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- Newly Elected Academicians
- NTU, U-Tokyo to promote Advanced Computing

Harvard Taipei Academy

The Harvard Taipei Academy (HTA), a collaborative initiative between National Taiwan University (NTU) and Harvard University, formally commenced on June 16, 2024. This year's academy, made possible by generous support and assistance from the Ministry of Education and the Harvard Club of Taiwan, ROC, attracted 52 students from leading American colleges and universities, including Harvard, Yale, Stanford, Columbia, Williams, and Reed, to participate……

READ ONLINE

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FEATURES

Standing on the Shoulders of Giants

VP for R&D - Prof. Chung-Chih Wu

Overseeing the core academic research operations at NTU, the Office of Research and Development (ORD) is dedicated to constructing a robust campus research environment, sponsoring cutting-edge research, and providing crucial administrative support. Over the past two years, following the blueprint of Future NTU Initiatives, ORD has focused on four main strategies: deepening international cooperation, attracting and retaining key talents, encouraging interdisciplinary innovation, and promoting technology transfer and application. These strategies are aimed at maximizing the social impact of NTU's academic achievements by drawing on existing resources and outcomes in collaboration with industry, government, and academia.

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HONOR

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Prof. Emeritus Tze-Chien Wang taught at NTU's College of Law until his retirement. After graduating from NTU's Department of Law with a bachelor's degree, he earned his Doctor of Laws (Dr.iur) degree from the University of Munich in 1968, becoming a leading authority on civil law in Taiwan. He was named a Grand Justice of the Judicial Yuan in 1994 and concluded his term in 2003. His eight-volume masterpiece, Research on the Theory and Precedents ...

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GLOBAL OUTLOOK

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Visits to Japanese and Korean Universities: A New Starting Point for Win-Win Cooperation

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Hosting the 2024 Digital Government Research Conference

NTU's College of Social Sciences proudly hosted the 25th Annual International Conference on Digital Government Research (dg.o 2024), June 11-14, 2024. Themed "Internet of Beings: Transforming Public Governance," this...

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NTU, Japan-Taiwan Exchange Asso. to Support Japanese Studies

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NTU CACIB, U-Tokyo IQB Sign MoU for Advanced Computing Research

The National Taiwan University Center for Advanced Computing and Imaging in Biomedicine (NTU CACIB) and the University of Tokyo Institute for Quantitative Biosciences (U-Tokyo ...

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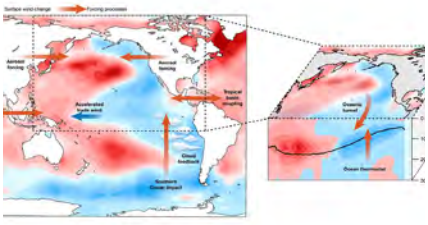
ACHIEVEMENTS



Deciphering the Mechanisms Controlling the Pacemaker of Global Warming

The equatorial Pacific plays a crucial role in regulating tropical cloud formation and regional weather extremes, earning it the nickname "the pacemaker of global warming." Though its impact may seem subtle, this oceanic region has been a silent hero, slowing the pace of global warming. Now, climate scientists are on a quest to discover whether this protective mechanism will continue to pulsate in our favor.

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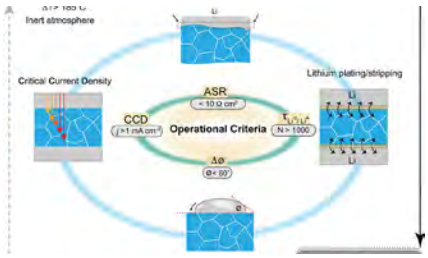

Interfacial Insights into the Garnet-Based Lithium Metal Battery

Prof. Ru-Shi Liu of NTU's Department of Chemistry, Advanced Research Center for Green Materials Science and Technology, and Graduate School of Advanced Technology and his research team are dedicated to finding sustainable and safe energy storage solutions, especially for batteries. Addressing the challenges posed by conventional lithium-ion batteries (LIBs) has become increasingly important. Although LIBs with liquid ...

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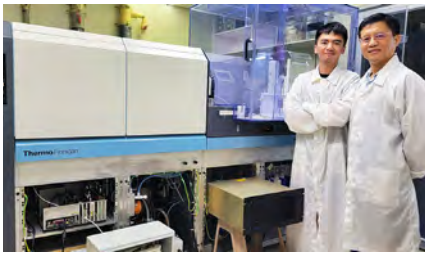

Explaining the Hottest Period in a Million Years: The "MIS 11c Paradox"

For millions of years, Earth has experienced cycles of ice ages and warm periods. Today, we are in a warm period heavily influenced by human activities. As greenhouse gas levels rise, global warming intensifies, causing ice sheets to melt and sea levels to rise, posing severe threats to ecosystems and human societies. Understanding past ...

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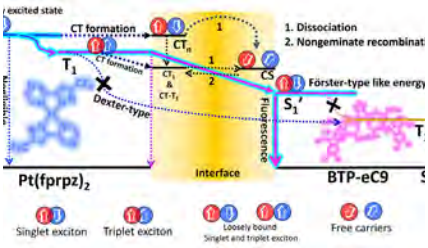

High-Performance Near-Infrared OLEDs Maximized at 925 nm and 1022 nm through Interfacial Energy Transfer

Prof. Pi-Tai Chou and his team have been devoted to the study of near-infrared (NIR) organic light-emitting diodes (OLEDs) in recent years. By putting theory into practice, they have repeatedly broken the world record for NIR organic luminophores, overcoming the energy gap law. In 2017, they developed Pt(II) complexes with ...

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NTU Collaborates with National Science and Technology Council to Develop AI Robotic Dogs

Under the leadership of Professor Chung-Hsien Kuo of the Department of Mechanical Engineering, the Autonomous & Soft Robotics Laboratory (ASR Lab) at National Taiwan University (NTU) has made significant progress in developing AI robotic dogs, with generous funding from the National Science and Technology ...

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TEACHING & LEARNING

College of Public Health Joins ASPHER to Promote Global Health

The Association of Schools of Public Health in the European Region (ASPHER) is a unique international organization dedicated to strengthening public health education, research, and policy formulation across Europe. It plays a pivotal role in advancing public health initiatives and disseminating public health knowledge.

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PEOPLE

Distinguished Alumnus Prof. Cho-Yun Hsu Wins Tang Prize in Sinology

National Taiwan University (NTU) proudly congratulates its distinguished alumnus and Academia Sinica Academician, Prof. Cho-Yun Hsu, on receiving the 2024 Tang Prize in Sinology on June 20, 2024. Despite physical challenges, Prof. Hsu has remained dedicated to academic research, achieving breakthroughs and making significant contributions. His profound knowledge spans both Eastern and Western historiography, and he is ...

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Perusing the Natural History Collections from Early NTU

Taiwan, located in the subtropical and tropical regions of the Western Pacific between the Ryukyu Islands of Japan and the Philippines, boasts rich and diverse landscapes. These geological features ...

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CSB Faculty Drive Innovation in Nature Portfolio's *Communications Biology*

Communications Biology, is an innovative, high-quality open-access journal in the respected Nature Portfolio Journal (npj) ... series. It is dedicated to publishing the

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15th GIS: Rebuild and Revive

The 15th Global Initiatives Symposium (GIS) kicked off its five-day annual conference at NTU on July 1. This year's theme, "Rebuild and Revive," drew inspiration from the metamorphosis ... of a butterfly emerging from its chrysalis. The theme encouraged the

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NTU Opening Ceremony: "Where Creativity and Dreams Take Flight"

Spotlighting the theme "NTU: Where Creativity and Dreams Take Flight," the 2024 opening ceremony at National Taiwan University (NTU) encouraged ...

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FEATURES

Standing on the Shoulders of Giants
VP for R&D - Prof. Chung-Chih Wu

Intro video of Vice President for Research and Development, Prof. Chung-Chih Wu.

Overseeing the core academic research operations at NTU, the Office of Research and Development (ORD) is dedicated to constructing a robust campus research environment, sponsoring cutting-edge research, and providing crucial administrative support. Over the past two years, following the blueprint of Future NTU Initiatives, ORD has focused on four main strategies: deepening international cooperation, attracting and retaining key talents, encouraging interdisciplinary innovation, and promoting technology transfer and application. These strategies are aimed at maximizing the social impact of NTU's academic achievements by drawing on existing resources and outcomes in collaboration with industry, government, and academia.

The wall design presents NTU's network of information and communities like the nervous system in the human brain, highlighting the leading role of the Office of Research and Development at NTU.

Under the Ministry of Education's Higher Education Sprout Project, NTU has identified five key research areas: Smart Technology, Sustainable Science, Innovative Materials, Digital Humanities, and Molecular Biomedicine. Accordingly, the university has established 10 field research centers to develop and implement forward-looking five-year core research programs-- thus realizing

a new model of interdisciplinary research that aligns with leading domestic industries and global sustainable development goals.

Recent ORD initiatives include deepening the quarterly interdisciplinary research exchange meetings and introducing the "Interdisciplinary Seed Project" and the "Add-on International Cooperation Project." Under the carefully selected interdisciplinary research themes from these exchange meetings, ORD encourages departments and graduate institutes to form interdisciplinary research teams to propose and implement innovative research topics. Additionally, the add-on project supports the formation of potential research teams in expanding international research collaborations.

Staff reporting their work to Prof. Chung-Chih Wu, Vice President for Research and Development.

Concerning international cooperation, NTU is the convener of the University Academic Alliance in Taiwan (UAAT), a coalition of 12 domestic universities. NTU brings these universities together to engage in international cooperations with the University of Illinois System, the University of Texas System, the Czech University Alliance, and the Kyushu-Okinawa University Alliance in Japan. Recently, ORD has also supported other NTU units in establishing two trilateral research centers, one with Taiwan, Japan, and the USA and the other one with Taiwan, Japan, and France. Vice President Wu added that the resilience demonstrated by Taiwan's high-tech industries during the pandemic opened up excellent opportunities for international academic exchanges, spurring the exchange of global talents, and drawing outstanding researchers to Taiwan.

To attract and retain talent, NTU has introduced such initiatives as "Incentives for Newly Hired Exceptional Talents," "Funding for Advanced Instruments for Promising Scholars," and various newly established professorships. These initiatives concentrate resources on recruiting and retaining exceptional teaching and research talents, to enhance NTU's competitiveness in the international academic talent market.

Another main task of the ORD is to transform academic achievements into practical applications, benefiting industry and socio-economic development. This effort includes protecting, managing, and promoting intellectual property rights and patents. By implementing strong patent protection strategies, increasing the rate of technology transfer, and fostering an innovation and entrepreneurship culture, NTU aims to create a positive academic economic cycle.

Vice President Wu points out that while Taiwan has a particularly active and close industry-academia collaboration, which stands out internationally, there is still room for improvement in the culture of innovation and entrepreneurship. The rise of AI may provide the necessary impetus to propel Taiwan's economic and technological development to the next level. In the past five years, approximately 36 start-up companies emerged from NTU, with the number increasing annually. The NTU Innovation and Incubation Center under ORD has hosted 240 start-up companies over the years, with nearly 10 of them going IPO already. Moving forward, with the support of initiatives like the "Seedling Project," "SPARK Project," and "NTU Garage and Accelerator," NTU will steadfastly strive to provide a supportive entrepreneurial environment, resources for start-ups, and an expanding operation scale.

HONOR

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Hearty congratulations to Prof. Emeritus Tze-Chien Wang of the College of Law, Prof. Carl K. Y. Shaw of the Department of Political Science, and Prof. Ching-Lung Wang of the Department of Mathematics, on their election as Academia Sinica Academicians of the 34th term.

Prof. Emeritus Tze-Chien Wang taught at NTU's College of Law until his retirement. After graduating from NTU's Department of Law with a bachelor's degree, he earned his Doctor of Laws (Dr.iur) degree from the University of Munich in 1968, becoming a leading authority on civil law in Taiwan. He was named a Grand Justice of the Judicial Yuan in 1994 and concluded his term in 2003. His eight-volume masterpiece, *Research on the Theory and Precedents of Civil Law*, is essential reading for law students. The "Anspruchsgrundlage" (basis for claim) theory, introduced by Prof. Wang from his teacher Karl Larenz, has become the paradigm in Taiwan's civil law practice. His influence has also extended across the Taiwan Strait to Mainland China, where he is considered the foremost contemporary civil law scholar.

Prof. Carl K. Y. Shaw currently teaches in NTU's Department of Political Science under joint appointment with the Research Center for Humanities and Social Sciences, Academia Sinica. Prof. Shaw received his bachelor's and master's degrees from the same department. In 1993, he received his Ph.D. in Political Science from Yale University. His areas of expertise include the history of political thought and contemporary political and social theories. Prof. Shaw has received numerous accolades, including the Ministry of Science and Technology Outstanding Research Award in 2017, the Hu Shih Memorial Chair Professorship, and the Wang Shih-Chieh Memorial Chair Professorship, Academia Sinica in 2016, NTSC Special Outstanding Talent Award (2011-2013), NSTC Outstanding Research Projects (2009-2011), and numerous NSTC research grants. Additionally, Prof. Shaw was honored with the Academia Sinica Award for Scholarly Monographs in the Humanities and Social Sciences in 2014 for his study *History and Political Theories of Western Republicanism.*

Prof. Ching-Lung Wang currently teaches in NTU's Department of Mathematics. After graduating from NTU's Department of Mathematics, he obtained his Ph.D. in Mathematics from Harvard University in 1998. He formerly taught at National Tsing Hua University and National Central University. Prof. Wang has received many prestigious awards and recognitions for his outstanding research results,

including the 13th "National Chair Professorship" from the Ministry of Education (MOE), the 51st MOE Academic Award, the Wu Ta-You Memorial Award, and the NSTC Outstanding Research Award in 2000 and 2004. His research focuses on algebraic geometry and differential geometry, and his own and his team's findings have been published in the *Annals of Mathematics*.

This year, Academia Sinica elected a total of 28 new academicians, half of whom are NTU alumni. The entire NTU community feels a deep sense of pride in this recognition and extends heartfelt congratulations to the new academicians.

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+886-2-3366-2577
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GLOBAL OUTLOOK

Harvard Taipei Academy 2024 Grand Opening

52 students from leading American colleges and universities-- Harvard, Yale, Stanford, Columbia, Williams, and Reed-- celebrating the formal launch of the Harvard Taipei Academy on June 16.

The Harvard Taipei Academy (HTA), a collaborative initiative between National Taiwan University (NTU) and Harvard University, formally commenced on June 16, 2024. This year's academy, made possible by generous support and assistance from the Ministry of Education and the Harvard Club of Taiwan, ROC, attracted 52 students from leading American colleges and universities, including Harvard, Yale, Stanford, Columbia, Williams, and Reed, to participate in an eight-week Chinese language program. HTA is aimed to enhance the students' Chinese language skills through intensive courses and cultural exchanges with NTU students, enriching and broadening the international perspectives of every participant.

The program offered a variety of cultural experiences and field trips, allowing students to immerse themselves in local geography and culture. HTA also organized various activities for the students to experience the essence of Chinese culture, such as calligraphy, Tai Chi, and the intricate art of Peking Opera face

painting. The NTU student families who hosted international students, supplied more personalized cultural and off-campus experiences through daily interactions, conversations, and cross-cultural exchanges. The students also explored the distinctive local sights and culture of Dadaocheng, the hot springs of Xinbeitou, the unique rock formations of Yehliu, and the mountain town of Jiufen. Amidst the current AI boom, HTA also organized visits to high-tech companies to help students experience the vibrancy of Taiwan's AI industry firsthand.

While the students' weekend activities featured visits to famous landmarks and interactions with local residents, their Social Study Project Week included field studies in diverse areas to understand the local social and cultural dynamics. Through this immersive project, HTA students conducted fieldwork around Taiwan and learned about many of its facets: forests in the central mountains, rich history in the south, and diverse ethnic groups (the Bunun and Amis) and cultures in the east. These activities offered students a first-hand understanding of the social landscape and cultural pulse, fostering stronger, rich and diverse connections between Taiwan and the globe.

HTA student learning Chinese calligraphy in a cultural experience course.

HTA students practicing basic Peking Opera moves at the Jinju Theater.

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GLOBAL OUTLOOK

NTU Plus Academy Features Exceptional Programs

2024 Summer NTU PLUS Academy Orientation.

Empowering Global Minds through Cultural Immersions

National Taiwan University (NTU) continues to enhance its reputation as a leader in academic excellence and international collaboration through its stimulating short-term programs. The NTU Plus Academy, administered by the Office of International Affairs (OIA), offers a range of initiatives that build on academic knowledge, foster cross-cultural connections, and elevate Taiwan's global stature. With over 400 students enrolling in ten different programs, NTU Plus Academy stands out as a premier destination for international students.

NTU NEMS Research Center.

Summer+ Programs: A Global Attraction

The NTU Plus Academy Summer+ program offers a rich variety of short-term courses, including Chinese Language and Culture and Research Studies. These programs attract over 150 students from such far-flung countries as Canada, China, Germany, Hong Kong, Japan, Korea, the Netherlands, the Philippines, Russia, Singapore, Spain, Switzerland, Thailand, the UK, the USA, and Vietnam, demonstrating NTU's widespread international appeal.

Participants in the Summer+ Chinese Language and Culture Program benefit from intensive Chinese language training and interactions with NTU students, improving both their linguistic skills and cultural understanding. The Summer+ Research & Culture and Intensive Research programs recruit over 60 NTU faculty members from nine departments, providing students with practical insights and hands-on research experience. Additionally, the UChicago–Taiwan Student Summer Research Program in the Sciences (UCTS) brings outstanding students from the University of Chicago to collaborate with NTU faculty, developing their research techniques and strengthening ties with Taiwan's academic community.

USAFA & USMA Orientation.

Collaborative Programs and Cultural Exchanges

In partnership with the University of Delaware, NTU hosts the U.S. Department of State's National Security Language Initiative for Youth (NSLI-Y) Program. This 6-week initiative aims to improve the Mandarin Chinese proficiency of the participating U.S. high school students while immersing them in Taiwanese culture, attracting 23 outstanding students from across the United States.

For the second consecutive year, with generous support from Taiwan's Ministry of Foreign Affairs, NTU offers the Taiwan-Europe Semiconductor Talent Cultivation Short-Term Training Program. This program welcomes 32 outstanding students and young professionals from the Czech Republic, Slovak Republic, Republic of Lithuania, Republic of Poland, Italy, Romania, Bulgaria, and Kosovo to NTU for a week of specialized courses on various aspects of semiconductors. Participants attend lectures by NTU faculty, gaining valuable insights into Taiwan's semiconductor industry and strengthening academic and cultural connections between Taiwan and Central Eastern Europe.

More Global Outreach Planned for Fall

In the fall, the OIA collaborates with several institutions in the USA, Indonesia, and Japan to host over 190 students for semester-long or year-long programs. These participants include students from the United States Military Academy at West Point (USMA), the United States Air Force Academy (USAFA), Minerva University, the Indonesian International Student Mobility Awards (IISMA) program sponsored by Indonesia's Ministry of Education, Culture, Research, and Technology, and Waseda University's Customized Study Program–Language Focused (Waseda CSL). These partnerships are aimed to attract exceptional students and enhance Taiwan's international influence and visibility.

Positive Feedback and Lasting Impact

The enthusiastic feedback from participants demonstrates the success of NTU's programs in providing a comprehensive and enriching educational experience. Through these diverse and impactful programs, NTU continues to draw outstanding students from around the world, augmenting Taiwan's cultural and academic heritage and reinforcing its role as a leader in global academic and cultural exchange.

GLOBAL OUTLOOK

Visits to Japanese and Korean Universities: A New Starting Point for Win-Win Cooperation

The delegation with Vice President Kaori Hayashi and Yujin Yaguchi, Head of International Affairs, at the University of Tokyo.

As international higher education development enters the post-pandemic era, universities in Asia often face similar challenges and considerations due to their comparable campus cultures and student learning preferences. To further strengthen policy exchanges with universities in the region, Executive Vice President Shih-Torng Ding led a delegation in June, with representatives from the Office of Academic Affairs, Office of International Affairs, General Education Center, and the Future University Project Office, to visit six universities, including the University of Tokyo and Seoul National University. The delegation held in-depth discussions with administrative and academic counterparts on such topics as the internationalization of higher education, interdisciplinary learning, and industry-academia collaboration.

Executive Vice President Shih-Torng Ding presenting NTU cypress essential oil soap to Hitoshi Aoki, Vice President of Hitotsubashi University.

During the visit, the delegation found that Japanese and Korean universities had recently focused on fostering student mobility in the Asian region, encouraging students to address regional issues, and ultimately retaining talent in Asia. Regional universities are actively forming multilateral cooperation alliances, enabling students to engage in cross-campus, cross-country, and interdisciplinary exchanges through course collaborations and student exchanges. These opportunities also include overseas research programs for doctoral students. Concerning industry-academia collaboration, Japanese and Korean universities integrate industry knowledge and experience into learning, using real-world industry data and case studies in classroom content to help students understand real-world problems early on.

Delegation members visiting the Learning Sciences Research Institute at Seoul National University.

The NTU delegation, with representatives from teaching and administrative units, gained valuable insights from the universities they visited. Some of these insights will be discussed and adapted to NTU's context, possibly providing a comprehensive guide for future policy planning. For instance, the Office of Academic Affairs will discuss the grading system and overall strategy for doctoral admissions. The Office of International Affairs plans to host workshops on English as a Medium of Instruction (EMI) next year, inviting participants from other Asian universities. The General Education Center will refine its bachelor's degree system and general education course classifications in view of practices observed at Seoul National University and Yonsei University. The practical insights from this visit are expected to gradually spur developments at NTU, and fostering increased reciprocal and win-win exchanges and cooperation with Japanese and Korean universities in the future.

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GLOBAL OUTLOOK

Hosting the 2024 Digital Government Research Conference

To celebrate the 25th Anniversary of DGS, 10 former DGS chairs presented a series of keynote speeches, sharing their 25-year journey of promoting digital governance and internationalizing the association since its founding in the USA on the eve of the 3rd millennium.

NTU's College of Social Sciences proudly hosted the 25th Annual International Conference on Digital Government Research (dg.o 2024), June 11-14, 2024. Themed "Internet of Beings: Transforming Public Governance," this year's conference explored how digital technologies can enable people-centric approaches and open platforms for the collaborative creation of municipal services and products. By highlighting the benefits of AI, blockchain, open platforms, the Internet of Things, and big data, dg.o 2024 was aimed to discuss ways to enhance integration, collaboration, and value creation in public governance.

Right to left: Deputy Minister Herming Chiueh, NTU President Wen-Chang Chen, Prof. Beth Noveck, and Prof. Kang-Hui Liu, Chair of the 2024 dg.o Conference.

The conference attracted 160 participants from 34 countries and regions around the world, namely, Australia, Brazil, Canada, China, Denmark, Estonia, France, Germany, Greece, Hong Kong, India, Italy, Japan, South Korea, Luxembourg, Mexico, Netherlands, New Zealand, Peru, Poland, Portugal, Romania, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, United Arab Emirates, United Kingdom, United States, and West Africa. The rich diversity

of the attendees underscored the global reach of the digital government research community.

Program Highlights

The dg.o 2024 program featured a rich array of keynote speeches, panel discussions, research presentations, doctoral colloquium sessions, posters, system demonstrations, workshops, and tutorials. A total of 23 areas were accepted, with 299 submissions received from 421 authors in 36 countries. Each submission underwent a rigorous peer-review process involving 294 Program Committee members who provided over 750 reviews. The final selection included 164 research papers, seven panels, one workshop, and 16 posters, reflecting a 54% acceptance rate.

Keynote Speeches and Panels

The conference featured two keynote speeches and two forum discussions. The opening keynote, "Democracy, Peace, and Prosperity in the Age of AI," was presented by Prof. Beth Noveck. She explored how AI institutions can facilitate public engagement, improve decision-making, and enhance the quality of information processing. The session was introduced by NTU President Wen-Chang Chen and Taiwan Deputy Minister Dr. Herming Chiueh, and moderated by Prof. Soon Ae Chun.

The forum keynote by Commissioner Jack Shih-Lung Chao, Taipei City Government, discussed "Collaborating for Innovation: Taipei's Vision," focusing on smart city initiatives and AI technology. The forum included such renowned experts as Mr. Michael Kung, Hon Hai Technology Group, and Dr. Chen-Yu Lee, Taipei Computer Association. At another significant forum, "Net Zero: Strategies, Technologies, and Policies," the eminent panelists Mr. Kung-Yueh Camyale Chao, Executive Director of the International Climate Development Institute, and Ms. Mavis Hsu, Deloitte Taiwan, and others discussed sustainability and environmental strategies.

In the local keynote speech, Taoyuan City Mayor, San-Cheng Chang, introduced "Smart Taoyuan," highlighting AI adoption trends in key public sector areas, such as transportation and urban planning. Dean Hung-Dah Su of NTU's College of Social Sciences served as the moderator for this session.

The dg.o 2024 conference brought together a diverse global community of dedicated scholars, practitioners, and policymakers to discuss the transformative potential of digital technologies in public governance.

Mayor Wan-an Chiang delivered a welcome speech, sharing Taipei's smart city experiences and presenting awards during the Taipei Night and Awards Ceremony.

International guests visited Taipei Urban Intelligence Center to experience the city's smart initiatives first-hand.

Proceedings of the 25th Annual International Conference on Digital Government Research. Accepted research papers were published in, DGO '24.

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GLOBAL OUTLOOK

NTU, Japan-Taiwan Exchange Asso. to Support Japanese Studies

The signing ceremony of the MoU with the Japan-Taiwan Exchange Association.

National Taiwan University (NTU) and the Japan-Taiwan Exchange Association (the Association) signed a Memorandum of Understanding (MoU) on July 16, 2024, to cultivate Taiwanese talents in Japanese studies. This MoU ratifies the "Support Plan for Researchers in Japanese Studies," under which the Association will support NTU's Colleges of Law, Social Sciences, and Liberal Arts employment of postdoctoral fellows specializing in Japanese studies.

From Left to Right: Jing-Huei Tsau, Chair of the Department of Japanese Language and Literature, NTU; Yeun-Wen Ku, Vice Dean of the College of Social Sciences, NTU; Yu-Yu Cheng, Dean of the College of Liberal Arts, NTU; Huang-Yu Wang, Dean of the College of Law, NTU; Wen-Chang Chen, President of NTU; Kazuyuki Katayama, Chief Representative of the Taipei Office, Japan-Taiwan Exchange Association; Chiaki Muramoto, Secretary General of the Cultural Affairs and Public Relations Department, Japan-Taiwan Exchange Association; Sieh-Chuen Huang, Vice Dean of the College of Law, NTU.

Association representative Kazuyuki Katayama expressed his firm commitment to supporting Japan-related research activities conducted in Taiwan. He also highlighted the Association's expectation that this collaboration with NTU, the leading university in Taiwan, would support Japan-related research and deepen mutual understanding between Japan and Taiwan. NTU President Wen-Chang Chen noted that NTU has already received donations from entrepreneurs to establish scholarships, such as the "NTU Nitori International Scholarship" and the "NTU Chung-Te Study-in-Japan Scholarship," aimed at supporting students in

Japanese studies and those pursuing master's and doctoral programs in Japan. By signing this MoU, NTU will receive support from the Association for postdoctoral researchers to have a more complete talent cultivation chain. President Chen is optimistic that future collaboration between NTU and the Japanese academic community will deepen and broaden, further strengthening the ties between the two nations.

Following the speeches, President Chen and Representative Katayama jointly signed the MoU, witnessed by Dean Huang-Yu Wang of the College of Law, Dean Yu-Yu Cheng of the College of Liberal Arts, Vice Dean Yeun-Wen Ku of the College of Social Sciences, Vice Dean Sieh-Chuen Huang of the College of Law, and Professor Jing-Huei Tsau, Chair of the Department of Japanese Language and Literature.

After the signing ceremony, both parties toured the historical photographs displayed in the College of Law's sixth conference room. This brief historical display highlights Taiwan's process of democratization and the significant role played by legal professionals, reinforcing the deep friendship between Taiwan and Japan.

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GLOBAL OUTLOOK

NTU CACIB, U-Tokyo IQB Sign MoU for Advanced Computing Research

The National Taiwan University Center for Advanced Computing and Imaging in Biomedicine (NTU CACIB) and the University of Tokyo Institute for Quantitative Biosciences (U-Tokyo IQB) signed a Memorandum of Understanding (MOU) on Academic Collaboration Activities on May 24, 2024, at the 2024 Conference of Advanced Computing and Imaging in Biomedicine: Asia-Pacific Spatial Omics Technology (APSOT). The MOU signing ceremony took place at the National Taiwan University Cancer Center with Distinguished Professor Pai-Chi Li representing NTU CACIB and Director Katsuhiko Shirahige representing U-Tokyo IQB. The MOU establishes a framework for future academic collaboration in biomedical computing, artificial intelligence (AI), and imaging research, opening the way for future international exchanges for professors and students from both institutions. A special parallel session preceding and following the MOU signing ceremony was also held at which 11 top scholars from NTU and U-Tokyo presented their latest research.

NTU CACIB and U-Tokyo IQB signing an MOU on Academic Collaboration Activities via remote link, establishing a foundation for future international collaboration and exchanges.

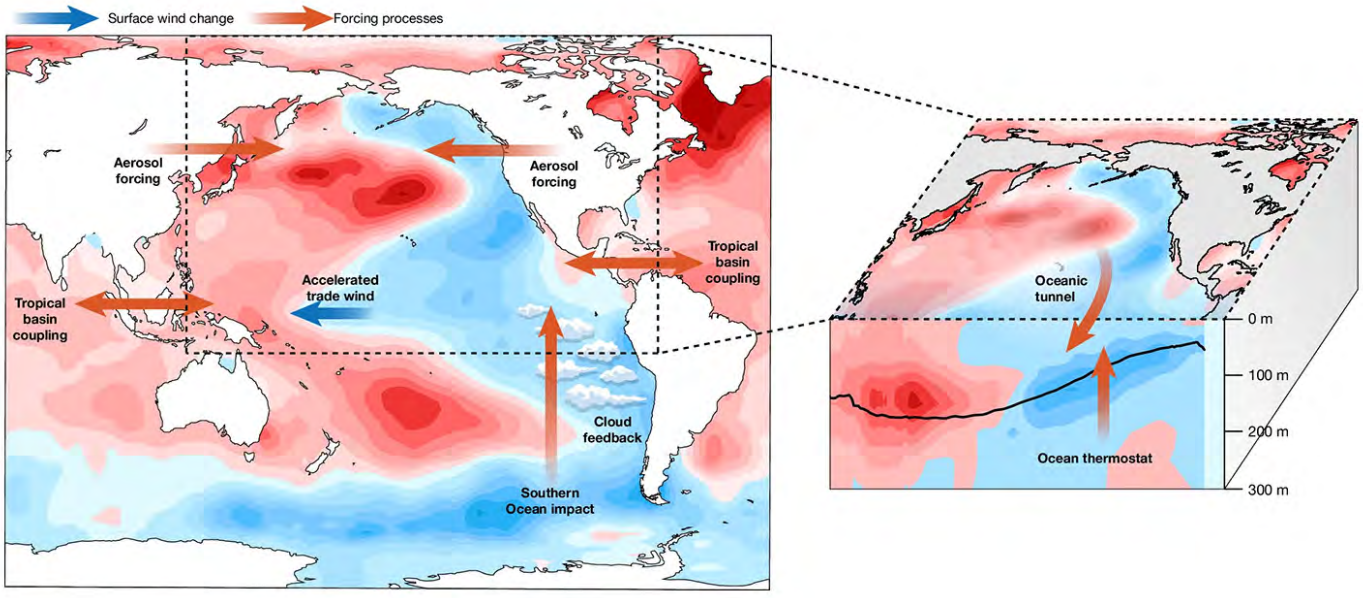
NTU CACIB was founded in 2023 and focuses on three main advanced technologies: computing, imaging, and multi-omics. The Center aims to find solutions to hitherto unmet medical needs in development, aging, cancer, neurological conditions, and psychiatric disorders. U-Tokyo IQB, established in 2018, focuses on the development of innovative tools in structural biology, bioinformatics, mathematics, physics, and AI. Under the MOU framework, NTU CACIB and U-Tokyo IQB will now have the opportunity to integrate their theoretical and applicational research, spurring new research topics and the development of advanced technologies.

Onsite and online participants at the NTU CACIB and U-Tokyo IQB MOU signing ceremony.

The MOU signing ceremony was part of the 2024 Conference of Advanced Computing and Imaging in Biomedicine: APSOT, at which experts from both sides presented their research capabilities and findings on an international stage. The conference was planned by Dr. Ruby Yun-Ju Huang of NTU, with NTU CACIB as the organizer and the NTU Cancer Center as co-organizer. The conference drew over 30 local and international speakers and more than 300 participants from Japan, Singapore, Australia, the United States, and Thailand. The 3-day conference included sessions on the development of spatial multi-omics technology applications in tumor studies, providing support for clinical trial design and transforming pathology in spatial technology. Participating experts exchanged views and research on the future of spatial technology development, highlighting the advanced cutting-edge research in Taiwan and promoting future research collaborations. It is expected that these discussions and collaborations will have profound implications for basic research in the life sciences, the development of biotechnology, and the enhancement of clinical medicine.

ACHIEVEMENTS

Deciphering the Mechanisms Controlling the Pacemaker of Global Warming



Schematic illustration of possible forced mechanisms for the tropical Pacific surface warming pattern trends.

The equatorial Pacific plays a crucial role in regulating tropical cloud formation and regional weather extremes, earning it the nickname "the pacemaker of global warming." Though its impact may seem subtle, this oceanic region has been a silent hero, slowing the pace of global warming. Now, climate scientists are on a quest to discover whether this protective mechanism will continue to pulsate in our favor.

Prof. Hwang presenting the PNAS study and findings at the Climate Sensitivity Conference in Paris.

Global climate models have faced stubborn challenges in accurately tracking and capturing the "La Niña-like" sea surface temperature pattern, which has moderated warming. In a recent publication in *Nature* (June), Associate Professor Yen-Ting Hwang of the Department of Atmospheric Sciences and an international team with members from Japan, Germany, the UK, Australia, and the USA discuss the causes behind these patterns and forecasted a shift in the forces at play.

The researchers propose that the key elements contributing to the "La Niña-like" pattern over the past 40 years are largely temporary. They anticipate a future scenario where the eastern equatorial Pacific – and, by extension, the globe –

experiences intensified warming. To get ahead of this potential shift, scientists need a firmer grasp of the Earth's response timescales to human-induced climate change. To tackle this issue, the team has established an interdisciplinary research group called "TROPICS" (TROpical PacIfiC SST Warming PatternS), bringing together experts in observation, modeling, and theory.

One of the group's key initiatives is to apply methodologies from an earlier study led by Professor Hwang, published earlier this year in *Proceedings of the National Academy of Sciences* (PNAS), investigating the factors shifting the tropical Pacific warming pattern. This study separated the responses to anthropogenic aerosols into fast and slow timescales, providing insights into the unexpected multidecadal cooling in the eastern tropical Pacific. The group plans to utilize similar approaches to study the effects of greenhouse gases, ozone, melting ice sheets, and other factors.

Ultimately, the mission of the international efforts in keeping with Prof. Hwang's research team is to refine climate models, sharpen predictive accuracy, and solve the intricate puzzles of our climate system. They're racing against time to anticipate the shift to an El Niño-like state before nature reveals the final answer.

The Climate Dynamics and Global Change research group led by Prof. Hwang.

Click or Scan the QR code to read the journal article in *Nature*.

Click or Scan the QR code to read the journal article in *PNAS*.

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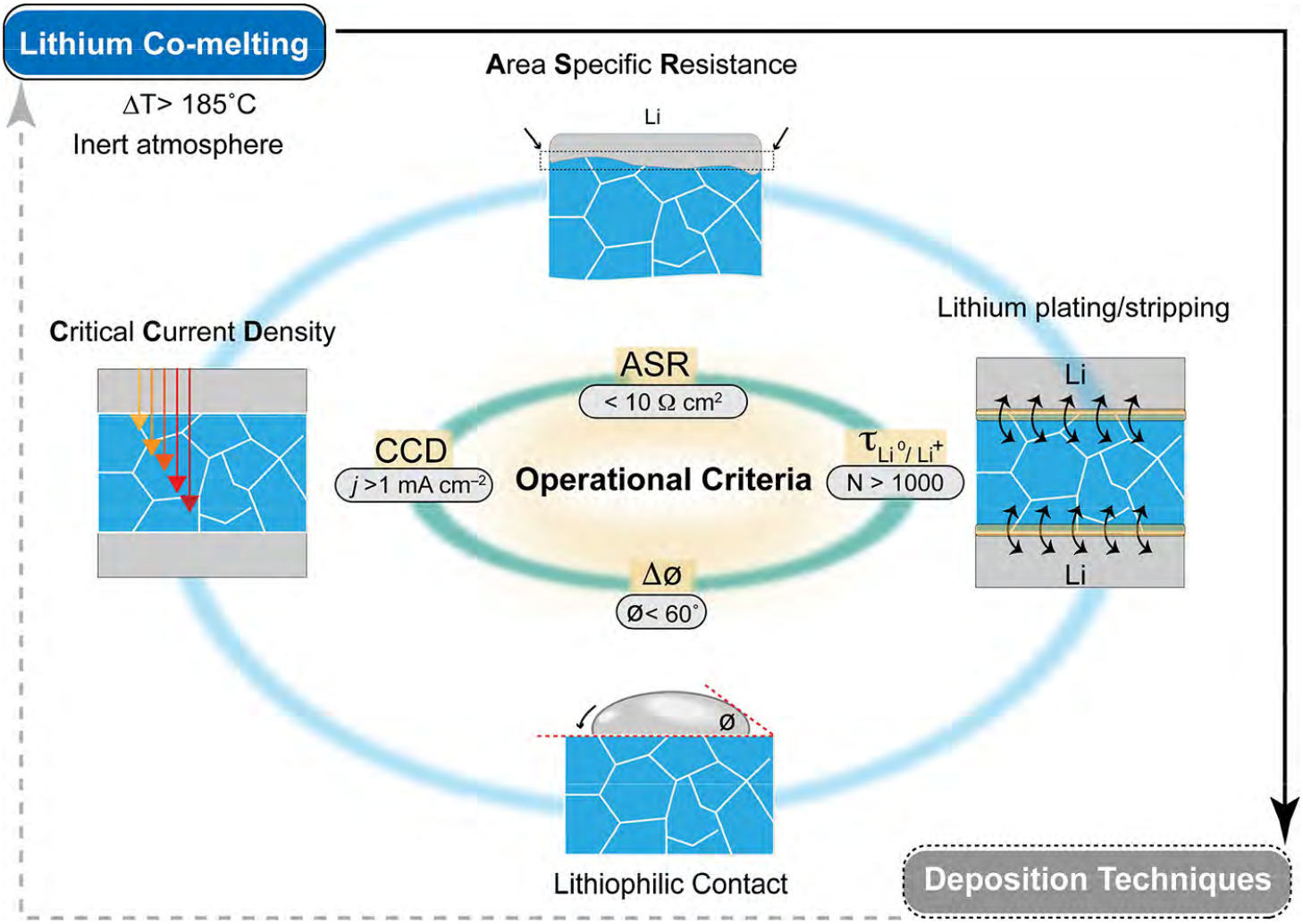
ACHIEVEMENTS

Interfacial Insights into the Garnet-Based Lithium Metal Battery



Graphic of the key operational parameters and requirements for suitable interfacial engineering of LMA/garnet-SSEs.

Prof. Ru-Shi Liu of NTU's Department of Chemistry, Advanced Research Center for Green Materials Science and Technology, and Graduate School of Advanced Technology and his research team are dedicated to finding sustainable and safe energy storage solutions, especially for batteries. Addressing the challenges posed by conventional lithium-ion batteries (LIBs) has become increasingly important. Although LIBs with liquid electrolytes are widely used, they come with significant safety risks due to their susceptibility to self-ignition under certain conditions.

This safety concern, in particular, has shifted the focus of research to solid-state electrolytes (SSEs), which offer the potential for both higher energy density and enhanced safety. Among the various SSEs, garnet or oxide-based electrolytes stand out due to their electrochemical and thermodynamic

stability, making them especially attractive for practical applications. However, the moisture-sensitivity of garnet-based SSEs can lead to the formation of a lithiophobic lithium carbonate layer. This results in poor contact at the electrode/electrolyte interface, particularly at the anode, leading to high area-specific resistance (ASR) and potential battery failure.

A proposed solution to this issue is to reduce the surface tension of the molten lithium metal anode (LMA) through additives or alloy formation with specific metals to induce lithiophilicity. While this approach can mitigate the poor contact issue at the interface, additional research is necessary to better understand the factors influencing the battery's electrochemical performance. For example, while alloying LMA with metals can address high ASR, it may limit performance at higher current densities, resulting in lower critical current density (CCD), a critical parameter for commercial applications. Forming composite anodes by mixing LMA with bimetallic compounds (such as oxides, nitrides, carbides, or halides) could reduce ASR without compromising CCD.

In his source article in *Energy Chem.*, Prof. Ru-Shi Liu and his research team offer an in-depth scientific discussion on interfacial engineering solutions for issues with garnet-based lithium metal batteries. They analyze various materials that can be or have been used for this purpose and offer a clear perspective based on the latest knowledge and scientific findings. Through such efforts, they hope to contribute to advancing safe and efficient energy storage solutions.

Click or Scan the QR code to read the journal article in *Energy Chem.*

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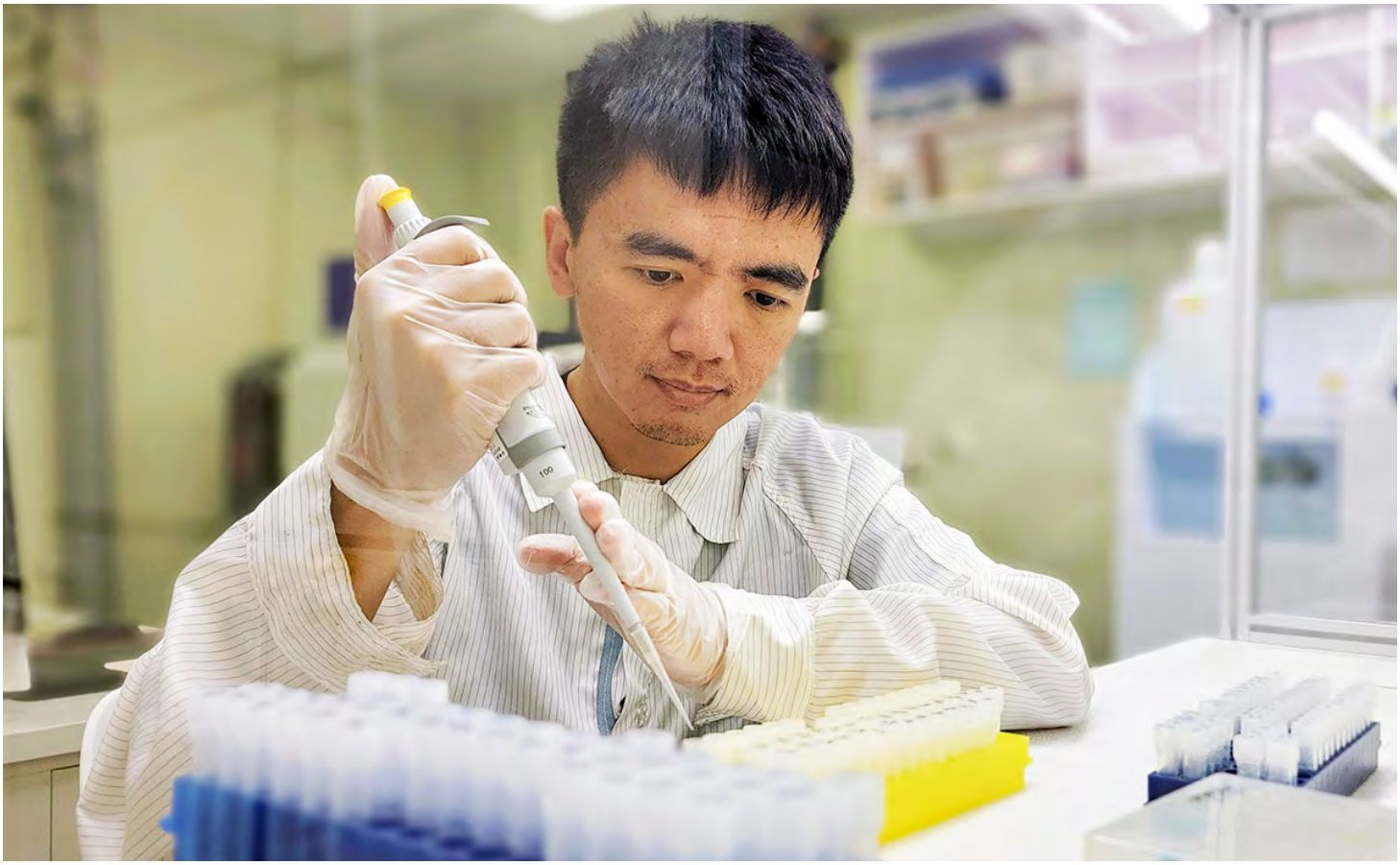
ACHIEVEMENTS

Explaining the Hottest Period in a Million Years: The “MIS 11c Paradox”



Dr. Hsun-Ming Hu using clean room instruments at the Department of Geosciences, NTU.

For millions of years, Earth has experienced cycles of ice ages and warm periods. Today, we are in a warm period heavily influenced by human activities. As greenhouse gas levels rise, global warming intensifies, causing ice sheets to melt and sea levels to rise, posing severe threats to ecosystems and human societies. Understanding past extreme warm periods is therefore crucial.

The hottest warm period in the past million years occurred around 400,000 years ago. Surprisingly, during this period, solar radiation was weak and greenhouse gas levels were lower than today. This period, known as the "MIS 11c Paradox [(1)],," has long puzzled scientists. Dr. Hsun-Ming Hu, a postdoctoral researcher at the Department of Geosciences, National Taiwan University (NTU), and an international team led by Prof. Chuan-Chou Shen have solved the mystery. Using speleothem data

NTU team members Dr. Hsun-Ming Hu (right), Ms. Wei-Yi Chien (left 2), and Ms. Chun-Yuan Huang (left 1), with European collaborators.

from Mediterranean caves and North Atlantic marine records, their research has revealed the causes of this anomalous warmth. Their findings were published in Nature Communications on July 15, 2024 [(2)].

Solving the "MIS 11c Paradox" requires understanding the interactions between Earth's ice sheets, oceans, and atmosphere in response to solar radiation. Precise dating has been challenging for decades. In 2014, the NTU team drilled a two-meter-long speleothem core from Bàsura Cave in Italy. Using high-precision uranium-thorium dating to provide accurate and robust age control, the team reconstructed the environmental history of southern Europe from 480,000 to 360,000 years ago. The research shows that around 426,000 years ago, increased summer solar radiation in the Northern Hemisphere caused extreme warming in the mid-to-low latitude Atlantic. This warming, combined with Earth's increased tilt, prolonged heat transfer to high latitudes, causing long-lasting ice sheet melting. MIS 11c demonstrates that prolonged ocean warming can cause significant ice sheet collapse and sea level rise without extremely high atmospheric temperatures or greenhouse gas concentrations.

This study, supported by NTU and the National Science and Technology Council and involving researchers from 20 institutes worldwide, underscores the crucial role of oceans in driving global warming and ice sheet collapse.

Click or Scan the QR code to read the journal article in *Nature Communications*.

Graduate student Wen-Hui Sung of the Department of Geosciences, National Taiwan University, operating a drilling machine to extract limestone core samples in Bàsura Cave, northern Italy.

Limestone core samples collected from Bàsura Cave, northern Italy. The black-and-white alternating bands represent a scale measured in centimeters. Researchers follow the scale in extracting small subsamples ranging from 0.1 to 100 milligrams for carbon and oxygen isotope analysis, trace element determination, and uranium-thorium dating.

Professor Chuan-Chou (River) Shen (right) and Dr. Hsun-Ming Hu (left) next to multi-collector inductively coupled plasma mass spectrometer housed at the Department of Geosciences, NTU.

[(1)] "MIS" stands for Marine Isotope Stage, which categorizes the alternating warm and cold periods in Earth's geological history. Odd numbers denote warm periods; while, even numbers represent ice ages. Presently, Earth is experiencing MIS 1, a warm period. MIS 11c specifically denotes the initial stage 'c' of the MIS 11 warm period, occurring around 428,000 years ago.

[(2)] Hu, H.-M., Marino G., Pérez-Mejías C., Spötl C., Yokoyama Y., Yu J., Rohling E., Kano A., Ludwig P., Pinto J. G., Michel V., Valensi P., Zhang X., Jiang X., Mii H.-S., Chien W.-Y., Tsai H.-C., Sung W.-H., Hsu C.-H., Starnini E., Zunino M., and Shen C.-C. (2024) Sustained North Atlantic warming drove anomalously intense MIS 11c interglacial. *Nature Communications* 15, 5933.

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No.1, Sec. 4, Roosevelt Road Taipei, 10617 Taiwan
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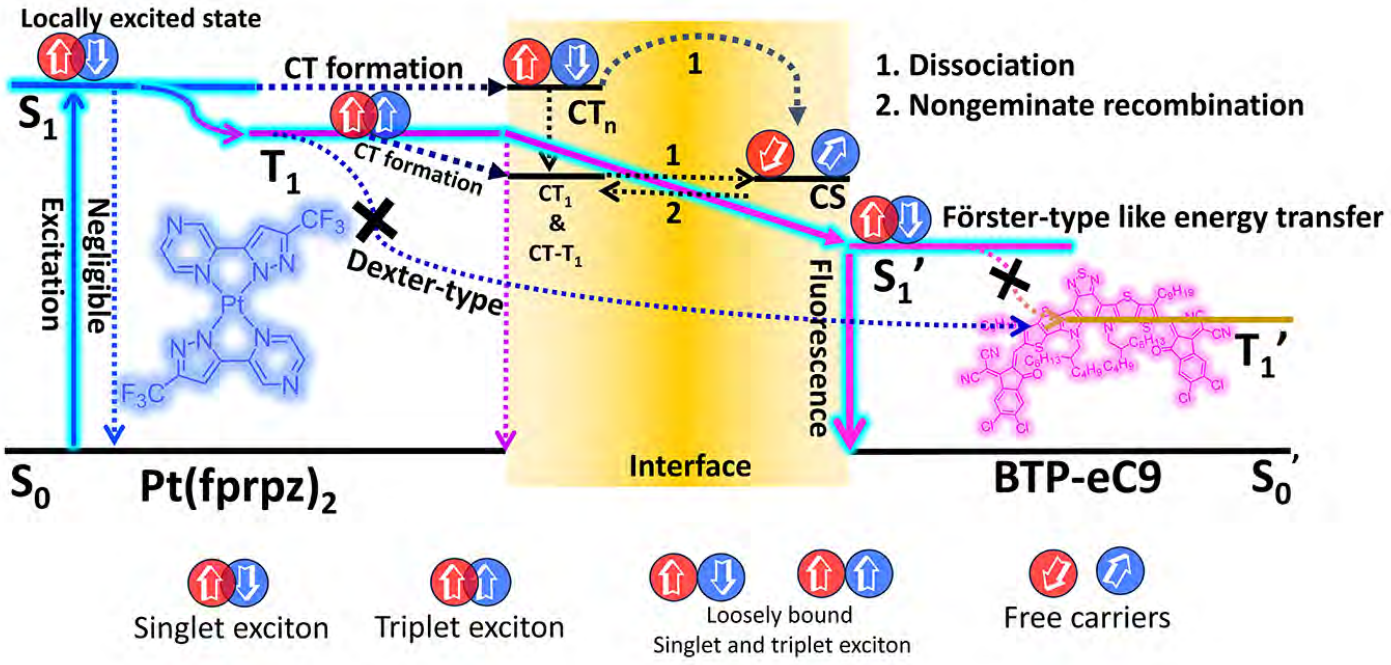
ACHIEVEMENTS

High-Performance Near-Infrared OLEDs Maximized at 925 nm and 1022 nm through Interfacial Energy Transfer



The diagram shows the role of interfacial energy transfer in NIR OLED functionality. The solid sky-blue pathway represents the process of interfacial energy transfer capable of facilitating FRET (Förster Resonance Energy Transfer). The S0 and S1 states denote the ground and excited states in the singlet manifold, while the T1 state represents the triplet state. T1→S1' FRET is viable because the T1→S0 transition is allowed for the Pt(II) complex due to its strong spin-orbit coupling. The diagram also outlines alternative pathways with dashed lines, where charge transfer (CT) and charge transfer-triplet (CT-T) states are included alongside the charge separation (CS) state, representing subsidiary processes occurring with a smaller probability.

Prof. Pi-Tai Chou and his team have been devoted to the study of near-infrared (NIR) organic light-emitting diodes (OLEDs) in recent years. By putting theory into practice, they have repeatedly broken the world record for NIR organic luminophores, overcoming the energy gap law. In 2017, they developed Pt(II) complexes with an external quantum efficiency (EQE) of 24% at 740 nm, followed by a molecule with an EQE of 10% at 800 nm in 2018. In 2020 and 2022, through the derivation of a new theory and deuterium C-D substitution, they successfully developed unprecedented OLEDs with an EQE of 4% at 1000 nm. Nevertheless, designing and synthesizing new cutting-edge Pt complexes is highly challenging. As to device engineering, the team has continuously tried new techniques to further enhance efficiency using existing organic materials. Their recent article, published in *Nature Communications*, reports the first time in the world that

transfer technology was successfully utilized to break the energy gap law through energy transfer, achieving record-breaking efficiency in the NIR region using NIR organic dyes.

Prof. Chou's team proposes that by adhering to three principles, interfacial energy transfer can be realized:

1. The photoluminescence of the energy donor must overlap with the absorption spectrum of the energy acceptor. The donor requires a high photoluminescence quantum yield (PLQY), while the acceptor needs a high absorption coefficient.

2. To ensure the effective operation of the donor and acceptor, there must be sufficient energy level differences between them. Overlapping energy levels would lead to uniform charge distribution rather than local concentration at the interface, resulting in adverse effects.

3. In OLEDs, the device must be optimized so that electron-hole recombination occurs near the interface region to effectively execute energy transfer, facilitating energy transmission.

Finally, they demonstrated two successful approaches:

1. Using the strongly emissive Pt(fprpz)2 at 740 nm, they simultaneously transferred BTP-eC9, which has strong absorption at 740 nm and emission at 925 nm, increasing the EQE from 0.18% to 2.24% and the radiance from 18.81 to 39.97 W sr−1 m−2.

2. Utilizing the strongly emissive Pt(II) complex at 800 nm paired with BTPV-eC9, which has strong absorption at 800 nm and emission at 1022 nm, the EQE increased from 0.08% to 0.66% and the radiance from 9.69 to 18.67 W sr−1 m−2.

Both approaches broke the record for the efficiency of organic dyes as emitters in OLEDs. The team predicts that interface technology will bring unprecedented new perspectives to NIR-OLEDs.

Prof. Pi-Tai Chou with his student, Chieh-Ming Hung, the first author of this paper.

Demonstration of the Differences Between Spin-Coating and Transfer Printing Techniques.

Click or Scan the QR code to read the journal article in *Nature Communications*.

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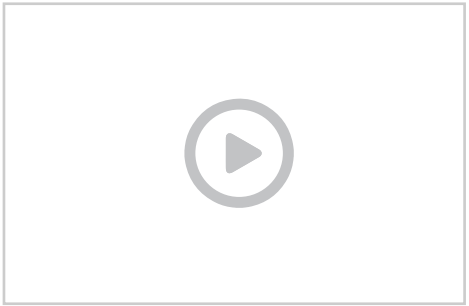
ACHIEVEMENTS

NTU Collaborates with National Science and Technology Council to Develop AI Robotic Dogs

Left to right: Liu Hao-Yu, Cheng Tzu-Chia (Members of ASR Lab).

Under the leadership of Prof. Chung-Hsien Kuo of the Department of Mechanical Engineering, the Autonomous & Soft Robotics Laboratory (ASR Lab) at National Taiwan University (NTU) has made significant progress in developing AI robotic dogs, with generous funding from the National Science and Technology Council. The ASR Lab members have successfully developed two prototypes: a small-to-medium-sized robot dog named Oliver in February 2024, followed by a working robot dog named Dustin in May 2024.



Cheng Tzu-Chia, Second year of Graduate Institute Of Mechanical Engineering, introduces two AI robotic dogs from ASR Lab.

Oliver and Dustin were conceived and developed on the technological foundation established through the team's earlier work in creating a 160 cm tall bipedal humanoid robot (HuroEvolution AD), for the RoboCup World Cup robot soccer competition. The research and development process for building such sophisticated robots includes mechanical structure design, fabrication, circuit design, control engineering, gait generation, autonomous navigation, and AI algorithms, requiring a highly integrated approach to mechatronic design, system dynamics, control, and software integration.

Oliver

Oliver, a pet robot dog measuring 54 cm in length and weighing 16 kg, is equipped with motion teaching and AI vision capabilities. It can detect and interact using voice and facial expressions, making it suitable for home interaction, companionship, and security patrol. Oliver is also designed as an open development platform, providing educational tools that inspire students to explore creative applications and programming skills in AI robotic dogs.

Dustin

Dustin, a working robot dog measuring 93 cm in length and weighing 40 kg, is designed for industrial inspection and item delivery. It can be equipped with various industrial sensors (such as sound, vision, temperature, and gas sensors) and integrates with Line Bot for real-time message reporting. The goal is to introduce Dustin into the service and manufacturing industries at a lower cost, to address labor shortages in such sectors as chemical plants, construction sites, railway maintenance, restaurants, and logistics.

NTU's Department of Mechanical Engineering is committed to addressing Taiwan's severe labor shortage issues, particularly in industries that are closely tied to daily life and have attracted significant public attention. The team is accelerating research and development efforts to provide solutions to such societal concerns. Additionally, the team is actively incorporating AI to enhance the NTU DogBots' ability to adapt to complex environments and terrains, with the aim of bringing this advanced technology to practical application as soon as possible.

Prof. Chung-Hsien Kuo with ASR Lab members.

The NTU DogBot, Dustin.

The NTU DogBot, Oliver.

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TEACHING & LEARNING

College of Public Health Joins ASPHER to Promote Global Health

The 2024 ASPHER conference forum in session at the Almeida Garrett Library Conference Hall in Porto, Portugal.

The Association of Schools of Public Health in the European Region (ASPHER) is a unique international organization dedicated to strengthening public health education, research, and policy formulation across Europe. It plays a pivotal role in advancing public health initiatives and disseminating public health knowledge.

Every year, ASPHER organizes the ASPHER Deans' & Directors' Retreat, which features workshops, scientific presentations, poster displays, thematic forums, and networking opportunities. The 2024 conference, held in Porto, Portugal, served as a vibrant platform for keynote speeches by renowned experts, interactive workshops on emerging public health issues, and extensive networking opportunities for global professionals in the field.

Prof. Kun-Hsien Tsai, Director of the NTU Global Health Program, presenting the membership project report in the closed-door meeting at the ASPHER Deans' & Directors' Retreat hosted by the University of Porto in Portugal.

On June 5, 2024, during the ASPHER closed-door meeting of leaders, Director Kun-Hsien Tsai of NTU's College of Public Health Global Health Program

(GHP) presented the college's Project Report. Project Coordinator Kun-Hong Chiang elaborated on NTU's achievements in global engagement. Following discussions and inquiries regarding the membership application, the 45 voting deans and directors deliberated extensively. Afterwards, the Chair announced--and congratulated-- NTU's College of Public Health GHP for winning unanimous approval of its membership application, solidifying its position as one of the few non-European ASPHER associate members.

ASPHER membership currently includes 150 public health organizations from 57 countries. NTU's College of Public Health GHP is the third member from East Asia to be approved, following Mongolia and Japan, and the first academic institution in Taiwan to join ASPHER. Moreover, it is the sole academic unit in Asia to hold memberships in both the American ASPPH as well as the European ASPHER.

In the future, NTU's College of Public Health will actively engage in ASPHER's public health-related activities and forge new networks and partnerships with ASPHER members and collaborators. The college will facilitate teaching and research collaborations between NTU faculty and ASPHER partner institutions. Additionally, it plans to offer students internship and practicum opportunities within the ASPHER network and to send students and junior faculty to participate in the Young Researchers Forum. Through ASPHER's network, NTU's College of Public Health aims to enhance its visibility in Europe, encouraging more European students to consider applying to study at the College.

Director Kun-Hsien Tsai of NTU's College of Public Health GHP (right) with ASPHER President Dr. Carlo Signorelli (left).

Director Kun-Hsien Tsai of NTU's College of Public Health GHP (right) with ASPPH President Dr. Laura Magaña (left).

Director Kun-Hsien Tsai of NTU's College of Public Health GHP at the 2024 ASPHER Deans' & Directors' Retreat with ASPHER Secretary Director Dr. Robert Otok.

PEOPLE

Distinguished Alumnus Prof. Cho-Yun Hsu Wins Tang Prize in Sinology

National Taiwan University (NTU) proudly congratulates its distinguished alumnus and Academia Sinica Academician, Prof. Cho-Yun Hsu, on receiving the 2024 Tang Prize in Sinology on June 20, 2024. Despite physical challenges, Prof. Hsu has remained dedicated to academic research, achieving breakthroughs and making significant contributions. His profound knowledge spans both Eastern and Western historiography, and he is highly respected for his dedication to quality education, rigorous scholarly approach, and commitment to social conscience and intellectual integrity.

Prof. Cho-Yun Hsu graduated from NTU in 1953 and was awarded NTU Distinguished Alumni in 2017.

In his acceptance speech, Prof. Hsu expressed his sincere gratitude to the Tang Prize committee for their recognition and encouragement. He emphasized that his journey in learning and personal growth began at NTU, where he received guidance at every stage. He remains deeply grateful for the university's positive influence on his academic career. He reaffirmed the lasting impact of the NTU motto, "Integrity, Diligence, Fidelity, and Compassion," created by former NTU President Ssu-Nien Fu (1949-50).

Books authored by Prof. Cho-Yun Hsu held by NTU Library.

In the spirit of training and nurturing talent, former NTU President Shih-Liang Chieng and former Academia Sinica President Shih Hu facilitated Prof. Hsu's opportunity to pursue advanced studies in the United States after his graduation. In 1962, after receiving his Ph.D. in Humanities, Prof. Hsu returned to Taiwan to teach in NTU's Department of History. He introduced new concepts and methods in historiography, emphasizing that history should not only be "narrated" but also "interpreted." His innovative perspectives significantly influenced the development of historical studies in Taiwan.

This year, NTU established the "Ying-Shih Yu International Center" to commemorate the esteemed sinologist Prof. Ying-Shih Yu and to promote sinology research. Prof. Yu was the first recipient of the Tang Prize in Sinology, inspiring NTU to actively advance sinology and paving its way forward. NTU is committed to creating a supportive academic environment, continuing the legacy of training and nurturing talent, and establishing itself as a global center for sinology.

PEOPLE

Perusing the Natural History Collections from Early NTU

Unsorted plant specimens collected from Hainan Island.

Taiwan, located in the subtropical and tropical regions of the Western Pacific between the Ryukyu Islands of Japan and the Philippines, boasts rich and diverse landscapes. These geological features host unique biodiversity, catching the attention of early settlers and natural explorers from around the world. Westerners in the 19th century, followed by Japanese and Chinese scientists in the 20th century, were amazed by the vibrant ecology of this small island, leaving behind extensive records and natural history specimens. For nearly a century, NTU has acquired books, instruments, and specimens to support teaching and research, as well as setting up department-specific specimen rooms.

In November 2022, with funding from the Ministry of Culture, the 11 units of the NTU Museum Group -- University History, Anthropology, Physics, Geology, Entomology, Agriculture, Zoology, Botany, Archives, Medicine, and Arts-- collaborated to curate “Archiving Nature: A Glimpse through the Natural History Collections from the Taihoku Imperial University Era (the forerunner of NTU

The illustrated theme poster of the exhibition.

from 1928-1945).” This exhibition, held at the Chuan Lyu Exhibition Hall in the NTU History Gallery, featured selected natural history specimens and artifacts from the TIU era. With displays on native animals, plants, and insects, as well as geology and university history, the exhibition aimed to showcase the early-mid 20th-century research on Taiwan’s natural history through the collection efforts of faculty and students and the preservation work of NTU departments, libraries, and other units.

Although the exhibition has ended, the NTU Museums will continue to introduce and display their unique collections to interested people around the world through its bilingual website.

Archiving Natural History Collections of NTU Museums

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PEOPLE

CSB Faculty Drive Innovation in Nature Portfolio's *Communications Biology*

Communications Biology, is an innovative, high-quality open-access journal in the respected Nature Portfolio Journal (npj) series. It is dedicated to publishing the latest research, reviews, and commentary in all areas of the biological sciences. It offers biologists an accessible publication option with a balanced approach to research impact and significance, prioritizing salient advances that bring fresh insights to specialized research areas in biology. This approach is particularly important for biologists whose work might present significant breakthroughs in a highly specialized subfield without immediate broader generalization. In general, *Communications Biology* values and solicits novel findings in niche fields.

We are delighted to report that three professors at NTU's Center for Computational and Systems Biology (CSB) serve as Editorial Board Members for *Communications Biology*: Ruby Yun-Ju Huang, Chien-Yu Chen, and Jian-Da Lin.

Prof. Ruby Yun-Ju Huang has been an Editorial Board Member (EBM) since the journal's inception. With her expertise in cancer biology and epithelial-mesenchymal transition (EMT), she handles manuscripts in those areas. Recently, she edited a special issue on spatial biology focusing on spatial technologies. Her role as an EBM not only involves manuscript handling and selection but also broadens her knowledge across various biological disciplines, making her collaboration with the in-house editors highly rewarding.

Prof. Chien-Yu Chen serves as an external Editorial Board Member, offering extensive expertise in biomedical data mining, especially in integrating multi-omics. She carefully manages the assessment and peer review process, identifying groundbreaking developments in machine learning and its integration with genomics data.

Prof. Jian-Da Lin is also an Editorial Board Member. He is responsible for assessing the novelty and advancement of submitted manuscripts. His focus includes Systems Immunology, particularly manuscripts integrating single-cell technology data from various immune cells to translational phenotypes in murine disease models or human disorders. Prof. Lin conducts thorough assessments and collaborates closely with in-house associate editors in making final decisions and assigning suitable reviewers for the manuscript review process.

Faculty Profiles

Dr. Ruby Yun-Ju Huang

Professor at National Taiwan University and a Yushan Young Scholar supported by the global talent recruitment initiative of Taiwan's Ministry of Education.

Dr. Chien-Yu Chen

Director and Professor of Biomechatronics Engineering at National Taiwan University.

NTU's Center for Computational and Systems Biology is honored that these highly-respected faculty members further contribute to the advancement of the biological sciences through their work on the editorial board for *Communications Biology*, supporting the journal's commitment to excellence in publishing research and innovation.

Dr. Jian-Da Lin

Assistant Professor in the Department of Biochemical Science and Technology at National Taiwan University and a Yushan Young Scholar supported by the global talent recruitment initiative of Taiwan's Ministry of Education.

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PEOPLE

15th GIS: Rebuild and Revive

Group photo at the opening of the 2024 Global Initiatives Symposium.

The 15th Global Initiatives Symposium (GIS) kicked off its five-day annual conference at NTU on July 1. This year's theme, "Rebuild and Revive," drew inspiration from the metamorphosis of a butterfly emerging from its chrysalis. The theme encouraged the student representatives to break free from past dependencies, challenge existing frameworks, and reshape their understanding of the world-- while remaining open to new possibilities. By "rebuilding" their mindset, participants were invited to undergo a personal "revival."

NTU President delivering the opening speech for the 2024 Global Initiatives Symposium.

The symposium commenced with an opening speech by NTU President Wen-Chang Chen. Several distinguished speakers highlighted the event, such as Wei-Wei Wu, LinkedIn's Regional Director for Hong Kong and Taiwan, and Giuseppe Izzo, General Manager of STMicroelectronics Taiwan. The symposium attracted university and high school students from 11 countries around the world, including United States, Indonesia, Ireland, Japan, Malaysia, and Honduras.

The three main topics were explored at the symposium: "Smart Cities," "Artificial Intelligence," and "Sustainable Finance." Through stimulating keynote lectures,

the Thought Accelerator, and project discussions, industry experts, government officials, and academic leaders engaged the student representatives in focused dialogues. Through these activities, presenters from the various sectors shared their diverse perspectives and rich experiences with the students.

In addition to the emphasis on intellectual exchange, the GIS also features highly engaging cultural activities. This year's cultural festival included booths and performances that showcased the unique aspects of different cultures, allowing student representatives to immerse themselves in and discover the richness of other traditions around the world. The symposium also featured special talks by representatives from the American Institute in Taiwan, the Embassy of Saint Kitts and Nevis, and the Czech Economic and Cultural Office who shared their valuable insights into cross-cultural experiences.

As the symposium came to a successful close, the hope was expressed that the student representatives from around the world would leave with a vivid, positive impression of National Taiwan University and Taiwan, ultimately raising Taiwan's visibility on the global stage.

The Lanyang Samba Dance Group performing at the 2024 Global Initiatives Symposium Cultural Festival.

NTU Vice President for Student Affairs, Shi-Wei Chu, visiting the Cultural Festival at the 2024 Global Initiatives Symposi

NTU Deputy Vice President for Student Affairs, Tsai Pei-Hsueh, delivering the closing remarks at the 2024 Global Initiatives Symposium.

NATIONAL TAIWAN UNIVERSITY
+886-2-3366-2577
No.1, Sec. 4, Roosevelt Road Taipei, 10617 Taiwan
ntuhighlights.ntu.edu.tw

National Taiwan University
國立臺灣大學

PEOPLE

NTU Opening Ceremony: "Where Creativity and Dreams Take Flight"

NTU 2024 Opening Ceremony.

Spotlighting the theme "NTU: Where Creativity and Dreams Take Flight," the 2024 opening ceremony at National Taiwan University (NTU) encouraged the incoming students not just to develop their skills and knowledge during their academic journey but also strive to make a positive impact on society.

In his opening remarks, NTU President Wen-Chang Chen emphasized the four pillars of a balanced university education in the 21st century: "Academic Excellence," "Diverse Knowledge Base," "International Perspectives," and "Putting Theory into Practice." He also underscored three key priorities for students to bear in mind: "Build Friendships," "Develop Resilience," and "Cultivate the Courage to Pursue Dreams." To help students pursue these goals, NTU continuously improves its specialized academic modules, undergraduate programs, and honors programs. Additionally, the "NTU Beyond Borders" initiative will be launched during the new academic year, providing students subsidies to participate in internships, work placements, and entrepreneurship programs at top universities, companies,

Class of 2028: "Where Creativity and Dreams Take Flight" was spotlighted during the NTU 2024 opening ceremony.

and NGOs abroad during summer and winter breaks. This initiative is aimed at broadening students' international perspectives, strengthening their interpersonal skills, and promoting interdisciplinary learning.

The ceremony also featured several notable NTU alumni, including members of the Cosmos People band, actors Chien-Pei Yang and Shang-He Huang, and author Shi-Yong Li. They joined the leadership of the NTU Student Association and Graduate Student Association in encouraging the freshmen to not only focus on acquiring academic knowledge but also to identify and develop their own values and maintain a balanced and stable mindset. With such a foundation, students will be better equipped to explore and yet care for themselves while striving toward goals that are bigger than themselves.

The ceremony concluded with videos from several service-oriented student groups, such as the NTU Northern Thailand Service Club and the NTU Homeless Service Society. These presentations illustrated NTU's commitment to encouraging students to use their talents and skills to help others and exert a positive influence, whether in Taiwan or elsewhere, to foster a better society.

While opening Academic Year 2024, NTU welcomed 4,497 new undergraduate students and 5,932 new graduate students. These enthusiastic freshmen and their families participated in the ceremony and watched captivating performances and carefully curated videos. These presentations showcased the dedication, drive, and spirit of service that NTU students embody, inspiring the new students at the beginning of their exciting university journey ahead, filled with creativity and dreams.

President Wen-Chang Chen introducing the "NTU Beyond Borders" initiative-- offering students the chance to visit top global universities, intern and work at companies and NGOs, or even start their own businesses during semester breaks.

In a break with traditional stage performances, the NTU Chinese Orchestra (right) and the NTU Symphony Orchestra (left), engage in a thrilling musical duel from the audience seats, garnering widespread hearty applause.

Vibrant student performance energizes the ceremony.

Exciting student performance inspires everyone at the ceremony.

New students and their families show excitement and enthusiasm at the opening ceremony.