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## CONTENTS

- 1 World-renowned Scientists Visit NTHU
- 2 New Insights into the Language of the Oval Squid
- 3 All Aboard—The Train to India Is Pulling Out
- 4 High-tech Lawyers Receive Training at NTHU
- 5 Cultivating Innovative Ideas at the Practical Creativity Center
- 6 Two NTHU Students Going for Gold
- 7 Student Volunteers Come Out In Force for the Summer Universiade at NTHU



## WORLD-RENOWNED SCIENTISTS VISIT NTHU

The National Center for Theoretical Sciences at NTHU celebrated its 20<sup>th</sup> anniversary on August 2 by hosting a lecture series featuring Professor Takaaki Kajita of the University of Tokyo, who won the Nobel Prize in Physics in 2015, and Professor Shing-Tung Yau of Harvard University, the winner of the Fields Medal in 1982. They both attributed their success to hard work, rather than natural ability, and encouraged the audience of more than 300 teachers and students to fully apply themselves to their studies, research, and everything they do.

Amongst the special guests were previous directors of the Center: Ting-Kuo Lee, Hsiang-

Nan Li, Chung-Yu Mou, and Tu-Nan Chang, as well as the current vice director Xiao-Gang He. Ting-Kuo Lee, now the director of the Institute of Physics at Academia Sinica, said that it has been a great pleasure to see the Center grow from infancy into youth, and that it's now making major contributions to Taiwan's basic research. President Hocheng Hong said that he was pleased to represent NTHU at the Center's 20<sup>th</sup> anniversary, and pointed out that amongst all of the universities in Taiwan, NTHU's faculty has the highest average number of citations per paper. He also said that excellent research is founded on good ideas, unflagging fortitude, and ample funding, which can be expressed in German *gedacht*, *geduld*, and *geld*, as abbreviated as 3G in terms of the initial letters of the 3 words. Meanwhile, it is hoped that Ministry of Technology and Science can maintain its support on fundamental researches.

Also in attendance was Chun-Chieh Wu, the director general of the Department of Natural Sciences and Sustainable Development at the Ministry of Science and Technology, who responded to President Hocheng by saying that good research also requires three "wares": hardware, software, and "brainware." He also said that the Ministry plans to continue supporting the Center long into the future, so that all of the young scholars in the audience can someday make their own contributions to basic research in Taiwan. Chong-Sun Chu, the director of the Center's Physics Division, said that Yau is internationally recognized as one of the most influential contemporary mathematicians, and that in addition to his many important breakthroughs, he has

Ⓐ From left to right: Shing-Tung Yau, Takaaki Kajita, and Chong-Sun Chu.

Ⓑ From left to right: Hocheng Hong, Takaaki Kajita, Shing-Tung Yau, and Chong-Sun Chu.





A captivating talk in progress.

also opened up a lot of new areas in mathematics. Among them, the eponymous Calabi–Yau manifold has become an indispensable tool for physicists considering the possible existence of a high-dimensional space-time structure of the universe. Yau's association with NTHU began more than 20 years ago, when he was at NTHU for one year as a chair professor, at which time he proposed the establishment of a national center for theoretical science research, and has long been an important promoter of the development of theoretical science in Taiwan.

### DIGGING UP QUESTIONS

In his pellucid talk titled "My Personal Journey on Geometric Aspect of General Relativity" Yau described how he became fascinated with the equation in Einstein's theory of relativity, but had some doubts about the possibility of a vacuum state. He immersed himself in this issue and eventually solved a major problem in the field of algebraic geometry, for which he won the Fields Medal in 1982. He encourages young people engaged in scientific research to explore problems in a creative way, rather than always following the footsteps of others.

Yau also emphasized the importance of interdisciplinary study and cooperation, since seemingly unrelated areas may actually have complex and deep internal relations, as evidenced by the way in which Einstein developed his theory of general relativity in cooperation with many different mathematicians.

Yau stressed that research requires lots of hard work, and that only after thoroughly reviewing the research done by others can one challenge their point of view. He also acknowledged that success sometimes requires a little luck, but no matter what the results is, what one learns in the process of research is still the most important thing.

### NEW TRENDS IN GRAVITATIONAL WAVES

In his talk titled "Exploring the Universe with Gravitational Waves"

Takaaki Kajita said that the major event in the international astronomy and physics community last year was the detection and confirmation by the Laser Interferometer Gravitational-Wave Observatory (LIGO) of the gravitational waves posited long ago in Einstein's theory of general relativity, a discovery which has changed the way we think about the origins of the universe. He also spoke about the latest trends in the study of gravitational waves and the construction in Japan of the next generation of gravitational wave detectors.

Kajita's message for the high school students in attendance was that, while science is interesting, getting good research results requires serious dedication. An avid archer since childhood, Kajita encouraged the students to remain focused on their target. He also added a caveat on avoiding the pitfall of trying to advance too quickly, instead of steadily progressing towards the goal.

Kajita said that he has essentially followed in the footsteps of Masatoshi Koshiba, who received the 2002 Nobel Prize in Physics, and Sinitiro Tomonaga, who was awarded the 1965 Nobel Prize in Physics. He also said that research is not always smooth sailing, and that after graduation he couldn't find a job for a whole year. In 2015 Kajita received the Nobel Prize in Physics for demonstrating that neutrinos have mass while conducting underground research at the Kamioka mine in Japan.



## NEW INSIGHTS INTO THE LANGUAGE OF THE OVAL SQUID

Looking at the creatures in an aquarium, you may have noticed that most of the time they peacefully swim around in proximity to one another, but sometimes they do exhibit aggressive behavior. Exploring the body language related to these behavior patterns, a research team led by Professor Chiao Chuan-chin of NTHU's Institute of Systems Neuroscience has made groundbreaking discoveries on the mechanism by which oval squid quickly change color and exhibit spots and stripes on their head, tentacles, and fins. Their paper titled "*Quantitative Analysis of Dynamic Body Patterning Reveals the Grammar of Visual Signals during the Reproductive Behavior of the Oval Squid *Sepioteuthis**"

*lessoniana*" was published in *Frontier in Ecology and Evolution*, and reports on their findings have also appeared on the science news websites *EurekAlert!* and *Science Daily*.

As stated in *EurekAlert!* "William Shakespeare wrote with a quill, Helen Keller liked her typewriter, and the oval squid prefers to use its body, when it comes to expressing love. But unlike these famous authors, the romanticisms of *Sepioteuthis lessoniana* were unknown, until now."

### CHANGING COLOR FASTER THAN A CHAMELEON

Prof. Chiao pointed out that because chameleons rely on endocrines to change their body color, they change color relatively slow.

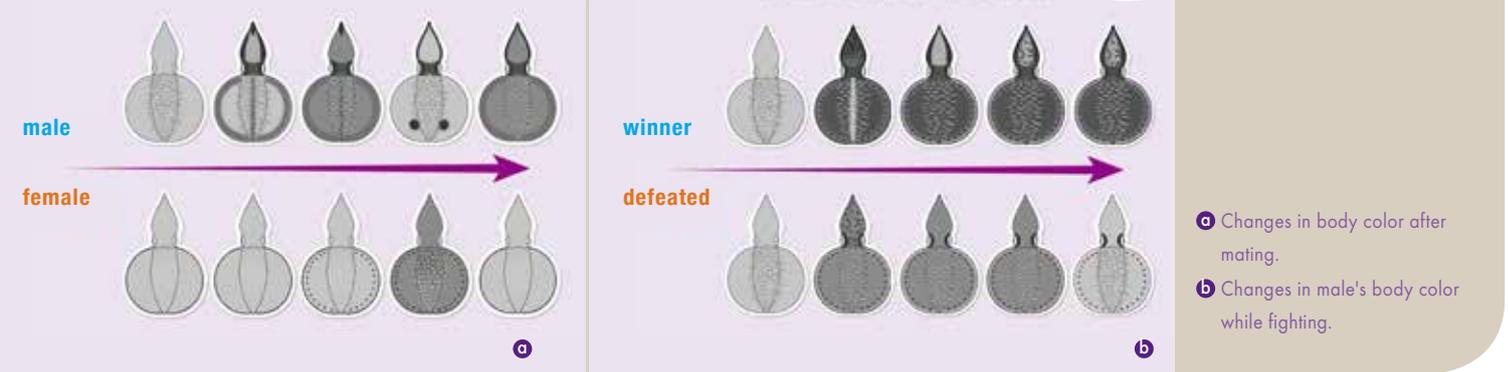
By contrast, cephalopods (including oval squids, cuttlefish, and calamary squid) change color more quickly, since they use their neural system to control the pigment cells on the surface of their body. Thus they can change body color and body surface patterns

several times in a single second—the fastest known color change in the natural world. In the films taken during the research project, squid can be seen changing body color and



A research team led by Prof. Chiao Chuan-chin of NTHU's Institute of Systems Neuroscience has recently discovered the mystery surrounding the mechanism by which the oval squid quickly changes its appearance. Another research team also led by Chiao has discovered that despite having eyes the size of a basketball, the giant squid's optical lobe is relatively small. (Illustration by Chen Yin-peng.)

Schematic representations of the 27 chromatic body pattern components of adult oval squids.



pattern seven times in ten seconds.

While it was already known that oval squid (also called bigfin reef squids) change body color and body patterns, the details relating to these changes remained unknown. While studying the squid, Chiao's students Lin Chun-yen and Tsai Yueh-chun found that while engaging in such behaviors as parallel swimming, defending, competing, and mating, they quickly exhibit specific changes in appearance. The research team has summarized these changes into 27 body color components, each of which has a different significance.

### SIGNS OF VICTORY

Lin, the first author of the paper and a doctoral student at the Institute of Molecular Medicine, said that normally the oval squid has a relatively light body color that doesn't change very much. However, its appearance changes significantly when excited, as when males engage in fighting and when a female refuses to mate. For example, when males fight they exhibit dark black spots on the edge of the fins, and broken stripes sometimes appear on the head, tentacles, and body; moreover, the winner displays a body color which is darker than that of the defeated.

As for mating behavior, they found that when the male approaches the female from behind, his head and tentacles darken, stripes appear on the center of his body, and a dark band appears on the edge of his fins. At this time, if the female's body color doesn't change, this indicates that she accepts the male and is ready to mate. While mating, two dark eyespots appear on the male's fins, and disappear once mating is completed. Interestingly, they found that these eyespots also appear during feeding.

Chiao pointed out that a particular body color component may appear in many different kinds of behavior, so a given component takes on a precise significance only in a particular situation, rather like the way in which a given word can have various meanings,

only one of which applies in the context of a particular sentence.

### DIVING INTO HARDSHIP

Studying the language of squid may be interesting, but also has its share of difficulties. A licensed diver, Lin has spent lots of time in the waters off Taiwan's northeast coast using an underwater camera to record the oval squid's every move.

He said that two or three times during the research successive typhoons swept away all the squid eggs, and that once they were all eaten by a huge sea turtle. And to top it off, sometimes the underwater visibility was so poor that he couldn't even see his own hand in front of his face.

### A NEW APPROACH TO STUDYING ANIMAL COMMUNICATION

Tsai used his expertise in large data analysis to find suitable quantitative methods for deciphering the visual signals transmitted by the oval squid. He said that analyzing twenty seconds of film required spending dozens of hours.

As an undergraduate Tsai majored in life sciences, but it was in his minor in electrical engineering that he learned statistical analysis, demonstrating the importance of interdisciplinary study.

Chiao pointed out that the results of the study were made possible by augmenting observation



with comprehensive data analysis. For Lin, one of the most interesting observations was that even though a group of squid is engaged in the same behavior, they don't necessarily display the same appearance, leading him to wonder about individual communication styles, local language variations and other such issues awaiting future research.

### RELATED FINDINGS ON GIANT SQUID

Another research team led by Chiao has also studied giant squid (*Architeuthis dux*), and some of their findings have recently been reported in the *New York Times*. The report states that despite having eyes the size of a basketball,

the giant squid's optical lobe is relatively small. Scholars speculate that this may be due to the giant squid having relatively less need for such visually guided communicative behavior as camouflage and body patterning, since it lives deep in the sea, in contrast to such shallow water cephalopods as oval squid and cuttlefish.

"After all, when you live in near-total darkness, what you're wearing does not really matter," said Chiao in an interview with the *Times*. Only found in the deep sea, and strong enough to capsize a boat, giant squid are probably the source of legendary sea monsters, and are still something of a mystery to marine biologists. This is probably due to the fact that most of the giant squid seen by people are already dead, and usually consist of little more than a carcass floating in the water or a skeleton beached on the shore. But in January last year Taiwanese fishermen accidentally caught a giant squid in the waters off Yilan, providing scientists with a

rare opportunity to examine a relatively intact specimen.

The largest giant squid ever measured was 13 meters long. The adult male caught near Taiwan was four meters long, with a torso about 89 cm long, and its eyes were 8 cm in diameter.

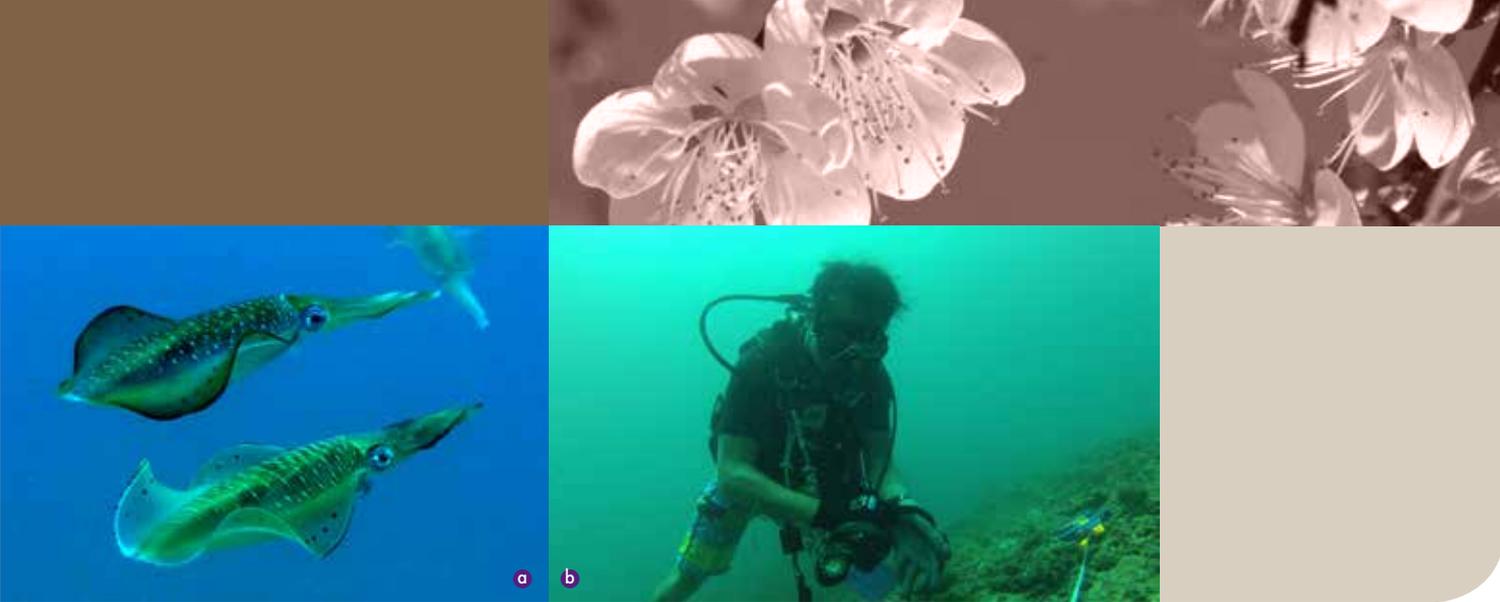
### HUGE EYES FOR DETECTING NATURAL ENEMIES

Why does the giant squid need such huge eyes? Chiao believes that large eyes can detect natural enemies, such as sperm whales, from a distance.

The *New York Times* report refers to a paper recently published in *Royal Society Open Science* titled "Mismatch Between the Eye and the Optic Lobe in the Giant Squid" authored by Chiao and his students Liu Yung-chieh and Liu Tsung-han, together with Dr. Su Chia-hao,



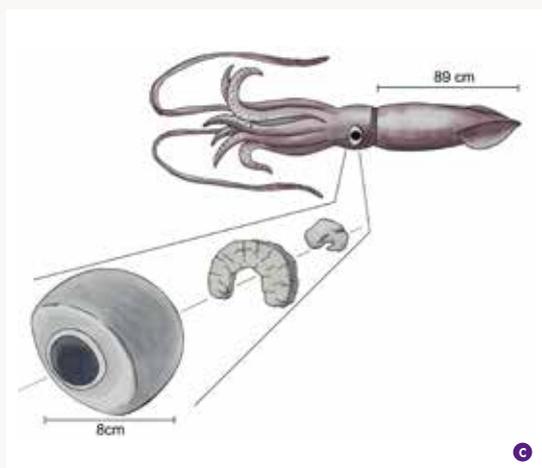
Lin Chun-yen of the Institute of Molecular Medicine, Prof. Chiao Chuan-chin of the Institute of Systems Neuroscience, and Tsai Yueh-chun of the Institute of Systems Neuroscience (left to right).



Research Fellow Yu Chun-chieh from the Institute for Translational Research in Biomedicine of Kaohsiung Chang Gung Memorial Hospital.

Chiao pointed out that the study of the giant squid's brain structure will allow us to further explore the evolution of the nervous system of deep sea animals.

As soon as the giant squid was caught last year, Chiao and his students immediately took it to National Chung Hsing University for dissection and measurement. Chiao said that he is grateful to the Institute for Translational Research in Biomedicine at Chang Gung Memorial Hospital in Kaohsiung for providing the high-resolution nuclear magnetic resonance imaging equipment they used to analyze the giant squid's optical lobes. Following the dissection, the giant squid specimen was sent to the National Museum of Natural Science for permanent preservation.



- a Male and female oval squids swimming in parallel.
- b Lin using an underwater camera to film the oval squid.
- c Despite having huge eyes, the giant squid's optical lobe is relatively small.  
(Illustration by Chen Yin-peng.)



## ALL ABOARD—THE TRAIN TO INDIA IS PULLING OUT

Interested in becoming a specialist in Indian studies? If so, then the summer course "India Studies: Culture and Trade" is exactly what you need. The intensive one-month program sponsored by the Ministry of Education (MOE) and coordinated by NTHU's Center for India Studies began at the end of July and was the first such summer course offered in Taiwan. The program was tuition-free, and the top third of the class were offered a free one-week exploring tour of India.

In addition to classes on Indian politics, economics, trade, and history, the program included practical courses with Indian teachers in such subjects as Hindi, culture, and market analysis—all rounded off with a component providing an in-depth appreciation of Bollywood movies.

Deputy director of the Center, Fang Tien-sze, said that enrollment in the course was limited to 30 people, and was open to Taiwanese students currently enrolled in university or graduate school. Students who satisfactorily completed the course received a certificate.

With long-term experience in academic exchange with India, center director Wang Wei-chung said that India is playing an increasingly important role in the international community.

He also pointed out that India

is now attracting large amounts of foreign capital, and that India's economic growth rate has already surpassed that of China. In her inaugural speech, ROC president Tsai Ing-wen said that India is a key country in her "new southbound policy." Historically, however, there has been little interaction between India and Taiwan. As a result, Taiwanese businessmen were not familiar with India, and have been rather reluctant to enter the Indian market.

Last year NTHU published a monograph titled *Setting up a Shop in India: Bright Ideas from 50 NTHU Students*, featuring various proposals for starting business in India. Wang indicated that even though the Center for India Studies was only established this year, he has already been contacted by quite a few business owners eager to hire a consultant with an in-depth knowledge of the Indian market.

Wang said that NTHU has already set up seven centers in India to teach Mandarin, and that this first-time summer program in India studies was intended to make Indo-Taiwanese interactions more of a two-way affair.

As Wang puts it, "The train to India is about to leave, so now is the time for young entrepreneurs looking southwards to get on board."

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- a A symposium at NTHU featuring a parliamentary delegation from India.
  - b The faculty of the India Studies summer program includes (left to right) Deputy director of the India Center Fang Tien-sze, interpreter Priya Lalwani Purswaney, and Tung Yu-li, who studied at Jawaharlal Nehru University in New Delhi.
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## HIGH-TECH LAWYERS RECEIVE TRAINING AT NTHU

A new level of integration between the high tech industry and the legal profession is on the way. Fifty-one practicing lawyers from all over Taiwan have recently completed a new nine-week course titled Academy of Technology Lawyer held at NTHU in conjunction with the Hsinchu Bar Association and the Industrial Economics and Knowledge Center at the Industrial Technology Research Institute.

This rigorous course covered a wide variety of topics, including international business, intellectual property, business contracts written in English, and recent developments in Taiwan's science and technology industry. During the completion ceremony held on August 12<sup>th</sup> the participants received certificates as well as a congratulatory letter from President Tsai Ying-wen.

The ceremony was attended by former vice president Wu Den-yih, who said that the technology industry creates many jobs, but changes very rapidly, so in such areas as patents applications the assistance of lawyers is required to avoid unnecessary disputes. He also expressed his gratitude to the organizers for the opportunity to participate and congratulate all participants who have successfully completed the program.

"Very rewarding!" was the response of one participant, Cheng Chin-Rung, who passed the bar in 2004 with a specialization in accounting and tax law. After studying in Europe and setting up her law practice in Tainan and Kaohsiung, she found that when enterprises in central and southern Taiwan run into complex business legal issues related to science and technology, they usually look north to find a lawyer. This is something she intends to change. Two of the things about the course she found especially helpful were

**a** Four participants displaying their certificates.

**b** Fan Chien-Te (second from left) encouraged the participants to continue upgrading their skills.

the lectures given by the chief legal officers of large enterprises and the discussions of international legal cases.

To be more specific, Cheng said that the chief legal officer who taught the English contract review class went through a number of English contracts and corrected all sorts of mistakes which would otherwise expose an enterprise to considerable legal risk. She also said that in the class on international intellectual property rights she learned how to provide medium- and small-sized enterprises with more sophisticated legal services by working with foreign lawyers.

"This is an area of legal training that has always been lacking," said another participant Chia-Hsu Tai, a lawyer at the Chengding Law Firm. He added that upgrading his skills in the area of international contract law was his main purpose for attending the course, since it's very important to Taiwan's economic development, yet very few lawyers have expertise in this highly specialized area.

Tai also said that through the course he gained a deeper understanding of the wafer subcontracting industry, which is closely related to patent law and intellectual property rights. Taiwan has a strong international reputation for technology subcontracting, so lawyers



need to know how to use the law to protect a subcontractor's interest.

Hsinchu Bar Association director Yang Ming-Hsun said that recent reforms of the lawyer qualification examination have resulted in a higher passing rate and an increase of practicing lawyers. Thus the legal field has become more competitive, making it necessary for lawyers to continually upgrade their skills and acquire new areas of expertise. He also said that Hsinchu City, home of the Hsinchu Science Park, has a high demand for lawyers specializing in science and technology, and helping practicing lawyers to develop their expertise in these areas was the purpose of

organizing this special training program.

Fan Chien-Te, the director of NTHU's Institute of Law for Science and Technology, said that when enterprises encounter international legal issues they need to hire a lawyer specializing in transnational arbitration. Thus during the course senior legal experts shared their practical experience in international and cross-strait litigation and arbitration.

Fan pointed out that during their legal training few lawyers had the opportunity to learn about the special legal needs of high-tech industries, and that NTHU intends to help bridge this gap.

This special training program began in June of this year. The original plan was to enroll 40 participants, but due to unanticipated interest, it was increased to 53 participants, 70 percent of whom have a graduate degree. A total of 51 successfully completed the course, thereby earning a certificate and three academic credits.



Completion ceremony of the Academy of Technology Lawyer program. In the front row (beginning with the third person on the left) are: Fan Chien-Te; Yang Mung-Hsun; Wu Den-yih; Chen Sinn-wen; and Wang Peng-Yu, the general director of the Technology Transfer and Law Center at the Industrial Technology Research Institute.



## CULTIVATING INNOVATIVE IDEAS AT THE PRACTICAL CREATIVITY CENTER

- a** Mentors and students meet at the Creativity Garage.
- b** The house warming party celebrating the Creativity Café's first anniversary.

**N**THU's Practical Creativity Center was established last year by the Tsing Hua Entrepreneur Network (TEN) as a place for students to cultivate their ideas and hone their entrepreneurial skills. Set up with funds raised by NTHU alumni, the Center has generated lots of interest, and during its first year of operation has established eight entrepreneurial teams. TEN is composed of NTHU alumni who use their entrepreneurial experience to help NTHU students make their creative ideas bear fruit.

Sharon Liao, chairwoman of the TEN Incubation Corporation and one of the founding members of the Center, said that its main purpose is to guide students in developing practical applications for their creative ideas.

The Center has two venues on the NTHU campus: the Creativity Café (room 208 in the Lee Tsen Min Building, also known as the Green Energy Teaching and Research Building), and the Creativity Garage (room 518 in the Innovation Incubation Center). The former serves as a lively place for exploring ideas, networking, and forming partnerships; the latter is mainly for such advanced works such as writing business plans, discussing business models, finding resources, and

locating funding.

The Quarter to TEN Platform, which was established by the TEN for students as an interdisciplinary communication platform, regularly hosts brainstorming sessions for student groups as the Zai Wu (載物) College in the Creativity Café.

In March of this year the first entrepreneurial team was established at the Creativity Garage, and at present there are a total of eight teams: UniFire, Frismo, Let We Care, 1Strainer, AGeek, Youzipu, Cellscout.biotech, and Sista Closet. Once a new team registers, the Garage holds





a matchmaking event so that each team is matched up with two mentors.

The Garage has recruited a pool of 43 volunteer mentors from amongst the membership of TEN and NTHU's EMBA program. Some mentors provide guidance in such broad areas as regulations and finance, while others offer expertise in such specialized areas as semiconductors, biotechnology, and the Internet of things. Based on their rich experience, the mentors guide the team members through the maze of entrepreneurship.

The Garage also organizes entrepreneurial workshops focusing on such topics as marketing, building a brand name, product design, and funding sources. In addition to acquiring basic entrepreneurial knowledge, participants engage in interactive discussions

and learn various approaches for solving the problems encountered while setting up a business.

Liao said that she is looking forward to increasing numbers of people participating in the Center's activities, and that the Center is currently working on further integrating various resources so as to make NTHU an even more friendly environment for entrepreneurship. The Garage will soon begin recruiting its second batch of teams, and welcomes all interested students to participate.



**a** A brainstorming session at the Creativity Garage.

**b** The Creativity Garage located in the Innovation Incubation Center.



## TWO NTHU STUDENTS GOING FOR GOLD

**C**hen Nien-chin and Tu Po-wei, both students at NTHU's Department of Physical Education, competed in the Ulaanbaatar Cup 2017 boxing tournament held in Mongolia in June. Chen won a gold medal in the women's heavyweight (75 kg) class by beating competitors from North Korea, Russia, Mongolia, and other countries.

The film *Dangal* tells the story of a female wrestler who overcomes gender stereotypes to win a gold medal. Similarly, at the age of 14 Chen left her home in Matsu to begin an arduous training course in Taiwan, and currently has her sights set on the 2020 Olympic Games.

Chen's father is from the Amis tribe and her mother hails from the Bunun tribe. Although she has a shy smile, as soon as she gets into the boxing ring her expression instantly becomes sharp and intense. "I'm jealous of her fierceness!" says her sparring partner Tu.



- a** At the age of 20, Chen Nien-chin is a rising star in the world of women's boxing.
- b** Chen Nien-chin, Ko Wen-ming, and Tu Po-wei (left to right).

### AN EARLY AND DIFFICULT START

Six years ago, when Chen first began intensive training under boxing coach Ko Wen-ming, she called her father and sobbed about how difficult it was to endure the training. Thinking back on those days, Chen can't help but laugh. She says that she wanted to give up and go home, but didn't dare to tell her coach; instead she begged her father to call her coach and bring her training to an early end. Well acquainted with his daughter's character, he kept delaying and appeasing her, at one point admonishing her by telling her that, "This is your choice, so you'll just have to follow through with it." That's why Ko Wen-ming credits Chen's father as having played a key role in her success.

### QUICK AND AGILE

With a height of 169 cm, Chen is shorter than most heavyweight female boxers. But when Ko discovered how quick and agile she is, he began training her with his other male boxers, so that she wouldn't be intimidated when facing opponents bigger and taller than she is. Moreover, Ko specially devised for Chen a kind of rising punch which has been particularly effective against taller opponents. In addition to her natural ability, Chen has also



impressed her coach with her stamina and her ability to stand up to hard blows. She trains six days a week, and all her father can say after watching her box is, "You're so brave."

With her family's support, her coach's guidance, and her own hard work, Chen has gradually become a well-known figure in the world of boxing, and has already competed in a number of international tournaments. In 2013 she came in first place in the 75 kg class at the AIBA Women's Junior/Youth World Boxing Championships; in 2014 she won a silver medal at the Youth Olympics; and in 2016 she won a gold medal at the World University Boxing Championship.

### A TRYING EXPERIENCE

The Olympic qualifying tournament held in Bulgaria in 2015 was her first adult tournament,

and one that neither she nor her coach will easily forget. After arriving in Bulgaria Chen came down with a stomach ailment that left her feeling nauseated and weak; as a result, despite a last minute burst of energy, she failed to qualify.

Interestingly, the following year Chen faced the same opponent, who was naturally expecting an easy win. As it turned out, "She didn't even know what hit her," Ko says with a laugh.

At only 20 years of age, Chen is a rising star in women's boxing. In the preliminary round of the Ulaanbaatar Cup 2017 she defeated a boxer from North Korea, and went on to defeat opponents from Russia and Mongolia. As a result, Chen became the first Taiwanese boxer to win a gold medal in this tournament.

### SHOOTING FOR GOLD

Last year Chen participated in the Rio Olympic Games, becoming the first Taiwanese Olympic boxer in 20 years. Although she didn't win any medals, she performed well and was mentioned as a promising competitor on the Olympic Games official website.

Chen is currently preparing to compete in Holland in September and in Saigon in October; and she's planning to compete in the Asian Games next year and the World Cup in 2019.

Chen's dream is to win a gold medal at the Tokyo Olympic Games in 2020.

NTHU sophomore Tu Po-wei is another up-and-coming boxer.

Competing in the 49 kg class, he has a gentle demeanor, but when he gets in the ring he takes on a formidable air. Also coached by Ko Wen-ming, Tu won the 2015 Taipei City Cup International Boxing Tournament, and won a silver medal at the 2016 World University Boxing Championship.

At last month's Ulaanbaatar Cup 2017 Tu scored a victory in the first round, but was defeated in the second round. Undaunted, Tu, with true athletic spirit, takes it as an opportunity to hone his boxing skills.



Chen Nien-chin (left) and her coach Ko Wen-ming at the Ulaanbaatar Cup 2017 boxing tournament.



## STUDENT VOLUNTEERS COME OUT IN FORCE FOR THE SUMMER UNIVERSIADE AT NTHU

**V**olleyball fans, heads up! This year the Summer Universiade (World University Games) was held in Taiwan for the first time, and the men's volleyball preliminaries and intermediate rounds got off to an exciting start on August 20 at the NTHU gymnasium. Some 50 well-trained NTHU students assisted in such specialized areas as score-keeping and grounds-keeping, and balls-picking. Another 100 NTHU students gave up their summer internships so that they could serve as volunteers at this important international event. Many of the volunteers are also members of the NTHU Volleyball Team, and learned a lot by observing the techniques of players from such countries as Canada, Australia, and Russia. On the afternoon of 17<sup>th</sup> NTHU president Hocheng Hong paid a visit to the enthusiastic volunteers, provided them with a sports drink, and encouraged them to interact with the foreign players. He also went to the security room to extend his sincere gratitude to the security guards for all their hard work behind the scenes.

NTHU Women's Volleyball Team member Chen Jing of the Department of Power Mechanical Engineering said that she began playing volleyball 13 years ago while in the fourth grade, and now knows all about the famous volleyball players from such places as Japan, Hong Kong, and Russia. In April this year she was greatly pleased to learn that the Universiade was recruiting students as staff members. At first, thinking that it would conflict with her school work and internship, she hesitated to apply, but finally did so when one of her teachers encouraged her to take advantage of this rare opportunity.

As a result, Chen decided to give up her internship for one of the last two positions to record offenses and defenses. Chen said with a laugh

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- a** We're ready! Members of NTHU's volleyball teams had a rewarding experience volunteering at the Summer Universiade.
  - b** NTHU president Hocheng Hong offering the enthusiastic volunteers a sports drink and encouraging them to interact with the foreign players.
- 

that she had a hard time focusing on her job while fending off the ever-present impulse to rush over to ask a famous player for an autograph.

Team member Wang Yiting of the Department of Quantitative Finance has been both a player and a cordial fan over the past ten years, and likes searching the Internet for the latest volleyball results and films from the Top Volleyball League. When she learned that the Universiade was recruiting staff, she immediately filled out the application form.

As for NTHU Men's Volleyball Team members, Xian-liang Zhuo of the Department of Chemistry served as a groundskeeper, and Cai Lixuan of the Department of Chinese Language and Literature worked as an off-court volunteer, and both found it to be a highly rewarding experience.

In preparation for the event, NTHU spent NT\$45 million to refurbish the 25-year-old gymnasium, including bringing up to international standards the showers, toilets, lighting, and air conditioning, as well as increasing the seating capacity. Interestingly, during the renovation project everyone was pleasantly surprised to find that the gymnasium's maple flooring was still in perfect condition after 25 years of use.



# NTHU



## ***NATIONAL TSING HUA UNIVERSITY WELCOMES INTERNATIONAL STUDENTS***

For information on Admission and Financial Aids, please visit our website at <http://oga.nthu.edu.tw/index.php?lang=en#> or contact

Ms. Hui-Chen Chan, Division of International Students, Office of Global Affairs.

Email: [hcchan@mx.nthu.edu.tw](mailto:hcchan@mx.nthu.edu.tw)

Tel: +886-3-5162461

Fax: +886-3-516-2467

Office hour: 8:30AM -5:00PM, Monday through Friday  
(Taiwan time)

### **Application Timeline:**

#### Degree Student

Fall Semester Application: January 1~March 15

Spring Semester Application: September 1~November 1

#### Exchange Student

Fall Semester Application: February 1~ April 15

Spring Semester Application: September 1~November 1

University International Student Scholarship

Website Link: <http://0rz.tw/DfSou>

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