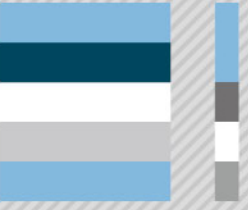
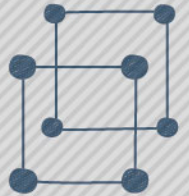


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2014

2015

2016

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REMINISCE 8 YEARS

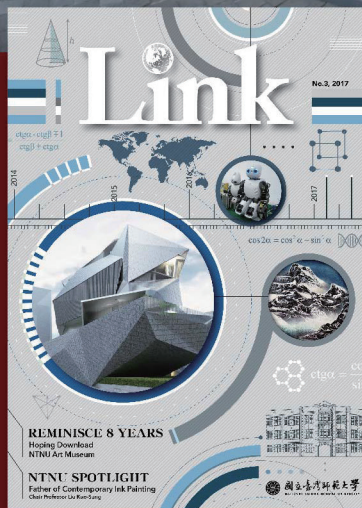
Hoping Download
NTNU Art Museum

NTNU SPOTLIGHT

Father of Contemporary Ink Painting
Chair Professor Liu Kuo-Sung



國立臺灣師範大學
NATIONAL TAIWAN NORMAL UNIVERSITY



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NEWSLETTER

Fang-chia Hsu | Department of East Asian Studies



01

Actively Working to Enhance the International Competitiveness of Higher Education in Taiwan

Over the past year, the NTU System, which includes the universities of National Taiwan Normal University (NTNU), National Taiwan University (NTU), and National Taiwan University of Science and Technology (NTUST), has been actively involved in recruiting throughout Southeast Asia students of high academic caliber. Educational fairs, joint recruitment opportunities, and other academic activities have been held in Indonesia, Malaysia, and the Philippines. These activities have helped introduce to Southeast Asian students the diversity and international attributes that define education in Taiwan, as well as the first class learning environment to be had.

In addition to encouraging an interest in studying in Taiwan, the NTU System has also done much to enhance Taiwan's international competitiveness in the area of higher education. Currently, the NTU System has created a cooperative framework for future exchange with the University of Santo Tomas and the University of the Philippines, as well as signing a MOU with the Philippines UP System. Other developments include the signing of an exchange program agreement with the Department of Science and Technology, Philippines (DOST) that details the future co-sponsorship of academic conferences and the establishment of a joint PhD program.

The fruits of this latest Southeast Asian push reveal the true academic strength and potential of the NTU System. Not only have its research results in various fields been recognized by countries throughout Southeast Asia, but it also highlights the academic advantages that cooperation between the three schools of the NTU System and the world's top universities have made possible. All in all, the NTU System has done much to forward the ongoing internationalization of Taiwan's institutions of higher education.

Kuo-en Chang, president of NTNU, reiterated that creating an international academic community has been a major focus of university's efforts over the past few years. This internationalization should be based on the needs of Taiwan's own students. With this in mind, the recruitment of outstanding foreign students and teachers to study and teach at NTNU is sure to introduce many valuable international opportunities for Taiwan's students.



(From left to right) NTNU President Kuo-en Chang, former NTU President Pan-chyr Yang and NTUST President Ching-jong Liao



NTU System and DOST Conference



02

Remarkable Results— International Academic Exchange with NTNU Sister Schools

During the past few years, NTNU has been actively pursuing cooperative academic relationships with top-ranked universities around the globe. These efforts include the establishment of sister-school ties, promotion of teacher/student international academic cooperation and exchange activities, the broadening of international horizons, the improvement of academic professionalism, and the building of an internationally based learning environment. As of November 2017, NTNU has established sister-school ties with 319 institutions of higher education in 40 countries, thereby building a wide-ranging international and global academic network.

In 2016, NTNU signed a benchmark initiative study program with Pennsylvania State University in the U.S. As part of the initiative, the university affairs administrative units of the two universities came together for a round of in-depth and far-reaching discussion; participants included mid to senior level administrative personnel, while topics covered included new student orientation, student counseling, dorm management, online courses, a World Campus, a two-way system of teaching and exchange for faculty and students, alumni relations, as well as fundraising operations.



2016 Flying Geese Camp:
Academic Leadership Development Program

NTNU is also currently working in cooperation with Canada's University of British Columbia to develop training courses as part of an Academic Leadership Development Program in Higher Education; the goal being the fostering of leadership skills and knowledge among university academic supervisors and the strengthening of leadership capabilities in the university's administrative personnel. In the future, NTNU hopes the practical experience gained from its promotion of the program on campus will serve as the foundation for expanded partnership and exchange with universities within Taiwan and across the Asia-Pacific Region.

Finally, NTNU has partnered with Korea's Sungkyunkwan University in a university administration benchmark study program. The two universities hope to learn from each other in areas such as library services (digital services, collection space, personnel organization), campus life (dorm environment planning, school cafeteria and restaurants, digital information systems), and internationalization (administration services, curriculum research) among other management topics. The aim is not only to help administrative staff find a broader professional vision, but also provide useful and timely reference in regard to university planning for the future.

The fruits of such cooperative efforts highlight the deep and enduring friendship among university presidents, a relationship that has made possible the long-term cooperation between NTNU and its many sister schools. In the establishment of these sister-school ties, however, the hard work of NTNU's students and teachers also deserves a mention. NTNU hopes this model of cooperation can be extended to the world's 100 top cities and their universities, further elevating the academic reputation and influence of NTNU on the world stage.

The exchange and dialogue between NTNU and its sister schools not only helps foster outstanding and internationally proficient professionals, it also ensures NTNU a place among the world's best universities. In the future, efforts will continue towards the establishment of sister-school ties with the world's top universities in order to offer an even more internationally friendly academic environment for NTNU's students and teachers.



03

NTNU Professors Honored with National Cultural Award

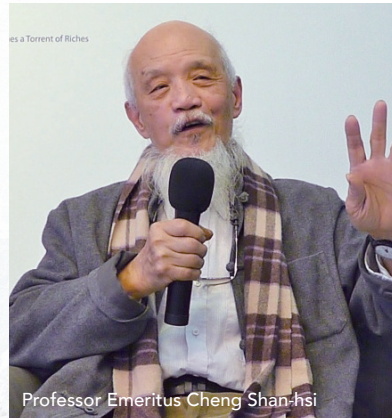
In 2016, NTNU Chair Professor Liu Kuo-sung and NTNU Department of Fine Arts Professor Emeritus Cheng Shan-hsi were honored with the 36th annual National Cultural Award by the Executive Yuan, ROC.

Chair Professor Liu Kuo-sung is an alumni of NTNU's Department of Fine Arts. In 2016, he was also elected fellow of the American Association for the Advancement of Science, the first ever Chinese painter to be honored with such a distinction. Professor Liu has spent his life perfecting and teaching the art of contemporary ink painting and his work has come to redefine the public view of Chinese ink painting. He is known for combining traditional Chinese ink aesthetics with the spirit and images of Western modernism. Professor Liu has often been called the "father of contemporary ink painting" with his work serving as an all-important cornerstone for Taiwanese art in general.

Professor Emeritus Cheng Shan-hsi is known for proficient use of vigorous and unrestrained color techniques. Elevating his paintings beyond the traditional framework of black ink, these techniques allow for an unforced, natural expression of Taiwanese grassroots folk culture through the medium of Chinese ink painting. Professor Cheng's painting style and stroke technique can be characterized as both nimble and smooth; a blend of Eastern and Western elements fill his paintings with a vivid, yet simple charm, offering a worldview both humorous and broad in perspective. Professor Cheng has spent his life refining the spirit of painting in a continual pursuit of perfection. Merging poetry, calligraphy, and painting into one, his works exhibit a flawless harmony and have successfully appealed to people from all walks of life and tastes. Over the course of his life, Professor Cheng's influence on the deepening of Taiwan's cultural connotations have been undeniably far-reaching and significant.



Professor Liu Kuo-sung



Professor Emeritus Cheng Shan-hsi



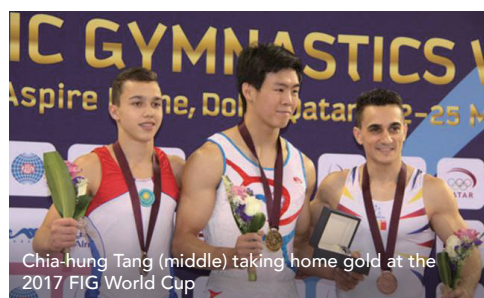


04 NTNU: An Athletic Powerhouse

National Taiwan Normal University stands as one of Taiwan's top universities in terms of sports and physical education research. Years of effort have led to impressive results in the fields of PE teacher education, sports administration, and the fostering of sports industry professionals. In the 2015 QS World University Rankings of the "Best Universities of Sport Sciences, Physical Education, and Kinesiology", NTNU was ranked among the top seven universities in the world, while also holding the number two spot in the category of sports education.

In March 2017, Chia-hung Tang, currently a student of NTNU's Department of Athletic Performance, took home gold in the Floor Exercises category at the 2017 FIG Artistic Individual Apparatus World Cup, marking one of the best performances for Taiwan at the World Cup. A year prior, at the 2016 Olympic Games in Rio, Taiwan's women's archery team won bronze. Archery team member, Chien-ying Lei, is currently a graduate student at NTNU's Department of Athletic Performance and the first NTNU student to ever receive an Olympic medal while being enrolled as a student. That same year, NTNU's women's tug of war team traveled to the 2016 TWIF World Outdoor Championship Tug of War in Malmö, Sweden. The team eventually came home with six gold medals, setting a new team record.

Consistently working to foster local athletic talent, NTNU has a long record of assisting athletes, students or teachers, in the participation of local and international sporting events in hopes that such experiences will help foster even more first-class athletes and competitors.



Chia-hung Tang (middle) taking home gold at the 2017 FIG World Cup



Chien-ying Lei (right) with teammates Shih-chia Lin (center) and Ya-ting Tan (left)



Taiwan's women's tug of war team crowned as 2016's world champions



Yu-an Chang



05

Outstanding Conductors, Alumni of NTNU's Department of Music



In the 62 years since its founding, the Department of Music at National Taiwan Normal University has cultivated a great number of middle school music teachers, as well as dozens of top performers and music professionals in the fields of concert performance and academic research. Alumni of the Department of Music can be found working throughout Taiwan and the world. In addition to playing an important and distinguished role in the elevation of the musical arts here at home, these alumni have also found great success on the world stage and their academic achievements are truly a source of pride for us at NTNU.

On September 2016, NTNU Department of Music alumni, Yu-an Chang, won first prize at the 7th International Conducting Competition in Bucharest. The competition was jointly organized by the Romanian Cultural Institute and UNESCO. By winning first prize, Yu-an Chang signaled to the world that he is on his way to finding a place among the world's best conductors.

The other alumni, Wilbur Lin (Wei-han Lin), has also earned himself a spot among the world's top up-and-coming conductors, with an invitation to El Salvador in September 2016 to teach a Masters music class and help the Don Bosco Youth Symphony Orchestra rehearse. Thanks to Wilbur Lin's efforts, the youth symphony orchestra performed two smashingly successful concerts that saw the attendance of El Salvador's business, cultural and political elite, including the Second Lady of El Salvador herself.

Wilbur Lin is now at Indiana University and is currently pursuing a doctoral degree in orchestral conducting. Previously he served as an assistant conductor for the Royal Liverpool Philharmonic Orchestra, the National Taiwan Symphony Orchestra, as well as the conductor for the International Society for Contemporary Music—Taiwan. Wilbur Lin planned and directed the Chamber Philharmonic Taipei Johann Sebastian Bach concert series and has directed the school orchestras of the Royal Northern College of Music. All in all, his accomplishments make him one of the brightest young stars on the conductor circuit today.



Wilbur Lin



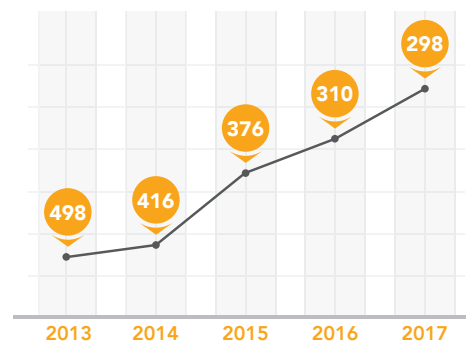
06

NTNU Soars in 2017 QS World University Rankings

The British company Quacquarelli Symonds (QS) is best known for its higher education surveys and rankings. In its *2017/18 World University Rankings*, the company looked at 4,438 universities in total. National Taiwan Normal University was ranked 289th in the world, up 21 places from the previous year. In the survey's "World University Rankings by Subject", NTNU was ranked 40th in education, 48th in linguistics, and 156th in the "proportion of international students" indicator, which is the highest of any university in Taiwan. Collaborating these results was the recently released *Times Higher Education* survey published by the British newspaper *The Times*. The survey ranked NTNU 152nd in the "Universities with the highest percentage of international students" indicator, making NTNU the only university in Taiwan to break into the survey's top 200.

NTNU's ranking in the field of education has been among the top 50 universities in the world for five years running, a clear indication of the growing international strength of NTNU's educational programs and research. NTNU's ranking in the field of languages broke into the survey's top 50 for the first time; the fields of sociology and management made big strides to end up in the top 100, while in the field of art design, NTNU saw gains into the top 150. In addition, NTNU's international rankings in dozens of indicators were often the highest of any university in Taiwan.

"NTNU's rise in international rankings and the recognition of its growing internationalization is the result of the joint efforts of all of NTNU's students and teachers," said NTNU president Kuo-en Chang. "In the future, we will continue to work towards improving our global competitiveness by actively recruiting the best faculty in the world to deepen the quality of research and instruction at NTNU and elevating the learning and research environment of NTNU. The goal is to build NTNU to be known worldwide for its diversity, integration, teaching excellence, and moral strengths."



07

NTNU Alumni Finds Fame with Success of AlphaGo/Master

In 2016, the AI AlphaGo defeated Korea's Lee Se-dol four games to one in the game of Go. At the time, Lee Se-dol was ranked as the third best Go player on the planet. An updated version of AlphaGo called Master later accumulated an online record of 60 wins vs. 0 losses against some of the top Go players in the world. Later, in May 2017, this updated version of AlphaGo played against China's Ke Jie, the world's No.1 ranked player, winning all three games against Ke Jie. After the game, Ke Jie stated that the moves made by AlphaGo were perfect and simply unbeatable.

National Taiwan Normal University's alumni Aja Huang (Shih-chieh Huang) is the lead programmer of AlphaGo and Master, as well as one of the major influences on the direction of its development. Dr. Huang was listed as first author in the scientific journal *Nature*, a paper published by AlphaGo's research team DeepMind.

Dr. Huang is currently a leading researcher in the field of AI. He received both his masters and doctorate under Professor Shun-shii Lin at NTNU's Department of Computer Science and Information Engineering. His 2003 master's thesis was entitled *The Strategies for Ko Fight of Computer Go*, while his 2011 PhD thesis *New Heuristics for Monte Carlo Tree Search Applied to the Game of Go* continued his work in the field of AI. The AI of both AlphaGo and Master uses a Monte Carlo Tree Search algorithm which relies on repeated random sampling and the law of large numbers to obtain results. It uses an immense database to perform sample operations; the more samples acquired, the closer mean values will approach theoretical values.

Dr. Huang believes that his studies in NTNU were especially beneficial as they allowed him to concentrate on the development of the basic theoretical platform that would ultimately become AlphaGo's AI. Dr. Huang strongly believes that Taiwan's scholars are equal to those anywhere in the world; however, they often limit themselves due to a lack of confidence communicating in academic and professional settings. He encourages Taiwan's researchers and scholars to bravely explore the international arena and not let language barriers hinder ones' professional or academic development.

REMINISCE 8 YEARS

2011

452th in QS World University Rankings

- Research Center for Conservation of Cultural Relics established
- Renovation of Liang House completed
- Instrumentation Center founded
- NTNU chosen to be part of the MOE's *Aim for the Top University Project*
- NTNU chosen to be part of MOE's *Teaching Excellence Project*
- *Outstanding Teacher Selection System* implemented
- Administrative and academic unit group performance appraisals system established
- Student expulsion rules abrogated
- Wen-Huei Hall renovated, included is new automatic book lending machine



2013

485th in QS World University Rankings

- Recipient of Nobel Prize in Literature Mo Yen engaged as chair professor
- *Mountains and Seas—A Chinese Rock Musical* begins touring
- The Advanced Center for the Study of Learning Sciences founded
- New Information and Academic Building opens at NTNU's Lin-kou Campus
- Taiwan's first POP science reading website established
- Mandarin Training Center begins offering online classes with MTC Online
- Industry Alumni Friendship Association formed
- New freshman orientation camp- "*NTNU, Now the New U*" created
- Green University Union of Taiwan (GUUT), a non-profit organization, established
- NTNU Liberty Bell repaired and put on display



2010

2010

498th in QS World University Rankings

- Revised faculty classification and review system implemented
- *Excellence in Teacher Education Project* scholarships offered
- NTNU Facebook page created
- NTNU Hopping Download program started



2012

2012

456th in QS World University Rankings

- NTNU first university in Taiwan to establish an accreditation system for interns and tutors
- Center for Research Ethics founded
- University archive system established
- Overseas travel benchmarking for administrative personnel expanded
- NTNU LIFE Service Center website founded
- Recipient of Nobel Prize in Literature Gao Xingjian engaged as chair professor



2015

376th in QS World University Rankings

- NTNU's *LINK* inaugural issue
- NTNU first university in Taiwan to establish *International Family Program* system
- Youth Honors College Founded
- Center for Holistic Education founded
- Center for Careers Service founded
- Course in artifact conservation and renovation opened
- NTNU first university in Taiwan to offer courses in gifted and talented education
- Office of Institutional Research founded
- Numeric grading system changed to letter grading system
- NTNU-Division of Preparatory Programs for Overseas Chinese Student opened the Natural science and cultural education areas
- Entrepreneur cultivation project implemented
- International Exhibition Hall established
- NTNU English website wins QS-APPLE Silver Award



2017

289th in QS World University Rankings

- Teacher Education College founded
- All English Master's programs planned
- Required seminars for new freshman planned
- NTNU Art Museum built



2014

2014

416th in QS World University Rankings

- NTNU first university in Taiwan to establish a student counselor system
- New Health Center opens
- NTNU first university in Taiwan to establish an online MA Program in Teaching Chinese as a Foreign Language
- *Excellence in Teacher Education Project* expanded
- Double Degree Program for International Master of Business Administration created
- Indigenous Students Resource Center founded
- New landmark installed at NTNU's main campus gates



2015

2016

2016

310th in QS World University Rankings

- NTNU celebrates 70th anniversary
- NTNU International Conference Center opens
- Restoration of NTNU Auditorium completed
- NTU System established
- Gold Medal Academy established
- NTNU first university in Taiwan to offer Executive MBA in Global Fashion
- Campus prayer rooms made available
- Organizer of 2016 Presidents' Forum of Foreign and Taiwan Universities





Mountains and Seas

A Chinese Rock Musical

Jung Lin | Department of English

In a step away from more traditional performing arts, members of NTNU's Graduate Institute of Performing Arts, Department of Design, and Department of Music came together to produce one of Taiwan's most successful musicals to date. The musical was a re-imagining of the play *A Tale of Shan Hai Jing*, which was written by winner of the Nobel Prize in Literature Gao Xingjian. The play written by Gao Xingjian was itself a reinterpretation of an ancient compilation of classical Chinese geography and myth—the *Shan Hai Jing*. Under the directive of NTNU president, Kuo-en Chang, the Graduate Institute of Performing Arts, Department of Design and Department of Music created a musical re-interpretation of Gao's play entitled *Mountains and Seas—A Chinese Rock Musical*. From its musical score, to its costumes and visual and stage effects, the scale of *Mountains and Seas* rivaled some of Broadway's biggest performances, while still capturing the nuances of Gao Xingjian's retelling of the ancient myth.

Mountains and Seas was directed by NTNU Graduate Institute of Performing Arts Professor Chi-min Liang, with Asian godfather of pop Chris Babida invited to compose the musical score. Playwright, Le-Rong Chen, was instrumental in incorporating the script with the musical and dance score. Graduate Institute of Performing Arts Professor Heng-cheng Lin then created 208 avant-garde costumes for the musical, uprooting the story from its ancient past to place it solidly within the modern day. He was joined by Professor Lee-zen Chien and the Department of Design whose lighting, stage design, and projection work ensured that the majesty of the myth was on full display. The abundant directorial experience of Chi-min Liang, also the creative director of the Godot Theatre Company, was also on full display as he perfectly captured the musical's progressiveness and gorgeous "rock and roll" feel.

Through the combined efforts of teachers and students of NTNU's Graduate Institute of Performing Arts, Department of Design, and Department of Music, the performance was a perfect example of a successful artistic cross-over between experts in the fields of literature, music, design, and theatre. The musical later premiered at the National Theater in Taipei in June 2013. Author of the original script, Gao Xingjian, was in attendance and praised the performance as one "filled with the historical and majestic splendor of the original myth; a truly astounding and moving performance."

Mountains and Seas not only successfully used a rock and roll format to recount one of China's most famous myths, but was also celebrated as a Chinese musical work in its own right. Not surprisingly, in August 2015 *Mountains and Seas* was invited to perform at the Edinburgh Festival Fringe, the world's largest art festival and gathering for international art brokers. *Mountains and Sea—A Chinese Rock Musical* toured for over a year, playing in Taipei, Taoyuan, Taichung, Chiayi, as well as overseas at the Edinburgh Festival Fringe. In May 2017, the musical returned to the NTNU Auditorium for an eight-show run.

"When Nobel Prize Winner Gao Xingjian was invited as chair professor at NTNU, he expressed deep admiration for the theatrical, artistic, and musical accomplishments of NTNU and expressed hope that it would be possible one day to adapt *A Tale of Shan Hai Jing* into a musical format," said president of NTNU, Kuo-en Chang. "For everyone at NTNU, this experience was an amazing learning opportunity. In the midst of intense creation, students and teachers were able to combine classroom learning with professional, real-world experience in the development of innovative new opportunities."







NTNU Hoping Download

*Lighting the Flame of Opportunity for
Students in Remote Areas*



Editorial Team

"Assisting in rural, out-of-way areas is not only about giving to others, but finding oneself as a beneficiary as well." These words were spoken by National Taiwan Normal University president Kuo-en Chang in 2016 during the 7th Annual Hoping Download opening ceremony. Soon after, university students from across the Greater China Region would be traveling into the most remote areas of Taiwan and China to serve as tutors for socially disadvantaged students for a period of three weeks. Despite the relatively short period of time, the students hoped that by volunteering and giving extracurricular classes, it could install elementary and middle schoolers a sense of faith in themselves and their future. Ultimately, the process was one of growth for both tutors and students alike.

This year marks the eighth year of the Hoping Download youth camp. Since its inception seven years ago, more than 1,000 students from Taiwan, China, Hong Kong, and Macau have participated in the camp, making it one of the largest inter-university, cross-strait tutoring programs happening today. The program has received abundant praise and support from both the school alumni and the society at large. In 2015, in honor of its contributions, the program was awarded the Youth Group Special Contribution Award from the Ministry of Education's Youth Development Administration. With Hoping Download growing larger by the year, it is hard to believe that it started from just a simple idea of NTNU president Kuo-en Chang.

2009 was the first year of the youth camp, at that time called: "Let a Hundred Candles Shine—Youth Walking in the Footsteps of Confucius". The program aimed to recruit 100 students to serve as tutors for socially disadvantaged students around Taiwan—

mirroring a practice of Confucius who was known for touring neighboring countries to teach all he met without distinction. The next year, Peking University and the University of Hong Kong joined the program and 100 students, hailing from both sides of the strait, served as tutors throughout the Greater China Region. In 2011, the number of participating students grew to 150, with several more schools asking to be part of the program. In 2014, as the program continued to expand, NTNU changed the program's name to Hoping Download.

Last year, the 7th annual Hoping Download camp brought together 340 students from 26 major universities in the Greater China Region. Answering NTNU's call to "use education to bring together lower and middle schools on both sides of the strait and to light the flame of opportunity for students living in remote areas", 232 Mainland Chinese students arrived in Taiwan for the camp, setting a new record for number of participants. Altogether, the students worked with 32 remote area schools and tutoring 4,000 socially disadvantaged children, making it the largest inter-university tutoring program across the Taiwan Strait today.

President of the NTNU Alumni Association and former head of the Legislative Yuan, Jin-pyng Wang, believes that in the seven years since Hoping Download was founded to harness the power of students from both sides of the Taiwan Strait, the offering of tutoring services and the sharing of educational resources in remote schools, villages, and tribes has allowed countless students the opportunity to work on behalf of society and practice a spirit of participation and engagement in public affairs.



NTNU vice-president Chih-fu Cheng (standing, 6th from left), NTNU president Kuo-en Chang (standing, 7th from left), and Dean of NTNU Office of Student Affairs, Shao-hsi Chang, (standing, 8th from left) with students at the Light Up Ceremony celebrating the seventh year of Hoping Download

NTNU Research Center for Conservation of Cultural Relics

Committed to Training Future Restoration Professionals and Developing Intra-university Cross Domain Cooperation

Research Center for Conservation of Cultural Relics

With the support of National Taiwan University president, Kuo-en Chang, the NTNU Research Center for Conservation of Cultural Relics (RCCCR) was established on October 22, 2011. Its mission is to use NTNU funding in the work of conserving and restoring culturally important artwork and relics. The office of the RCCCR is located in the College of Liberal Arts building and is divided into a planning, repair and maintenance, instruction, oil painting and hand crafts preparation division, and a photography and recording room. In order to ensure that all cultural relics undergoing restoration within the RCCCR are in a stable environment, the restoration room is guarded by a door that is connected to a dual monitoring system. Ultraviolet light is restricted from entering the room, where the humidity and temperature are controlled as well. In addition, the room features acid and alkaline resistant tables, where the restoration is being carried out. Currently, the RCCCR boasts Taiwan's leading culture relic conservation and restoration room.

The RCCCR blends the solid and established artistic and humanistic qualities of NTNU's Department of Fine Arts with scientific advances in material sciences and engineering in an ongoing development of the cultural artifact restoration field. Along these lines, the RCCCR has been hard at work creating professional teams in the areas of optical inspection, restoring agent analysis, the development and research of conservation appropriate solvents and materials, and Nondestructive Testing (NDT). These teams have been asked to handle several national and international restoration research cases, as well as restoration cases from private museums. In 2015, the RCCCR was the first center from the Greater China Region to become a member of the Infrared & Raman Users Group. The RCCCR is currently committed to the building of an Asian cultural database and hopes that it can serve as an important platform for international exchange in the field of Asian cultural heritage preservation in the future.



RCCCR director Yuan-feng Chang introducing the work of modern cultural relic restoration and preservation

During the RCCCR's early years, its main mission was centered on painting restoration and repair. In 2011, the RCCCR invited Tokyo University of the Arts Department of Conservation Professor Kijima Takayasu, and Suzukamo Fujiko, Senior Director for General Policy Planning at Akasaka Palace, to offer oil painting restoration classes at NTNU and to create a PhD program to train local students in the art of oil painting restoration. In order to continue to expand its expertise, in 2014, the RCCCR signed an international cooperation agreement with the Tokyo Research Institute for Cultural Properties, while also establishing sister-school ties with Tokyo University of the Arts. Starting in 2016, yearly workshops on the conservation of Japanese textiles are held by the RCCCR, which invites textile preservation and restoration experts from the Tokyo Research Institute for Cultural Properties to NTNU.



Scene from a workshop on the conservation of Japanese textiles



Restoration of a copy of an important early mural work commissioned by the DunHuang Research Academy



NTNU Art Museum

Inaugural Exhibition to Highlight NTNU Art Collection

Pei-fang Tsai | Department of Graphic Arts and Communications

The NTNU Art Museum is scheduled to open its doors to the public in the third quarter of 2018. To celebrate, the museum's inaugural exhibition will highlight the breadth and depth of the NTNU art collection—a treasury of artwork donated by the university's alumni and faculty over the past 70 years. In the years to come, the NTNU Art Museum is expected to play a central role both on and off campus; serving not only as a world class exhibition space for the use of NTNU students, faculty and local residents, but also as a central locus of creative activities for the artist community at large.



The unique design of the NTNU Art Museum was honored with the “Best Planning and Design Award” at the *FIABCI—Taiwan Real Estate Excellence Awards*. The museum's polyhedron exterior was inspired by the gabled walls of the old performance & event venue—NTNU Auditorium, and features a total of 178 gables. Inside, the museum uses high tech titanium plates manufactured here in Taiwan by the China Steel Corporation—a major partner in the museum's construction. Titanium is known for its solidity, corrosion and moisture resistant, and slow heat penetration. By using such top-of-the-line materials, NTNU has ensured that the museum will be a space worthy for NTNU's art collection, as well as a first-rate exhibition and collection space.

The NTNU Art Museum's inaugural exhibition will feature selections from the NTNU art collection, as well as artwork chosen from NTNU's decade long conservation and restoration program. Introductions into how scientific tools and analyses have been used to recapture the creative elements of the restored pieces will also be part of the exhibition. Currently, the NTNU Art Collection features over 3,300 works of NTNU alumni and leading artists—with 480 of these pieces having been previously restored.

Located on the corner of Qingtian Street, the NTNU Art Museum will be the new neighbor of *Teh-Chun Art Gallery* and the NTNU contemporary humanities and arts space *No.16 Chingtian*. Looking to link together nearby arts and humanities spaces and activities, the hope is to create a “NTNU Art and Culture Zone” featuring prominent community interaction. By allowing students, faculty, and community members to freely use the exhibition space and the artistic resources offered by the museum; an even more diversified artistic and cultural environment can be created.

The NTNU Art Museum is one of architectural centerpieces of the “Seven Star Plan” introduced by NTNU president Kuo-en Chang. The goal of the “Seven Star Plan” is to build a world-class educational environment at NTNU. The seven buildings of the “Seven Star Plan” include the NTNU Art Museum, the NTNU International Conference Center, Sports Science Building, Experimental Education Building, new dorms, General Education Building, and the NTNU Extension, School of Continuing Education Hostel.



Architectural rendering of the NTNU Art Museum

NTNU's Historical Auditorium

Converted from a Cultural Heritage Site



Pei-fang Tsai | Department of Graphic Arts and Communications

The NTNU Auditorium stands as one of the oldest structures on the National Taiwan Normal University campus. Professor of Confucian Studies Mou Tsung-san, Professor of Literature Liang Shih-chiu, and Professor of Chinese Art Huang Jun-bi all taught in former university assembly hall, which had also been used as a venue for student rehearsals, lectures, and performances. The NTNU Auditorium was built in 1928 during the Japanese rule of Taiwan and was later pronounced as a cultural heritage site by the Taipei City Government in 1998. Now 89 years old, the NTNU Auditorium is one of the university's oldest and most valuable cultural assets.

In order to bring new life into the aging assembly hall, NTNU president Kuo-en Chang engaged to restore part of the building, while taking into account both current and former layouts. The hall was to be transformed into a concert hall and fell under the supervision and care of NTNU's Department of Music, which would be later connected to the NTNU Auditorium. In 2014, the hall was renamed NTNU Auditorium and became the third former assembly hall, after Taipei Zhongshan Hall and Ximen Red House, to be reborn as a music venue.

The restoration of the NTNU Auditorium was undertaken to provide NTNU with a first-class concert hall. Thus, a sloping performance stage was built to broaden the hall's visual space, while sound control systems and equipment were introduced to improve the overall sound quality of the auditorium and the

audience's appreciation of it. In addition, to address the problem of the hall's tendency to echo, ceiling tiles were covered with noise dampening plaster and special sound-absorbent audience seating was installed. All in all, the building was to provide a perfect venue for the performance or appreciation of the musical arts for all members of the NTNU community.

With the restoration complete, NTNU invited a long line of internationally renowned names to perform at the NTNU Auditorium, including violinist Cho-liang Lin, pianist András Schiff, and cellist Alexander Rudin. In 2015, the NTNU Department of Music held a series of monthly performances entitled *NTNU: Voice Concert* which featured performances produced and directed by professors of the Department of Music. The public was invited to freely attend these concerts, which did much to bring the beauty of music to the greater community around NTNU.

With a history of 89 years, the NTNU Auditorium has been renovated and remodeled several times. During a major renovation of the hall's stage in 1992, architect Chao-chuan Yu discovered on the back of a safe an inscription marking the initial construction date of the hall as "the fifth year, second month, and twelfth day of the Showa Era." In recognition of this historical footprint, the safe and the wooden niche in which it was found were preserved as important cultural witnesses to the long, storied history of NTNU.





Historical Residence of Liang Shih-Chiu

Restored to Former Glory

Pei-fang Tsai | Department of Graphic Arts and Communications

Located at No. 11 Yunhe Street, the Liang House was in a condition of disrepair for years. In 2003, the structure was classified as a historical and cultural asset by the Taipei City Government. Under the ownership of NTNU, thus NTNU initiated the renovation of the Liang House. In 2010, after a study of the former residence conducted by NTNU president Kuo-en Chang, NTNU's Research Center for Conservation of Cultural Relics (RCCCR), together with a firm specializing in the repair of cultural and historical sites, undertook the first steps towards renovating the historical landmark. Renovation was completed in June 2011, successfully reproducing the original look and style of the residence and returning the residence to its former glory in time for what would have been Liang Shih-chiu's 110th Memorial.

During the renovation of the Liang House, a *heigushi* was found to be still hanging from the building's central cross beam. *Heigushi* is a traditional Japanese good luck charm made from colored paper that were hung from a central cross beam, at the time of a structure's topping out ceremony. In this case, both the central beam and the *heigushi* were decayed with age and unsalvageable. In order to accurately capture all the details of the former residence, the RCCCR asked Japanese expert Junichi Mori to create a new *heigushi* charm, which was later hung from the residence's central cross beam in a traditional Japanese topping out ceremony. NTNU president, Kuo-en Chang, personally handed over the newly created *heigushi* to the carpenters, who then affixed the charm to the central cross beam with prayers for safety and good luck for the building's remaining restoration.

Under the insistence of NTNU, the exterior of the Liang House was kept as close to the original as possible. White gravel was brought in to mimic the original white stone path that lead up to the residence, while *kawara* (Japanese ceramic roof tiles), and Cyprus wood paneling ensured the renovation remained true to the residence's original aesthetics. Which was just as important as the Breadfruit tree that Liang Shih-chiu wrote about so fondly and spent so much time underneath.

However, problems arose when it was discovered that the roots of the tree had already wound their way under the foundation of the house. It then became a question of how to preserve the tree, while ensuring the safety and stability of the residence itself. Finally, under the watchful eye of expert arborists, the root system was adjusted to minimize its interference with the building, while also ensuring the tree had enough space to grow and thrive.

A luminary of his time, in 1949 Liang Shih-chiu was appointed Dean of the College of Liberal Arts at NTNU (at the time known as Taiwan Provincial Teachers' College). He was the author of numerous translations and publications, and he especially devoted about 30 years translating Shakespeare's works into Chinese. He also helped establish NTNU's English Language Training Center, Mandarin Training Center, Graduate Institute of Chinese, and Graduate Institute of English. Simply put, the importance of his influence on the promotion and development of Chinese and foreign language study and instruction cannot be overestimated.



▲ The Liang House after renovation



▲ The Liang House and its Breadfruit tree

NTNU International Conference Center

The Green Building, Commitment to be Eco-friendly



Pei-fang Tsai | Department of Graphic Arts and Communications

Since opening its doors in 2016, the National Taiwan Normal University International Conference Center (NTNU ICC) has been a locus for activities. In just a year, numerous international conferences, academic forums, performance presentations, professional training courses, workshops, press conferences, and activities for freshmen have been held at the conference center. NTNU president Kuo-en Chang hopes that NTNU's new ICC will not only become a gathering point for campus-related conferences and activities, but also serve as a major venue for large-scale international academic conferences. The benefits of the ICC are many: increased international academic exchange opportunities for students and faculty, larger international visibility and influence for NTNU, partnership with local business education and training activities, and more opportunities for industry-academia exchange.

The NTNU ICC is a certified LEED silver-rated green building, compliant with environmental specifications in the areas of green space, rainwater retention, daily energy conservation, and improvements to water usage and sewage/garbage disposal. The ICC's eco-friendly building comes ready and equipped to handle a wide range of functions including green energy exhibitions, performance presentations, and international seminars and forums. Installed on the roof of the ICC is a photovoltaic system that serves as a source of renewable energy for the conference center. Inside, the ICC's *Subtropics* coffee shop offers students and faculty a quiet, friendly place to meet and relax. Entrepreneurial-

based classes and seminars are also scheduled to take place at the coffee shop in the future.

Outside of the ICC is the "Creative Bus-Arts and Culture Park", the centerpiece of the park is a decommissioned school bus reimagined as an installation art. Two students (now alumni) of NTNU's Department of Design engaged in the design of inaugural appearance of the bus, and the inspiration came from their awarded short animation film, *Greedy Germ*. It was among the pieces chosen for the *Red Dot: Best of the Best* award for 2015, under the communication design category.

Currently, the "Creative Bus-Arts and Culture Park" serves as a magnet for the participation of local arts and culture community. Together with the nearby *NTNU Art Museum*, *Teh-Chun Art Gallery*, and the *No.16 Chingtian Art Space*, a unique "NTNU Art and Culture Zone" is being born from which members of the NTNU community can draw creative inspiration.

In the future, the ICC looks to be an important campus-wide gathering point, offering NTNU students and faculty an access to world-class international academic exchange, as well as industry-academic training activities. In addition to providing abundant opportunities for the acquisition of knowledge, skills, and innovation, the ICC will also serve as a platform for the exchange between professionals and academic scholars within Taiwan and around the world.



▲ NTNU president Kuo-en Chang (center) hosting the NTNU ICC ribbon-cutting ceremony. Also present are (from left to right) AGM of Gogoro Taiwan Limited Ching-lun Pan, Subtropics CEO Wen-chin Hung, NTNU vice-president Chih-fu Cheng, NTNU vice-president Yao-ting Sung, Dean of Office of General Affairs Ho-chieh Hsu, and Dean of the School of Continuing Education Wen-chung Kao



**NTNU
SPOTLIGHT**



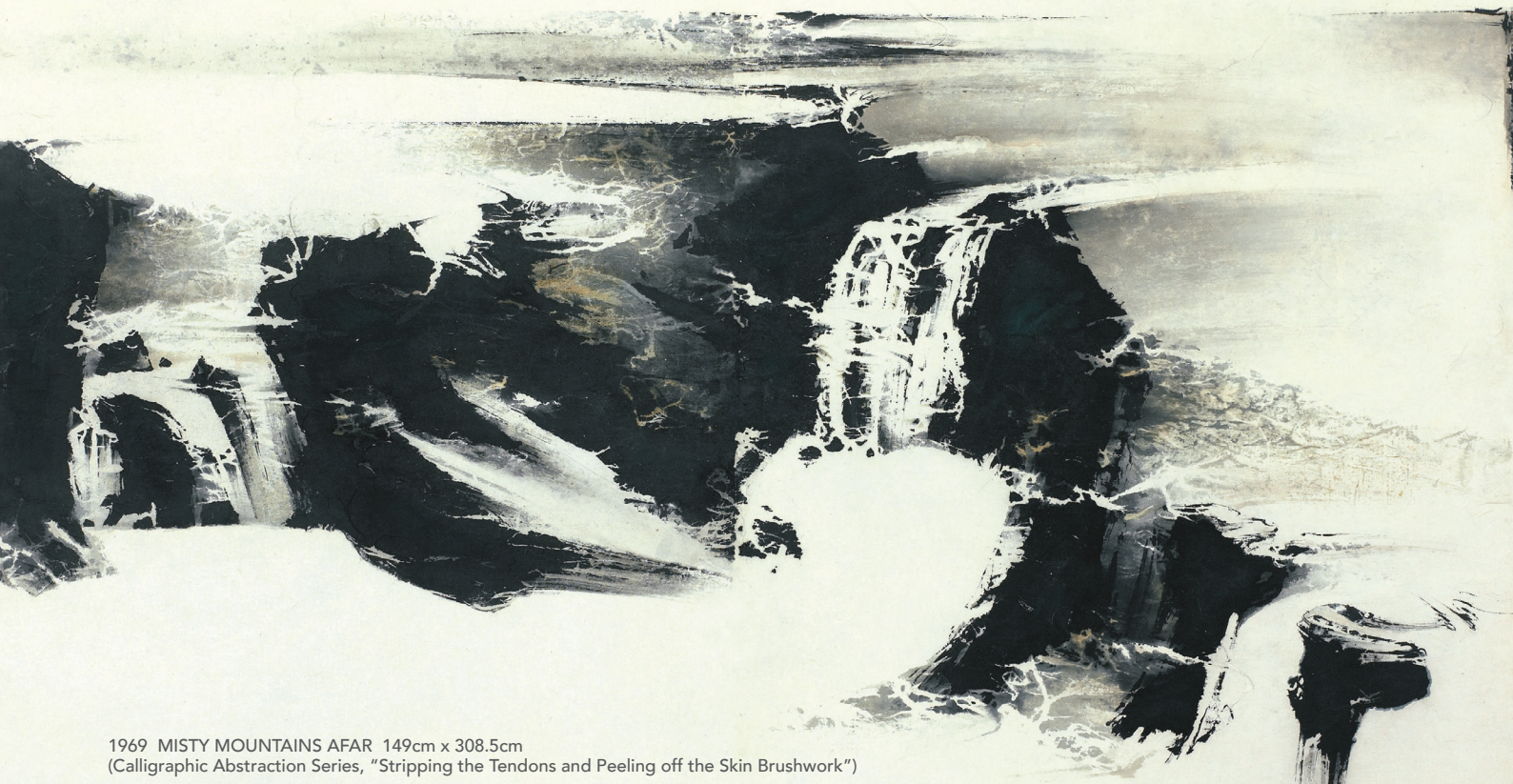


FROM
**ABSTRACT ART
STANDARD-BEARER**
TO
**MODERN INK
PAINTING ADVOCATE**

Chair Professor Liu Kuo-Sung

■ **WRITTEN BY** Lee Chun-yi | Assistant Professor, Department of Fine Arts

■ **PICTURES BY** The Liu Kuo-Sung Archives at the Li Ching Cultural and Educational Foundation



1969 MISTY MOUNTAINS AFAR 149cm x 308.5cm
(Calligraphic Abstraction Series, "Stripping the Tendons and Peeling off the Skin Brushwork")



For more than a century, Chinese painting has developed against a backdrop of war, social upheaval and change. In that time, National Taiwan Normal University alumni and chair professor Liu Kuo-sung has played a role of historical importance, building on the past as he forged a new direction for painting and became a globally recognized artist. In 1984, Liu and Li Keran received “Special Awards” at the 6th National China Fine Arts Exhibition. Liu was further acknowledged at the 12th “National Award for Arts” (Taiwan), the 36th National Cultural Award (Taiwan) and presented with a “Lifetime Achievement Award” at the 1st China Arts Award. In the autumn of 2016, Liu was made a fellow of the American Academy of Arts and Sciences (AAAS). In recent years, National Taiwan Museum of Fine Arts, National Museum of History, Hong Kong Museum of Art, The Palace Museum in Beijing, National Art Museum of China and China Art Museum in Shanghai have held major retrospective exhibitions and seminars on the artist’s work. In addition, he has also been invited to give talks at Harvard and Stanford universities in the US. Such honors are an indication of the reverence and respect with which Liu is viewed in the world of art both at home and abroad. In the spring of 2013, Shandong Museum opened the “Liu Kuo-sung Modern Ink Art Gallery,” which

regularly holds activities to showcase his outstanding artistic achievements. In recent years, contemporary ink art has become a focus for international academics and the art market and one reason for that shift is the many years of tireless promotion by Liu Kuo-sung.

In the 1950s, Liu Kuo-sung was a vocal proponent of modern art and after graduating from the Department of Fine Arts at National Taiwan Normal University, he resolutely embarked on the path of painting reform. In 1956, he and a group of like-minded artists established the Fifth Moon Group, which worked to introduce new styles and ideas from Europe and the US. Faced with the conservative forces that dominated the art world at that time, Liu was fearless and always in the vanguard of change. He also used his trenchant writing style to pen commentaries that attacked the anachronistic and outmoded approaches of traditional painting schools, while elucidating his own modern art philosophy and promoting abstract painting. As a result, Liu very quickly rose to prominence in the Taiwanese art world and became a leading light in the modern art movement. At that time, the renowned writer Yang Wei dubbed him a “standard-bearer” leading the way to a new form of innovative art.

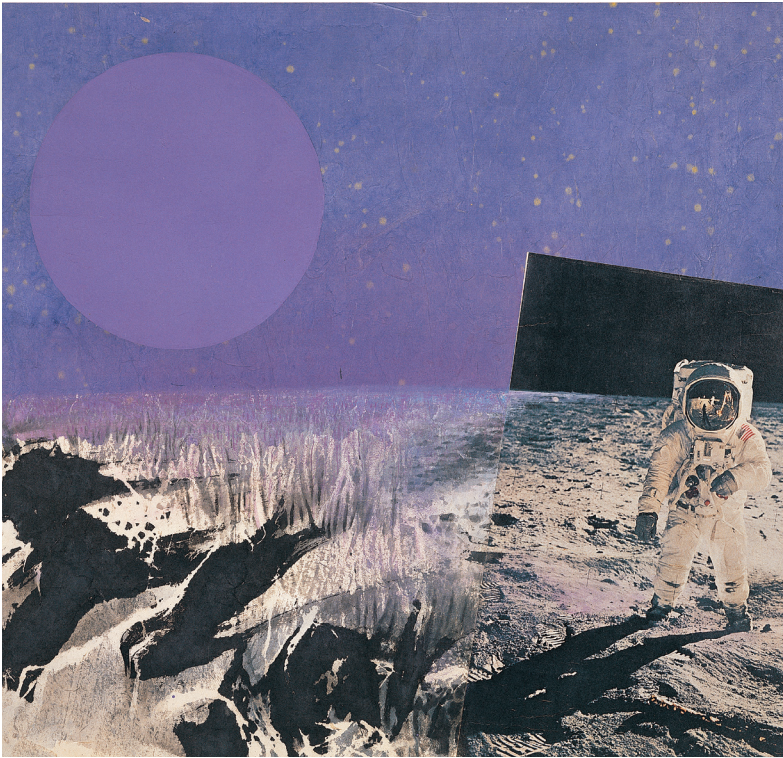


Leading the Modern Transformation of Chinese Painting

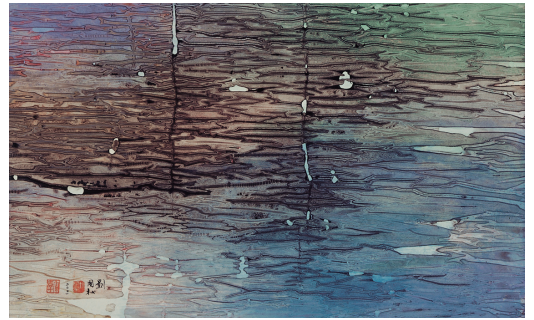
Based on his strong sense of national awareness and sentiment, Liu Kuo-sung engaged in a period of profound self reflection before coming to recognize the way in which Western culture was dominating Chinese art. It was with this in mind that in the late 1950s he turned his back on a creative direction that embraced wholesale Westernization. Instead, he adopted an attitude of rational criticism and returned to Chinese tradition, where he rediscovered the artistic essence of ink painting and set about establishing a new Chinese painting tradition that enriched national spirit and reflected the zeitgeist of the times. In the 1960's, Liu produced semi-abstract landscapes that adopted a wildly free cursive style together with his self-created "Stripping the Tendons and Peeling off the Skin Brushwork," which imbued his paintings with both Chinese and modern features. From the late 1960s to the early 1970s, Liu developed the *Outer Space Series*, wherein his unique depictions of the cosmos and stars showcased an approach that transcended the widely held artistic values of East and West. His works after the 1970s and 1980s were rich in the natural charm of water rubbing and steeped ink techniques, as he further integrated traditional aesthetic ideas on nature and modern environmental awareness. For many years, Liu Kuo-sung explored painting technique and forms and in doing so breathed new life into Chinese ink painting, transforming it into a more modern artistic genre.

As with traditional Chinese intellectuals, Liu Kuo-sung took on the heavy burden of a life dedicated to lofty ideals, following in the footsteps of others in his promotion of ink art as he "continued to build on the achievements of the sages of the past." In 1968, Liu established the Chinese Ink Painting Society on Chinese Cultural Renaissance Day, dedicated to "the modernization of Chinese painting." Indeed, Liu first started using the term "modern ink painting" in the early 1970s to emphasize that the modern transformation of Chinese painting could only be achieved on the foundation of traditional ink painting. In 1971, Liu started teaching at the Chinese University of Hong Kong, establishing a "Modern Ink Painting Curriculum" both in the school's department of art and the School of Continuing and Professional Studies, in an effort to swell the ranks of Chinese painting reformers. Liu was tireless in teaching and guiding his students, encouraging them to establish painting clubs as a way of learning from and encouraging each other, thereby elevating their passion and depth of creative work. Hong Kong Modern Ink Painting Association, established by his students, has been active for more than 40 years and many of its members have gone on to make their own mark in the art world, including Kwok Hon-sum, Anita Lau Kam-chee, Leung Tung-choi, Chung Lap-kwan, Eddy Chan Kwan-lap, Chan Shing-kau and Yeung Kwok-fan.





▲ 1969 Moon Walk 59cm x 85cm (Space Series)



▲ 2001 Ripples - Jiuzhaigou Series No.13 71cm x 79cm
Hong Kong Museum of Art Collection
(Steeped Ink Brushwork)



▲ 2016 Blue Sky and Vaporizing Snow 188cm x 290cm
(Tibetan Suite Series, "Stripping the Tendons and Peeling off the Skin Brushwork")

Taking Landscape Painting to New Heights

Liu Kuo-sung was proactive in his efforts to cultivate a new generation of modern ink painters and in doing so attached great importance to the dissemination and discussion of his artistic ideas in Mainland China. In 1983, Liu was invited to hold his first solo exhibition in China at the National Art Museum of China, an event he found particularly exciting as it offered him a major platform to introduce his artistic philosophy. However, at that time Liu had already signed an exhibition agreement with renowned UK art dealer Hugh Moss and agreed to show his works in the UK. Forced to choose, despite the economic losses, the artist unilaterally cancelled the exhibition and works that were to be sent to London were instead redirected to Beijing. This is an indication of how determined Liu was about spreading modern ink painting. From 1983-1986, he held two major touring exhibitions in China, with his works shown in major cities all across the country. He also worked closely with local promoters to organize public talks and was invited to talk at art colleges. These exhibitions and related activities had a huge impact on the art world in China and inspired countless artists, spurring an awakening of creative awareness that liberated the younger generation from the rigid strictures of traditional ink art. As a result, within a few years ink painting in China entered a period of greater diversity and creativity.

In terms of artistic creativity, Liu Kuo-sung showcased ideas that highlighted the vast possibilities inherent in the genre. For

example, his call to "first seek differences, then refinement" and belief that "painting practice is like a skyscraper," had a deep and lasting influence on ink painting. However, the concept that was discussed with greatest enthusiasm was the attention grabbing "revolution against the brush." Such was the impact of these ideas that artists who initially opposed Liu, like Han Baode, later acclaimed his contribution and vision. Moreover, Liu's idea that "painting studios are laboratories" was instrumental in promoting the vital development of "experimental ink art" in Mainland China. In addition, throughout a creative career that has lasted more than 60 years Liu's works have served as a testament to his many innovative ideas. For example, *Four Seasons Handscroll* (1983) made use of a wide range of skills, including paper rubbing, water rubbing and paper fiber tearing, while also using white lines that subverted traditional black lines brushwork. Liu also combined landscapes from the four seasons into one work, a modern updated form of the historical "four screens" or "four scenes" genre. It is of little wonder then, that when Li Keran saw this work displayed in Beijing, he was not only fulsome in his praise but also wrote an inscription on the frontispiece. This masterpiece effectively elevated the Chinese traditional of landscape painting to a new level and has been every bit as influential as *Dwelling in the Fuchun Mountains* by Huang Gongwang from the Yuan Dynasty.



劉國松一九八五年



Master Teacher for the Next Generation

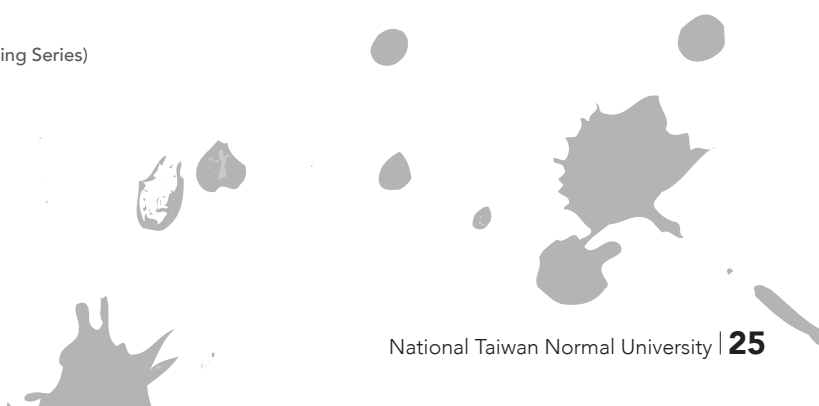
In 1992, Liu Kuo-sung retired from Chinese University of Hong Kong and at the age of 60 returned to Taiwan. However, he still traveled frequently between Taiwan, China and Hong Kong, continuing his efforts to promote modern ink painting. In 1994, with the assistance of Liu, Taiwan Museum of Art in Taichung held a “Modern Ink Painting Exhibition and Symposium,” which brought together dozens of artists and academics from Taiwan and overseas and was one of the major artistic events of that year. The following year, he and a group of artists established the “21st Century Modern Ink Painting Association” and Liu served as the chairperson. In that capacity, Liu not only dedicated his time to promoting the cause, he also spent his own money to organize group exhibitions. Indeed, his passionate involvement in such exhibitions extended from collecting works and helping with the layout of exhibitions, to greeting guests, writing articles and even posting packages. At the same time, Liu Kuo-sung also worked hard at guiding and counseling younger artists. To that end, he actively recommended many young painters from Taiwan, China and Hong Kong to art galleries and museums and was even known to carry their paintings for them and to write newspaper articles praising such events. This underscores not only the depth of his dedication to promoting new artists but also his warm heart and considerate nature.

Liu Kuo-sung has promoted modern ink painting with an almost religious zeal, dedicating his life to art and education, in the hope that more people will respond to his call for the “modernization of Chinese painting.” It is in this context that Liu’s hard work outstrips that of any other artist and has led his wife Lee Mohua to refer to him as “a modern ink painting missionary.” Perhaps the best testament to this is the fact that even in his 80s, Liu continued to teach painting classes at the National Arts Education Institute, Sun Yat-sen Memorial Hall and Chiang Kai-shek Memorial Hall and drives himself to and from Taoyuan and Taipei, as he continues his mission to encourage a new generation of ink painters. Liu also organized an exhibition titled Tension of White Lines, in which he invited his best students to show their works with renowned artists from Taiwan, China and Hong Kong. In 2010, when Liu’s alma mater National Taiwan Normal University invited him to serve as a chair professor he was delighted to accept

the offer and embraced the opportunity to continued his “mission” to spread the word of modern ink painting. Other than giving several educational talks each semester, Liu also donated his salary to the department of fine arts to pay for modern ink art related activities. In 2012, when NTNU was fundraising for the construction of a new arts museum, Liu donated two paintings to sell at auction and also provided NT\$5 million for the establishment of a scholarship to encourage students to take a greater interest in modern ink painting. He also donated the CN¥1 million he received along with his “Lifetime Achievement Award” at the 1st China Arts Award to Shandong Museum, to be used for the promotion of innovative ink painting.

For his whole life, Liu Kuo-sung has subscribed to the Confucian precept “One should establish themselves in the world while inspiring others to establish themselves.” In addition to serving as a living example of how Chinese painting can be revolutionized, Liu has also been active in numerous charities. Having lost his father during the second Sino-Japanese war and endured hardship growing up, Liu is particularly empathetic to the less fortunate in society. As such, he has always considered it a badge of honor to extend a helping hand to social or religious groups trying to raise funds for good deeds. Liu donated his paintings to the Buddhist Compassion Relief Tzu Chi Foundation and Fo Guang Shan to raise charity funds, while also donating NT\$1 million to the Catholic Cardinal Tien Hospital and Taipei Philharmonic Orchestra’s “Sistema Taiwan Program” to promote medical treatment and children’s education. In 2008, in the wake of the devastating earthquake in Wenchuan, Sichuan Province, China, Liu immediately donated two of his works to cross-strait charity auctions. He also supported the “Hope for Pearl Program” launched by Wang Chuan-hsuen and donated several million NT dollars to establish a “Grandpa Liu Class” at Sishui No. 1 Middle School in Shandong. This covers three years of tuition and living expenses for 50 children from low income households. Involvement in such activities emphasizes the fact that whether his field of expertise - professional artistic creation - or his support for social charities, Liu Kuo-sung embodies a spirit of giving and moral character that establishes a new benchmark for modern Chinese intellectual artists.

◀1985 Mountain Light Blown into Wrinkles 40cm x 26.5cm (Water Rubbing Series)



NTNU DEPARTMENT OF ELECTRICAL ENGINEERING'S MOMENT TO SHINE

Robotics Team × Professor Jacky Baltes

■ WRITTEN BY Fang-chia Hsu | Department of East Asian Studies
■ INTERVIEW BY Jung Lin | Department of English



The robotics team (from left): Department of Electrical Engineering Chairman Chen-chien James Hsu, Professor Jacky Baltes, Professor Yih-guang Leu, Associate Professor Hsin-han Chiang, Professor Wei-yen Wang, and Associate Professor Syuan-yi Chen



The team from the Department of Electrical Engineering won the all-around champion in the 2015 Intelligent Humanoid Robotics competition

Robotics competitions have received much media attention in recent years. In more than six decades since the term “Artificial Intelligence” (AI) was first introduced in 1956, the field has continued to develop, but also faces many challenges that await breakthroughs, with ups and downs in related research over the years. In the past couple of years, along with exponential technological advancements, AI has once again become a focus for technologically advanced countries, which have heightened their research efforts in the field of AI robotics. Despite the appearance of robotics competitions, they demonstrate a country’s capabilities in the engineering and Information Communication Technology (ICT) sectors, as well as a showcase for the innovations of a country’s youths.

The NTNU’s Department of Electrical Engineering focuses on three core fields of development, including system on chip (SOC), multimedia and communication, and intelligent control and robotics, and has in recent years achieved significant results in robotics research. For three years straight, the team of students, led by department chairman Professor Chen-chien James Hsu and Professor Wei-yen Wang, dominated the International

Competition on Intelligent Humanoid Robotics held by the Ministry of Education, thrice winning the all-round championship. In 2014, the team placed first in wall climbing, second in weight lifting and third in all-round in the RoboWorld Cup, organized by the Federation of International Robot-soccer Association (FIRA). In 2015, entering the humanoid robotics application competition at the IEEE International Conference on Robotics and Automation (ICRA) for the first time, the team won a bronze medal, going on to win first and second place in the MINI DRC category, second place in wall climbing, and third place in marathon in the 2016 RoboWorld Cup. All told, over the past five years, the team has won 47 prizes in robotics competitions both local and abroad. The robot designed by the NTNU Electrical Engineering team through years of research and development is highly stable, and capable of accurately executing complex movements such as wall climbing, hanging from a bar, and dodging, not to mention out-and-back run, weight-lifting, obstacle course navigation and uneven ground navigation, fully illustrating the research capabilities and results of NTNU’s College of Technology and Engineering.

Recognition by International Awards and Patents

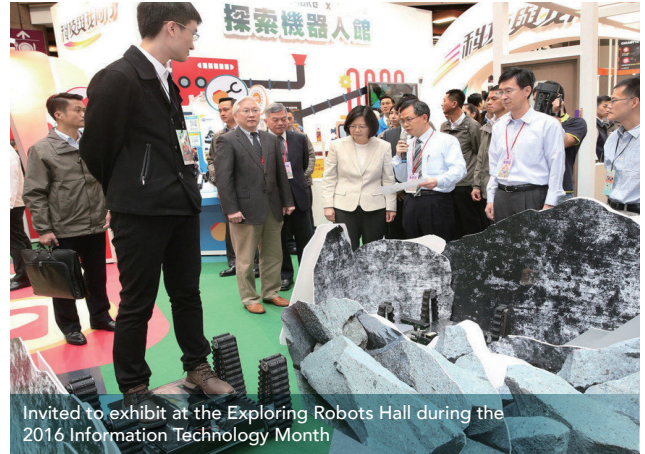
The six professors from the EE department's robotics team have not only garnered prizes from both national and international competitions, but have also received international recognition for their years of research. Over the past five years, they have together published 43 SCI journal papers, obtained 36 domestic patents, and carried out 20 Ministry of Science and Technology projects and 13 industry-academia collaborations. Not stopping there, the robotics team continues to work on areas that require improvement, with lofty goals in mind for intelligent robots and related technology to one day contribute to the well-being of human society.



Trophies from the 2016 FIRA RoboWorld Cup

To speed up the process of reaching this goal, the team members began years ago to conduct research in their respective specialties, creating various types of AI-equipped and fully autonomous robots, including the tracked autonomous robot, documents delivery robot with cross-floor mobility, rehabilitation robot, and intelligent humanoid robot.

The tracked robot, developed under Professor Wei-yen Wang's leadership, can autonomously climb uneven surfaces such as stairs and slopes by swinging its front and back arms to change its overall geometric shape, while the track on either side constantly senses the height and angle of steps to calibrate its height. The new generation robot, three years in the making, improves on the deficiencies of the preceding two generations, adding the new function of crossing water pits and overcoming gravitational acceleration while going downslope or downstairs, now moving with more steadiness and speed and capable of carrying much more weight. In addition, equipped with the RGB-D sensor and ultrasonic sensor, the swing-arm tracked robot can detect the angle and slope of stairs and identify different types of ground surfaces and obstacles, and is therefore capable of active



Invited to exhibit at the Exploring Robots Hall during the 2016 Information Technology Month

patrol both indoors and outdoors, day and night. Connecting to the system with a computer or smart phone allows real-time monitoring of the robot's patrol and any irregularities. In the future, the robot may be developed into a security robot, taking over human patrol missions, and may even be used to conduct search and rescue missions. The related technology has already received invention patents and was displayed during the 2016 Information Technology Month in the Exploring Robots Hall, where it attracted the attention of President Tsai Ing-wen, who stopped at the exhibit for a long time and raised many enquiries. Currently, by utilizing its automatic stair-climbing function, the system can patrol different floors and supplement night-time security staff.

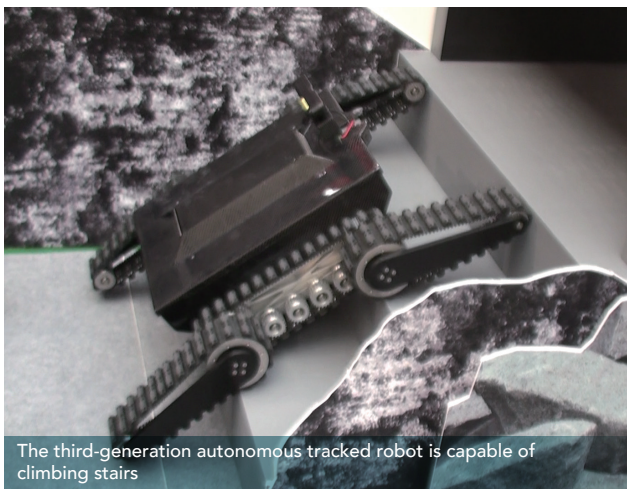
Associate Professor Hsin-han Chiang led the effort to research and develop the lower limbs gait training and rehabilitation robot. To be apart from lowest limbs gait training systems on the market, the rehabilitation robotic system is powered by a pneumatic cylinder and adopts an embedded computing platform to the rehabilitation task with advanced performance. This utilization also reduces the system integration complexity required for powering the system and eliminates the need for add-on motor deceleration components, so that the system can be more compact, lightweight and flexible. As such, the robot completely fits the description in rehabilitative medicine that "only by simulating the gait of normal walking as much as possible can the best rehabilitative results be achieved." At the same time, the design significantly increases the ease and safety of operation, and has a lower production cost due to the relatively simple structure, rendering the system both valuable for academic research and highly competitive on the market, and could be applied to the walking rehabilitation training for patients with stroke-induced brain damage and spinal cord injury.



Specialty Fields to Create Significant Research Momentum

With his research project “Cross-Floor Documents Delivery Robot”, Electrical Engineering Department chairman Professor Chen-chien James Hsu aimed to design and develop a wheeled robot that could navigate autonomously in a known-environment building. With the aid of images and mechanical arms, the robot can autonomously take the elevator to the target floor. The user can then direct the robot to the target destination by sending the information through the corresponding application developed for smart phones. To increase positioning accuracy, the team proposed the “Monte Carlo Localization Incorporating an Error Correction Vector” for the positioning algorithm, strengthening the reliability of the information detected by the sensor, which can be used not only to determine whether the particle is good or bad, but can also provide the reference vector for the next movement, and is very helpful for developing indoor navigation systems. In the future, this automated guided transportation technology could be applied to daily household services, such as 24-hour meal delivery, mail delivery, laundry delivery and garbage disposal.

The ultimate goal of developing the autonomous track robot, cross-floor documents delivery robot and rehabilitation robot is to help the team move toward a lofty ideal. The development of a fully functional robot is a highly cross-disciplinary field, which requires the integration of theories and applications related to precision machinery, electrical and electronic engineering, information communication, automation, etc. The team is currently focusing on its research results in the hope of bringing them together to create great momentum for further research.



The third-generation autonomous tracked robot is capable of climbing stairs

To increase momentum for the research and development of intelligent robots at the Department of Electrical Engineering, last year chairman Chen-chien James Hsu invited Professor Jacky (Hansjoerg) Baltes, an internationally renowned and highly influential figure in the field of robotics, to join the faculty. With his knowledge of intelligent robots and artificial intelligence, coupled with a long career in research, Professor Baltes promises to provide advice on improvements and research direction based on the current research results of the department's robotics team, thus acting like a rocket propulsion device to drive the team forward towards realizing its long-term goal.



Cross-floor documents delivery robot



Professor Jacky Baltes explains the features of humanoid robots

Juniors from the Department of Electrical Engineering show the results of their research on humanoid robots

Project-Based Learning Fosters Independent Thinking and Attitude

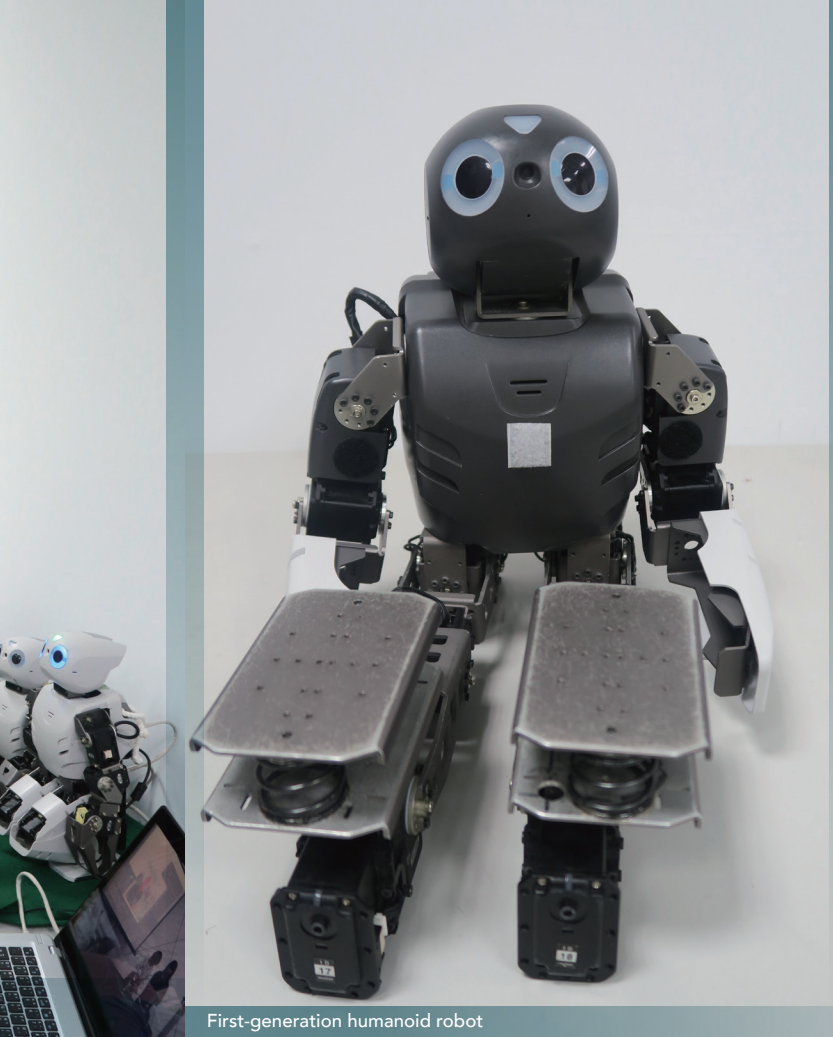
Professor Baltes received his doctoral degree in computer science from the University of Calgary in Canada, and specializes in simultaneous localization and mapping (SLAM), intelligent humanoid robotics, computer vision and machine learning. He also plays a critical role in two prominent international robotics competitions; he is the founder of the HuroCup (humanoid robotics competition), and was elected chairman of the Federation of International Robot-soccer Association (FIRA) last year, which points to his influence in the world of robotics and his outstanding achievements in the field of intelligent robots.

With a wealth of research results under his belt, Professor Baltes has also won many global robotics competitions, including first place and third place in the 2016 RoboCup Humanoid League, first place in the 2015 IEEE International Conference on Robotics and Automation (ICRA 2015) Humanoid Robotics Application Challenges, and second and third place in the 2014 FIRA Robo WorldCup - HuroCup. His long-term involvement in sporting competitions of intelligent robots also led Professor Baltes to be invited as a speaker for TED x UManitoba, where in a talk titled "What Can We Learn from Robot Athletes", he shared current research around the globe on humanoid robots. In his talk, he displayed the dynamic control of humanoid robots, and shared his observations of competing teams over the years; he is convinced that in a sporting event for robots, the difference

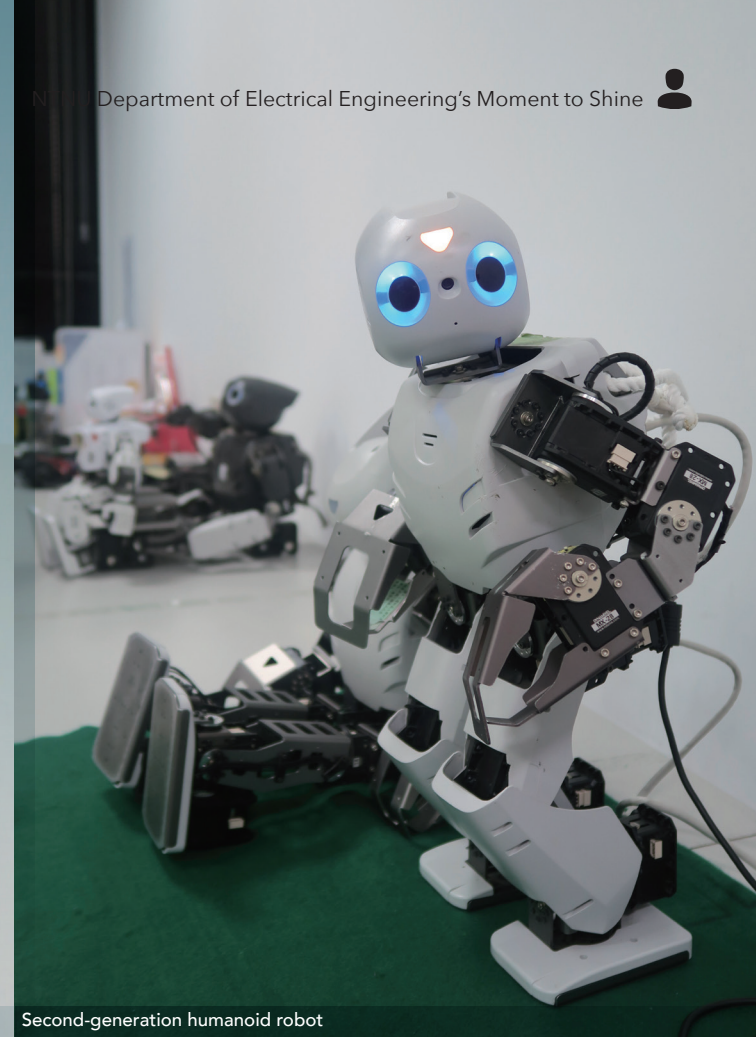
between a winning team and losing team often lies not in technical abilities, but in their attitudes.

Professor Baltes believes that the traditional pedagogical method of lecturing does not help students think, and prefers to conduct his courses through project-based learning. Project-based learning refers to providing complex and real learning activities to help learners form projects and frame questions. In the process of exploring and proposing solutions and working in an environment of collaborative learning, students learn how to integrate knowledge from different fields, while strengthening their problem-solving competencies and skill in applying their knowledge to real-life scenarios.

Particularly in the area of robotics research and development, which stresses hands-on involvement, the ability to do practical work, in addition to knowledge of technological theories, is a must. Therefore, Professor Baltes prefers to create a space and atmosphere in which students learn to trust in themselves, applying what they have learned to build an intelligent robot by themselves, with Professor Baltes playing an advisory role, providing timely suggestions for the students while letting them take the lead on the progress of the project. To help students enter the learning trajectory with more speed and ease, Professor Baltes typically asks seniors or graduate students to assist sophomores and juniors who are entering the lab for the first time.



First-generation humanoid robot



Second-generation humanoid robot

Professor Baltes: Taking on New Technologies and New Markets

With his fame and influence in the intelligent robots field, Professor Baltes has created an excellent environment for international exposure for the professors and students of NTNU's Department of Electrical engineering. His reputation has drawn students from Singapore, Korea, Indonesia and Brazil to NTNU for short-term study and exchange; in fact, there were two visiting students from Singapore in Professor Baltes's lab during the interview. The students said before visiting NTNU, they had no prior research experience on robots, but after a few months in Professor Baltes's lab, they were positive that they can complete the project named "Teaching a Robot to Play Dr. Eureka".

In addition, the department's professors and students, together with students from Iran and Canada, formed a team to compete in the RoboCup. The process of carrying out a project and collaboratively learning with peers from different cultural backgrounds brought many pleasant surprises, when professors and students alike found more than one way to solve a problem, and kept trying until they found the best solution.

As artificial intelligence and AI software gain traction, the future need for related technology will continue to grow, and nurturing talent is key to the long-term development of the robotics industry. Encouraging students to actively take part in AI robotics competitions can inspire creativity in students, as well as draw talents into robot design and development. Professor Baltes was impressed by the emphasis placed on hands-on involvement

for students at NTNU, which was one of the reasons he chose to teach here.

Taiwan has a well-established manufacturing sector, Professor Baltes said, with the capabilities and environment for actually making things, all of which can help him continue to pursue his vision. The Taiwan market no longer demands a machine that can manufacture the same thing in bulk, but a machine that can make different products and that has flexibility, and this market demand poses a challenging mission for Professor Baltes. He hopes to combine NTNU's strength in education and existing core technologies for robotics to develop related research on deep learning technology and educational robots, including "human robot interactive learning", where humans teach robots and vice versa.

Professor Baltes has therefore established the Educational Robotic Center to bring together related resources from the Department of Electrical Engineering and NTNU. With the wealth of experience participating in international robotics competitions, both by him and the department's robotics team, he hopes that the center will become a platform for encouraging more students from Taiwan to take part in such competitions, at the same time drawing more people to develop an interest in and passion for AI and intelligent robots, and together contribute to the development of intelligent robots both in Taiwan and around the world.



A LIFETIME OF DEVOTION TO MATHEMATICS EDUCATION

Chair Professor Fou-Lai Lin

■ Wen-xin Pan | Department of English

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Chair Professor Fou-lai Lin of the Shi-Da Institute for Mathematics Education devotes himself to the research of math education reform. He has applied his research results to provide guidance in math learning for students and professional development for teachers in Taiwan, at the same time leading NTNU in cross-disciplinary collaborations with partners in Taiwan and abroad to promote math and science education.

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Professor Fou-lai Lin (second from right) receives NTNU's Senior Outstanding Teacher Award

According to the 2015 Trends in Mathematics and Science Study (TIMSS) report published by the International Association for the Evaluation of Educational Achievement (IEA), Taiwan was one of the highest achieving countries in mathematics at the primary and secondary school levels, ranking between third and sixth place internationally. However, students showed comparatively lower rankings in learning interest and confidence, often ranking between the second and sixth from the bottom. Chair Professor Fou-lai Lin of the Department of Mathematics at National Taiwan Normal University (NTNU) believes this paradoxical phenomenon of “high achieving, low interest, low confidence” is due to the exam-oriented education in Taiwan, as well as an over-emphasis on the traditional pedagogical method of rote practice, resulting in superficial understanding and quick task solving without much attention to core mathematical concepts. To improve on the educational status quo, Professor Lin accepted a commission from the Ministry of Education (MOE) to carry out a series of projects, with the Shi-Da Institute for Mathematics Education (SDiME) as the operational hub. The main mission of the projects is to conduct research on related issues in mathematics education in Taiwan and abroad, in order to contribute to improving mathematics study for students and professional development for teachers in Taiwan.

A Competence that Can be Applied in Daily Life

Professor Lin's face lights up when talking about his philosophy on the teaching of mathematics. Mathematics, he believes, is a competence just like any other professional subject, and can be used to solve real-life problems after a period of study and accumulation of knowledge. Using community management fees as an example, he explains how mathematical knowledge can be applied to problem-solving in daily life.

A community had three types of homes: condominiums, townhouses and single-family houses. When the management committee discussed how to calculate management fees, two schemes were proposed. The first scheme was to calculate the fee based on floor areas, while the second scheme was to calculate the fee based on number of homes since the management fee was for maintaining areas outside of the homes and not directly related to the area inside the homes.

While the two sides argued, the problem could in fact have been solved by applying linear thinking taught in high school, using the following formula: $ax+by$, and $a+b=1$. X represents calculating the unit fee by floor area, while y represents calculating the unit fee by number of homes, and a and b are different weights which can be varied with respect to x and y . During the committee meeting, they voted for the weight, and thereby resolving the impasse.

"Mathematics exists right there in everyday life, but we tend to think of it as harder than it is," says Professor Lin. "If we think about it from a different perspective, mathematics can in fact be applied in fun ways in our daily lives." He further notes that the core mathematical competencies should be concerned with combining learning with living, and responding to personal and societal living needs through practice.



Empirical Research to Enhance Teachers' Professional Competency

Professor Lin received his doctoral degree from Fordham University in 1976, after which he returned to teach at NTNU, his alma mater, and became leader of the high school mathematics curriculum reform project in 1980. During his tenure as the reform project leader, Professor Lin found that most participants lacked understanding of basic educational principles, such as compiling teaching materials and how to sequence teaching units. He also found his own views to be narrow; after all, the emphasis of mathematical education should be on people, not mathematics. He decided to pursue a Master of Philosophy degree in education in England, formally embarking on the road of mathematics education.

During his studies at Cambridge University, Professor Lin was inspired by the empirical research on education in England. He believed that using empirical evidence to reveal problems in

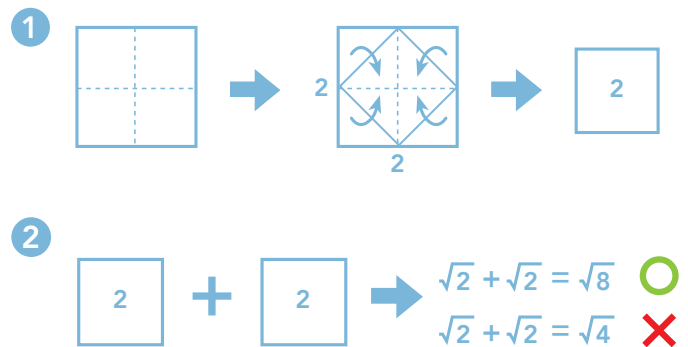
education and uncovering the reasons behind them would be of great help to education in Taiwan. Upon returning from England, he introduced this empirical research method to Taiwan, launching the Mathematics Understanding of Taiwanese (MUT) project funded by the National Science Council, in an effort to study the mathematical and science thinking of students in Taiwan.

Addressing existing education problems, Professor Lin led a research project called "The educative power of experienced Mathematics Teacher Educator – Researchers (MTE-R)," through which he and his research team conceptualized and characterized the educative power of an exemplary MTE-R. This characterization can thus be applied as the benchmark of professional development for MTE. Therefore, the program for educating MTE can be designed and applied to the professional development for teachers.

One of the math teachers who took part in the research project shared a difficulty he encountered in his teaching. He had originally hoped to help students understand that the formula $\sqrt{2} + \sqrt{2} = \sqrt{4}$ is erroneous by a paper folding demonstration. The process went something like this: Each student was given a blank, square sheet of paper with a length of 2 and area of 4; they were instructed to fold the four corners of the sheet inward towards the central point, making the area half of what it was; the square sheet of paper now had an area of 2, so the length changed to become $\sqrt{2}$. When the students placed four squares with an area of 2 together, they would know that the length should be $\sqrt{2} + \sqrt{2} = \sqrt{8}$. However, the outcome of this teaching method was that despite knowing that is $\sqrt{8}$ a symbol to denote the length of a square whose area is 8, the students still wrote down the answer of $\sqrt{2} + \sqrt{2} = \sqrt{4}$ when doing a computation problem. Addressing this issue, educational researchers assisted the teacher in identifying the underlying reason. For example, the discontinuity between awareness of symbols and their symbolic computation that results in students failing to recognize that and are both numbers. Once the reason

had been identified, the teacher was able to make appropriate revisions to his teaching design, conveying knowledge to students with more efficiency.

In addition to this research project, Professor Lin founded the Taiwan Association for Mathematics Education (TAME), providing a platform where math teachers could exchange ideas for teaching and further enhance their professional development skills.



Giving a talk titled "Mathematics Education of the Future" at the popular science seminar series "The Science History Salon"



Professor Lin speaks at a professional growth workshop for teachers, sparing no effort in nurturing talents

Heading the "Just Do Math" Project

After helping teachers enhance their professional skills, Professor Lin next tackled the issue of students displaying “high achievement, low interest, low confidence” in learning mathematics. In August 2016, he formally founded the Shi-Da Institute for Mathematics Education (SDiME) as an operational hub, where he coordinated with the team of Curriculum & Instruction Consulting Committee on Mathematics to lead the four-year project funded by the Ministry of Education (MOE), “Just Do Math.”

“In learning math, students in Taiwan often start doing computations too soon, without manipulative experience that developing mathematical concepts depends on,” Professor Lin said. “Worn out by the many computational practices, they lose interest in math the more they study it.” Identifying the potential reason for students showing low interest in math, Professor Lin launched the Have Fun with Math Camp, helping students at primary and secondary levels acquire experience through hands-on activities before learning important mathematical concepts.

The core of the camp’s activities is the “mathematics grounding activity (MGA) modules”, which aim to lay a foundation for learning math. These modules combine games with important concepts in mathematics, allowing students to acquire these concepts through hands-on activities. One of the modules initially

designed by English Professor Richard Skemp is on rectangular numbers, and was inspired by the experience of playing Go with Lin’s grandson. Not a Go player, Professor Lin suggested to his grandson that they make rectangles with Go pieces (called stones), and whoever forms the most number of rectangles wins. Professor Lin’s grandson formed dozens of rectangles with no more than 50 stones, for example making a 2x6 and a 3x4 rectangle with 12 stones. He also found that with a certain number of stones, such as 13, it was impossible to form a rectangle. Through the process of making rectangles with Go stones, Professor Lin’s grandson had learned the concepts of common divisor and prime numbers without consciously trying to do so. As such, by laying a foundation for learning math in advance, when students encounter these concepts in the fifth and sixth grades, their learning process will be more effective because they are equipped with the experience of hands-on practice. To promote the Have Fun with Math Camp across Taiwan, Professor Lin coordinates the teacher in MOE curriculum and Instruction Consulting committee have actively trained MGA-teachers, now numbering over 10,000, at primary and secondary school levels. The team hopes to see one day every math teacher in primary and secondary schools “have fun with math” in their classrooms.

Promoting Mathematics and Science Across Disciplines

Aside from helping to improve mathematics education in Taiwan, Professor Lin has also made contributions to promoting popular science. He made reference to Chuang Tzu's words to point out the importance of cross-disciplinary learning: "From a stick a foot long you every day take the half of it," to which he added the question: "Will that stick ever be exhausted?" – 「一尺之棰，日取其半，『絕不絕？』」 From the idealized viewpoint of mathematics, since a point has no size and a line has no width, the stick will never be exhausted. Under the knowledge system of physics, however, based on the theory of molecules, the smallest molecule has a size. When the stick is cut to the size of being smaller than one molecule, it can no longer be seen as a stick, and therefore the stick is destined to be exhausted. This example goes to show that interdisciplinary knowledge affords learners multiple angles from which to think about a matter.



Speaking at an international seminar



Handing out certificates of completion at the Workshop for Math Grounding Activity – teachers (MGA-teachers)

Speaking from his own learning experience, Professor Lin points out that many theories in mathematics and science are similar in concept, and therefore being able to read and understand mathematics has a great impact on studying science. When he became Director of the Department of Science Education at the National Science Council, Professor Lin launched the first-phase "High Scope Program" in 2006, with the long-term goal of fostering emerging technology literacy in high school and vocational high school students and teachers. Working with 28 colleges and universities, the program established exchange platforms for science curricula that are suitable for academic and vocational high schools at 127 such schools across Taiwan.

Universities, colleges, and seed high schools and vocational high schools collaborated by respectively taking charge of curriculum development and curriculum evaluation. For example, NTNU worked with the Affiliated Senior High School of NTNU to design a curriculum module that perfectly demonstrated interdisciplinary learning, teaching students to look at global climate change from diverse angles using four skills in four subjects: reading literacy in chemistry, critical thinking in English, reasoning in geography and proving arguments in Earth Science. The High Scope Program has now entered its third phase, with the number of sub-programs expanding from 115 to 160. A four-day fair was held in July to publicly showcase the achievements of the third-phase High Scope Program.

In addition to carrying out the High Scope Program on campuses, Professor Lin, with the help of the Ministry of Science and Technology (MOST), launched the "Incubation and Development Project for Communication Companies in Popular Science in Taiwan" for the general public. The project has provided funding for 122 video and program contents in four categories: Educational science videos, science news reports, TV programs on science, and shorts on science (including short-form videos and comics). The project is expected to generate a total of 37,502 minutes of videos, programs and news content on popular science, and will join forces with various media outlets to promote the contents, such as Formosa TV's weekly program "Science, Rediscovered" and Public Television's "Rumor Chaser", as well as publishing entities such as *United Daily News* and Yuan-Liou Publishing, in the hope of developing viewing habits for popular science contents among audiences in Taiwan and to enhance the scientific literacy of the general public.



Professor Lin (fourth from left) receives the Distinguished Contribution Award from the East-Asian Association for Science Education

Founder of IJSME & Four-time Recipient of Distinguished Research Award

While committing himself to promoting mathematics and science education in Taiwan, Professor Lin also founded and served as Editor-in-Chief of the International Journal of Science and Math Education (IJSME), contributing to the improvement of international education in math and science. To ensure the quality of the journal, Professor Lin invited many scholars to form the well-reputed editorial committee, reviewing research papers submitted from all over the world with the strictest standards. In addition, to give scholars from non-English speaking countries a fair chance of competing with those from English-speaking countries, the journal provided writing guidance services to aid scholars in their English academic writing. The service helped scholars revise research papers they were submitting for publication in the journal, creating an equal footing for both English-speaking and non-English speaking scholars to have their research published for the world to see.

At its inception, the IJSME published four issues a year, with each issue containing eight to ten papers. Each year the journal received some 200 submissions from around the world. Currently,

the journal has expanded to publish eight times a year, with at least ten papers in each issue. It also publishes special issues, and receives 600 submissions yearly, becoming one of the most sought-after academic journals for scholars to publish their research.

In his time as Professor at the NTNU Department of Mathematics, during which time he double-hatted as Director of the SDiME, Professor Lin enjoyed international renown in the areas of mathematics and science education and nurtured countless teachers in Taiwan. In recent years, he has also devoted himself to advocating reform in compulsory mathematics education through the Just Do Math Project, playing a crucial role in the development of mathematics education in Taiwan. He is a four-time recipient of the National Science Council's Distinguished Research Award, receiving the award in 1987, 1989, 1991 and 1993. In 2016, he received the Distinguished Contribution Award from the East-Asian Association for Science Education (EASE), which recognizes his outstanding contribution of science education through research.



BIG DATA GUIDED TEACHING FLIPS CLASSROOM INTERACTION

Chair Professor Chun-Yen Chang

■ **WRITTEN BY** Yu-ta Chien | Postdoctoral Fellow, Science Education Center
■ **PICTURES BY** Tsung-yen Li | Research Assistant, Science Education Center

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In a class that lasts less than an hour, Professor Chang couples his painstakingly prepared lecture handouts with educational animation to explain some key concepts. He interweaves his lecture with recent media events, adding in some Internet humor to maintain class interest levels. The students, immersed in his lecture, find themselves often nodding, and laughing audibly at the jokes. To make sure the students understand the concepts he has just explained, Professor Chang asks: “Any questions?”

The classroom grows silent... He invites students to raise questions: “If you have a question, please raise your hand.”

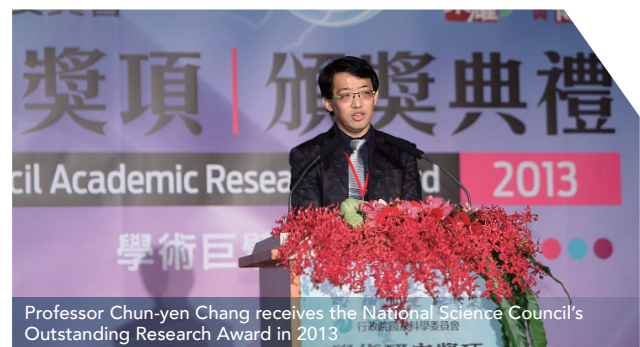
The students look at each other and sit in silence, but still no response. Professor Chang changes tactics:

“Anyone who doesn’t have a question, please raise your hand.” Only a few hands go up...

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The classroom scene may be a familiar one for students and teachers in Taiwan, a scene that plays out day after day in classrooms across Asia. The media in Taiwan once reported on a study of students being silent in class. According to the study, most students worry about misleading other students by offering the wrong answers or raising the wrong questions; this leads students taking time to think over whether or not to voice out their opinions in class. Thus, an attitude of student silence in the classroom may have been formed by students’ long exposure to a classroom culture that stresses “modesty” and “introversion”.

In the scenario described above, to understand whether students “grasp the concepts being taught,” the most common way is to give a quiz. Most students also suggest that teachers let them offer answers or ask questions using anonymous notes, thus allowing them to share their opinions freely. However, to survey how much students have learned with a pen-and-paper test is



time-consuming, both in terms of data collection and marking the quizzes. Given the large number of students and limited class time, doing a pen-and-paper survey simply seems too slow and does little to help teachers respond to the learning difficulties that students may have, in a timely manner.



Professor Chang (third from right, back row) with doctoral students of the Graduate Institute of Science Education (the author is first from left, back row) and visiting scholars

Instant Response System Helps Students Express Thoughts

To address this issue, Professor Chun-yen Chang led postdoctoral fellow Yu-ta Chien and engineer Tsung-yen Li in building the CloudClassRoom (CCR) system, turning smart phones and tablet computers into entertaining tools for classroom interaction. CCR allows students to express freely their thoughts during class, and allows teachers to receive immediate feedback on how well each student is learning, while applying diverse strategies to increase students' learning interest and achievement.

The design concept of CCR is rooted in the "instant response system" (IRS), or as it is familiarly known, the "clicker." The traditional IRS provides each student with an infrared remote control, like the ones seen in the TV show "Who Wants to Be a Millionaire," which allows students to vote anonymously by clicking instead of raising their hands to answer. The answers from the whole class are tallied automatically by a computer, which significantly increases the fluidity of teaching and adds to the fun in class. Professor Carl Wieman, the 2001 Nobel laureate in physics, has used the IRS to teach physics in recent years. He pointed out in the international journal *Science* that a teaching model using this system not only increases student engagement with the class significantly, but also effectively enhances a student's learning achievement.

Professor Chang's research team reviewed the empirical research conducted over the past few decades on IRS-aided

teaching, and used the statistical method of meta-analysis to examine the results. The combined results of 72 comparative studies showed that IRS-aided teaching methods can effectively enhance students' learning achievement compared to traditional lecture-style pedagogy. Thus, the positive effect should not be attributed to a novelty effect (students become more active in learning due to the novelty of the new technology, but after the novelty wears off, learning achievements diminish). The IRS provides students and teachers with an effective and instantaneous mechanism for evaluation and feedback, which allows for immediate identification of learning difficulties and modification of teaching strategy. For shedding light on the long-fought debate over the value of the IRS in classrooms, this study was accepted for publication by the flagship journal in educational research, *Educational Research Review*.

The IRS is certainly a strong tool for teaching, but it is also costly. For example, to outfit a class of fifty students with the IRS system, at market prices, would cost roughly NT\$100,000. Many schools and teachers who want to improve their teaching environments are daunted by the high prices. Although there are similar systems available for free on the market, users must download a mobile phone APP or computer program before they can use these systems.



Professor Chang gives a talk at the workshop titled "Meet with the Editors of Science Education Research Journals"

CCR System Open to Free Use

To resolve the limitations of IRS, Professor Chang's research team developed the CCR utilizing the web language HTML5. Teachers and students only need a device, with an Internet connection, for example: a smart phone, tablet computer, notebook or desktop computer, with no restrictions as to brand and/or operating system. Users of the CCR do not need to download or install any software. Typing in <https://pro.ccr.tw> within any web browser connects all users to CCR, where they can conduct both anonymous and disclosed Q&A activities.

The CCR is free for users, and it has no fixed upper limit on the number of users. When using the CCR for the first time, teachers simply click on the "teacher" icon on the homepage (<https://pro.ccr.tw>), fill in their email address in the corresponding box, set their password, and the system automatically registers their account, assigning them all related user privileges. Students using the system for the first time simply select the "student" icon and then follow the same steps as above to set up an account. Moreover, CCR is conveniently connected to social media; thus, teachers and students can log onto CCR by using their Facebook or Google+ accounts. Registering on CCR is simple, convenient, and free. Users are not required to provide any additional personal information. The system has already accumulated some 18,000 registered users during its three-year development period and currently has on record more than 160,000 use interactions. The CCR has been used by teachers in the United States, England, France, Japan, Korea, Vietnam and Macau to conduct classes, and an instructor in England even used CCR to conduct teaching research, demonstrating the applicability of Professor Chang's research results.

With the popularization of smart phones and mobile Internet, checking their phones has become a fact of life for many students. A smart phone is an important channel through which students communicate with the world and obtain information. However, teachers often ban the use of cell phones in classrooms, worrying that usage during class will distract students. Professor Chang explains that this is the important contextual background and need for the development of the CCR: If a teaching method can be linked to students' lives, it will lead towards the development of educational technology that is attractive to students, turning the negative impact of smart phone use during class into a positive energy for learning. CCR inherently improves interactions between teachers and students, and innately helps students to participate more actively in classes.

Sharing from his own teaching experience, Professor Chang advocates using CCR to conduct constructed-response tests, allowing students to look up information with their smart phones, after which they provided written answers formulated through independent thinking. The answers can be instantly sent to each student's smart phone screen, and students can even vote on the best answers. Professor Chang notes that in the past, students were reluctant to express their own opinions, but now, through constructed-response tests conducted through CCR, almost every student is willing to share their ideas. The answers provided, in turn, offers a wealth of teaching material that closely reflects what students think, helping Professor Chang to lead class discussions that are more in-depth, diverse as well as student specific.



Receiving Academic Awards by Teaching with Innovative Technology

Professor Chang further elaborates on the potential use of CCR for flipping the traditional learning environment. The first flip is for students to preview the class material before using CCR to interact with teachers and classmates during class. Students' levels of comprehension and difficulties in learning are examined in preparation for the flip on a deeper level. The second flip comes after students have completed their homework assignments, and involves students preparing their own CCR questions to examine other students. Professor Chang stresses that there can certainly be a third and fourth flip, but no matter how teaching is flipped, it must adhere to one principle—teachers must design good topics to guide learning. Only when teachers come up with topics that match students' prior knowledge, are challenging, and can spark students' interest, will students be able to think independently and play a more active role in knowledge building.

In addition to developing the CCR system and promoting its use, Professor Chang has long devoted himself to science learning aided by innovative technology. He received the National Science Council's (NSC) Outstanding Research Award (in science education) in 2003-2005, 2009-2011, and 2012-2014, and his research on "science problem-solving skills and automatic scoring technology for constructed-response science tests" was recognized in 2008 as one of the NSC's "Fifty Scientific Achievements". In 2013, he was awarded the Ministry of Education's Academic Award (in social sciences). On developing educational technology, Professor Chang stresses that "technology is developed in response to the learner, not in response to technology," adding that "What's new is not true, and what's true is not new." Many inventions or concepts that seem innovative have actually been used in learning and teaching in the past. These former concepts are now simply repackaged and complemented with technology to meet modern user habits. The CCR system, for example, replaced the remote control in the instant response system with the almost ubiquitous smart phone, which also strengthened the function of the system. What matters most is how technology can be applied to teaching to make it more fluid, and to achieve better results based on the original teaching concepts and goals. If a teacher can achieve the same effect with or without the help of technology in a teaching activity, then why bother wasting time and energy on it?

Professor Chang further talks about the innovative functions of CCR to explain his philosophy on educational technology. For example, group discussions are an important teaching activity in the modern classroom. However, how to group students appropriately remains a difficult problem. Randomly grouping students who sit together, into a group, does not necessarily lead to in-depth discussions. In light of this, Professor Chang's research team has built an automatic and simple-to-use grouping mechanism within the CCR system to help teachers conduct cooperative group learning activities in the classroom.

When students answer questions through CCR, the system instantaneously tallies the results of the whole class, and applies heterogeneous grouping to the results, which significantly decreases the time required for grouping compared to doing it manually. Through empirical research, Professor Chang's team has found that the automatic grouping mechanism of CCR can spark debate within the groups, leading to more diverse and in-depth discussions.

In addition, Professor Chang is working with Professor Yuen-hsien Tseng to apply natural language analysis to the CCR system. This will enable the system to analyze instantaneously the concepts implicit in students' written answers, and to categorize the answers based on the level of their conceptual similarity. The written answers of all the students are thus reduced to several representative concepts, helping teachers, using constructed-response tests, to more accurately assess students' level of understanding and learning difficulties.

Working actively with scholars in other countries, Professor Chang has promoted the CCR internationally, establishing CCR in many different languages, including English, French, German, Spanish, Japanese, Korean, Arabic, Turkish, Thai, Indonesian, and Vietnamese. This will allow Professor Chang and his team to collect big data on classroom interaction between teachers and students, allowing for an accurate understanding of the actual teaching activities, as well learning results, which take place in classrooms. Through big data analysis, it is expected that CCR will be able to provide systematic, effective teaching advice and learning guidance for teachers and students with different characteristics to implement adaptive teaching.



▲ The CCR system can instantaneously analyze and tally students' answers, helping teachers to understand how well students are learning



BREAK FREE FROM THE RESTRICTED LIMITATIONS AND TURN IT INTO CAPABILITIES

Professor Chih-Mou Hsieh

Jung Lin | Department of English

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Professor Chih-mou Hsieh of NTNU Department of Civic Education and Leadership received the Michael Stratton Practitioner's Award from the Association for Experiential Education (AEE) in 2016. The award is the highest honor handed out by AEE, and he was the first non-American, as well as first Taiwanese, to receive this award since it was established thirty years ago.

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“My job is to make the incapable capable, make the capable more capable, and let the more capable help those in impossible situations.” Professor Chih-mou Hsieh’s eyes burn with passion when he talks about his belief and his latest international public interest project in New Delhi, India.

Professor Hsieh founded the Chinese Rock Leadership Association to help disadvantaged groups around the world. In more than a decade, he has led students to help lift residents of the slums in India and tiny villages in Nepal out of poverty, and to help people in northern Thailand stay away from drugs, eliminating the factors that make things impossible for these residents, helping to make it possible for them to stand on their own feet and become independent, leaving them with a future that is full of possibilities. At the same time, through service-learning experiential teaching courses, he has taught the students of the Department of Civic Education and Leadership to set their eyes on the world.

The Michael Stratton Practitioner's Award:

This award honors an experiential practitioner who has demonstrated consistently high levels of performance in working directly with students or clients. This person's work "in the trenches" demonstrates that an individual practitioner can bring about significant change and impact the lives of students, participants or clients.

Criteria:

1. Must be a current member of AEE.
2. Must demonstrate high ethical standards.
3. Must have demonstrated consistently high levels of performance as a practitioner of the experiential education process.
4. Must have a solid knowledge of quality standards and demonstrated this knowledge throughout her/his practicing career.
5. Is ideally "in the trenches" on a daily basis, a worker more than a program director.
6. Should be a practitioner more than a theorist.
7. Is ideally a full-time experiential educator.
8. Lives and works with a passion for experiential education.
9. Has demonstrated that an individual practitioner can bring about significant change or impact in the lives of students, participants or clients.
10. Is ideally involved with and committed to AEE.

Give Disadvantaged Students Access to Education

In 2013, Professor Hsieh and his fellows quietly walked through the streets of the Kathputli Colony, a slum in New Delhi, to assess the living standards of its residents. He made a mental note of how people dressed: Despite the heat, everyone was wearing long sleeves, no one wore sleeveless tops. Many children passed by him, not playing games, but picking trash from the streets, which they will exchange for money. The children who crowded around them extended their hands not for an embrace, but for a few coins.

As he walked into a local home, he found a tiny space, no more than ten square meters, crowded by a family of eight in rough living conditions. The father of the family could only find work during the wedding season, which meant he could earn money for only four months in a year. With a daily wage of roughly six dollars but eight mouths to feed, he could get by only by borrowing money or pawning his house, while desperately seeking other work opportunities to pay off the debt.

Professor Hsieh said that the Kathputli Colony residents' refusal to wear short sleeves shows that they are conservative. Poverty is apparently part of daily life there; children have to help out with family finance at a young age; it seems taken for granted that there are no schools for them to attend, or that they simply don't go to school. Professor Hsieh decided to first tackle the issue of the children's education, and started to raise funds from all corners of Taiwan. Finally, in 2016, Professor Hsieh and his

team rented a house in the Kathputli neighborhood and started a learning center, where they offered free classes in English, music, handicrafts and more, with the hope of helping the children develop practical skills. The learning center was just the first step. In the future, the association aims to establish a formal bilingual school that will accept students from all family backgrounds, giving economically disadvantaged children equal access to education.

For education to have a long-term future here, however, there must be economic support. Yet the residents often have a hard time finding suitable or stable jobs because they belong to the Dalit caste (also known as the "untouchables"). Professor Hsieh often thought about what could be done to help the residents of the Kathputli Colony gain economic independence a decade from now. After closely observing local life, he found a potential business opportunity.

Despite the hard lives they led, many women still expressed a natural love for beauty and wanted to look good. This gave him the idea of starting a beauty school. He began recruiting women for free classes at the school, with the hope that once these women gained economic independence, they would give back to the learning center or the future bilingual school, thus developing a positive cycle of giving and giving back.

Solving Core Problems to Create Diffusion of Benefits

The beauty school project to help lift the residents of the Kathputli Colony from poverty is just a small part of Professor Hsieh's plan to provide aid around the world. His good work has taken him across the globe, from Kilimanjaro in Africa to New Zealand, as well as Qinghai and Sichuan provinces in China. Currently, in addition to people in India, Professor Hsieh is helping to solve daily problems for communities in Nepal and northern Thailand, putting his belief into practice: Helping those who "can't" become those who "can", and helping them to become independent and capable of escaping their own predicaments.

The aid plan for the Akrang community in Nepal started slightly earlier than the plan in India. It began as an elective graduate-level course that Professor Hsieh taught at the National Taiwan Sport University, for which he led students to the mountainous regions of Nepal to help improve life in local villages. They discovered that at the Lighting the Life English School, the pipes that carried potable water to the school had been destroyed in a mudslide, so water had to be fetched from afar every day, causing great inconvenience and taking time away from the students' learning. So, Professor Hsieh began working with the graduate students to raise funds for building a water tank for the school. The water tank, however, was just the first in a series of aid projects.

Now that they had solved the problem of access to water, Professor Hsieh and his students re-examined the school for other problems. They found that the students simply lived too far away, and just getting to school was a two-hour walk. So they raised funds for a school bus to make it easier for students to travel between their homes and the school. They also found that the classrooms, made with metal sheets, were prone to damage, so they brought in more resources to help the school and the community through the philanthropic platform of the Chinese Rock Leadership Association. This resulted in a ripple effect and

the diffusion of benefits: Once the water tanks had been built, there was water for mixing cement into concrete, which could be used to build stronger structures to replace the damaged metal-sheet buildings. All of the school's classrooms could thus be built with concrete, with some classrooms being used as shelters for students from disaster areas, benefiting even more children.

In addition to education, the local economy was also in bad shape. Poor communities surrounded the school, and the parents were unable to provide enough nutritious food for their children, let alone pay the tuition of US\$100 a year. To help solve the residents' economic and nutritional problems, Professor Hsieh launched the community chicken farm project. Grown chicken could be consumed as food or sold, and eggs could augment the children's diet. The project improved both the economic situation of the residents and the children's nutritional intake.

Next came running a bakery, growing coffee, and providing vocational training to local women, teaching them how to weave and exporting their products. All these examples of economic development represent the fruits of Professor Hsieh's efforts to help local residents become self-sufficient. Professor Hsieh even brought the woven products back to Taiwan, where he sold them through charity sales at universities and donated all proceeds to the residents back in Nepal. This contributed to helping them raise their own funds to continue developing local education and community infrastructure, thus becoming less dependent on external donations. Professor Hsieh's next step in Nepal is to help build a public health infrastructure, bringing doctors into villages to serve the residents. Not limiting his attention to Nepal and India, Professor Hsieh also noticed a drug abuse problem passed from one generation to the next in northern Thailand. He established a drug prevention center there to teach children to recognize drugs and stay away from their destructive influence.





Professor Chih-mou Hsieh (second from right, back row) with children from the area of his service program

Providing Aid with Empathy and Respect

Through multiple experiences of cross-cultural aid projects, Professor Hsieh gained a deeper understanding of how to interact with people of different cultural backgrounds with empathy. Different cultures often have different interpretations of the same concepts. For example, in Chinese culture, “respect” means everyone is equal, while in Nepal, “respect” is displayed through special treatment for people who are respected, and one must interact with the Nepalese in ways that are in line with this cultural context. “Although I am used to sleeping on the floor in a sleeping bag, together with the students, when in Nepal I go along with their arrangements and sleep in a separate room,” said Professor Hsieh. “This prevents any misunderstanding that I might not respect them, and avoids unpleasant feelings.”

Professor Hsieh believes that in order to come up with appropriate ways of providing aid, and to solve problems from their roots, the only way is by fitting in with the cultural context. In the process of providing aid, many service groups are influenced

by the inertial thinking of capitalism, believing that they are helping local communities by providing them with goods and materials that are lacking. However, this often results in solving only the symptoms and not the underlying problems that lead to poverty, thereby creating more derivative problems. For example, in the process of providing aid, service groups may unintentionally cause the aid recipients to develop a “palm up” beggar’s mentality.

He uses giving out toothpaste as an example. Many aid recipients don’t really need toothpaste; what they need instead is to learn how to maintain dental hygiene. In an environment where water resources are scarce, using salt is a more effective way of cleaning teeth. When aid providers use empathy to understand the culture of the people they are trying to help, that’s when the people will be willing to change their behavior or the status quo, and become independent and self-sustaining even when external support ends.

Nurturing Future Teachers for a Rich Fulfillment

Professor Hsieh has deep insights about education in Taiwan as well. He finds that many students in Taiwan can grasp a wide range of knowledge in a short time, but fail to connect and apply that knowledge to daily life. As a result, what they quickly learn is also quickly forgotten. He has also seen students who have a real wish to help others, but don't know who they should help and how they can provide substantive assistance. To address these two issues, Professor Hsieh made the move from the National Taiwan Sport University, where he had taught for years, to NTNU's Department of Civic Education and Leadership. He hopes to start from nurturing teachers, educating the future teachers on how to put knowledge to practice in life, and passing on his own experience of serving others. Professor Hsieh believes that only by allowing the teachers of the future to go through this kind of learning experience will they be able to one day pass on this experience to their students.

For example, incorporating the spirit of adventure education into the design of a teaching plan will help students gain experiential by doing on reflection. A physics teacher can ask students to jointly build a canoe, which must be able to stay afloat and travel from one end to the other end of a swimming pool while carrying cargo. To solve this challenge from the teacher, the students must use the buoyancy formula that they have just learned to make the computation together. In such a learning scenario, a physics formula starts to become interesting and fun and no longer just something students need to know for tests. This physics class, which links to a real-life scenario, ensures that students really learn, and develop real interest in the subject.

The service-learning course offered by Professor Hsieh at NTNU not only provides students with the opportunity for social service, but also allows him to share his own methods of helping others over the years. Through the process of serving, he advises students on how to observe the inner workings of a community and the life rhythm and habits of the residents to identify the real needs of a community. Take for example the service-learning plan to be carried out this year at the Wai-ao community in Yilan: The students found that schools in the remote region were run-down and the environment lacked beauty, and hoped to help schools create unique art that could beautify the environment. They decided to turn a dilapidated school building into a structure adorned with art.

Professor Hsieh shared his experience of writing proposals and finding sponsors with the students, and invited decorative painting artists to teach students street art. The students not only changed the look of a community with artistic expression, but also enhanced their own artistic creativity and developed the ability to plan projects throughout the implementation process. Furthermore, students who took part in the service-learning course realized that this experience was just the beginning; they have become seeds for education, capable of leading junior students to participate in service learning. Once they leave school, this ability will not only benefit them in their own work, but could be used to help even more people.

Being Creative by Thinking Outside the Box

"Does studying at NTNU mean I have to become a teacher? Does being a teacher mean I have to work in a school?"

When Professor Hsieh began teaching at NTNU, he discovered that these are the two questions confronting many students. They feel that their future is limited by their identity as teachers, but feel that since they are studying at NTNU, they should make use of the resources here and take the elective teacher education program in preparation for teaching at high schools.

Taking the teacher education program does not necessarily lead to becoming a high school teacher, especially with the shrinking number of jobs in secondary education and the low birth rates. Therefore, Professor Hsieh encourages students to break the mold, applying the educational knowledge they learn in school to other fields, creating more diverse possibilities for themselves.

For example, students from the Department of Civic Education and Leadership formed the "Outdoor Leadership Center", using their professional knowledge in activity and curriculum design to create camps with themes such as experiencing nature or independent thinking. They defied the thinking that students trained as teachers must become part of a formal educational setting, thus creating new job openings for themselves by developing a new market in educational camps.

As President of the Chinese Rock Leadership Association and an out-door adventure educator, Professor Hsieh nevertheless prefers playing the role of "catalyst", helping others break free from self-imposed limitations and exuding a gentle power capable of moving more people to follow him.

大手 攜手

獨木舟造舟計畫
為偏鄉孩子圓一個夢

Break Free from the Restricted Limitations and Turn it into Capabilities



Professor Hsieh leads NTNU students in an adventure therapy session



THE **OUTLIER** CHINESE CHARACTER DICTIONARY

■ Ash Henson | PhD Candidate, Department of Chinese

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Back in 1992, when I was at Texas A&M University studying electrical engineering, I could have never imagined that 25 years later, I would be a PhD candidate in paleography at NTNU's Chinese department. How do you get from specializing in electromagnetic wave propagation to Chinese paleography?! The answer: the beauty and allure of Chinese characters.

In 2005, I left Austin, Texas and the world of engineering to move to Taiwan.

The motivation behind this move was to solve a mystery: what are Chinese characters exactly?

”

The author (second from the left), Professor Chi Hsu-sheng (fifth from the left) and his students



The Road to Discovering the True Nature of Chinese Characters

In order to find the answer to this question, I have traveled far and wide. The first step was leaving my home in Texas and moving to Taiwan, where I first studied at ICLP (International Chinese Language Program) for an academic year. This program is very intense. Its goal is to teach students to read and write Chinese well enough to attend graduate school conducted in Mandarin. Step two was to spend six years in the PhD program for Teaching Chinese as a Second Language (TCSL) at NTNU. While I was there, I studied learning strategies, memory techniques, what types of issues non-Chinese speakers run into when learning Chinese characters, etc. In Huang Pei-jung's class *Chinese Characters: Theory and Practice*, I was introduced to paleography, but because the purpose of this class was to train language teachers, it did not go very deep. Other classes I took that are related to solving this mystery include Chinese Dialectology, Chinese Syntax, Chinese Semantics, Classical Chinese, and an Introduction to Sino-Tibetan.

In 2007, I had the opportunity to go to the University of Leiden in the Netherlands to attend a workshop on Old Chinese phonology and Chinese paleography. Dr. William Baxter of the University of Michigan taught the phonology and Chen Jian of Fudan University in Shanghai, China taught the paleography. Both of these professors are quite well-known in their respective fields. I went there to learn more about phonology, but I had no idea that a completely new world was about to be opened up to me. As I listened to Prof. Chen analyze the evolution of various character forms, I was shocked at how chaotic and complex it was. I knew that in order to solve the mystery of Chinese characters, I was going to have to put in some serious time learning the intricacies of paleography. That is not to say that the phonological aspects are not important, because they are. They are crucial in fact. Dr. Baxter and Dr. Chen really and truly opened my eyes and expanded my horizons.

After returning to Taiwan from the Netherlands, I knew I had to gain a comprehensive knowledge of paleography. While at Leiden, I was introduced to the research of Dr. Chi Hsu-sheng, specifically his book *A New Analysis of the Shuowen*. In this book, Dr. Chi uses research into earlier Chinese scripts from oracle bones,

bronze inscriptions, Warring States, etc. as a basis to determine errors in the first Chinese character book the *Shuowen Jiezi* (Explaining Graphs and Analyzing Characters) that came out in the second century A.D. When I found out that Dr. Chi was teaching at NTNU, I immediately went to the Chinese department to sign up for his class, even though I had already taken all of the credit hours I needed to graduate. Eventually, I also took several other of his classes, including Research into Oracle Bone Script, The Seal and Clerical Scripts of the Qin, Han, Wei and Jin Dynasties I and II, and Research into the Scripts of the Warring States Period. Additionally, I also took Research into the Evolution of Chinese Character Forms from Dr. Tu Chung-kao, in which Dr. Tu explains all of the various types of character corruption that occur.

By 2012, I had already been in the TCSL department for six years and had earned the status of PhD candidate after having passed my qualifying exams. Though it was not an easy decision to make, I decided to leave TCSL and start over in the Chinese department. It had taken me an entire year to make this decision, but I felt it was a necessary step. There are many disadvantages to starting again from scratch, but this also afforded me the opportunity to deepen my knowledge in several areas, including paleography, historical phonology, classical Chinese, excavated texts, etc. In other words, it was a big step toward solving the mystery. My classes included Special Topics: the Philosophy presented in Chinese Excavated Texts with Dr. Chen Li-guei, Special Topics in Chinese Historical Grammar with Dr. Wang Jin-hui, Selected Readings of Well-known Writings on Chinese Linguistics (which focused on Old Chinese phonology) with Dr. Wu Sheng-hsiung as well as Historical Chinese Phonology I&II with Dr. Kuo Nai-chen. The two classes I took from Dr. Kuo, though they were undergraduate courses, I found them to be more difficult than my graduate classes. The first semester, we had to memorize all fanqie initial spellers (a set of 400 characters used to spell the sound of a character's initial) and their phonetic values. For the second semester, we had to memorize the Old Chinese rhyme group of all common characters.

A New Framework for Understanding Chinese Characters

So, what's the answer to the mystery? What are Chinese characters exactly? Well, this question is not easy to answer in one or two sentences. One possible answer to this question could be "Characters are the basic units of Chinese writing, which is used to record the Chinese language. They are comprised of components that express sound and meaning." However, this description neglects several important aspects of the modern Chinese writing system. The framework I have developed gives a more complete answer. The traditional answer is the well-known Six Ways of Writing from the *Shuowen*: xiàngxíng (pictographs), zhǐshì (modified pictographs; abstract symbols), huìyì (associative compounds), xíngshēng (sound-semantic), zhuǎnzhù (derivative cognates) and jiǎjiè (sound loans).

The most obvious difference between the traditional Six Ways of Writing and the new framework to be introduced below is that they have a different focus. The Six Ways of Writing is a way to categorize characters based on abstract character types, whereas the new system focuses on component types (i.e., the smaller parts that characters are made of), and the roles they can play inside of a character. The two systems have a different focus, because they also have different uses. The traditional system is aimed at allowing people that already know Chinese characters to be able to place them into different abstract categories in order to classify them, while the new system is designed to allow people with no previous knowledge to learn Chinese characters more effectively.

The problem with the traditional system is, a student would have to know hundreds of characters before the categories start to make sense. If students were required to first memorize the definitions of these categories, then use those definitions to analyze a group of characters, such as 木, 末, 未, 本, very few people would be able to accomplish this successfully. But, if we change our perspective, and instead of requiring students to know these categories, we simply make use of those concepts to describe why the character looks the way it does, the task is much easier:

末 *mò* depicts a tree (木) with a mark (一) across the top of the tree to indicate “treetop.” Its basic modern meaning is “tip; end,” which is derived from “treetop.”

未 *wèi* depicts a tree (木) whose branches and leaves are flourishing, indicating “the pleasant smell of trees.” The basic

modern meaning “not; not yet” is via sound loan, i.e., the word for “not; not yet” sounded similar to the word for “the pleasant smell of trees;” so the character was borrowed for its sound.

In the 未 example, though there was no mention of the abstract category *zhǐshì* (modified pictograph), but it is still clear from the explanation that a mark was placed on depiction of a tree to indicate a specific meaning, i.e., it is a modified pictograph.

In the 未 example, there is also no mention of “pictograph,” yet it is very clear that the form is a depiction of a real world object. This type of description is easy to understand even for those with no background in Chinese characters. In the same way, the framework described below is designed to use simple descriptions to lower the amount of effort required to understand and memorize new characters.



The Three Attributes and the Four Types of Functional Component

A functional component is the smallest part of a character that performs a function. For instance, 部 *bù*, whose original meaning is “area,” is made up of 音 *pǒu*, which expresses sound and 阝 “city; political area,” which expresses a meaning. Because 立 and 口 do not perform a function here, they are not functional components in 部.

In 端 *duān* “to stand up straight,” 耑 *duān* gives the sound and 立 gives the meaning “to stand.” So, in 端, 立 and 耑 are functional components. Similar to the example above, 山 and 而 do not directly perform a function, so they are not functional components. These two examples illustrate that *functional component* is a relative concept. In 端, 立 is a functional component, but not in 部. Whether any given component is functional or not depends directly on the character that it appears in. Functional components are part of deep structure. They describe a character's internal logic.

The Three Attributes of a functional component form the basis for this framework. The Four Types of functional components are derived from these attributes. Put simply, the Three Attributes are form, sound and meaning. *Form* refers to that part of a character that we can directly observe with our eyes. *Sound* indicates the sound of the spoken syllable that a character is used to record in writing. *Meaning* is related to a character's meaning, but said in a more rigorous way, it is the meaning of the spoken syllable that the character is used to record.

As mentioned above, there are four types of functional component. Each type is based upon the role that a component plays in a given character. It is important to note that the same component may play different roles in different characters. The four types are as follows:

1. *Form component* – when a component expresses meaning via its form, i.e., via its depiction of a real world object. Ex. The form

of 大 *dà* “big” is “the front view of a standing adult human.” 美 *měi* “beautiful” is a depiction of a person (大) wearing a ceremonial headdress (羊). In 美, 大 is a form component. It expresses “the front view of a standing person” and not “big.”

2. *Meaning component* – when a component expresses meaning via one of the meanings it has collected over time. These meanings may or may not be directly related to its form. Ex. 歪 *wāi* “crooked” is composed of 不 “not” and 正 “straight,” literally indicating “not straight.” 不 is a depiction of a plant's roots and 正 is a depiction of foot approaching a city. It is obvious that neither 不 nor 正 are expressing meaning via their forms.

3. *Sound component* – when a component's sound is used to express a character's sound (or pronunciation). The 刀 *dāo* in 到 *dào* expresses sound. This example is easy to understand, but sound connections are not always easy to see due to thousands of years of sound change.

4. *Empty component* – when a component expresses neither a sound nor a meaning. Ex. 絕 *jué* “to cut in two” was originally composed of 糸 “silk,” 刀 “knife” and 卩 *jié*. 卩 expressed the sound, while 糸 and 刀 expressed “a knife cutting a piece of silk in two.” In the modern form, 巴 *bā* is a corruption of the original sound component 卩. As such, in 絕, 巴 does not express a meaning or a sound, so in 絕, 巴 is an empty component. In the modern script, 出 *chū* “to go out” appears to be constructed of 山 *shān* “mountain” on top of another 山. Originally, 出 was a depiction of a foot walking out of a cave-like dwelling. Here, 屮 “sprout” is a corruption of the foot, while 凵 still basically retains the form of a cave opening. In 出, 山 does not express the sound *shān* nor the meaning “mountain,” so we refer to it as an empty component.



The Outlier Dictionary of Chinese Characters – Learn by Understanding

Using the Three Attributes and Four Types of Functional Component, we can systematically describe the structure of all modern Chinese characters, both in traditional and simplified. Learners using this system can easily understand each character. The system is logical, simple, concise and consistent. It is also coherent with the nature and historical development of Chinese characters. If you learn characters with this framework, you will know exactly what Chinese characters are!

According to the research of psychologist Kenneth L. Higbee, the most important rule for effective memorization is that the information to be memorized has meaning to the learner. Therefore, helping learners understand how Chinese characters actually work increases the efficiency of their learning. Chinese teachers, especially native Chinese speaking ones, tend to view character analysis as “too difficult” or something that only professors in the Chinese department can do. There are two basic reasons for this. 1. In general, native Chinese speakers do not learn characters by way of analysis, so they are not in the habit of analyzing them. 2. Using the traditional framework, the Six Ways of Writing, truly is quite difficult, because the categories are abstract and not clearly defined. From the learner's perspective, the framework presented here does not suffer from these issues. If you are interested in knowing more about how this framework can help learners, please refer to following website: <http://www.outlier-linguistics.com/outlierblog/benefits-of-learning-using->

[outlier](https://www.youtube.com/watch?v=uCuu7BdkGMI&t=195s) or watch this YouTube video: <https://www.youtube.com/watch?v=uCuu7BdkGMI&t=195s>.

In 2012, I met John Renfro at NTNU who was there studying Mandarin. There is a little coffee shop on campus surrounded by picnic tables so that you can sit down and read while you drink coffee. John and I met there via some Dutch friends of mine. We always got into conversations about effective ways to learn Chinese and languages in general. As such, the topic of learning Chinese characters naturally came up a lot. We began to discuss starting a company and making a dictionary using the Chinese character framework described above. John is a pretty smart guy. After studying Chinese for only two years, he was accepted into the Chinese department's Master's program at NTNU. That told me that we would have a good chance of succeeding with this company. But, why did we decide to make a dictionary? The answer is that the only reliable way to determine what a character's functional components are is to do the paleographical research involved and, obviously, that is not something a novice can do. So, in order to make this framework available to the average learner, we are creating a dictionary to make it easy to find reliable information about each character's structure. You can find more information on our website: <https://www.outlier-linguistics.com/> and check out a demo of the dictionary at <https://www.outlier-linguistics.com/demo>.



GLOBAL





CONFUCIUS AT HOME AND ABROAD

Former Visiting Scholar at Korea

■ Kuei-san Lai | Professor, Department of Chinese



With students of my Advanced Chinese class

► Beginnings

The ROC and the Republic of South Korea have enjoyed a close and bilateral diplomatic relationship since the end of WWII. The two countries drew closer together during the tenure of President Park Chung-hee (1961-1979) who personally visited Taipei, Taiwan. From politics and economics, to culture and education, this was a time of heightened connectivity, with the two countries enjoying a particularly close and beneficial relationship. Unfortunately, on August 23, 1992, Korea ended official diplomatic relations with the ROC and with it the many avenues of exchange the two countries had previously enjoyed. It was not until the wake of the Asian financial crisis in 1997 that the two countries reestablished a form of cooperative diplomatic relationship. However, in the three decades before Korea broke off official relations, Korean students flocked to Taiwan to study in local university, Masters and PhD programs, in part thanks to the generous scholarships made available by the Taiwanese government. This was a period of abundant academic exchange, as students and teachers visited and learned from their brethren, thereby giving rise to a remarkably close educational, academic, and cultural friendship that has continued till this day.

Since the 1960-70s, NTNU's Department of Chinese has sent and received visiting scholars from universities throughout Korea. The program reached its apogee in the 80s and 90s, with many of Korea's most prestigious university Chinese departments

participating. Following the break in official relations with Taiwan, the program was downgraded for over a decade before being revived at the beginning of the 21st century. However, the scale of the program has been significantly reduced; partnering institutions are now limited to only Hankuk University of Foreign Studies and Keimyung University, a far cry from the heyday of academic exchange the two countries previously enjoyed.

In 1982, I was a first-year student in NTNU's Department of Chinese. At the time, my first advisor, Professor Tan-hui Hsu, was invited to be a visiting scholar at Chungnam National University for a semester. In turn, my advisor for the upcoming semester was Professor Chien-pao Chang, who himself had just returned from a stay as a visiting scholar in Korea. Others notable professors that have been invited to Korea as visiting scholars include Professor Chung Wang (a visiting scholar to Korea University, Hankuk University of Foreign Studies, and Chungnam National University), Professor Ho Chou, Professor Cheng-hao Liu, my teachers, Professors Ching-hsuan Huang and Wu-chih Lu, as well as Professors Kai-fu Wang, Su-ying Lin, Jui-fang Yen, Hsiao-feng Shih, Pei-i Chin, Chiu-feng Kao, Tsan-shan Cheng, Sheng-Hsiung Wu, Hsing-ling Li, I-ju Fan, and myself who served as a visiting professor from September 2011 till August 2012. Together, this group has successfully continued a wonderful academic tradition and the many enduring friendships that have come with it.

► First-class Treatment to Visiting Scholars in Korea's Universities

The precursor to the Republic of Korea was the Kingdom of Joseon (1392-1910) whose state ideology was based on the Neo-Confucian teachings of Zhu Xi. In the seventh year of the reign of Taejo of Joseon (1398), the founder of the Joseon Kingdom, the educational institution Sungkyunkwan was established. Twice a year, in both the fall and spring, a ceremonial rite was performed at the Sungkyunkwan's Munmyo Confucian Shrine to honor Confucius and the Confucian sages—a tradition that has continued till this day. Sejong the Great (1397-1450) is celebrated for his promulgation of the Hunminjeongeum, which laid out a new and native script for the Korean language. His birthday, May 15, is now designated as Teacher's Day in Korea, while the anniversary of the promulgation of the Hunminjeongeum falls on October 9 and has been designed as Hangeul Proclamation Day. A national holiday, on this day, students from all over Korea take time to respectfully offer thanks to the nation's teachers.

Each visiting scholar in Korea is assigned a part-time assistant (mostly graduate students on scholarships) by the university. The assistants are responsible for helping visiting scholars handle matters concerning their new life and teaching duties in Korea and serve as a useful intermediary between the visiting scholar and the university. At beginning of the semester, a banquet is held for the newly arrived scholars, offering them an opportunity to become better acquainted with their new Korean students and colleagues.

For their part, at the beginning of the semester, students will invite all new department faculty for a get-together luncheon or dinner. Later in the semester, visiting scholars are invited to tour some of Korea's most important cultural and historical sights. In the university dorms, visiting scholars have elevators reserved for them and among the teaching halls and campus restaurants they have access to preferred seating and discounts. All of this goes to show how much respect and honor is afforded these visiting scholars by the universities.



Gyeongbokgung Palace in Seoul



With my graduate students enjoying a get-together after class

► **My Experience Teaching at the Undergraduate and Graduate Level**

While on the faculty of Hankuk University of Foreign Studies as a visiting scholar, during my one-year tenure I taught two university-level classes—*Intermediate Chinese and Advanced Chinese*—and the classes *Seminar on the Confucian Analects* and *History of Chinese Thought* for the Graduate Department of Chinese Studies. As my students were a mix of native South Koreans, exchange students from China and even former residents of North Korea, I arranged and edited my teaching materials in order to best meet their different needs and requirements. I found that dividing the students into groups to work together on assignments greatly improved the efficacy of the lesson plans.

The emphasis in my *Intermediate Chinese and Advanced Chinese* classes was on the instruction of the four foundational skills of “listening, speaking, reading, and writing.” Students hailed from different academic departments and came with varying levels of Chinese competency. Class size was limited to 25 students, however, and teaching equipment and resources were readily available, thus making it extremely easy to arrange and design various teaching activities that could overcome the occasional disparity in skills levels. Mid-terms and final exams all had written and oral components; furthermore, themes introduced within the class curriculum aimed to draw from those pertinent to Korea (including North Korea), China, Taiwan, Japan, US, Europe, and Africa. Subject matter ranged from the classical to the modern and students split into groups to work with these subjects through a variety of methods including class reports, group discussion, and on-stage performances. Students also had a chance to watch films from China, Taiwan and Hong Kong. All in all, the classes were fun, instructive, and a boon for students and teacher alike.

As for my graduate level classes, I encountered the same problem with student distribution and differing Chinese ability as in my undergraduate classes and thus it was difficult to delve too deeply into the material at times. I therefore took the students’ situation as my standard, tailoring the pace of the curriculum, content selection, and class goals to their specific needs. Curating a selection of research topics, I presented the students with a weekly reading list. On the basis of the week’s reading assignments, the students would come together in groups outside of class to discuss and review. Later in class, I helped guide the students to a deeper understanding of the material. This method provided excellent results overall. During weekends and holidays, I was often asked by my students to join them on trips in and out of town, an activity that did much increase the friendship and understanding between myself and my students.



Students in the Advanced Chinese class performing a song in Chinese

► **Thesis Presentation, Academic Conference and Friendship Exchange**

Universities in Korea are similar to those in Taiwan in that they rigorously pursue world rankings and a reputation for top-notch academic research. Taking Hankuk University of Foreign Studies as an example, for publishing in a top-tier domestic journal, a professor is awarded a \$1 million Won (US\$880); for publishing in a top-tier international journal, the professor receives \$10 million Won (US\$8,800). Foreign faculty are limited to publishing three times per semester. As the field of Chinese studies has very few (or close to none) top-tier international journals, it is very hard to compete with the disciplines of science and engineering, business management, linguistics, education, or social studies in academic publishing. Over the course of my year in Korea, I altogether published six times and was awarded \$6 million won (US\$5,200) by the university. All of this money stayed in Korea, being used in the purchase of new teaching or reading materials and to pay for cultural trips around the country.

In Korea, there exists the prominent “Korean Chinese Association” which is divided into the fields of language, literature, and philosophy. The association and its members are often invited to attend various academic conferences jointly hosted by the association and departments of Chinese:

*The superior man, on the grounds of culture,
comes together with friends,
And by their friendship cultivates his virtue.*

These occasions are an excellent opportunity to meet new friends and mentors and offer a rare occasion of academic affinity and cross-over cherished by all. While studying in Korea’s Hankuk University of Foreign Studies, Taiwanese exchange students established the “China Research Virtue and Character Society” which takes its namesake from the famous couplet found in the fifth poem of the Eight Poems on History written by Zuo Si of the Western Jin:

► **“Looking Back on the Path Taken, a Jade Ribbon on Hills Aquamarine”**

Spending a year as a visiting scholar in Korea, in addition to the joy “that he can get from the whole kingdom the most talented individuals, and teach and nourish them”, I made it a point to attend as many academic conferences as possible both on and off campus, participate in tours and trips around Korea, as well as attend the many get-togethers between students and faculty. These activities brought together friends old and new in the warm embrace of friendship. Never did I feel a moment was wasted, each experience being a rich learning experience. During my year abroad, I published several papers, compiled a selection of over 300 ancient travel poems, visited many of Korea’s most important historical monuments, and also found time to share with friends and colleagues my experiences of the day:

*Contemplation of the glory in the nations,
With sincerity and the appearance of dignity.*

At the end of my time in Korea, through all the ups and downs, I found my invested effort and time to be eminently worthwhile



Celebrating founding of the “Association of Taiwanese Teachers in Korea”

*I shake dust off my clothes at crags a thousand feet high,
I bath my feet in a river that runs ten thousand miles.*

The society holds periodic academic gatherings and group tours and trips. Through such events it hopes that faculty traveling to Korea, and their colleagues studying or teaching in Korea may come together in academic exchange and friendship. In addition, Hankuk University of Foreign Studies Department of Chinese student Li-fang Cheng who now lives in Korea after getting married and I established the “Association of Taiwanese Teachers in Korea” with the assistance of the Taipei Mission in Korea. The association works to be on par with the very similar “Association of Chinese Professors in Korea”. Not to be outdone by our friendly rival, the “Association of Taiwanese Teachers in Korea” holds various conferences, friendship visits, dinners, and luncheons to bring a taste of home on behalf of Taiwanese in Korea. As a vehicle for the exchange of mutual assistance between participants and members, the results have been outstanding.

and my cultivated relationships to be exceedingly precious. I hope NTNU and the Department of Chinese will continue this wonderful model of academic exchange and friendship between Taiwan and Korea as a way to create a better and brighter future for teaching and scholarship.



Sharing a moment with NTNU PhD classmate and former Hankuk University’s Dean of R&D Affairs, Professor Park Heung-soo in 2011



IMPARTING THE BEAUTY OF TAIWAN

Teaching Chinese in Russia

■ Ya-fang Chen | Assistant Professor, Department of Chinese as a Second Language



Taking students to see Taiwanese folk performance

► Beginnings

In April 2009, Taiwan's Ministry of Education (MOE) for the first time ever announced a teaching position for teaching Chinese as a foreign language in Russia. I studied Russian in college and graduate school before completing my PhD in Teaching Chinese as a Second Language at NTNU. With such a background, I was very eager to pursue the expatriate opportunity.

In July the same year, I was officially dispatched by the Ministry of Education to teach at the Institute of Asian and African Studies (IAAS) at Moscow State University (MSU), thus becoming the first officially dispatched teacher of Chinese as a foreign language in Russia by the MOE. For that reason, I carried the mission of imparting Taiwanese culture and promoting traditional Chinese characters. Moreover, as all the Chinese language teachers before me were recruited from China's Confucius Institute, the university was hoping to provide students a window into Taiwanese culture through a teacher from Taiwan. For these reasons, I made up my mind to embark on the distant journey to Russia for the teaching position.



Students celebrating my birthday

► Encourage Students to Communicate and Think in Chinese

Under the curriculum design of IAAS at MSU, Russian teachers were responsible mainly for teaching Chinese grammars, reading, etc., and such courses were taught in Russian. For students of each class year, one native Mandarin speaker was assigned to teach oral classes. When I was at IAAS, I was responsible for teaching sophomores while students of other class years were taught by teachers from China. The sophomore students I taught had learned traditional Chinese characters during their freshman year. However, as they were taught by teachers from China, and most Russian teachers studied Chinese in China, their requirement for students was to be able to read in traditional Chinese and write in simplified Chinese. I found out soon enough that students mainly used simplified characters, and their ability in reading and writing traditional Chinese characters were quite insufficient. As MSU showed considerable respect for my teaching autonomy, I asked my students to read and write in traditional Chinese, both in class and in their assignments so they could get a different perspective. I also tried to exemplify the beauty of traditional Chinese through select characters in hopes to spark their interests in learning traditional characters and to ease their anxiety about writing them.

When interacting with Russian teachers or mainland Chinese teachers who speak Russian, students tend to rely on their mother tongue. This has led to a discrepancy between their writing and oral proficiency. While their writing ability was at the intermediate level or above, their oral skills were only at the elementary level.

In my view, speaking and listening abilities should be the top priorities for Chinese learners as this is the only way for them to have real "communication." Therefore, I told my students I didn't speak Russian, my English was poor, and that whenever they saw me, be it in class or off class, they should automatically switch the coding and speak Chinese with me.

My idea about teaching Chinese was different from the other teachers. I thought the most important thing was to get students to speak. When students threw out a word in Russian or English and expected me to explain what it was in Chinese, my response was always "I don't understand." Instead of giving them the answer, I asked them to explain the word they wanted to know with their existing Chinese vocabulary. By doing so, I intended to cut their reliance on learning Chinese through Russian. Meanwhile, guiding them to use words they already knew to ask about the words they were trying to learn was also a good way to enhance their oral ability. Even though I already knew the vocabulary students were trying to ask, I still insisted they must use Chinese for communication purposes. I taught all my classes only in Chinese. I also required my students to speak Chinese both with me and with their peers in class. No Russian or English was allowed. My purpose was to make up for their lacking of speaking and listening proficiency. As a result, I observed noticeable progress in my students' listening and speaking abilities after teaching them for a year.

► **Imparting the Beauty of Taiwanese Culture via Teaching Chinese**

Language and culture are like the two sides of the same sheet of paper. With this belief, I felt obliged to impart Taiwanese culture to my students in addition to teaching them the language. Most MSU students had some idea about Chinese culture, but knew very little about Taiwanese culture, such as religions, folk beliefs, famous attractions, etc. Therefore, during my one-year of teaching at MSU, I incorporated Taiwanese culture into the textbook content as I saw fit.

Most students were using teaching materials developed by the Russian instructors or China-published textbooks whereas I chose Taiwan-developed materials *“Taiwan Today”* to be the major textbook and *“Mini Radio Plays”* as the supplementary material. Aside from the language learning content, *“Taiwan Today”* also covers a huge variety of Taiwanese culture. For example, *Lesson 8 “Religions and Folk Beliefs”*, and *Lesson 9 “The Excitement of Festivals”* both talked about unique Taiwanese culture. While teaching these lessons, I took the opportunity to give my students an overview of Taiwanese folk beliefs and activities. I also employed video and news as teaching materials to show them what the Mazu (sea goddess) belief was about.

In my classes, I insisted students should do more talking and that I should talk less. My purpose of adopting Taiwanese

teaching materials and introducing Taiwanese culture was to provide a range of perspectives on Taiwanese culture, in hopes to trigger their motivation to study in or travel to Taiwan so they can experience firsthand what different parts of Taiwan has to offer. I got along very well with my students both in and outside of the classroom. I assumed it might have to do with my unconventional teaching approach. I integrated language teaching into games and other activities, breaking the conventional lecture-centered model, which gave students more opportunities to speak.

During my one-year of teaching in Russia, I engaged my students in various Chinese events, including the Chinese Bridge—Chinese Proficiency Competition organized by China and taking them to watch Taiwanese aboriginal children’s performance in Moscow. I also arranged cultural exchange events for my students to interact with Taiwanese students studying in Russia, having Taiwanese students demonstrating traditional folk arts and activities, such as Chinese calligraphy, paper cutting arts, writing Chinese spring festival couplets, spinning tops, Chinese hacky-sacks, etc. In return, my students performed traditional Russian songs and dances. As such, both parties were able to gain a deeper understanding and immersion experience about each other’s culture.



Aboriginal teenagers from Taiwan performing traditional dance in Russia



The “hacky-sack” experience in class



Russian student trying calligraphy



Taiwanese students studying in Russia showing local students how to hold a writing brush



Photo taken at the National Day celebration party at the ROC Representative Office in Moscow. With the former Culture Division head Prof. Mei-fen Chen (third from right), Prof. Rumyantseva Masius (second from right) at IAAS, MSU, and teachers of Chinese from other universities

▶ Building a Bridge between Russia & Taiwan Successfully

My one-year teaching sojourn at the IAAS, MSU was short and yet fruitful. First of all, being able to share the beauty of traditional Chinese characters and Taiwanese culture as the first government-dispatched teacher of Chinese in Russia meant a lot to me. Moreover, three of my students came to study Chinese in Taiwan after graduating from MSU. Some academically outstanding students even went on to become language teachers at IAAS, MSU. These were what I considered my greatest gains.

Besides, due to the positive feedback on my teaching, Moscow State Linguistic University (MSLU) invited me for talks on Taiwanese culture three times. Seeing the talks were well received by students, MSLU also applied to Taiwan's Ministry of Education for a dispatched teacher of Chinese as a second language the

following year. So far, over ten universities across Russia have submitted such applications to Taiwan.

I do not dare to claim to be the pioneer or trailblazer for teaching Chinese in Russia, but I hope universities in Russia will see the merit of teachers of Chinese as a foreign language from Taiwan through my humble endeavors, and that more and more universities in Russia will recruit teachers from Taiwan to teach Chinese.

I look forward to seeing more fellow teachers from Taiwan teaching Chinese as a foreign language in Russia, and using the opportunity to increase Russian students' exposure to the beautiful traditional Chinese characters and Taiwanese culture.



EMBARKING ON AN **ONE OF A KIND** GROWTH JOURNEY

Taiwan Scholarship Awardee

■ Kee Keng Ling Colina | Master's Program, Department of Chinese as a Second Language



Exchanging Christmas gifts with classmates from the Master's Program of Department of Chinese as a Second Language

A while ago, I submitted my entry for the fifth “Photography and Caption Contest.” I wrote about my feelings when exploring Taiwan with friends and titled my work “My Revisit; Your Participation.” Looking back on the process of my application to study at NTNU in 2015, I still felt an unexplainable emotion. That said, it was not a choice made without hesitation. At that point, I had been out of college for several years, and I wasn’t sure if it would be too much of a risk to give up a stable job to study abroad.

Maybe that desire to study abroad and improve myself have always been in the eyes of my family and friends, but I never thought the opportunity that came two years ago would open the door to study abroad for me.



Opening a new chapter in life—studying abroad in beautiful Taiwan (Photo taken at Gaomei Wetland)

▶ **Taiwan’s Unique Cultural Atmosphere, A Perfect Fit for Me**

In mid-February 2015, I unexpectedly came across an announcement about the Taiwan Scholarship Program in a Chinese language newspaper in Singapore, and the application deadline was just less than a month away. At that time, I had just left my teaching position and was about to plan for my next job. Seeing the scholarship announcement got me thinking about the idea of pursuing further study. A Taiwanese friend I went to school with also sent me application brochures with detailed information about Taiwan Scholarship and Huayu Enrichment Scholarship. After perusing the document, I understood two spaces would be offered to Singaporean citizens under the Taiwan Scholarship Program by the ROC Ministry of Education as part of its effort to recruit international students to study in Taiwan. I thought to myself that this is a rare opportunity and I should give it a try.

Unaware of the resources available to find out more information about studying in Taiwan at first, my initial search was a bit aimless. Luckily, as some colleagues and friends reminded me that I could start with the programs that I was interested in, my research on the internet became more focused. One day, I came across the website of Department of Chinese as a Second Language at National Taiwan Normal University (NTNU). I found out that the course offerings under the program had some overlap with my previous learning of Chinese major. After checking the master’s program requirements and information about the areas of studies, I realized I was still deeply interested in subjects related to teaching. The three years I spent teaching in a mainstream school in Singapore made me realize that my mission as a teacher of Chinese was to continue triggering local students’ interest in learning Chinese both in and outside of the classroom.

I was convinced that getting a degree for language studies would definitely help sharpen my expertise. The reason I chose the master’s program of the Department of Chinese as a Second Language at NTNU was because I knew the program aims to train international teachers of Chinese as a second language, as well as academic professionals. I thought if I was really able to lay a solid foundation there, I might be able to contribute myself to the

Chinese language education in Singapore in the future. When I mentioned the idea of studying in Taiwan to my college mentor, colleagues and friends, they all encouraged me to go for it. Upon hearing this thought, a friend who knew me really well smiled at me and said, “There is no need to hesitate. The simple way of life and the unique cultural atmosphere in Taiwan is a perfect fit for you.” My friend’s insight of me further reassured me of my decision.

After deciding on the program of studies, the application process began. I started writing my proposal according to the requirements listed in NTNU’s Admission Prospectus for International Students. I also wrote to the Department of Chinese as a Second Language to request information about the master’s program, and then went to the Taipei Representative Office in Singapore to hand in my application and degree certificate in person.

My school application process ran simultaneously with my scholarship application. For the scholarship application, I applied for a copy of my degree certificate and transcript from my alma mater, prepared recommendation letters and submitted the application documents. In April, I learned I had passed the interview and won the scholarship. In May the same year, I also received the admission letter from NTNU. During the application process, there were a few times I had to rush to the Taipei Representative Office in the morning to submit my documents (I was teaching part time at the Confucius Institute at Nanyang Technological University at that time). During the process, staff at the Representative Office was rather helpful and accommodating. As there were a lot of documents to be prepared, I was afraid I would miss something and I sometimes raised many questions. If it weren’t for their detailed replies, I am sure the application would have been an even more arduous process.

With the two-year scholarship from the Taiwan Scholarship Program awarded, the expense issues for studying in Taiwan were largely resolved, and the long administrative application procedure has finally come to an end.



Memories from my jogging days filled with positive energy (Photo taken at the riverside park near Gongguan Campus)

▶ An Exciting, Busy and Fulfilling Life

I applied for school accommodation before leaving for NTNU and chose to live in the graduate students' dormitory on the NTNU Gongguan branch campus. It was a 3 people dormitory. With the assistance of a Singaporean friend, I moved in to the unfamiliar dormitory environment and gradually got used to the dorm, the school cafeteria next to Dorm No. 7, as well as the track field where I went jogging. I've always enjoyed jogging, and because of it, I met my roommates' classmate Yu-meng. The two of us fellow joggers would meet by the cafeteria at Dorm No.7 at 7:00 every Tuesday morning and went jogging together in the riverside park nearby. The once-a-week routine witnessed how our friendship has grown.

Unlike working, my student life was a long overdue "recharge" experience. Busy and yet fulfilling, it allowed me to return to the normal pace of life. It was an incredible feeling to offload my responsibilities as a teacher and become a student again. Even my former students exclaimed, "Are you really going back to school, Miss Kee?" I could still recall the excitement and emotions I felt when I

sat in the classroom listening to the lecture on my first day of school. Opening my notebook, I wrote down my name in traditional Chinese characters. Just like I used to encourage my students, I told myself to work hard and gave myself a morale boost.

While studying at NTNU, I met some like-minded friends in my department. We not only took classes together, but also traveled, participated in competitions, and visited cultural institutions together. My student life was so fruitful, that it was impossible to recount every single event. It is my belief that learning should not be bound by the walls of the classroom. In addition to the intellectual challenges the curriculum offers, there's more to learn on how to plan our lives, and how to get along with ourselves and others. Maybe those with different personalities from us also look forward to the various beautiful encounters life has to offer, just like you do, and meeting and bonding with such people could set the stage for some of life's touching moments in the future.



Being coached by an archery expert—one of the Six Arts in ancient Chinese culture—during the Chinese Society and Culture class

Inviting friends visiting Taiwan to watch our shows on the “Night of Chinese”



Field trip activity: U-Theatre year-end performance

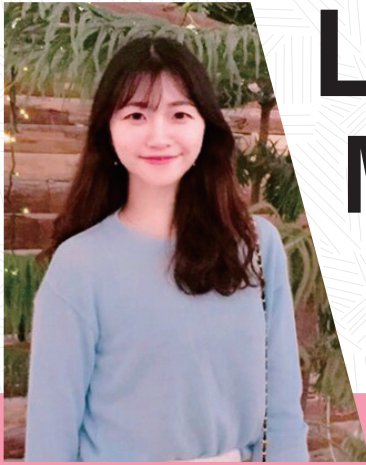


In the Academic Year of 2015, my classmates received a mission to organize the event called “A Night of Chinese,” which I thought was uncommon for graduate students. Never underestimate the power of team working. Within as little as two months, we got everything ready and managed to put on a fantastic show.

While my program of study is considered very “international,” I believe being international or not is a matter of subjective opinion, and it doesn’t just depend on the make-up of the group itself. In my view, looking at the efforts made by our own and other countries from a more global perspective, or even the things that are slightly lacking, and engaging in more substantial dialogues are the keys to internationalization. Because of the different stories and backgrounds of the class members, we can always find appreciation and inspiration in each other.

Another nourishment I received from Taiwan was the access to dialogues, such as civic dialogues, cultural salons at bookstores, after-screening discussions of documentary films, etc. Such co-existence between “participation” and multiple perspectives is something unique about Taiwanese culture and something I truly appreciate. Through participating in such dialogues, I felt a more substantial sense of existence.

Before I embarked on my journey of study at NTNU, I had visited Taiwan as a traveler six times. On those trips, I was nothing but a transient guest. Right now, I have become a free-willed traveler as well as a hardworking student. With my memories about studying at the beautiful island of Taiwan constantly flashing through my mind, I can now say my brave adventure to study in Taiwan has opened the door to a somewhat different growth journey.



LIFE AT NTNU — MY MOST PERFECT MEMORY

Exchange Student from Korea

■ Kim Eunmin | Department of Applied Chinese Language and Culture



With classmates from ACLC at the Pinglin Tea Museum

I major in Chinese at Kyung Hee University, Korea. I made up my mind to study abroad as an exchange student when I went to college, because we rarely had opportunities to practice Chinese outside of the classroom in Korea.

I thought if I could study in Taiwan as an exchange student, I would have to use Chinese on a daily basis. As such, my Chinese would definitely improve more quickly. Meanwhile, I could also experience foreign culture and broaden my horizons.

I started to do my research on my options for student exchange programs in my sophomore year. My consideration for the exchange destination was based on three criteria. First, are there a lot of exchange activities organized for exchange students? Second, is the curriculum at the language center well designed? Third, is it a friendly place for international students? NTNU ticked all the right boxes for me, so I chose to go to NTNU for my exchange.

Life at NTNU has been the most perfect memory to me and the exchange opportunity turned out to be a very valuable experience of mine.



Engaging in class activities

▶ Beautiful Taiwan, Heartwarming Memories

Compared to Korea, Taiwan has a slower pace of life. You don't have to rush to cross the street, get on the bus or the MRT. People also walk more slowly. Some Koreans who just arrive in Taiwan have trouble getting used to the slower pace of life, but once they get used to it, they would find life in Taiwan to be more comfortable. This is what I found most enjoyable about living in Taiwan.

During my stay in Taiwan, I met not only Taiwanese students, but also friends from many different countries. Living in the dormitory allowed me to interact with students from other countries, and cultural differences were a constant topic of our conversations. Thanks to my French and German roommates, I have gained a better understanding of what European culture was like. Of course, we also explored and enjoyed the beautiful sceneries in Taiwan together.

In Korea, only children would receive Christmas presents. However, people in Taiwan like to exchange gifts during Christmas. I got pajamas as a Christmas gift when I was in Taiwan, the first Christmas gift I have received in 10 years. Now that I am back in Korea, the gift often reminds me of my Christmas memories in Taiwan when I go to bed every day.

Due to Taiwan's warm weather, it is very common to see people on bikes and scooters in Taiwan. I didn't know how to ride a bike before I went to Taiwan, but since most Taiwanese people know how, I felt I should do as the locals do. Although I am still quite a rookie and only dare to ride in the park, I believe with some practice, one day I will be able to ride like a Taiwanese.

Also due to the warm weather, it doesn't snow in Taiwan in the winter, so Taiwanese people love watching fake snow. I was also among the crowd watching the artificial snow scene in a department store when I was in Taiwan.

Taiwan is such a beautiful country. During my stay in the country as an exchange student, I took the opportunity to travel with my classmates. When we met people, be it Asians, Europeans, or Americans, we all communicated in Chinese. I studied hard on school days, and traveled with my classmates on weekends and holidays. It was a very helpful way to explore and experience Taiwanese culture.





The Aikido Club



Enjoying the beautiful scenery of Wanli with my French roommate



Traveling with friends from different countries that I met while taking an elective course from the Master's Program of Department of Chinese as a Second Language

► **My Advice to Exchange Students: Be Sure to Join a Club**

Joining a club has many benefits for exchange students. In addition to meeting many Taiwanese people, learning everyday Chinese conversation, you can also enjoy some leisure activities. I chose to join the Aikido Club and through the twice-a-week practice, I built good rapport with many Taiwanese people as well as people from other countries. When we were not practicing, we often hung out together, and hence, I made many good friends.

At the beginning of the semester, many clubs would launch campaigns to introduce themselves. I would recommend exchange students to use this time to look for clubs that suit their interests. Alternatively, leaflets sent out by the Office of International Affairs also provide a good overview of different clubs. You can use the leaflets to identify clubs of your interest.

The purpose of joining a club is hugely different for Korean and Taiwanese students. In Taiwan, university clubs place great emphasis on club activities, and I find that particularly true for NTNU clubs. Everybody got really engaged during practice. When we had a joint club event with Taipei Medical University, they asked me "Do you guys always take your practice so seriously? It's really tiring." In Korea, however, the purpose of joining a club is mainly to meet people and to hang out with them. Club activities doesn't seem to be the most important focus.

For me, my club members are like my family in Taiwan. Once I came down with a really bad flu with a fever, runny nose, sore throat and coughing. I was too sick to go for practice. My clubmates were all really worried about me and showed their care by giving me nutritious food to eat. I was very touched.

Lunch boxes are very popular in Taiwan. Wherever there are chairs, you see people eating from their lunch boxes. Students even eat their boxed lunch during class, which was quite a surprise to me when I saw it the first time.

For New Year celebration, I have also observed differences in terms of the celebration activities between Korea and Taiwan. While many people in Taipei would go to Taipei 101 to see the fireworks, people in Korea would usually go to listen to the bells.



► **Curriculum Design that Integrates Life Experience**

NTNU’s class offerings were a great help to me in learning Chinese. We often had oral presentations and quizzes, giving us the opportunity to frequently practice speaking Chinese and review what we learned in class. Teachers often engaged us in discussions so we could learn from each other, thus allowing us to make good and speedy progress in learning.

During my exchange, I was hosted by the Department of Applied Chinese Language and Culture (ALCL), but I was free to choose from course offerings by other departments. Other than my host department, Department of Chinese as a Second Language was the primary department I took classes from, and field trips were part of their curriculum design. Once we visited the Shengkeng Old Street. After touring the street, we even made tofu by ourselves. Through activities like this, international students were able to get a deeper understanding of Taiwanese culture. It is also a good way for classmates to bond. As most international students were scared of stinky tofu, we played a game in which losers had to eat stinky tofu. Nonetheless, the losers all found the stinky tofu tasty after they tried it. I wish Korean universities could incorporate such field trip activities into the curriculum design.

As regards to university studies, the most significant difference between Taiwan and Korea in my view is the grading system. Almost all Korean universities use the relative grading system, under which students are assessed relative to their peers. That means doing well in the exams doesn’t necessarily guarantee good grades. Under such a system, students are often physically and mentally exhausted by the intense competitive pressure.

In Taiwan, the absolute grading system allows students to be assessed on their own merit. If you work hard and do well in the exams, you are sure to get good grades. For that reason, studying in Taiwan is a lot less stressful.

Living in a foreign land, you are bound to find things you are not used to in every aspect, but don’t worry too much as the university, your teachers and classmates are all willing to extend their helping hand to you.

I attribute my pleasant stay in Taiwan largely to my active attitude. I took the initiative in participating activities, in seeking help from teachers when I had questions, and in meeting new friends.

In the end, I close wishing all exchange students a fruitful sojourn at NTNU.



DIY Tofu session at Shengkeng Old Street

Touring Shengkeng Old Street with friends from ALCL





BETWEEN NEW FRIENDS, GOOD FOOD, AND A NEW CULTURE

Dual Degree Student from Germany

■ Renzo Jose Diaz Lizarraga | Graduate Institute of Management



With NTNU ruby team

It has been almost a year since I started my journey as an international dual degree MBA student from Munich Business School, Germany. I had never been aware of Taiwan and the Asian culture until I came to the country, but I remember that when the time came for me to choose my year abroad destination, I didn't have any second thought about where to go. I was so sure about spending one year in Asia, especially in Taiwan.

In the Western world when we talk about Asia we automatically associate it with Mainland China, but there are many other countries that we don't pay attention too much to, and that is the case of Taiwan. In my case, I was pretty much the same, but because of one professor in particular I decided to take the chance to come to Taiwan, a mysterious country to me at that time. Professor Christopher Weilage was my Business in Europe professor in Munich Business School. He studied in Taiwan and lived there for a couple of years. Once after class, I was talking to him about some topic related to the course he was teaching and, I don't know why, we started to talk about the potential opportunity to study a year abroad. After telling him all the options that I had in mind, he

told me that if I have the possibility to do my MBA with a overseas dual degree, I should go for that option. So, my list reduced to a couple of choices. When I asked his opinion about Taiwan, he told me that would be a very intelligent and interesting option as it would put me in contact with another culture, mind-set, and way of doing business and that would be very useful for me as a person and as a stepping stone for my career. Also, he told me that NTNU was one of the best universities with an important reputation in Taiwan and in Asia, so that I could learn many things from the year I would spend there. Having a degree from NTNU would also be very helpful after finishing my study. After those words I thought I already made my decision.

I remember that I spent so many nights just watching videos on YouTube of the Taiwanese night markets, the city, and the landscapes. Having the opportunity to experience such a cultural shock and to go out of my comfort zone filled my body with adrenaline, excitement, and happiness. Being apart from the Western civilization for an entire year represented a challenge for me, one that I was willing to confront.

Dressing up for Halloween with classmates



► **Asian Culture with a Modern Sense Overturned My Stereotype**

After my second semester in Germany finished, it was already time to take an airplane bound for Taipei. Once I arrived at the airport I started to feel nervous and scared. Some doubts came to my mind: "What if it is really different from the world I am used to?"; "What if the people there don't like me because I am a foreigner?"; "Do they speak English?" After one big beer taken to relax myself, the speaker announced the boarding of my flight. 15 hours later and one stop in the middle, I was finally in Taoyuan International Airport, Taipei. I will never forget the excitement I felt of seeing all the signs and advertisings written in Chinese. It was my first time in Asia and it felt like a dream to me.

After passing immigration and getting my luggage, I was ready to go to my hostel. Luckily I found two other foreigners going to the city, so we decided to take the same taxi and share the cost among the three of us. On our way to the city I was so impressed with Taipei, such a big and modern city, small hills, many trees and much nature. I was not expecting to discover a city that is modern and occidental and yet at the same time keeps the Asian heritage and culture.

After 60 minutes and many lighted advertising banners in red and yellow I finally arrived to my hostel. I couldn't wait any longer to visit the typical Taiwanese night markets, so I decided to take my camera and go directly to the nearest night market. That was the first time I visited Shi-Da night market, without knowing that I would revisit it at least once a day for an entire year, as it is just a street away from NTNU. My first impression of the night market was: "it is crowded and smells delicious." Although I watched so many videos of the night markets before landing in Taipei, the real life experience cannot be captured on tape. The convention of

different smells and noises, in conjunction with the people gives life to the market and, in my experience, is one unique experience that cannot be compared to any other. That night I spent around 3 hours just walking around the night market, eating, and watching people. On my way back to the hostel, I remember that I thought my decision to come to Taipei was one of the best decisions I took in my life, as that night I saw the potential and the chances I had to learn about other culture, grow as a multicultural person and a future businessman. I spent the next 4 days exploring the centre of the city (101 area) and preparing myself to get ready for the classes at NTNU.

Monday, the fifth of September 2016 was my first day of school. I woke up early in the morning as it was the first time that I was going to the university and I didn't want to get lost. I arrived 15 minutes early and saw other students in the classroom so I tried to talk to them. They were so interested in me and the country I was from, that we decided to go to lunch together after class. This first class at NTNU was so interesting and challenging. The professor was teaching us in a very practical way and asking about our opinions on strategic decisions that big companies took in the past. I was not expecting anything before coming to study in Taiwan so my first impression from the course was very exciting, such an active and practice oriented course, nothing similar to the typical cliché Chinese course that we see in the movies where the students are just repeating whatever the professor says. At the same time, I noticed that the students' levels were very high and the examples, they gave were more from the Asian perspective and Asian companies, which was amazing for me as I really wanted to learn how the Asian companies work and how they think.



Photo taken with classmates

► **One of the Most Fantastic Experience in My Life**



Between practices with rugby teammates

The next week I had other courses and met more people, locals and also foreigners. One in particular, Hong-yi Kuo, was a first-year graduate student like me and he was really into sports. We spent a lot of time together as we had almost the same classes. After he asked me to join him to do sports a couple of times, I accepted his invitation. We went together to the back part of the main campus and I saw all the other people playing sports and doing exercise for the first time. The university gave a big place to its students to practice sports, it really impressed me. The next couple of evenings, after classes, we spent our time playing sports from swimming, basketball, and football. Hong-yi showed me all the possible sports that I could play at the university and the university sports teams I could join. Finally, I decided to try the rugby team as the practice schedule was a better fit for my class schedule and also because there were some national rugby players on the NTNU rugby team. It was a privilege for me to be able to practice and play rugby with national team players.

But sports were not the only activity that I did during my year in Taiwan. Since one of the reasons that I decided to come to Taiwan was to learn the language, I decided to apply for one-on-one Chinese lessons. The university assigned me a graduate student from the Department of Chinese as a Second Language to be my tutor. April was her name and after a couple of weeks she became a very good friend of mine. She always tried her best to teach me Chinese. She prepared so much material and activities for me to learn the language that my Chinese skills started to improve really fast. I remember that after a couple of weeks I was able to order food and have basic chats in Chinese. The big problem was when the locals started to talk in more complex Chinese as my knowledge was basic, but that was also a thing that encouraged me to learn more and put more effort in understanding the language. I always tried to follow one of the first pieces of advices that April gave me: "Always try your best in Chinese. Even if people

don't understand your accent or the words you use, they will still try to communicate with you, so don't be afraid to make mistakes." That advice was always in my head when I felt ashamed or frustrated, because of the language and was one of the keys that encouraged me day after day to learn the language.

Today, after almost completing my studies in NTNU, I can say that the curriculum and courses in this university were very interesting, well organized, and useful for my education. Most of them were more practice oriented, with actual and trending topics discussed and examined in class. The professors always encouraged us to participate and give our opinions about the matters we were talking about and made us forget to take everything for granted and better find our own conclusions. Besides the practice oriented courses, the university also gave us the chance to take more technical and theoretical courses, like Multivariate Analysis, which complements anybody's education as it gives us the tools needed to analyse relations between variables and some insides of technical econometrics and statistics. I can say that the program at NTNU is complete, modern, and comparable to other top universities.

It is impossible to recount all my experiences in Taipei during my one-year sojourn. There were things I liked and things I disliked, but I think that in general everything helped me to grow to better fit in this multicultural world. If somebody asks me if I would recommend it, I would say "it will change your life and your attitude toward the world, totally worth it!"

Finally, I need to thank all the amazing people that I met in Taiwan. You guys made that year one of the best experiences of my life and also taught me so much about Asian culture and, especially, knowing myself better. Thank you very much. I will never forget my year in Taiwan.



Going surfing in Yilan



文會廳

CAMPUS





Celebrating Reunion

Moon Cake vs. French Crepe

■ Perron Loal Babu Emiliano | Department of Chinese as a Second Language

My friend and I (right) with the founder of Roi Du Pain



OF all Taiwanese holidays, Mid-Autumn Festival impresses me the most. Four years ago, a Taiwanese friend invited me to his house for a barbecue in celebration of the Mid-Autumn Festival. When I arrived at the barbecue place, I thought it was very special as it was on the roof. The ambience was great as we got to enjoy the moon while barbecuing and looking over the nightscape. It was a little warm, but nonetheless cozy, and it's got really good vibes. You could also see other people barbecuing on their roof or on the street side.

On the festival night, the moon was full. There were various kinds of barbecue food in Taiwan, many of which I had never seen before. Speaking of Mid-Autumn Festival, the moon cake is the most representative food. It's a kind of sweet pastry, sometimes with a duck egg yolk inside. Pomelos are another typical food that's representative of the festival. With a sweet and sour taste, pomelos don't just taste good, they are also fun to play with. People would wear the pomelo peels on their heads, which is really funny. Some of the barbecue food really amazed me, such

as fish cake, Taiwanese sausages, and fresh loofah with clams. One thing I found particularly special was the clam soup cooked with beer. After the clams were barbecued, the juice that came out of them tasted superb.

In France, we don't cook with beer. When I saw a friend putting shrimps into his beer at the barbecue, I thought he was drunk. And then I saw a second person doing the same thing, dipping his shrimp in the beer, removed the shrimp head after it was cooked, and then ate the shrimp without peeling the shell off. I was terrified. When I asked, they told me that they did so to increase the flavour of the shrimps. When I tried it for myself, it tasted absolutely fantastic, almost like a Michelin restaurant dish. That barbecue party was a really memorable experience. Having a barbecue on the roof brought me closer to the moon, and added a special touch to the holiday.



France's Crepe Day, a Reunion Occasion Heralding the Summer

The experience of soliciting customers was also quite fun. With a loud voice, we shouted “welcome to try the most authentic French crepe!” We were proven to be very popular. During break time, customers flocked in, and we were unable to keep up with the orders. We were so busy making crepes that we didn't even have time to look at the customers' faces. We felt like we could almost pass out, but overall it was a good opportunity to interact with people, and I had a really good time.

The reason I chose to make crepes was because it brought back my childhood memories of making crepes with my mom. I am blessed with a mom who knows the best crepe recipe. When I was young, I always thought it was a lot of fun making crepes with my mom. As simple as they were to make, I always felt a great sense of achievement after making them, as if I had become a chef (which is far from reality. Ha!). When the crepe batter is made, we would pour it onto a pan, distribute the batter evenly, flip it, spread the chocolate filling, and then a super delicious crepe is made! In France, we celebrate Crepe Day on February 2nd. The holiday, officially known as La Chandeleur has a religious origin, and evolved into a French tradition throughout the years. French people usually get together with family or friends on this day for crepes. As the round shape of crepes and their golden color resemble the sun, celebration of the crepe day also heralds the approaching summer.

NTNU International Culture Fair

Eye-catching Crepes Made with France-Netherlands Cooperation

Taiwanese people love organizing events. You find events everywhere in Taiwan. This year I decided to see for myself what it's like to be part of an event, so I participated in the NTNU International Culture Fair organized by the Office of International Affairs. For three days in a row, I acted as the French representative on campus, manning a crepe stand, making crepes and selling them to NTNU students with a Dutch friend and another French student.

For those three days, we all got up very early, beginning our days with preparing crepe ingredients at home. We, then, brought all our ingredients and gadgets to campus at 10:00am. Luckily the weather was kind to us. It hardly rained on those three days. In the morning, I went to the campus with my Dutch friend, did a simple setup, and then began making crepes on site. In addition to crepes, we also sold bread from a bakery called Roi Du Pain, the sponsor of NTNU's soccer team. The bakery makes really authentic French bread. We also sold the bakery's signature mustard spread that goes with the bread, which is super delicious.

Generally speaking, I found NTNU students really friendly. When we were less busy, we were able to interact and chat with them. Many people were wondering how crepes were made. We also talked to them about life at NTNU. Some people having studied French before practiced their French with me. Gossips about teachers and classmates also emerged in the conversations.





(right) set off a sky lantern in Ping-xi with a friend, visiting from Japan

My Pleasant Experience Into Taiwanese Customs & Culture

■ Yuki Suwa | Department of Chinese as a Second Language



▲ At the year-end party at the Department of Chinese as a Second Language

AS a Japanese student studying in Taiwan, I have seen a lot of special holiday culture and customs in Taiwan and Japan, and I would like to share a few holiday celebrations I have personally experienced.

In a town called Ping-xi in New Taipei City, you can launch sky lanterns at any time of the year. We do not have such a fun activity in Japan. Many visitors to Ping-xi enjoy setting off sky lanterns which come in many different colors, and the different colors of lanterns are supposed to carry different types of wishes. You can either draw or write your wishes on the lanterns. When my friends visit from Japan, I always take them to Ping-xi as I knew it would be a unique experience for them.



▲ My dragon boat team- "Team Max"

Taiwan Dragon-boat Race & Year-end Party

Like Japan, the Dragon Boat Festival is observed on May 5th in Taiwan based on the lunar calendar. The most exciting event for the holiday is dragon boat racing. The large-scale dragon boat race takes place in all major rivers across the country. Unfortunately, dragon boat racing did not gain such popularity in Japan.

During my sophomore year in 2015, I was lucky enough to have the opportunity to join the dragon boat race, and I have competed for three years since. I competed for the last time this year before my graduation in June. My team, Team Max is an international team comprising members from all over the world. The team is led by a very professional and experienced coach from Japan with more than 10 years of experience in paddling. He has also been in numerous international races. Under his coaching, we managed to achieve great results every year. There are three sub-teams under Team Max, namely, the men's team, the women's team and the mixed team. I was on the women's team which won the fourth place in the 2015 dragon boat race. For 2016, I joined the mixed team and we were the runner up in the race for that year. Being on the dragon boat team is a life-changing and enriching experience for me. I was blessed with the opportunity to broaden my understanding of different cultures, and feel the love of my teammates. We support each other through the good times and bad, share our joys and tears, and the team spirit we have built is just fantastic.

I attended the "Wei-ya", a year-end party organized by Department of Chinese as a Second Language during my sophomore year. In Japan, our year-end party is known as the "Bonenkai." For the Wei-ya event I attended, I teamed up with several Japanese students in my program to perform a traditional dance act. We gathered together after class every day to practice and really enjoyed dancing together. As part of the ending pose, I stood at the highest spot in the center of the stage, enjoying the stage and feeling achieved as the audience applauded our performance. It was such a wonderful night.

Japan Bean Scattering & Ehomaki Sushi Roll

The most interesting holiday in Japan has got to be the "Setsubun," which literally means seasonal division. The holiday is celebrated yearly on February 3. A long time ago, people believed the change of season would bring around evil spirits which can cause sickness in people and poor crop yield. To drive away the "demons," which symbolizes the evil spirits, a special ritual is performed. At each house or temple, people would shout "O ni wa so to! Fu ku wa u ch!" ("Demons out! Fortune in!") while throwing beans.

When speaking of bean scattering, Japanese would naturally associate it with demons. However, as demons don't exist, fathers will have to dress in a demon mask on the holiday. At kindergartens, the job would go to the teachers. Scared as they are, kids would pluck up their courage and shout "O ni wa so to! Fu ku wa u chi!" as they throw the beans. If the "demons" are hit by the beans, they would rush out of the door.

On the day of Setsubun, we would make Futomaki (sushi roll) at home, which we call the "Ehomaki", literally "lucky direction roll." It is seen as an auspicious food. When making Futomaki, we would usually cut them into bite sizes, but on the day of Setsubun we must not cut the roll for the luck benefits. Instead, we eat the roll as whole while facing the "lucky direction" (as the name of the roll suggests) of the year. You also have to eat it in one go and must not speak before you finish eating the roll. This is a unique Japanese custom.

While I am still in Taiwan, I cherish every opportunity I have to celebrate local traditional holidays and customs. If you have a chance to visit Taiwan, be sure to enjoy and experience Taiwan's special holiday culture as much as you can.





Different Customs, Shared Spirit

Min-yi Kuo | Department of English

Each year, many international students at NTNU choose to stay in Taiwan for the Chinese New Year to get a taste of the New Year festivities while reminiscing about New Year celebrations in their home countries. Let's take a look at how the New Year is celebrated at the hometowns of international students from around the world.



Korea

Pancake, Rice Cake Soup, and Sebaetdon



Jeong Dayoung

During the Chinese New Year, lucky money put inside the red envelop is known as “yasui qian” (literally “suppressing ghosts money”). Korean PhD student Jeong Dayoung at Department of Chinese as a Second Language said that in Korea, New Year’s money, called sebaetdon is given in white envelopes during the Korean Lunar New Year.

Like the Chinese New Year, Korean New Year is also a time for family reunions, and the gathering usually takes place at the eldest son’s house where family members would sit around the table to enjoy a feast together. On such an occasion, one dish is indispensable—pancakes with mixed vegetables or seafood ingredients. These pancakes are different from the kind of round, flat pancakes seen in Korean restaurants in Taiwan. Due to the variety of ingredient choices, their colors and shapes also vary depending on the ingredients used.



Another “must dish” that’s always present in Korean New Year celebration is the rice cake soup. Eating a bowl of rice cake soup symbolizes growing a year older. Without the soup, it would feel as if you have not grown older. “Therefore people always jokingly say that the more bowls of rice cake soup you have, the older you grow,” Jeong Dayoung added.

For Jeong Dayoung, the most special thing about New Year celebration in Taiwan is that the dishes prepared for the ancestor worship ritual are sometimes different from what people eat on their dinner table. In Korea, the ritual dishes offered to the ancestors are much like the kind of traditional dishes served on the dinner table whereas in Taiwan, various types of fruits, and even snacks/desserts and beverages are used as offerings. That’s something new to her.

**Turkey****Kurban Bayrami
(The Sacrifice Feast)**

Muberra Kaynar

There are three major religious holidays in the Islamic tradition: Ramadan (the holy month of fasting), Seker Bayrami/Eid al-Fitr (end of Ramadan) and Kurban Bayrami (sacrifice feast). Of these holidays, Kurban Bayrami, a time of thanksgiving and a time to look forward to the coming year, shares some resemblance in meaning with the Chinese New Year in Taiwan.

On the day of Kurban Bayrami, Muslims would wear new clothes and pray to commemorate the blessings from Allah for the past year. Meanwhile, they would also practice the teachings of the Quran by sharing their barbecued meat and helping each other. Muberra Kaynar, a Turkish student at the Department of Chinese as a Second Language said that on the day of Kurban Bayrami, Turks would go to the farms to pick out the sheep, goat, or cow to be sacrificed as offerings and hand the animals to professional slaughter houses for a humane slaughter process. On this day, one third of the meat of the sacrificed animal must first be given to the needed, before the remainder is saved for the household or shared with friends and relatives. Muberra Kaynar also observes this holiday in Taiwan, albeit not in the same way as she would in her hometown. Still, she would get together with fellow Turks in Taiwan, prepare a barbecue and dress in new clothes in celebration of the festival.

**Tuvans in Russia****New Year in Gregorian
& Tibetan Calendar**

Sevil Khomushku

Sevil Khomushku is a Russian student studying at the Department of Chinese as a Second Language. For her, two New Years are celebrated every year, one being based on the Gregorian calendar and celebrated with champagnes and Christmas trees, and the other being based on Tibetan calendar.

Sevil Khomushku comes from the Tuvan tribe whose population is largely concentrated in Mongolia and Russia. Tuvans share some similar customs with Mongolians and also follow the Tibetan Buddhism. For Tuvans, the Tuvan Buddhist New Year based on the Tibetan calendar, known as the "Shagaa" is celebrated with a family get-together dinner and people have to stay up all night as a traditional custom. This is different from the New Year Eve's custom in Taiwan where going to bed anytime after midnight would be okay. Tuvans believe Buddha's blessings would fall upon everyone that stays awake on New Year's Eve. Those who fall asleep would be considered dead by Buddha and therefore would miss the blessings. They would hence stay up until the break of dawn. As the sunrise heralds the arrival of the New Year, Tuvan men would be responsible for going to the mountain to worship the god and ancestors, praying for peace and safety for the family for the New Year.

**Russia****Gregorian New Year**

Chubova Daria

Chubova Daria, a student in the master's program of Chinese as a Second Language from St. Petersburg said the night of December 31 is the moment she most looks forward to during New Year celebration. At this time, the streets are silent as everyone has gone home to be with their family. People would wait for the New Year's countdown broadcast on TV with champagne ready. Once the clock strikes twelve, the crisp champagne bottle uncorking sound unveils the arrival of another good year. Children are only allowed to open presents scattered underneath the Christmas tree after the countdown. At the same time, adults would rush to write down their New Year wishes on a piece of paper within the first minute of the New Year, burn it, throw it into a glass filled with champagne and drink it. For Russians, this is how wishes would come true.

Aside from the Christmas tree, Grand Father Frost, known as Ded Moroz, is another symbol of the Russian New Year. Legend has it that Ded Moroz (said to be the predecessor of Santa Claus) wears a long silver-blue robe, and can make things freeze when he sweeps his long magic staff. Ded Moroz symbolizes the arrival of winter and brings the Christmas presents to children in Russia.

**India****The Indian New Year**

Pintu Kumar

Indians get together with their family a day before New Year's Day to enjoy a lavish dinner on New Year's Eve. On the morning of New Year's Day, youngsters would bow down to touch the feet of the elders to pay tribute to the elders. The gesture is a symbol of respect for elders' wisdom. While doing so, youngsters show that they are willing to humble themselves and learn from the elders. And then elders reciprocate by gently touching the youngster's head while giving New Year blessings.

On the first day of the Indian New Year, inauspicious words were strictly forbidden. Pintu Kumar, an Indian student at the Department of Chinese as a Second Language recalled his father saying "do what you want today, but wait until tomorrow!" Ever since he was a child, this was the constant warning from his father. Even if kids get caught going out without parents' permission on New Year's Day, parents are not supposed to scold them because that could lead to a whole year of bad luck. Likewise, people should not quarrel on this day. Nor should people spend money on this day; if you do, you would face the risks of suffering financial losses in the following year.



Japan

Gregorian New Year



Higuchi Iyo

Married to a Taiwanese man, Higuchi Iyo, a Japanese student in the master's program of Chinese as a Second Language recalled her first Chinese New Year (CNY) experience in Taiwan with her husband's family. She was amazed by the lavish food and the huge number of relatives her husband has. Seeing the variety of foods and pastries that were always around in the house during CNY and the huge amount of food prepared for the year-end reunion dinner was an eye-opener for Higuchi Iyo. Higuchi Iyo finds relative titles in Taiwan very complicated. She always has to think many times to recall which aunt this is and which aunt that is.

In Japan, almost all restaurants are closed for the New Year as reunion dinner takes place at every household. On the dinner table, buckwheat noodles are a must as Japanese people believe they can drive away bad luck. That's why Higuchi Iyo would always prepare some buckwheat noodles for herself on New Year's Eve even when celebrating the New Year in Taiwan.

On the first day of the New Year, Japanese families would visit shrines together to pray for peace and safety for the New Year, afterwards parents would give red envelopes to the kids. This is different from the custom in Taiwan where red envelopes are given on New Year's Eve.



Spain

Three Kings Day



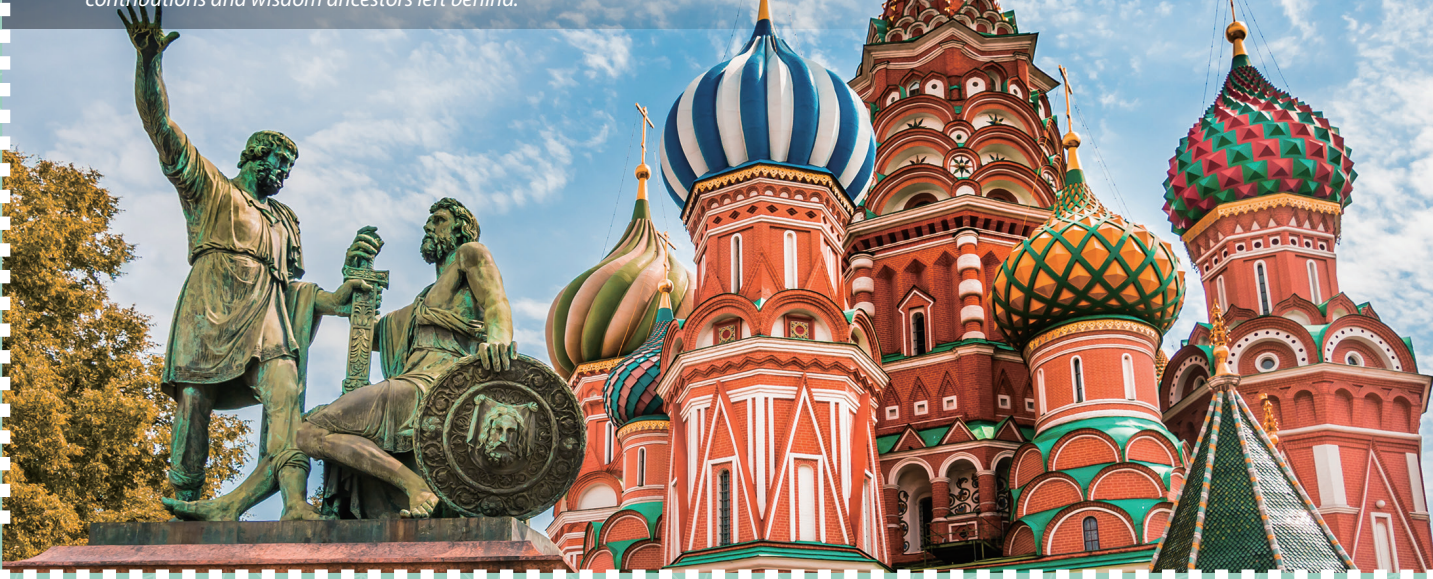
Ana Lopez Contreras

In Spain, New Year holiday runs from December 20 to January 7, covering Christmas, New Year, and Three Kings Day. Three Kings Day honors the three wise men that traveled afar to visit baby Jesus, bearing gifts. Ana Lopez Contreras, a Spanish student at the Department of Chinese as a Second Language said the Three Kings Day, observed on January 5, is the most looked forward to holiday in Spain by children because they get to eat cakes and receive gifts on this occasion. Legend has it that the three kings would place their gifts for children under the Christmas tree, and children have to wait until January 6 to open them. On this day, parades are held on the street with people dressed as the Three Kings on their way to find baby Jesus, riding on camels.

On January 5, Spanish people would eat a kind of special cake called the King Cake and drink hot chocolate with their family. A paper crown is placed in the center of the King Cake while a figurine in the shape of a king and a bean is hidden inside the cake. Whoever finds the figurine in his or her piece of the cake becomes the king for the day and gets to put on the paper crown, however, the person who gets the bean is supposed to foot the bill.

Ana Lopez Contreras said when she was little, her mom would secretly tell her which slice to pick if she felt the figurine when cutting the cake. Therefore, Ana Lopez Contreras could enjoy wearing the paper crown and be the "king" over her sisters. In Ana Lopez Contreras's memory, her dad has always been the one footing the bill, with or without getting the bean.

Although ways of worshipping or remembering ancestors differ from country to country, the sense of respect for ancestors is universal. Ancestor veneration festivals exist not for us to focus on ghostlores, but to remind us of the contributions and wisdom ancestors left behind.



Tuvans in Russia



The Worship Ceremony

Sevil Khomushku

Every spring, Tuvans gather by a mountain to listen attentively to the most senior elders' prayer as they thank the spirits of nature and their ancestors for the protection and blessings upon the Tuvan people. After the worship ceremony is completed, people would gather around the campfire and offer foods made with butter to the ancestors.



India



Tulsi Plant

Pintu Kumar

There are no specific holiday dedicated to the worship of gods and ancestors in Indian, but Pintu Kumar said Indians are used to praying to statues of gods and images of their deceased loved ones at home on a daily basis. They pray to the gods with flower offerings and talk to their deceased loved ones to request their blessings for the day.

In India, the plant Holy Basil, called Tulsi Plant is grown in every Hindu household and is considered the manifestation of the goddess Tulsi on earth. Watering the plant every morning is also part of the worship ritual. One must not show any contempt to the plant or freely discard the plant. In addition to the religious significance, the leaves of the plant are also used as medicinal herb. The sacred plant is indispensable at Indian households.



Russia



Radonitsa (Радоница)

Chubova Daria

Radonitsa, Day of Rejoicing, is a holiday in the Orthodox Church which falls on the ninth day after Orthodox Easter Day. On this day, Orthodox Christians in Russia would get together with their family, clean the graves of their departed loved ones, and go to the Orthodox Church to pray and ask for blessings by lighting candles. There are two types of candle pedestals. If you are making wishes of your own, use the round pedestal, and to ask for blessings upon your deceased loved ones, use the wider pedestal. For Orthodox Christians, this is not only a time to commemorate Jesus' resurrection, but also a time to remember the hope for reuniting with the loved ones in another life.





Japan

Bon Festival

Higuchi Iyo

Similar to Tomb Sweeping Day and Lantern Festival in Taiwan, the Bon Festival, held during August 13-16 on the Lunar calendar, is an important festival in Japan to honor the spirits of the ancestors with welcome and farewell rituals.



On this day, people would make a special horse known as the "syouyouuma (literally spiritual horse)" with cucumbers/eggplants and wooden sticks, and place it on the household altar table along with the offerings. The spiritual horse serves as a means of a vehicle of transportation for the spirits of ancestors to return to the world.

Bon festivities are held at shrines or night markets, mostly in the form of a temple fair with a heated vibe. Some people would play traditional music instruments and drums on stage, and some would happily dance the traditional dance around the stage.

Although scary ghost stories about the Bon Festival do exist, Higuchi Iyo thinks the belief that ancestors would watch over and bless them is the reason behind the joyous atmosphere on this occasion. In comparison, the Ghost Festival (Chung Yuan Festival) in Taiwan seems to be associated more with terrors and taboos.



Spain

**All Saints Day
(Día de Todos los Santos)**

Ana Lopez Contreras

Most people are more familiar with Halloween, observed on October 31 and less familiar with All Saints Day, celebrated on November 1. Ana Lopez Contreras told us that Halloween is when ghosts would wander around the earth whereas All Saints Day is the time they leave the human world.

On All Saints Day, Spanish people would visit the dead family members to clean their tombs. They would also eat a kind of pastry called "Huesos de Santo" (bones of the Saints), which looks a lot like bones. Coming in many different colors and dusted with sugar, the pastry is well loved by kids. Another popular All Saints Day treat is the Buñuelo, a kind of sweet fried dough ball decorated with icing and powdered sugar and stuffed with butter that tastes like doughnut.





India



Holi Festival

Pintu Kumar

"The Holi Festival would be a pitiable occasion for those without siblings," said Pintu Kumar, adding that Holi, the festival for brothers and sisters is his favorite traditional holiday in India. On this occasion, celebrated on August 7 based on the Indian calendar, girls would tie a thin braided bracelet around their brothers' wrists, symbolizing good wishes. The custom is not only limited to siblings, it is also common among cousins or close friends with females being the ones tying the bracelets on males' hands.

Although Pintu Kumar now spends the majority of his time in Taiwan, whenever he goes back to India for a visit, his younger sisters would give him wrapped-up bracelets and told him to wait until the Holi Festival to open the gifts and wear them. Indian people are very family oriented. Guys consider protecting their sisters as their mission, and the Holi Festival is a festival that celebrates such brotherly and sisterly love. However, couples in love would never do this. There are often funny Indian movie scenes with a guy crying over the bracelet on his wrist tied by the girl he has a crush on, who friendzones him.



Spain



Holy Week (Semana Santa)

Ana Lopez Contreras

Among traditional holidays in Spain, the Semana Santa (Holy Week) is Ana Lopez Contreras's favorite. The Semana Santa, also known as the Easter week is celebrated by Catholics during the week leading up to Easter Sunday.

The Holy Week, in commemoration of the Passion of Jesus Christ, from His entrance to Jerusalem to His crucifixion, begins with Domingo de Ramos (Palm Sunday), and festival processions last for the whole week through Saturday.

Immediately following the Semana Santa is the Easter Sunday. On this day, people would carry the effigy of Virgin Mary in processions. Crowds watching over from the balconies would keep throwing confetti printed with images of saints. The beautiful confetti comes in a variety of colors, and you are supposed to catch it when it falls on you so you can receive the blessings by the saints. As the procession team marches forward, the confetti fluttering down from the balcony looks like a colorful shower. The crowd scrambling to catch the confetti constitutes an interesting scene. When Ana Lopez Contreras was little, she liked collecting the confetti fallen on the ground. Although without the blessings from the saints, she liked to keep the colorful confetti as a souvenir.





NTNU Annual Activities and Event

■ Wen-xin Pan | Department of English

1月 January General Education Lectures

In addition to professional course offerings, NTNU also places great emphasis on the holistic development of students. By organizing the general education lecture series, the University hopes to enhance students' understanding about their own lives and the social environment from multiple perspectives, and to provoke their thoughts on public issues in the society.

2月 February Course Registration

During each summer and winter vacation, NTNU current students (excluding newly admitted freshmen students) are required to request enrolment for the courses offered by their program of study, and for general education and physical education courses in order of preference through a two-stage only registration system. The system would then allocate the spaces available based on students' preference list. Within 15 days from the first day of school, students are allowed to add or drop all courses before they finalize on the course choices.

3月 March NTNU Arts Festival

The festival encompasses multiple facets of arts; such as fine arts, music, drama, photography, etc., bringing arts and cultural exposure to NTNU students through lectures, workshops, exhibitions, tattoo and portrait sketching activities. Meanwhile, joint exhibitions and promotion events are held in cooperation with local businesses in the neighborhood to increase the interaction between NTNU students/staffs and the local community, and to explore and share the aesthetics of daily life.



5月 May NTNU Golden Shower Tree Singing Contest

The contest gets its name from the cassia tree, which is representative of NTNU. The singing contest has two categories – solo and group. Preliminary competition winners would compete in the final round that takes place at NTNU Auditorium. This is one of the most expected annual music event by music lovers on campus.



5月 May NTNU Golden Shower Tree Festival (Club Expo)

The festival is the occasion for student clubs to show their achievements over the past year to NTNU students and staff. There are three major events including a special exhibition, evaluation, and an award ceremony. While the special exhibition would showcase the cultures and characteristics of individual clubs, the evaluation is their opportunity to demonstrate their annual achievements, to share inspirations and to pass on the club culture. The results of the evaluation will be used as a reference to determine how resources (e.g. club offices) would be allocated the next year. Clubs with outstanding achievements would be commended at the annual award ceremony held alongside the NTNU anniversary celebration.



5月 May Athletic Performance Show

A joint effort between Department of Athletic Performance and Department of Physical Education, the event attracts an audience of hundreds every year with high quality and innovative programs. Unlike the regular sports competitions, NTNU Athletic Performance Show integrates sports techniques into various scenarios. With innovations and breakthroughs as the core values, the event aims to show its audience the allure of different sports. It is also an opportunity to advocate the notion that exercise should be part of the daily life.



6月 June Watermelon Festival (NTNU Valentine's Day)

The name of this unique NTNU festival can be transliterated into "Wo de mei-ren" in Chinese, literally meaning "my fair lady." On this day, people would confess their love by sending a watermelon to the person they have a crush on. This has become an exclusive tradition in the NTNU community. Different colors of watermelons carry different messages. For example, a red watermelon symbolizes romantic love, and a yellow one represents friendship. Silk melons and cucumbers are also available if you want to tell someone that you miss him/her, and that you have fallen in love with her/him without even knowing how, respectively.



6月
June

Aquatic Sports Meet

This annual event is held in the summer to promote swimming on campus and encourage swimmers to enhance their swimming skills. It is also an occasion for NTNU community members to bond through swimming and other fun games, as well as to enjoy swimming.

6月
June

Commencement Ceremony

Graduating students will receive their graduation certificates and blessings from teachers as tassels are turned. Singing the university song for the last time with teachers and fellow students on campus marks the perfect ending of the student life at NTNU.



7月
July

NTNU Hoping Download

Each summer, the University's Center of Public Affairs and NTNU National Alumni Association call upon young students from Taiwan, China, HK and Macau to teach the underprivileged children in remote areas of China, Taiwan, etc. By doing so, they aim to follow the footsteps of Confucius (known for his travels around China to expound his teachings) and to live up to the Confucian principle of the universal right to learn. The program also serves as a bridge for experience sharing and cultural exchange between students from Taiwan and China.



9月
September

Student Club Carnival

The three-week event packed with student club orientation activities provides ample opportunities for first year NTNU students to experience the enthusiastic atmosphere of the student clubs and to explore their interests. There are 7 major categories of student clubs at NTNU—comprehensive, social-oriented, recreation-oriented, sports-oriented, art and culture-oriented, service-oriented, and academically-oriented clubs. The orientation series include a student club gala, club fair, and a week of joint service. Freshmen students attending the gala can expect fantastic performances by their seniors. Do not miss the opportunity to talk to club members at the club fair or during the week of joint service to find out more information about the individual student clubs.

9月
September

Course Registration (New Student)

As new students would register for courses after the other students, 15% of the total spaces for each general education courses would be reserved for new students.

9月
September

NTNU, Now the New U Orientation Camp

The three-day orientation aims to provide new students an overview of university life in terms of curriculum contents, student clubs, campus and surrounding environment, in order to help them better adapt to the new stage of life.



11月
November

Cheerleading Competition and NTNU Sports Meet

The cheerleading competition would be the first major group event for NTNU freshmen students. After 3 months of intensive training, they would present the results of their practice and show their team spirit on stage at NTNU gymnasium. The top 8 winning teams would be performing at the NTNU Sports Meet as one of the opening program. NTNU Sports Meet gathers students and faculty together for various sports competition and student club performances. Aside from promoting athletic atmosphere on campus, the university also hopes to see team building and team spirit developed during the process, and students take more initiative in exercising.

12月
December

Intl. Cultural Festival (Lin-kou Campus)

Organized by the Division of Preparatory Programs for Overseas Chinese Students to raise awareness of multicultural education, the event attracts almost a thousand visitors every year including NTNU faculty, students, alumni of Preparatory Programs for Overseas Chinese Students, and community neighbors. Visitors can enjoy an exotic experience with folk dance performances, traditional costume runway shows and cuisines from different countries and fun games all being part of the fair.



12月
December

National Music Award by NTNU Guitar Club

The national music competition is open to all college students in Taiwan and attracts young music talents from all over the country every year. There are also opportunities to see performances from Golden Melody Awards winners at this event.



OIA Annual Activities and Event

1月 January Chinese New Year Party

Organized by Office of International Affairs (OIA), the get-together invites NTNU international students for a reunion meal so they can get a taste of traditional Chinese New Year festivities in Taiwan. In 2017, the event was well attended by over 150 students from all over the world including Malaysia, South Africa, Vietnam, Italy, Latvia, etc.

3月 March International Culture Fair

A collaborative effort between the NTU System: NTNU, NTU, and NTUST. The event offers students, faculty and community neighbors opportunities to explore and experience different cultures and sample exotic cuisine as international students showcase the beauty of their countries through food booth, games and other activities.



5月 May Singing Contest for International Students

This is the best opportunity for singing talents to shine! International students from degree programs and the Mandarin Training Center are both welcome to join—as long as you can sing in Chinese! We often see a good mix of Chinese and foreign culture and surprise acts in the performances.

5月 May DIY Traditional Taiwanese Cuisine

OIA organizes events based on select holidays and festivals under the International Family Program each year to provide cultural exchange opportunities between international students and NTNU faculty and staffs. For this year, making traditional delicacies— Zongzi and Steamed Spring Rolls were the two activities.

6月 June Graduation Party for International Students

On the day of the event, graduating international students would dress up and enjoy great performances and foods prepared by the OIA. Postcards printed with attractions in Taiwan would be provided to the graduating students to write down their wishes for themselves and mailed back to their hometowns, so the students can receive the well wishes after they return from NTNU.

7月 July Youth Ambassador Exchange Program

With “Dynamic Youth, Friendly Taiwan” as the axis of the program, the Ministry of Foreign Affairs calls for 100 youth ambassadors with an expertise in foreign languages (English or Spanish), music or dance each year to form 5 youth exchange teams to visit Asia Pacific, North America, Latin America, etc. for three weeks respectively in late AUG or mid-SEP with a mission to promote the beauty of Taiwan.

9月 September Welcome Party for International Students

OIA holds a welcome party for new international students every September. During the party their seniors would be performing and playing fun games to help them get familiarized with the campus environment and community.



11月 November Info Sessions on Exchange Program

This is an important event held every semester before the selection process of outgoing exchange students. OIA invites students who have studied abroad on exchange programs to share their study, life, travel and financial planning experiences through face-to-face consultations to help other fellow students to achieve their studying abroad dreams.

11月 November Info Sessions on Short-term Programs

Multiple information sessions are held each semester to bring more short-term study abroad opportunities to students who wish to improve their foreign language proficiency and to explore foreign cultures.

12月 December International Culture Bazaar at NTNU Affiliated High School

NTNU invites international students from different countries to organize events with a foreign culture theme at its affiliated high school to offer different cultural exposure experiences to the high school's students. This is also an occasion for cultural exchange and interaction between NTNU international students and the high school students.

Weekly One-on-one Chinese Tutorial

International students can request for the weekly Chinese tutorial service by signing up at the OIA. After available time slots are matched, a tutor from the Chinese tutorial service team comprising members from the Youth Service Team will assist international students in solving the problems they have encountered in learning Chinese.



Once Every Semester Culture Tours

Culture tour is arranged to take international students to famous attractions in Taiwan. The tour has been a two-day event since 2015 to destinations such as Bei-pu, Hsin-chu (for a pounded tea excursion), Sun Moon Lake, etc.



Recruitment of International Students for Spring 2019 & Fall 2019

About the University

- Established in 1946.
- 9 colleges, 56 departments, 1 affiliated senior high school.
- 300+ sister schools in Europe, North America, the Americas, and Oceania.
- A diverse and internationalized university attended by 1,500 degree-seeking international students and 1,700 Mandarin Training Center students (3-month average).
- 1,447 faculties (including 3 Nobel Prizes Laureates) with 17:1 of students to faculty ratio.
- The Mandarin Training Center is the oldest, best-known and largest such center in Taiwan with students from more than 70 countries having studied at the center. Famous MTC alumni include the former prime minister of Japan, Ryutaro Hashimoto and former prime minister of Australia, Kevin Rudd.
- The Division of Preparatory Programs for Overseas Chinese Students is the only institution providing university preparatory education to overseas Chinese students in Taiwan. A well-organized learning environment for students in living and educational needs, bridging the way to college lives.
- Times Higher Education's World University Rankings (2017)
 - 1st in the International Outlook category among Taiwan universities.
- Quacquarelli Symonds (QS) World University Rankings (2017/2018)
 - 40th in Education and Training, 127th in Arts and Humanities, and 289th in Overall Performance.
- 11th QS Asia Pacific Professional Leaders In Education conference and exhibition (2015)
 - Silver of Creative Awards for Best International Website.

Distinguished Colleges

Arts, Education, International Studies and Social Science, Liberal Arts, Management, Music, Science, Sports & Recreation, Technology and Engineering



Term Dates and Application Information

Terms	Application Deadline	Announcement of Admission Results	Term Begins	Term Ends
Fall Term	March 15	Mid May	September	January
Spring Term	October 31	Mid December	February	June

- If different, please follow the dates published in the Admission Prospectus.
- For application documents, eligibility, admission procedures and individual program requirements, please refer to the NTNU Admission Prospectus for International Students, which is downloadable at:
<http://ap.itc.ntnu.edu.tw/istudent/apply> (*Online application site).

Scholarships

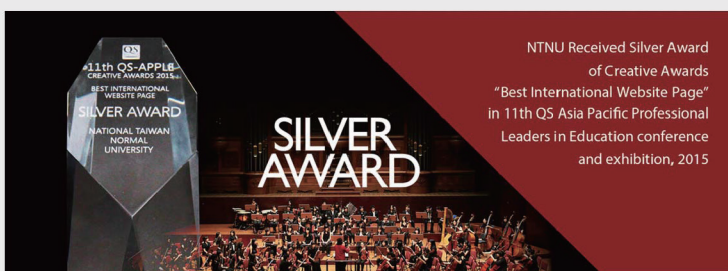
NTNU offers various categories of scholarships. Please refer to <http://www.ntnu.edu.tw/oia/scholarship.php>

English-taught Programs

NTNU offers a variety of English-taught courses for international students to meet graduation requirements. For program list, please refer to our Admission Prospectus for International Students.

Chinese Language Degree Courses

Students with basic Chinese proficiency and who are interested in Chinese language and culture may consider applying for the Department of Chinese as a Second Language (Bachelor's degree program, taught in Chinese, focusing on Chinese listening, speaking, reading, and writing skills).



$$\operatorname{ctg} \frac{\alpha}{2} = \frac{\sin \alpha}{1 - \cos \alpha} = \frac{1 + \cos \alpha}{\sin \alpha}$$



$$\operatorname{tg} \alpha \times \operatorname{ctg} \alpha = 1$$



$$\cos 2\alpha = \cos^2 \alpha - \sin^2 \alpha$$

2010

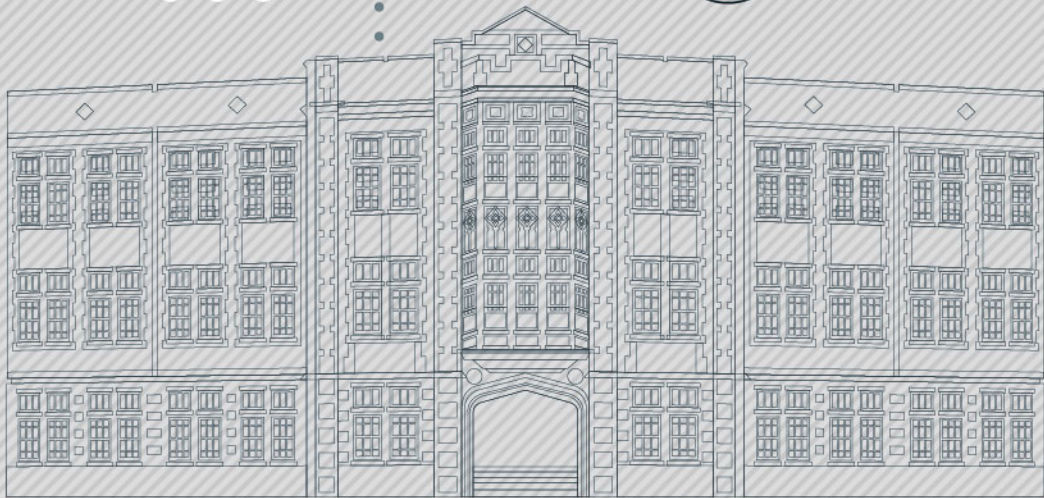
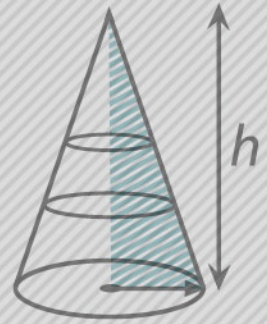
2011

2012

2013



國立臺灣師範大學
NATIONAL TAIWAN NORMAL UNIVERSITY



$$1 + \operatorname{tg}^2 \alpha = \frac{1}{\cos^2 \alpha}$$

