NEWSLETTER

January 2016 | No. 1

Vol. 10

清華

National | Tsing Hua | University

NATIONAL TSING HUA UNIVERSITY

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NTHU FACULTY AWARDED PRESIDENTIAL SCIENCE PRIZE

Group photo at the tea party held in honor of Kenneth Wu and Huang Shu-min, recipients of this year's Presidential Science Prize.

In early September 2016, the Office of the President of the ROC announced the three recipients of the prestigious Presidential Science Prize, two of whom are NTHU faculty members: Kenneth Wu, Honorary Chair Professor of the College of Life Sciences; and Huang Shu-min, Chair Professor and the director of the Institute of Anthropology.

At a tea party held in their honor on October 7, President Hong Hocheng stated that the Presidential Science Prize is the highest academic honor awarded in Taiwan. He also pointed out that having two NTHU faculty members amongst the three winners this year is a clear indication of the University's academic strength.

Prof. Wu, a leading authority on hematology, received the prize for his outstanding contributions in the field of life science. He returned to Taiwan ten years ago after working abroad for four decades, and is highly honored to receive the Presidential Science Prize. Wu also pointed out that, as a clinician, the most gratifying thing is being able to quickly apply research results to helping patients. For example, early in his career he discovered the relationship between blood platelets and cardiovascular disease, and that aspirin can reduce the risk of cardiovascular disease. He further indicated that medical research in Taiwan has rapidly developed over the past 15 years, and that some laboratories are undoubtedly

a Dr. Kenneth Wu, Honorary Chair Professor of the College of Life Sciences

b Prof. Huang Shu-min

very competitive in the international arena, such as that of Chiang Ann-shyn, dean of the College of Life Science. But he also cautioned that the overall approach in Taiwan is too conservative, and advised researchers to be more daring, as can be seen in the fields of applied medicine and agronomy. Prof. Huang is only the third researcher in social sciences to receive the Presidential Science Prize since it was established in 2001.

Huang stated that in comparison with the USA he finds the research environment in Taiwan to be more amicable. He expressed his thanks to Lee Yuan-tseh and Wong Chi-huey (the presidents of Academia Sinica while he was working there) for allowing him to focus on the areas of research that interest him the most. Huang also thanked President Hocheng for inviting him to take up his new position and continue his research at NTHU immediately after retiring from Academia Sinica.

Over 30 years ago Huang went to the island of Xiamen to conduct anthropological fieldwork in an agricultural village which operated as a commune. During the seven months he lived there he collected comprehensive ethnographic data, and in 1989 his findings were published as *The Spiral Road: Change and Development in a Chinese Village through the Eyes of a Village Leader*. This book was later translated into Chinese and is still an important textbook in classes on modern Chinese society taught on U. S. campus.

Commenting on his hopes for the next generation of researchers, Huang said that anthropological research requires stepping outside of one's own culture and spending an extended period completely immersed in an unfamiliar environment, and that is not easy, especially for young people today. Yet this is what a world-class researcher needs to do, rather than just blindly taking up whatever topic seems to be fashionable at the moment.

The biennial Presidential Science Prize is awarded to innovative researchers who have made outstanding contributions in the fields of mathematical science, life science, social sciences, and applied science; priority is given to researchers whose work is of practical benefit to Taiwanese society.

NTHU AWARDS AN HONORARY DOCTORATE TO ERIC Y.T. CHUO

On September 30 NTHU conferred an honorary doctorate on Eric Y. T. Chuo. The conferral ceremony was held at the International Conference Hall in the Macronix Building. Amongst the VIPs attending the event were Minister Yan Hong-sen of the Executive Yuan; Sophia Ma, Director General, Department of Technological and Vocational Education of the Ministry of Education; representatives from the HIWIN company, the Taiwan Machine Tool & Accessory Builders Association, the Taiwan Automation Intelligence and Robotics Association (TAIROA), the Entrepreneur Club, and the Taiwan Electronic Equipment Industry Association (TEEIA); the principals, teachers, and students of the Liu-Chia Elementary School and the National Hsinchu Commercial and Vocational High School, both are Chuo's alma maters; and a few dozen of Chuo's classmates from the same two schools.

During the ceremony NTHU President Hong Hocheng said that Dr. Chuo was the first person to be nominated for an honorary doctorate by two different colleges (i.e., the College of Engineering and the College of Technology Management). Chuo is widely recognized for his achievements and innovations in the fields of finance and industry, as indicated by the 34 patents he has received to date. Chuo has long been striving to encourage disadvantaged young students to engage in research and development and adopt creative approaches to enhancing the competitive advantage of Taiwan's industry. This is why he established the HIWIN Thesis Award, which provides annual funding of up to NT$10 million to promising young researchers

From left to right: Dr. Chao-Hsi Huang, Dean of the College of Technology Management; President Hong Hocheng; Dr. Eric Y. T. Chuo; and Wang Mao-Jiun, Dean of the College of Engineering.

Dr. Eric Y. T. Chuo delivering his acceptance speech.

and has become known as the "Youth Nobel Prize" of the machine technology industry.

President Hocheng also lauded Chuo's resourcefulness and entrepreneurial spirit in progressing from technical layman to the "king of patents," even going so far as selling land and borrowing money to raise startup funds. Chuo's extraordinary fortitude and dedication are a fine example of the first half of the NTHU motto, i.e., "self-discipline." Furthermore, after his undertakings succeeded, honoring the concept of corporate social responsibility, he began to generously provide funds to support disadvantaged students, a fine example of the second half of the NTHU motto, viz. "social commitment." This is why the review committee unanimously an enthusiastically decided to honor him with the honorary doctorate.

In his acceptance speech Chuo said, "As a native growing up in Hsinchu, NTHU has long been a familiar name to me, and now I have become one of its members. Life is so full of surprises!" In fact, Chuo's high school is quite close to NTHU, and while he was studying there he always thought of NTHU as "the place with the nuclear reactor." During his last two years of high school he and his classmates would often go over to NTHU campus after school to lie on the lawn, chat, daydream, and plan for their future. Over the past decade, in accordance with the demand for product development, Chuo has begun long-term cooperation with NTHU's Department of Power and Mechanical Engineering, and their joint projects have steadily expanded over the years. In 2014 NTHU and HIWIN jointly established the HIWIN-CMU Cooperative Research Center, demonstrating the importance of university research to industrial development and people's livelihoods. Chuo also mentioned that HIWIN's main products—ball screws and linear guideways—are the best in the industry. At the Machine Tool World Exposition held in Milan last October, HIWIN exhibited the world's first ball screw to fully realize the 4.0 industrial concept, which faculty researchers and students at NTHU helped to develop.

During the award ceremony the string orchestra of the Liujia Elementary School expressed their gratitude to Chuo for the support he has provided to the school by performing a number of pieces, including a concerto grosso by Handel and Tchaikovsky's Nutcracker. There was also a performance by the well-known aboriginal group Gili, whose rustic a cappella style is reminiscent of the rhythm of the weaving at which their forebears were highly adept.

THREE NTHU FACULTY MEMBERS RECEIVE THE 2015 WU TA YOU MEMORIAL AWARD

Professor Chang Kuo-Hao of the Department of Industrial Engineering and Engineering Management

The Wu Ta-you Memorial Award was established by the Ministry of Science and Technology to reward and encourage young researchers. Amongst this year's winners were three faculty members of NTHU: Dr. Kuo-Hao Chang of the Department of Industrial Engineering and Engineering Management; Chen Po-Yu of the Department of Materials Science and Engineering; and Cheng Chao-Min of the Institute of Nano Engineering and Micro Systems.

After completing his Ph.D. in Industrial Engineering at Purdue University in 2008, Dr. Chang taught at West Virginia University before returning to NTHU. Dr. Chang's main research area is optimal decision-making in a random environment (stochastic optimization), and is currently focusing on the development of effective algorithms for problems that involve profound randomness, as well as their applications in industry. Since returning to Taiwan he has published a series of articles focusing on simulation optimization. Amongst these, his co-authored article "*Stochastic Trust-Region Response-Surface Method (STRONG)-A New Response Surface Framework for Simulation Optimization*" was published in the prestigious international journal, *INFORMS Journal on Computing*, and has been lauded as the most significant breakthrough in the field in the past fifty years.

In recognition of his outstanding contributions to the fields of operations research and optimization at a young age he was awarded the 2012 Bonder Scholar Research Award by INFORMS (based in US), and 2015 the Tocher Medal by the OR Society (based in Europe). Dr. Chang is currently the only Taiwanese who has ever won both of these two awards. In addition, one of Dr. Chang's papers published in *IIE Transactions*, which is the top journal in the field of industrial engineering, also won the 2015 Best Application Paper Award. These awards clearly show that Dr. Chang's research is highly recognized worldwide. Upon being awarded the Wu Ta-you Memorial Award, Chang said that he was grateful for the support he has received from the Ministry of Science and Technology, NTHU, the Institute for Information Industry, and his colleagues and research assistants in the Department of Industrial Engineering and Engineering Management. In addition, Dr. Chang also thanked his family for all their unflagging support and encouragement.

Dr. Chen Po-Yu joined the Department of Materials Science and Engineering in 2011 to teach and conduct research in biological, bio-inspired and biomedical materials. Chen and his group utilize the concept of "learning from the nature" and study the unique properties of various organisms, including their structure, function, behavior, and growth. Chen's research has been published in top international journals, such as *Science*, *Progress in Materials Science*, *Acta Biomaterialia*, and has been frequently cited by

ⓐ Professor Chen Po-Yu of the Department of Materials Science and Engineering
ⓑ Professor Cheng Chao-Min of the Institute of Nano-engineering and Microsystems.

scholars in related fields (over 2000 citations, and an average of over 30 citations per article). In 2014, Chen's first book, *Biological Materials Science*, which covers natural biological materials, biomimetic materials, and biomedical materials, was published by the Cambridge University Press.

During his career at NTHU, Chen has won several international and domestic awards, including the TMS Young Leader Award, the MSEC Young Researcher Award, the ASME Emerging Researchers in Biomedical Engineering Award, the MOST Outstanding Young Scholars Grant, the Taiwan Coating Technology Association's Outstanding Youth Award, and NTHU's New Research Staff Award. Chen's group has also won several prestigious awards under his guidance. Widely recognized for his commitment to promote science, he is frequently invited to give guest lectures and host international seminars. Chen also serves various international journals as an editor and member of the review committee. Upon being awarded the Wu Ta-you Memorial Award, Chen said that he was grateful for the support he has received from Professor Jenq-Gong Duh, his doctoral thesis advisors, Joanna McKittrick and Marc Meyers, the Ministry of Science and Technology, NTHU, his research assistants, students, colleagues in the Department of Materials Science and Engineering and his family.

After completing his Ph.D. at Carnegie Mellon University and conducting postdoctoral research at Harvard University, Cheng Chao-Min returned to Taiwan as an independent P.I. at NTHU. His research focuses on cell biomechanics and the development of low-cost diagnostic devices. He has already successfully developed paper-based diagnostic devices, and is currently working on developing similar devices but made of materials which are inexpensive and easy to obtain, such as cotton and wood fiber. Working together with clinical research units, Dr. Cheng has successfully developed different types of diagnostic devices for testing sperm vitality, female ovulation cycle, dengue fever, bullous pemphigus, proliferative diabetic retinopathy, age-related macular degeneration, and retinal vein occlusion. In addition, he has developed a new platform for exploring the process of cell growth and cell mechanics, and successfully fabricated chitosan-based nanostructures for understanding the biochemical reaction of normal and cancer cells as well.

During Cheng's four years at NTHU, nearly 50 of his research articles have been published in leading journals in the fields of biomedical engineering, analytical chemistry, and biomaterials; eight of his articles appeared as the cover articles. He has also served as the editors or guest editors of several professional journals. Moreover, Cheng is striving to find ways to mass produce some of the devices he has invented, and nearly 30 of his inventions have received patents or are pending. Upon being awarded the Wu Ta-you Memorial Award Cheng expressed his gratitude for the support he has received from Institute of NanoEngineering and MicroSystems and the Institute of Biomedical Engineering at NTHU, the Ministry of Science and Technology, and the Chang Gung Hospital. He also acknowledges the assistance and feedback he has received from multiple physicians at the Linkou Chang Gung Memorial Hospital, the Taichung Veterans General Hospital, Professor Robert Langer of the Massachusetts Institute of Technology in the US, and Professor Koji Matsuura of Okayama University in Japan. Finally, Cheng thanks his lab partners for being the driving force behind his cutting-edge researches.

NTHU ALUMNUS SOW-HSIN CHEN WINS THE 2015 GUINIER PRIZE

NTHU alumnus Sow-Hsin Chen has been awarded the 2015 Guinier Prize. Sponsored by the International Union of Crystallography (IUCr), the Guinier Prize recognizes lifetime achievement, a major breakthrough, or an outstanding contribution to the field of small-angle scattering (SAS).

Dr. Chen presented a Guinier lecture on September 17, 2015 at the 16th International Conference on Small-Angle Scattering in Berlin. At the conference banquet on the same day he received the Guinier prize from Professor Jill Trewhella, chair of the IUCr Small-Angle Scattering Commission, and Professor Peter Frazel, chair of the 2015 SAS conference.

Small-angle scattering is one of the main methods for studying nanomaterials, including colloids, polymer materials, biological materials (proteins, DNA and cell membranes), and nanoparticles. Small-angle scattering technique was first developed by French physicist Guinier in 1938. The Guinier prize was established in 2002 by the IUCr to commemorate his contributions to the field, and it has become the highest academic honor in the field of small-angle scattering. Every three years the Guinier Prize is awarded at the International Conference on Small-Angle Scattering to a distinguished researcher.

In her introduction, Prof. Trewhella praised Chen's many contributions to the field over the course of five decades. She lauded Chen's many original contributions to the study of soft condensed-matter, colloids, complex fluids, and and quasi-elastic scattering. She also mentioned that Chen has authored over 450 papers and several monographs and books.

Dr. Chen Receiving the 2015 Guinier Prize at the 16th International Conference on Small-Angle Scattering in Berlin.

Finally, she pointed out that Chen has trained over 45 doctoral students, many of whom are now teaching and conducting researches on small-angle scattering at institutions throughout the world.

When NTHU was re-established in Taiwan in 1956, Chen was amongst the very first batch of students admitted to the Institute of Nuclear Science. Upon completing his master's degree in 1958 he was awarded a scholarship from the United Nations International Atomic Energy Agency to study in the United States. He obtained a master's degree in nuclear science from the University of Michigan and a doctorate in physics from McMaster University in Canada. His doctoral thesis advisor at McMaster was Prof. B.N. Brockhouse, who later received the Nobel Prize in Physics for his research on neutron scattering.

Prof. Chen has received numerous awards for his contributions in the field of neutron scattering, including the 2008 Clifford G. Shull Prize from the Neutron Scattering Society of America for his "seminal contributions to understanding the dynamical properties of supercooled and interfacial water using neutron scattering techniques." In 2006, Chen received NTHU's Outstanding Alumni Award, and for many years he has been a consultant to the College of Nuclear Science. Chen's many contributions to NTHU include providing an endowment to establish the "Sow-Hsin Chen Distinguished Lecture Series on Neutron Science and Technology" and assisting with the development of neutron and synchrotron X-ray scattering at NTHU.

ⓐ Dr. Chen (center) with Professor Jill Trewhella (left), chair of the IUCr Small-Angle Scattering Commission, and Professor Gradzielski (right).

ⓑ Dr. Chen Sow-hsin, recipient of the 2015 Guinier Prize awarded by the International Union of Crystallography.

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ENTRANCE OF THE ENGINEERING BUILDING I GETS A FACELIFT

If you have recently passed by Engineering Building I you might have noticed that something is different. The ramp next to the entrance—formerly faced with tiles identical to those on the building itself—now has an attractive stone slab facing and is topped with a metal sculpture which lights up at night. This aesthetic upgrade was made possible by a NT$120 million donation from NTHU alumnus Eric Tsai (Department of Power and Mechanical Engineering, class of 1981), who wanted to express his gratitude to his alma mater by contributing a piece of artwork which appeals to both refined and popular tastes.

For Eric Tsai, making such a donation is purely for the sake of promoting education. The amount he donated entitled him to have the entire building named after him, but he gracefully declined on the grounds that people were already accustomed to the original name.

Titled Wings of Change, the sculpture conveys the notion of perpetual balanced movement. Lao-Zi states, "All things pass from obscurity to manifestation, achieving harmony in the vital energy of the void." The idea is that all matter is in a continual state of reciprocating motion, evolving and developing in an orderly manner which results in a kind of stability within instability. This line from Lao-Zi was the inspiration for the sculpture, which is mounted on top of the wall with a very slender base, so as to accentuate the dynamic rhythm of the mass as it extends into a graceful wing, conveying the idea of flight, freedom, and creativity.

"Change" refers to the Dao, and as explained by Lao-Zi:"The Dao produces the one; the one produces the two; the two produces the three; the three produces all things." The idea is that the universe is in constant motion, such that things evolve through a process of continual adjustment. Inasmuch as the Dao is the source of all things, the sculpture is meant to inspire curiosity and the spirit of exploration.

During the dedication ceremony President Hocheng said that Tsai's generous donation has given a major boost to the current alumni fundraising campaign titled "60 Thousand Graduates—600 Million." During the ceremony Tsai said that he likes to take every opportunity to encourage other NTHU alumni to generously support the current campaign. He also said that he didn't care much for fanfare and publicity, but that some might be necessary for encouraging others to contribute to the campaign.

a Group photo (left to right): Mao-Jiun J. Wang, Dean, College of Engineering; NTHU president Hong Hocheng; Eric Tsai; Ming-teh Hsu, Director, Office of the Secretariat; Min Lee, Secretary General, Office of the Secretariat; Tsai Hung-Yin, Director, Department of Power and Mechanical Engineering; Chen Rong-Shun, Associate Dean of Academic Affairs; Wang Pei-Jen, Professor, Department of Power and Mechanical Engineering; and Wu Chien-Wei, Professor and Vice Chairman, Department of Industrial Engineering and Engineering Management.

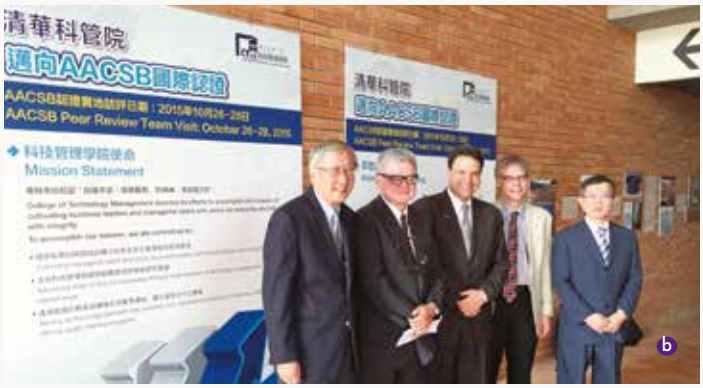
b The Wings of Change, donated by NTHU alumnus Eric Tsai.

THE COLLEGE OF TECHNOLOGY MANAGEMENT RECEIVES AACSB ACCREDITATION

In November NTHU's College of Technology Management was accredited by the Association to Advance Collegiate Schools of Business (AACSB), an honor received by only five percent of business schools worldwide. NTHU is the first school in Taiwan to receive AACSB accreditation since its new standards were introduced in 2013.

Founded in 1916, the AACSB is internationally recognized as the premier accreditation association for business schools. To date, the AACSB has accredited only 745 schools in 50 nations, including two in Japan, and 10 in Southeast Asia. Thus AACSB accreditation is a major honor and a clear affirmation of NTHU's commitment to academic quality and internationalization.

NTHU first applied for AACSB accreditation in 2010 and received the accreditation after a lengthy process which includes several phases of evaluation. The evaluation report issued by the AACSB included a glowing appraisal of both the faculty and students in College of Technology Management, as well as its cooperative relationship with the Industrial Technology Research Institute.



In his accreditation statement AACSB Executive Vice President and Chief Accreditation Officer Robert D. Reid welcomed the College of Technology Management into the top echelon of business schools worldwide, and also acknowledged the important contributions of the college's dean, directors, faculty, and students.

Prof. Huang Chao-Hsi, Dean of the College of Technology Management, stated that AACSB accreditation would greatly enhance our efforts to recruit international students and develop partnership with sister schools. Dean Huang thanked all his colleagues and students who participated in the process and encouraged everyone in the College of Technology Management to continue making improvements and further upgrade the College of Technology Management.

ⓐ The AACSB Peer Review Team at NTHU.

ⓑ The AACSB Peer Review Team with NTHU president Hong Hocheng.

THREE NTHU FACULTY MEMBERS AWARDED NATIONAL CHAIR PROFESSORSHIP

ⓐ Professor Chiang Ann-shyn (left).
ⓑ Professor Sung Hsing-wen.

The Ministry of Education has recently announced the list of recipients of the 19th National Chair Professorship, amongst which are three faculty members of NTHU: Chiang Ann-shyn, Dean of the College of Life Science; Sung Hsing-wen, Professor and Director of the Institute of Biomedical Engineering; and Chi Yun, Professor of the Department of Chemistry.

Prof. Chiang obtained his doctorate in entomology at Rutgers University, USA. After completing his post-doctoral studies he joined NTHU's College of Life Sciences in 1992. At that time most researchers in his field were probing into the secrets of genetic sequences, but Chiang decided to focus on the transparency of biological tissues. In 1997 he developed FocusClear, the first water-soluble clearing agent for enhancing the transparency of cross-linking, agent-fixed, biological specimens. Making use of the interdisciplinary and collaborative research environment at NTHU, Chiang applied his tissue transparency technology to produce 3D photographs of the nervous system of fruit flies. In early 2011 he created a brain image database and made it available to other researchers worldwide.

With this brain image database, Chiang found that: (1) the brain neurons of the fruit fly use position to distinguish nerve signals; (2) the brain of the fruit fly responds to odor concentration by changing neural pathways; and (3) the fruit fly's memory storage is limited to a small number of cells. This groundbreaking vertical integration model covering genetics, cells, neural networks, and behavior is expected to be of great benefit to future researchers in neuroanatomy. It was only in 2013 that large-scale research on neurological structures began in Europe, demonstrating the prescient nature of Dr. Chiang's work.

In addition to his brain research, Dr. Chiang is also committed to expanding research methods used

in the medical field and promoting high school education in brain science. Commenting on the award, Prof. Chiang thanked his students, colleagues who helped him in cracking the mysteries of the brain.

Prof. Sung earned his doctorate from the Department of Biomedical Engineering at the Georgia Institute of Technology in 1988 and then completed his postdoctoral research at the Biomedical Engineering Research Center at the same school. Prof. Sung's research focuses on the blood hydrodynamics of the cardiovascular system. In 1990 Sung began working at the cardiovascular department of the Baxter Healthcare Corporation in the United States, where he focused on the development of artificial heart valves and artificial blood vessels. In 1993 Sung returned to Taiwan and joined the Department of Chemical Engineering at National Central University. In August 2000 he moved to NTHU's Department of Chemical Engineering, and since 2012 has served as Director of the Institute of Biomedical Engineering. Prof. Sung specializes in biomaterials, nanomedicine, pharmaceutical delivery systems, and tissue engineering. In recent years, Sung's most important accomplishment has been the development of a platform technology using multifunctional nanoparticles that can assist in absorption enhancement and protease inhibition, for oral delivery of therapeutic proteins and polysaccharides. Currently, such large-molecule drugs can only be administered by injection, so the successful development of this technology stands to be of much benefit to patients. A related paper which was published in *Biomacromolecules* in 2007 has received worldwide attention and international media coverage, including ACS News, Discovery News, Fox News, the BBC, the Academy of Pharmaceutical Sciences of Great Britain; and Focus Magazine in Germany. As for future research, Sung is planning to focus on the development of a platform technology for oral protein drug delivery, which can be used in the development of an oral multifunctional nanoparticle system to replace injections of insulin, thereby improving the quality of life of diabetics. In addition, Sung is also working on applying his previous research findings to conductive polymer material, the results of which could be used to reestablish the heart rhythm of myocardial infarction patients.

Prof. Chi graduated from NTHU in 1978, and in 1986 received his doctorate from the Department of Chemistry at the University of Illinois at Urbana-Champaign. After completing a year of postdoctoral training

at MIT, he joined NTHU as an Associate Professor in 1987. This is actually the second time Prof. Chi has been awarded the National Chair Professorship.

Chi's research includes four areas, namely: (1) metal cluster chemistry, especially the catalytic reaction mechanism of single carbon molecules on a metal surface; (2) metal organic chemical vapor deposition (MOCVD), which was used in the development of the precursors of high-volatility metals and has played a key role in the semiconductor industry; (3) organic light-emitting diode (OLED) phosphorescent material, which has been used in the development of a number of new high-efficiency, full-color OLED components; and (4) dye-sensitized solar cells (DSC), used in the development of a variety of highly efficient dye-sensitized ruthenium metals and a number of DSCs with a photoelectric conversion efficiency of over ten percent.

Prof. Chi has published more than 300 research papers, which have been cited over 8,400 times (over 11,000 times if including self-citations). Furthermore, three of his papers have been cited over 500 times, and 22 have been cited over 100 times; his h-index is 54. The MOCVD, OLED, and DSC technologies developed by Chi have been patented in Taiwan and abroad, and 13 of the OLED materials he has developed are already being sold in Taiwan, Canada, and the USA.

Professor Chi Yun.

TWO NTHU FACULTY MEMBERS RECEIVE MOE'S ACADEMIC AWARD

Amongst the recipients of the Ministry of Education's (MOE) 59th Academic Award are two NTHU faculty members: Professor Gwo Shangjr of the Department of Physics and Professor Chen Hsin-lung of the Department of Chemical Engineering.

Prof. Guo, who also teaches in the Institute of Nano Engineering and Microsystems, was appointed Director of the National Synchrotron Radiation Research Center in August 2014. After completing a doctorate in physics in 1993 at the University of Texas at Austin, Gwo went to Tsukuba City in Japan to conduct research at the Joint Research Center for Atom Technology (JRCAT) and the Atom Technology Group of the National Instiitute for Advanted Interdisciplinary Research. He returned to Taiwan in 1997 and began teaching at NTHU. His research focuses on the basic physical properties and component applications of low-dimensional nanomaterials (including semiconductors, self-assembled monolayers, and the noble metal nanoparticles), nano-plasmonics, the molecular beam epitaxy of group III nitride semiconductors, as well as the application of the synchrotron radiation properties of semiconductor surfaces.

To date Prof. Gwo has published nearly 200 papers in international journals, and has received more than ten US patents. In 2012 his international research team constructed the smallest semiconductor nanometer laser ever developed, and demonstrated that this new laser (the plasmonic nano laser) can be used to overcome the 3D diffraction limit. This study was published in the July 2012 edition of the top international journal *Science*, and became the subject of significant domestic and foreign media coverage. In his acceptance speech for the Academic Award, Gwo thanked the Ministry of Science and Technology, the members of his research team, and NTHU for the long-term support of his research.

Professor Gwo Shangjr (second from right) of the Department of Physics.

Professor Chen Hsin-lung of the Department of Chemical Engineering.

Prof. Chen completed his doctorate in 1994 at the Department Polymer Science and Engineering at the University of Massachusetts. Upon returning to Taiwan he taught at the Department of Chemical Engineering at Chang Gung University and in 1997 joined the Department of Chemical Engineering at NTHU. Prof. Chen's research focuses on polymer science and engineering, the self-assembly of polymers, and small-angle scattering. The various properties of polymer materials and their complex physical structure is very closely connected. The characteristics and formation mechanism formed during parsing and manipulation of the polymer at different scales is one of the most important research areas of polymer physics. Prof. Chen's laboratory is currently conducting in-depth research on the prospective applications of polymer materials, particularly in relation to small-angle scattering.

In addition to his research, Prof. Chen also places great importance on education in the field of chemical engineering and polymers. Due to his commitment to teaching excellence Chen has been honored three times with NTHU's Outstanding Professor Award.

NTHU ALUMNUS JUNG-WEI LIAO RECEIVES NEWTON INTERNATIONAL FELLOWSHIP

NTHU alumnus Liao, Jung-Wei won the Newton International Fellowship to conduct post-doctoral research at Cambridge University.

Jung-Wei Liao, who earned his doctorate from the Department of Materials Science and Engineering, has been awarded the Newton International Fellowship, and is the only Taiwanese to receive this fellowship in 2015. The fellowship provides around NT$5 million over two years for young post-doctoral researchers to go to the UK for research. Jointly sponsored by the British Academy, the Royal Society, and the Academy of Medical Sciences, this fellowship gives talented post-doctoral researchers an opportunity to initiate long-term relationships with research institutions in the UK. Dr. Liao will use his fellowship to join a research team at Cambridge University led by Professor Russell Cowburn working on three-dimensional memory based on magnetic materials.

In his attempt of expanding international experience, Dr. Liao participated in various international academic events. According to Cowburn, the main reason for Liao's successful application is his frequent participation in international academic events, which demonstrated his international perspective and gave him the opportunity to get acquainted with people from around the world working in the same field. Dr. Liao modestly describes himself as having been an average student. He says that right through his undergraduate years he spent his free time playing video games and didn't get serious about his future until he began his master's program. Eager to enhance his abilities by emulating acquaintances who had traveled abroad, Liao sought ways to go abroad without spending lots of money and to make contact with international scholars. Thus he made an effort to meet with all the overseas scholars invited to visit Taiwan by his teachers, and later on was awarded a one-year scholarship by the Ministry of Science and Technology to conduct research at University of York in the UK.

According to Liao, all these experiences greatly enhanced his application for the fellowship. He says that the most difficult part of the application process was arranging for three letters of recommendation, since the rules stipulated that his previous advisors could not be amongst the referees. Thus Liao recommends that in addition to studying hard, students need to make an effort to expand their social and professional networks and be helpful to others, since in the future one may need to ask an acquaintance for a letter of recommendation!

NTHU STUDENTS RECEIVE HONORABLE MENTIONS IN THE CHINA TIMES PRIZE FOR LITERATURE

ⓐ Chen Shu Ling (left), a senior in the Department of Chinese Literature.
ⓑ Hsu Chen-Shuo, M.A. student in the Institute of Taiwanese Literature

The China Times recently announced the results of the 38th China Times Prize for Literature. Established in 1978, the China Times Prize for Literature is one of the most prestigious literary awards in Taiwan. Two NTHU students received honorable mentions in the essay category: Chen Shu-Ling, a senior in the Department of Chinese Literature, for her essay "Passed By," and Hsu Chen-shuo, a first-year M.A. student in the Institute of Taiwanese Literature, for his essay "The Inner Wall of the Gulf."

Chen's interest in reading goes back to her childhood, when her mother frequently took her to the local library. Chen says that in her early years at school she couldn't be described as an outstanding writer, but during her second year of high school her interest in reading intensified and she discovered that "literature could open up a whole new world." Encouraged by her teachers, she entered her school's writing contest and won prizes in both the prose and poetry categories, which further stimulated her interest in literature. Thus she decided to major in Chinese literature when she started the university education, so as to cultivate the ability to analyze a text, rather than simply enjoying reading it.

Chen says that she only begins writing when she feels that she has something significant to write about, say, an unusual event she feels compelled to record, or something which is important but difficult to describe to others. For Chen, the goal of creative writing is well expressed by Wang Wan-Yi's statement "If somebody earnestly reads your work and passionately comments on its strengths and weaknesses, that is wonderful."

"Passed By" describes the rise and decay of Longgang, a coastal town in Miaoli County. The inspiration for this essay came from a school activity she participated in during her freshman year. Everyone got on the local train, randomly picked a place to get off, and then spent the day there. Chen got off at Longgang. Chatting with the local residents, she discovered that Long Gang used to be a prosperous port town, but over

time its fortunes changed until it reached its present forlorn state. Feeling like she had stumbled across a place that everyone except the locals had forgotten about, she decided to write an essay about it, lest it be totally forgotten.

After graduating from NTHU's Department of Physics, Hsu Chen-Shou worked at a prison as an alternative way of fulfilling his mandatory military service before continuing his studies.

Assigned to work at a prison in his native Yilan, Hsu experienced a part of society unknown to most people. During vacations he would make the long trip back home on his motorcycle. During these trips he came to take a keen interest in the local culture he discovered along the way. This was when he got the idea for his essay "The Inner Wall of the Bay," in which he depicts the town of Nanfangao in Yilan County.

During junior high school Hsu enjoyed reading the works of Ni Kuang and Giddens Ko and he decided to try his hand at creative writing during his high school years. While pursuing his undergraduate studies at NTHU he took a number of courses which further stimulated his interest in literature, and during his sophomore year he joined the Cardinal Tien Writing Club. As a result, he eventually decided to pursue graduate studies in Taiwanese literature. For Hsu, an avid conversationalist, creative writing is a way to share ideas about the many pressing social issues of our time.

After receiving the award, Hsu thanked his parents' for supporting his graduate studies. He also thanked his teachers who sparked his interest in literature, as well as his friends in the writing club. During his graduate studies he plans to focus on honing his creative writing skills.

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Published by National Tsing Hua University
http://www.nthu.edu.tw/allnews/newsletter.php

NATIONAL TSING HUA UNIVERSITY NEWSLETTER

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TEL：03-5715131 · E-mail：web@cc.nthu.edu.tw · http://www.nthu.edu.tw/

PUBLISHED BY OFFICE OF THE SECRETARIAT

PUBLISHER : President Hong Hocheng
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