

# Int'l Scholars Initiate Energy Research, Promote Human Rights

Innovative Medical Research, Techniques  
Dental Students Teach Oral Hygiene in Miaoli  
Student Athletes Set New Records

**Special Report**  
Cloud Computing



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## NTU AT A GLANCE

Essay Collection Explores the Gothic from Medieval to Postmodern Times



## From the President's Office

Congratulations to all new students for gaining entrance to Taiwan's best university. I hope you cherish this opportunity and take full advantage of your golden years at NTU.

NTU sincerely encourages each student to pursue interdisciplinary studies and develop problem solving skills. While the professional skills one learns in university might pass from vogue, the only things that do not change are the basic skills of each discipline. Students who take advantage of general education and elective courses to expand their interdisciplinary knowledge will, regardless of future trends in industry, be able to rely on the foundations they build during university to remain relevant in an ever-changing world.

I also hope students learn to be innovative while at NTU. Though most of our students were the top students at their high schools, innovation requires being "the only one," not "number one." Students should look at the greater environment around them to cultivate their uniqueness and abilities that are irreplaceable.

Finally, I remind students that in this era of globalization enterprises have established worldwide operations. Open your eyes to the world and develop understandings of its emerging cultural trends and political and economic realities. Do not limit yourselves solely to local media and information. NTU's abundant resources allow students to continue to improve their English language skills as well as go on to study a second or even third foreign language. Developing your worldviews and uniqueness will ensure your time at NTU is not spent in vain.

李嗣涔

President  
Dr. Si-chen Lee

# Chancellor Wrighton of Washington U. Visits NTU for Speech and Cooperation



Washington University in St. Louis Chancellor Mark S. Wrighton returned to NTU to speak on the future of energy and discuss cooperation plans with NTU officials on June 27. At

the invitation of NTU President Si-chen Lee, Chancellor Wrighton arrived with a delegation of several colleagues, including Associate Vice Chancellor James V. Wertsch and Prof. Tuan-hua David Ho.

During the visit, Associate Vice Chancellor Wertsch exchanged ideas with faculty members of NTU's Department of Anthropology, Graduate Institute of Linguistics and Department of Psychology. His colleagues also introduced a new scholarship program jointly set up by Taiwan's Ministry of Education and Washington University and discussed the university's excellent academic programs.

Chancellor Wrighton, an energy expert, had visited NTU at the invitation of President Lee in September 2010. During that visit, he shared his rich knowledge and experience in a talk titled, "America's Energy Future: The Options Before Us." This time he again concentrated on the future of energy in a talk titled, "Future Energy Options in the Aftermath of the Japanese Nuclear Disaster."

Wrighton's intriguing speech was attended by over 40 prominent local experts and scholars. With President Lee presiding, attendees included NTU Vice President for Academic Affairs Tai-jen George Chen, Dean of the College of Science Ching-hua Lo, Dean of the College of Electrical Engineering and Computer Science Lin-shan Lee, National Science Council Director Wayne Wang, Dean Wen-teng Wu of National Cheng Kung University as well as research fellows from Academic Sinica, professors from National Tsing Hua University and several department heads and faculty members of NTU. The talk was sponsored by the Office of

Washington University Chancellor Mark S. Wrighton (left) and NTU President Si-chen Lee share the goodwill between their institutions.

National Science and Technology Program- Energy and NTU's Office of International Affairs.

Associate Vice Chancellor Wertsch held interdisciplinary exchanges and discussed future cooperation plans with Prof. Kai-shyh Lin of the Department of Anthropology, Prof. Janice Fon of the Graduate Institute of Linguistics and Prof. Kwang-kuo Hwang and Prof. Feng-ming Tsao of the Department of Psychology. After the meeting, Wertsch was taken on a tour of NTU's Museum of Anthropology.

The Ministry of Education and Washington University signed a cooperation memorandum calling for the establishment of a joint scholarship program. The program is set to commence next year, so NTU's Career Center and Office of International Affairs held an information session during the delegation's visit to introduce the program to NTU students. Chancellor Wrighton and Associate Vice Chancellor Wertsch, together with several Washington University professors and Ph.D. students, discussed the scholarship program during the meeting. Over 40 NTU students interested in undertaking doctoral studies at Washington University attended the session.

NTU and Washington University have had frequent contacts since establishing a partner university relationship in 1994. This visit strengthened this standing relationship, and spurred progress in energy studies and the humanities.

The Washington University delegation took part in seminars and academic exchange meetings while at NTU.



## DELTA ELECTRONICS PROMOTES TAIWAN'S FIRST CLOUD COMPUTING BUSINESS COURSES



In mid-June, Delta Electronics, the world leader in power supply management for electronics, and NTU announced a joint project for promoting academic applications and talent development in the emerging field of cloud computing. The plan calls for Delta Electronics to provide over NT\$200 million in equipment and services to the College of Management to assist in establishing Taiwan's first comprehensive academic cloud computing environment. The two parties will also jointly develop courses on business applications of cloud computing, a first among world class business schools. The joint project will propel the college to be the world's first school of management to be based on cloud technology.

NTU President Si-chen Lee stated during the announcement ceremony: "Cloud computing promises to be the greatest commercial revolution since the Internet. This new technology will spur a transformation in Taiwan's communications industry, and elevate the industry from hardware development to providing services, such as software R&D and systems solutions. Yet, Taiwan is faced with a shortage of qualified personnel in this field at the moment. Therefore, it is hoped that this collaboration with Delta Electronics will harness the company's highly efficient energy-saving technology and industrial base to train more cloud computing professionals so that Taiwan can establish a leading global position in this field."

Delta Electronics Chair Bruce Cheng said, "We look forward to this joint project between Delta Electronics and NTU which harnesses the College of Management's exceptional academic research and educational traditions so that we can jointly plant and nurture cloud computing technology in the domestic academic community. We hope to improve Taiwan's cloud computing research capacities and cultivate cloud computing professionals while also fulfilling the

corporate social responsibilities that Delta has always insisted on bearing."

Delta Electronics entered the field of cloud computing in 2010. Since then, the company has already developed a super energy-efficient cloud data center as a comprehensive remote back-up cloud for educational institutions. Housed in a 20-foot shipping container, the center can be placed on a college campus to provide back-up computing capacity. When an institution's computer system is overloaded, Delta's remote center can provide back-up cloud computing capacity via the Internet, allowing users to enjoy uninterrupted service. Moreover, the center's energy efficiency can save a school millions of NT dollars in electricity bills each year.

The other novel aspect of this cooperation project is the introduction of courses on business models and service innovations related to cloud computing. Whereas most cloud computing courses tend to be focused solely on technological issues, these courses aim to create well-rounded professionals possessing knowledge of the technology as well as related business development and management skills that are crucial in real life. Delta is the sole source of funding for the design and development of these courses.



## Alumna Susy Hung Bequeaths US\$500,000 to NTU

Last year, NTU alumna Susy Hung passed away, aged 72, at her home in California. Following her graduation from NTU with a major in Department of Business Administration in 1961, Ms. Hung



moved to San Jose, California, where she became a highly successful asset manager. Ms. Hung was a strong and independent woman who devoted herself fully to her work. From an early age, she was ambitious and determined to reach her goals.

Ms. Hung took pleasure in her work, and declined to retire even in her later years. Besides her knack at investing, Ms. Hung had a variety of interests, such as gardening, gourmet dining and traveling. Though she took pleasure in her work, she always made efforts at her leisure pursuits,

too. Ms. Hung treated every moment as precious, and kept busy and lived fully and well.

Ms. Hung loved to laugh. Her classmate and close friend Ms. Teresa King recalls her optimistic and positive outlook, "I believe Susy certainly laughed all the way up to heaven."

Ms. Hung's brother, James Hung, also an NTU alumnus, says his sister and he had deep feelings for their alma mater. While living abroad, she remembered NTU with gratitude. In her will, Ms. Hung bequeathed US\$500,000 to NTU to be used to help students in financial need and support outstanding faculty.

NTU expresses profound gratitude for Ms. Hung love and concern for her alma mater. The university also expects her students and faculty to abide by the NTU spirit and be inspired Ms. Hung's example. NTU will use her donation to establish a perpetual scholarship endowment to ensure her love for NTU will live on for eternity. This will serve as the greatest commemoration of this outstanding NTU alumna.

## NTU Graduates Look to the Future at Class of '11 Graduation Ceremony



The Class of 2011 Graduation Ceremony was held on the NTU Main Campus on June 4, 2011. President Si-chen Lee together with former Judicial Yuan President In-jaw Lai, under the theme "A Learned Person Must Be Resourceful to Take on an Important Mission," declared their common aspiration for the graduating students to take up the responsibility of loving their nation and others.

International student representative Hakki Caner Kirmizi, a Turkish student who graduated with a degree in Computer Science and Information Engineering, called on his Latin to proclaim, "We are but dwarfs standing on the shoulders of giants."

Local student representative Yu-hung Lai of the Department of Electrical Engineering posed a rhetorical question to his graduating classmates: "Where will we be in the future?" Lai's reply: "There is no answer, because we are the answer." Lai explained, "Wherever we are, we share the communal memory of former NTU President Fu Ssu-nien's 'independent thought' and the enduring NTU motto 'Integrity, Diligence, Patriotism and Philanthropy.'"

# NTU to Host Olympics of Mechanical Engineering in 2015



To its honor, NTU was elected to host the 14th World Congress of the International Federation for the Promotion of Mechanism and Machine Science in Taiwan in 2015. This is the first time that Taiwan will host the federation's World Congress since joining the federation in 1983. The event, a virtual Olympiad of mechanical engineering, will be a milestone for Taiwan by providing the island's mechanical engineering community an international stage.

The IFToMM has 48 member nations, and its quadrennial congress draws scholars and experts from around the world to share their achievements in mechanics and machine science, an ever-



NTU was chosen to host the 14th World Congress of the International Federation for the Promotion of Mechanism and Machine Science at the 13th IFToMM World Congress in June.

expanding range of specializations, such as mechanical design, biomedicine, energy science and robotics. Dozens of experts from Taiwan attend the congress each time it rolls around.

Voting for the host country for the 14th IFToMM World Congress took place at the federation's 13th World Congress in Guanajuato, Mexico, in June. In a tight race, the three finalists were Germany, Japan and Taiwan. Following a 15-to-15 tie between Germany and Taiwan, Japan was eliminated and Taiwan proved victorious in the final round

of voting.

2011 has been an extraordinary year for mechanical engineering in Taiwan. Besides NTU's winning the hosting rights to IFToMM 2015, Prof. Hong-sen Yan of National Cheng Kung University's Department of Mechanical Engineering was named an honorary member of IFToMM while Prof. Shuo-hung Chang of the NTU Department of Mechanical Engineering was elected to the IFToMM Executive Council—wo hard-earned honors.

Taiwan founded the Chinese Society of Mechanics and Machine Theory in 1997. Prof. Chang-hua Fung, Department of Mechanical Engineering at National Chung Cheng University, is the society's current president. The society plays an active role in IFToMM to share Taiwan's achievements in the field of mechanical engineering with international scholars.



## Student Dentistry Team Visits Remote Schools to Teach Oral Hygiene

Established by students of the Department of Dentistry in 1999, the NTU Oral Hygiene Instruction Team spends each winter and summer vacation visiting remote schools around Taiwan to offer dental care and teach children oral hygiene. This summer, the team went to Fenglin Elementary School and Yunghsing Elementary School in Shihtan Township, Miaoli County.

The dentistry students perform basic preventive treatments,



including offering fluoride treatments, applying fissure sealants and filling cavities. While the students enjoy helping children who live in remote areas that

The NTU Oral Hygiene Instruction Team uses a fun and relaxing approach to teach kids in remote areas proper oral hygiene.

lack health services, they also feel moved by children's enthusiasm and vitality.

Over the years, the team has visited just about every corner of Taiwan, providing dental services to students at 50 elementary schools and educational institutions.

# NTU EARNS HIGH RANKINGS IN 2011 QS UNIVERSITY RANKINGS

## NTU 21st Among Asian Universities

In the 2011 QS Asian University Rankings, NTU shares the 21st spot with China's Fudan University. While NTU maintained the same ranking it received in 2010, Fudan University rose from 26th in 2009, the year QS published its first rankings of Asian universities. NTU was ranked 22nd in 2009.

NTU remains the top-ranked university in Taiwan in the QS survey; however, the university must remain vigilant to maintain its status as one of the best universities in Asia.

## NTU Sociology Program 64th in World

The QS World University Rankings of social sciences programs covers Sociology, Statistics and Operational Research, Politics and International Studies, Law, Economics and Econometrics, and Accounting and Finance.

In QS's 2011 world survey, NTU ranks in the 51st-100th bracket for Sociology, where its numbers place it in the 64th position. The university stands in the 101st-150th bracket for both Economics and Econometrics, where its numbers put it at 113th, and Accounting and Finance, where its numbers give it a 119th ranking.

## NTU 32nd in World for Geography and Area Studies

The 2011 QS World University Rankings of arts and humanities programs has rated NTU among the world's top 50 in the three categories of Geography and Area Studies, English Language and Literature, and Philosophy.

The QS survey ranks NTU 32nd for Geography and Area Studies, 37th for English Language and Literature, and 41st for Philosophy. For Linguistics, NTU falls in the 51st-100th bracket, where its numbers put it at 65th; Taiwan's National Tsing Hua University is just behind at 66th.



# NTU ATHLETES BREAK RECORDS AT NATIONAL INTERCOLLEGIATE COMPETITION



**P**roving that university life is not merely about burying one's head in a book, NTU's athletes drew upon their physical and mental prowess to claim 32

gold medals, 17 silver medals and 22 bronze medals at the 2011 National Intercollegiate Athletic Games in May. Held from May 2-10, Taiwan's largest intercollegiate sports competition drew athletes from 164 universities and colleges.

This year, Team NTU fielded 250 athletes who competed in track and field, swimming, table tennis, badminton, tennis, judo, taekwondo, archery, fencing and gymnastics.

NTU's women's table tennis team placed fifth in the women's open competition. In the general table tennis competition, our men's team claimed the silver, while the women's team grabbed the bronze. The men's badminton

team took the gold in general competition.

The swimming team performed exceedingly well at the event, nine of ten game records. Wan-jung Cheng broke four of five women's records, three in individual events and one of two in relay events, while Ping Yuan set three men's records. In all, 39 game records were broken during this year's games.

Besides demonstrating their athletic skills at the intercollegiate games, NTU's athletes have also stood out in other competitions this year. In general competition at the handball championships, our women's team won the championship and the men's team came in second. In golf, the women's team won the general team competition and the men's team placed second in team play, one shot behind the winning team. In addition, our soccer team won the soccer championships, while the women's volleyball team and baseball team each came in second in their competitions.

## International Students Enjoy Chinese Culture Nights at Global Lounge



NTU's international students enjoyed the opportunity to learn about Chinese culture in a casual setting while getting to interact with other students on four Chinese Culture Nights in March and April. These fun events were organized by the Global Lounge Student Management Team and NTU International Student Information Service with the help of the NTU Mahjong Club, NTU Tea Club and NTU Calligraphy Club as well as Prof. Tracy Hsing-lin Chung of the Department of Drama and Theater.

The first event, Calligraphy Night, took place on March 15. An instructor from the Calligraphy Club humorously entertained the students, imparting a basic knowledge of Chinese culture which made a deep impression on the students. The students first practiced the Eight Principles of Yong, which teaches the eight basic calligraphy strokes constituting the character *yong* ("forever"). Then, under the guidance of students from the Calligraphy Club, they used their brushes to write characters of their choice on traditional Chinese paper fans. The international students took the opportunity to express their creativity, adding their own spark to the characters they wrote, some even painted pictures. The final products were a true merging of Chinese (Taiwanese) and Western cultures. In the process, the international students gained a deeper understanding of Chinese culture and got to know NTU's local students better as well.

The Art of Tea Night, on March 22, began with an instructor from the Tea Club explaining the history of Chinese tea service and demonstrating its traditional method of preparation. The instructor demonstrated the way of pouring the tea from the teapot so the international students could appreciate the skills involved. After observing the demonstration and tasting the tea, the tea lovers formed three groups to try steeping an authentic and fragrant pot of Chinese tea.

The international students settled in for a night of gaming on March 23. The organizers chose mahjong to highlight Chinese culture as the game is a well-loved pastime for many local people in Taiwan. Mahjong Night commenced with an introduction to the game's history and rules of play. Then, members of the NTU Mahjong Club gathered around the tables with the novice players to coach them.

Prof. Chung's amusing style had the international students laughing all night long in the final event in the series, Chinese Opera Night, on April 25. She first led the students in painting their faces and donning Kun Opera costumes before teaching students basic movements, such as the lotus hand gesture and cloud hands motion. Chung then drew upon her creative talent to direct the students in how to play the roles of *xiaosheng* (young man), *xiaodan* (young woman), *choujiao* (clown), *xinlang* (groom) and *xinniàng* (bride) so they could perform a scene from a Kun Opera.

NTU's international students learned about calligraphy, Chinese tea, mahjong and Kun Opera on four Chinese Culture Nights in March and April.



## Former President of German Constitutional Court Speaks at Law College

**H**ans-Jürgen Papier, president of the Federal Constitutional Court of Germany, 2002 to 2010, and current Chair Professor at the University of Munich Faculty of Law, spoke as the honored guest at the College of Law's 2011 Formosa Transnational Law Lectures on April 7 and 8. While in Taiwan, Dr. Papier also visited Judicial Yuan President Hau-min Rai.

The first of the three lectures in the series was "Protection of Human Dignity."

Papier noted in this lecture that Article 1 of Germany's Basic Law stipulates that "human dignity is inviolable," and that Article 79, Paragraph 3, grants the guarantee of perpetuity to human rights.

His second lecture was on "The Tension between Freedom and Security from a Constitutional

Perspective." The speaker cited the philosopher Spinoza by stating that the ultimate goal of government is not to control its people such that they are trapped by fear or have to endure the violence of others, but



is to allow the individual to live free of fear and enjoy as secure a life as possible so that he might advocate fully the possession of natural rights for himself and others and utilize them without coming to harm. Spinoza said, "The true purpose of the state is, in fact, freedom."



Dr. Papier's third lecture was "The German Constitutional State," pointing out that Germany's Basic Law is an open constitution that has not laid down a single solution for the emerging problems of society. Dr. Papier expressed his hope that, through the resolute and steady utilization of political power, a comprehensive policy plan will emerge that will allow a responsible political system to lead the people along a well planned and proper route.

## Biodiversity and Culture Summer Program for Overseas Students in 5th Year



**E**stablished in 2007, the Biodiversity, Agriculture and Culture of Taiwan Summer Program was offered for the fifth time this summer. The continuing success of the course is a reflection of the strong ties the College of Bioresources and Agriculture maintains with its partner universities. This year, eleven international students from the University of Illinois Champaign-Urbana, Texas A&M University, the University of Maryland, Tufts

University, Nagoya University and Kasetsart University joined five local students for the four-week course, June 26 - July 23.

The course gives students from NTU and universities abroad the chance to engage in academic and cultural exchanges and experience Taiwan's culture, flora and fauna. The program couples class lectures with fieldtrips directly related to the lecture topics.

The many places the students visited this summer included Yeliu Geopark, King Car Orchid Park, Phoenix Tea Farm, Meifeng Farm and Chi-tou Experimental Forest. The activities included observing frogs, identifying plants and insects as well as observing trailside animals and intertidal sea invertebrates.

While at the Chi-tou Experimental Forest, the students conducted group research projects. This required each group to share ideas, engage in group discussions and conduct team field work. The students were assisted by two faculty members of the College of Bioresources and Agriculture and experimental forest staff who provided valuable input and helped the students establish solid experimental designs.

A blog set up in 2010 permits the students to share their experiences and provide valuable feedback that the college can use to continuously improve the program.

## STUDY OF EYE PROBLEMS IN CHILDREN BORN PREMATURELY PUBLISHED IN US JOURNAL



A study of the effect of premature birth on retinal abnormalities in school-age children conducted by a team of researchers at NTU Hospital and the College of Medicine has been published in the prestigious American journal *Investigative Ophthalmology and Visual Science*. The article, titled “Long-term Evaluation of Refractive Status and Optical Components in Eyes of Children Born Prematurely,” shows that children in the study sample who were born prematurely tended to experience relatively serious abnormalities, including myopia (nearsightedness), hyperopia (farsightedness) and astigmatism, than children born at full term.

While overall fertility rates are falling, rates of premature births are rising gradually. Retinal pathology in pre-term children is one of the leading causes of ophthalmic problems for children, whether in developing or developed nations.

The occurrence of retinal pathology in children born prematurely is related to gestational age, birth weight, oxygen supply and certain growth hormones. The current consensus calls for retinal

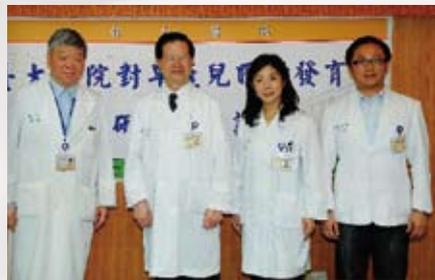
examinations after 31 weeks or four weeks after birth for any pre-term child with a gestational age less than 30 weeks or birth weight lower than 1500 grams. Freezing, laser treatment and anti-angiogenesis therapy are available to treat these children’s retinal abnormalities.

The NTU researchers assembled a sample of 108 school-aged children who had been born pre-term. They reviewed the participants’ neonatal histories and conducted detailed eye examinations of their refractive statuses as well as ultrasound examinations of their optical components, and compared the results with those of age-matched children. The study found that, compared to the control group, the children born prematurely experienced higher rates of myopia (48% vs. 29%), hyperopia (23% vs. 15%) and astigmatism (73% vs. 41%).

The study discovered that hyperopia in the test cases was caused by shorter axial length and that their myopia resulted from shallower anterior chamber depth and greater lens thickness. It also found an association between retinopathy of prematurity and significantly higher myopia and astigmatism—the more severe the retinopathy of prematurity, the more severe the subsequent refractive abnormalities.

The research team is presently conducting research into pharmacological treatments for retinal abnormalities caused by premature birth in hopes of understanding the long-term influence of these therapies on the development of vision in these children.

Government policy presently calls for eye examinations for children at the age of three. The NTU team’s research shows that children born prematurely suffer more



Researchers at NTU Hospital and the College of Medicine are making advances in understanding the effects of premature birth on retinal development.

severe refractive abnormalities and amblyopia than those born at full term. Eye screening for children born pre-term should be carried out at an earlier age, whether or not they exhibit retinal pathology. For these children, ophthalmologists should test for amblyopia at four months and one year after birth and test for refractive abnormalities when the children are two. This will permit the earlier detection of eye problems so that critical periods for treatment are not missed.



## Information and Electronics Center Developing Digital Living Technologies



NTU's international scholars enjoy an opportunity to socialize at the 7th International Scholars Reception.

Researchers at the Center for Information and Electronics Technologies integrate cutting-edge networking and digital living technologies to develop next-generation electronics-based living technologies. The center is headed by four IEEE Fellows from the Department of Electrical Engineering, Prof. Jingshown Wu, Prof. Li-chen Fu, Prof. Sy-yen Kuo and Prof. Ming-syan Chen.

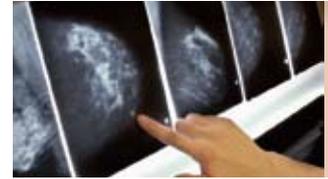
The center's Subproject 4 is developing broadband network technologies and applications to provide dependable, ubiquitous service. Subproject 4's researchers use a wide variety of wireless and optical communications technologies to construct reliable human-centric environments for high quality living. Their primary goal is to develop ubiquitous applications that support a natural and friendly interface between humans and the various computing devices around us as well as design broadband communications networks to connect these devices.

Subject 4 will design a system for attentive homes that utilizes intention-sensitive, emotion-sensitive and sense-sensitive approaches to interact with the inhabitants according to contextual information in a natural and appropriate way. The system can be extended to incorporate medical applications in hospitals. The project is guided by the belief that broadband communications networks and ubiquitous applications will provide a basis for contemporary society and future knowledge economies.

One of the center's recent accomplishments is the development of PipeProbe, a mobile sensor system that determines the spatial topology of hidden water pipes within walls. As the neutral-buoyancy PipeProbe capsule traverses pipes, it gathers and transmits pressure and angular velocity readings. Spatio-temporal analysis of this data then determines pipe lengths and turns to map the pipe's three-dimensional spatial topology.

## NTU Hospital Holds International Seminar on Medical Techniques and Devices

The medical devices industry has become one of the world's fastest growing medical industries. This rise is occurring at a time when aging populations are driving up healthcare costs and advances in information and electronics technology and genetics allow more individualized treatment.



It is to spotlight these developments that NTU Hospital, as part of a series of events marking its 116th anniversary, held an international seminar on innovative clinical research in medical techniques and devices on June 18. The seminar was intended to report on the College of Medicine and NTU Hospital recent experiences in developing innovative medical devices so as to encourage the further development of innovative medical treatments in Taiwan.

The seminar covered the latest developments and trends in medical devices research and development and invited industry representatives, government officials and academics to address practical challenges, current laws and regulations, and technological developments in the field. The seminar also featured two recent NTU successes.

Dr. Ching-chuan Jiang, director of the NTU Hospital Department of Orthopedic Surgery, introduced a new method for articular cartilage and bone restoration. This innovative surgical procedure provides patients with a safe and effective option that reduces their pain and length of hospital stays.

Prof. Shi-ming Lin of the College of Medicine's Center for Optoelectronic Biomedicine presented the Vsensor NTU. The Vsensor NTU is a portable device using integrated circuit chips that allows for the rapid, inexpensive and non-invasive identification of cervical cancer, lung cancer, liver cancer, influenza, enterovirus and bacterial infections.



# ELECTRONIC ENGINEERING INSTITUTE AT TOP OF WORLD IN ELECTRONIC DESIGN AUTOMATION

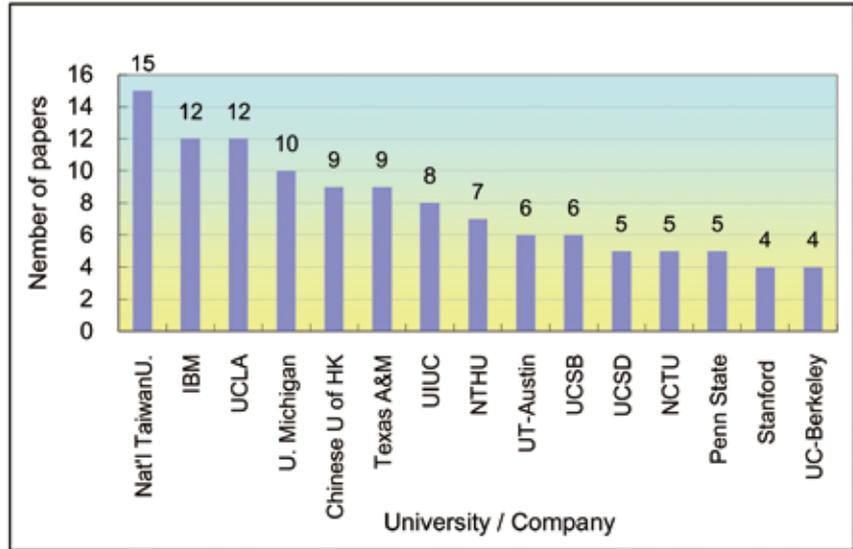


01

The Graduate Institute of Electronic Engineering once again has made NTU the university with the most

research papers to be presented at the annual IEEE/ACM International Conference on Computer-Aided Design, which will be held in San Jose, California in November of this year. With the institute's number of papers to be presented at the conference again in the double digits, this is the fourth year out of the past five that NTU led in the number of papers presented at ICCAD. The year NTU did not lead, 2008, the Massachusetts Institute of Technology presented just one paper more than NTU did.

The ten NTU papers at ICCAD 2011 were all produced by three labs at the Graduate Institute of Electronics Engineering. These labs are headed by Prof. Yao-wen Chang, whose lab will present six papers at the conference, Prof. Rick Chung-yang Huang, whose lab will give three, and Prof. Roland Jie-hong Jiang, whose lab will give one. Prof. Chang has been the world's top researcher behind ICCAD publications every year since 2006; he continues to lead not only in paper count but also in best paper award nominations.



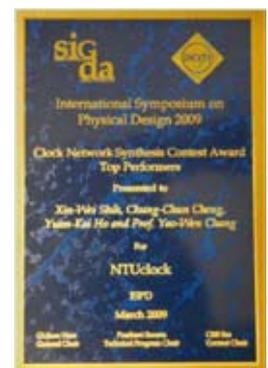
NTU led even IBM and UCLA in the number of papers presented at the IEEE/ACM International Conference on Computer-Aided Design and Design Automation Conference in 2010.

ICCAD and the ACM/IEEE Design Automation Conference (DAC) are universally regarded as the two premier conferences for electronic design automation (EDA), a field that aims to develop software tools for the design of electronic devices/chips and their design services. As the complexity of chip design continues to grow at an ever-increasing rate, EDA is rapidly becoming the inevitable approach for improving chip design productivity. As a result, the field has emerged as a key academic discipline and an indispensable part of the electronics industry.

The ICCAD and DAC along with the ACM CADathlon Programming Contest at ICCAD and the ACM ISPD2 Research Contest comprise the four major annual international events in the EDA field. The CADathlon challenges students' EDA problem-solving skills with a one-day, team-

based competition, while the ISPD Contest's goal is to solve real research problems over a six-month period. In 2009, NTU became the first and only institution to ever win all four of these events in a single year.

NTU has ranked first in the combined number of ICCAD and DAC publications each year since 2007, and it has performed at the top for the most best papers award nominations, as well. These papers have covered all aspects of EDA, from front-end logic and system synthesis/verification solutions to issues of back-end physical design, manufacturability, packaging and testing.



02



03



04



05

NTU has won many awards at the IEEE/ACM International Conference on Computer-Aided Design and Design Automation Conference in recent years: 1) 2008 ISPD Contest Award plaque, 2) 2009 ISPD Contest Award plaque, 3) CADathlon Award plaque, 4) names of the 2009 CADathlon winners- and 5) names of the 2007 CADathlon winners.

## CELS EXAMINES IMPACT OF BIOTECHNOLOGY ON ETHICS, LAW AND SOCIETY



Dr. Daniel Fu-chang Tsai, acting director of the Center for Ethics, Law and Society in Biomedicine and Technology, attends the UNESCO Chair in Bioethics Head Units Meeting in May.

The Center for Ethics, Law and Society in Biomedicine and Technology (CELS) was established in April 2007 to examine the impact of emerging technologies on ethics, law and society as well as to promote interdisciplinary research and communication in bioethics. The center has maintained an active domestic and international schedule this year and last.

Next up on the calendar, the CELS will host the International Association of Bioethics Conference of Clinical Ethics and Research Ethics as well as co-host the 12th Asian Bioethics Conference, September 28 - October 1. More than 100 international bioethics scholars will participate and present papers at these events.

The CELS has represented Taiwan in the International Network of the UNESCO Chair in Bioethics and attended the network's annual conference since 2007. CELS Acting Director Dr. Daniel Fu-chang Tsai attended this year's conference in Singapore in May. During the UNESCO Chair in Bioethics Head Units Meeting, Dr. Tsai reported on the center's progress and activities during the last two years.

One of the important steps the CELS has taken on campus this year was to initiate a relationship with the NTU Center for Systems Biology and Bioinformatics. This collaboration was aimed at exploring the ethical, legal and social impacts of biomedical research advances and applications in terms of recognition, identification, research, analysis, communication, governance and regulation.

The CELS organized numerous events for 2010 and 2011. It hosted the Conference on Medical Malpractice Dispute Resolution Mechanisms on June 4, 2010. As guest speaker, Dr. Joseph Krenitsky, Professor of Law at State University of New York at Buffalo, introduced the

concept of medical malpractice resolution in the United States.

On January 3, the CELS held the Workshop on Ethics and Risks in Science and Technology, during which Dr. David Zaruk, adjunct professor in communications at Vrije Universiteit Brussel, addressed the decline of public trust in science in Europe.

The CELS also held the two-day Winter Course on Ethics Consultation, December 16-17, and a Conference on Medical Ethics on December 18, both in 2010. The international speakers at these events included Dr. James Dwyer of the Center for Bioethics and Humanities at Upstate Medical University in New York, Dr. Kenneth A. Berkowitz of the VHA National Center for Ethics in Health Care, Dr. Hattori Kenji of Japan's Gumma University and Geok Eng Tan of Singapore General Hospital.

At the Conference on Neuroscience, Mind and the Law on November 19, 2010, Dr. Stephen J. Morse presented a talk on, "Lost in Translation? The Future of Law and Neuroscience," while Dr. Walter Sinnott-Armstrong explored the question, "Should Courts Admit Neuroscientific Evidence into Trials?" Local scholars concentrated on such issues as "Seeing Moral Responsibility" and "Translating Neuroscience Research."



Dr. Kenneth A. Berkowitz addresses the audience at the 2010 Conference on Medical Ethics.



# TAIDA FRESHMEN ORIENTATION EASES TRANSITION TO UNIVERSITY LIFE

Every September when the incoming freshmen arrive on campus, NTU is ready and waiting to

provide various registration forms and have health checkups and introducing them to library resources and campus safety systems.



Mark, a junior in Materials Science and Engineering who participated in the TAIDA Freshmen Orientation when he arrived at NTU, says that he came from outside of Taipei and had felt a little uneasy when he heard he had been accepted by NTU and would move to Taipei. He recalls how the orientation helped him quickly and smoothly to prepare himself university life-- as well as to make many new friends.

welcome them with TAIDA Freshmen Orientation. The four days of orientation activities prepare the new students for their four years at NTU by familiarizing them with the campus layout and registration procedures as well as providing opportunities for them to get acquainted and make friends.

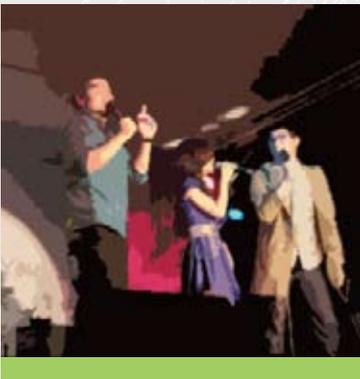
Dean of Student Affairs Joyce Yen Feng organized the first TAIDA Freshmen Orientation in 2008 after an observation trip to the United States on which she witnessed the well-organized orientation activities offered by universities there. Each September since then, the Office of Student Affairs has selected over one hundred upperclassmen to serve as orientation guides to guide the incoming freshmen in getting smoothly acclimated to student life at NTU.

While Freshmen Orientation introduces new students to the whole campus, every university department holds welcome activities as well. The Department of Geography, for example, organizes a welcome tea party and a two-day/one-night camp. At the tea party, upperclassmen introduce the department's environment and faculty specializations and show the freshmen how to select classes and use the department's online bulletin board system. They also let the new students know about the great places for eating, shopping and entertainment near the NTU campus. The welcome camp brings the students together for fun activities so they can get to know each other in a comfortable social setting. Geography student Joe Yang says these activities are helpful for freshmen because they provide an occasion for the students make friends sooner and form a sense of identification with the geography department.

Besides attending practical study and life skills lectures, the freshmen also are led on campus tours by orientation guides and join interactive group activities to get to know each other. During the four days, the university prepares the freshmen for student life at NTU by helping them to complete



# NTU Arts Festival Rocks the Campus and Community



The month-long NTU Arts Festival kicked off to the sights and sounds of bouncing pop music on the evening of April 29. The festival's exciting outdoor

The festival closed with a bang as more great pop music acts rocked the NTU campus on May 27. The closing ceremony was originally scheduled for an outdoor stage on verdant Cheng-hsing Lawn in front of the NTU Library, but inclement weather forced it to be moved indoors. Once set up indoors, the lineup, which included Electric Message, Page Down, Ado, Katncandix2, Lala Hsu and WonFu Jr., thrilled the crowd with their exciting performances.



The weather also caused the festival's closing carnival parade to be postponed by a week. It nonetheless ended up being a wonderful closing party. The parade, which included performers as well as artworks, ultimately traversed both the campus and its surrounding neighborhoods, sharing NTU's passion for art with the local community. The success of the parade was due to its bringing into play the multiple elements of campus and community service, artistic expression, public

participation and the exhibition and performance of art.

opening ceremony featured musical performances by famous Taiwanese acts Eve Ai, 1976, One Two Free, Yen-J, Silverbus and Chris Liao as well as a production by the student film group Project 10.

This year's Arts Festival was built on the concept of public participation. Moreover, in addition to the three categories of photography and video, music, and theater on which the festival has focused in the past, this year saw the arrival of an outdoor element, including outdoor dance performances and large-scale art installations placed around campus. In all, the festival offered 79 creative and entertaining performances and exhibitions that served to promote the appreciation of art here on campus and in the surrounding community as well.

The festival also created the Lu-ming Creative Outdoor Marketplace, which occupied Lu-ming Square every Friday, Saturday and Sunday from May 6 to May 22. The market's organizers adopted a grassroots approach, emphasizing goods with simple, natural and organic designs.



Participants are all smiles as the NTU Arts Festival's carnival parade hits the road.

Participants are all smiles as the NTU Arts Festival's carnival parade hits the road.



# NTU Student Designs Website to Help University Entrance Examinees



NTU student Chung-lun Chiang has designed a website that helps high school seniors calculate the university departments for which their university entrance exam scores might qualify them.

Chung-lun Chiang, a junior at the Department of Computer Science and Information Engineering, has designed a website that helps high school seniors calculate quickly and conveniently the university departments for which their university entrance exam scores might qualify them. Chiang's website (<http://exam.benck.tw/cross/>) has not only become popular among Taiwan's high school seniors, many high schools even recommend it to their students.

Chiang's website received 15 million hits in April and has accumulated over 1.7 million unique visitors since going on line. Its popularity has made it the first search result Taiwanese students find on Google when they query "cross reference list check" in Mandarin.

Chiang's inspiration for the website arose from his own difficulties in checking university department lists after he took the entrance exam three years ago. He designed the first version of his website to allow students to estimate their standings by comparing their exam scores with those of the previous year's examinees. Chiang later upgraded the site with name search and cross referencing functions to make it even more convenient.

The busy Chiang is involved in other online endeavors as well. He personally designed and runs a multifunctional online account keeping site called MoneyMoney (<https://money.benck.tw/>). Also, for the

last five years, he has deejayed music programs on HIGH Radio (<http://www.highradio.tw/>), an Internet radio station he designed.

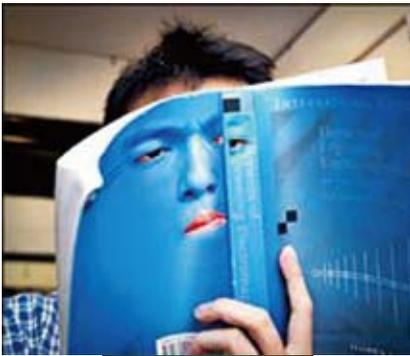
Moreover, during last year's major mayoral elections, Chiang organized other students in forming a group to monitor the media's reporting process for election results in order to determine whether the media exaggerated voting numbers. Though the team was up and running on the day of the elections, its servers were overpowered by high traffic volumes and its effort failed. Despite this setback, Chiang is determined to be ready to monitor the media's reporting of election results during next year's elections.

Chiang uses his own money to purchase server space and bandwidth for his sites, which he sets up overseas. The websites may be used free of charge and he relies only on advertising to support them.

Chiang is currently preparing to take part in an exchange program at the University of Illinois. When asked what his next project might be, he replied, "We'll see what problems I run into that need to be solved."



# Electrical Engineering Student Wins Big at Paris Px3 Photo Competition



Master's student Sheng-wen Lo's face appears on the cover of a book in this digitally-manipulated photo.

Sheng-wen Lo, a master's degree student at the Department of Electrical Engineering, fared exceptionally well at the prestigious Prix de le Photographie Paris 2011 Photo Competition, coming away with two gold medals, one silver and two bronzes as well as an overall third-place award in the non-professional advertising category. Called Px3, the competition drew submissions from more than 5,000 photographers from over 100 countries this year. Some of the winning works were exhibited in Paris from late June to mid July.

Lo's "Curiously Balanced: Gas Stations in Taiwan" earned him third place in the non-professional advertising category and a gold medal in the non-professional advertising architecture category. This series includes five photos of gas stations around Taiwan that were shot just as dusk was fading and the stations' lights had come on.

Around the time Lo chose to photograph his gas stations, he had been feeling dispirited, and he gained encouragement from the warm feeling of the stations'



Lo won a gold medal at the Prix de le Photographie Paris 2011 Photo Competition for his photos of gas stations around Taiwan.

lights as the darkness of night came on. He was also inspired in his choice of gas stations as a subject in part by the works of the famous German couple Bernd and Hilla Becher, who painstakingly photographed abandoned industrial architecture throughout Germany and other countries over a forty year period. Lo respects the duo's insistence on waiting for the perfect weather conditions and times of year to capture their images of the decaying industrial structures.

Lo's other gold was awarded in the non-professional advertising product category for his photo "Mao De Bao N," a warm picture of a sleeping cat curled up around a lens cap.

In the non-professional fine arts digitally enhanced category, Lo claimed a silver medal for "Mother, in USA," a photo of his reluctant mother on her first trip to the United States, and a bronze for "Abnormally White," a series of bleach-white photos of fruits and vegetables.

Though Lo majors in electrical engineering, he enjoys taking

art and multimedia courses as well. Lo says he entered the competition in order to prepare to apply to photography and multimedia arts schools overseas.

Lo's photography can be viewed at <http://www.flickr.com/photos/coldcatcola/>.



Lo claimed another gold medal for his photo "Mao De Bao N."



This photo "Mother, in USA" won the master's student a silver medal at Px3.

## Chinese Painting and Calligraphy Exhibition Returns for Fifth Year



The 5th NTU Faculty and Student Chinese Painting and Calligraphy Exhibition brightened the First Student Activity Center with traditional Chinese art from May 14 to May 29. Organized by the Office of Student Affairs Student Activity Center Administration Division, the exhibition featured nearly one hundred works created by members of the Faculty and Staff Chinese Painting and Calligraphy Club and Student Calligraphy Club as well as renowned artists from on and off campus

The exhibition was established five years ago in order to boost the atmosphere of arts and culture on campus as well as encourage the appreciation of the traditional Chinese arts among the faculty, staff and student body. At the time, there were concerns that, in an era when people had begun to use keyboards even more than pens, brushes and ink were being neglected and calligraphy and traditional art were waning in popularity.

The exhibition's opening day accented the artworks on display with live performances and demonstrations. The NTU Chinese Music Club and NTU Crosstalk Club offered performances of beautiful classical Chinese music and comedic xiangsheng skits. Many of the artists in attendance, including Calligraphy Club adviser Prof. Tien-ssu Su and Department of Electrical Engineering alumnus You-jia Huang, thrilled the guests with displays of their skills with a brush. These activities were

followed by a tea party that allowed the artists and guests to chat about the beauty of traditional Chinese art.



Calligraphy master Prof. Tien-ssu Su shows off his skills with a brush.

Two lectures were also held during the period of the exhibition. The lectures provided the calligraphy masters Prof. Tien-ssu Su and Chen-nan Chu, director of the Chinese Calligraphy and Painting Society, opportunities to share the rich creative experiences.

Prof. Su talked about his life as an artist before leading a calligraphy demonstration that allowed the attendees to enjoy the pleasure of putting brush to paper. Director Chu augmented his lecture with video projections of artworks and explained how he conceived his works, the processes of their creation as well as the thinking behind the placement of signatures.

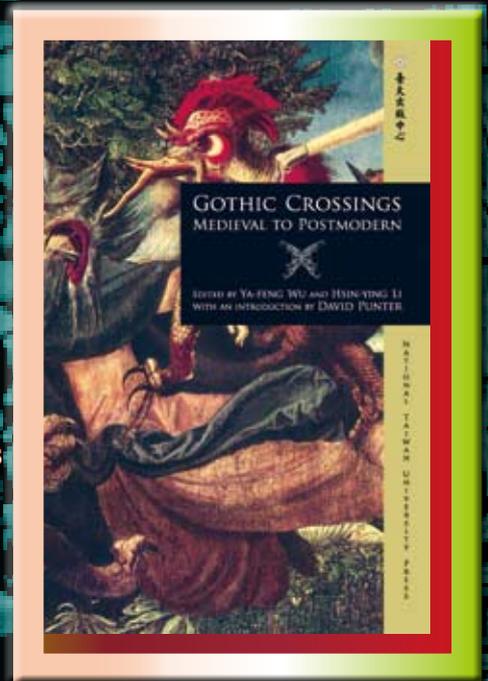
The active promotion of arts and culture is especially important at NTU, because, despite its number one status, the university is the only one in Taiwan with no art college. The university therefore made the promotion of the arts on campus an important feature of its Aim for the Top University Project.



## Essay Collection Explores the Gothic from Medieval to Postmodern Times

National Taiwan University Press has published a collection of essays on the Gothic called *Gothic Crossings: Medieval to Postmodern*. Edited by Prof. Ya-feng Wu and Prof. Hsin-ying Li of the NTU Department of Foreign Languages and Literatures with an introduction by Prof. David Punter of Bristol University, the collection features contributions by academics in Taiwan and the United States.

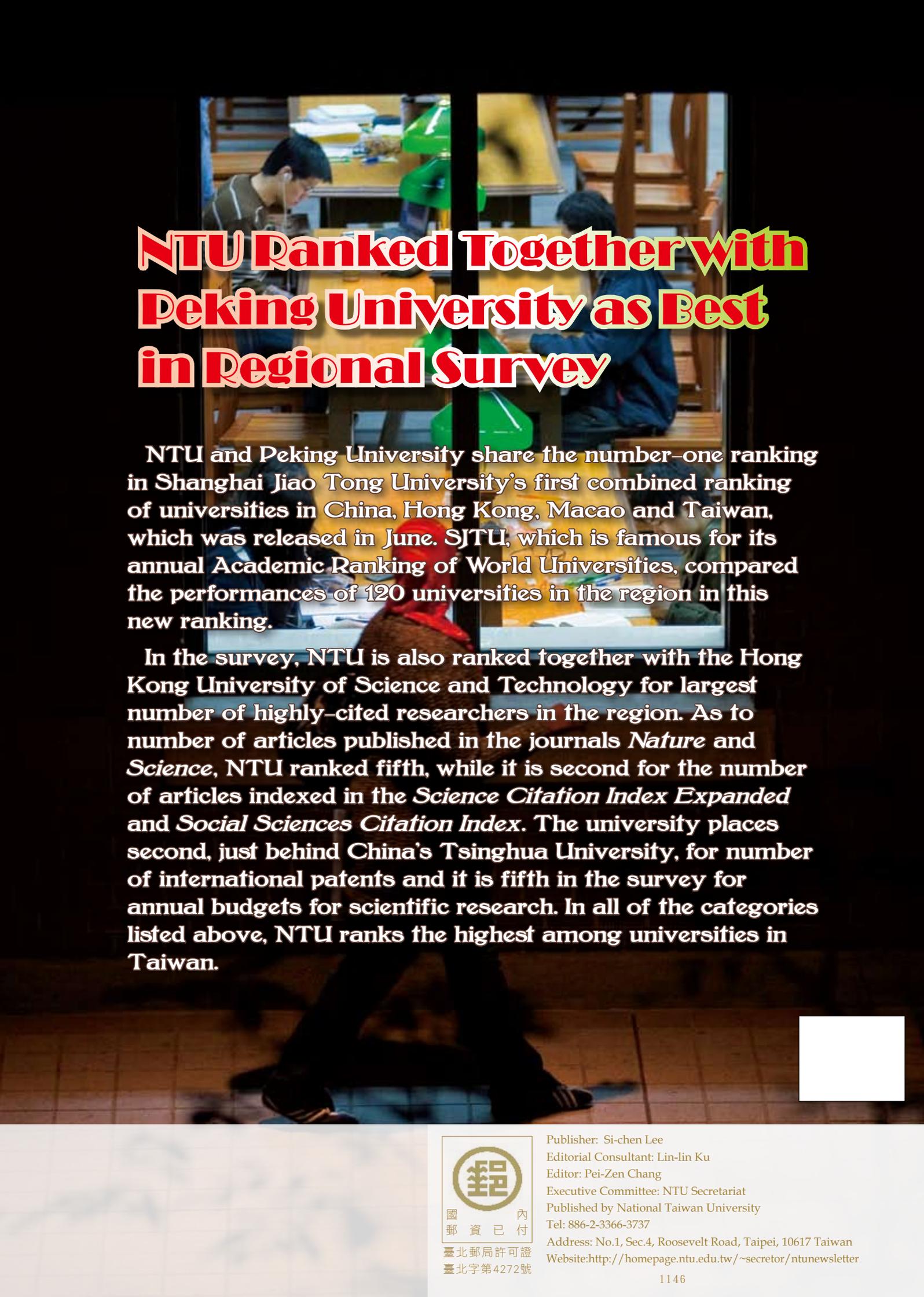
The collection conveys the fluidity, openness and amorphous multiplicity of the Gothic as idea and as genre by moving from medieval Gothic England and the early American colonial settlements, through High Romanticism and the Gothic variants at the turn of the 19th and 20th centuries, to contemporary London as a Gothic site.



The first three essays explore early Gothic themes. They include Ming-tsang Yang's "Gothic Vision and Bodily Memory in The Book of Margery Kempe," Wesley Xi's "Jonathan Edwards' Christian Gothic: 'Sinners in the hands of an Angry God'" and Pamela Kao's "Byron's Appropriation of Gothic Elements in the Greek and Turkish Episodes of *Don Juan*."

The next three essays address such representative figures of Gothic writing as the Wandering Jew and vampires. They include Pao-hsiang Wang's "Wandering Jews between Two Worlds: The Erotics and the Ethics in Ansky's *The Dybbuk*," Ya-feng Wu's "'Ignoring that there was a Corpse': The Foiled Gothic in *Tess of the d'Urbervilles*" and Min-tser Lin's "From the Metaphoric to the Literal: Scientific Reconsideration of Phenomena of Vampirism in Nineteenth-Century Vampire Discourse."

The last four essays consider the Gothic in the contemporary world. They include Eva Chen's "Contemporary London Gothic: Urban Space and the Return of the Past," Su-ching Huang's "'Nothing is Natural': Gothic Discourse in Gish Jen's Novel *The Love Wife*," Iping Liang's "Ghost Dances: Gothic Aesthetics in Gerald Vizenor's *Chancers*" and Han-yu Huang's "Vampirism Wired: A Žižekian Critique of Contemporary Technoculture."



# NTU Ranked Together with Peking University as Best in Regional Survey

NTU and Peking University share the number-one ranking in Shanghai Jiao Tong University's first combined ranking of universities in China, Hong Kong, Macao and Taiwan, which was released in June. SJTU, which is famous for its annual Academic Ranking of World Universities, compared the performances of 120 universities in the region in this new ranking.

In the survey, NTU is also ranked together with the Hong Kong University of Science and Technology for largest number of highly-cited researchers in the region. As to number of articles published in the journals *Nature* and *Science*, NTU ranked fifth, while it is second for the number of articles indexed in the *Science Citation Index Expanded* and *Social Sciences Citation Index*. The university places second, just behind China's Tsinghua University, for number of international patents and it is fifth in the survey for annual budgets for scientific research. In all of the categories listed above, NTU ranks the highest among universities in Taiwan.



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