



# *ntu beats*

National Taiwan University Official Bimonthly

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## The NTU DNA

- Biodiversity Workshop to Bridge Culture Gaps
- Women in ESG Leadership
- NTU System Strengthens Ties with Malaysian Schools



## ***Humans Contribute to Island Fauna Extinction***

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Islands have long been recognized as singular evolutionary arenas leading to morphologically distinct species, such as dwarfs and giants. ....

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**GLOBAL OUTLOOK**

# NTU x ECCT Women in ESG Leadership



## FEATURES



### Planting the DNA of NTU All Over The World Interview with Prof. Wen-Chang Chen, President of NTU

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## GLOBAL OUTLOOK



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## Co-hosting the 2023 ESG and Management Innovation International Conference with Macquarie University

The NTU College of Management and *NTU Management Review*, in ...

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## ACHIEVEMENTS



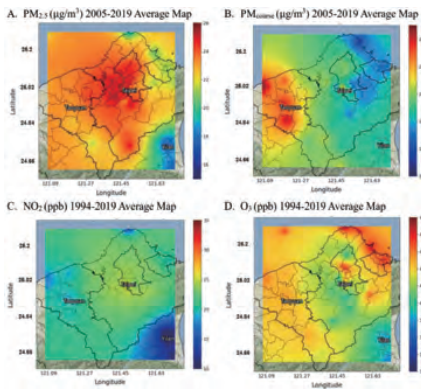
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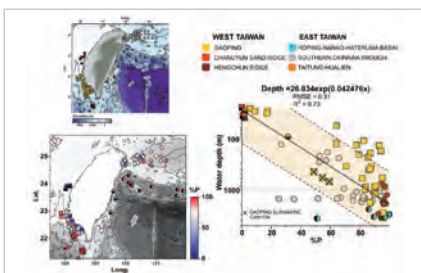
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## Ambient and Indoor Air Quality on Dementia and Cognitive Impairment

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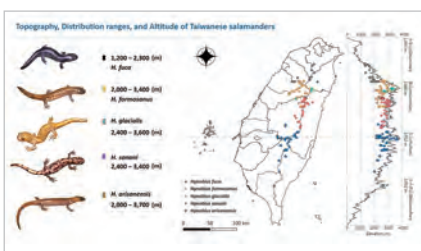
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## MPB Biodiversity Workshop: Bridging Cultures and Disciplines

The International College of NTU, established in 2021, has demonstrated remarkable progress in fostering interdisciplinary integration and creating an immersive English learning environment to cultivate global talents. With a focus on innovative educational approaches, the college has launched four ...

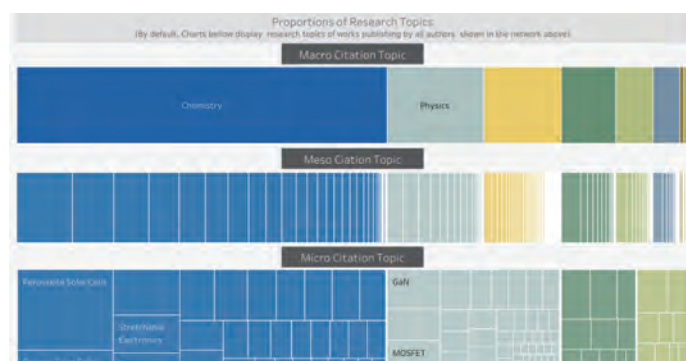
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## Integrated Resource Utilization for Disaster Risk Management Course

NTU Summer College offers a unique "Disaster Risk Management Course" led by experienced instructors from NTU's Center for Weather and Climate Disaster Research and rescue teams with ample field experience with ...

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## Finding Research Collaborators through NTU TOPICs

Scientific collaboration is crucial for amplifying research capacity and impact in that researchers can achieve deeper and broader scientific breakthroughs by engaging in interdisciplinary collaboration. To increase public ...

[...more](#)

# PEOPLE



## Aspire Before Flight: Commencement Ceremony 2023

On May 27, NTU celebrated Commencement Ceremony 2023, themed "Aspire Before Flight," at NTU Sports Center. The ceremony was a momentous occasion for a total of 9,512 NTU graduating students, comprising 5,166 undergraduates, 3,923 master's students, and 423 doctoral students. The atmosphere was charged with enthusiasm and joy as the venue welcomed the graduating students' family ...



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| Features

# Planting the DNA of NTU All Over The World

## Interview with Prof. Wen-Chang Chen, President of NTU

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| Intro Video of Prof. Wen-Chang Chen, President of National Taiwan University.

Prof. Wen-Chang Chen assumed office as the President of NTU at the beginning of the year, receiving the baton to lead NTU further down the road to internationalization. At the end of March, he received delegations from Université Grenoble Alpes in France and Kyushu University in Japan. While these activities might appear to follow the tradition of NTU's international academic exchanges, the seeds of change have been planted.

### Change Starts with Integration

President Chen said that in the past, exchanges among partner universities were focused on faculty collaboration programs, dual degree programs, and student exchange systems. "In the future, we will focus more on 'collaboration in key areas.'" In addition, the focus of collaborations will shift from individual teachers to research groups and research centers with the top priority being an innovative way for cross-departmental communications.



Prof. Wen-Chang Chen, President of NTU. He served as the Dean of NTU's College of Engineering with research specializations in electronic and optoelectronic polymers, intercalated copolymerized nanopolymers, and polymer nanocomposite optical materials. While focusing on the NTU Main Campus, he tirelessly promotes the development of the other NTU campuses in other cities.



“We have recently launched the ‘Creative Research Program on Cross-Disciplinary Exchange among Colleges,’ allowing the participants to publish innovative proposals based on the theme.” Compared to previous intercollegiate exchanges that often remained limited to individual presentations without further collaboration, President Chen’s goal is to utilize these exchange opportunities to incubate new sparks of academic thinking through brainstorming sessions. President Chen said that NTU’s advantage lies in its comprehensive range of academic disciplines, making it possible to develop innovative research, such as integrating the social sciences with information technology.

## Developing Distinctive Research by Connecting Local Resources with Global Issues

President Chen has been actively promoting “Distinctive Research at the Yunlin Campus” since last May, as well as facilitating industry-academia collaborations by leveraging resources from the Yunlin Branch of NTU Hospital, the Second Degree Bachelor of Science in Nursing and offshore wind energy research to develop long-term care for the elderly, green energy, and other key areas of international research. With the support of the Ministry of Education, President Chen also plans to have a training base constructed for talents in wind energy on the Yunlin Campus.

According to President Chen, it was difficult for Yunlin to attract international talents in the past due to a lack of suitable accommodations and facilities for the scholars. Nowadays, the Yunlin County government has had a BOT dormitory built next to the NTU Yunlin campus with 1,500 beds so that talents from all over the world can stay there together for further collaborations and talent cultivation.

## Developing Cultural Experience and Spreading the NTU DNA

In addition to the faculty and scholars, President Chen hopes that international students at NTU can feel at home. Rather than building a bilingual environment, he encourages students to share each other’s cultures so that they may better integrate into the life at NTU. “Once you have studied at NTU, you will always be an NTUer!” President Chen believes that even after international students return to their home countries to work, “they have already acquired the NTU DNA!” The so-called NTU DNA refers to the memories and appreciation that students hold in their hearts from their time studying at NTU. When they share these experiences with friends in their hometowns, it also expands the visibility of NTU. As this “NTU DNA” spreads across the world, it will create more interest and opportunities for future exchanges.



Besides striving to highlight NTU on the international stage, President Chen actively fosters more cross-departmental exchanges and collaborations.



Click or Scan the QR code to visit the webpage of Interdisciplinary Research at NTU for more details.



Click or Scan the QR code to visit the webpage of Optoelectronic Polymer Laboratory for more details.



BIO

**Wen-Chang Chen**

**President of National Taiwan University**



“The University also enhances the promotion of exchanges with students from renowned international universities, including mutual participation in forums and various activities organized by students from both sides. This facilitates direct student-to-student communication and interaction. Student exchanges are not limited to forums. I hope that there will also be sports or cultural exchanges among our partner universities!” President Chen affirms that the ultimate goal of these exchanges lies in the increased mutual understanding of learning goals between both sides. “These experiences help the students to decide what they would like to do in the future.” President Chen’s face lit up with a smile when talking about student affairs, his speech quickening with his rising enthusiasm. He is ready to showcase NTU to the world as an international talent hub that is friendly, diverse, and rooted in the local community.

Prof. Wen-Chang Chen is the President of National Taiwan University (NTU) and Director of Advanced Research Center of Green Materials Science and Technology. Prof. Chen obtained his BS and PhD degrees from NTU and University of Rochester in 1985 and 1993, respectively. He then served as a research scientist at Industrial Technology Research Institute of Taiwan from 1993 to 1996. He joined NTU as an Associate Professor in 1996 and was promoted to a full professor in 2000. His current research activities include electronic and optoelectronic polymers, nanostructured materials, and green materials science and technology. He has coauthored 475 refereed articles and holds 62 issued patents. Prof. Chen was awarded National Chair Professorship from the Ministry of Education (Taiwan) and NTU Chair Professorship from 2021 to 2023.

*Global Outlook*

# Setting Sail: Launch of the Israel Apprenticeship Program and Overseas Internship Program

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Precision Fermentation – Prof. Cheng (center, pointing).

NTU held the launch ceremony of the Jewish Taiwan Cultural Association (JTCA) Taiwanese Students Study Tour in Israel & NTU Overseas Internship Program (NTU OIP) in May. The event was co-hosted by NTU President Wen-Chang Chen and JTCA Founders Mr. Jeffrey D. Schwartz and Ms. Na Tang. Representatives of partners and sponsors were also invited to witness this important milestone in the lives of over 60 students—to cheer them on as they embark on an exciting chapter on their life journey.

The JTCA Study Tour was designed to expand the students' international horizons and inspire their innovativeness. This summer, thirty NTU students will visit well-known Israeli start-up companies and NGOs to learn from local universities and experience Jewish culture. The JTCA will provide accommodations, transportation, and meals, allowing the students to experience Israel's vibrant startup culture first hand and gain fresh perspectives and insight into Jewish culture.



President Chen, Mr. Jeffrey D. Schwartz, and Ms. Na Tang, joined by representatives of partners and sponsors.



The NTU Overseas Internship Program is NTU's first university-level overseas internship program. Students will do their internships in companies, non-governmental organizations, and research institutions abroad. The program employs a "Mentor-Apprentice System" for overseas institutions to choose mentors to guide the students in terms of their studies and internships, experience the workplace culture in a different country, or engage in international services that will be beneficial for developing their future careers. Program partners include IBM Research, Kew Gardens, Step30, as well as numerous other enterprises and university laboratories.

President Chen affirmed that by participating in the JTCA Study Tour and NTU OIP, students can expand their international horizons or engage in social services in order to develop problem-solving skills and the spirit of altruism. The launch ceremony is intended to send off students who are about to embark on a new journey across the ocean and explore future career possibilities.



Click or Scan the QR code to visit the webpage of NTU OIP and learn more about overseas internship opportunities.



Click or Scan the QR code to visit the Facebook page of JTCA and learn more about the organization.



| Global Outlook

# NTU x ECCT Women in ESG Leadership

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| Precision Fermentation – Prof. Cheng (center, pointing).

NTU and the European Chamber of Commerce Taiwan Low Carbon Initiative (ECCT LCI) co-organized a seminar held in May that showcased the expertise of five exceptional female business leaders from several industries, including information technology, healthcare, cosmetics, energy, and automotive. These experienced speakers shared their journeys of personal learning, career experiences, and insights into environmental protection, social responsibility, and corporate governance (ESG). The event was aimed to foster a deeper understanding among the young participants about ESG development trends and encourage them to explore these vital areas.

The esteemed guest speakers included Cynthia Chyn, Head of Public Policy, Amazon Web Services Taiwan; Eva Leihener-Stefan, Managing Director of L'Oréal Taiwan; Boon Huey Ee, Managing Director Hong Kong and Macau & General Manager Healthcare Taiwan of Merck Group; Christy Wang, Chairperson & General Manager of Ørsted Taiwan; and Michaela Boye, Managing Director of Scania Taiwan. Together, they led insightful discussions on applying their knowledge and expertise to improve companies' ESG performance.



| Event poster—NTU x ECCT Women in ESG Leadership.

The seminar was meticulously planned with vital themes to bridge the gap between global ESG issues and women's leadership and inspire students to actively engage with ESG concepts. Most importantly, it was planned to foster a sense of awareness, concern, and commitment in the students to sustainable development. The Taiwan Women on Boards Association's "White Paper on Female Governance 2021" highlights the notable attention and resource allocation that female leaders tend to dedicate to ESG matters. A global survey conducted by Ernst & Young Global Limited further revealed that nearly 80% of female leaders integrate corporate products or services to benefit society, while approximately 65% of female entrepreneurs commit to human rights conventions and strive to create more opportunities for the younger generation.

NTU upholds "sustainable development" as a core value in its institutional growth and is firmly committed to promoting commitment to sustainable development and social responsibility among its faculty, staff, and students. By integrating resources and faculty from various disciplines and colleges, NTU blends critical social issues with innovative teaching methods, effectively merging theoretical knowledge with practical applications. This approach cultivates future talents to be equipped to address sustainability challenges. Additionally, NTU actively collaborates with other universities to establish networks for sustainable exchanges, facilitating the sharing of information and knowledge on university sustainability governance. These efforts contribute to fulfilling NTU's sustainable development and social responsibility goals in alignment with the United Nations Sustainable Development Goals (SDGs).



From left to right: Professor Jiun-Haw Lee, Associate Vice President for International Affairs at NTU, Cynthia Chyn, Head of Public Policy, Amazon Web Services Taiwan; Eva Leihener-Stefan, Managing Director of L'Oréal Taiwan; Dr. Chia-Pei Chou, former Executive Vice President & Distinguished Professor in the Department of Civil Engineering, Boon Huey Ee, Managing Director Hong Kong and Macau & General Manager Healthcare Taiwan at Merck Group; Christy Wang, Chairperson & General Manager of Ørsted Taiwan; and Michaela Boye, Managing Director of Scania Taiwan.



| Global Outlook

# NTU System and Malaysian High Schools Unite for Academic Advancement

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NTU President and NTUS Chairman Wen-Chang Chen lead a delegation to Malaysia to attend a signing ceremony of a Collaboration and Exchange Agreement with 13 prestigious Chinese independent high schools from Malaysia, on May 7.

The National Taiwan University System (NTUS), renowned for academic excellence, has taken a significant step forward by establishing the NTUS International High School Alliance. This strategic initiative aims to attract, foster, and retain exceptional students from high schools worldwide. The signing ceremony, led by Prof. Wen-Chang Chen, President of NTU, and Chairman of NTUS, Prof. Shih-Torng Ding, Executive Vice President of NTU and CEO of NTUS, and Prof. Hsiao-Wei Yuan, Vice President for International Affairs of NTU, marked the alliance's formal inauguration. Thirteen prestigious Chinese independent high schools in Malaysia were the first to join this alliance.



Representatives of NTUS joined by representatives of Malaysian educational associations.

In May, representatives from the thirteen Malaysian high schools—including

Chong Haw Independent High School, Kuala Lumpur, Tsun Jin High School, Kuen Cheng High School, Hin Hua High School, Pin Hwa High School, Chung Ling Private High School, Pay Fong High School, Kluang Chong Hwa High School, Foon Yew High School, Foon Yew High School-Kulai, Chung Hua Middle School No. 1, Catholic High School Sibul, and Sabah Tshung Tsin Secondary School— assembled with the representatives from NTUS at the campus of Hin Hua High School in Kelang, Selangor, Malaysia to celebrate the signing of a Collaboration and Exchange Agreement.

President Chen highlighted the university system's efforts to promote the Scholarship for Top and Outstanding Overseas Chinese Students to Study in Taiwan, a collaboration between the Overseas Community Affairs Council and Taiwanese universities. As part of this initiative, NTUS aims to facilitate exchanges between principals and organize short-term programs for teachers and students from the alliance schools to visit Taiwan. The objective is to provide firsthand experience of the system's academic excellence. To attract more talented students from Malaysia, NTU has expanded the number of available scholarship opportunities. High school-nominated students who meet the qualifications will receive priority admission, full tuition waivers, and monthly stipends of NTD 8,000.

Ms. Chu-Lien Yen, Minister of TECO in Malaysia, acknowledged the deep, longstanding educational ties between Malaysia and Taiwan. More than 12,000 Malaysian students have chosen to pursue higher education in Taiwan, a testament to their confidence in Taiwanese universities. With NTUS's three universities representing the best comprehensive, educational, and technical universities in Taiwan, along with the generous scholarships and various opportunities, such as internships, work-study programs, and exchanges, Taiwan is undeniably the top destination for Malaysian students seeking an exceptional university education.

The ceremony was graced by a number of distinguished guests, including Datuk Tan Yew Sing, Acting Chairman of the United Chinese School Committees Association of Malaysia, Datuk Dr. Tang Yong Chew, President of the Federation of Alumni Associations of Taiwan Universities, Malaysia, and Mr. Choo Yan Tiee, President of the Alumni Association of National Taiwan University, Malaysia. Each guest expressed optimism in the bright future of Taiwanese-Malaysian higher education collaboration and the tremendous prospects created by the new scholarships.



Click or Scan the QR code to learn more about NTUS.



Click or Scan the QR code to learn more about the NTU Office of International Affairs' High School Recommendation application.



| Global Outlook

# Co-hosting the 2023 ESG and Management Innovation International Conference with Macquarie University

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The NTU College of Management and *NTU Management Review*, in collaboration with Macquarie University Business School (MQBS) in Sydney, Australia, jointly organized the 2023 ESG and Management Innovation International Conference this past spring. This conference delved into various areas of business management, including finance, accounting, marketing, operations and information management, and organizational behavior. However, the primary focus of the event was environmental, social, and corporate governance (ESG), a rising critical area of study in contemporary business management research.

During the two-day conference, 43 carefully selected research papers were presented by scholars from several countries around the world. Additionally, the program featured two keynote speeches and a Doctoral Students' Research Incubator Symposium, further deepening the academic discussions.

In his remarks, Rahat Munir, Head of the Department of Accounting and Corporate Governance at MQBS, highlighted the growing prominence of ESG in the theory and practice of business management. He emphasized how the concept and application of ESG have become essential for businesses to thrive in today's dynamic landscape. In his presentation, Shing-Yang Hu, Dean of the College of Management at NTU, also stressed the significance of bridging the gap between current industry trends and academic research.

At the Closing Ceremony, Munir again expressed his gratitude for the opportunity to hold the first on-site international conference since the pandemic, successfully setting the stage for in-depth academic interchanges with NTU. He reiterated his hopes for more academic exchanges and the further exploration of developing mutual visiting programs that would foster greater research collaboration. For his part, Dean Hu emphasized the significant contribution of the conference to both institutions. He envisioned the event as the starting point for an enduring partnership, serving as a diverse platform for engaging in academic interchanges on topics like corporate sustainability and other fields of management research.

The "2023 ESG and Management Innovation" international conference served as a crucial platform for scholars, researchers, and practitioners to come together and explore the intricacies of ESG and its implications for contemporary business management. The conference's success in facilitating in-depth academic exchanges, presenting high-quality research papers, and nurturing the potential for future collaborations between the institutions is a testament to the significance of such events for advancing knowledge and driving sustainable management practices.



Participants at the 2023 ESG and Management Innovation International Conference in Sydney, Australia.



At the Opening Ceremony, representatives from NTU and MBQS exchange commemorative gifts, signifying the start of a friendly and deepening academic exchange between Taiwan and Australia through this two-day conference.



Click or Scan the QR code to visit the website of the NTU College of Management.



Click or Scan the QR code to visit the website for more information on *NTU Management Review*.



| Achievements

# Causes of Island Fauna Extinctions

## The Role of Dwarfism and Gigantism in Human-Mediated Extinctions on Islands

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| NTU President Wen-Chang Chen delivering a speech at the opening ceremony of GIS 2023.

Associate Prof. Cheng-Hsiu Tsai of NTU's Department of Life Science and researchers from 20 institutions worldwide led by Dr. Roberto Rozzi collaborated on an international paleontology research project to assess island extinctions globally.

Islands have long been recognized as singular evolutionary arenas leading to morphologically distinct species, such as dwarfs and giants. The research team assessed how body size evolution in island mammals may have exacerbated their vulnerability, as well as how the arrival of modern humans has contributed to their past and ongoing extinctions, by integrating data on 1231 extant and 350 extinct species on islands and paleo-islands worldwide spanning the past 23 million years. It was found that the likelihood of extinction and endangerment is the highest in



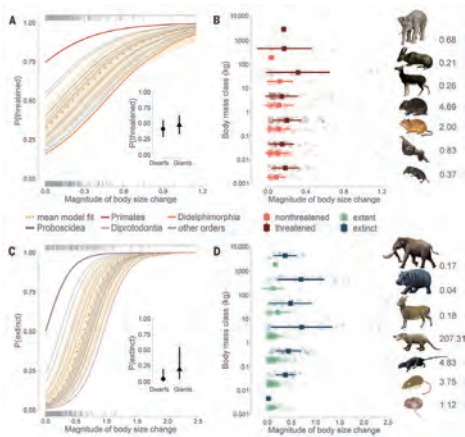
| Associate Prof. Cheng-Hsiu Tsai gave a brief introduction to the research on dwarfism and gigantism on islands.

the most extreme island dwarfs and giants. Extinction risk of insular mammals was compounded by the arrival of modern humans, which accelerated extinction rates more than tenfold, resulting in an almost complete demise of these iconic marvels of island evolution.

This study is also an integral part of Associate Prof. Tsai’s long-term research project on Taiwan’s fossil vertebrates to remind people of past diversity and extinction events in Taiwan. By delving into the diversity of the past and ascertaining the causes of the extinctions, we will be more prepared to deal with and ameliorate the ongoing sixth mass extinction.



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



The effect of body size change on extinction risk of mammals on islands worldwide.



A large *Palaeoloxodon* skull from Taiwan. On display at the Land Fossil and Mineral Museum, Tainan.



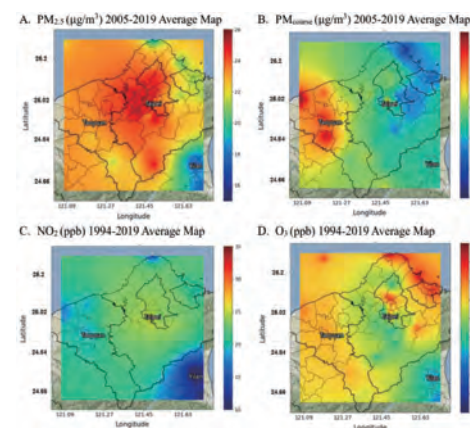
**Achievements**

# Ambient and Indoor Air Quality on Dementia and Cognitive Impairment

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Dementia has been identified as a public health priority by the World Health Organization. Prof. Yen-Ching Chen of the College of Public Health at NTU collaborated with three hospitals in conducting a case-control study “Dementia and Aging Research Group of Taiwan (DART)” from 2007-2011. Her research team found that long-term (13 years) low-level [below Environmental Protection Agency (EPA) standard] exposure to PM10 and O<sub>3</sub> was associated with a 2 and 4-fold increased risk of Alzheimer’s disease and vascular dementia, respectively (Ref. 1). These findings have drawn the attention of over 30 news outlets and the US EPA.

Additionally, Prof. Chen’s research team established a cohort study, “Taiwan Initiatives for Geriatric Epidemiologic Research (TIGER),” in 2011, with biennial follow-ups undertaken ever since. In 2020, they found that long-term (11-23 years) low-level exposure to O<sub>3</sub> or NO<sub>2</sub> was associated with the impairment of several cognitive domains (Ref. 2). In 2023, for the first time, they explored how the interaction of indoor air quality and ambient air pollutants (PM<sub>2.5</sub>, PM<sub>coarse</sub>, O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, CO) affect cognition, proposed multi-pollutant models to reflect the real-life exposure status, and established a new ventilation score for epidemiologic studies for assessing indoor air quality (Ref. 3). A series of important air pollutant research on older adults has facilitated the amendment of air quality standards and drawn attention to indoor air quality. TIGER has joined several consortiums worldwide to undertake international collaboration to reduce the effect of air pollutants on the occurrence of cognitive impairment or dementia.



Fitted covariance model used for Bayesian maximum entropy (BME) estimation in northern Taiwan.



Prof. Yen-Ching Chen of the Institute of Epidemiology and Preventive Medicine, College of Public Health, NTU, and Dr. Jen-Hao Chen of the Department of Geriatric Medicine, NTU Hospital, with their research team.



Ref. 1 Click or Scan the QR code to read the related journal article in *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring*.



Ref. 2 Click or Scan the QR code to read the related journal article in *Journal of Alzheimer's Disease*.



Ref. 3 Click or Scan the QR code to read the journal article in *Environmental Research*.



Click or Scan the QR code to learn more about Prof. Chen’s research: “Dementia and Aging Research Group of Taiwan (DART)” and “Taiwan Initiatives for Geriatric Epidemiologic Research (TIGER)”.



**| Achievements**

# Re-Connecting the Link between Extreme Geohazards and the Past through

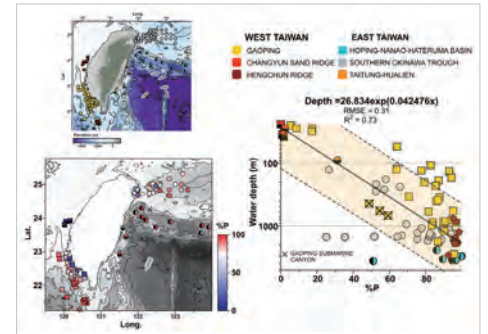
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Taiwan's unique geographical location makes it susceptible to extreme events triggered by climate change and tectonic activities, such as typhoons and earthquakes. By thoroughly examining the comprehensive record of past intense geohazard events, insight can be gained into the frequencies and predictions of these events. Extreme geohazards can lead to submarine landslides in the form of turbidity currents, but although many turbidite layers have been identified in the offshore sedimentary record of Taiwan, knowledge regarding the sediment's origin, its original water depth, and its triggers remains limited.

To improve our understanding of submarine landslides off the coast of Taiwan, a collaborative research effort was undertaken by NTU's Institute of Oceanography postdoctoral researcher Raul Tapia, Assistant Professor Sze Ling Ho, Associate Professor Pei-Ling Wang, Associate Professor Chih-Chieh Su, and graduate students Edwin Sicheng Le and Jheng-Kuan Lin. This team of researchers partnered with institutions in Taiwan and France to assess the utility of planktic and benthic foraminifera in identifying submarine landslides and estimating the initial water depth at which the transported material was deposited. An article based on the findings of their study, "Planktic-benthic foraminifera ratio (%P) as a tool for the reconstruction of paleobathymetry and geohazard: A case study from Taiwan," was recently published in *Marine Geology*.

The study analyzed 148 sediment samples collected over the past two decades from offshore Taiwan. During research vessel expeditions, the team collected NOR1, OR1, OR2, OR3, and samples obtained from a joint Taiwan-France cruise aboard the R/V Marion Dufresne. Various data, including foraminifera abundance, grain size distribution, total organic carbon (TOC), and carbon-to-nitrogen (C/N) ratios, were generated from the collected sediment samples. These data were then compared to hydrographic data collected and curated by the Ocean Data Bank and GLODAP database.

The results revealed a strong correlation between foraminiferal abundance, planktic-benthic foraminifera ratio (%P), and water depth in the offshore area of Taiwan. The %P value increased as the water depth increased. The team also



Location of sampling stations and the %P-water depth relationship offshore Taiwan.



Taiwanese and French scientists on board R/V Marion Dufresne during the 2018 EAGER cruise offshore Taiwan.



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

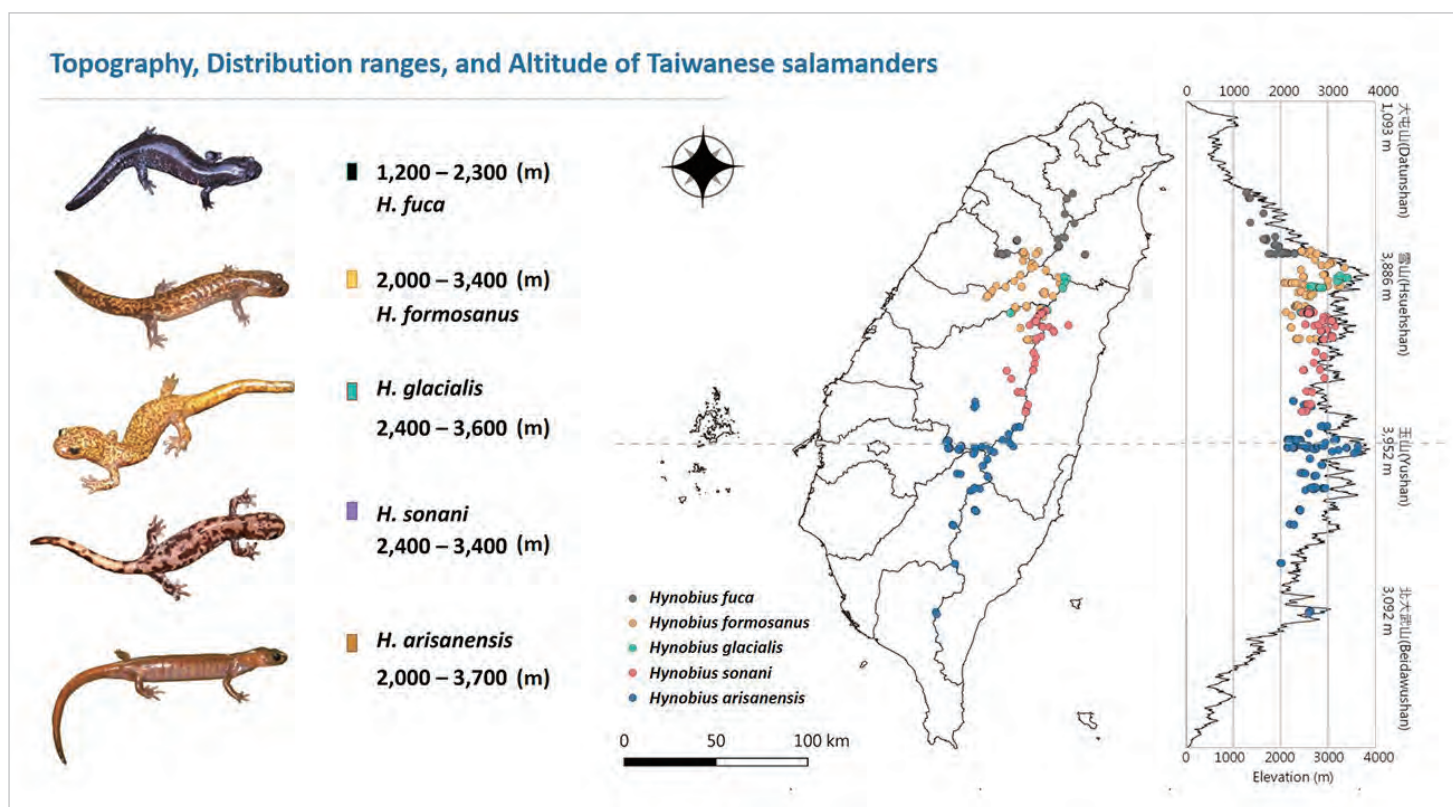
discovered that by applying this water depth %P equation, sediments influenced by submarine landslides could be identified because they exhibit %P values that differ significantly from sediments found within the same water depth range. Data obtained from Taiwan's offshore records and other regions were further used to develop a global water depth %P equation. This equation can be applied to sediment records to help reconstruct the paleobathymetry and gain insight into past extreme events triggered by earthquakes or typhoons.

This research offers invaluable knowledge on the connection between submarine landslides, foraminiferal data, and water depth. These findings improve our capacity to predict and understand geohazards more effectively, better preparing the world to cope with future extreme events.

| Achievements

# Hynobiidae Geographical Distribution Map in Taiwan Completed by Prof. Ju Yu-Ten's Team

Share:     



| Geographical and altitude distribution of five *Hynobius* species in Taiwan.

From 2020 to 2022, Shei-Pa National Park, Taroko National Park, and Yushan National Park integrated their resources for Prof. Yu-Ten Ju of NTU's Department of Animal Science and Technology to lead a cross-domain integration project titled "Habitat, Genetic Structure, and Biology of Taiwan Salamander (Hynobiidae) Distribution in Alpine National Parks." The research covers areas surrounding the national parks to draw a map of the geographical distribution of Hynobiidae, collect their life history data, and infer their habitat needs through an analysis of their feeding habits.

The *Hynobius salamander* (Hynobiidae) was initially discovered in the Cuifeng and Nenggao Police Posts in 1919, marking the first record of Hynobiidae observed in a subtropical region. Later, *hynobius arisanensis* was also discovered in the Alishan



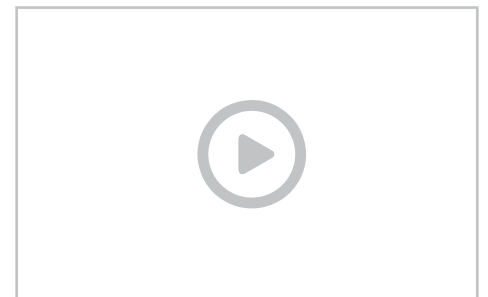
area. In 2008, Prof. Kuang-Yang Lue and Dr. June-Shiang Lai from National Taiwan Normal University (NTNU) conducted a study on *Hynobius fuca* and *Hynobius glacialis*. However, to fully understand the evolutionary history of the five endemic species of *Hynobius* salamander, it is necessary to develop a geographical distribution map and overlay information; such as mountains, elevations, aspects, rivers, and vegetation with the genetic information of the five Taiwan *Hynobius* salamanders.

Building upon Prof. Lue and Dr. Lai's research, Prof. Ju's team at NTU completed a distribution map of Hynobiidae in Taiwan in 2022, which includes the feeding habits of the five species and the life history of four of the species. Regarding feeding habits, adult Hynobiidae primarily feed on invertebrates on the soil surface, with a preference for Insecta, followed by Malacostraca, Arachnida, Chilopoda, and Diplopoda. The life histories of *Hynobius fuca*, *Hynobius formosanus*, *Hynobius sonani* and *Hynobius arisanensis* were also examined and reported. It was found that they mostly spawn from autumn to early spring, hatch from late winter to spring, and complete metamorphosis to leave the water in summer.



Prof. Ju from NTU and Dr. Lai from NTNU's Department of Life Science's worked together on the research of Hynobiidae in 2016. Sadly, Dr. Lai fell of the cliff and passed away while doing research between the North Peak of Mount Qilai and Panshi Shan.

Touched by the dedication, sacrifice and mutual support of Prof. Ju and Dr. Lai, director Jue-Ming Mai turned their research process into a documentary, *Good Morni MIT*.



Official trailer of the ecological documentary *Good Morni MIT*.

| Teaching & Learning

# MPB Biodiversity Workshop: Bridging Cultures and Disciplines

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| MPB students visit Dongyan Mountain Forest.

The International College of NTU, established in 2021, has demonstrated remarkable progress in fostering interdisciplinary integration and creating an immersive English learning environment to cultivate global talents. With a focus on innovative educational approaches, the college has launched four interdisciplinary master's programs: Master's Program in Global Agriculture Technology and Genomic Science, Master's Program in Biodiversity, Master's Program in Smart Medicine and Health Informatics, and Master's Program in Disaster Risk Reduction and Resilience. Each program curriculum emphasizes the unique strengths of NTU and strives to provide exceptional experiences in higher education.

This year, the Master's Program in Biodiversity (MPB) organized the "Workshop on Biodiversity," which included taking international students on field trips to explore Taiwan's natural landscapes and conservation and research centers. These



| MPB students visit the Endemic Species Research Institute in Nantou (Photo credit: Council of Agriculture, Executive Yuan).



educational excursions enabled students to gain first-hand insights into how government policies and regulations shape ecosystems. Engaging in meaningful discussions with local tribes and communities in Pinglin, Nantou, Yangming Mountain, and NTU's Experimental Forest, students were inspired to examine a range of topics through the lenses of management, economy, and human geography. Furthermore, class discussions facilitated valuable discussions, as students compared Taiwan with their respective homelands, fostering a spirit of exploration and new ideas.

Drawing on the English proficiency and biodiversity knowledge of the international students, the program actively collaborated with the Endemic Species Research Institute (Council of Agriculture, Executive Yuan). The students supported the optimization of the institute's English information and provided advice on designing activities to enhance public awareness of Taiwan's unique ecosystem and endemic endangered species. Such efforts are aimed to attract international attention and elevate the global visibility of Taiwan's biodiversity.

The programs offered by the International College of NTU all provide international students with a diversity of curriculum designs and an English-speaking learning environment, offering them the opportunity to conduct field studies in relevant institutions and corporations in Taiwan and explore issues in their respective disciplines while immersing themselves in local cultures. During this process, the programs embrace diversity in disciplines, cultures, languages, and learning approaches, bridging the gap between their academic knowledge and practical application in offering comprehensive and enriching educational experiences for the students.



MPB students visit the Endemic Species Research Institute in Nantou (Photo credit: Council of Agriculture, Executive Yuan).



| Teaching & Learning

# Integrated Resource Utilization for Disaster Risk Management Course

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NTU Summer College offers a unique “Disaster Risk Management Course” led by experienced instructors from NTU’s Center for Weather and Climate Disaster Research and rescue teams with ample field experience with the Buddhist Tzu Chi Charity Foundation. This course provides an in-depth learning experience by combining research theories with practical applications. It aims to enhance the students’ rapid problem-solving skills, foster an interdisciplinary mindset, and promote life education, instilling the values of social responsibility and personal well-being.

The students will learn from experts in disaster management, access the relevant research data, critically examine the social impact of natural disasters, and be trained in prevention measures. Besides learning knowledge on natural disaster prevention, they will engage in hands-on activities—participate in disaster drills, use disaster relief water purification systems, and practice wound management in disaster settings. These practical experiences led by rescue experts will offer the students a deeper understanding of the concepts learned in class and the opportunity to develop the set of essential soft skills needed for effective crisis management.

The effectiveness and positive outcomes of the Disaster Risk Management Course demonstrate the value of integrating resources across different units. Student feedback highlights the course’s capacity to foster interdisciplinary thinking, with students analyzing from multiple perspectives to provide better solutions and outcomes. These interactions enhance the scope and richness of students’ learning. Additionally, the students learn the importance of thinking and acting in the best interest of society and the environment, instilling them with a sense of social responsibility and thus contributing to the safety and stability of our society.

Recognizing that education goes beyond specific subjects and institutions, NTU Summer College aims to facilitate interdisciplinary and cross-institutional collaborations in the future. By drawing on resources outside as well as inside NTU, the Summer College hopes to spawn new learning possibilities and promote a broader range of interdisciplinary opportunities for students in Taiwan.



NTU Professor Chi-Shu Huang (left) explaining how to use the water purification system.



Critical thinking workshop in a crisis setting led by the Northern District Rescue Team of the Buddhist Tzu Chi Charity Foundation.



NTU Professor Tsung-Yi Pan (lower right) with students during visit to a disaster prevention park.



Click or Scan the QR code to visit the website of NTU Summer College and learn more about its program.

| Teaching & Learning

# Finding Research Collaborators through NTU TOPICs

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Scientific collaboration is crucial for amplifying research capacity and impact in that researchers can achieve deeper and broader scientific breakthroughs by engaging in interdisciplinary collaboration. To increase public awareness of researchers at NTU and identify potential partners, NTU Library has developed the “NTU TOPICs” search platform. Much like a social media network, the website diagrams research topics and similarities among NTU authors.

NTU TOPICs provides three different modes to cater to different needs, including:

**View by Author Name:** This mode is specifically designed for NTU researchers, allowing them to explore potential collaboration opportunities with specific authors.

**View by Topic:** This mode enables all individuals to familiarize themselves with NTU researchers by showcasing all authors who have published works on specific topics.

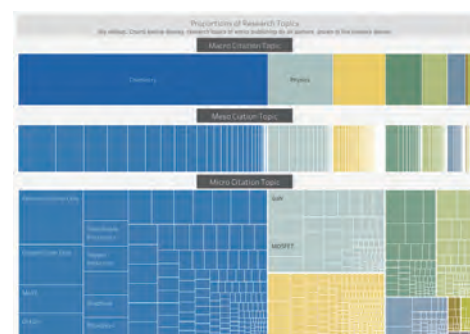
**View by Organization:** This mode provides insights into the special characteristics of various units in NTU by presenting all authors affiliated with a particular unit.

Each mode has two key components, namely, “Network of Authors” and “Charts of Research Topics.” Network of Authors consists of nodes representing authors, and the proximity between the nodes indicates the similarity of research interests. Charts of Research Topics presents the proportion of all or selected authors’ contributions to various topics based on network search results.

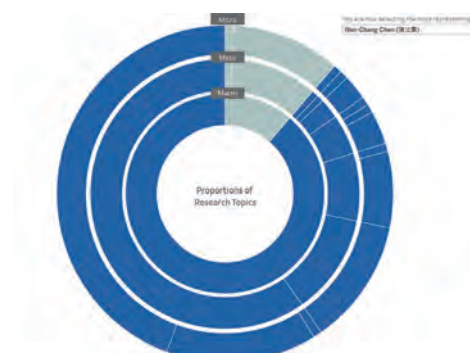
NTU Library hopes to satisfy the needs of exploration for NTU researchers through services provided by NTU TOPICs. In the meantime, we welcome people from all walks of life to learn more about the research expertise of NTU researchers, as well as create diverse exchange and collaboration opportunities to foster scientific progress and social development.



**View by Topic:** select a research topic on the drop-down for the network to display NTU authors who published papers in a specific topic area.



**Proportion of research topics** divided into macro, meso and micro ones.



**Proportions of research topics** of a selected author.



NTU Library launches the NTU TOPICs website to help researchers find potential collaborators. It also presents an overview of research topics specific to each affiliated faculty. Click or Scan the QR code to explore the feature.



| People

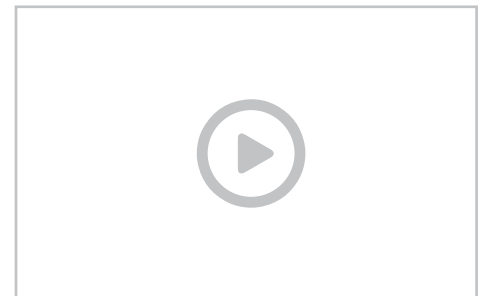
# Aspire Before Flight: Commencement Ceremony 2023

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On May 27, NTU celebrated Commencement Ceremony 2023, themed “Aspire Before Flight,” at NTU Sports Center. The ceremony was a momentous occasion for a total of 9,512 NTU graduating students, comprising 5,166 undergraduates, 3,923 master’s students, and 423 doctoral students. The atmosphere was charged with enthusiasm and joy as the venue welcomed the graduating students’ family members and loved ones who shared in their pride, joy, and excitement. The campus buzzed with happiness as crowds gathered, capturing this special and unforgettable moment through photographs.

This year’s theme, “Aspire Before Flight,” stirred the graduates, urging them to boldly pursue their dreams, venture beyond their comfort zone, and work towards a brighter future. Delivering an inspiring speech, NTU President Wen-Chang Chen stressed the importance of professionalism and digital literacy, highlighting



Dr. Jensen Huang, Founder and CEO of NVIDIA, delivering the commencement speech.



the value of interdisciplinary knowledge. He encouraged the students to face challenges with integrity and courage while emphasizing the importance of teamwork and altruism in their future endeavors.

This year's commencement ceremony was honored indeed to have Dr. Jensen Huang, the CEO and founder of NVIDIA, the celebrated "Father of AI," as the distinguished guest speaker. Dr. Huang captivated the audience by sharing his personal setbacks encountered during the establishment of NVIDIA and contributions the corporation has made in the fields of computer graphics, supercomputing, and the AI revolution. He encouraged the graduating students to persevere resolutely, face challenges bravely, and gain valuable lessons from their mistakes, transforming setbacks and hardships into fertile ground for nurturing their dreams.

In his speech, Cheng-Hong Chou, a graduate from NTU's Information Engineering Graduate Institute spotlighted the values of courage, gratitude, and altruism. In her speech, Elisabeth Kreitschmann, an international student from NTU's Global MBA program, shared her inspiring journey on campus and her dream to build a sustainable fashion brand in Taiwan.



NTU holds the 2023 Commencement Ceremony, themed "Aspire Before Flight," at NTU Sports Center (May 27).



Student speakers, NTU Information Engineering Graduate Institute graduate Cheng-Hong Chou (left) and Global MBA program graduate Elisabeth Kreitschmann (right).



Dr. Jensen Huang, Founder and CEO of NVIDIA, the distinguished speaker of 2023 NTU Commencement Ceremony.