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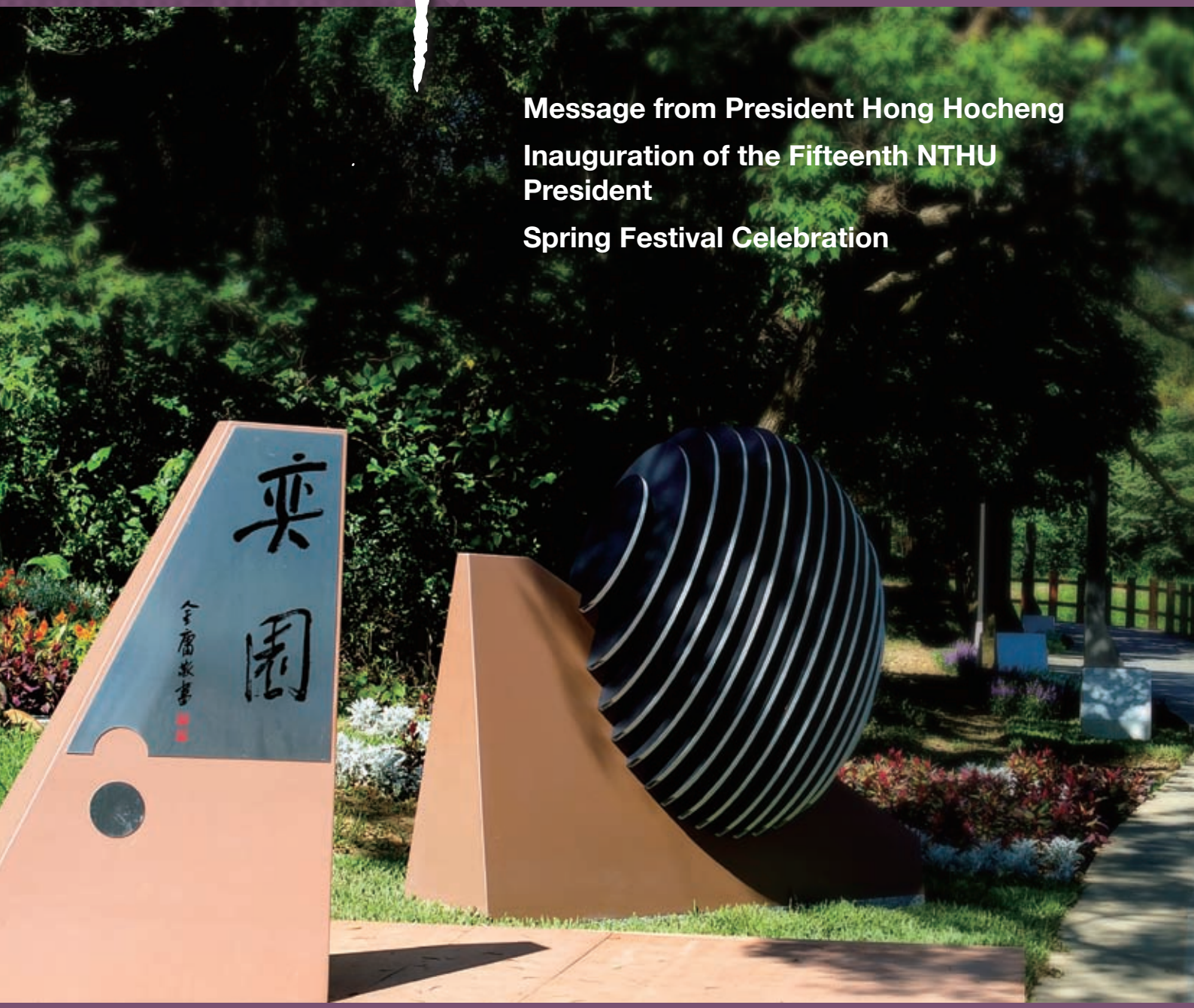
NATIONAL TSING HUA UNIVERSITY NEWSLETTER



Message from President Hong Hocheng

Inauguration of the Fifteenth NTHU President

Spring Festival Celebration

April 2014 | Vol. 8 | No. 2

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NTHU

MESSAGE FROM PRESIDENT HONG HOCHENG

President Hong Hocheng

Just at the juncture when Chinese and western civilizations clashed, National Tsing Hua University was born. During the last century, NTHU has established a glorious tradition of persistently pursuing knowledge, meticulously nurturing youth and strongly devoting to enrich our society in particular and humanity in general. To these ends, we developed comprehensive academic programs ranging from arts, economics, literature, and politics to various disciplines in natural sciences and engineering. Although over the years NTHU had encountered enormous challenges, it never waivers in its education mission, and adheres faithfully to the University Motto---*constantly strengthen and cultivate ourselves*---. With that, we now have such a proud legacy.

Recently, I encountered a medical technician during a routine physical examination. When this medical technician learned that I am a faculty member of National Tsing Hua University, he graciously and firmly said that: "I want to thank Tsing Hua for fostering a large cadre of truly talented people to benefit society." Such words deeply touched my soul. It made me feel proud as a member of this Tsing Hua family where all faculty members' professional goal is to mode our students to be pillars of society.

During the past two decades, Taiwan had noticeably increased its investment in higher education and witnessed a significant growth of the quantity and quality of its universities. NTHU, under the leadership of my predecessors and with the collective efforts of all faculty and students, has excelled in cultivating talents as well as upgrading our research programs. The fact that we have been able to move ahead and place ourselves at the forefront of all universities regionally and internationally is acclaimed. In the words of our eternal President Mei Yi-Chi: "*the greatness of a university emerges not from its magnificent buildings, but from its academic giants.*" With this as a yardstick to measure our current status, I am confident that NTHU is rapidly approaching the "greatness" definition of President Mei. As an outstanding Asian university in the 21st century, we are in the right place to establish a new mindset of globalization; and at the right moment to contribute to the development of this unprecedented venue.

As we look forward, the current domestic political and economic environment may not appear to be optimum. At the same time, we are also cognizant of the intensification of education and industrial competition in a global environment. The road ahead of us will be challenging. To ensure that we can continue to move boldly forward, we need to extract ourselves out of our comfort zone, we must be ready to weather storms and high water. Our ancient sage, Mencius once said: "*a country without foreign threat is a country likely to perish!*" The anticipated challenges should be taken as an opportunity for us to re-examine ourselves and to ask: are we ready and well equipped mentally and operationally to

confront them? The lyrics of a famous song, *Climbing the Mountain, "trying hard, trying hard and trying harder, I run uphill! I didn't stop to look back, I didn't stop to dry my perspiration; I just kept running. Despite of the fact that there seemed to be no more path; ailanthus ripped my sleeves; thorns punctured my skin; I opened a new path and run up to the top.*" As your new president, I am ready to work hard and collectively with the entire NTHU community to conquer this mountain, to seek new paths so that together we can let this great university reach a new height.

While Tsing Hua does have magnificent buildings and academic paragons, we also have great love. The university loves to inspire and educate students; loves to seek truth and uphold social justice. Carrying great love, formidable challenges will not discourage us; chaos will not bewilder us.

National Tsing Hua University is dedicated to provide the best education to all students who enter its gate. One of our students reminisced that during his orientation session, a professor solemnly said to him, "*do not consider that you are different from others; all of you are as talented and deserving; do not think you are the same as others; you are unique and special and will be nurtured accordingly.*" It is this educational philosophy i.e., equal educational opportunity for all and mentoring each student by cultivating his/her unique strength to the utmost that we carry out our educational programs. We place a great emphasis on the essence of education and not on trivia. We earnestly purse knowledge and diligently apply such knowledge for the betterment of humanity.

We yearn the broader and highest horizon and not the immediate. These are not only what I expect from my colleagues, it is also what is expected from me. I shall give my assurance to you that I would also work hard with all to ensure more opportunities and challenges will be bestowed to our students.

As Robert F. Kennedy once said, "*There are those who look at things the way they are, and ask why... I dream of things that never were, and ask why not?*" As a prestigious university with a long and monumental history, NTHU is well prepared and determined to meet such challenges that the new era will bring.

Military commanders of an army could vanish, but not the spirit. University presidents come and go, but universal education ideals of a university shall forever linger on. The road ahead of us might be thorny, but teaching and learning shall never cease. As the new president, I pledge to you that I will do my utmost to exalt university ideals and to encourage and support teaching and learning.

Thank you for your affirmation of Tsing Hua and for the guidance as well as long term support that you have so graciously rendered.

INAUGURATION OF THE FIFTEENTH NTHU PRESIDENT

On February 7th, National Tsing Hua University inaugurated Professor Hong Hocheng as the new President succeeding the out-going President Lih J. Chen. The inauguration was witnessed by Deputy Minister, Dr. Pi-twan Huang of the Ministry of Education and hundreds of supporters, well-wishers, faculty, staff and students. President Hong Hocheng received his Ph.D. from U. C. Berkeley and returned to teach in the Department of Power Mechanical Engineering, NTHU in 1989. As a faculty member at NTHU, President Hocheng has accumulated a diverse and rich administrative experience within and outside of the University. Before elected to the presidency, he served as a Special Consultant to many of his predecessors and was the Deputy Minister of the National Science Council (2012-2014), Dean of the College of Engineering (2008-2012), Dean of Student Affairs (2006-2008), as well as Dean of the Commission of General Education (2002-2005). In addition to his various administrative posts, President Hocheng had also been invited as Visiting Professor by the King Fahd University of Petroleum and Minerals, Technical University of Berlin, Tokyo University. President Hocheng is a proud winner of numerous domestic and foreign academic awards. Domestically, he won the NTHU Distinguished Teaching Award, National Science Council's Outstanding Research Award (in 1998, 2000 and 2002). In 2009, Chinese Society of Mechanical Engineering Outstanding Professor Medal; 2011 National Innovation Award as well as the Academic Award of the Ministry of Education. President Hocheng's stellar research record has also been widely recognized internationally. He was elected as Fellow of the American Society for Mechanical Engineering (ASME) in 2005 as well as World Academy of Materials and Manufacturing Engineering (WAMME) in 2005. He is also the proud winner of 2008 Professor Fryderyk Staub Golden Owl Award, 2010 Professor Jan Adamczyk Medal and the William Johnson Award in 2013.

Guests attended the inauguration come from all sectors of industry, government and education.

During his inaugural speech, President Hocheng characterizes Tsing Hua as a University with a magnificent campus where a large number of academic paragons work compassionately and diligently to teach, inspire students as well as pursue new knowledge for the betterment of our society and humankind. He also emphasized the fact that Tsing Hua is more than a century old, but she is still full with vitality and will continue to flourish and contribute her talent as Taiwan meets new challenges in the 21st Century.

Tsing Hua has a profound and highly recognized academic



a. Former President Lih J. Chen encourages all to work toward to a greater Tsing Hua.
b. President Hocheng encourages all students and faculty to seize opportunities and face challenges with courage.
c. Under the supervision of Deputy Minister Huang, Pi-twan (Middle), the newly elected President Hong Hocheng (right) received the seal from outgoing President Lih J. Chen (left).

and educational tradition. In terms of cultivating students and conducting academic research, our outstanding record leads the nation and is gaining greater international recognition. President Hocheng indicated, however, as the economical condition of Taiwan is not at its best and the competition among global higher education institutions is intensifying, the road ahead of us will be rough and difficult. Quoting Mencius, "*a country without foreign threat is a country likely to perish*". President Hocheng encourages all members of the Tsing Hua family to take a good look of our environment and redouble our effort to excel even if we have to do it with less available resource. "While we are providing the best education to all of our students, we should not lose sight of the essence of higher education. We should not just focus on the present, we should expand our vision and aim at the future so that we could seize new opportunity and meet the challenges that the future will bring."

SPRING FESTIVAL CELEBRATION

"Tsing Hua, Tsing Hua, Go! Go! Go!" Amid the enthusiastic cheers, Tsing Hua community, consisting faculty, staff, students and retirees held a Spring Festival Celebration in the afternoon of Feb. 7th. Cheerleading squad opened the happy occasion with breathtaking performances that excited the entire auditorium and ushered in the new president for his first Spring Festival Address to the Tsing Hua family.

President Hong Hocheng started by extending his New Year greetings and spoke earnestly to his colleagues the need to


a. Gym instructor Kok Hwa Tan's magic show.
b. Ms. Yi-shu Chiu's magnificent yo-yo performance.

rededicate our efforts to further improve our University as we faced a shrinking budget and stronger competition. President Hocheng encouraged all Tsing Hua members to work more effectively and to be more creative. Citing the fact that this is the year of horse, President Hocheng urged that "we should all gear up and start galloping, galloping towards a greater success."

Following President Hocheng's New Year Address were performances by the NTHU String Orchestra, Tsing Hua Dance Club, the Comic Talk Show. The beautiful melody and graceful movements of student dancers were simply enchanting, while the humorous and witty talk show presented by the Cosmic Club brought laughter after laughter. One of the Cosmic Club performers is a student with hearing impairment which affected her pronunciation, but her brilliant performance touched the hearts of all and was greeted with rounds and rounds of thundering applauses.

Mr. Kok Hwa Tan, a gym instructor, performed a magic trick that kept all the audience wondering how he pulled off the trick. Mr. Tan asked President Hocheng to join him at the stage and took President Hocheng's cell phone and quickly put the cell phone into a water bottle that had an opening looked too small for the cell phone to slip in. The Magic Club of NCTU performed right after Mr. Tan's performance. This NCTU magician asked Prof. Lee Min, the Secretary General and Prof. Hui-ling Chuang, Dean of General Education to join him on the stage and put a poker card in Prof. Lee's hands. While asking him to hold it tightly, with a magical gesture, the very same card appeared in the hands of Prof. Chuang!

The climax of the show was presented by an honor student from the College of Technology Management. Ms. Yi-shu Chiu not only has a shining academic record, but is also well known for her exquisite skill with Chinese yo-yo. She started her show by shooting a silver yo-yo way up in the air, symbolizing a shooting star and asked all audience to make their new year wish. She then used a thin string to sway the yo-yo up and down, side to side and in every possible direction. In her skillful performance, Ms. Chiu actually combined dancing and acrobatic moves flawlessly with the dazzling swaying of slippery yo-yo discs.

During and between various performances were the eagerly anticipated raffle drawings. Many prizes were won by lucky participants who believed winning the prize was an omen of a prosperous year for them.

a. President Hocheng with happy award winners.
b. President Hong Hocheng wishes Tsing Hua family a prosperous year of Horse.
c. President Hong Hocheng and his staff extending their New Year greetings.
d. Cheerleaders enthusiastically open the ceremony.
e. Student dancers enchanted the audience with their graceful moves.

DIT ROBOTICS WON THE REGIONAL ASME DESIGN COMPETITION

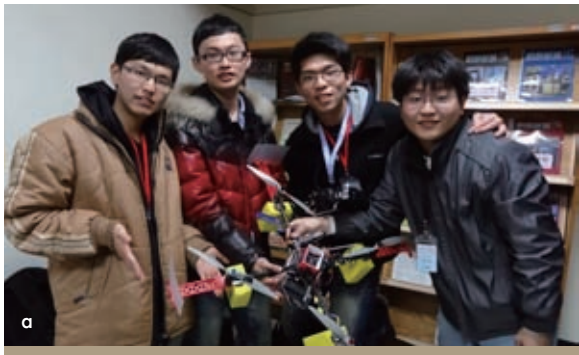
DIT Robotics, a team of NTHU seniors---Mr. Yeh Shao-Wei, Mr. Chang Hsian-Ting, Mr. Wu Cheng-Kai and Mr. Yu Chia-Hao from the Department of Power Mechanical Engineering, has recently won the championship in the regional design competition sponsored by the American Society of Mechanical Engineering (ASME). The "Four-Wing Aerial Robot" DIT Robotics designed will represent Taiwan Region and go to Canada to participate in the final competition organized by ASME in this coming November.

The Taiwan regional ASME competition was held at the National Applied Research Laboratories on the 9th of last March. All entries were challenged to design a small unmanned aerial vehicle (UAV) that will carry a cargo and fly through two gates, a low one and a high one, and drop its payload and safely return to the starting point.

According to Mr. Yeh Shao-Wei, the "Four-Wing Aerial Robot" that entered this year's regional competition is the fourth generation of its kind and they had started to improve the design in June, in preparation of this content. DIT was able to balance the four wings by counteracting its engines and smoothly manipulated the vehicle by controlling the specific lift power of many smaller engines inside the robot. In designing this fourth generation robot, the team has successfully applied many high level theories, including robot control theory and the PID controller mechanism.

Multi-rotor UAV has many real life applications in the future. For example, the Amazon Company is exploring the feasibility of using multi-rotor UAV as a tool of delivery. Others have been researching on the application of multi-rotor UAV for search and rescue operations to transport people out of hazardous conditions. Due to the high power consumption, however, the flight time of UAV has been rather limited and it is one of the bottlenecks that researchers all over the world are trying to breakthrough. DIT Robotic Team plans to use their UAV to deliver documents on NTHU campus and continue their research to improve its stability.

As a way of improving the visibility of Taiwan globally, these engineering students name their team DIT--- designed in Taiwan. Team members are happy to have won this regional competition and the honor to represent Taiwan in Canadian competition. Currently, they are also busy preparing to enter the fully-automatic EUROBOT competition to be held in Dresden, Germany.



a. Ready for the Competition.
b. The fourth generation "Four-Wing Aerial Robot"
c. DIT Robotics wins ASME Taiwan Region Championship.

FIVE OF THE GRADUATING SENIORS AT LITTLE TSING HUA ARE ADMITTED AS UNIVERSITY FRESHMEN

Five Freshmen-to-be from the Little Tsing Hua

After Typhoon Morakot devastated southeast part of Taiwan in early August, 2009, many people from different parts of Taiwan rushed to Pingtung, a county that was severely damaged to help with the reconstruction; NTHU faculty and students were among this group of volunteers. In addition to providing immediate reliefs, NTHU started a special project by cooperating with Pingbei High School to establish an Experimental Class to assist aboriginal students who were studying at Pingbei High School. NTHU faculty and students not only provided tutorial assistance and teaching facilities to help these students with their school works, they also introduced special educational programs aiming at heightening the awareness of ecological conservation and the understanding of aboriginal cultures. In such special programs, students were provided with opportunity of field trips to study their ecological settings as well as lectures and lessons on the history and cultures of the aborigines in Taiwan.

Ms. Li-Shan Wang, who is recently admitted to the School of Forestry and Resource Conservation, National Taiwan University said; "My parents were very excited when I told them that I have been admitted to National Taiwan University and they said they would celebrate by posting this news on the door of our house!"

Mr. Chien-Liang Lin, who is admitted to the undergraduate program of Indigenous Social Work at National Tung Hua University, said that, "when I saw my name on the list, I could not help but busting into tears out of joy."

Ms. Wan-Yi Song dreams to become a banker one day and now she is one step closer to her dream after being admitted to the Department of Accounting, Shih Chien University. Ms. Song recalls that the class on "Financial Investment and Management" that she took in the Experimental Class gave her a solid background in financial industry and the one-on-one tutorial that she had with Prof. Shun-fen Chen, NTHU helped her to figure out what she really wants to study.

Mr. Ting-Wei Huang will soon be a freshman at the Department of Recreation and Sport Management, University of Taipei. He is a budding gymnast and keenly aware of the difficulty to practice without proper facilities. He hopes to become a gym teacher when he finishes his study in Taipei and return to Pingtung to discover and train more aboriginal students who share his strong interest in gymnastic.

Mr. Yu-Han Hu loves the art of writing and literature and has been admitted to the Department of Chinese Literature, National Tung Hua University. He indicated that he used to think that studying at a university is a dream beyond his

reach. He said, "but the teachers at the Experimental Class never gave up on us, and their devotion has convinced me that I shall never give up on myself!" Mr. Hu plans to become a great writer so that he can introduce the blue sea, azure sky and all the natural beauty of his home village in Orchid Island to a vast group of readers.

The Experimental Class for Aboriginal Student, also known as the Little Tsing Hua had its first class of graduates last year. Among the first class of graduates, 43 of them are currently studying at various universities and colleges. This year, we have already witnessed five of the second class being admitted to various campuses through the Thousand Star Program and we are sure that many more of them will also be admitted when various universities and colleges announce their admission list.

FIVE NTHU PROFESSORS ARE PROUD WINNERS OF THE OUTSTANDING RESEARCH AWARD

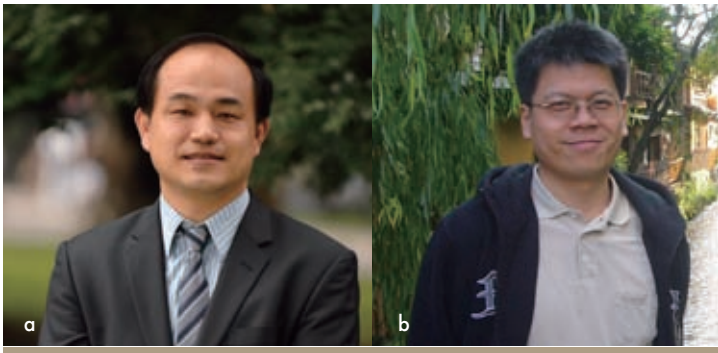
National Science Council (NSC) recently announced the winners of Outstanding Research Award, 2013. Five NTHU faculty members were selected to receive this prestigious national award. They are: Professors Rong-Ming Ho and Chi-Chang Hu, Department of Chemical Engineering; Prof. Gwo-Bin Lee of the Department of Power Engineering; Prof. Yuh-Ju Sun, Institute of Bioformatics and Prof. Chih-Huang Lai, Department of Materials Science.

Prof. Rong-Ming Ho's research specialty includes macromolecule physics and macromolecule nanotechnology. Prof. Ho is the first person to utilize chiral tempering of self-assembling block copolymers to form nano-materials with fixed left-right rotation and a spiral microstructure. This is called the "chiral block copolymer," a great discovery in the field of self-assembly research. Such research findings have a great potential to become the foundation for metamaterial design, and it may be applied to develop new and innovative optical materials. Furthermore, he uses self-assembling block polymers that could be broke down into sections and equipped with porous nano and macromolecular materials. Using this as a framework and equipping organic and inorganic nano-blended materials, high order nano-porous glass can be prepared to finally create a material with an ultra-low and effective refractive index (as low as 1.1). It is clear that with features such as high anti-

Prof. Rong-Ming Ho, Department of Chemical Engineering.

reflection and high transparency, the chiral block polymer has a great potential to become a valuable commercialized product. This concept can also be used in the preparation of high-ordered nano-porous metal materials, metamaterials, green energy, chemocatalysis and other aspects which have high applicability. Nano film is precisely controlled by the application of self-assembling block copolymer formation, and with the processing advantages of easily formed macromecular materials, this will allow the construction of nano designs to form technology that is functional, sleek, low-cost and effective and led the related researches in nano and MEMS process technology towards greater innovation.

Prof Gwo-Bin Lee's fields of research include the development of micro-electro-mechanical-systems (MEMS), micro-sensors, biochips, nano-biotechnology and medical devices. His world-class research achievements include the automation of biomedical detection in chips which combines biotechnology, MEMS and nanotechnology. His research projects are interdisciplinary in nature, dealing with components for optically-induced dielectrophoresis technology, bio-marker screening, and disease diagnosis, rapid detection of infectious diseases as well as plant and animal pathogens. Over the years, Prof. Lee has published a total of 212 SCI research articles in the ISI database which are highly cited (a total citation of 5039 times) and widely recognized in his fields of expertise. In addition, he has also published seven book chapters, filed 123 patent applications (71 of which have been granted) and successfully transferred six different technologies to local industries. This is the fourth time that Prof. Lee has won the Outstanding Research Award from the NSC. On top of the four awards from NSC, he has also won the National Innovation Awards four times in the past. He is a Fellow of the Mechanical Engineering Society, Republic of China and a Fellow of the American Society of Mechanical Engineering.



a. Prof. Gwo-Bin Lee, Department of Power Mechanical Engineering.
b. Prof. Chi-Chang Hu, Department of Chemical Engineering.

Prof. Chi-Chang Hu's recent research focused on the design of nano-porous electrode materials for electrochemical energy storage device. His research team focused on the synthesis of these designed electrode materials by the use of wet chemistry routes, such as electrochemical deposition, hydrothermal synthesis, chemical oxidation, sol-gel synthesis and microwave-assisted hydrothermal/solvo-thermal methods. These routes collocate with the self-assembling of block copolymers for the preparation of crystalline-controllable, highly hydrated, nano-porous oxides or conducting polymers. His lab also synthesizes and characterizes porous carbon materials and graphene composites. All these unique materials are applicable to the next generation electrochemical super capacitors and batteries, oxygen reduction catalysis for in situ H_2O_2 generation, electrochemical photo catalysts for organic degradation and fuel cells.

Over the past five years, Prof. Hu has published 81 articles in SCI journals and several of them are of high impact factors. He has delivered more than 35 keynote or invited lectures in international conferences. His research has been deemed exceptional in terms of its originality and innovativeness. According to the Web of Science, Thomson

Reuters, Prof. Hu has 8 highly cited articles published by February, 2014. His h-index has reached 40 with a total of 5590 citations.

Prof. Yuh-Ju Sun's research is primarily focused on biological structure. She has achieved a breakthrough in the areas of hydrogen ion channel membrane protein and pyrophosphates. Her lab is the first one in Taiwan to successfully analyzed different types of membrane protein structures and they have already published their research findings in the prestigious academic journal, Nature last year. Pyrophosphates can allow metabolized pyrophosphate byproducts to chemically change into other enzymes needed for energy. By using X-ray diffraction crystallography methods, this research has succeeded in determining the three-dimensional molecular structure of pyrophosphatase. Through this, we can further understand how hydrogen ion channels are formed and its transferring mechanism. Prof. Sun indicated that membrane protein research is extremely important and highly challenging because membrane protein cannot be easily separated or purified. It is important because clinical drugs use membrane protein as target molecules for medical treatment and how much we know in this area will greatly influence the development of pharmaceutical products. Her research can also assist botanists to cultivate salt-tolerant, freeze-resistant and drought-resistant crops through the regulation of pH levels in cells; and will greatly enhance our capability to combat the problem of global food shortage.

Prof. Chih-Huang Lai current researches focus on the development of magnetic films for information storage, magnetic memory and magnetic sensors as well as the developments of copper indium gallium selenide (CIGS) thin film solar cells. These two fields of research might not seem to be related, but due to Prof. Lai's core technology, i.e., thin film technology, he has successfully linked these two fields. His laboratory not only excels at thin film process and device fabrication, but also has the capability to design deposition tools, develop target materials, and in-situ detection technology. By integrating these research capabilities, Prof. Lai has successfully integrated magnetic devices and CIGS solar cells in the upper (target materials, sputtering tools), middle (deposition process) and lower (device, detection) needs and thereby established a cooperative platform between university and the industrial sector. Over the last five years, Prof. Lai has not only strived for breakthroughs in academic research, but more importantly, he has extended his research results to related Taiwanese industries and contributed to their upgrading and advancement.

a. Prof. Yuh-Ju Sun, Institute of Bioformatics.
b. Prof. Chih-Huang Lai, Department of Materials.

PROFESSOR NYAN-HWA TAI RECEIVES THE OUTSTANDING ALUMNI AWARD

Prof. Nyan-Hwa Tai, Vice President for Academic Affairs.

Prof. Nyan-Hwa Tai, a faculty member at the Department of Materials Science and Engineering as well as the Vice President of Academic Affairs; has recently been informed that he is selected to receive the Outstanding Alumni Award from the Department of Mechanical Engineering, University of Delaware. He will visit his alma mater and receive this special honor in person on May 9th in Delaware. Prof. Tai said, upon learning about this award, "It is not only a great honor but also a strong push and motivator for me to work harder!"

This is the tenth year that the Department of Mechanical Engineering at University of Delaware started to select from its 3,300 alumnus and honor them for their distinguished academic achievements. Prof. Tai believes that he might be the first Asian recipient of this award.

Prof. Tai recalls that, "I went to University of Delaware because my wife was going there to pursue her doctoral in chemistry. I was majoring in industrial engineering as an undergraduate. My graduate training, however, was in mechanical engineering and then transferred to materials science when I went to University of Delaware." "Switching from mechanical engineering to materials science required a lot of make-up works. On top of that, we had a child with us, but both of us work very hard and were able to finish our doctoral programs within four years"

To be selected and honored as an Outstanding Alumni by the Department of Mechanical Engineering is a high honor and a strong affirmation of Prof. Tai's academic achievements. Over the years, Prof. Tai has more than 400 publications, including 180 articles in scientific journals and 230 conference papers as well as 30 invited lectures delivered domestically and internationally. Prof. Tai's research foci are in the areas of graphene preparation and applications, carbon nanotube composites, the bio-compatibility of ultra nanocrystalline diamond and carbon nanotube.

Prof. Tai is most enthusiastic about his research on graphene applications and his accomplishment in this area has been highly recognized by his colleagues. "Graphene is one of the hot topics in the research on nano materials recently. I have just published an article about a superhydrophobic and superoleophilic sponge that will absorb only oil but not water. The

use of this special sponge will reduce the damage and pollution caused by incidental oil spillage when a tanker capsized at sea."

Speaking of his research on heat-producing clothing material, Prof. Tai stated, with gusto, "Clothing materials can really produce heat up to 10 degrees Celsius. This is another example of applying graphene and carbon nanotube. The research programs conducted at my lab are somewhat similar to the process through which I finished my graduate studies, it crossed different fields but I still find interesting research topics to work with."

Recently appointed as the Vice President of Academic Affairs, Prof. Tai indicated that "to me, administrative job is simply another mission." He is not only a researcher with shinning accomplishments, he is also a devoted teacher who instruct and advice his students inside and outside the classrooms.

"Ten years ago I had a chance to advice a sophomore who was faced with a difficult decision to decide her major. She was very interested in pursuing a study in archaeology but most people, including her family members, had a somewhat biased opinion about archaeology and tried to talk her out of it. I had a long talk with her and encouraged her to follow her interest. Well, she is currently studying for her Ph.D. degree in U.K. With a background in materials science, she is studying ancient glass beads and enjoys every moment of it!"

Prof. Tai hopes that his own study experience and achievement will serve as an example to encourage all students to pursue their interest. He sees all the students at NTHU as extremely capable; they are like diamonds in the rough. He encourages all faculty members to discover their students' special interest and talent and guide them onto a road to shine and success.

AN ALUMNUS' ADVICE TO GRADUATING SENIORS

As the graduation season approaches, there have been many job fairs held on various university campuses trying to recruit new graduates. Likewise, this is also the season when graduate institutes are accepting applications and interviewing students who wish to pursue graduate studies. This is the season when many graduating seniors are faced with a big decision, i.e., going to a graduate school to pursue an advanced degree or enter the job market upon finishing their baccalaureates? The educational and professional experiences of Dr. Tso-Fu Chang might be of interest to those who are at the crossroad.

Dr. Chang Tso-Fu went to Canada when he was fourteen. Upon finishing his middle school and college education he returned to Taiwan and was admitted to the Institute of Chemical Engineering in 2005. With a strong background in nanomaterials, he was quickly recruited by DuPont and worked as a quality engineer at its Taoyuan Plant. Dr. Chang believes he was the envy of many because he landed a job with DuPont, one of the most famous international companies. But the job did not last long, the Lehman scandal of 2008 ended his employment earlier than he had expected. He decided to continue his graduate study and went to Tokyo Institute of Technology to pursue his doctoral degree. At the Tokyo Institute of Technology, Dr. Chang worked with Dr. Masato Sone and received his Ph.D. in 2012, and was quickly recruited to stay at Tokyo Technology as an assistant professor.

From right to left, Prof. Shih-Yuan Lu, Dr. Yi-Chun Chen and Dr. Tso-Fu Chang.

Educated in three different counties, Dr. Chang wishes to share what he had learned in Taiwan, Japan and Canada with students who are faced with the decision of going to graduate school or enter the job market upon finishing their baccalaureates. "Like many Taiwanese students, Japanese students pursue their master degrees because they believe a master degree will help them find a better and well-paying job. But, unlike their Taiwanese counterparts, only those Japanese master degree-holders who are truly interested in pursuing academic research will continue to study for their doctoral. Thus, one of the most important decisions that all Master students should make is: to continue for a doctoral degree or to enter the job market right after graduating?" In addition to knowing one's own interest and appetite, Dr. Chang also encouraged students to make sure that they are equipped with an excellent ability to express themselves. "Having a strong ability to express yourself is as important as having a rich knowledge in your head. If you cannot express what you know, you are most likely to be mistaken for not having such knowledge." Dr. Chang believes that Taiwanese students usually excel in their fields of specialization but need to work on their communication skills if they wish to be successful in their future career.



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