



# NTU HIGHLIGHTS

Special Report:

## 2018 NTU Art Festival Celebrates Memories of Daily Lives

- NTU, U of Tsukuba Promote Entrepreneurship
- Experimental Forest as Natural Classroom
- Student Athletes Shine at Intercollegiate Games
- New Ways to Learn Chinese



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NTU Student Athletes Shine at the 2018 National Intercollegiate Athletic Games

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Vice President for Research and Development

# Fang-Jen Lee, Ph.D.

The Office of Research and Development has been actively facilitating academic research and extensive development with the vision of a world-leading university. Under an agenda covering a broad-spectrum of issues and goals, we aim to build a quality campus community conducive for research undertakings and industry-academia partnerships. Our ultimate goal is to integrate all on-campus resources to enable every academic development to open new frontiers, support group/interdisciplinary research, and nurture outstanding researchers dedicated to basic research so as to lure top talent domestically and throughout the world to keep NTU’s research momentum thriving.

We have in recent years promoted “sustainable research legacies,” a program that encourages veteran professors on campus to mentor aspiring junior faculty members, thus helping to form a strong research team that would ensure the continuity of all projects, despite the professors’ inevitable retirement; in so doing, the projects and programs can be carried on and expanded in scope. Also, the establishment of such a research team would facilitate academic exchange and emulation between generations to enable new possibilities. As these young educators pick up the mantle and advance to veteran professorship, they could do the same by building up-and continuing-their education experiences and resources, to re-energize the research climate at NTU.

In addition to research collaboration with cohorts at the same department or college, we also advocate interdisciplinary collaboration. One of the more noteworthy interdisciplinary research projects is spearheaded by College of Medicine, College of Engineering, and College of Electrical Engineering and Computer Science on Artificial Intelligence on Healthcare, which we believe to be extremely promising. More associated multidisciplinary partnerships will be included in the future. With that, the “interdisciplinary luncheons” have been introduced to all with every college taking turns hosting and presenting the ongoing projects,

engaging members of the faculty in further discussions and collaborations.

At present, we are building an online integrated services platform administering precision instruments on campus, in hopes of compiling information of various identical instruments scattered in different departments and colleges, setting up an online appointment scheduling system for the users, providing professional advice on assigning samples to the most compatible device among all the instruments. Besides making existing instruments more widely available to the faculty and students, we hope all the valuable instrumentation could be deployed to its full potential. To that end, the platform technicians aim to establish top-quality measurement technologies by assigning samples to the most compatible instrument as well as providing customized instruction on sample preparation in accordance with the capacity of the instrument. To date, three platforms have been built for electron microscopes, mass spectrometers, and optical microscopes. Faculty members and students needing access to these instruments can log onto an online platform and quickly find an ideal option. We hope, as these platforms are officially launched, our joint effort could contribute to a significant decrease of invalid measurements so as to save research time and costs. NTU’s research quality could thus be further enhanced.







Interactive Theater — "Vision" Log-In



Opening Ceremony - Pop Dance Club of Taipei Medical University kicks it off



Music Station



Opening Ceremony - NTU Compo Club serenades the crowd



Installation Art Pieces - AniMood



Art Exhibition — "The Constant Gaze"



Visitors to the Opening Ceremony

## 2018 NTU Art Festival Spanned May 4-25, Delivering "Memories of Our Days"

The NTU campus celebrates its most artistic month every May. The NTU Art Festival, an annual art event organized mostly by NTU students, has been held for 24 years and is still going strong. This year, the art festival, held during May 4-25, bore the theme "Yi Chang" ("Memory" and "Daily Life"), or the "Memories of Our Days." Artists strove to translate their thoughts and reflections regarding this motif into an array of art productions on campus, including graphic art, installation art, new media, behavioral arts, performing arts, and technological arts.

Themed "Back in Time," the opening ceremony on May 4, commenced at 18:00, with festive performances at the Chen-Hsing Grass in front of the NTU Library. Various stalls were set up outside the 1st Student Activity before the opening ceremony. Around 14:00, the stalls began selling handmade cultural and creative crafts, potpourri, and sweets.

"By understanding, reinterpreting, and imagining the multilayered qualities of memory, we explore how humans and remembrances shape, dominate, and sustain each other in daily life, and how these intricate relationships often go unnoticed," said NTU student Yu-Chieh Cheng, the convener of the 2018 NTU Art Festival.

Also an NTU student, the curator of the art festival Stary Tsai noted the nature of memory, "Everyone has a visible and tangible body. But it is the intangible memory that bears witness to our existence. Memory is at the same time personal and collective. As fleeting as it is, memory is the foundation of our feelings and thoughts. While it tracks the trajectory of human existence, memory is often fabricated, grafted, and tampered with."

The 2018 NTU Art Festival focused on the following attributes of memory:

### 1. The Intersection of Memory

This exhibition was divided into four distinct areas devoted specifically to sights, sounds, smells, and touch that evoke memories. Visitors were guided to interact with objects in each area, which inspired them with new perspectives to explore and observe the association between perception and memory, identify different aspects of the self, and develop new imaginations by superimposing one's memory onto the collective memory. (Location: R104, 1st Student Activity Center)

### 2. The Convergence of Memory

Drawing insights from behavioral arts, this exhibition featured a transparent acrylic box and tube to convey the image of a database, where memory is constructed and stored. Experimental photographs and the actual objects above the photographs were placed inside the box, inviting visitors to participate in the process of collecting, extracting, reconstructing, and investigating memory in art. After obtaining a holistic view of memory, we can understand more about how we remember and how we forget. (Location: 1F, Liberal Education Classroom Building)

### 3. The Evocation of Memory

This exhibition sought to evoke visitors' memory with sounds and images. These could be sounds in our daily surroundings, a familiar song, or d é j à -vu images that resonate with memories among visitors, exert immense impact on how they perceive memory, and imbue memory with a brand new, revolutionary meaning. (Location: 1F, College of Social Sciences)

### 4. The Divergence of Memory

The artists projected different images onto a screen in each of the five areas. Every area was set up and images were presented according to the specific theme. Visitors could walk around to observe how memories deteriorate or transform when viewed from different perspectives. Meanwhile, dancers presented the four stages of recollection through their performances, combining images, dances, and light with sound effects to reveal the deterioration process and the heterogeneity of memory. (Location: Liberal Education Classroom Building)

### 5. The Measurement of Memory

This project explored the multilayered identities and consciousness of viewers through a photo and a video. Different in theme and expression, both works challenged and questioned viewers, urging them to confront sensitive political and social issues that trigger reflection and debate. The greatest commonality between the two graphic works was the artists' quest to position themselves in a sea of memories and histories. (Location: Liberal Education Classroom Building)

The 2018 NTU Art Festival concluded on May 25 with a maze installation inside the 1st Student Activity Center to chronicle the overall process of coordinating this art gala as well as the outdoor activities, a fun-filled marketplace, and an evening celebration. During the evening celebration, the organizer played the time-lapse photography and interview of each participating project for the audience to witness how the art festival had been curated from the ground up.







The staff for 2018 NTU World Carnival Festival in a group photo



NTU Interim President Tei-Wei Kuo at Peking University's 120th Anniversary, discussing the prospects of higher learning

## Break & Fuse Festival: 2018 NTU World Carnival Festival Brings It On!

Held annually since 2016, "Break & Fuse Festival" has become an annual tradition for the three schools under the NTU System—National Taiwan University, National Taiwan University of Science and Technology, and National Taiwan Normal University. At NTU the 2018 World Carnival Festival was co-hosted by the Overseas Students Advising Division of the Office of Students Affairs and the Office of International Affairs. The event commenced on April 28 at Lu-Ming Square with an opening ceremony and a Multicultural Festival. On the following day, the 2018 International Singing Contest was held in the Auditorium of the 1st Activity Center. This intermural event engaged the campus overseas Chinese students, mainland Chinese students, and international students by giving them a chance to showcase their cultural, culinary, and artistic talent while encouraging friendships and cultural exchanges among the students.

The festival opened with a series of dance performances in the morning of April 28. The repertoire included Sajojo and "Dance of the Islands," examples of Indonesian ceremonial dance. Cheryl Chia-Hui Chen, Vice President for Student Affairs, then gave opening remarks to thank participants for their support. Many distinguished guests, including Carlos Vidal Pintos, Counselor of the Embassy of Paraguay in Taiwan, also graced the event.

A total of 20 food stalls—always a hit at the Festival—made this year's Multicultural Festival all the more memorable. The stalls and booths were manned by Chinese and international students enrolled at NTU, as they displayed and marketed their own cultural crafts and designs, topped off with culinary delights. Many students wore signature costumes as they hawked their traditional delicacies, including hallmark Honduras desserts and German pretzels, regaling visitors with gastronomic and cultural treats that were unforgettable.

The International Singing Contest was unveiled at 3:00 pm on April 29, and the competition was fierce this year. Liang Fang from China came out on top in the individual performance category with "Back to Lhasa." Yu Hua Leong from Malaysia was the runner-up with "Those Adventurous Dreams of Yours." In the group performance category, Rock Steady from Malaysia earned Best Group Award with "Loving You Endlessly + I'm the Only One." The group from Indonesia, Without Boundaries, wowed the audience with "Medley" and took home Popular Choice Award.

The event's title, "Break & Fuse," was inspired by the imagery that "breaking" and "fusing" conjure up, which denotes "breaking stereotypes" and "fusing to reinvent." The extravaganza transcended national boundaries, cemented friendships between local and inter/national students while celebrating the strengths of the three participating schools. The spectacle increased public understanding of different cultures through an international festival of fine food, music, and arts, creating a global village out of the NTU System campuses.



Honduran students donning traditional costumes and touting their signature desserts

Indonesian students selling coffee

## NTU Felicitates Peking University on Its 120th Anniversary —"Fragrant as the Orchid, and Lush as the Pine"

Peking University (PKU) celebrated its 120th anniversary on May 4. NTU Interim President Tei-Wei Kuo led a delegation including Vice President for International Affairs Luisa Shu-Ying Chang, Secretariat Senior Executive Officer Li-Ju Chen, and Senior Clerk Chun-Yi Wei to deliver NTU's heartfelt congratulations to PKU.

PKU is one of NTU's strategic partners. In recent years, PKU and NTU have organized four intercollegiate symposiums, the PKU Day@NTU (2011, 2016) and NTU Day@PKU (2010, 2017), to strengthen their academic, administrative, and cultural partnerships. Upon arriving in Beijing on May 3, Dr. Kuo and the NTU delegation presented a beautifully handcrafted orchid sculpture, sourced from cypresses grown in NTU's Experimental Forest in Xitou, with the inscription, "Fragrant as the Orchid, Lush as the Pine," to PKU President Jianhua Lin. Dr. Kuo and Dr. Lin both affirmed that more interdisciplinary collaborations should be forged between the two universities. Dr. Kuo also invited Dr. Lin to visit NTU on November 15 to join its 90th anniversary celebration.

PKU rescheduled Beijing Forum, an event launched in 2004 and held at the end of the year, to May 4 so that it could

coincide with the university's anniversary celebrations. This year's forum was themed, "World University Presidents Symposium and Beijing Forum 2018," which was the visual and motif centerpiece for the anniversary. The event was graced by 261 presidents and vice presidents from 131 overseas universities and 130 universities in China. The forum also featured a video recording in which 20 presidents from some of the most prominent universities expressed their congratulations and discussed their visions of higher education.

Dr. Kuo arrived in Beijing on May 3 and traveled to PKU's Linhexuan (residence of missionary educator, John Leighton Stuart) for the video recording. He discussed the histories shared between NTU and PKU, academic collaboration efforts between the two universities in recent years, goals of higher education, and NTU's missions. Kuo stressed that both NTU and PKU are premier educational institutes in their own right as well as internationally respected comprehensive universities. As the two share many similarities in education and research endeavors, they must stay adaptive to offer students a more flexible learning environment. Dr. Kuo also visited Director Hongwei Xia of the Office of Hong Kong, Macao and Taiwan Affairs, and Prof. Dongmin Chen of PKU's School of Innovation and Entrepreneurship, to explore NTU and PKU's future policy directions and administrative models. He also visited Dean of PKU's School of Electronics Engineering and Computer Science, Dr. Ru Huang, to discuss the development in artificial intelligence and information technology.

With this visit to PKU for its anniversary celebration, the NTU delegation delivered its congratulations while identifying new learning horizons to enhance academic excellence. We at NTU should also proudly promote our own strengths so that our faculty members, the student body, alumni, and guests could get to know, support, and celebrate NTU.





NTU Interim President Tei-Wei Kuo and Takaaki Kajita of University of Tokyo crowned Honorary Fellowship by Social Enterprise Academy in HK



Fellowship & Honorary Award Presentation Ceremony 2018 staged by Social Enterprise Research Academy in HK

## NTU Interim President Tei-Wei Kuo Awarded Honorary Fellowship by Social Enterprise Academy in Hong Kong

Social Enterprise Research Academy (SERA) in Hong Kong hosted the Fellowship and Honorary Award Presentation Ceremony 2018 on May 5. This was also the first time that SERA planned a fellowship presentation ceremony, and NTU Interim President Tei-Wei Kuo was awarded the Honorary Fellowship—the highest distinction among the awarded fellowships.

In addition to Interim President Tei-Wei Kuo, Prof. Takaaki Kajita, winner of the Nobel Prize in Physics in 2015, was also awarded SERA's Honorary Fellowship. They were the only two recipients of this prestigious distinction. SERA offers four levels of Fellowships: Honorary Fellowship, Senior Fellowship, Fellowship, and Associate Fellowship. The fact that Dr. Kuo and Prof. Kajita, along with 28 other fellowship awardees, shared the same stage at SERA, suggested an extraordinary honor. All the awardees were celebrities from the political circle, business community, and academia. This wide spectrum of prominent people can inspire numerous inter-sectoral and multidisciplinary exchange activities.

In addition to the fellowship program, SERA initiated the Social Caring Pledge Scheme Award Presentation Ceremony in 2016 to promote the spirit of social outreach and the awareness of corporate social responsibility. At the annual ceremony, SERA recognizes businesses and entrepreneurs for their efforts and acknowledges their contribution to sustainable development. By hosting this ceremony, SERA musters the support of political, business, and social enterprise leaders to collectively address social issues and carry out its vision to "Harness the Market to Bring Social Change."

SERA is the first nonprofit organization in Asia to implement the Social Caring Pledge Scheme, a program dating back to 2001. Founders of the program believed that nonprofits can harness the strengths of all talents and maximize the effectiveness of social welfare programs through conscientious business models and strategic policymaking. Since its launch, the program has won the support of over 300 businesses, leaders, colleges, universities in Hong Kong, and the endorsement of more than 20 international/Hong Kong chambers of commerce. Both President of the Hong Kong University of Science and Technology, Tony F. Chan, and President of the City University of Hong Kong, Way Kuo, have been awarded the Asian Social Caring Leadership Award.

The winning of the Honorary Fellowship attests to NTU Interim President Tei-Wei Kuo's commitment and contribution to academic excellence, entrepreneurship and innovation leadership, and administrative achievement, as he positively exerts his social influence, fulfills his social responsibility, and encourages social innovation, all of which are the duties of an Honorary Fellow and the lifelong missions of higher education.

## NTU-NCKU Team the Top Winner at International Nanotechnology Olympiad

The first International Nanotechnology Olympiad (INO) was hosted by the Iran Nanotechnology Initiative Council (INIC) in Pardis Technology Park, Tehran, from April 10-15. The theme of this inaugural INO centered on the application of nanotechnology to water treatment. The competition also featured educational modules, startup workshops, company visits, mixed team challenges, demo sessions, oral presentations, and student networking sessions to help participating teams develop their water-treatment solutions.

Four students from NTU and National Cheng Kung University (NCKU) teamed up to take part in the six-day competition. The team proposed an anti-fouling near-zero liquid discharge (N-ZLD) technology that combines biomimetic omniphobic inorganic membranes and a magnetic solar-driven photocatalytic system. In the final where nine teams from different countries competed with one another, this much-acclaimed solution won the Taiwan team the overall best project prize (3,000 euros), as well as the first place in all of the other three categories: "Innovation," "Science and Technology," and "Business Plan."

The team was led by Academician Maw-Kuen Wu, INO's Steering Committee member and recently Taiwan's Minister of Education, and jointly advised by NTU Prof. Kuo-Lun Tung and NCKU Prof. Wen-Che Hou. The four team members were Sheng-Bing Chen and Hung-Yuan Tsai from the NTU Department of Chemical Engineering, and Hsiang-Chun Cheng and Jian-Chong Luo from the NCKU Department of Environmental Engineering. The other supportive team members remaining in Taiwan were Kuan-Hsun Huang, Jian-Hua Chen, Yi-Rui Chen, and Sheng-Yi Lin from NTU as well as Yi-Shen Lin from NCKU.

The idea of organizing the INO was derived from the Asia Nanotechnology Forum in 2016, where the committee members, including Iran, Taiwan, Russia, South Korea, Malaysia, Kazakhstan, and Thailand, discussed Iran's proposal of holding the INO. After much discussion and deliberation, the INO was officially established after the signing of an MOU by the following founding members: the INIC (Iran), the Institute of Physics at Academia Sinica (Taiwan), Korea Nano Technology Research Society (KoNTRS; Korea), Moscow State University (Russia), and RusNano (Russia).

The INO's founding Steering Committee members were Dr. Ali Beitollahi, Director of the INIC International Workgroup; Academician Maw-Kuen Wu at Academia Sinica; Prof. Kyung-Ho Shin, Executive Vice President of KoNTRS; Prof. Eugene Goodilin at Moscow State University; and Dr. Andrey Melnikov, Senior Expert at RusNano. This biennial competition is scheduled to be hosted by Korea or Russia in 2020. The topic for the next INO may surround such issues as energy, environmental protection, hygiene, or other fields that have raised global concern.



NTU and National Cheng Kung University (NCKU) team up to nab top spot in International Nanotechnology Olympiad



# The Asia-Pacific Association for International Education: Leveraging Local Knowledge for a Global Vision

The Asia-Pacific Association for international Education (APAIE) held its annual meeting during March 25 to 29. NTU was represented by Director Andrew Tsung for Global Engagement, Manager Angela Lin for Global Engagement, and Manager Una Lin of NTU's Study Abroad Programs at the NTU Office of International Affairs (OIA). The APAIE meeting ranks among the three leading annual events for regional educators and academic collaborations. With the theme, "The Impact of the Fourth Industrial Revolution on Higher Education in the Asia Pacific," the meeting drew 2,200 participants from 58 countries; participating institutes from around the world set up 200 exhibition booths to strengthen global alliances, promote summer programs, support faculty exchange programs, advocate dual/joint degree programs, and upgrade the quality of the exchange student schemes. For the first time, NTU set up an exhibition booth of its own for the event. Mr. Tsung also delivered two speeches, discussing NTU's efforts and reforms to develop internationalization.

The NTU delegates held discussions with participants from nearly 70 prominent universities from around the world during the gathering. In particular, they met with representatives from

several of NTU's partner universities, including the University of Toronto, University of Tokyo, Kyoto University, Waseda University, National University of Malaysia, Chulalongkorn University, National University of Singapore, Nanyang Technological University, Australian National University, and University of Auckland. Furthermore, Tsung partnered with counterparts from Korea University and the University of Rochester in delivering a presentation on "The Impacts of Geopolitical Trends on International Student Mobility." He discussed the New Southbound Policy and Elite Scholarship Program promoted by Taiwan's higher education authorities. Rochester University representatives presented the university's outreach programs for international students under Executive Order 13769 ("travel ban"), issued by US President Donald Trump. Tsung also gave a talk on "Innovative Faculty Engagement in Internationalization" with representatives from the University of Sydney and the University of California Education Abroad Program. During the talk, Tsung discussed several achievements made through NTU's collaborative efforts under the Top University Strategic Alliance of Taiwan. The talk was well-received and piqued the interest of the conference participants. These two sessions not only heightened NTU's international visibility and enhanced its academic standing but also set a new bar for higher education in Taiwan.

Since APAIE was held in Singapore this year, NTU was invited to participate in activities held by its partner university, Yale-NUS College. NTU signed an exchange student agreement with Yale-NUS College in 2017 and has already received a number of exchange students from the college. Yale-NUS College is noted for its stress on small classes, independent learning, and career development. All classes are taught in English, and the students can take electives at the National University of Singapore. The college is also developing collaborative internship components with Yale University. Delegates from NTU's OIA were inspired by these academic components as they examined the internationalization policies of this new college and its students' living quarters. NTU will accept enrollment applications for exchange students to Yale-NUS College next year, paving the way for future intermural cooperation.

Andrew Tsung from NTU's Office of International Affairs, along with representatives from Korea University and Rochester University, discuss outreach programs for international students



Group photo featuring representatives from NTU and Australia's University of Wollongong (from the left: Una Lin, Tom Bambrick, Siena Morrissey and Angela Lin)



# NTU and University of Tsukuba Kick Off EDGE-NEXT to Incubate Aspiring Entrepreneurs

The University of Tsukuba and NTU joined hands for the first time to host "EDGE-NEXT: Exploration and Development of Global Entrepreneurship for NEXT Generation" during March 1-7 to mentor entrepreneurial aspirants. Sponsored by Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT), the program aims to instill the spirit of global entrepreneurship in the next generation, equip graduate students and college visionaries with technical knowledge, and integrate their research efforts with dynamic business models to create an innovative industry structure of the future.

Five universities were chosen by MEXT as hosts for the 2017 EDGE-NEXT program, namely Tohoku University, University of Tokyo, Kyushu University, Nagoya Institute of Technology, and Waseda University. Under this program, the "Global Tech EDGE NEXT" project led by the University of Tokyo was co-hosted by the University of Tsukuba, Ochanomizu University, Shizuoka University, and two overseas education institutes. The University of Tokyo invited the University of California at San Diego to be one of just two overseas partners. NTU, as a vital partner of the University of Tsukuba, was chosen as the other one.

Last September, the University of Tsukuba started a series of on-campus selections for the EDGE-NEXT program. In January, three teams and three accompanying members, totaling 11 in number, were chosen to attend a short-term study program at NTU. The study program was co-organized by NTU's Office of International Affairs (OIA) and Creativity and Entrepreneurship Program (NTUCEP), with the OIA planning the event and NTUCEP designing the curriculum and recruiting stimulating presenters.

The troupe of 11 from the University of Tsukuba arrived in Taiwan on March 1 and received a warm reception from the OIA. A campus tour and welcome party were held on the following day. NTUCEP Director Bing-Yu Chen rolled out the red carpet during the party. Later that afternoon, NTUCEP Deputy Director Ching-Hsuan Lin presented a talk on "Practicing Entrepreneurial Thought & Action" and engaged the Japanese students and eight other NTUCEP students in discussion. Using jigsaw puzzles and patchwork, Prof. Lin coached the students on how to tackle challenges in the practical process of starting and running a business.

One of the highlights of the program was "Design Thinking," a course taught by Prof. Hsien-Hui Tang from the Department of Design, National Taiwan University of Science and Technology (NTUST). In the course, students from NTU, NTUST, and the University of Tsukuba broke into small teams and brainstormed to spark new ideas and learn from one another.

On March 5, NTUCEP invited three noted entrepreneurs to share their experiences of starting their own businesses. They included Michel Chu, Co-Founder of GigaMedia Limited; Gary Wang, Co-Founder and Chairman of Pergolas Medical Technology; and Vincent Wang, Chairman of Sunsino Venture Group. All participating students were deeply inspired by their talks.

On the next day, the students from Tsukuba and NTUCEP shared their entrepreneurial visions in Final Pitch, as Profs. Lin and Shao-Yi Chien moderated the sessions and offered their constructive criticisms of the participants' presentations.

The Tsukuba participants expressed their heartfelt appreciation to NTU during the farewell party in the evening of March 6, praising NTU for organizing a productive, creative study program. Notably, this EDGE-NEXT event broadened the two universities' collaborations to include innovation and entrepreneurship. It offered NTU students an opportunity to network with entrepreneurial aspirants from other countries and delivered a new burst of energy to NTU's short-term international programs.

Group photo featuring students from Tsukuba in Closing Ceremony (top) Tsukuba students tour NTU Entrepreneurship Center (bottom)





# ICLP Students Experience Traditional Religious Celebrations in Beigang

The 2018 central Taiwan field trip organized by the NTU International Chinese Language Program (ICLP) concluded on May 5 with a memorable stop in Beigang Township, Yunlin County.

On the 19th and 20th of the third lunar month every year, the Chao-Tian Temple hosts a grand religious celebration to honor the birthday of Matsu, the Chinese goddess of the sea. Numerous zhentou (religious performance troupes) pay tribute to the Heavenly Empress, and believers arrive from across Taiwan to greet her palanquin during her circuit tour.

Since its establishment five decades ago, the ICLP has always included Beigang in its annual field trips to central Taiwan. The festival in Beigang is a perfect opportunity to observe up-close and experience an essential aspect of Taiwanese religious traditions.

This year, with the help of Chao-Tian Temple staff, approval by casting moon blocks was garnered from the goddess herself so that eight ICLP students had the honor of bearing Matsu's palanquin for part of the procession. Shouldering the palanquin is a privilege that even few locals are favored with. Through her decree, perhaps the sea goddess extended her welcome to these guests from afar and encouraged them to partake of this in-depth cultural immersion experience.

Another famous attraction of the Beigang festivals is the yige (religious art pavilion) parades. Children dressed up as characters from Chinese myths and legends stand on top of colorful floats, which sail through the procession accompanied by lively electronic music, creating a fascinating mix of religious tradition and modern popular culture. The young heroes and heroines happily scattered generous handfuls of lucky candy and treats to the international students dancing to the music and waving enthusiastically at them.

In addition to Beigang, this three-day field trip introduced ICLP students to the cultural and historical heritage of Lukang Township, and took them to Sun Moon Lake, where they explored by bicycle and took a pleasant boat trip. The students also visited the Xitou Nature Education Area, where they enjoyed forest therapy and saw an amazing show of fireflies. All in all, the ICLP group had a memorable experience of the charming and diverse natural and cultural landscapes of Taiwan.



ICLPers Carrying Matsu's Sedan Chair







Prof. Shih-Tong Ding

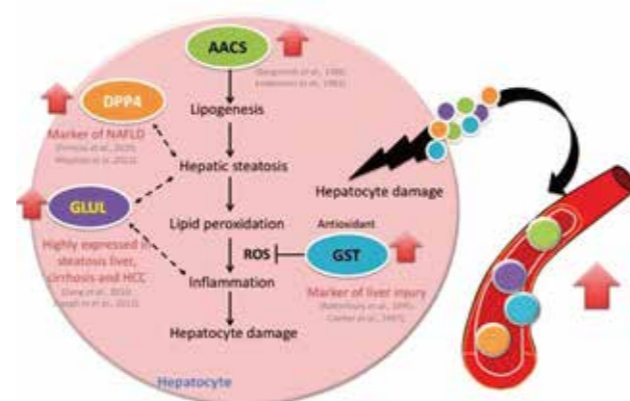
## NTU Team Receives Milton L. Sunde Award for Outstanding Animal Research

Prof. Shih-Tong Ding and his student, Dr. Meng-Tsz Tsai, of the NTU Department of Animal Science and Technology received the Milton L. Sunde Award for their research paper published in the *Journal of Nutrition*, titled "Identification of Potential Plasma Biomarkers for Nonalcoholic Fatty Liver Disease by Integrating Transcriptomics and Proteomics in Laying Hens" (*J. Nutr.* 2017; 147: 293-303; doi: 10.3945/jn.116.240358).

The Milton L. Sunde Award is awarded annually by the American Society for Nutrition (ANS) for the most outstanding research paper in the *Journal of Nutrition* that has made the most significant contribution to nutrition studies using an avian species. The award is presented at the ANS Annual Meeting.

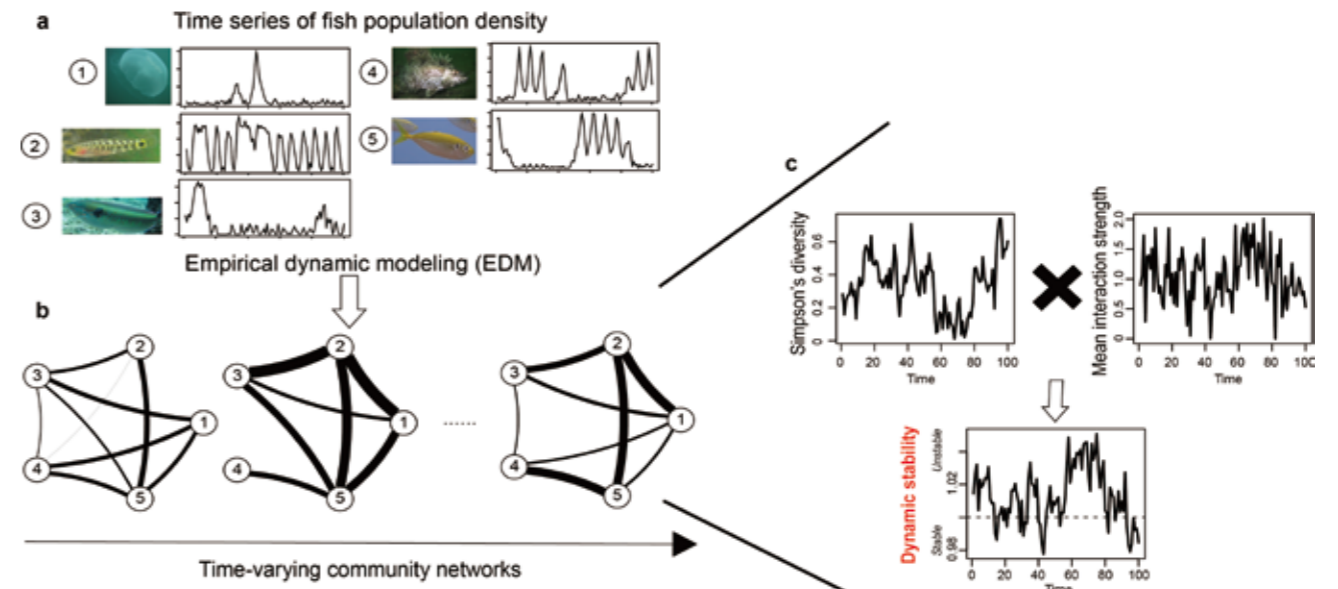
This award-winning study used adult laying hens to identify potential biomarkers for nonalcoholic fatty liver disease (NAFLD) in order to develop a model for examining and

preventing chicken and human NAFLD. Humans and chickens alike use the liver for over 90% of de novo lipogenesis, making adult chickens with age-associated steatosis an appealing animal model for studying human NAFLD. Given the lack of precise plasma biomarkers for chicken NAFLD, the team spent five years experimenting with adult laying hens, applying genomic and proteomic techniques to identify four potential NAFLD biomarkers: AACS, DPP4, GLUL, and GST. The team also determined that betaine and DHA supplementation can ameliorate liver steatosis. These findings can be used to reduce NAFLD among laying hens and sudden death caused by fatty liver hemorrhagic syndrome, as well as provide references for developing prevention measures for human NAFLD and liver cirrhosis.



Four potential NAFLD biomarkers - AACS, DPP4, GLUL, and GST — identified in laying hens for preventing liver cirrhosis

Figure 1



## NTU Professor's Collaborative Research Findings Published in Nature

Prof. Chih-Hao Hsieh of the NTU Institute of Oceanography and PhD student Chun-Wei Chang of Academia Sinica, together with an international research team, developed a novel analytical method to construct time-varying interaction networks and examine the causal link between the dynamical interaction network and community stability. This study, published in *Nature* (Feb. 7, 2018), empirically supports the long-lasting ecological theory using data from natural ecosystems.

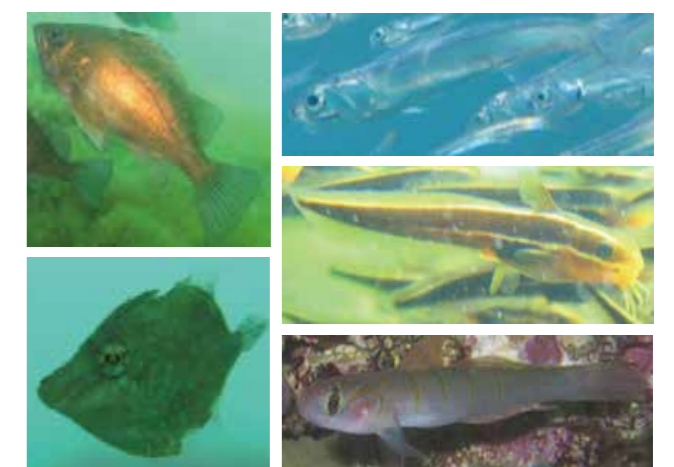
There is experimental support for the ecological theory explaining the mechanisms underlying community stability; however, evidence from natural ecosystems has been lacking owing to the challenges of tracking rapid changes in interspecific interactions and identifying the effect of such changes on large-scale community dynamics.

To test the current ecological theory, the team analyzes the time series of a 12-year-long dataset of fortnightly collected observations of a natural marine fish community in Maizuru Bay, Japan. The analysis shows that short-term changes in interaction networks can affect the overall community dynamics, and that the strengths and types of interactions change with time. These findings indicate that the interaction network is dynamical and not static (Figure 1). In addition, the dynamical pattern of the network exerts critical effects on the stability of the community over time. Specifically, the team identifies seasonal patterns in the dynamic stability of this fish community. This finding broadly supports the current

ecological theory — that is, weak interactions and higher species diversity during summer are associated with higher dynamic stability and smaller population fluctuations.

By developing a widely applicable nonlinear time series analytical framework, the team determines that interspecific interactions, community network structures, and community stability are dynamic properties, and that linking fluctuating interaction networks to community-level dynamic properties is key to understanding the sustainability of ecological communities in nature. Those understandings have important implications for ecosystem management and conservation. Most excitingly, relating fluctuating interaction networks to community stability provides a promising approach to systematically sustaining natural ecological communities. The research also highlights the importance of long-term time series monitoring of ecosystem management.

Reference: "Fluctuating interaction network and time-varying stability of a natural fish community" *Nature*, 554: 360-363. Feb. 7, 2018.



Prof. Chih-Hao Hsieh and team develop fluctuating interaction network and time-varying stability of a natural fish community





Students get their hands dirty and plow the land.

## Nature Makes the Best Classroom: Classes Taught in NTU's Experimental Forest

NTU is noted for its impressive sprawl of university lands. NTU's Experimental Forest is located in the heart of the wildlife conservation corridor that runs through the Central Mountain Range, straddling Lugu, Shuili, and Xinyi townships. Nearly 33,000 hectares in area, the Experimental Forest accounts for 9% of Taiwan's total land area. It ranges from 200 to 3,952 meters in altitude, and thus its forest ecology is rich with a wide diversity of species, providing invaluable educational resources for teachers and students alike.

Students who successfully enroll in "Introduction to Forest Biodiversity" and "Hands-On Experience of Field Life" at the start of every semester have reason to celebrate. Students who take these two classes are given a precious opportunity to explore the sights and sounds of the forest-scape in the Experimental Forest during a five-day period, making the classes a delectable treat.

While "Introduction to Forest Biodiversity" offers 4-6 off-site sessions available for selection every semester, "Hands-On Experience of Field Life" provides one field trip open to 35 students from any department and college of NTU. International students are also welcome to take the course. This is what makes the class a hit among students. In the past, hopefuls were known to line up all night long to board the bus to the Experimental Forest for this rare chance to get up-close and personal with nature.

The instructor of both courses, Prof. Ya-Nan Wang, notes that classes conducted in the Experimental Forest introduce trees, ferns, and parasitic plants at various altitudes. Students are encouraged to observe insects, birds, reptiles, and amphibians in the area and explore the connection between biodiversity and the environment. The curriculum also includes an introduction to the ecological engineering procedures employed in the Experimental Forest to protect this rare woodland reserve.

Additionally, "Hands-On Experience of Field Life" and "Hands-On Experience of Modern Agriculture" are taught together, expanding the scope of "Introduction to Forest Biodiversity" to forestry and the community. Students are asked to get their hands dirty with sowing, nursing the seedlings, tracking the growth progress of the trees, thinning, and extracting essential oils. In other words, the curriculum offers a comprehensive and detailed introduction to forest development and sustainable use, as well as theoretical and practical learning experiences aimed to instill greater concern for the environment in the students.

Guan-Ting Wu, an alumnus of the Department of Mechanical Engineering, took "Introduction to Forest Biodiversity" some 13 times, and "Hands-On Experience of Field Life" once. He gushes how nature offers incredible learning opportunities as a classroom, calling it the reason why he keeps signing up for the classes in the Experimental Forest. He notes that numerous environmental issues pervade the public consciousness, yet better stewardship solutions from professional viewpoints are scant. These outdoor courses make up for what is lacking, and give him an expert's insight into the way nature should be regarded. Wu has even traveled back to Xitou to check out the nursery where he sowed and transplanted saplings a year ago.



Students observe animals and plants in the Experimental Forest.



## NTU Student Athletes Shine at the 2018 National Intercollegiate Athletic Games

The 2018 National Intercollegiate Athletic Games (NIAG) was hosted by National Central University (NCU) during April 28 to May 2. During the games, a series of exciting competitions were held at NCU and other venues, with 9,818 students from 161 universities and colleges competing in 19 sports. This year, 250 NTU student athletes took part in 13 sports, namely athletics, swimming, table tennis, badminton, tennis, judo, taekwondo, archery, fencing, gymnastics, karate, billiards, and e-sports.

Together with 38 staff members, the NTU team numbered 288 people.

To cheer on the participating athletes, Interim President Tei-Wei Kuo presided over the flag presentation ceremony in person on April 20 in front of the Administration Building. At this year's NIAG, NTU won a total of 58 medals (13 golds, 26 silvers, and 19 bronzes), ranking 6th among all the participating schools and 1st among non-sport universities. The NTU student athletes came from various departments and graduate institutes. They participated in the school team out of their love of sport, attending training sessions and competitions after class and on weekends. As an encouragement to the participating student athletes, NTU's Vice President for Academic Affairs



Archery

Long Jump



# Opening Every Door Along the Way: Discover a New Chinese-Learning Experience at NTU

The Chinese Language Division (CLD) of the NTU Language Center has offered a Chinese language program for foreign students for over 30 years. Our seasonal program is well known for its learning effectiveness with only 5-7 students in each class and equal emphasis on listening, speaking, reading, and writing skills. We have a professional and enthusiastic teaching staff, and an efficient and supportive team to offer our students a pleasant, constructive learning environment. We have 200-300 students per season from all over the world, making us a small global village at NTU.

Besides the Chinese language courses, our students are also offered various extracurricular activities. These activities give students from different backgrounds the chance to get to know each other and share their cultures, as well as learn more about Chinese and Taiwanese culture and arts.

This spring, we hosted two cultural activities and a one-day field trip.

## Cultural Activities

### 1. Chinese Fan Painting

Chinese painting is one of most well-known art forms in the world. In addition to learning painting skills, students also had a lesson on the "four gentlemen among flowers"—plum blossom, orchid, bamboo, and chrysanthemum, which respectively symbolize perseverance, elegance, humility, and high morality in Chinese culture. Let's take a look at the students' fine work.

### 2. Chinese Knotting

In ancient times, Chinese knotting was commonly used in daily life, as a decoration, as well as to make things easy to carry (such as a knot on a mirror). This time, the teacher taught us how to make a decorative doll and a bracelet. The students all did a good job and their works are a treat for the eyes!

## Field Trip

More than 100 students took part in a field trip to Huataoyao in Miaoli County. During our time there, we learned the traditional art of pottery, and were able to take a close look at the old kiln. We also had informative lessons on Taiwanese traditional architecture, local plants, and the beauty of Chinese poetry. The foreign students were also treated to tasty local Taiwanese homestyle dishes, which they loved. Finally, a fun pottery DIY activity brought the trip to a perfect conclusion and a chock-full of memories.



Chinese knotting

Chinese painting

Pottery



Group photo for College of Medicine's 121st Anniversary

# NTU College of Medicine Celebrates Its 121st Anniversary with Festivities and Alumni Activities

The NTU College of Medicine's 121st anniversary celebration took the stage on April 13 to much fanfare. A series of festivities were coordinated as a warm-up for the celebration. Students could take home goodie bags by uploading photos taken during the events with hashtags "#NTUCollegeOfMedicine121" and "#HBDNTUCollegeOfMedicine" to their Facebook or Instagram pages.

The Maple Chamber Ensemble, formed by physician-musicians from the college, commenced the celebration with "Bāng Chhun-Hong" ("Longing for the Spring Breeze") and other noted ballads. The Alliance Cultural Foundation Chairman Stanley Yen gave a thought-provoking keynote speech on "Finding Self on the World Atlas." Chairman Yen has been a philanthropist for many years, reaching out to remote areas in need of support. In his speech, he emphasized that one must seize upon his or her own strengths, use it to visualize what lies ahead in the future, and envision one's place there with dignity and humility.

Two certifications of appreciation were issued at this year's anniversary celebration. One was conferred to the alumni of the College of Medicine's Class of 1968, who had pooled their donations—totaling NT\$4 million—to support the college's

library renovation. On the day of the anniversary, Academician of Academia Sinica, Dr. Ding-Shinn Chen, received the certificate on behalf of the Class of 1968. The second certificate went to Prof. Livia S. Wan, an alumna of the college who made a contribution of US\$3 million in 2014, which went toward the setup of Livia Shangyu Wan Chair Professor Foundation to inspire female physicians and doctors in the college to embark on medical studies.

Another highlight of the event was the presentation of the "Dr. Chen-Yuan Lee Memorial Medical Award" and other recognitions for top-performing students in extracurricular activities and academic pursuits. These recognitions included the "Maple Altruism Award for the NTU Medical Campus," "Awards for Outstanding Youth and Students of the NTU College of Medicine," "Publication Excellence Awards for Graduate Students and Research Distinction Awards for College Students," and "Essay Contests for Maple News and Commentary." The recipient of the Maple Altruism Award gave a presentation to conclude the conferment ceremony. The event ended on a high note with a tea party and a laughter-filled group photo for the Class of 1968 alumni, making the event a memorable homecoming.



Certificate of Appreciation presented to chairman Stanley Yen (left)



# Conference on Patent Promotion and Deployment Draws Attention

It was a stellar gathering—on April 10, the NTU System-on-Chip (SoC) Center held a patent promotion conference that also featured discussions on patent deployment trends and strategies. Major business players around the world have shown increased interest in patents regarding robotics, augmented reality (AR), virtual reality (VR), smart human—machine interfaces, and artificial intelligence-based voice recognition applications. All these components suggest the importance of smarter patent deployment, which has gained momentum in its development versatility.

At the conference, Distinguished Prof. of Electrical Engineering Li-Chen Fu suggested that the applications of robotics should be diversified to include medical care, where robots can be used to improve lives, reduce medical costs, and accelerate patient recovery.

In his presentation, Prof. of Electrical Engineering Shao-Yi Chien discussed the application of AR/VR to wearable

devices, pointing out emphatically that the use of AR/VR-based eye tracking would create brand new user experience, and the technology may be closer to our consumer immersive-tech devices than many have previously expected.

Prof. Mike Y. Chen, a faculty member of the Department of Computer Sciences and Information Engineering, said that the introduction of human—machine interfaces would enable robots to learn user habits, provide more convenient and diverse modes of interaction, and extend the use of machines to the human body.

According to Prof. of Electrical Engineering Hung-Yi Lee, artificial intelligence-based voice recognition systems had to process and learn content sentence by sentence in the past. However, the continuing development of databases in the future would enable machines to identify, arrange, and combine words to form responses in cohesive, understandable sentences.

Summing up, Director of the NTU Center for Technology Transfer Wei-Hsing Tuan raised the example of iRobot, a company that made waves recently in the international patent community, to remind the audience of the importance of intellectual property rights protections, adding that technology transfer projects with NTU would help enhance industries' patent deployment.



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