

NTU



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International Activities to Highlight NTU's 80th Anniversary

Nobel Prize Winners Give Maestro Lectures

Honorary Awards for NTU Professors

NTU Students Step into International Spotlight

Special Report
New professional schools



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NTU Organizes Wide Variety of Events to Celebrate 80th Anniversary

New Professional Schools: School of Dentistry and School of Veterinary Medicine

NTU's University Council passed a resolution on June 14 calling for the establishment of both the School of Dentistry and School of Veterinary Medicine within the university structure on August 1. This upgrading of NTU's dentistry and veterinary programs to college-level institutions is intended to ensure that NTU maintains pace with international educational and research trends, facilitate international cooperation and further propel the university forward as it continues its march to become the best university in Asia and among the top-100 universities in the world.

Prior to this year's establishment of the School of Dentistry, dental education at NTU was conducted through the Department of Dentistry, the graduate-level Institute of Clinical Dentistry as well as the Institute of Oral Biology. These separate academic units served to provide a well-rounded education in dentistry, both scholastically and clinically, and ensured NTU's position among the leading academic institutions for dentistry in Taiwan. Nonetheless, when it came to globalization and international convergence, NTU's lack of a college-level unit for dentistry that corresponded in organization and structure to overseas dental colleges meant that it oftentimes faced hardships in its attempts to achieve international cooperation.

The School of Dentistry will endeavor to integrate the teaching resources of its various departments, expand key research projects and topics related to clinical medicine and develop research areas in which it enjoys distinct advantages. Furthermore, the school will establish a mechanism for academic-industrial cooperation that will permit it to provide technical guidance and information services to industry. By taking advantage of the resources available at NTU's Yen Tjing Ling Industrial Research Institute, where research facilities are shared by the industrial sector, it will enjoy increased opportunities for technological transfers and related financial compensation.



NTU provided undergraduate and post-graduate educations in veterinary sciences through the Department of Veterinary Medicine before the establishment of the School of Veterinary Medicine. The veterinary department moreover collaborated with the College of Bioresources and Agriculture in certain academic and research areas. However, the department continually confronted problems similar to those faced by the Department of Dentistry in terms of international cooperation and recognition. For instance, though the department offered outstanding academic and clinical opportunities, its graduates often faced doubts from international accreditation organizations and were forced to accept unequal treatment when they attended international seminars.

The four main goals relating to the establishment of School of Veterinary Medicine are to achieve convergence with global professional educational standards; to coordinate with Taiwan's veterinary education reform and NTU's strategic academic development plan; to take into account basic education and clinical training in the implementation of medical-related professional programs; and to secure more outside funding.

The focus of future development will be laid upon the reform of veterinary education and convergence with global veterinary education standards, with a view toward the prevention and monitoring of global infectious diseases that are common both to humans and animals, ensuring the safety and hygiene of livestock products and developing professional talent in the area of animal science experiments.

Nobel Laureates in Chemistry Speaking During Maestro Lectures on the Structure and Function of Membrane Proteins to Celebrate NTU80



Left to right: Prof. Johann Deisenhofer, Prof. Tom A. Rapoport, Prof. So Iwata, Prof. Robert Huber, Prof. Chikashi Toyoshima and Prof. Poul Nissen.

Inspired by NTU President Si-chen Lee to organize special events to celebrate the 80th Anniversary of the founding of NTU, the College of Medicine has arranged for six heavyweight scholars in the field of membrane protein structure and function research to visit NTU to present speeches in the Maestro Lectures on the Structure and Function of Membrane Proteins. This lecture series runs from August 15 to December 11. The speakers taking part in the lectures include Prof. Johann Deisenhofer (Howard Hughes Medical Institute and University of Texas Southwestern Medical Center, USA), Prof. Tom A. Rapoport (Howard Hughes Medical Institute and Harvard Medical School, USA), Prof. So Iwata (Imperial College and Diamond Light Source, United Kingdom, and the Graduate School of Medicine, Kyoto University, Japan), Prof. Robert Huber (Max-Planck-Institute for Biochemistry, Germany), Prof. Chikashi Toyoshima (University of Tokyo, Japan) and Prof. Poul Nissen (University of Aarhus, Denmark). All of these scholars are national-level academicians, while Prof. Deisenhofer and Prof. Huber are Nobel Laureates in Chemistry. NTU is proud to enjoy the rare opportunity to welcome such major figures in this field of research to share their knowledge with its faculty and students.

In the future, NTU will invite a number of these scholars to take up positions as distinguished professors and establish long-term relationships with

the university. In addition to this very important major forum for new knowledge, another way to achieve a direct influence is to set up an inter-institution research team. NTU will discuss this possibility with these scholars. It will also select outstanding graduate students and post-graduate researchers who show potential to join this research team in order to allow them to directly discuss cutting-edge scientific questions and possibly jointly publish papers with the visiting scholars. It is the hope of NTU to bring together talent from throughout the university system so as to make further progress in achieving excellence in the field of biomedicine.

Structural biology has experienced a period of rapid development in recent years. Yet, while this field of study has proven to be a fascinating area of biomedical research, it seems to have remained unfamiliar to most. Due to structural biology's ability to provide direct evidence and its potential for developing effective models for the design of pharmaceuticals, all major pharmaceutical companies have made serious commitments to research and development to this area. NTU for its part must play an active role in this burgeoning field of research, and the College of Medicine has therefore committed itself to pursuing an interdisciplinary approach to research in this area by integrating relevant resources from throughout the university system. This approach will

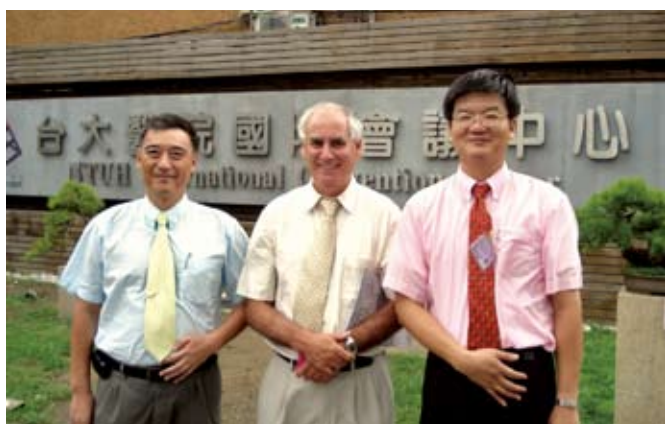
be particularly important in such cutting-edge areas as research into the structure of membrane proteins, molecular receptors on the membranes of cancer cell markers and glycosylation in proteomics.

Research into the structures and functions of membrane proteins and biological membranes is drawing an increasing amount of attention these days. Membrane proteins are located on the surfaces of biological membranes where they constitute the first line for the regulation of physiological functions and communication signals between interior and exterior substances. Following the cracking of the human genetic code this century, it has been estimated that membrane proteins make up one-third of all biological proteins. Moreover, it is postulated that membrane proteins might account for upwards of three-fourths of all pharmaceutical therapy markers. However, the number of membrane proteins whose structures have been explained remains vastly smaller than this, at around 0.5% of the total.

There is a high degree of relation between the minute functions and operations of proteins and their three-dimensional structures. Consequently, in addition to integrating such approaches as cell electrophysiology, enzymology and proteomics with



A photograph with Prof. Tom Rapoport before NTUH International Convention Center on September 12, 2008.



Prof. Johann Deisenhofer poses for a group photograph following his lecture on August 15, 2008.

molecular biology, one of the most important methods for gaining a deeper understanding of membrane proteins will be pursuing research that takes structure as its foundation. It is exactly this type of focus that is the core characteristic of structural genomics, another field of biomedical research that is attracting a great deal of attention at the moment.

In the past, considering the problem of crystallization in relation to the structure of membrane proteins was held to be an impossible task. Yet, with the arrival of the 21st Century, it appears we are beginning to witness a growing trend in resolving many questions pertaining to the structure of membrane proteins. Perhaps credit for many of these advances should be attributed to the increasing maturity of cell division expression technology and the enormous progress that has been made in computer technology. In any case, it is always best to attempt to bravely confront difficulty head on. Here at NTU, we look forward to the Maestro Lectures and the possibilities for cooperation it brings, and expect it to be both profound and enlightening.

NTU INSIGHT Center Holds 2008 INSIGHT Festival to Celebrate Taiwan's Smart Technology Research in August

The Center of Innovation and Synergy for Intelligent Home and Living Technology at NTU (NTU INSIGHT Center) held its 2008 INSIGHT Festival on August 13 in order to present to both experts and the public nearly 50 research accomplishments produced by Taiwan's academic and research community in the growing field of intelligent living technology. Though the NTU INSIGHT Center is still in its first year of operation, the promotional event, which drew over 750 curious visitors, served to demonstrate the proactive approach the center has adopted in order to fulfill its mission of promoting increased exchanges between industry, government and academia in the area of smart living technology.

Some of the innovative technology on display at the festival included a self-cleaning glass curtain wall, an automatic energy-conserving ventilation unit with a vapor detection and measurement system, a beautiful indoor air-cleansing flower garden, a futuristic household robot, breathable smart clothes that help the wearer recover physical and mental energy and an electronic sleep coach.

The festival also presented a wide variety of smart healthcare and energy-conserving technologies. Among these were a system that reminds the user when it is time to take medicine, a monitoring system for physiological conditions, a real-time remote medical treatment system, an intelligent living technology grid reporting system, solar power cells, a hydrogen power production system and a power management system.

Intelligent living technology remains a burgeoning human-oriented high-technology sector with enormous development potential. It is capable of generating high economic value while allowing for a low degree of environmental impact. The NTU INSIGHT Center, which is designated a university-level research center, received a subsidy under the "Regional Intelligent Living Technology Center" plan of the National Science Council's Department of Engineering and Applied Sciences in February of this year and was established in June. The center's first director is Prof. Pei-ling Liu, who has served as director of the NTU Institute of Applied Mechanics since 2003 and was named an NTU distinguished professor in 2006.

The center's advisory committee, composed of the deans of each of the university's colleges, has established six divisions under the center: an administrative management division, planning and information division, industry-academic cooperation promotion division, exhibition division, virtual platform division and talent development division.

The center's primary mission is to encourage interdisciplinary research, bring together domestic and international research resources from across industry, government and academia, cultivate local talent and promote smart living technology so as to create innovative value chains and push forward the transformation and upgrading of Taiwan's industrial sector.

📍 The NTU INSIGHT Center presented nearly 50 research accomplishments produced by Taiwan's academic and research community in the growing field of intelligent living technology to both experts and the public at its 2008 INSIGHT Festival on August 13.



College of Life Science Hosts World Experts at Seventh Symposium on Diseases in Asian Aquaculture in June

Adopting the theme "Communication, Cooperation and Coordination: Core Issues in Aquatic Animal Health Management," DAA VII drew approximately 400 participants from industry, government and academia from 31 countries.

The College of Life Science played host to experts from around the world at the Seventh Symposium on Diseases in Asian Aquaculture (DAA VII) here in Taipei from June 22 to 26. The triennial international symposium is sponsored by the Fish Health Section of the Asia Fisheries Society and aims to bring together international experts and scholars from a broad range of scientific fields in order to address current trends in the study of aquatic disease. This year's symposium adopted the theme "Communication, Cooperation and Coordination: Core Issues in Aquatic Animal Health Management" and drew approximately 400 participants from industry, government and academia from 31 countries.

The aquaculture industry has expanded to become one of the fastest growing sources of food in the world over the last three decades and this trend is expected to continue. As a result, aquaculture will undoubtedly exert an increasing impact on the Earth's environment and natural resources. In the next stage of the industry's development, it will be necessary to devise strat-



egies capable of striking a balance between development and protection of the environment.

Reports discussed at this year's symposium concerned bio-security, health management and risk assessment in aquaculture and diseases affecting vertebrates (primarily fish species) and invertebrates (especially shrimp and shellfish species) bred by the aquaculture industry, with a focus on research in the areas of epidemiology, clinical studies, pathology and pathogeny. Experts also presented numerous diagnostic and preventative strategies for addressing aquatic diseases and suggested methods for using such approaches as genomics, proteomics, molecular biology and bio-informatics for the research of pathogens, immunity and disease-resistance mechanisms in hosts and the mutual relationships between hosts and pathogens.

A major focus of the symposium was emerging diseases among aquatic organisms and issues stemming from their rise. Forecasts based on current circumstances were also put forward regarding the

future of the aquaculture industry. These foresighted views will lead to a deeper understanding of aquatic diseases in the areas of the basic and applied sciences and benefit the development of prevention and management programs that will promote the development of a healthy and flourishing aquaculture industry.

Overall, the most frequently addressed issues at the symposium concerned diseases affecting both vertebrates and invertebrates, especially viral diseases such as white spot syndrome virus in shrimp and nervous necrosis virus in fish. This highlights the fact that disease is among the biggest problems the industry confronts at the moment.

The symposium succeeded in accomplishing its original goal of providing an appropriate forum for the exchange of the latest ideas and information among international biologists, pathologists, fisheries scientists, veterinarians, breeders and policy makers and promoting the spirit of communication, cooperation and coordination in the search for inter-regional channels for cooperation.

NTU President Lee Attends Successful 2nd Cross-Strait University Presidents Forum in Xiamen, China

NTU President Si-chen Lee, accompanied by Dean of International Affairs Tung Shen, attended the Second Cross-Strait University Presidents Forum at Xiamen University in China on September 6 and 7, where he presented a speech entitled "A Retrospective of Cross-Strait Higher Education Exchanges and an Outlook for the Future--An Examination Centered on National Taiwan University." The forum brought together university presidents and vice presidents from 54 universities in China and 36 universities in Taiwan, achieving an unprecedented scale for an event of this type.

In his speech, President Lee looked back at Taiwan's cross-strait educational exchanges beginning from the Ching Dynasty. He pointed out that it was the period from 1945 to 1949 when cross-strait higher-education exchanges occurred on their largest scale and had the greatest influence. Lee said NTU served as one of the major platforms for these exchanges and cited former NTU president Ssu-nien Fu and former NTU professors Chien-kung Wei, Yen-chou Hong, Hsiang-yu Su and Ching-ning Tai as important figures. He noted that whether they were among Taiwan's academic elite who were pursuing their educations in China or whether they were academic leaders born in China, they all arrived at NTU during this period. Their hard work changed the Japanese-language environment of Taihoku Imperial

University, transforming the institution into National Taiwan University with its Mandarin Chinese-language environment.

Looking to the future, President Lee stated that in today's globalized world, universities on the two sides of the Taiwan Strait face similar challenges. He raised as examples how the commercialization of higher education challenges the basic principles of operating a university and how having English as the primary language of international education forces Chinese-speaking universities to pay a higher price and work even harder to compete with institutions in Europe and North America. Lee said that, in confronting such challenges, there are many ways universities in Taiwan and China can encourage each other and work together. He stated that once Taiwan recognizes Chinese academic courses and degrees, there will inevitably be an influence on the movements of students on both sides of the Strait that will lead to greater awareness among younger generations of the current cross-strait situation.

President Lee declared that NTU will continue to play a major role as a platform for exchanges and that it will continue as well to look with great optimism to the future of cross-strait higher-education exchanges. President Lee's speech drew a high-level of affirmation and enthusiastic responses from those in attendance, while the Chinese media devoted a significant amount of page space to reporting on his statements.

Another major goal of President Lee's trip to Xiamen was to participate in the founding ceremony for the Cross-Strait Gender Research and Education Cooperation Center and preside over the unveiling of its official plaque. NTU Department of History Prof. Wei-hong Lin and other scholars from Taiwan worked for many years with their Chinese counterparts at Xiamen University to open this center. Its establishment stands as a major milestone for educational exchange between Taiwan and China.



OIA Arranges International Events in Coordination with NTU's Upcoming 80th Anniversary



President Si-chen Lee speaks on the preparatory committee for the 7th Conference of Asian University Presidents (CAPs).

The excitement is building as NTU prepares to celebrate its 80th Anniversary on November 15. As a way of bringing a greater international dimension to this auspicious occasion, the Office of International Affairs two years ago succeeded in having NTU named the site of the 7th Conference of Asian University Presidents (CAPs). This annual conference provides an opportunity for the presidents and officials of elite universities from across Asia to meet for purposes of building mutual trust and promoting cooperation. For this year's conference, which is scheduled to take place on November 13 and 14, NTU expects to enjoy the honor of hosting 36 presidents and officials from 20 universities from ten Asian countries. Among the universities scheduled to attend are such eminent institutions as Waseda University, Seoul National University, Singapore National University, Nanjing University and Kyushu University.

In addition to receiving the attendees to CAPs, the Office of International Affairs has also invited on behalf of NTU the presidents of NTU's sister universities from around the globe to attend the official ceremony for NTU's 80th Anniversary. NTU looks forward to sharing its joy as well as reinforcing its relationships and seeking out greater mutual understanding and collaboration with

these partner institutions. To date, 30 presidents and representatives from 17 universities from nine countries have announced their intentions of attending. Among the world-class institutions represented will be the University of Tokyo, Peking University, Kyoto University and the University of Bonn.

In other news, while the Office of International Affairs has been busy inviting and arranging the attendance of these special international guests, it has also organized the 2009/2010 NTU Student Exchange Fair, the first of what is to be an annual event here at NTU. For the fair, which will take place during the day on November 16, exchange students attending NTU have been asked to introduce the universities they attend back in their home countries to the NTU student body. The NTU Student Exchange Fair is aimed at encouraging even more NTU students to go abroad to attend overseas universities as exchange students so as to help them broaden the worldviews.

NTU has cultivated higher education in Taiwan for 80 years now. Although this might not be a long time compared to many other universities around the world, it still stands as a long history and has allowed NTU to grow into a one of the major institutions of higher education in Asia. The Office of International Affairs looks forward to taking advantage of the activities and events organized around NTU's 80th Anniversary to help the university step further onto the international stage and share with the world its outstanding achievements. It also intends to join hands with NTU's faculty and students in striving to make the university one of the top-100 universities in the world.

NTU Welcomes New International Students with Practical Information and Entertainment



Students assemble outside of September's International Students Orientation.



International Students Orientation, presented simultaneously in both Chinese and English, provided newly-arrived international students with practical information to help them adapt to life at NTU.



At the end of International Students Orientation, NTU's new international students enjoyed a simple buffet and were treated to musical performances provided by NTU students.



Chinese music group and a vocal and guitar performance provided by members of the NTUFSA.

During the day's events, the Office of International Affairs also presented the international students with copies of the "NTU Information Guide for International Degree Students 2008/2009." This handbook, written in Chinese and English, serves as a useful reference resource and contains important information for international students concerning residence visas, the National Health Insurance system, working visas, NTU campus life, as well as commercial areas around Taipei City.

The Office of International Affairs held a series of events aimed at assisting NTU's newly-arrived international students smoothly adapt to life on the NTU campus on September 9. Starting at 2:00 pm, these activities included International Students Orientation, a campus tour and an entertaining welcoming party. By providing information about scholastic life at NTU, familiarizing the new students with the NTU campus and providing an opportunity to make new friends, the Office of International Affairs hopes the events proved helpful in preparing the new international students to engage in their educational pursuits here at NTU.

International Students Orientation was divided into two separate events for international degree-seeking students and incoming international exchange students. These events focused primarily on providing the new students with practical information about academic life at NTU and were presented simultaneously in both Chinese and English. The useful information presented



included important academic rules, information regarding scholarships, issues concerning lodging, how to use NTU web mail and procedures for new student registration. Furthermore, the orientation events also introduced the campus' emergency and rescue systems in order to ensure the new international students gained an understanding of the university's safety and security measures.

Following orientation, representatives and volunteers from the NTU Foreign Students Association, NTU International Student Information Service Club and Office of International Affairs escorted the new international students on guided tours to allow them to gain their bearings on the NTU campus. At the end of the day, a simple buffet was served and the new students were treated to a performance by an NTU traditional

17 Vietnamese Students Selected for Joint Master's Program in Engineering Between NTU and Vietnam's HUCE

Seventeen Vietnamese graduate students are taking part in a new joint master's degree program in civil engineering set up between NTU and the Hanoi University of Civil Engineering. The program was established on January 21 when NTU President Si-chen Lee led a delegation to HUCE for a signing ceremony with HUCE President Nguyen Van Hung. The NTU delegation consisted of Dean of International Affairs Tung Shen, Prof. Van Doan Tran of the Department of Philosophy, Prof. S. H. Hsieh, who is vice-chairman of the Department of Civil Engineering, and DCE Prof. L. J. Leu, who serves as the program's coordinator.

This two-year program provides a unique opportunity for qualified Vietnamese engineering students to earn a master degree in civil engineering from NTU. Though only 17 students were admitted this year, the program is designed for the enrollment of up to 20 students each year. Vietnam's Ministry of Education and Training will provide financial support to some students, while the others will be self-supported. However, NTU will cover registration and tuition fees for all of the participating students while they are at NTU.

During the first year of the program, students will attend courses at HUCE that have been designed in accordance with the NTU curriculum in order to obtain

credits required by NTU. Students will then study at NTU for the second year when they will complete their master's theses under the supervision of NTU professors and take additional courses if required.

On July 7, NTU's Prof. Hsieh, Prof. Leu and Prof. L.M. Chang, together with Prof. Do Huu Thanh, Director of the International Cooperation Program at HUCE, interviewed candidates for the program in Hanoi. All candidates have professional work experience and most are fluent in English.

A workshop called the "NTU-HUCE Academic Kick-off Seminar on Joint Master's Programs" was held at Halong Bay in Vietnam on August 4. The main objective of this workshop was to share teaching experiences and ensure that HUCE's professors are thoroughly familiar with NTU's curriculum. A delegation of 13 faculty members from NTU's Department of Civil Engineering, headed by the department chair,

Prof. K. C. Chang, participated in the workshop.

The following day on August 5, the NTU team led a day-long seminar. The seminar's morning program included demonstrations of course instruction for Structural Engineering and Construction Engineering and Management, as well as a video presentation of HUCE professors' simulated instruction for the joint degree program. The purpose of this program was to increase mutual understanding of the teaching styles and approaches of both universities. The afternoon program started with an introduction to writing style and content organization for NTU's master thesis. Then, participants were divided into groups to discuss topics related to teaching, research and student life at NTU. Finally, the NTU professors introduced current research topics in structural engineering and construction engineering and management at NTU.



➤ The signing ceremony for the NTU-HUCE joint master's program was held at HUCE on January 21, 2008.

NTU Management Team Confronts World's Best at UCLA's Global Business Leadership Competition

NTU's team members included Yu-hsien Chen from NTU's Graduate Institute of Business Administration and Richard Tan, Wei-chi Lin, Ivan Li and Chien-chou Yang from NTU's Global MBA program.



A team of five NTU graduate students competed in the inaugural Global Business Leadership Competition at the UCLA Anderson School of Management on April 11 and 12. During the competition, MBA students from the world's leading management schools were asked to take on simulated real-world business-leadership challenges presented through various interactive, task-oriented scenarios from a global perspective.

In the end, the team from the London Business School managed to return home with the first prize, while those from Canada's Queen's School of Business and Seoul National University claimed the second and third prizes.

NTU's team members included Yu-hsien Chen from NTU's Graduate Institute of Business Administration and Richard Tan, Wei-chi Lin, Ivan Li and Chien-chou Yang from NTU's Global MBA program. Though the team did not take home one of the top prizes, each of its members gained invaluable experience in global management and leadership and enjoyed the opportunity to compete and make friends with some of the best management students from around the world.

The following is a description of the competition from the NTU team's point of view:

On the day of the competition, all participants arrived at the Anderson School of Management at 6:30 am. The session commenced at 8:00, and it was not until 10 O'clock that night that we returned to the hotel. The day's schedule was tightly packed.

The competition featured three modules: decision making as an apprentice of the Sony Group, handling a mining accident and its resulting risk management and dealing with a post-merger scenario.

The mining accident was presented as a press conference. The 16 teams were recombined into different teams so that we could get to know each other. Given one and a half hours, these teams worked on drafting a press release and forming a risk management team. The atmosphere during this session was quite intense, not only due to the time pressure, but also to the many viewpoint differences. Besides conducting risk management, we also learned the challenges of having a multi-national work force.

The final module was the real-case example of FedEx's acquisition of Flying Tigers. We were permitted five hours to devise a well-rounded plan for post-acquisition synergy. This was not an easy task. We had to consider a wide range of aspects, including branding, service content and communication with powerful unions.

Problems confronted in the business world nowadays require immediate responses. The competition was a highly valuable experience for us and allowed us to discover how far we can go under such great pressure and made us aware of some of the skills we are lacking. Moreover, it opened a window to the world for us. Hopefully, with more hard work and dedication we will be able to become real global business leaders in the future.

NTU Student Team Wins International IC Design Contest for the Third Time

An NTU student team from the Department of Electrical Engineering was named a winner of the DAC/ISSCC Student Design Contest at the 45th Design Automation Conference, which took place in Anaheim, California from June 8 to 13, for its entry entitled "iVisual: An Intelligent Visual Sensor SoC with 1790 fps CMOS Image Sensor and 205GOPS/W Vision Processor."

The team, under the guidance of Prof. Liang-gee Chen, included students Chih-chi Cheng, Chia-hua Lin, Chung-te Li and Po-ting Chang. Over the last five years, teams advised by Prof. Chen have produced five academic papers that have been accepted for presentation



A team member accepts an award at the 45th Design Automation Conference.

at the DAC Conference. This year marks the third year one of Prof. Chen's teams has been named a winner.

Intelligent video imaging technology automatically analyzes video images and is expected to become one of the primary technologies for next-generation surveillance

systems, man-machine interfaces, health care systems and intelligent vehicles. NTU's winning entry is the first SoC in the world to integrate CMOS image sensors and digital image processors.

The DAC/ISSCC Student Design Contest is an annual chip design competition organized by the Design Automation Conference and the International Solid State Circuits Conference that invites the best students from around the world to submit entries. This year, other winning teams came from such internationally-renowned universities as MIT, UC Berkeley and UCLA.

National Science Council Recognizes Nine NTU Professors with Ta-you Wu Memorial Award for 2008

The National Science Council has named nine NTU professors as recipients of its Ta-you Wu Memorial Award for 2008. The award's regulations stipulate that each award recipient will be presented with a medal as well as NT\$500,000 per year to be used for research related expenses and overseas travel expenses for research projects they have sponsored for three consecutive years.

The National Science Council presents the Ta-you Wu Memorial Award in order to encourage new researchers entering the field of science and technology.

NTU's recipients of the Ta-you Wu Memorial Award for 2008 are:

Jri Lee, Assistant Professor, Graduate Institute of Electronics Engineering and Department of Electrical Engineering

Li-hung Lin, Assistant Professor, Department of Geosciences

Ko Chao-ying, Attending Physician, College of Medicine, Department of Emergency Medicine

Chao-ju Chen, Assistant Professor, College of Law

Chun-yao Huang, Associate Professor, College of Management

Jian-jang Huang, Associate Professor, Graduate Institute of Photonics and Optoelectronics

Ching-i Huang, Associate Professor, Institute of Polymer Science and Engineering

Yao-jou Joseph Yang, Associate Professor, Department of Mechanical Engineering

Sheng-der Chao, Associate Professor, Institute of Applied Mechanics

NTU Professors Win Nearly Half of Ministry of Education's National Chair Professorship Awards and Academic Awards for 2008

The Ministry of Education's Council of Academic Reviewal and Evaluation announced the winners of its National Chair Professorship Awards and Academic Awards for 2008 in early September. Members of the NTU faculty claimed six of the ten National Chair Professorship Awards and five of the 12 Academic Awards. National Chair Professorship Awards are presented to outstanding professors in Taiwan, while Academic Awards are given to those who make important contributions in the area of academic research.

NTU's winners of National Chair Professorship Awards are Prof. Hong Hwang (Department of Economics) in the social sciences category, Prof. Pi-tai Chou (Department of Chemistry), Prof. Chiun-chuan Chen (Department of Mathematics) and Prof. Sun-lin Chung (Department of Geosciences) in the mathematics and natural sciences category, Prof. Chu-fang Lo (Institute of Zoology) in the medical and agricultural science category, and Professor Soo-chang Pei (Department of Electrical Engineering) in the engineering and applied sciences category.

Prof. Hong Hwang's studies focus on strategic trade policies in international commerce and deal with location choices of manufacturers in industrial economics.

Prof. Pi-tai Chou's conducts re-

search in optical, electrical and magnetic fields and the application of nano-materials in biomedicine and photonics.

Prof. Chiun-chuan Chen earned his Ph.D in mathematics at NTU. His research focuses on elliptical motion equations, the Boltzman equation and the Navier-Stokes equation.

Prof. Sun-lin Chung is a professor by special appointment in the Department of Geosciences. His academic expertise lies in geodynamics and igneous petrogenesis.

Prof. Chu-fang Lo, Dean of the College of Life Science, specializes in white spot syndrome virus (WSSV), which endangers the global shrimp breeding industry. Her lab is the leading authority on WSSV.

Prof. Soo-chang Pei, a pioneer in digital processing technology, researches digital filter design, discrete digital signal transfer and the filtering, identification, compression and quantification of color images.

NTU's Academic Awards recipients are Prof. Ming-liang Hsieh (Institute of Art History) in the humanities and arts category, Prof. Jin-tan Liu (Department of Economics) in the social sciences category, Prof. Gerald J. Chang (Department of Mathematics) in the mathematics and natural sciences category, Prof. Ming-liang Kuo

(Institute of Toxicology) in the biological and medical/agricultural science category, and Prof. Huan-jang Keh (Department of Chemical Engineering) in the engineering and applied sciences category.

Prof. Ming-liang Hsieh is an art historian who has devoted himself to the study of ceramics of China's Six Dynasty era as well as ancient handicrafts and paintings.

Prof. Jin-Tan Liu's research leans toward econometric applications in microeconomics. His greatest contribution lies in his ability to conduct empirical analysis of indigenous Taiwanese data in combination with modern economic theory.

Prof. Gerald J. Chang's research focuses on graph theory, algorithms and network theory. He is ranked 411th in the Essential Science Indicator's ranking of world mathematicians.

Prof. Ming-Liang Kuo, Vice President of NTU Hospital, has developed innovative methods for the diagnosis and treatment of cancer. He is now focused on angiogenesis and tumor metastasis-related genes.

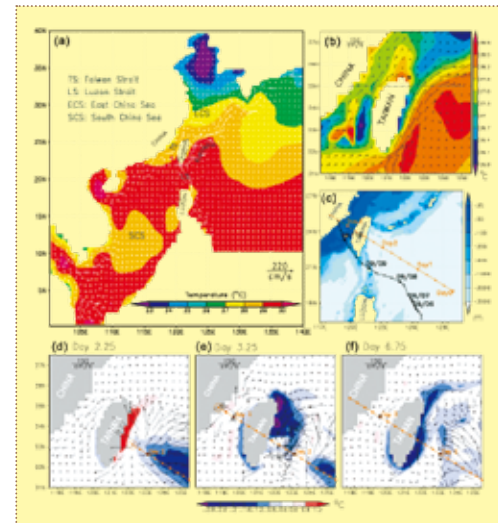
Prof. Huan-jang Keh studies the locomotion of colloidal particles, electro-kinetic phenomena, dual polarization behavior of particles in electrolytic troughs and dynamics of polymers at interfaces.

NTU Institute of Oceanography Receives International Recognition for Sea Temperature Change

A team of researchers from NTU's Institute of Oceanography, including Prof. Yaling Tsai, Prof. Ching-sheng Chern and Prof. Joe Wang, published a paper showing how typhoons lead to upper ocean cooling in the waters off Taiwan's northeast coast in the *Geophysical Research Letters* on July 22. This international recognition is a wonderful accomplishment for the Institute of Oceanography.

The paper's abstract states, "The ocean cooling off northeastern Taiwan induced by typhoons is complicated by the presence of the continental shelf of the East China Sea and the Kuroshio. The cooling

is primarily due to the upwelling of the Kuroshio's subsurface water, which accompanies the Kuroshio's intrusion onto the shelf, rather than the entrainment mixing generated by the wind. The Kuroshio's intrusion in this region has a seasonal variation, being more substantial in winter than in summer. Previous studies found that the winter northeasterly monsoon creates an intrusion-favored flow pattern, while the reversed summer monsoon opposes it. This study found that the strong northeast wind, accompanied by a typhoon along a certain path, could significantly alter the circulations on the shelf. An intrusion event will be



TSAI ET AL.: TYPHOON INDUCED UPPER OCEAN COOLING

triggered via a similar mechanism as induced by the winter monsoon, but at a faster pace."

NTU's SOC Center Holds Neurobiologically-Inspired IC System Workshop 2008 in August

The NTU's SOC (System-on-Chip) Center invited scholars and industry professionals from the United States, South Korea and Japan to participate in its "Neurobiologically-Inspired IC System Workshop 2008" on August 8. The workshop was created as an opportunity to share research accomplishments in the areas of intelligent computing systems and neuroscience and promote the development of this new interdisciplinary area of research.

Most breakthroughs and innovations related to IC chips and integrated circuit design have traditionally occurred in such

technological fields as electronics and nanotechnology. However, these approaches have gradually encountered bottlenecks in terms of efficiency. In recent years, neuroscientists have discovered an increasing number of mechanisms controlling brain functions that have provided computer scientists with a novel direction for new developments.

☛ The SOC Center's "Neurobiologically-Inspired IC System Workshop 2008" drew scholars and industry professionals from the United States, South Korea and Japan.



Young NTU Scientist Produces Breakthrough in High-Energy Particle Physics Research

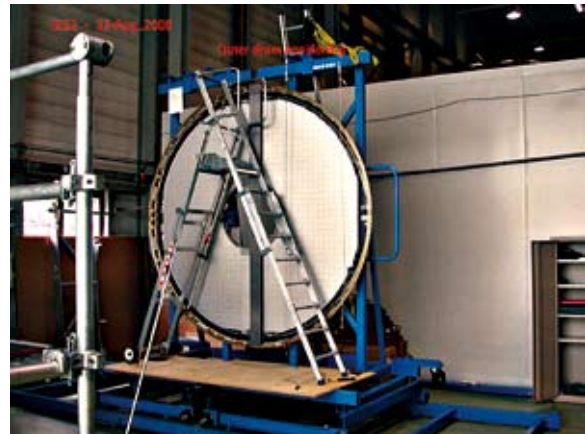


Dr. Kai-feng Chen, who earned his bachelor's, master's and Ph.D at NTU, recently won the Young Scientist Prize from the International Union of Pure and Applied Physics. He presented his research results at the 2008 International High Energy Physics Conference in Philadelphia, announcing that he had found signs of the existence of a new particle. Japan's KEK lab issued a press release at the same time, saying that its Belle team, of which Dr. Chen was a member, had discovered three new particles. Dr. Chen's achievement shows that Taiwan's research accomplishments in high energy physics lead the world in 2008, and led to NTU President Si-chen Lee hailing Dr. Chen as a "hero of Taiwan."

Only 28 years old, Dr. Chen has outperformed many of the world's best young scholars. In a press interview he pointed out that the discovery of the signs of a new particle was completed at the KEK lab of Japan. The KEK Belle experiment enjoyed the participation of 400 scientists from 14 nations. Taiwan's team, under the guidance of Prof. George Wei-shu Hou, proposed an "Energy Scan" project to the Belle collaboration in November 2007, and asked for permission to control the collision energy in the KEK Belle accelerator for 10 days. The project began in December.

The results of the energy scan brought pleasant surprises for the scientists, as almost every scanning point showed an unusual distribution of energy. The newfound particle was close to the known meson in weight, and only half in width. A spokesman for the

Belle Experiment issued a press release in coordination with Dr. Chen's speech claiming to have found the existence of a new particle. Dr. Chen stated that he would conduct further experiments coupled with theoretical research to ascertain whether the newfound particle was a hadron.



This year marks a new summit for NTU's high energy physics research team. In addition to Dr. Chen's discovery of the new particle, the team, led by Dr. Sheng-wen Lin, Prof. Wei-shu Hou and Prof. Pao-ti Chang, published a paper in *Nature* in March. This paper is the only Belle-collaboration paper published in the journal to date. Moreover, Dr. Chen's discovery also precedes the BaBar Experiment based in Stanford Linear Accelerator Center, which was conducted by a team of American and European scientists.

Dr. Chen was reassigned to Geneva, Switzerland, in February, as part of the NTU team involved in the Large Hadron Collider CMS experiment. He will be competing and collaborating with 2,000 of the world's leading high energy physicists while there, and it is anticipated that he will make further discoveries. The large hadron collider was scheduled to perform the injection of proton beams into a 27 kilometer-long full ring for the first time on September 10. It's opening ceremony is to be held on October 21. The ceremony will be attended by high-level science and technology officials from many nations, as well as French President Nicolas Sarkozy. Taiwan's National Science Council has also received an invitation.

Office of Student Affairs Holds Week of Special Orientation Activities for New Students in Early September

The Office of Student Affairs held NTU's first university-wide Taida Freshmen Orientation from September 1 to 6. This week of special activities included a variety of lecture courses, group discussions and campus tours intended to help get this year's crop of freshmen ready for their new life at NTU and familiarize them with NTU's core values and school spirit. With around 4,200 freshmen taking advantage of this orientation service, the students were divided into two large groups based on the areas of study. The first group went through the program from September 1 to 3, while the second group did so from September 4 to 6.

The Office of Student Affairs, together with the Office of Academic Affairs and Office of General Affairs, recruited upperclassmen with abundant experience in NTU's numerous student clubs to act as group leaders that guided the freshmen through the various orientation courses and group discussions. These student leaders were able to provide direct answers to the many questions raised by the new students, thus putting them more at ease in their new environment and helping them stand more firmly as they took their first steps down NTU's Royal Palm Boulevard. The group leaders also encouraged the freshmen to develop their personal competitiveness and introduced them to the wonderful opportunities available at NTU in hopes of setting them on their ways to becoming outstanding members of society.

The two large groups of freshmen were divided into 80 smaller groups that were designed to bring together students from different areas of study and help them broaden their social circles. The orientation courses included game-like activities that made the students' introduction to NTU a fun experience and, at the end of the courses, the small groups separated to engage in discussions lead by their group leaders.

The orientation courses provided the freshmen with such useful information as to how to select classes and study methods necessary for university coursework, while fun campus tours familiarized them with the

➤ Taida Freshmen Orientation put NTU's new freshmen more at ease in their new environment and helped them stand more firmly as they took their first steps down NTU's Royal Palm Boulevard.



⊕ A student group leader gives advise to a new freshman during Taida Freshmen Orientation.

campus and included activities aimed at promoting environmental sustainability. The university mobilized all of its educational resources to improve the students' quality of learning and managed to limit the size of the orientation lecture classes to just 50-60 students. The campus tours were conducted in smaller groups of around 25 students.

Furthermore, outstanding alumni and professors were invited to lead theme-base lectures based on their personal experiences in order to help the freshmen gain a deeper appreciation for the true meaning of the NTU school motto, "Integrity, Diligence, Patriotism and Philanthropy." By organizing both fun and practical courses and recruiting exceptional upperclassmen, alumni and professors to share their experiences, Taida Freshmen Orientation succeeded in helping NTU's new freshmen begin a new life they will cherish forever.

Third New Faculty Seminar Camp Held in September to Help New Professors Adjust Smoothly



Just as NTU's new freshmen class was taking part in the week-long Taida Freshmen Orientation on the university's main campus, the university's new faculty members were attending the third New Faculty Seminar Camp in Xitou in Central Taiwan's Nantou County where the NTU Experimental Forest is located. Organized by the Center for Teaching and Learning Development, the three day-two night camp ran from September 1 to 3 and provided a wealth of practical information pertaining to a wide range of topics, including teaching and research resources, teaching principles and course planning, promotion evaluations and research development, student advisor tasks, as well as living information and welfare benefits.

Speaking at the seminar's opening ceremony, NTU President Si-chen Lee related that when he arrived to begin his career at NTU 26 years ago there were no activities such as this one and that he was left unaware of a great deal of resources and welfare services that were available. He said that participating in the new faculty seminar camp would help new faculty members

save five to ten years of feeling their ways around the NTU system.

During the camp's two-session teaching forum, eight professors from different departments who have performed exceptionally in both teaching and research shared their excitement and passion for teaching and offered advice concerning their teaching principles and techniques. The new faculty members rated this forum one of the camps most beneficial and constructive.

Teaching courses in English was an important topic during the seminar because many professors are now required to offer courses in English. It turns out that there are no obvious differences in student performance whether courses are taught in Chinese or English. However, an interesting result is that attendance rates are higher and students are more engaged during classes taught in English. The internationalization of the NTU campus has also created new challenges for administrative units. For instance, the Student Counseling Center has begun to offer psychological counseling in English for the university's international students.

Teacher-student relationships and student advisor tasks were two other issues about which many new faculty members expressed concern.

An increasing number of students are suffering from depression, manic depression and other problems. The seminar addressed these issues by



sharing related experiences and techniques.

At the end of the camp, many new professors said they faced heavy pressures and that juggling teaching, research and service duties is like competing in a triathlon. The Student Counseling Center let them know that the Personnel Department has hired a psychological counselor to provide a full range of counseling services to faculty and staff members.

The new faculty members gave a variety of responses to the New Faculty Seminar Camp and most commended the Center for Teaching and Learning Development for providing so much practical information. The center has already begun to evaluate their responses and integrate them into improving the seminar for next year.

NTU at a Glance

NTU Library's NTU Collected Works Collects more than 4,500 Publications in Less than One Year

NTU Library's NTU Collected Works has already amassed a diverse collection of more than 4,500 publications written by over 400 NTU alumni since it officially opened on November 15, 2007. One of the library's Special Collections, this public archive has been established to collect and celebrate the published academic accomplishments of NTU's illustrious alumni.

NTU Collected Works is located on the third floor of the NTU Library. Generous donations provided by numerous NTU alumni allowed the library to renovate this space in the style of a medieval European library, with high bookcases, accessible by elegant spiral staircases encircling the room. This space has been built to accommodate around 20,000 books.

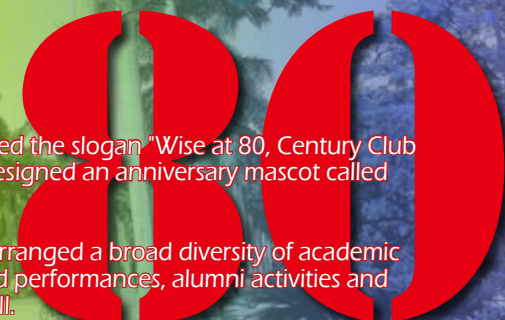
NTU Library hopes the written works of NTU's former students housed in the NTU Collected Works will give inspiration to students currently pursuing studies at NTU. The library will continue to seek out donations of publications from NTU alumni in order to ensure this special archive's continued growth.



NTU ORGANIZES WIDE VARIETY OF EVENTS TO CELEBRATE 80TH ANNIVERSARY

NTU is pulling out all the stops to celebrate our 80th Anniversary this year. We have adopted the slogan "Wise at 80, Century Club Ready" to promote our goal of becoming one of the world's best universities. We have also designed an anniversary mascot called Royal Palm Baby and set up a special website at <http://www.ntu.edu.tw/activities/80th>.

Aiming to create a celebratory atmosphere worthy of this octogenarian university, we have arranged a broad diversity of academic activities, international exchange events, student activities, sporting events, art exhibitions and performances, alumni activities and celebration activities, and created a range of anniversary publications and memorabilia as well.



NTU Best in Taiwan and China, 164th in World in Shanghai Jiao Tong University's Latest Ranking of World Universities

Things just keep getting better here at NTU as the nation's leading university continues its march towards its goal of joining the ranks of the world's 100 best universities. In the 2008 Shanghai Jiao Tong University Academic Rankings of World Universities, NTU earned a 164th place ranking, marking an advancement of eight spots from its 172nd place ranking in 2007. This latest ARWU ranking, published on August 15, places NTU at the top of all universities in both Taiwan and China.

Shanghai Jiao Tong University's aggregate indicators for its ranking include the number of Nobel prize and Fields Medal winners, the number of highly-cited researchers (HiCi), the number of theses published in the journals *Nature and Science* and the number of papers cited by SCI and SSCI.

NTU's performance in the area of the number of theses published in *Nature and Science* and the number of papers cited by SCI and SSCI both showed considerable progress from last year's. In addition, NTU's ranking for the total number of academic papers published within the last ten years moved up from last year's 80th place to 72nd place this year. The number of NTU papers cited within the last ten years also progressed from the 224th place to the 215th place.

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