to collaborate on global talent cultivation. Roth expressed the delegation's enthusiasm for engaging with NTU's political science and economics scholars and partners. Through local dialogues, the team aims to strengthen their qualitative and quantitative understanding of future industry trends.

Professor Ming-Jen Lin of the Department of Economics provided the delegation with an overview of Taiwan's economic development within the global supply chain, the evolving political and economic landscape and the associated opportunities and challenges. He highlighted NTU's recent establishment of the Graduate Institute of International Political Economy, which cultivates experts in these fields.

# MINERVA UNIVERSITY STUDENTS IMMERSE IN TAIWANESE CULTURE

NTU welcomed nearly 180 Minerva University students from 54 countries this year, continuing a collaboration that began in 2019. This unique academic experience allows students to immerse themselves in Taiwanese culture, explore the vibrant social landscape and engage in cross-cultural exchange.

Visiting students participated in a variety of activities, including campus tours and cultural immersion programs. A workshop with local students provided an opportunity for transnational connections.

Minerva's fully remote learning model emphasizes cross-cultural exchange and real-world applications. This visit to Taiwan enabled students to apply their classroom knowledge in a practical context, fostering a deeper understanding of different cultures and perspectives.

By engaging in these enriching experiences, Minerva and NTU students were able to forge lasting friendships and create unforgettable memories. This collaboration underscores the importance of international education and cultural exchange.


01

# TRILATERAL SYMPOSIUM FOSTERS COLLABORATION TOWARDS A SUSTAINABLE FUTURE

NTU hosted a trilateral symposium with Kyoto University (KU) and the University of Hamburg (UHH) from November 18-19, 2024. The event marked a significant milestone in the longstanding partnerships among the three institutions, reinforcing their commitment to combat global challenges and promote sustainable development.

The symposium centered around multidimensional cooperation and working towards a sustainable future. Nearly 100 participants, including NTU President Wen-Chang Chen, KU President Nagahiro Minato and Japan-Taiwan Exchange Association Representative Kazuyuki Katayama, engaged in two days of interdisciplinary discussions.

The symposium featured a panel on academic career development, where NTU Vice President Shih-Tung Ding, KU Vice President Tetsuo Shiramaki and UHH Vice President Jetta Frost shared insights on academic systems. A second panel of researchers at various career stages compared global academic paths and discussed ways to support young scholars.

02


01 NTU President Wen-Chang Chen, center, UHH Vice President Jetta Frost, right, and KU President Nagahiro Minato, left.

02 Participants in the NTU-KU-UHH Trilateral Symposium are pictured in a group photograph.

03 Speakers are pictured at the panel discussion on career development.

04 President Chen presents a commemorative trophy to President Minato.

05 President Minato delivers a keynote address.

03

04

KU President Nagahiro Minato delivered a keynote address exploring the role of immunology in addressing challenges faced by aging societies. A question-and-answer session followed, moderated by NTU Dean Yan-Hsuan Ni, which showcased the strong collaborations in medicine between NTU and KU.

Parallel sessions covering renewable energy, healthcare and disaster prevention fostered international research exchange. Participants from the three universities shared their expertise and exchanged perspectives, strengthening connections and promoting future research collaborations.

05

# NEW ACADEMIC ALLIANCE BRINGS THREE NATIONS TOGETHER







NTU has embarked on a historic partnership with the University of Grenoble Alpes (UGA) in France, and University of Tsukuba (UT) in Japan to advance research and education in key science and technology fields. The NTU-UGA-UT Trilateral Center, launched on October 4, 2024, will facilitate joint research projects, collaborative workshops and student exchange programs, promoting international cooperation among researchers and students.

UT and UGA have a long-standing partnership, with established student exchange programs and dual-degree opportunities. The addition of NTU to this collaboration strengthens the network and opens up new avenues for academic exchange and innovation. The trilateral alliance aims to foster synergy in areas such as material, information and environmental sciences, as well as smart cities, semiconductors and high-energy physics.

By combining the strengths of these three world-class institutions, the NTU-UGA-UT Trilateral Center is poised to make substantial contributions to global scientific advancement.

# ALUMNI WIN MINISTRY OF EDUCATION AWARD

Two distinguished NTU alumni, Cheng-Hsien Lee, Deputy Speaker of the Pahang State Assembly in Malaysia, and Fernando Luis Ramirez Gonzalez, Mayor of Pira City, Paraguay, jointly received the prestigious “Outstanding Overseas Alumni Award” presented by the Ministry of Education in 2024.

Both alumni subsequently returned to NTU to share their academic and professional journeys. Vice President for International Affairs Hsiao-Wei Yuan said that the outstanding achievements of these two alumni not only bring honor to the University, but also establish a positive international image for Taiwan's higher education.

Lee shared that Taiwan attracted him due to its free and open academic environment and diverse social atmosphere, providing him with a solid foundation in political theory during his studies at NTU. After returning to Malaysia, he actively engaged in politics, becoming one of the few Chinese members of parliament and now serves as Deputy Speaker of the Pahang State Assembly.

Ramirez said that he specialized in international relations and gained a deep understanding of global political dynamics during his time at NTU. After returning to Paraguay, he became the youngest mayor of Pira City and applied his knowledge to city governance.

By sharing their stories with students, they demonstrated the importance of a globalized perspective and rewards of contributing to the international community.



# ROYAL PALM LECTURE SERIES: ILLUMINATING MINDS, INSPIRING FUTURES

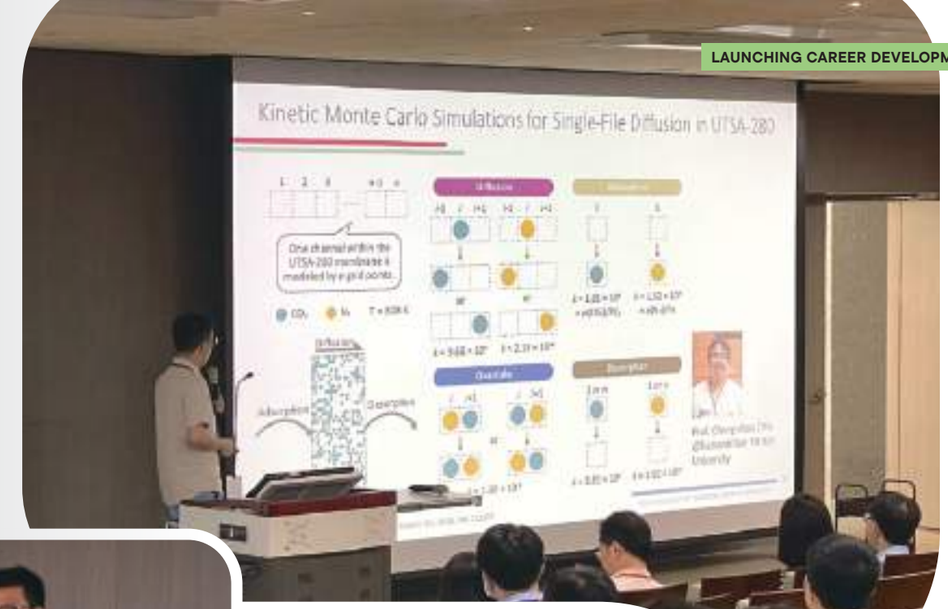
The Royal Palm Lecture Series has been NTU's premier University-level lecture event since it began in 2023. By inviting prominent figures from academia and industry, this initiative fosters exchange between NTU's dynamic academic community and the world's top visionaries. Designed to illuminate minds and inspire futures, the series covers a wide range of topics, from cutting-edge insights to transformative life experiences, which resonate far beyond the lecture halls.

The series has featured an extraordinary lineup of guest lecturers, including Nobel Laureates such as Professor Hiroshi Amano of Nagoya University and Professor Aaron Ciechanover of Technion, who shared groundbreaking discoveries in chemistry and medicine. Renowned scholar Philip Li-Fan Liu introduced his academic journey, while presidents of world-renowned institutions, including Kyoto University, University of Tokyo and University of Tsukuba, have provided visionary perspectives on the future of education. The series also welcomed distinguished business leaders including TSMC founder Morris Chang and YAGEO founder Pierre Chen.

These lectures covered technological frontiers, pressing global issues and transformative ideas. Connecting today's brightest minds with future leaders, the series affirms NTU's academic prestige and acts as a catalyst for innovation and progress on the global stage.


# FOSTERING COLLABORATION AND GROWTH AMONG FACULTY






On August 27, 2024, the Office of Research and Development held the Workshop for Academic Research Career Development Projects, introducing new faculty to the Sprout Research Project. Professor Chung-Chih Wu, Vice President of the Office of Research and Development, opened the event, emphasizing collaboration opportunities for principal investigators of the Sprout Research Project and new faculty members.

The workshop featured 23 principal investigators in the third year of their projects, who shared diverse research outcomes. Q&A sessions followed, encouraging cross-disciplinary interactions and collaboration among faculty members.

Professor Wu also provided an overview of the University's resources, introducing the five major consortia of key technologies. Tours of the Animal Resource Center and the Nano-Electro-Mechanical-Systems (NEMS) Research Center were arranged during lunch, with center directors guiding faculty through the facilities.

Experience-sharing sessions covered the humanities and social sciences, life sciences and agricultural medicine, and physical sciences and engineering. Speakers offered insights into applying for internal and external research projects, addressing common application challenges and academic ethics considerations, helping new faculty master the application process.

The workshop ended with a lively panel discussion led by Professor Wu, where over 100 faculty members actively participated and continued discussions after the event.

# PIONEER PROGRAM CULTIVATES GLOBAL SEMICONDUCTOR TALENT


In partnership with the Taiwan Semiconductor Manufacturing Company (TSMC) and the government of Saxony, Germany, NTU organized a talent incubation program for students interested in semiconductors.

This innovative program brought 30 talented students from six countries and three German universities to NTU, where they completed a semester of specialized semiconductor courses covering cutting-edge topics.

NTU's Office of International Affairs organized additional activities, including career training workshops, Mandarin language courses and cultural immersion experiences. These initiatives enhanced students' soft skills and deepened their understanding of Taiwanese culture.

The program's second phase took place at TSMC's Central Taiwan Science Park, where students gained invaluable hands-on experience in a world-class semiconductor manufacturing facility. This practical training exposed them to state-of-the-art technologies and industry practices, equipping them with the skills necessary to excel in the semiconductor industry. Students returned to Germany armed with technical expertise and cultural insights gained from their time in Taiwan.

Through this initiative, NTU is not only advancing the field of semiconductor technology but also reinforcing Taiwan's position as a global hub for innovation and talent development. By fostering collaboration between academia, industry and international partners, NTU is shaping the future of the semiconductor industry and empowering the next generation of leaders.

For more information

# INTERNSHIP PROGRAM WINS TWO PIEONEER AWARDS

In a groundbreaking achievement, NTU's International Mentor Program won two 2024 PIEoneer Awards presented by PIE News at London's Guildhall. The awards ceremony, attended by nearly 600 higher education leaders, industry representatives and government officials, recognized the program in the categories of "Employability International Impact" and "Pioneer of the Year."


Launched in 2022, the program supports international students in building their careers in Taiwan. It offers a comprehensive range of services, from career counseling and training to job placement and visa assistance.

Over the past three years, the program has experienced remarkable growth, expanding from 40 participating organizations, 51 mentors and 58 students in its inaugural year to 91 organizations, 113 mentors and 180 students in 2024. Notably, prestigious international universities such as University College London, Singapore Management University and the University of Washington have referred their top students to participate in the program.

Accepting the awards on behalf of NTU, Vice President for International Affairs Hsiao-Wei Yuan expressed gratitude to the judging panel and emphasized that the program aligns with Taiwan's national talent recruitment, cultivation and retention policies. The program has successfully attracted more international students to study and work in Taiwan and deepened NTU's international collaborations.


For more information

# TACKLING POST-GRADUATION EMPLOYMENT ANXIETY

Many students at NTU face challenges and doubts about their respective career goals and journeys after graduation. In today's late-stage capitalist society, finding the right job, or any job at all, can be an anxiety-filled struggle.

During recruitment for the International Mentorship Program, the Office of International Affairs received questions from students regarding career advice as they prepare to enter the workforce. Students inquired about the employability advantages of multilingualism, international versus domestic companies and the pros and cons of large corporations versus small businesses.

Realizing these questions would best be answered by professionals with a wealth of life and leadership experience, the office launched the Master Talk program, where experienced professionals are invited to engage with students in one-on-one consultations. These mentors advise students on their future careers, discussing a wide range of complex questions. This program serves as a beacon for students seeking guidance regarding their future career and life goals.

For more information

# AWARD RECOGNIZES STUDENTS WHO CARE FOR THE DISADVANTAGED





The Student Social Devotion Special Award honors altruistic students who care for the disadvantaged. This year, the individual award went to Pei-Jen Shih, Yu-Chi Wang and Ko-Hsuan Shao.

Shih participated in the Taiwan International Cooperation and Development Fund Technical Mission's fruit production and marketing project in Eswatini. She applied her expertise to support local farmers by providing guidance on cultivation, improving the supply chain and promoting sustainable development while protecting the environment.

Wang, driven by the disparity between urban and rural resources, co-founded the Yunlin-based organization Purity. The organization raises public awareness of social issues and historical events, fostering dialogue between the past and present and advocating for human rights and social justice. She was also awarded the 2024 Presidential Education Award for her efforts.

Shao contributed to the Symbiotic Project by collaborating with local organizations in Xinyi to revitalize millet cultivation, share seed resources and apply knowledge gained from field research. His efforts safeguard land biodiversity while preserving the Bunong indigenous people's cultural heritage and ecological wisdom.

The group Student Social Devotion Special Award went to the TIWACT Transnational Education Project, which established international partnerships to provide quality education in Malawi. The team organized English literacy programs and career workshops to enhance children's English proficiency and inspire them to explore future career possibilities.

# NTU HIGHLIGHTS DIGEST


Vol. 103

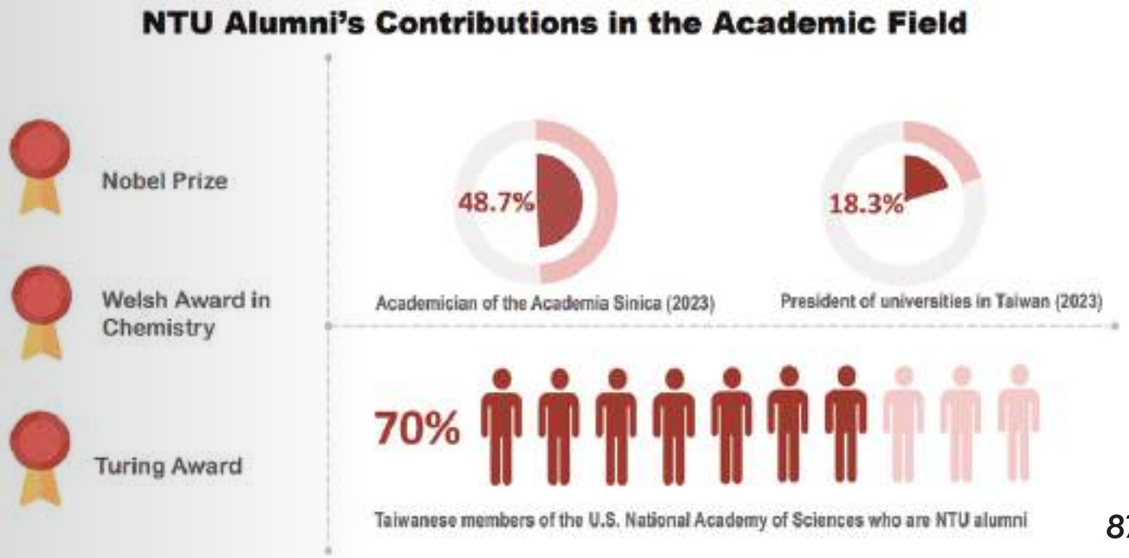
# CULTIVATING LEADERS TO ADVANCE SOCIETY

In its nearly 100 years of history, NTU has nurtured countless leaders who have advanced Taiwanese society, bringing local prosperity and international recognition. All of Taiwan's democratically-elected presidents to date are alumni of NTU. Alumni have also won numerous local and international academic awards and hold leadership positions in many of the world's top companies.

This edition of NTU Highlights explores how the University cultivates leaders by connecting domestic and international students with prominent global figures through symposiums, projects and programs. These leaders share their experiences, encouraging students to follow in their footsteps. Since 2008, NTU has hosted the Global Initiatives Symposium, gathering students from around the world to discuss global trends and brainstorm action plans. Another University initiative, the Active Learning Project, encourages students to propose solutions to societal and professional issues, and initiate individual or team side projects. In addition, the Leadership Program upholds four core values—team, altruism, action and change—cultivating leadership, communication and problem-solving skills.

Full text

By adapting to global trends, NTU continues to provide students with an exceptional and modern education. Upholding its legacy over the past 100 years, NTU is committed to cultivating leaders across fields.

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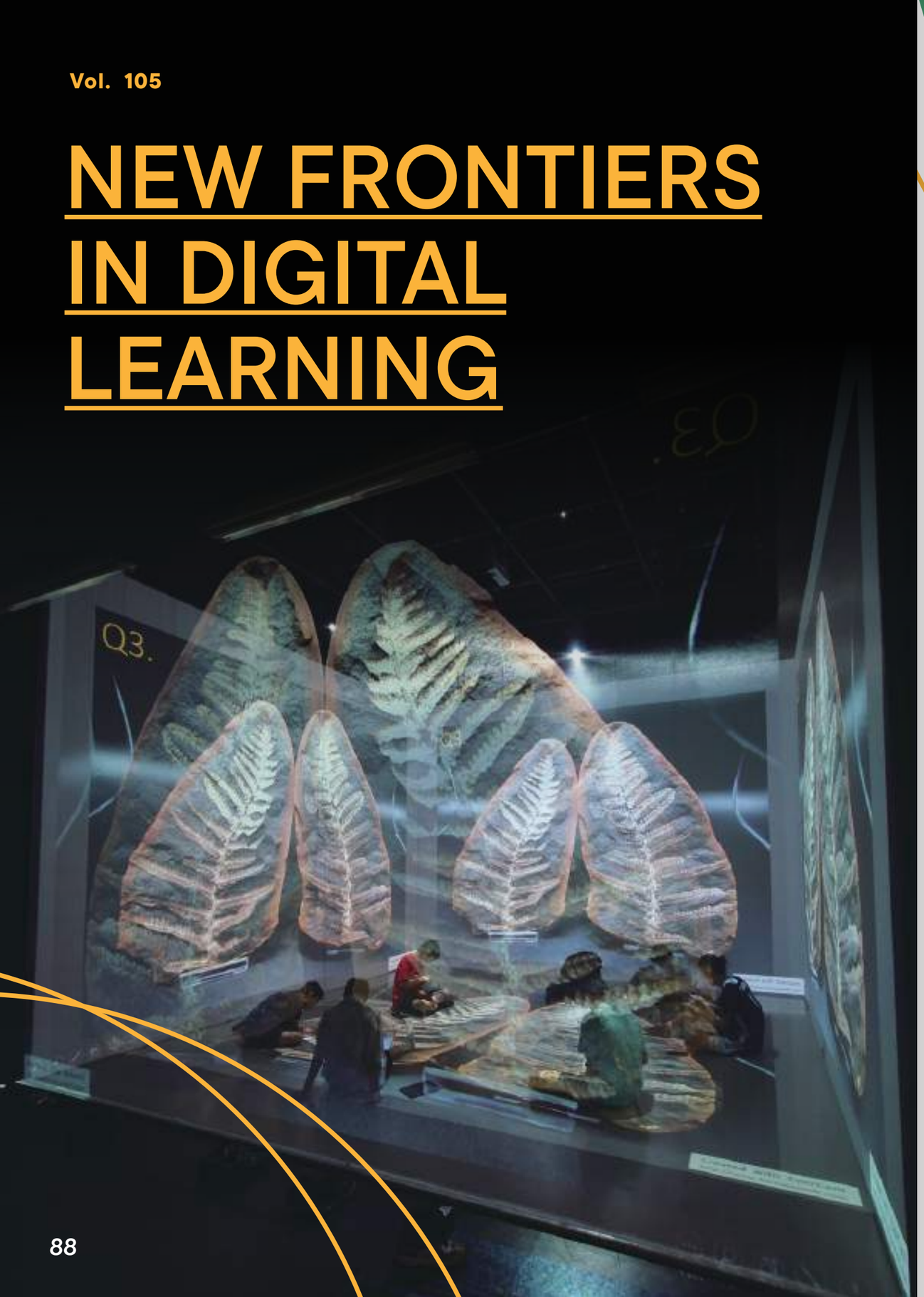
# NEW FRONTIERS IN DIGITAL LEARNING




Full text

This edition of NTU Highlights introduces how NTU is actively integrating technology and teaching to create a digitized campus in this technological era. By adopting the NTU Course OnLine (NTU COOL) learning platform and the Future Classroom concept, the University has broken free from the confines of traditional classrooms, enabling more diverse teaching environments and modalities. Riding the wave of artificial intelligence (AI), several academic departments have begun integrating AI tools into teaching or introduced courses related to AI technology. Beyond simply imparting the latest knowledge and skills, these efforts aim to educate students on the proper use of AI to assist in their future learning and professional endeavors.

Establishing a digitalized campus is one of NTU's focal points for advancement. The NTU COOL online education platform integrates digital tools into teaching and fosters self-directed learning. NTU COOL features video learning, online interactions and learning footprint tracking to enhance teaching efficiency and improve student engagement. The platform also uses AI to generate subtitles, reducing learning barriers. Over 5,000 courses are offered on NTU COOL every semester, and the University continuously improves the platform to ensure it remains cutting-edge.

NTU has also taken the lead nationally in integrating the Future Classroom concept. Incorporating the Internet of Things, bring your own device and project/problem-based learning, these classrooms are equipped with touch screens, wireless projection and audio–visual control systems. Currently, there are more than 60 future classrooms throughout the University.


Vol. 107

# SHAPING THE FUTURE THROUGH SOCIAL SCIENCE EDUCATION

NTU is widely regarded as Taiwan's leading academic institution, with 16 colleges covering diverse fields from the humanities to management. Ranked 75th globally in Social Sciences and Management in the 2023 QS Rankings, NTU is Taiwan's sole representative in the top 100 in this field. This issue of NTU Highlights outlines the University's preeminent programs in this field.

The University is planning to launch the School of Political Science and Economics to develop interdisciplinary global talent through partnerships with government and industry. This new school will offer eight English-taught programs, including bachelor's and graduate degrees in political economy, finance and leadership and management. It emphasizes practical, interdisciplinary learning, global collaboration and strong industry connections. Master's programs are scheduled to begin in fall 2025.





The Department of Political Science, established in 1947, has trained many national leaders. Its faculty are active in government and research, contributing to major policy decisions and running the influential Asian Barometer Survey. The department also engages in public service projects linking academia and society.

Founded in 1985, the Department of Finance is a premier destination for business students in Taiwan. It focuses on applied learning and collaborates with financial institutions to provide internships and hands-on experiences. Faculty achievements include high-impact publications and leadership roles in national economic planning.

The Department of Economics launched a fully English-taught program in 2022 to enhance internationalization and cultural exchange. Its faculty have earned numerous top academic awards and their research significantly contributes to public understanding. Notably, Professor Tsong-Min Wu's award-winning book traces Taiwan's 400-year economic history.

Full text

01

Vol. 110

# ACHIEVING UNIVERSITY SOCIAL RESPONSIBILITY THROUGH TEAM COLLABORATION

Full text

The United Nations Educational, Scientific and Cultural Organization (UNESCO) introduced missions for higher education institutions that align with the long-term endeavors of NTU. This issue of NTU Highlights explores how NTU is pursuing these missions.

In terms of knowledge production, UNESCO and NTU both support cross-disciplinary collaboration and innovation. NTU faculty and students have achieved remarkable successes in various fields through diverse collaborations. For example, the iAuto team, led by Professor Kang Li from the Department of Mechanical Engineering, showcased an intelligent and autonomous public bus in Dubai.

Regarding education and talent development, NTU is dedicated to cultivating well-rounded professionals capable of solving complex problems. For instance, Professor Chang-Chuan Chan, former Dean of the College of Public Health, has been leading global public health initiatives in Malawi for 20 years, fostering numerous practitioners and leaders in the field. These efforts align with UNESCO's mission to nurture responsible citizens.

NTU encourages students to engage with social issues and tackle challenges related to sustainable development and equality. For example, the RiiVERSE team from the College of Management has reduced the carbon footprint of the recycling process by 83 percent. Furthermore, Professor Nae-Lih Wu's team from the Department of Chemical Engineering has developed net-zero emission battery technology, and Professor Yu-San Han's team from the Institute of Fisheries Science has been promoting a low-carbon, zero-waste aquaculture economy.

These innovative initiatives help achieve university social responsibility goals and showcase the prowess of NTU's faculty and students on the international stage.

02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01 Rena Yokocawa, co-founder of TIWACT from NTU, second left, with Blessings Chirambo from Mzuzu University, right, and their team members.

02 Participants of the Chiputula Summer Camp Program pictured with Rena, first row, second left.

03 The iAuto Autonomous Bus is pictured, which won third place at the Dubai World Challenge.

04 The delegation of the Czech automobile industry visits NTU in 2024.

05 Then-President Ing-wen Tsai, third row, fifth left, NTU President Wen-Chang Chen, third row, fifth right, and award-winning teams are pictured in a group photo.

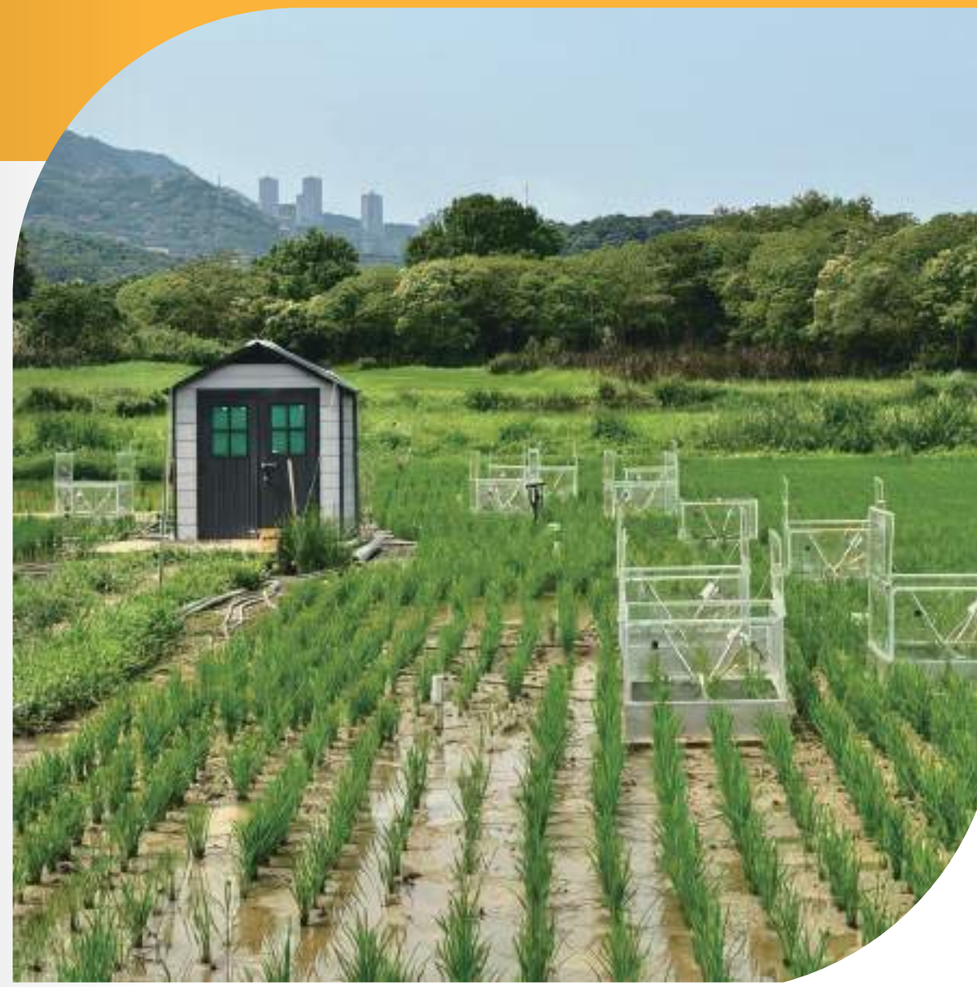
Vol. 111

# NET-ZERO CARBON TECHNOLOGY RESEARCH CENTER

Full text

In response to the growing threat of climate change and aligning with Taiwan's national goals for net-zero emissions, NTU established the Agricultural Net-Zero Carbon Technology and Management Innovation Research Center (ANZC). This issue of NTU Highlights introduces the center, which integrates resources from fields within the College of Bioresources and Agriculture, including soil, crop, environmental and social sciences, as well as hydrology, forestry and microbiology.

Through multidisciplinary collaboration, the center fosters international partnerships, develops professional talent and provides platforms for collaboration among industry, government, academia and research institutions. These efforts support the government in formulating a comprehensive blueprint to achieve net-zero emissions in Taiwan's agricultural sector.



ANZC research focuses on developing net-zero carbon emission technologies for agriculture, forestry and animal husbandry. The center offers courses on agricultural carbon footprint assessment and carbon-negative technologies, cultivating talents in these critical fields. It also hosts international workshops and seminars on agricultural carbon-negative technologies and establishes collaborations with universities and research centers worldwide, providing students with opportunities for advanced studies and internships in Taiwan and abroad.

Through these comprehensive efforts, ANZC aligns with international trends in carbon net-zero emission. The center contributes to the development of agricultural carbon-negative technologies in Taiwan and around the world.


Vol. 112

# PREPARING THE NEXT GENERATION FOR GLOBAL DIALOGUE

International communication skills and perspectives are essential for Taiwan to enhance its national competitiveness and stay aligned with globalization trends. NTU was selected by the Ministry of Education as a key talent cultivation university in its effort to promote bilingual learning. Fulfilling this role, NTU actively promotes bilingual education and collaborates with other Taiwanese universities.

This issue of NTU Highlights introduces NTU's efforts towards bilingual education by empowering teachers and elevating students' English proficiency. The aim is to cultivate a generation capable of communicating on the global stage.

NTU opened the Center for Bilingual Education in 2021, establishing a central office to manage University-wide English proficiency efforts. The center consists of four divisions: the Faculty EMI (English as a medium of instruction) Training Division, the Student English Proficiency Enhancement Division, the Planning Division and EMI Teaching and Learning Center. These divisions help teachers improve skills required to teach in English, prepare students to take EMI courses and support English events across departments.

In the 2023-2024 academic year, NTU launched a course preparing first-year students for EMI courses: the English-Medium-Instruction Preparation Program. Post-course assessments showed students significantly increased confidence and decreased anxiety about learning in English.

Full text

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