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NTU AT A GLANCE

The Evolving College of Law: Gratitude, Legacy, Innovation
Solomon Islands President Derek Sikua paid a visit to NTU on May 12 as part of his official state visit to Taiwan during May 6-12. NTU President Si-chen Lee warmly greeted President Sikua and his eight-person delegation during their visit to NTU. Dean of International Affairs Tung Shen joined Taiwan’s ambassador to the Solomon Islands, George Chan, and Solomon Islands ambassador to Taiwan, Beraki Jino, in accompanying the presidential delegation during its visit to NTU.

On the day of the visit, the presidential delegation motorcade went to the Administration Building where it was received by several NTU Student Ambassadors. The Student Ambassadors led the delegation on a tour of scenic sites on the NTU campus where they posed for group photos. The delegation then met with President Lee in the NTU VIP Lounge where Dean Shen spoke about the university’s mission as well as NTU’s developments in international affairs. She also warmly welcomed students from the Solomon Islands to enroll at NTU. There are presently four Solomon Islander students pursuing degrees at NTU. As the Solomon Islands are rich in natural resources, university officials also proposed engaging in joint research there in the natural sciences. During this summer vacation, a group of NTU students will travel to the Solomon Islands to do volunteer work. Their trip will allow NTU students to gain a deeper understanding of the island nation and promote cross-cultural exchanges with one of Taiwan’s diplomatic allies.

Responding to the Solomon Islanders’ wish to develop their agricultural resources, NTU arranged for the delegation to visit the College of BioResources and Agriculture where Dean Bao-ji Chen briefed them on the college’s mission and achievements. The delegation was also received by the college’s Prof. How-jing Lee, Prof. Shih-hsun Hsu, Prof. An-i Yeh, Prof. Ta-te Lin, Prof. Chu-yang Chou, Prof. Hann-chung Lo and Prof. Jui-jen Chou. The NTU Student Ambassadors to the Solomon Islands, led by Prof. Ming-jung Ho, were also present there. The two sides held discussions and exchanged ideas on agriculture. The newly-selected Student Ambassadors reported to the state guests on their upcoming trip to the Solomon Islands this summer, including their plans and goals.

Charming and witty, President Sikua responded to each of the points made by the students and declared that he looked forward to their promoting cultural exchanges between Taiwan and his nation and creating opportunities for Solomon Islanders to study Mandarin. Following the briefings, Dean Chen escorted the presidential delegation on a tour of the college’s Lee Teng-hui Alumni Documents Exhibition Room, NTU Ecological Pond and NTU Experimental Farm.

Although the delegation’s visit to NTU lasted only two hours, it provided abundant opportunities for the sharing of important information. Moreover, the visit solidified the friendship between these two nations and created new opportunities for cooperation between NTU and the island nations of Oceania.
NTU President Si-chen Lee led a delegation of NTU administrators and faculty to Japan’s Kyushu University in early April. The delegation included Dean of International Affairs Tung Shen, Prof. Cheng-jen Shih, chairman of the Department of Entomology, and Prof. Chia-jung Lu of the Graduate Institute of Linguistics. President Lee visited in response to an invitation extended by Kyushu University President Setsuo Arikawa when he attended the annual meeting of the Conference of Asian University Presidents at NTU in November 2008, during NTU’s 80th anniversary celebration. During his visit to Kyushu University, President Lee was the guest of honor at the university’s Freshmen Initiation Ceremony, delivered a keynote speech while signing an agreement for scholarly exchange and collaboration between the two institutions and participated in the opening ceremony of the Japanese university’s Ito Campus.

The Freshmen Initiation Ceremony is an important tradition at Kyushu University. This year, it took place on April 7 and was attended by 2,700 newly-accepted students and their parents. In an stirring speech, President Lee urged the students to make full use of their four years at Kyushu University and to cultivate four attitudes. First, he encouraged the students to develop a broad base of academic knowledge so as to be adaptable in a rapidly changing world. Next, he stressed the need to be innovative, adding that it is not necessary to be first, but to be the only one. He also called on the students to pay attention to the crises confronting humanity. Finally, President Lee emphasized the importance of having an international outlook and gaining a deeper understanding of the cultural, political and economic circumstances of emerging nations.

NTU signed a partnership agreement with Kyushu University in 2001; the university is among 33 Japanese universities with which NTU has established partnerships. Since then, 17 NTU students have studied at the Japanese university as exchange students and the College of Medicine and NTU Library have maintained close research relationships with their counterparts at KU. The new agreement signed by President Lee on this visit raised the level of cooperation between the two universities another step. As a reflection of the kind of collaboration the universities can achieve, Prof. Shih of the Department of Entomology took advantage of the visit to propose teaming up with Prof. Kazuo Ogata of the Kyushu University Institute of Tropical Agriculture on conducting research on red fire ants.

On this trip, President Lee’s delegation also visited the Kitakyushu Campus of Waseda University’s, which was established as an “academic research city” in an effort to upgrade local industry by attracting academic institutions. The campus includes the Graduate Institute of Information, Production and System, where classes are taught in Japanese and English and international students account for 70% of enrollment. NTU’s Department of Computer Science and Information Engineering is currently discussing the establishment of a joint degree program with the institute.
Generous Donations Finance Groundbreaking for Two Innovative NTU Research Buildings in May

NTU held separate groundbreaking ceremonies for two innovative research buildings on May 13. One was for an academia-industry cooperation R&D complex that will be the first building on NTU's Chubei Campus in Hsinchu in northern Taiwan; the other was for a pharmaceutical science and technology building in the university's College of Public Health campus. The main structures of the two buildings are scheduled to be completed in December. Interior work will continue into 2010.

The academia-industry cooperation building will combine the resources of NTU with those already available in the Hsinchu area, home to the Hsinchu Science Park. It will be a vortex in the synergy of academic-industry cooperation as well as a catalyst for the development of the Hsinchu area. Moreover, this building will resolve problems caused by the university's limited campus space.

Initially, the Chubei building will house interdisciplinary research centers for the College of Medicine, College of Engineering, College of Electrical Engineering and Computer Science and College of Life Science as well as an academia-industry cooperation laboratory. The building is hoped to shorten the distance between the Chubei Campus and NTU's Main Campus and to create new opportunities through frequent interactions between these campuses.

The development goals for the pharmaceutical science and technology building include: 1) boosting the quality of pharmacology education in Taiwan for the purpose of training qualified clinical pharmacists; 2) enhancing the quality of Taiwan's pharmaceutical science and technology research to assist the government in promoting the development of pharmaceutical science and technology and carrying out education and research so as to make the building a strategic center for the training of specialized research personnel in the field of pharmaceutical science; and 3) providing assistance in the government's development of the pharmaceutical manufacturing industry as well as working in coordination with the College of Medicine's Drug Research Center to bring together scientists from different areas of specialization to conduct interdisciplinary research so that the nation's pharmaceutical science and technology capabilities meet international standards at the earliest date.

The construction of these two buildings was made possible by generous donations from industry heavyweights and influential NTU alumni. Dr. Jane H. Hsiao, an alumnus of NTU's Department of Pharmacology, provided significant funds for the construction of the both buildings. Dr. Samuel Yen-liang Yin, CEO of Ruentex Group, instructed Ruentex Engineering and Construction Co. to carry out construction work for the buildings free of charge and personally absorbed architectural design fees for the Chubei building, while also donating additional funds for the pharmaceutical building. Mr. Hsing-hwa Lo, chief architect of the Asia Design Group, designed the pharmaceutical building for free. Etron Technology and Health Banks both signed agreements for academia-industry alliances with NTU for the Chubei building, while Dr. Nicky Lu, chairman of Etron Technology, donated stocks for the building's construction.
The Research Center for Digital Humanities has initiated significant collaborative efforts with the British Museum, Taiwan Provincial Consultative Council and the Council for Cultural Affairs over the previous year. While the center digitalizes precious resources throughout the NTU system, it also pursues partnerships with international and domestic organizations to facilitate research and teaching at NTU.

In September 2008, the center’s Director Jieh Hsiang along with Prof. Chia-yu Hu of the Department of Anthropology signed an agreement with Jan Stuart, director of the British Museum’s Department of Asia, for access to the British Museum’s digital collections on Taiwan, setting a precedent for cooperation with digital centers overseas. The British Museum also agreed to allow public use of the digital collections online and to publish books with NTU.

The British Museum has 370 artifacts from Taiwan in four collections: 1) the Christy Collection, which was collected and acquired in the 1870s; 2) gifts from the Taiwan governor-general for the Japan-British Exhibition in White City, England, in 1910; 3) the collection from the Royal Botanical Gardens in Kew, England, transferred roughly in 1863 and the 1890s; and 4) donations from individual contributors.

These items were acquired in early stages of Taiwan’s history and their like are rarely seen in Taiwan today. Consequently, they are highly beneficial to researchers worldwide in gaining an understanding of the material culture of early Taiwan and the ways in which the Western world perceived Taiwan during the mid-nineteenth century.

On October 30, 2008, Director Hsiang and Lin-ya Yu, speaker of the Taiwan Provincial Consultative Council, signed a digitization collaboration agreement under which TPCC is providing digitized records pertaining to Taiwan’s democratization process. The council’s archives span the 52-year period from the founding of the Provincial Legislature on May 1, 1946 to the termination of the Provincial Assembly on December 20, 1998, and include provincial representative office archives, communiqués, assembly records, collected inquiries and proposals made by members of parliament, oral histories, and compilations of historical material.

TPCC’s archives are extremely important for academic research in Taiwanese history, political history and the history of parliamentary politics. Currently, the TPCC’s digital archive includes a total of 89,660 entries and 1,079,019 images dating from 1946 to 1995.

NTU President Si-chen Lee and Minister Pi-twan Huang of the Executive Yuan’s Council of Cultural Affairs signed the Sustainable Management of the National Repository of Cultural Heritage Collaboration Memorandum on March 9, 2009. The council signed the memorandum with the aim of completing its new database of cultural heritage by the centennial anniversary of the Republic of China.

The CCA began building the National Repository of Cultural Heritage seven or eight years ago and since then has accumulated 1.5 million data records across 15 categories, including fine arts, music, drama, dance, cartoon, literature, architecture, film, ancient maps, artifacts, newspaper, poems from the Han dynasty and news reports.
Prof. Ding-shinn Chen Receives 2009 EASL International Recognition Award for Liver Disease Research

The European Association for the Study of the Liver awarded Prof. Ding-shinn Chen of the NTU College of Medicine its EASL International Recognition Award for 2009 for his outstanding contributions to the understanding of liver diseases. Prof. Chen is the first scholar from Taiwan, and only the second in the world, to receive this prestigious award.

In his early years, Prof. Ding-shinn Chen worked closely with the "Father of Taiwan’s Liver Disease Studies," Prof. Juei-low Sung. They promoted Taiwan’s type B hepatitis research onto the world stage, and persuaded the government to formulate a large-scale hepatitis prevention and control plan, making Taiwan the world’s first nation to adopt comprehensive hepatitis B vaccine injections.

Prof. Chen is currently a distinguished professor of the Internal Medicine Division of the NTU Hospital and also a chair professor of the College of Medicine, specializing in hepatology. Prof. Chen and his colleagues’ research has contributed to the understanding of the pathogenesis of hepatitis B, hepatitis complications, early diagnosis and treatment of hepatocyte carcinoma as well as the prevention of hepatitis B virus infections. He has developed an effective combination therapy for chronic hepatitis C that has gained wide acceptance around the world. It has saved countless lives.

Law Debate Team Wins Championship in Asia Regional Round of 7th ELSA Moot Court Competition on WTO Law

A student debate team from the Graduate Institute of Interdisciplinary Legal Studies won the championship of the Asia Regional Round of The European Law Student Association’s Moot Court Competition on WTO Law, held in Taipei during March 25-28. The NTU team bested nine other teams from universities in Taiwan, Japan, South Korea, Hong Kong, India, Vietnam, the Philippines and Indonesia.

This was the fourth consecutive year that the College of Law’s Asia Center for WTO Health Law and Policy, called the WTO Center, hosted this regional competition. Under the theme of biofuel trade and environmental protection, this year’s competition explored the issues of free trade and environmental protection as related to biofuels.

The members of the NTU team were graduate students Mr. Jianfei Li, Mr. Hsien Wu, Miss Yu-shan Kao and Miss Wei-jeng Hong. They were advised by Prof. Tsai-yu Lin (an external consultant for the WTO Center) and student coaches Mr. Ding Jin and Mr. Yueh-ting Yang. In addition to being named champions, the team received the competition’s Best Respondent Written Submission Award, while team members Mr. Li and Mr. Wu won the Best Orator Award in both the preliminary round and the elimination round.

The WTO Center also hosted this year’s ELSA World Moot Court Competition during May 19-23. This was the first time the world competition was held outside of Geneva. In this competition, NTU’s team competed with 20 teams from around the world.

Established in 1966, EASL is the world’s leading organization in liver disease research. It has 28 member nations across Europe and draws over 7,000 participants to its annual meetings. EASL established its International Recognition Award in 2008, and only two people have received the award to date. The association’s conferring of this award on Prof. Chen in just its second year is indicative of the global recognition his research achievements have received.
Prof. Chen-ying Huang of the Department of Economics led a research team that used functional magnetic resonance imaging (fMRI) to study the reactions of a group of subjects in two different gaming situations. The research discovered that, in human decision-making, reasoning and intuition involve different cerebral cortical areas and different degrees of activation. Prof. Huang’s research, which integrated economics with neuroscience, was the first of its kind to be published in the journal *Science*.

Psychological research indicates that human thinking can be divided into reason-based deliberation and intuitive thinking. The former is slow and controlled, whereas the latter is fast and emotional. This study focused on the roles these two different types of thinking play in strategic interaction.

Game theory gives a profuse description of reason-based deliberation in strategic interaction situations. For instance, in the prisoner’s dilemma game, two prisoners will make decisions to confess based on their respective reasoning. Since this type of game relies on people’s resorting to rational thinking to determine the actions they will take, it is also known as a "dominance solvable game." However, as the 2005 Nobel laureate Thomas Schelling has pointed out, in some strategic interactions the two sides playing the game have to make the same choice even though they cannot communicate with each other.

In this type of game, reasoning does not benefit decision making. Players must use intuition to search for the "focal point" of mutual concern in order to succeed in making the same decision. Games of this nature that rely on intuition are referred to as "coordination games."

Basing its experiments on these two game models, the team used fMRI to measure the activation of the cerebral cortex of subjects when they were confronted with dominance-solvable games and coordination games with a view to studying the neuro-psychological mechanism implicit in their reasoning or intuitive thinking.

The experiment successfully located the neuro-psychological processes behind the two types of games. The results indicate that, in comparison with intuitive thinking, in reason-based deliberations the degrees of activation in the precuneus and fronto-parietal areas of the brain are higher. These areas are correlated with rational thinking. Intuitive thinking however causes more activity in the insula and anterior cingulate cortex. Recent studies have shown that the insula and anterior cingulate cortex are associated with social behaviors such as collaboration, trust, empathy and love. These behaviors often involve complex factors, resulting in a need for fast and appropriate responses. This bears a similarity to coordination games in which subjects must rely on their intuition to quickly find the focal point of mutual concern.

The research also shows that activation in the fronto-parietal areas of the brain increases when the difficulty of rational thinking increases, and that activation of the insula increases when intuitive thinking becomes easier. It indicates that there are quintessential differences between these two types of thinking—the activities of the cerebral cortex are positively correlated with the degree of difficulty of rational thinking, whereas they are negatively correlated with the degree of difficulty of intuitive thinking.
Prof. Chi-fang Chen Awarded Navy Medal for Developing Indigenous Sonar Performance Analysis System

Prof. Chi-fang Chen of the Department of Engineering Science and Ocean Engineering has been awarded the Naval Distinguished Service Medal for helping the Ministry of National Defense develop Taiwan’s first indigenous sonar performance analysis system.

For nine years beginning in 1995, Prof. Chen led the research team at NTU's Underwater Acoustics Laboratory in conducting nine research projects for the development of the software for ASORPS (Advanced Sonar Range Prediction System). The system allows operators to input relevant data in order to obtain decision-making information for battlefield commanders. The team received uninterrupted funding support from the National Science Council’s Defense Technology Cooperative Applied Research Unit and related naval units, including the Anti-submarine Warfare Command Center, Anti-submarine Air Command, Atmospheric Ocean Survey Bureau and Anti-submarine Warfare Support Center.

ASORPS is Taiwan’s first independently-developed sonar performance analysis system, and is the first such system designed specifically for the seas surrounding Taiwan. Prof. Chen’s work stands as a successful example of academic cooperation in the development of defense technology. ASORPS is capable of not only predicting environmental data of a marine battle zone, but can also analyze the optimal military tactics for such environments.

In her effort to make the functions of ASORPS more comprehensive, Prof. Chen has completed some related research projects, including "Evaluation of the Effectiveness of High-frequency and Low-frequency Sonar in the Seawaters Surrounding Taiwan," "Study of the Forecast Model for Underwater Background Noise in the Oceans Surrounding Taiwan," and "Establishment of an Environmental Database Module and System Upgrade."

The United States Navy’s Atmospheric Ocean Survey Team visited Taiwan in May 2007 to perform an evaluation of ASORPS and concluded that ASORPS is highly beneficial to the support of anti-submarine warfare. The US team determined that, if the Ministry of Defense continued to provide budgetary and manpower support for the project, the system would achieve the same functions as those of the PC-IMAT system used by the US Navy. The results of the US evaluation indicate that the research and development capabilities of Taiwan’s military as well as ASORPS itself have reached international standards.

The goals achieved by the Underwater Acoustics Lab between 2004 to 2007 include the establishment of an uncertainty statistical analysis model for marine and acoustic environment data to provide analytical data to field commanders for making tactical decisions and the combination of information integration technology with marine data forecast models and underwater acoustic data solution models for the establishment of a process for the prediction of sonar range, allowing Navy warships to obtain the best detection performance.
African Cultural Night Celebrated by Over 500 Revelers in March

The NTU Foreign Students Association, supported by the Office of International Affairs, held the first African Cultural Night in Taiwan at NTU’s GIS Convention Center on March 28. The festive event included speeches by distinguished guests, a quiz about Africa, a video presentation, reflections on Africa, drumming and dance performances, a fashion show of African women’s dresses and a buffet of African dishes. Over 500 people, including government officials from Taiwan and numerous African nations, attended the event, causing a momentary traffic jam in the NTU campus.

The NTUFSA and OIA set up the African Cultural Night Committee, chaired by NTU student and NTUFSA Vice-President Edward A. Goka and comprised of African students studying at different universities in Taiwan, to organize the event around the objective of sharing African cultures with the people of Taiwan and other global citizens in Taiwan. NTU, the Africa Taiwan Economic Forum and African embassies in Taiwan provided funding for the event.

Distinguished guests included Ambassador Mowdo Juwara of Gambia and his family, Ambassador Sawadogo Y. Jacques of Burkina Faso and his family, Ambassador Ladislau d’Almenda of the Republic of Sao Tome and Principe and his family, NTU Deputy Dean of International Affairs Jer-ming Hu, Samuel S. Kuo of the Ministry of Foreign Affairs’ African Affairs Division, eminent National Chengchi University Professor of African Politics Chan-shen J. Yen, Eva Su from the Africa Taiwan Economic Forum, Hezekiel Dube from the Embassy of the Kingdom of Swaziland as well as Ibrahim Muhamad from the Nigerian Trade Office. Also in attendance were numerous staff members from African embassies and trade offices in Taiwan and their families, staff of the MOFA and ATEF, Africans attending university and working in Taiwan, local students and other people from around the world studying and working in Taiwan.

In his speech, Deputy Dean Hu thanked the committee for organizing “the greatest African cultural event” ever in Taiwan and expressed his wish that the event be held annually. The MOFA’s Kuo spoke of the event as providing a great opportunity for African students to work together and gives the Taiwanese audience a chance to appreciate and understand the culture and heritage of Africa.

Ambassador Juwara observed that the event was fused with the African cultural awakening that came on the heels of the 1976 African Charter, which highlighted the need for the promotion of African culture. He ended by urging all Africans in Africa and around the world to serve as African cultural ambassadors.

In his reflection on Africa, Yusuf Touray of Gambia pointed out that, in the modern age, and for a very long time, Africa has been subjected to myths, stigma, stereotypes, misrepresentation and misinterpretation, dragging the continent and its origins into dishonor. He reminded the audience that science has proven that all races evolved from Africa and urged Africa to forgive and forge ahead to prosperity.
Department of Chinese Literature's BA Program for International Students Makes Great Progress

NTU's internationally renowned Department of Chinese Literature is one of the top choices for students around the world interested in Sinology and Chinese literature. In response to this interest, the department made efforts to design a Bachelor's Degree Program for International Students in 2007 and kicked off its first year of recruiting in early 2008. The program aims to tailor the department's Chinese studies environment to the special needs of international students while helping achieve NTU's goal of bringing a greater number of international students to the campus.

Students participating in this international program take the same courses and graduate with the same diploma as local Taiwanese students. However, their required courses are designed for their specific needs and learning curves. The program's courses are organized around modern and classical linguistics, literature and culture. The department has completed a review of the program following the completion of its first year and reports that it has made great progress.

The department limits the number of students in the program to 20 in order to achieve a low teacher-student ratio that allows for close interaction. It also assigns local graduates as teaching assistants for students who need extra help. In order to keep the international students informed of relevant administrative matters, provide help in their everyday living needs and answer any questions they may have, the department holds an Advising Day as well as a conference with the department chair. The department together with the College of Liberal Arts and NTU provide financial assistance through various scholarships and tuition reductions. Students in need of financial support can consult with department staff to get help with the application process.

The success of the first year of the program led to positive feedback from students. Moreover, recruitment efforts in 2009 enjoyed a nearly 150% increase in the number of applicants, with a total of 31 applicants as compared to 13 in 2008. The nationality distribution of applicants has also expanded to a slight degree. While, as in 2008, there was still a high percentage of South Korean applicants, 39%, and Southeast Asian applicants, 35%, this year the program has received applications from four students from the United States and Turkey. The department has admitted 23 international students (with three as extra members) to the program this year.

Those interested in the Department of Chinese Literature's Bachelor's Degree Program for International Students can get more information at http://www.cl.ntu.edu.tw/main/recruit/NTU_International/international_frameset_e.html.
NTU hosted the 3rd Taiwan International Students Soccer Festival May 8-10. Boasting more than 200 international student soccer players from universities around Taiwan, this mini World Cup was marked by camaraderie and friendly competition.

This was the third year that NTU hosted this soccer event, and the organizers showed their enthusiasm throughout—from the initial preparation stage to the festival itself. “This is the most prestigious sports event in Taiwan organized by international students for international students. Furthermore, this event unites local students and international students because we all work together in preparing for this event,” said NTU international student Karel Moravec, a member of the festival’s organizing committee.

The NTU Foreign Students Association organized the festival with the support of the Office of International Affairs, while the Department of Athletics and NTU International Student Information Services served as co-organizers. Eighty NTU local and international students offered their services as volunteers.

A total of 15 teams from 14 universities competed in the festival, including two teams from NTU—the NTUFSA team and Overseas Chinese team. This congregation of players was comprised of international students from 49 countries, including Belize, Brazil, Burkina Faso, Canada, El Salvador, France, Gambia, Honduras, Japan, Korea, Paraguay, Sweden and the United States, to name just a few.

Diplomats from six countries attended the opening ceremony. The soccer festival officially commenced when The Nicaraguan Ambassador, H.E. Mr. William M. Tapia and NTU Administration Vice President Tzong-ho Bau made opening kick offs.

“I am sure that these three days of the soccer festival will bring international and domestic students together to speak the common language of soccer and promote not only education but also make the festival one of the most important cross-cultural events in Taiwan,” declared Vice President Bau at the opening ceremony.

After three days of intense yet friendly competition, National Taipei University of Technology claimed the championship, while National Pingtung University of Science and Technology came in second. Ming Chuan University and National Taiwan Normal University took third and fourth place, respectively.

On the last day, the event culminated with final matches and a closing ceremony that included rankings announcements and music performances. All of the participating students and university representatives proclaimed the third annual festival a resounding success. They are all looking forward to next year’s festival, and some universities have expressed interest in hosting this grand sports event next year.
HMG-CoA Reductase Inhibitors Activate Unfolded Protein Response and Induce Cytoprotective GRP78 Expression

The following is the abstract for an article published in the journal Cardiovascular Research (2008; 80: 138-150) in October 2008. It has also appeared on the College of Medicine's website Maple Leaf. Its authors include J. C. Chen, M. L. Wu, K. C. Huang and W. W. Lin. These researchers work in the College of Medicine's Department of Pharmacology.

Statins are inhibitors of 3-hydroxy-3-methyl-glutaryl coenzyme A (HMG-CoA) reductase and are widely used as lipid-lowering agents. Besides their therapeutic use in hyperlipidaemia, possible "pleiotropic" effects of this class of drugs have been proposed.

In addition to the classical function in biosynthetic capacity, endoplasmic reticulum (ER) is recently identified as a signaling organelle in response to ER stress, due to its ability to release sequestered calcium as well as protein kinases. In turn the evoked signal transduction events associated with ER stress can connect either to the adaptation or the cell death machinery. Given that HMG-CoA reductase is a transmembrane protein anchored to the ER and that macrophage apoptosis induced by lipid loading contributes to advanced atherosclerotic lesions, we sought to understand the effects of statins on the ER stress response. Using murine macrophage cell line as a model, we found the ability of various statins to induce the gene transcription of cytoprotective GRP78, but not that of cytotoxic CHOP. We propose two bifurcated but cooperative signaling pathways for GRP78 expression in cells treated with statins. Functionally we prove GRP78 induction by statins displays its cytoprotection against hypoxia-induced cell death.

Population and Gender Studies Center Conducts Study to Project Need/Demand for Long-term Care

With the government planned to introduce long-term care insurance in Taiwan in 2011, the Council for Economic Planning and Development, Executive Yuan, commissioned the NTU Population and Gender Studies Center to conduct a research project titled, "Evaluation and Projection of Long-term Care Need/Demand," from December 2008 to May 2009. The project was intended to provide better understanding of the need and demand for long-term care and of the differences between urban and rural areas now and in the near future in Taiwan.

According to study projections, about 347,000 people (accounting for 1.49% of the total population) will need long-term care services in 2011, based on activity of daily living (ADL) criteria. Among them, 229,000 people (accounting for the 9% of people aged 65 and over) will be elderly. When instrumental activity of daily living (IADL) and dementia criteria are factored in, the projected number, including all ages, rises to around 610,000 (2.62% of the total population), and 408,000 (16% of people aged 65 and over) of this group will be elderly in 2011.

In addition, the study considered nine categories of long-term care professionals, including career, home care supervisor, social worker, registered nurse, occupational therapist, physical therapist, auxiliary technology professional, care manager and care management supervisor. It found both that Taiwan has a shortage of professionals in most categories, and that no category is fairly distributed geographically. For example, only professional social workers and registered nurses will exceed projected demand in Taiwan. However, the study also found that there will be insufficient social workers and registered nurses to meet the projected demand in villages and towns in Taiwan.
Center for Advanced Nano-Materials Develops Applications with Transition Metal Complexes and Nanomaterials

The Center for Advanced Nano-Materials integrates the research conducted throughout NTU on nanomaterials, nanodevices, nanoelectronics, and nanobiology. The Center innovated a number of mind-boggling applications using true blue phosphorescence for organic light emitting diodes and nanomaterials for bio-imaging and phototherapy.

Aiming to produce a true blue hue in OLEDs, the Center introduced the notion of heteroleptic structure whereby the emission can be localized strictly to increase both gap and quantum yield. Consequently, it developed several new IrIII complexes (e.g. complex 1 depicted below) that possess one cyclometalated 4,6-difluorophenyl-2-pyrdyl chelate and two 3-(trifluoromethyl)-5-pyridyl pyrazolate ligands. In degassed CHCl, complex 1 displays highly efficient blue phosphorescence (max ~ 450 nm, Q.Y. ~ 0.50) at room temperature; complex 1 also exhibits a high Q.Y. of 0.40 in a solid film. As a result, near-blue OLEDs were successfully fabricated using complex 1, showing a peak external quantum efficiency of 8.5% with CIE of (0.16, 0.18).

The Center proposed a non-conjugated series of blue phosphorescent iridium(III) complexes 2~5 with synthesized non-conjugated cyclometalated ligands, including the investigation of their structural, electrochemical and photophysical properties. Complexes 2~5 exhibit a phosphorescence yield of 5~45% in degassed CHCl, among which 2 renders a nearly true blue 460 nm emission with a lack of vibronic progression. These photophysical data reveal that the methylene spacer of the cyclometalated chelates interrupts the \( \pi \)-conjugation upon reacting with a third \( L^2 X \) chelating chromophore, giving feasible synthesis of blue phosphorescent complexes with a sufficiently large energy gap. Fabrication of blue phosphorescent OLEDs using these complexes as the emitters was accomplished with low device efficiencies. Using another approach, the Center explored how well these complexes function as host materials for phosphorescent OLEDs. The device fabricated using 2 as the host for the green-emitting Ir(ppy)3 dopant exhibits an EQE up to 11.4% photons per electron (36.6 cd/A, maximum), with 1931 CIE coordinates of (0.30, 0.59), a peak power efficiency of 21.7 lm/W and a maximum brightness of 32000 cd/m2 at 14.5 V. At the practical brightness of 100 cd/m2, its efficiency remains above 11% and 18 lm/W, demonstrating its potential as a host material for phosphorescent OLEDs.

The Center took a further step to achieve true blue bright phosphorescence via the preparation of two new classes of IrIII pyridyl triazolate complexes with either phenyl substituted carbene chelate (fpmb in 6) or benzyl substituted carbene chelate (fbmb in 7 and dfbmb in 8). Remarkable differences in photophysical behaviors were observed in response to the variation of carbene chelates. In degassed CHCl solution, complex 6 displays very low efficiency (< 10-4) phosphorescence at 461 nm together with a fluorescence (< 10-4) at 392 nm; while benzyl carbene complexes 7 and 8 exhibit solely a featureless, strong phosphorescence centered at 460 and 458 nm, with Q.E. of 0.22 and 0.73, respectively. These results, in combination with the associated relaxation dynamics and the time-dependent density function theory (TD-DFT) calculation, confirm that a higher percentage of MLCT contribution and reduction of metal-chelate internal strain are critical factors in enhancing room temperature phosphorescence. True blue OLEDs were thus fabricated using 8 as dopant, giving unprecedented blue chromaticity with CIE coordinates of 0.16, 0.13 and peak efficiencies of 6.0 % photon/electron, 6.3 cd/A, 4.0 lm/W.

In other research, the Center designed and synthesized highly uniform FeO/SiO, core/shell nanoparticles functionalized by phosphorescent iridium-complexes in order to prepare nanomaterials that are suited for both imaging and phototherapy. The FeO/SiO,(Ir) nanocomposite is versatile in various applications: the magnetic core provides the capability for magnetic resonance imaging and the enhancement of spin-orbit coupling in the iridium complex is suited for phosphorescent labeling and simultaneous singlet oxygen generation for the induction of apoptosis. With its excellent biocompatibility, the FeO/SiO,(Ir) based nanocomposite demonstrates promise for applications in medical science, especially in photodynamic therapy in combination with imaging techniques.

The Center also worked to functionalize the FeO,magnetic nanoparticle (MNP), so it could possess both imaging and chemotherapy functionalities. By means of a facile, single-pot solvothermal synthesis, highly uniform FePt/FeO nanocomposites were developed, which demonstrated their superiority in the MR imaging of living cells.
Overexpression of B-cell Activating Factor of TNF Family (BAFF) is Associated with Helicobacter Pylori-Independent Growth of Gastric Diffuse Large B-cell Lymphoma with Histologic Evidence of MALT Lymphoma

The following is the abstract for an article published in the journal Blood (Blood 2008;112:2927-2934) in October 2008. It has also been presented on the College of Medicine’s website Maple Leaf. It authors include S. H. Kuo, P. Y. Yeh, L. T. Chen, M. S. Wu, C. W. Lin, K. H. Yeh, Y. S. Tzeng, J. Y. Chen, P. N. Hsu, J. T. Lin and A. L. Cheng. These researchers work in the oncology, internal medicine and pathology departments and Cancer Research Center of the NTU Hospital and NTU College of Medicine as well as the oncology department of the NTU Hospital, Yun-Lin Branch.

We have recently demonstrated that nuclear expression of BCL10 predicts Helicobacter pylori (HP) independence of early-stage gastric diffuse large B-cell lymphoma (DLBCL) with histologic evidence of mucosa-associated lymphoid tissue (MALT). In this study, we examined the role of B cell-activating factor of TNF family (BAFF) in mediating BCL10 nuclear translocation and HP independence of gastric DLBCL (MALT). We used immunohistochemistry and immunoblotting to measure the expression of BAFF, pAKT, BCL3, BCL10, and NF-kappaB. Transactivity of NF-kappaB was measured by electromobility shift assay. In lymphoma samples from 26 patients with gastric DLBCL (MALT), we detected aberrant expression of BAFF in 7 of 10(70%) HP-independent and in 3 of 16(18.8%) HP-dependent cases (P = .015). BAFF overexpression was associated with pAKT expression (P = .032), and nuclear expression of BCL3 (P = .014), BCL10 (P = .015), and NF-kappaB (P = .004). In B-cell lymphoma Pfeiffer cells, BAFF activated NF-kappaB and AKT; the activated NF-kappaB up-regulated BCL10, and the activated AKT caused formation of BCL10/BCL3 complexes that translocated to the nucleus. Inhibition of AKT by LY294002 (a PI3K inhibitor) blocked BCL10 nuclear translocation, NF-kappaB transactivity, and BAFF expression. Our results indicate that autocrine BAFF signal transduction pathways may contribute to HP-independent growth of gastric DLBCL (MALT).
Joining the effort to assist Taiwan’s indigenous peoples in establishing a joint management and operating system with government agencies for the preservation of indigenous peoples’ traditional lifestyles, NTU’s Center for Indigenous Peoples has assisted in formulating the "Joint Management Regulations for Natural Resources in Indigenous Peoples Areas (Draft)" and "Working Standards for Consultation for Indigenous Peoples’ Consent" since 2005. The center also compiled the "Joint Management Regulations for Resources in Indigenous Peoples Areas Question and Answer Manual" in 2008.

The center completed the draft of the "Indigenous Peoples Traditional Biological Diversity Knowledge Protection Act" by bringing together faculty from the NTU College of Law and a number of concerned faculty members. The draft act is aimed at helping indigenous peoples preserve and hand down their traditional knowledge in accordance with legal regulations as well as protect monetary gains created by this knowledge. The center anticipates the draft passing final review by the Legislative Yuan in the near future.

The center commenced its "Four-Year Plan for the Compilation of the Taiwan Indigenous Peoples Biological Journal" in 2005 and has also organized an inter-university team of scholars to compile and edit this journal. The team has conducted field studies of 14 indigenous peoples groups.

Due to the advanced age of the elderly members of indigenous peoples groups, the information being collected for the Taiwan Indigenous Peoples Biological Journal lacks in abundance compared to that gathered previously by scholars during the period of Japanese colonization or contemporary ethnologists. Nonetheless, survey subjects have provided important specimens for archiving, and investigators have used digital audio recorders to record subjects pronouncing the names of the collected objects in their indigenous languages. Moreover, the journal's database has been linked to the TaiBIF (Taiwan Biodiversity Information Facility) in order to support the protection of Taiwan’s biodiversity.

In the process of compiling the journal, the center established a system that can be used by indigenous peoples themselves to make records and conduct field surveys that can be verified by scholars.

The center will present the achievements of its four-year plan at a symposium in the Second Activity Center on the NTU Main Campus on August 21.

Physical Education Department's Teaching and Research Section Works to Boost Quality of Physical Education

The Physical Education Department's Teaching and Research Section is responsible for teaching and research on physical education. Freshmen and sophomores at NTU are required to take a sequence of physical education courses: physical fitness, group activities and self-defense and basic skills for specific sports. Juniors and seniors can enroll in a variety of elective physical education courses. Besides offering instruction, TRS regularly hosts lectures on physical education and publishes NTU Physical Education and Bulletin of NTU Physical Education. Additionally, the section established the Commission for Curriculum and Teaching Development to organize seminars on physical education.

NTU is the oldest and most comprehensive university in Taiwan, making it the best local university. Therefore, the Physical Education Department aspires to be a major center for physical education instruction and research in Taiwan; TRS is responsible to improve the quality of instruction and research in the department.

NTU is the best university in Taiwan, and it is striving to boost its standing on the world stage in the 21st century. Therefore, the section’s other goal is to make NTU not only a comprehensive, first-rate local university in physical education but a competitive global player in its areas of specialization, as well.
Department of Drama and Theatre Puts on Production of Musical *Mulan* to Celebrate 10th Anniversary in June

In celebration of its tenth anniversary, the Department of Drama and Theatre put on a sold-out production of the musical *Mulan* at Metropolitan Hall's City Stage from June 5 to June 7. Adapted from the Chinese story *Hua Mu-lan*, the play presented modern perspectives on gender.

This was the first time the department had produced a major original Chinese-language musical. The play, written by NTU alumnus Pao-chang Tsai, won the Tainan Literature Award for Best Play. The director, Po-shen Lu, is known for his Shakespeare series, which garnered accolades from the public and critics alike. The stage designer, Da-ren Liu, lighting designer, Kuan-fu Liu, and costume designer, Yi-mei Wang, are all renowned professors in the department. The artistic director of Horse Dance Theatre, Wu-kang Chen, was invited to choreograph the play in order to increase the power of its dance segments. Moreover, the music composer, Hsi-wen Wang, who majors in film scoring in New York, combined Western and Eastern styles to compose more than twenty songs ranging from jazz, folk ballad and rock to classical music. The most astonishing breakthrough of the performance was the inclusion of a live 20-piece orchestra.

The celebrated acting professor and multi-talented actress Kun-chun Yao played a role in the play, as well. All of the performers came together to create a challenging yet intriguing "Eastern Broadway."

Office of Academic Affairs Upgrades Classroom Facilities to Improve Quality of Teaching and Learning

The significant improvement of a university's teaching and learning potential depends on the quality of its teaching and learning facilities. Consequently, NTU is making strides in improving its teaching and learning facilities to provide the best environment for study and research for every student and faculty member. The results of these efforts are concrete and visible effects of the university's wide ranging improvement measures.

The equipment in many university classroom buildings is outdated. Therefore, every summer since 2006, the Office of Academic Affairs, under NTU's Aim for Top University Program, has undertaken a comprehensive renovation of classrooms, including the installation of digital teaching equipment as well as new desks and chairs. As the OAA completes its upgrade, the university is realizing the added benefit of reduced energy costs.

The OAA has upgraded such facilities as digital teaching equipment, central air conditioning and other equipment, including for the auditorium of the First Activity Center and the lecture hall of the College of Liberal Arts. Additionally, this year the office reinforced the structure of the Freshman Building and began to replace teaching facilities, including lecterns, projectors, computers and laboratory instruments, according to the needs of 13 departments on campus.

Besides the upgrade of teaching equipment, the OAA has worked to resolve the university's chronic lack of classroom space by starting construction on a new classroom building on April 13. The new building will not only solve problems of space; it will provide a modern, human-centered teaching and learning space.

As the play deals with military life, the actors visited the National Defense University to gain insight into a soldier's life. Their visit included military calisthenics, a 500-meter steeplechase and drill practice.

Prior to the performance, Director Po-shen Lu commented, "Theater education in Taiwan is lacking in musical training. It will be a big challenge to produce a grand musical to celebrate the 10th anniversary of the Department of Drama and Theatre. And, the biggest challenge will be to make these actors who were trained in realistic acting sing and dance as well as release the characters' true emotions."

Besides the play, a free exhibition of stage, lighting and costume designs was presented in the lobby of Metropolitan Hall from June 2 to June 7.
Institute for Advanced Studies in Humanities and Social Sciences Holds International Conference on Samurai Culture in East Asia in March

The Institute for Advanced Studies in Humanities and Social Sciences held an international conference on, "The Japanese Samurai Way and Culture in the Views of East Asia," on March 7. The Institute invited scholars from Taiwan and abroad to address the different aspects of Bushido (the "Way of the Warrior") in East Asia. The conference focused on a range of cross-cultural themes, including Bushido and literature, Bushido and film, Bushido and medicine, Bushido lifestyles and philosophy, Bushido and religious ethics, Bushido and nationalism, the Hwarang ("Flower Knights") spirit of Korea, martial arts and Bushido and the military ethics of warriors.

The conference’s participants engaged in general comparisons as well as specific investigations in interpreting the diverse culture of Bushido in East Asia so as to offer profound reconsiderations and criticisms, and open up new directions for research.

The one-day conference had four segments. The first segment, "Bushido/Martial Arts in East Asia," included "A Review of the Concept of Bushido in Contemporary China" and "The Spirit and Culture of Bushido in Taiwan since the End of Martial Law." The second segment, "Bushido, Commerce and Medicine," included "Transformations in the Ethics of Martial Arts and Commerce from Early Modern Times to Modern Times" and "Swords and Scaplars." "Inoue Tetsujiro (1855-1944) and the Invention of Bushido" and "Discovering Bushido in China: the Attempt of Liang Qi-chao" comprised the third segment "Bushido in Modern Japan." The final segment, "Bushido Society and Religion," included presentations on, "Regarding the Value of Life and Death in Bushido" and "Zen and Bushido: Invented Traditions."

INSIGHT Center Brings Together Academia, Government and Industry to Create Intelligent Living Technology

As Taiwan's technological research matures, industry, academia and government endeavor to realize their dreams for intelligent living technology. In 2008, NTU received a government budget subsidy to establish the Center of Innovation and Synergy for Intelligent Home And Living Technology (INSIGHT). The Center's mission is to integrate the country's achievements and resources in intelligent living technology so as to stimulate interdisciplinary dialogue and collaboration.

The INSIGHT Center's core concept is to combine human talent with advanced technology to research common goals. One example is the Center's bringing together of experts in electromechanics, information engineering, network media and social engineering in forming the smart robotics research team. The team is developing multifunctional attentive robots for smart homes. Another example is the Center’s remote healthcare research team, which is developing remote medical equipment for patient's homes. Such equipment would provide medical teams with real-time data concerning a patient's physiological condition via an information platform and utilize tele-video consultations to boost the convenience for patients and families opting for home care and recovery.

At present, the Center's technology team is developing an intelligent residential home environment integration platform to provide flexible development space for unifying the application software of different operating systems and telecommunication protocols as well as networks of wireless sensors and mobile installations. Such a platform would speed the development of technology and commercial products for intelligent home services.

INSIGHT Center has also established a user experience laboratory. The laboratory is outfitted with specialized instruments that make real-time recordings of the behavior and reactions of users, aiding research personnel in conducting user testing and interviews, thereby assisting research teams' in-depth testing of product and service prototypes. The Center has also invited a wide range of professionals to form professional communities to discuss developmental trends in biochips, bionics, sleep, energy and acoustics and share their visions of the technology of the future.

The Center takes advantage of NTU's research prowess and established network of experts from industry, government and academia to bring together Taiwan's extensive variety of resources for the development and creation of unique research directions. It will continue to collaborate with research teams from advanced nations in hopes of making the world a better place by playing an ever more significant role in the research of intelligent living technology.
The Evolving College of Law: Gratitude, Legacy, Innovation

It’s another clear and bright afternoon.

The shadows of the clouds glide over the palm trees as I pause near the northeast corner of the campus. There, a dark, green forest appears before me, offering its cool breath on this blazing midsummer day.

Nestled in this setting stand Lin Tse Hall and Wan Tsai Hall. Each brick and tile of these buildings speaks for the selfless donations of countless alumni of the College of Law. These new structures bear the responsibility of housing the College of Law.

A pool of water lies between these buildings like a pearl in a dragon’s mouth, the final stroke on a fine painting. Viewing it, my soul feels a connection to the youth and scholarship we experienced at the College’s former home on Hsuchou Road. The teachings and theories we shared there are not locked in that moment in time, but have long been the bedrock of this prestigious law school.

The buildings mark a milestone for a new era. Confronting an ever-changing society, the College of Law relies on its solid foundation in academic research. The school has always maintained a focus on emerging domestic and international issues in the science of law and has developed and accumulated an abundance of knowledge and expertise.

The evening breeze blows in the heady colors of dusk as the lamps begin to glow, yet the vigor of youth refuses to fade with the setting sun.
International Degree Student Applications Continue Steady Increase in 2009-2010 Academic Year

NTU's number of international degree student applications for the 2009/2010 academic year increased 38% from 476 the previous year to 657. In the end, 243 international degree students were admitted, including 80 bachelor's students (including two dual-degree program students), 126 master's students and 37 doctoral students.

The Office of International Affairs reports there was significant growth in strategic areas, including East Asia (Japan and South Korea), Southeast Asia (Vietnam and Indonesia) and the United States.

International degree applications from Japan increased 151.9%, more than doubling from 27 applications in the 2008/2009 academic year to 68 for this upcoming academic year. Also, the number of applications from the United States grew 73% to 64.

On another front, NTU received 250 incoming exchange students in the 2008/2009 academic year, marking an increase of 37.4% from the previous year. Exchange students from the United States have accounted for the largest group of exchange students at NTU for the past eight years.