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Atmospheric Scientist Decodes Climate Dynamics

Int'l Traineeships Committed to Global Engagement

Entomologist's Antarctica Expedition

NTU, KU Focus on Sustainable Wellbeing

Smart Manufacturing

A modern smart manufacturing system is typically structured into five core layers: the device layer, control layer, network layer, application layer, and decision layer. As shown in Figure 1, these layers are interconnected by enabling technologies, such as digital twins, the Industrial Internet of Things (IIoT), control systems, big data analytics, artificial intelligence (AI), and cloud and edge computing.……

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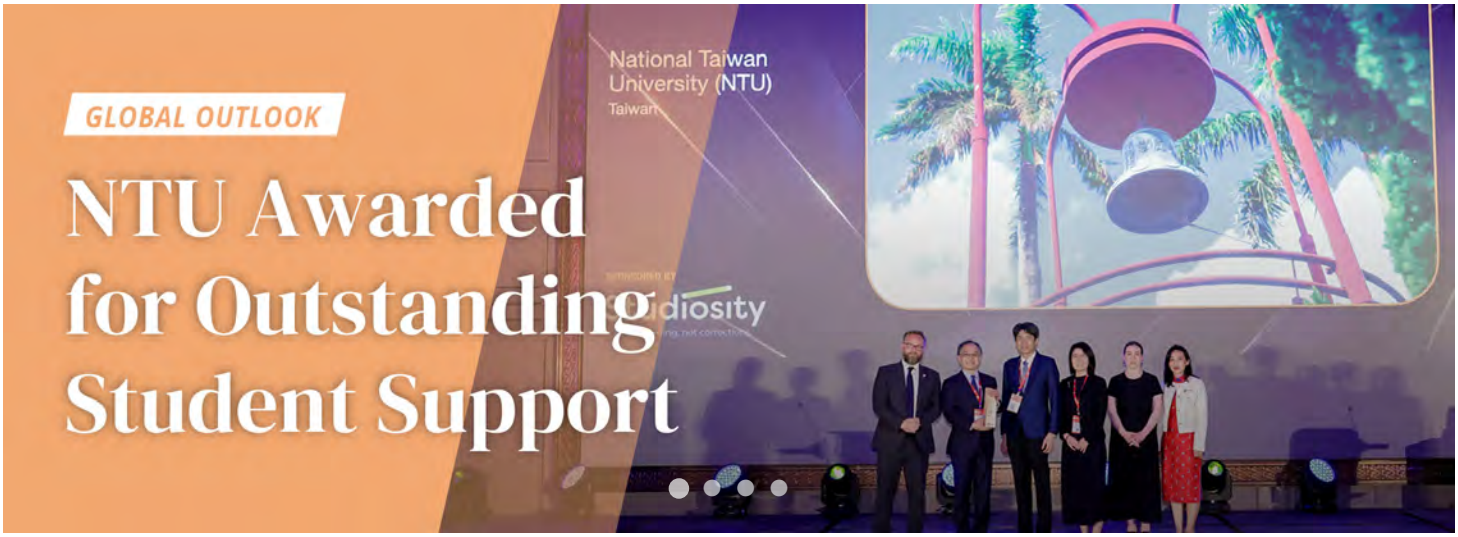

FEATURES

Solving Earth's Climate Puzzle: Prof. Yen-Ting Hwang's 10-Year Quest

We often imagine scientists as being serious people, prone to solitude. However, Prof. Yen-Ting Hwang of the Department of Atmospheric Sciences at National Taiwan University (NTU), breaks from that mold. She is open and warm, and has a relentless passion for discovery.

Now starting her 12th year as a faculty member at NTU, Prof. Hwang specializes in large-scale climate dynamics and air-sea interactions. These phenomena belong to areas of physics concerning the movement of air on a global scale—thermodynamics, fluid mechanics, and more. In layman's terms, she studies how the wind blows: how large-scale, long-term atmospheric patterns influence...

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HONOR

President Chen Honored by France with Legion of Honour for Strengthening Global Academic Ties

On May 6, 2025, President Wen-Chang Chen of National Taiwan University (NTU) was awarded the Chevalier de la Légion d'Honneur (Knight of the Legion of Honour), the highest civilian distinction conferred by the French...

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GLOBAL OUTLOOK

NTU Awarded for Outstanding Student Support at THE Asia Summit

At the prestigious 2025 Times Higher Education (THE) Asia Summit, held on April 22 at the Macau University of Science and Technology, National Taiwan University (NTU) received the Outstanding Support for Students Award, marking its first-ever entry and victory in the THE Asia Summit competition. NTU is also the first university in Taiwan to have received this honor.

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Beyond Borders: Int'l Traineeships Committed to Global Engagement

In January 2025, National Taiwan University (NTU) offered a diverse palette of immersive international traineeships, reaffirming its commitment to global engagement. These programs, which span cultures and industries, provided students with transformative experiences that bridged their classroom learning with real-world practice.prevention Nearly 100 faculty and students attended the forum.

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ACHIEVEMENTS

Landmark Study Dispels Fears Over Paternal Diabetes Drug Use and Birth Defects

In a major advance for global reproductive health and clinical safety, a research team led by Prof. Fei-Yuan Hsiao of the Graduate Institute of Clinical Pharmacy, National Taiwan University College of Medicine, has presented definitive answers to a question that has long haunted diabetic men planning fatherhood: “Is it safe to take ...

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Breaking the Code: Researchers Decipher How SCLC Powers Its Deadly Advance

Small cell lung cancer (SCLC) remains one of the most aggressive and treatment-resistant cancers. Patients are often diagnosed only after extensive metastasis has occurred, and current therapies provide limited long-term control, resulting in an average survival of less than a year.

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Metabolic Dysfunction Increases Mortality and Liver Cancer Risk in Hepatitis B & C Patients

Liver disease remains a critical national health challenge in Taiwan, closely linked to the high prevalence of chronic hepatitis B (HBV) and hepatitis C (HCV) infections. Prof. Jia-Horng Kao, Vice Superintendent of National Taiwan University Hospital (NTUH), leads a pioneering research team dedicated to the management of hepatitis patients with concurrent metabolic dysfunctions.

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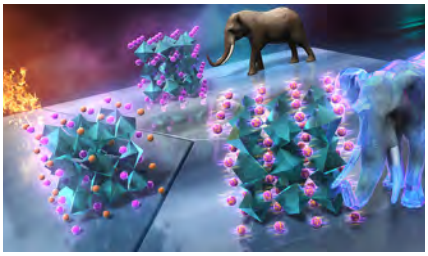

A New Twist in Material Transformations: Discovery of Pressure-Driven Charge Amorphization

In a breakthrough study led by Dr. Wei-Tin Chen, Assistant Research Fellow at the Center for Condensed Matter Sciences (CCMS) and the Center of Atomic Initiative for New Materials (AI-Mat) at National Taiwan University, researchers have uncovered an unexpected phenomenon in the material BiNiO3: when exposed to high pressure at low temperatures, its orderly electrical charges collapse into a disordered “charge glass” state. This discovery ...

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TEACHING & LEARNING

Strategic Alliance to Propel Taiwan's Drone Innovation to New Heights

In a major step toward integrating academic, industrial, and research resources, National Taiwan University (NTU), National Yunlin University of Science and Technology (YunTech), and National Formosa University (NFU) signed a Memorandum of Understanding (MOU) with the National Chung-Shan Institute of Science and Technology (NCSIST) on March 19, 2025. The collaboration is aimed to drive cutting-edge drone ...

...more

NTU x KU Course Dedicated to Sustainable Wellbeing

After two years of dialogue and pilot programs, the Trans-disciplinary Bachelor Degree Program (TBD) at D-School@NTU and the School o. Interdisciplinary Science and ...

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Smart Manufacturing: Bridging AI, Sensors, Real-World Applications

A modern smart manufacturing system is typically structured into five core layers: the device layer, control layer, network layer, application layer, and decision layer. As shown in Figure 1, these layers are ...

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PEOPLE

NTU Unveils the Design of Centennial Memorial Hall

National Taiwan University (NTU) officially revealed the long-anticipated design of its Centennial Memorial Hall, a cultural and architectural landmark commemorating the university’s 100th anniversary.

The project’s design—jointly created by renowned Japanese architect Akihisa Hirata and Taiwanese architect Huang Hsiang-Lung—won the public competition held on ...

...more

Entomologist's Antarctica Expedition

Associate Professor Matan Shelomi (薛馬坦) of the Department of Entomology at National Taiwan University (NTU) recently returned from a remarkable two-month scientific expedition to Antarctica. Based at Vernadsky Research Base, ...

...more

Career Fair Unites Innovation, Industry and Talent

On March 8, the Center for Career Development at National Taiwan University hosted VISION 2025, the largest on-campus career fair in Taiwan. The event commenced with remarks by NTU President Wen-Chang Chen, ...

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Commencement Celebrates the Class of 2024

On May 24, 2025, National Taiwawn University (NTU) held the Commencement Ceremony for the Class of 2024 at the NTU Sports Center. This year, the university celebrated the graduation of 4,794 undergraduate...

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Taiwan Higher Education-Nobel Laureated Asso. to ...

To invite Nobel laureates to Taiwan for academic exchanges and long-term cooperation, the Taiwan Higher Education–Nobel Laureates Association was officially launched on March 15, 2025. With support from government, ...

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FEATURES

Solving Earth's Climate Puzzle: Prof. Yen-Ting Hwang's 10-Year Quest

:Intro-video of Professor Yen-Ting Hwang.

Scientists are often considered serious people prone to solitude. However, Prof. Yen-Ting Hwang of the Department of Atmospheric Sciences at National Taiwan University (NTU), breaks from that mold. She is open and warm, and has a relentless passion for discovery.

Prof. Yen-Ting Hwang, recipient of the 2025 Taiwan Outstanding Women in Science Awards: Rising Star Award.

Now starting her 12th year as a faculty member at NTU, Prof. Hwang specializes in large-scale climate dynamics and air-sea interactions. These phenomena belong to areas of physics concerning the movement of air on a global scale—thermodynamics, fluid mechanics, and more. In layman's terms, she studies how the wind blows: how large-scale, long-term atmospheric patterns influence droughts, wildfires, and heatwaves, and where fronts and typhoons will travel.

Prof. Hwang holds a bachelor's degree in Physics from NTU and a PhD in Atmospheric Sciences from the University of Washington, Seattle. Her passion for decoding the natural world through the lens of physics began at NTU. A course on atmospheric dynamics taught by Prof. Chun-Chieh Wu sparked her interest

in using elegant physical equations to explain complex atmospheric behavior. Later, through her work in the lab of Prof. Chih-Hong Chueh at the Institute of Astronomy and Astrophysics, she became aware of the interconnected world of theory, simulation, and observation.

Today, she leads the Climate Dynamics and Global Change Laboratory, where she encourages students to arm their curiosity with logic to build knowledge step by step. Ten years ago, she was enchanted by the beauty of nature and the satisfaction of understanding its patterns. Now, she is drawn to the very processes through which humanity accumulates and refines that understanding.

Prof. Hwang weighing in with the Climate Dynamics and Global Change Research Group.

Finding Direction Through Mistakes

Concerning her recent recognition as a recipient of the 2025 Taiwan Outstanding Women in Science Award, Prof. Hwang openly admits,

"This award-winning research began with a flaw in my PhD thesis."

Prof. Hwang enthusiastically interpreted the equation written on the white board.

Determined to uncover why her original hypothesis had been overturned by later studies, together with Sarah Kang and other team members, they reached out to nine climate centers around the world, convincing them to run simulations to test unexplored ocean mechanisms. It took ten years to uncover what had previously been overlooked.

What Prof. Hwang's team discovered through exploring the oceanic mechanism was astonishing: atmospheric pollutants with a lifetime of just two weeks, through reflecting sunlight, can alter sea surface temperatures and influence climate patterns for decades. In other words, today's climate still bears the imprint of industrial emissions from the 1980s.

Amid the sweeping changes driven by human-induced climate change—across the atmosphere, ocean, sea ice, and land—Prof. Hwang examines emerging mechanisms through observation and simulation. Her goal is not only to deepen our understanding of the Earth system, but also to identify and explain the gaps between current climate models and the real world. She often works hand-in-hand with international climate scientists, inviting them to test her ideas, seeking to confirm deep theoretical thinking with collaborative validation.

Knowledge Buildup through Interdisciplinary Exchanges

"In science, each of us might just be a small cog in a much larger machine," she says. But for Prof. Hwang, collaborative problem-solving is deeply fulfilling. Take the cloud feedback meetings she regularly organizes as an example: experts in theory, simulation, and observation are brought together to discuss everything from cloud microphysics to global energy budgets. Through such interdisciplinary exchanges, everyone advances together—a process of productive interaction that she finds incredibly thrilling.

The Cloud Feedback Model Intercomparison Project (CFMIP) has been a key chapter in her intellectual journey. She once spent two or three years trying to use theory to explain how climate models predict future mid-latitude storm tracks—without success. Eventually, she realized that her theoretical framework was missing one critical factor: clouds. Unlike theory, climate models did include clouds.

So, she turned her attention to how Southern Ocean clouds influence tropical circulation—an approach that caught the attention of the CFMIP team. She was soon invited to join as a scientific committee member.

"That was the first time I had joined a large international collaboration," she says, eyes lighting up at the memory. Through her experiences with CFMIP, she witnessed science unfold across generations and borders, with experienced researchers offering support and guidance. She has since led major multi-model comparison projects within the group.

"When someone truly wants to find answers," she says, "other scientists will step up to help. I love that part of science—how we build knowledge together, across time and geography."

From the Poles to the Tropics: Understanding Global Connections

Prof. Hwang's award-winning research focuses on how climate changes in the mid- to high latitudes influence the tropics. More specifically, her studies explore how phenomena like sea ice melt, ozone depletion, and industrial aerosol emissions affect the equatorial cold tongue and warm pool regions.

"These insights directly improve climate prediction and help us refine climate models," she explains. The cold tongue and warm pool are critical to El Niño dynamics and serve as the engine behind large-scale atmospheric circulation. Changes here affect where droughts and heatwaves occur—some of the most pressing extreme events we face.

Looking ahead, Prof. Hwang plans to focus even more on the equatorial Pacific. She plans to analyze satellite data dating back to 1979 to track how various factors have altered this region's temperature—and to forecast when the cold tongue might become warmer than the surrounding warm pool. Such a shift would have profound implications for global climate patterns.

Science with a Human Touch

"I want to do science that connects with people.," she says. Prof. Hwang loves thinking, guessing, imagining—and above all, the process of testing and interpreting those ideas. Atmospheric science may be rooted in hard physics, but to her, it is also deeply personal, deeply human.

With unflagging passion, Prof. Hwang continues to push boundaries—mapping the unknown, one idea at a time.

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HONOR

President Chen Honored by France with Legion of Honour for Strengthening Global Academic Ties

NTU President Wen-Chang Chen receiving the Chevalier de la Légion d'Honneur, France's highest civilian honor, for his outstanding contributions to academic exchange between France and Taiwan.

On May 6, 2025, President Wen-Chang Chen of National Taiwan University (NTU) was awarded the Chevalier de la Légion d'Honneur (Knight of the Legion of Honour), the highest civilian distinction conferred by the French government. The honor recognizes President Chen for his over two decades of unwavering commitment to strengthening Taiwan–France collaboration in scientific research, talent cultivation, and cultural exchange.

The decoration was presented by Sylvie Retailleau, former French Minister of Higher Education and Research and past President of Université Paris-Saclay, in a formal ceremony attended by Franck Paris, Director of the French Office in Taipei, Deputy Minister of Foreign Affairs, Chih-Chung Wu, senior NTU officials, academic collaborators, and members of President Chen's family. The French government emphasized that this distinguished award expresses their deep appreciation for President Chen's outstanding contributions to advancing Taiwan–France relations.

President Chen making his acceptance remarks. He has frequently collaborated with French scientists on sustainable biomaterials research, including the development of oligosaccharide polymer films for flexible electronics, a project for which he received the 2018 Taiwan–France Science Award.
In 2023, he was also awarded an honorary doctorate by Université Grenoble Alpes (UGA) in recognition of his leadership in advancing global academic collaboration.

In his acceptance remarks, President Chen recalled his first visit to France in 2004 to attend the International Polymer Conference, where he was immediately drawn to the country's academic excellence and cultural richness. Since then, he has remained dedicated to deepening Taiwan–France ties. He expressed heartfelt gratitude to his family, colleagues, and students, noting that the honor was not only a personal one but also a testament to the enduring friendship and fruitful cooperation between the two nations. He pledged to continue fostering bilateral engagements in pursuit of global academic progress.

A Champion of Taiwan–France Academic Cooperation

President Chen has long been a driving force in Taiwan–France scientific collaboration. During his tenure as Dean of NTU's College of Engineering in 2011, and again as NTU President since 2023, he has led efforts to establish multi-faceted partnerships with leading French institutions, such as the French National Centre for Scientific Research (CNRS), French National Institute of Health and Medical Research (Inserm), and Université Grenoble Alpes (UGA).

These efforts have led to a series of major developments, including the signing of numerous Memoranda of Understanding, the launch of joint research projects, and the establishment of dual-degree programs, student exchanges, and international internships. One of the most notable achievements is the creation of a tri-national joint research center in collaboration with UGA and Kyushu University, which currently jointly host over 25 multinational research projects, showcasing NTU's global research leadership.

Building on this momentum, President Chen has also expanded NTU's collaborations with other top French institutions, such as Université Paris-Saclay, Université de Bordeaux, and Université Grenoble Alpes, further advancing joint degrees, student mobility, industry-academia partnerships, and cross-border research initiatives.

President Chen's being decorated with the Legion of Honour is not only a recognition of his personal achievements but also a powerful symbol of Taiwan's growing academic stature on the international stage.

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HONOR

Congrats to Excellent Female Scientists

At the 18th Taiwan Outstanding Women in Science Awards in 2025, National Taiwan University (NTU) proudly celebrated its members who were duly honored. Prof. Wan-Jiun Liao, Executive Vice President of NTU and Distinguished Professor of the Department of Electrical Engineering and Graduate Institute of Communication Engineering, received the event's highest honor—the Outstanding Award. Meanwhile, Prof. Yen-Ting Hwang, Professor of the Department and Graduate Institute of Atmospheric Sciences, was named a recipient of the Rising Star Award, as was Prof. Hsiang-Yi Yang, Associate Professor at the Department of Physics and Institute of Astronomy at National Tsing Hua University, who is also an NTU alumna.

NTU Executive Vice President and Distinguished Professor of Electrical Engineering Wan-Jiun Liao (right) and Prof. Yen-Ting Hwang of the Department of Atmospheric Sciences (left), recipients of the Outstanding Award and Rising Star Award, respectively, at the 18th Taiwan Outstanding Women in Science Awards in 2025.

Pioneering the Future of Communications: Prof. Wan-Jiun Liao

Prof. Liao is widely recognized as one of Taiwan's trailblazers in the field of communication networks. Her research spans wireless networks, multimedia communications, intelligent edge computing, and vehicular networks. Significantly, she has led innovations in multi-user remote immersive experiences through 5G/6G edge computing, enhancing synchronization and reducing latency while minimizing network resource consumption. Her work has drawn international attention, including an invitation to contribute to the 6G white paper by the EU 6G Flagship Expert Team, reflecting her global impact on next-generation network technologies.

"*It was diligence that led me to discover my passion, and that passion transformed into commitment*," Prof. Liao reflects. She encourages students to believe in themselves and pursue their dreams boldly: "Give yourself more chances—you may be surprised by the future you create." As the first female professor in NTU's Department of Electrical Engineering, she firmly believes that gender is never a barrier—what matters most is discovering your passion and direction.

Decoding Climate Dynamics: Prof. Yen-Ting Hwang

Prof. Hwang specializes in climate dynamics, using high-performance computing to simulate interactions between the atmosphere and oceans that shape global climate. One of her most important findings reveals that cloud biases in the Southern Ocean can, through teleconnection mechanisms, influence tropical rainfall patterns—a discovery that has prompted climate modeling centers to reexamine the Southern Ocean's role in the global climate system.

Click or Scan the QR code to learn more about *The Taiwan Outstanding Women in Science Awards.*

"Scientists don't need to be geniuses or possess endless inspiration," she said. "Research is often one question leading to the next. Only when you look back on years of effort do you realize how far you've come—growing together with the field itself."

Noting that some women are more prone to experience impostor syndrome, she often encourages her students not to let imaginary doubts hold them back. She believes that every time we face a decision, we should courageously choose what we love most—that's the best way to discover the right path and kindred collaborators.

Shaping the Universe: Prof. Hsiang-Yi Yang

Also receiving the Rising Star Award, NTU alumna Prof. Hsiang-Yi Yang, who teaches at National Tsing Hua University, is specialized in black hole physics and galaxy evolution. Through advanced computational simulations, she investigates complex interactions among astrophysical mechanisms, including how black hole jets influence the formation and transformation of galaxies and galaxy clusters.

The NTU community takes tremendous pride in the research excellence and dedication of its award-winning faculty. Their achievements not only push the boundaries of knowledge but also serve as powerful inspirations for the next generation of scientists.

About the Award

The Taiwan Outstanding Women in Science Awards were jointly established in 2007 by L'Oréal Taiwan and the Wu Chien-Shiung Education Foundation. Often referred to as "Taiwan's Nobel Prize for Women," the awards honor outstanding female scientists, setting role models that instill courage and ambition in young women pursuing science, while promoting gender equality and diversity in the scientific community.

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GLOBAL OUTLOOK

NTU Awarded for Outstanding Student Support at THE Asia Summit

NTU Vice President for Academic Affairs Hung-Jen Wang (second from left), Deputy Vice President for Academic Affairs Lin-Chi Chen (third from left), and the NTU academic affairs team accepting the award at THE Asia Summit 2025.

At the prestigious 2025 Times Higher Education (THE) Asia Summit, held on April 22 at the Macau University of Science and Technology, National Taiwan University (NTU) received the Outstanding Support for Students Award, marking its first-ever entry and victory in the THE Asia Summit competition. NTU is also the first university in Taiwan to have received this honor.

The annual THE Asia Summit and Awards, launched in 2019, is aimed to recognize innovation and impact in higher education across the region. This year, over 500 submissions were evaluated by an international panel of judges—including experts from Harvard University, the University of London, and Tohoku University—to select 80 finalists from 10 award categories. NTU emerged as the sole winner in its category, outperforming such prominent institutions as the National University of Singapore and seven other shortlisted universities.

NTU declared Winner of THE's Outstanding Support for Students Award.

INT System: A Student-Centered Framework for Personalized Future Learning

In particular, NTU received this award for its innovative INT System, which is centered on three pillars: Illuminating, Navigating, and Transforming. The INT system integrates the services of the Office of Academic Advising, Field Expertise Modules, and Flexible Bachelor's Programs to guide students in clarifying their chosen academic and career paths, while encouraging them to undertake interdisciplinary learning and pursue personalized degree pathways.

According to Vice President for Academic Affairs, Hung-Jen Wang, the INT System is a flagship initiative under NTU's Future University Project, launched in 2019. This award, he said, recognizes and spotlights Taiwan's growing leadership in higher education innovation. The judges commended NTU for its learner-centered approach, its integration of personalized advising with modular curricula, and its pioneering flexible degree structures.

Wang noted that NTU's Office of Academic Advising has served nearly 3,000 students to date, and recently launched the "Illuminating Cards," a unique tool that presents advising principles in a practical, user-friendly card set. NTU currently offers 270 Field Expertise Modules, with an 80% participation rate among departments. One-third of NTU's Class of 2024 earned a specialization certificate, demonstrating the students' ability to deepen and broaden their learning across disciplines.

NTU has also implemented flexible degree programs, including six College Bachelor's Programs and the University Bachelor's Program, in which 92 students are now enrolled. The latter program has been presented by Taiwan's Ministry of Education as a model for cross-disciplinary education reform. NTU has also published six "NTU Model" handbooks to share its innovative practices with other universities nationwide—inviting further collaboration and dialogue on the future of higher education.

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GLOBAL OUTLOOK

Beyond Borders: Int'l Traineeships Committed to Global Engagement

Students participating in regional revitalization efforts on Awaji Island.

In January 2025, National Taiwan University (NTU) offered a diverse palette of immersive international traineeships, reaffirming its commitment to global engagement. These programs, which span cultures and industries, provided students with transformative experiences that bridged their classroom learning with real-world practice.

Paris: The Key to Luxury Industry Traineeship.

Awaji Island: Revitalizing a Timeless Japanese Community

In partnership with PASONA, the "2025 Awaji: Revitalizing a Timeless Island Traineeship" brought NTU students to Awaji Island, Japan, to explore proposed strategies for regional revitalization. The students conducted hands-on agricultural work, field studies, and discussions with local university students, experiencing firsthand an innovative blend of community-building, sustainability, and traditional Japanese values. The program deepened the students' cross-cultural understanding while offering them precious hands-on experience of grassroots approaches to rural regeneration.

Paris: Inside the World of Haute Couture and Luxury Innovation

Meanwhile, the "Paris: The Key to Luxury Industry Traineeship," a collaboration with L'adresse Paris, granted the NTU students exclusive access to Paris Fashion Week as well as exposure to the inner workings of the luxury industry. The participants had precious opportunities to explore brand storytelling, fashion house operations, and high-end consumer engagement. In particular, site visits to iconic fashion institutions and cultural landmarks provided the students with an overview of the French luxury ecosystem, blending heritage with innovation.

Students exploring the fashion and luxury industries in Paris.

Tokyo: Where Tradition Meets Tomorrow

NTU also partnered with Water Mirror to hold the "Tokyo: Where Tradition Meets Tomorrow" traineeship. The participating students examined the fusion of legacy businesses and tech-driven startups in Japan's capital, meeting with entrepreneurs and venture capitalists, touring innovation centers, and immersing themselves in Japanese traditions, such as the tea ceremony. The program offered them rare insights into Japan's entrepreneurial spirit and evolving business culture.

Students experiencing traditional tea ceremony culture in Tokyo.

These three "January 2025" programs—in Awaji, Paris, and Tokyo—illustrate NTU's visionary intension to empower students through cross-cultural, interdisciplinary, experiential learning. Looking ahead, NTU is expanding its global portfolio, with upcoming traineeships already planned for Cape Town, Prague, and additional sites across Japan.

Click or Scan the QR code to learn more about NTU Overseas Internship Programs.

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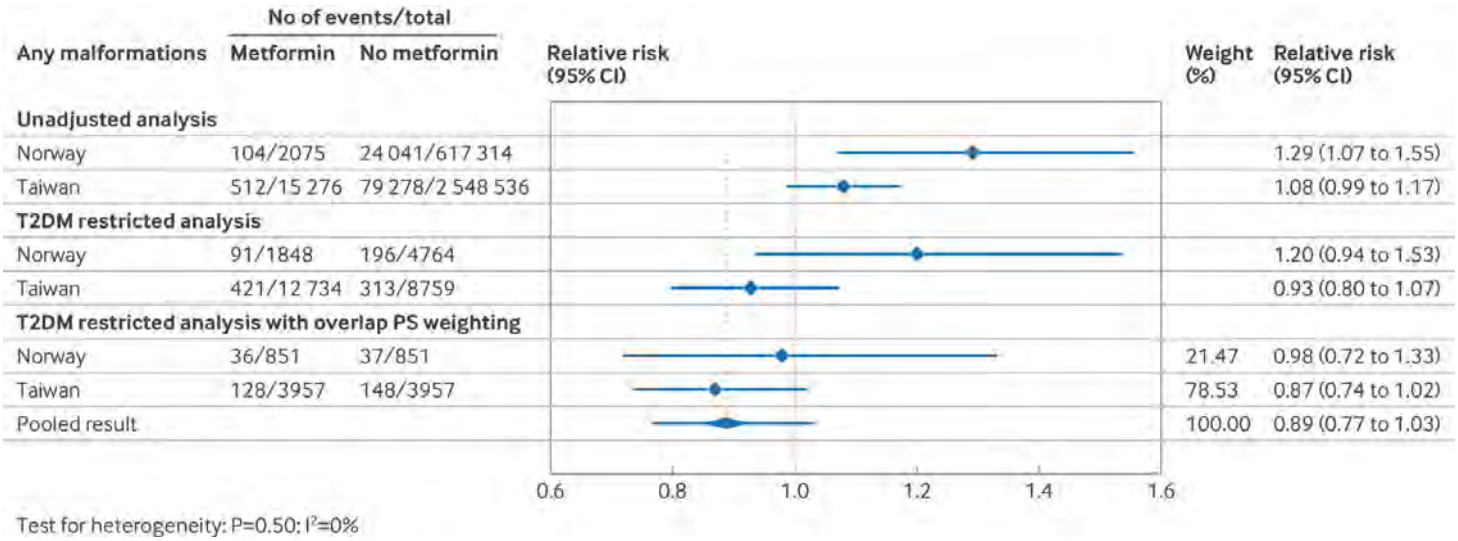
ACHIEVEMENTS

Landmark Study Dispels Fears Over Paternal Diabetes Drug Use and Birth Defects



Study findings on the association between paternal metformin use during sperm development and congenital malformation risk.

In a major advance for global reproductive health and clinical safety, a research team led by Prof. Fei-Yuan Hsiao of the Graduate Institute of Clinical Pharmacy, National Taiwan University College of Medicine, has presented definitive answers to a question that has long haunted diabetic men planning fatherhood: "Is it safe to take metformin while trying to conceive?"

This study—published in the prestigious *British Medical Journal (BMJ)*—sets a new benchmark in pharmacoepidemiology and is already being hailed as a milestone in the field. Amid rising concerns from a 2022 Danish study that linked paternal metformin use to a higher risk of congenital abnormalities, the NTU-led team went further, deeper, and broader—conducting a massive multinational analysis of more than 3 million fathers across Taiwan and Norway. The result? Reassuring; the study offered science-based clarity on a matter affecting millions worldwide.

The research Team (group photo).

What Makes This Study Exceptional?

What distinguished this work was its unprecedented scale and methodological rigor. Prof. Hsiao's team seamlessly integrated three of Taiwan's most comprehensive national datasets—including birth registrations, maternal-child health records, and National Health Insurance claims—with Norway's

internationally acclaimed registry data. Using cutting-edge methods, such as sibling comparison designs and propensity score overlap weighting, the researchers were able to filter noise, eliminate bias, and isolate the actual impact of metformin on reproductive outcomes.

The findings are as significant and far-reaching as they are timely:

Paternal metformin use during the period of sperm development is not associated with an elevated overall risk of congenital malformations. For families, this means peace of mind. For clinicians, it offers critical guidance for treating type 2 diabetes in men who plan to have children.

Student-Led, Globally Resonant

The study's first author, Lin-Chieh Meng[1] , conducted the data mining and cross-national analysis during her exchange program at the University of Oslo, making this achievement a testament not only to NTU's academic excellence but also to its deep global research network. The research team also included collaborators at Radboud University (Netherlands), Taipei Municipal Gan-Dau Hospital, and the University of Oslo.

This landmark publication has captured global attention—featured in over 50 major media outlets worldwide—and will likely shape clinical guidelines and public health strategies for years to come.

Significance for Global Health

At a time when more couples are postponing parenthood and the incidence of chronic illnesses are on the rise, this study provides what the world urgently needs: reassurance based on scientific clarity, clinical guidance, and real-world evidence. It's not just a contribution to Taiwan's growing leadership in pharmacovigilance—it's a gift to global public health.

Supported by the National Science and Technology Council and NTU, Prof. Hsiao's team continues to blaze trails in medication safety research, with a focus on how parental drug use affects offspring health—pioneering work that will redefine the frontiers of reproductive medicine and precision pharmacoepidemiology.

[1]Master student and then research associate, under Prof. Hsiao's supervision, at Graduate Institute of Clinical Pharmacy of NTU College of Medicine.

First author Lin-Chieh Meng during her research exchange at the University of Oslo.

Click or Scan the QR code to read the journal article in *British Medical Journal*.

Click or Scan the QR code to explore global media coverage of the study.

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ACHIEVEMENTS

Breaking the Code: Researchers Decipher How SCLC Powers Its Deadly Advance

Dr. Leanne Li and Prof. Jin-Shing Chen with their research team members.

Small cell lung cancer (SCLC) remains one of the most aggressive and treatment-resistant cancers. Patients are often diagnosed only after extensive metastasis has occurred, and current therapies provide limited long-term control, resulting in an average survival of less than a year.

Prof. Jin-Shing Chen of the Department of Surgery at National Taiwan University Hospital (NTUH) and his research team contributed to a major international study that disclosed key biological mechanisms driving SCLC's aggressive behavior. Their groundbreaking findings were published online in *Nature* on February 12, 2025. This study reveals, for the first time, that SCLC tumors generate their own electrical activity, which in turn directly induces metastasis and progression. The discovery opens potential new avenues for targeted therapies against this lethal cancer.

The study was spearheaded by Dr. Leanne Li's laboratory at the Francis Crick Institute in the UK. It brought together top-tier research teams from the University of Cambridge, MIT, Harvard Medical School, Dana-Farber Cancer Institute, and UT Southwestern Medical Center, together with NTUH—all globally recognized for excellence in both basic and clinical research.

Dr. Li, an NTU alumna who earned her MD at NTU and trained under Prof. Chen at NTUH, reflected on their collaboration: "Prof. Chen's transformative work in lung cancer research and patient care in Taiwan has been a constant source of inspiration to me. Collaborating with my mentor from my alma mater—also Taiwan's leading thoracic surgeon—is a true honor."

The New Discovery: Cancer Cells with an Internal Power Grid

SCLC tumors are composed of neuroendocrine (NE) cells and non-neuroendocrine (non-NE) cancer cells. The study found that NE cells are capable of generating intrinsic electrical signals, much like neurons communicating within the brain. More crucially, this self-generated electrical activity was found to directly drive tumor aggressiveness and metastatic potential. Meanwhile, non-NE cells support the tumor by supplying energy, creating a dynamic interplay between different cancer cell populations that fuels SCLC growth.

Prof. Chen likened the phenomenon to a new kind of self-sufficiency in cancer cells:

"Most cancer cells are like cars—they need external fuel or power to operate. If you cut off the supply, you slow them down. But SCLC is different. It's as if it has installed its own solar panels, creating an internal power grid. This ability to generate and sustain its own energy makes it uniquely aggressive and extraordinarily difficult to treat."

Targeting Electrical Activity to Halt Cancer Progression

To test whether inhibiting the tumor's electrical activity could slow its growth, researchers administered tetrodotoxin (TTX)—a neurotoxin that blocks electrical signaling—to SCLC cells. Although TTX did not immediately kill the NE cells, it significantly reduced their ability to form tumors over time. Furthermore, analysis of clinical SCLC patient samples revealed that higher levels of tumor electrical activity correlate with poorer patient prognosis, confirming the critical role of this mechanism in disease progression.

Dr. Li added: "While previous research hinted that some cancer cells express neuron-like genes, this is one of the first direct demonstrations that electrical signaling actively drives cancer aggressiveness. They believe the mechanisms disclosed here in SCLC may also apply to other highly metastatic cancers."

Looking ahead, Dr. Li's and Prof. Chen's teams plan to explore how cancer cells harness electrical and metabolic systems for growth and survival—and whether targeting these systems can yield new therapeutic strategies.

The NTU research team is committed to building on these findings by investigating similar electrophysiological mechanisms in other cancer types and assessing whether disrupting these self-sustaining neural networks could lead to revolutionary treatments against some of the most difficult-to-treat malignancies.

Click or Scan the QR code to Access the Full Journal Article in *Nature*.

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ACHIEVEMENTS

Metabolic Dysfunction Increases Mortality and Liver Cancer Risk in Hepatitis B & C Patients

The NTUH research team.

Liver disease remains a critical national health challenge in Taiwan, closely linked to the high prevalence of chronic hepatitis B (HBV) and hepatitis C (HCV) infections. Prof. Jia-Horng Kao, Vice Superintendent of National Taiwan University Hospital (NTUH), leads a pioneering research team dedicated to the management of hepatitis patients with concurrent metabolic dysfunctions.

Recent studies by Prof. Tung-Hung Su and Dr. Shang-Chin Huang disclose that HBV patients with concurrent metabolic dysfunction face a significantly elevated risk of mortality. In contrast, HBV patients with liver steatosis alone—without other metabolic dysfunction—showed a 50% reduction in long-term mortality risk, suggesting nuanced differences in disease progression.

Meanwhile, hepatitis C remains a major contributor to liver cirrhosis and hepatocellular carcinoma (HCC). A groundbreaking study by Prof. Chen-Hua Liu revealed that even after successful HCV eradication using direct-acting antivirals (DAAs), patients with metabolic dysfunction-associated steatotic liver disease (MASLD) continue to have a substantially higher risk of developing HCC compared to those without metabolic dysfunction. These findings underscore the need for early intervention—whether through medications or lifestyle modifications—and regular surveillance for HCC to manage long-term risks effectively.

Both studies were published recently in the internationally respected *Journal of Hepatology*, drawing significant attention from the global hepatology community. The discoveries

offer crucial new insights into the long-term management of hepatitis B and C patients and underscore the urgent need to address metabolic dysfunctions to prevent liver cancer progression.

The Broader Impact: Metabolic Dysfunctions and Liver Disease

Metabolic dysfunctions—including diabetes, hypertension, and obesity—exert a profound impact on patients with chronic liver disease. In addition to antiviral therapies, managing metabolic syndromes, maintaining a healthy weight and diet, and undergoing regular liver function monitoring are essential to reducing complications, such as cirrhosis and liver cancer, ultimately improving long-term patient outcomes.

Prof. Chun-Jen Liu, Director of the Hepatitis Research Center at NTUH, emphasizes the importance of patient self-management. He advocates regular liver function tests and abdominal ultrasounds for early detection of cirrhosis and HCC. Furthermore, active monitoring and management of metabolic risk factors—such as blood pressure, blood sugar, body weight, and cholesterol levels—are vital. Any detected abnormalities should prompt immediate medical consultation. Adhering to medical advice on lifestyle changes and treatment regimens is critical for achieving better long-term health outcomes.

Click or Scan the QR code to Access the Journal Article "All-cause and cause-specific mortality in patients with chronic hepatitis B and concurrent steatotic liver disease" in *Journal of Hepatology*.

Click or Scan the QR code to Access the Journal Article "Risk of de novo HCC in patients with MASLD following direct-acting antiviral-induced cure of HCV infection" in *Journal of Hepatology*.

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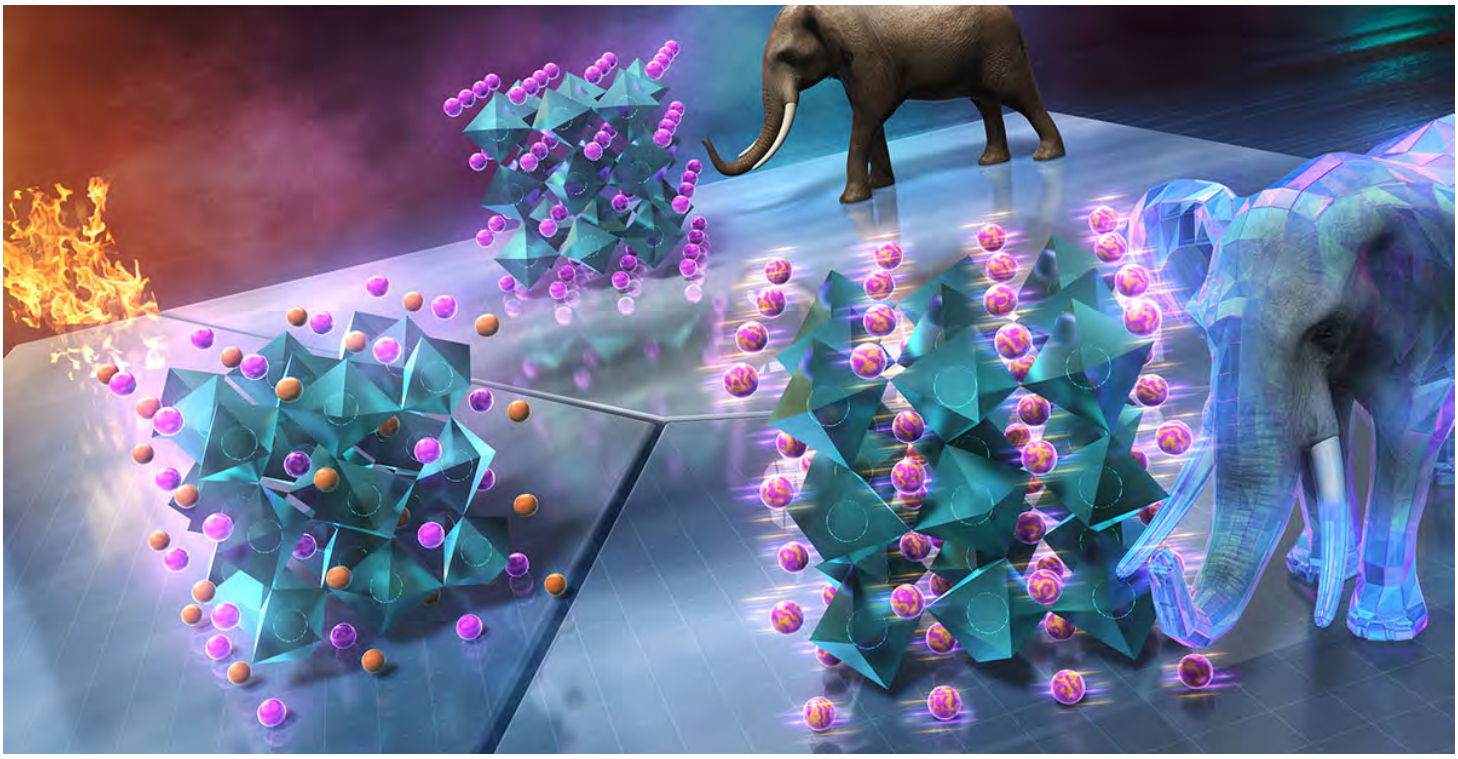
ACHIEVEMENTS

A New Twist in Material Transformations: Discovery of Pressure-Driven Charge Amorphization



Schematic of $BiNiO_3$ Phase Transformations: Phases of bismuth nickelate ($BiNiO_3$) at various pressures and temperatures, illustrating the transitions between charge ordered, charge glass, and metallic states.

In a breakthrough study led by Dr. Wei-Tin Chen, Assistant Research Fellow at the Center for Condensed Matter Sciences (CCMS) and the Center of Atomic Initiative for New Materials (AI-Mat) at National Taiwan University, researchers have uncovered an unexpected phenomenon in the material $BiNiO_3$: when exposed to high pressure at low temperatures, its orderly electrical charges collapse into a disordered "charge glass" state. This discovery sheds new light on how materials behave under extreme conditions and may open new pathways for developing advanced materials with unique and desirable properties.

The research was conducted in collaboration with Prof. Masaki Azuma at the Research Center for Autonomous Systems Materiology (ASMat), Institute of Science Tokyo, and Prof. Paul Attfield at the Centre for Science at Extreme Conditions (CSEC), University of Edinburgh.

Research Team and High-Pressure Apparatus: Dr. Wei-Tin Chen with PRESS Lab team members (Team HPHT) and the crucial high-pressure equipment used for synthesis.

Dr. Chen is specialized in high-pressure sciences, particularly the realization of metastable materials through high-pressure, high-temperature (HPHT) synthesis. By applying pressures of several gigapascals—equivalent to conditions hundreds of kilometers beneath the Earth's surface—and temperatures reaching around 1,000°C, his team is able to create novel materials unattainable through conventional synthesis methods.

Click or Scan the QR code to Access the Journal Article in *Nature Communications*.

$BiNiO_3$, a member of the perovskite oxide family, is known for its distinctive charge and structural order, stabilized under HPHT conditions. At ambient conditions, the material exhibits a columnar charge order of bismuth ions (Bi^{3+} and Bi^{5+}). However, when pressure is increased to 3 gigapascals, this ordered state begins to "melt" as charges transfer between the bismuth and nickel ions. Increasing the pressure—between 4 and 5 gigapascals at temperatures below 200 Kelvin—the charge-ordered structure collapses entirely, resulting in a "charge glass" state, such that electrical charges are randomly distributed, akin to how crystals transform into amorphous structures under high pressure.

Notably, when $BiNiO_3$ is heated under pressure, it transitions into a metallic state accompanied by negative thermal expansion—a counterintuitive contraction in volume upon heating. These remarkable phase transitions highlight the intricate interplay between pressure, temperature, and electronic properties.

"These transformations—including charge transfer, charge disproportionation, and charge amorphization—offer new opportunities for designing materials with extraordinary properties, such as negative thermal expansion and magnetocaloric effects," said Dr. Wei-Tin Chen, lead author of the study. "The ability to manipulate charge arrangements through pressure and temperature could unlock innovations in electronics, sensors, and other advanced technologies that rely on precision material control."

This research was published in the prestigious journal *Nature Communications* in 2025, underscoring the powerful potential of combining high-pressure techniques with advanced structural characterization to discover and engineer next-generation functional materials.

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TEACHING & LEARNING

Strategic Alliance to Propel Taiwan's Drone Innovation to New Heights

NTU President Wen-Chang Chen delivered remarks at the signing ceremony.

In a major step toward integrating academic, industrial, and research resources, National Taiwan University (NTU), National Yunlin University of Science and Technology (YunTech), and National Formosa University (NFU) signed a Memorandum of Understanding (MOU) with the National Chung-Shan Institute of Science and Technology (NCSIST) on March 19, 2025. The collaboration is aimed to drive cutting-edge drone research projects, foster technological innovation, and bolster Taiwan's global competitiveness in the drone industry.

NTU booth showcasing research achievements.

NTU President Wen-Chang Chen, YunTech Vice President Ming-Chang Wu, NFU President Hsin-Liang Chang, and NCSIST President Shih-Chiang Li attended the signing ceremony, along with Yunlin County Magistrate Li-Shan Chang and representatives from major domestic drone companies. The alliance will focus on talent development, operational management, scientific research, applications in healthcare and hydrogen energy, and the integration of digital twin technology and artificial intelligence (AI) into the drone industry—paving the way for a dynamic and mutually beneficial ecosystem.

President Chen announced that NTU will launch credit courses promoting drone and AI technologies and will seek to establish new degree programs in collaboration with Taiwan's Ministry of Education. These initiatives aim to cultivate highly skilled professionals and support the development and growth of the drone industry, particularly in the Yunlin-Chiayi region. Magistrate Chang also expressed her hopes that this collaboration will transform Yunlin from a leading agricultural county into a hub for agriculture, industry, and technology.

Aligned with Taiwan's national drone industry development policy, the Executive Yuan approved the budget for the Chiayi Minxiong Aerospace and Drone Industry Park in August 2024. This strategic alliance between three leading universities and NCSIST marks the beginning of a broader collaborative effort between academia, research institutions, and industry stakeholders to establish a comprehensive ecosystem for drone research, manufacturing, and testing.

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TEACHING & LEARNING

NTU x KU Course Dedicated to Sustainable Wellbeing

Taiwanese and Japanese students attending a course workshop in Pinglin, New Taipei City (group photo).

After two years of dialogue and pilot programs, the Trans-disciplinary Bachelor Degree Program (TBD) at D-School@NTU and the School of Interdisciplinary Science and Innovation (ISI) at Kyushu University (KU) officially launched an eight-week international Off-Site Study course in the Spring 2025 (113-2) semester. Centered on the theme of "Sustainable Wellbeing," the course brought together 28 students from Taiwan and Japan, working in transnational teams through a hybrid model of online collaboration and in-person fieldwork.

Hands-on learning about sustainable agriculture and the tea industry through tea-making practices.

Fifteen ISI students traveled to Taiwan in February 2025 for a two-week study visit. On February 19, Prof. Shenglin Elijah Chang, Director of TBD, and Prof. Chien Wen Yuan led the Taiwanese and Japanese students to Pinglin in New Taipei City, where a series of expert-led sessions took place. Local researchers and practitioners who had long been rooted in Pinglin shared insights on such topics as life course studies, environmental education, carbon footprint analysis, and place-based sustainability practices. Students visited tea plantations, tea factories,

and ecological monitoring stations to gain firsthand understanding of the local landscape and the corresponding social dynamics—deepening their awareness of social engagement and ecological sustainability.

Following the fieldwork, students held intensive group discussions and conducted interviews for their project-based inquiries. Topics explored by the student teams included:

- Promoting edible insects
- The impact of nighttime phone use on sleep
- Over-tourism in Kyoto
- Loneliness and solitary living
- Parenting challenges faced by working mothers
- Plastic packaging in food products

The course stressed turning learning into actionable change, encouraging students to develop problem-solving skills through cross-cultural collaboration and hands-on engagement. By navigating real-world issues and working with peers from different backgrounds, the students strengthened their ability to confront global challenges and create meaningful social impact.

Faculty and students visiting the Jingualiao Stream Monitoring Station.

After farewell dinner for KU students before their return to Japan (group photo).

Click or Scan the QR code to Visit the TBD official website.

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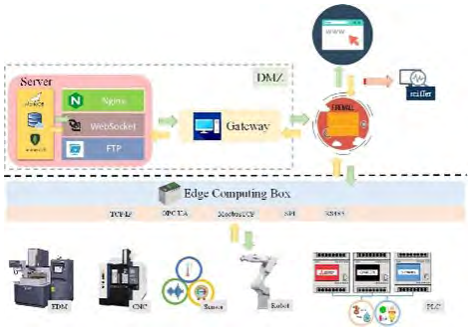
TEACHING & LEARNING

Smart Manufacturing: Bridging AI, Sensors, Real-World Applications

Students discussing smart manufacturing concepts.

A modern smart manufacturing system is typically structured into five core layers: the device layer, control layer, network layer, application layer, and decision layer. As shown in Figure 1, these layers are interconnected by enabling technologies, such as digital twins, the Industrial Internet of Things (IIoT), control systems, big data analytics, artificial intelligence (AI), and cloud and edge computing.



Smart manufacturing system architecture schematic.

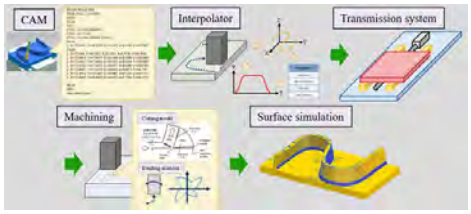
At National Taiwan University (NTU)'s Department of Mechanical Engineering, the course "Sensor Network and Data Analysis Technology for Intelligent Manufacturing" is taught by Prof. Meng-Shiun Tsai. This course offers students a robust introduction to sensor principles and machine-to-machine (M2M) networking (Figures 2 and 3). Importantly, this course provides not just essential knowledge in intelligent connectivity, but also training in applying AI and data analytics techniques to real-world smart manufacturing scenarios.

A highlight of the course is its hands-on approach to building digital twins of CNC machine tools. The students learn to integrate foundational technologies, including CAD/CAM, interpolation, servo control, transmission systems, structural dynamics, cutting process modeling, and geometric error modeling (Figure 4). These skills and technologies form the basis of building a virtual replica that mirrors the behavior of physical machines.

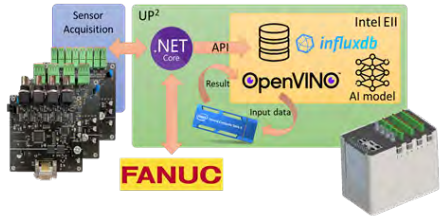
To enhance practical learning, the teaching team has developed a custom Edge Computing Box (ECB) that enables students to collect and analyze signals from various sensors, such as accelerometers, temperature sensors, microphones, and image sensors. The ECB is built on the Intel Edge Insights for Industrial (EII) platform and includes an OPC UA server capable of seamless communication with CNC controllers, forming a comprehensive edge AI system (Figure 5).

The Smart Manufacturing teaching team remains deeply committed to promoting AI integration in engineering education and inspiring students across disciplines to explore the rapidly evolving world of smart manufacturing. Through this course, NTU is cultivating a new generation of engineers equipped with the skills to lead in an era of intelligent automation and digital transformation.

Teaching assistant demonstrating CNC controller functions.



Building a digital twin for CNC machine tools.



Edge Computing Box with EII platform and AI integration.

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NTU Unveils the Design of Centennial Memorial Hall

The Centennial Memorial Hall will feature a café on the ground floor and a donor wall at the main entrance, with other floors designed for the following purposes:
- 2F: An open-air corridor overlooking interior activities.
- 3F: Exhibition and exchange space.
- 4F: A circular special exhibition hall and workshop area.
- 5F: Administrative offices.

National Taiwan University (NTU) officially revealed the long-anticipated design of its Centennial Memorial Hall, a cultural and architectural landmark commemorating the university's 100th anniversary.

The project's design—jointly created by renowned Japanese architect Akihisa Hirata and Taiwanese architect Hsiang-Lung Huang—won the public competition held on December 29, 2022. Subsequently, design adjustments have been made to accommodate changes in the project scale. After two years of refinement, the revised concept was formally presented by Hirata himself at the NTU University Council Meeting on March 22, 2025, where he shared the architectural vision and design philosophy with attending faculty and student representatives. The

The building will be located at the intersection of Roosevelt Road Section 4 and Keelung Road Section 4, marking a key gateway into Taipei from the neighboring New Taipei City districts, Yonghe and Xindian.

presentation sparked lively discussions, with Hirata and NTU administrators addressing questions about the structure's environmental adaptation, sustainability, and accessibility.

Japanese architect Akihisa Hirata , protégé of Pritzker Prize laureate Toyo Ito

Fusing History, Ecology, and Innovation

Centennial Memorial Hall—also referred to as the NTU Arts and Culture Building—is planned to be a five-story structure with one underground level, and an estimated construction cost of over NT$1 billion. Architect Hirata noted that NTU's campus features a unique blend of historical legacy and contemporary vitality. His design embraces this dual identity by creating a multi-functional, ecologically integrated space that embodies both tradition and innovation.

The Hall will be the first museum on campus in which a steel structural system is combined with natural materials reflective of NTU's landscape. It will showcase 100 landmark contributions and achievements made by the university that have shaped both Taiwan and the world. Construction is expected to be completed by October 2028, followed by the building's formal handover.

Notably, the design team used AI-assisted analysis to process extensive NTU-related data, generating conceptual "fragments" and keywords that symbolize the university's spirit. These insights informed a highly original exhibition space, uniquely tailored to NTU's identity. Hirata cited a quote by former NTU President Fu Ssu-Nien—"We dedicate this university to the spirit of the universe"—as a key source of inspiration. "Only within a university can we dare to challenge and innovate at such a level," Hirata remarked. "This will be a space that transcends traditional design—an architecture that aspires to reflect the spirit of the cosmos."

Responding to Taiwan's Climate and Community Needs

Faculty and students raised practical questions about the building's suitability for Taiwan's hot, humid climate and frequent typhoons. Issues concerning air conditioning and energy efficiency, bird-safe glass, parking logistics, and universal accessibility were thoroughly discussed. Hirata and the university team assured attendees that these considerations would be integral to the project's ongoing refinement.

Hirata, a protégé of Pritzker Prize laureate Toyo Ito, is known for integrating human-nature harmony into his architectural works. In recent years, he has participated in several high-profile projects across Taiwan, consistently merging philosophical depth with innovative design.

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Entomologist's Antarctica Expedition

Prof. Matan Shelomi collecting insect specimens at Cape Tuxen, Antarctica on January 27, 2025.

Associate Professor Matan Shelomi (薛馬坦) of the Department of Entomology at National Taiwan University (NTU) recently returned from a remarkable two-month scientific expedition to Antarctica. Based at Vernadsky Research Base, a Ukrainian research station on a small island off the Antarctic Peninsula at 65° south latitude, Prof. Shelomi conducted pioneering research on one of the most extreme and isolated ecosystems on Earth.

Under the Antarctic Treaty, Antarctica remains a continent devoted solely to peaceful activities like scientific research, with no nation allowed to claim sovereignty over its territory.

In Taiwan, Prof. Shelomi focuses on studying insect gut microbiomes. But, are there insects in Antarctica? “There’s just one species,” says Shelomi. “The only free-living insect on the Antarctic mainland is Belgica antarctica, a wingless fly that inhabits mossy soils and feeds on dirt and microbes.”

Fully invited and sponsored by his Ukrainian hosts, Prof. Shelomi’s Antarctic project was aimed to study the gut microbiome of Belgica antarctica and determine whether gut bacteria play a role in the insect’s freezing tolerance. “Belgica can survive freezing temperatures down to -15°C,” explains Shelomi. “It employs numerous strategies to withstand these brutal conditions.” Upon his return to Taiwan, Prof. Shelomi plans to work closely with Ukrainian collaborators to analyze the complete microbiome of the insect’s larvae using advanced molecular techniques.

Finding Belgica antarctica was no easy task. Prof. Shelomi often joined other researchers studying other topics, such as microplastic pollution in Antarctic streams, moss dispersal

by nesting birds, and snow algae blooms. Their expeditions involved boarding rubber Zodiac boats and sailing past towering icebergs to reach nearby islands or stretches of the Antarctic Peninsula, where larvae could be collected from the mud near bird nests, especially those of skuas.

At the Vernadsky Base itself, researchers tackled a variety of projects, including studies on Earth's magnetic field, atmospheric rivers, and the ozone hole. Their support team was a diverse station crew—including a base commander, doctor, chef, diesel generator mechanic, IT specialist, and others essential to the base's daily operations. Also, construction teams came during the Antarctic summer to expand the station's facilities. During the long, isolated Antarctic winter, a skeleton crew of 12–16 remains behind, cut off from the outside world by encroaching ice.

"Since Belgica is inactive during the winter, I was spared from having to spend a whole year there—though I imagine it would have been an even more extraordinary experience," Prof. Shelomi reflected.

What does he miss the most about representing Taiwan in Antarctica?

"The penguins," Shelomi says without hesitation. "The area around the base is home to over 6,000 noisy Gentoo penguin nests. It was tough to go from seeing them every day to not at all!"

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Career Fair Unites Innovation, Industry and Talent

VISION 2025 Career Fair Opening Ceremony.

On March 8, the Center for Career Development at National Taiwan University hosted VISION 2025, the largest on-campus career fair in Taiwan. The event commenced with remarks by NTU President Wen-Chang Chen, Garmin Vice President Chih-Wei Liao, and Perfect Corp. CEO Alice Chang, setting an optimistic tone for a day of innovation, opportunity, and inspiration.

A highlight of the opening ceremony was a live show featuring NTU's self-developed AI robot dog (NTU DogBot), tap dancers, and a brass quartet—an artistic and technological fusion that exemplified NTU's commitment to a "human-centered innovation" philosophy.

NTU President poses with the NTU DogBot during the opening performance.

Future Talent in Motion: AI-Led, Borderless Careers, and Infinite Innovation

This year's theme, "Future Talent in Motion—AI-Driven | Borderless Careers | Infinite Innovation," attracted over 330 companies across 450 booths, representing a range of sectors, such as technology, green energy, semiconductors, finance,

and manufacturing. Altogether, the companies offered more than 40,000 job opportunities—a 100% increase from last year.

The event highlighted three key trends shaping the future of recruitment:

Trend 1: Focus on Cross-Disciplinary AI Talent

As AI and digital technologies drive industrial transformation, companies are looking for talents who can apply AI in diverse domains—from fashion to healthcare.

Perfect Corp., for example, is actively recruiting in AI development and product innovation, leading the evolution of beauty tech.

Trend 2: Strong Demand for Green Talent

With the rise of ESG, roles related to carbon management and green technology are growing rapidly. Companies increasingly seek individuals equipped for sustainable transformation.

Trend 3: Global Proficiency as an Edge

Multinational corporations like Garmin are enhancing their global talent strategies. They prioritize candidates with an international vision and language fluency to stay competitive amid abrupt global supply chain shifts.

Aerial View of the Career Fair Crowd.

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Commencement Celebrates the Class of 2024

Graduates of the 2024–2025 Academic Year (Class of 113).

On May 24, 2025, National Taiwawn University (NTU) held the Commencement Ceremony for the Class of 2024 at the NTU Sports Center. This year, the university celebrated the graduation of 4,794 undergraduate students, 5,373 master's students, and 584 doctoral students—a total of 10,751 graduates.

President Chen posing with NTU Graduates.

President Wen-Chang Chen's Address: Confidence, Responsibility, and Vision

In a wide-ranging commencement speech, President Wen-Chang Chen shared his reflections on NTU's evolving role and long-term vision, encouraging the graduates to face challenges with greater confidence and courage. He emphasized that NTU's core mission is to cultivate leaders across diverse disciplines, support groundbreaking research, and contribute meaningfully to global challenges—whether through intellectual leadership or practical problem-solving—while also actively advancing the development of Taiwanese society.

Quoting past speeches delivered at NTU by TSMC founder Morris Chang and AMD Chair and CEO Dr. Lisa Su, President Chen reminded the graduates not to fear failure, but rather to choose the most challenging problems to solve, and to dedicate themselves to fields where they can make the greatest impact. "University," he said, "is the best time to explore, to learn, and to become a leader."

A glimpse of the graduation ceremony.

Messages of Encouragement from NTU Alumni and Distinguished Guests

The ceremony featured two segments of keynote messages. First was a video compilation titled "Crossroads of Time, Blessings for the Journey," featuring heartfelt messages from outstanding NTU alumni, honorary doctors, and several alumni who have served as Taiwan's presidents. They offered reflections from their own life journeys and warm encouragement for both graduating and current students.

The in-person keynote speech was delivered by Jamie Lin, CEO of Taiwan Mobile and an NTU Chemical Engineering alumnus. Sharing insights from his own life, he urged graduates to venture out into the world, find their calling, and commit to lifelong learning. He left the class with this powerful reminder:

"There are no miracles—only accumulations. Keep leveling up. Become someone you can be proud of, and use your strength to give back to the Taiwan you love."

Graduation Speeches: Local and International Student Perspectives

This year's student commencement speeches were delivered by Wei-Shan Tai, a dual-major graduate in History and the University Bachelor's Program, and Mina Song, from Korea, a graduate of the Chinese Literature Department.

In her speech, Wei-Shan Tai reflected on the value of courage—not just the courage to try, but also the courage to accept failure. She encouraged her classmates to revisit the passion that brought them to NTU whenever they feel lost in the future.

"No matter the path each of us takes, I believe we will all arrive at the summit that we, ourselves, aspire to—not the one defined by society. I look forward to meeting you there."

Mina Song shared how her early passion for the Chinese language led her to NTU, with a clear goal of studying only here. Her life in Taiwan has been vibrant and full, as she balanced her academic work to maintain her international student scholarship with her tutoring in Korean and becoming the first Korean president of NTU's Tzu Chi Youth Service Club.

"In both good times and hard times," she said, "let the efforts we make today become the light that leads us forward. Embrace the future with hope, and walk bravely into your bright tomorrow."

PEOPLE

Higher Education-Nobel Laureated Asso. to Foster Global Research

Share:

The association is chaired by NTU President Wen-Chang Chen, with CMU President Ming-Chyi Huang, NCKU President Meng-Ru Shen, and Fubon Life Chairman Fu-Hsing Lin serving as vice chairs.

To invite Nobel laureates to Taiwan for academic exchanges and long-term cooperation, the Taiwan Higher Education–Nobel Laureates Association was officially launched on March 15, 2025. With support from government, industry, academia, and research sectors, the association is aimed to enhance Taiwan's research capacity and global visibility by fostering interactions between Nobel laureates and institutions. Through such exchanges, it seeks to inspire young scholars and students while elevating the nation's innovation and scientific literacy.

During the inaugural meeting, NTU President Wen-Chang Chen disclosed that the initiative had been made possible thanks to the generous support of Mr. Raymond Sung, founder of Lite-On Technology, and the encouragement of Academician Yuan Tseh Lee. NTU has partnered with the International Peace Foundation (IPF) to undertake the Taiwan BRIDGES Program, an international exchange initiative. The project has garnered high-level attention, with President Lai Ching-Te meeting with IPF Chairman Uwe Morawetz in mid-2024 and expressing his hope that more Taiwanese universities would benefit from the program.

Under the Taiwan BRIDGES framework, the association and Academia Sinica will jointly invite 25 Nobel Prize laureates to Taiwan between November 2025 and April 2026, for campus visits and lectures across multiple institutions. These laureates—recipients of the Nobel Prize in Economics, Physics, Chemistry, Physiology or Medicine, and Peace—

will bring unparalleled expertise to Taiwan's academic community. The first Nobel laureate under the program is scheduled to deliver a keynote speech at NTU in November 2025.

To integrate resources and expand participation, the association welcomes not only universities but also corporations and non-profit organizations. As of now, the association includes 17 public and private universities, 14 companies, and the Industrial Technology Research Institute (ITRI). Even after the Taiwan BRIDGES program concludes, the association will continue to support Taiwan's higher education and strategic research priorities—strengthening the nation's presence in the global research landscape.

Note:

The association's academic members include:

Tatung University, China Medical University, Asia University, Tunghai University, National Sun Yat-sen University, National Central University, National Chung Hsing University, National Cheng Kung University, National Chengchi University, National Tsing Hua University, National Yang Ming Chiao Tung University, National Taipei University of Technology, National Taiwan University, National Taiwan University of Science and Technology, National Taiwan Normal University, Tzu Chi University, and Taipei Medical University.

Corporate and institutional members include:

Industrial Technology Research Institute (ITRI), GlobalWafers, SynCore Biotechnology, Taiwan Mobile, Lite-On Technology, GIGABYTE Technology, TECO Electric & Machinery, JUT Foundation for Arts and Architecture, Pegatron Corporation, AAEON Technology, Yageo Corporation, Fubon Life Insurance, Fubon Financial Holding, Wistron Corporation, and Shin Chang Co., Ltd.

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