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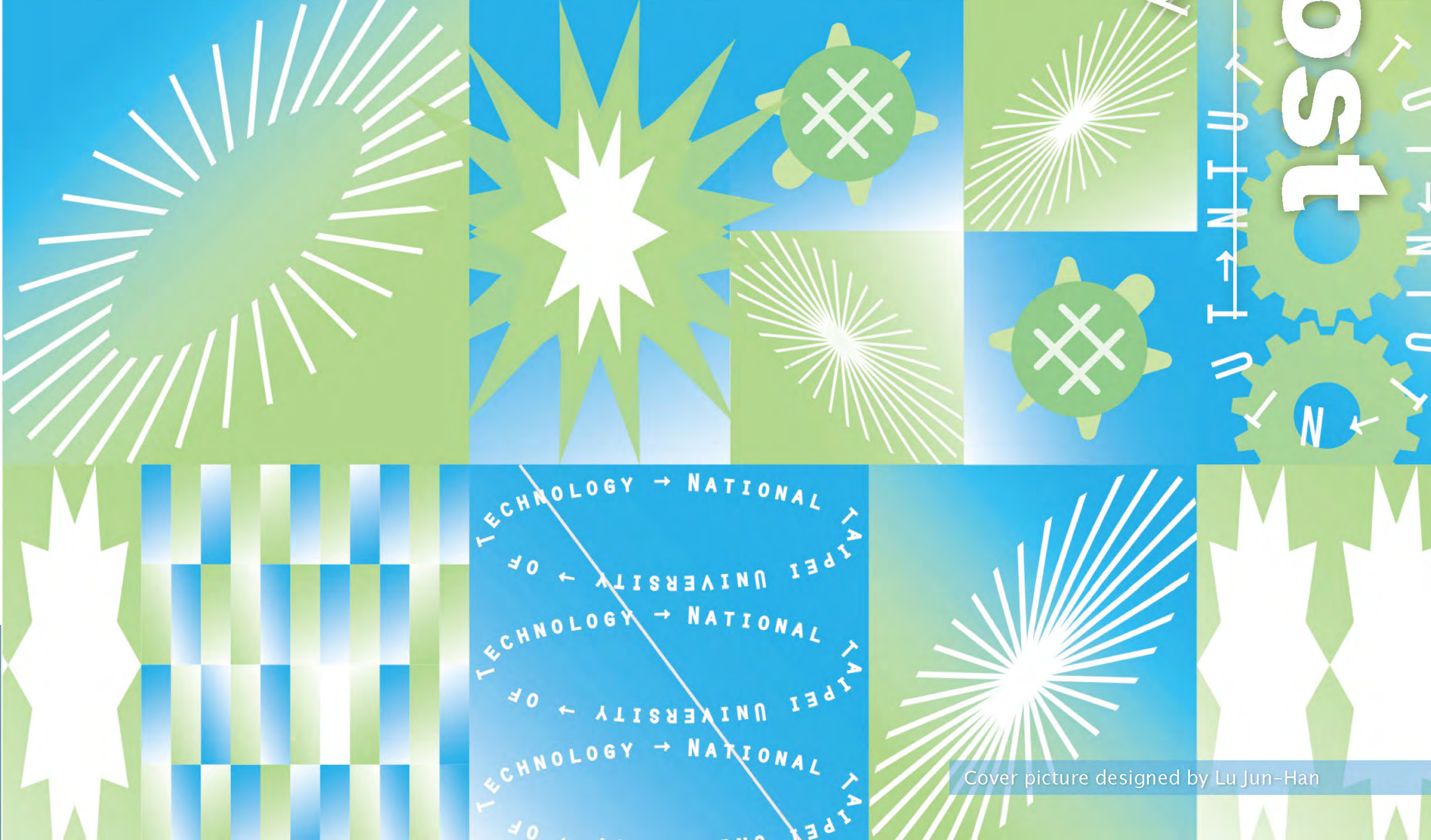
Taipei Tech Donates Student-Designed Masks to Neighboring Communities and Hospital



Taipei Tech Post

National Taipei University of Technology

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Cover picture designed by Lu Jun-Han

Collaboration with Tucheng Hospital Aims at Accelerating Medical Biotechnology Development



Taipei Tech signed an MOU with New Taipei Municipal Tucheng Hospital on July 21, 2021. Through the partnership, the two sides are going to pool resources together in developing medical care technologies.

Huang Jing-Long, Superintendent of Tucheng Hospital, said that Taipei Tech has had fruitful achievements in technology research and development. He hopes this new partnership can accelerate medical biotechnology development to meet the market demand.

Wang Sea-Fue, President of Taipei Tech, pointed out that the university's research and development focus has been on energy, artificial intelligence, and semiconductor. However, in recent years, Taipei Tech has also invested in the development of smart healthcare, smart operating room, and advanced medical devices. "We can expand the scope of our medical research with clinical data and information," said Wang, "and achieve greater influence through this partnership."

Yang Chin-Yi, Director of Dermatology Department at Tucheng Hospital, mentioned that in recent years, it has been a global trend to use non-invasive methods to obtain the physiological information of a patient's skin tissue. For example, in the case of melanoma in skin cancer, conventional clinical examination often relies on invasive biopsy. Yang believes that a photoelectric examination system that incorporates statistical data can help doctors diagnose malignant melanoma earlier.

Yang also pointed out that the loss of collagen in skin is related to the degree of skin aging. An examination system that can quantify skin components of a patient can lead to better skin care treatments and earlier treatments of skin disease. She is looking forward to the cooperation with Taipei Tech to build clinically rapid and convenient test instruments.

Hsieh Chia-Hsun, Chief of Research Department of Tucheng Hospital, said that the new partnership will usher in a series of research projects in medical technology that can directly applied in clinical use. He is looking forward to work with Taipei Tech to advance medical technology.

台灣離岸風電設計 施工與運維規範

內容與架構介紹討論會議

Symposium on the draft and introduction of technical requirements of
Taiwan offshore wind power design, construction, operation, and maintenance

主辦單位：經濟部標準檢驗局、台北科技大學



Taipei Tech and BSMI hosted a symposium to discuss the regulations and technical requirements pertaining to offshore wind power development in Taiwan



Offshore Wind Power Key Players Discuss Standardization and Net Zero Emission in Symposium

To accelerate the process of the offshore wind power industry taking root in Taiwan, Taipei Tech joined hands with the Bureau of Standards, Metrology and Inspection (BSMI) of the Ministry of Economic Affairs and hosted a symposium on the topics of Taiwan offshore wind power design, construction, operation, and maintenance. Participants discussed the regulations and technical requirements pertaining to offshore wind power development in Taiwan.

Ship and Ocean Industries R&D Center, CR Classification Society, and Taiwan Offshore Wind Industry Association (TOWIA) co-hosted the symposium, showing support from the industry to deepen the cooperation between academia, industry, and government sectors. Symposium participants also discussed the ways for Taiwan to achieve the goals of energy stability and net zero emission by 2050.

In 2020, the BSMI established the Offshore Wind Technology Regulation Advisory Committee with the Director General of BSMI, Lien Ching-Chang, as the chair, and Taipei Tech President, Wang Sea-Fue as the co-chair. Three technology review committees are operating under the advisory committee, including the Site Investigation and Design Committee, the Manufacturing and Construction Committee, and the Operation and Maintenance Committee. Sung Yu-Chi, the director of Taipei Tech Offshore Wind Power Engineering Research Center, Chou Shean-Kwang, CEO of the Ship and Ocean Industries R&D Center, and Cheng Chih-Wen, the president of CR Classification Society, serve as the chairs of the three committees respectively.

Hsieh Han-Chang, Deputy Director of BSMI, indicated that BSMI has been working on the draft of offshore windmill quality standards and is expecting to release the finalized version by the end of this year. "Establishing a functional review system is a significant task. It involves project verification, technician visas, and third-party verification mechanisms for the developers," said Hsieh, "and these are the details that we've been working on".

Wang of Taipei Tech noted that the university is responsible for site survey and designing technical regulations that cover the evaluation of environmental conditions, equipment performance, and support structure design. "Through the exchange at the symposium," said Wang, "we believe we can make the offshore wind power regulations more effective and comprehensive."



TRA formed partnership with Taipei Tech, National Kaohsiung University of Science and Technology, and ITRI to boost TRA's maintenance capacity and to develop Taiwan's own railway systems

Taiwan Railways Partners with Research Institutes, Full Steam Ahead on Developing Taiwan's Own Railway Systems

The Taiwan Railways Administration (TRA) signed letters of intent with Taipei Tech, National Kaohsiung University of Science and Technology, and the Industrial Technology Research Institute (ITRI) on July 28, 2021. The partnership aims to boost TRA's maintenance capacity through higher adoption rate of Taiwan-made components and to pave way for Taiwan's railway industry to flourish.

Head of TRA, Tu Wei, officiated the signing ceremony. Tu mentioned that, under the framework of the new partnership, the future cooperation in component and equipment development, inspection and maintenance, personnel training, and technology exchange and transfer will be more rapid and effective. "We expect Taiwan's railway industry to have a major breakthrough with the help of our partner institutions," said Tu.

To minimize the impact on the daily railway operations, research projects under this new partnership will be project-based. After accepting a project, TRA will provide depot space, equipment, and spare components for research purpose. TRA will also provide training for research personnel to frictionlessly transition to working in existing depots and factories.

Wang Sea-Fue, Taipei Tech President and Chairperson of the Smart Railway Institute, indicated that, in order to accelerate the development of next-generation smart railway system, Taipei Tech had joined hands with TRA to establish the Smart Railway Institute in 2020. The Smart Railway Institute will continue to deepen the cooperation with TRA, assisting the development of railway-related technologies and fostering technical talents. "We look forward to working together to improve the maintenance capacity and management of railway systems and to promote railway technology autonomy," said Wang.

TRA plans to increase the adoption rate of Taiwan-produced components in the coming years, with the goal of producing Taiwan's own railway systems. In 2030, the adoption rate of Taiwan-produced components, equipment, and systems is expected to reach 50%.



Student Made Breakthrough in Life with Taipei Tech's Corporate Partnership Program

Li Jun-Han, left, is the record-breaking two-time recipient of the Taipei Tech Outstanding Youth Award

Li Jun-Han, who was once a disadvantaged student with only NT\$100 for daily expenses, is now a Taipei Tech PhD student with \$40,000 monthly subsidy from the Ministry of Science and Technology. Li is also a record-breaking, two-time recipient of the Taipei Tech Outstanding Youth Award. "When one door closes, another opens," Li said humbly, "and enrolling in the Taipei Tech Industry-Academy Training Collaboration Program is a life-changing experience because it is a relatively affordable way to continue learning through vocational education."

Li's family suffered serious financial setbacks when he was in middle school. His teacher back then realized that he needed financial aid and offered to help him apply for grants and scholarships for him to continue his education.

When he was in Taichung Industrial Senior High School studying refrigeration and air-conditioning, Li realized that he prefers hands-on approach rather than theory, so he decided to orient his learning toward vocational education. However, when he took the vocational college entrance exam, he did not perform as expected due to nervousness and was not able to enter Taipei Tech.

As the conventional way to enter college shut, another door opened. In the same year, Taipei Tech rolled out the Industry-Academy Training Collaboration Program, Taiwan's first of its kind that combines in-class lessons and hands-on training with more flexible entrance requirements. Li seized the opportunity and became the first group of students to enroll in the program.

As a freshman, Li had to finish one thousand and eight hundred hours of hands-on training and acquire the Class B technician certification on refrigeration and air-conditioning. The remaining three years of college, Li was a full-time employee at Poyuan Engineering Co. and worked during weekdays while attending classes during weekends. He was able to participate in large-scale construction projects such as Gloria Outlets even though he was only a 19-year-old apprentice. He also learned valuable interpersonal skills during this time. Though it was not easy to work and study at the same time, Li graduated top of his class.

Li is grateful for the many people who have helped him along the way. "It is not their responsibility to help me, but they offered help when I was most in need," said Li. "For that, I am extremely grateful for my teachers, employers, and mentors for their kindness". Li noted that these people inspire him to also offer help to other disadvantaged students.

Li is currently in his second year of the PhD program and serves as an adjunct lecturer at Taipei Tech.



Faculty Members Demonstrate Innovative Teaching Methods in Teaching Practice Research Project



Taipei Tech has recently put up an online exhibit that showcases some of Taipei Tech faculty member's innovative ways of teaching. These creative and innovative teaching projects are submitted to the Ministry of Education (MOE) Teaching Practice Research Project for evaluation and are subsequently recognized as excellent projects. Yang Shih-Hsuan, Dean of Taipei Tech Office of Academic Affairs, mentioned that among the seventeen Taipei Tech projects, six were evaluated as excellent by the MOE. It shows that Taipei Tech faculty members have strong dedication in developing innovative and progressive teaching methods.

Eric Lee, professor of Industrial Design Department, overcomes the limitation of insufficient space and equipment by incorporating augmented reality (AR) in his woodworking class. The AR technology provides simulation of operating a computer numerical control (CNC) machine. Students can practice operating a CNC machine on the AR app to reduce error rate and to effectively improve their operation fluency.



Other teachers who utilize digital tool in teaching include Wang Chen-Shu from the Department of Information and Finance Management and Tseng Po-Hsuan from the Department of Electronic Engineering. Wang bridges online and in-person learning through live streaming that helps improve student engagement.

Tseng offers a course on software-defined wireless networks that requires students to utilize OpenFlow protocol in embedded systems. Considering that students have varying software and hardware fluency, Tseng introduces the spirit of openness and sharing into the classroom. He encourages students to conduct peer learning through GitHub, an online software co-development platform, where fellow classmates can observe and comment on other's code, and the teacher can also track the development process via the platform to evaluate learning results.

Taipei Tech President Wang Sea-Fue indicated that the improvement of teaching quality can effectively stimulate student learning. He therefore encourages teachers to systematically develop innovative teaching methods and actively participate in the MOE Teaching Practice Research Project. The university also provides individual consultation, research workshops, advisers, and bonus stipend to promote innovative and creative teaching.

Taipei Tech Donates Student-Designed Masks to Neighboring Communities and Hospital



News clip of "College student designs masks to thank front-line workers for pandemic work"



The winner of the design contest, Lu Jun-Han, based his design on the school colors of blue and green while incorporating the oval shape of the school emblem with astronomy-inspired elements

In response to the surge of domestic COVID-19 cases and to raise awareness of university social responsibility (USR), Taipei Tech held a student mask design contest, in which the winning design was mass-produced and given to the neighboring communities and Taipei Municipal Wanfang Hospital.

The mask designed by Lu Jun-Han, an industrial design master's program student, won the first place of the contest. The base of the design is a gradient color composed of blue and green—Taipei Tech's school colors. The graphics include representative images of the Big Bang, infinity, and the universe, all based on Taipei Tech's oval emblem. Lu also included graphics of turtles as they are commonly found in the pond on campus.

Wang Sea-Fue, President of Taipei Tech, pointed out that ever since the COVID-19 local outbreak, members of Taipei Tech and surrounding communities have all adhered to the pandemic prevention measures to safeguard the community. "We have donated six thousand Taipei Tech masks to our neighboring communities, including the communities of Minhuei, Changlong, and Zhuyuan, and to Wanfang Hospital," said Wang, "and we hope to express our gratitude toward members of the communities and the health professionals during this critical time."

Chen Wei-Zhen, representative of the Minhuei community, mentioned that his father is a Taipei Tech alumnus, so he is particularly grateful for Taipei Tech's warm gesture. Li Lin-Yao, representative of the Zhuyuan community, thanked Taipei Tech for caring the collective wellbeing of the community. Wang Zhi-Gang, representative of the Changlong community, pointed out that Taipei Tech has been implementing an USR project to improve the landscape of the community. "Taipei Tech always takes initiatives in local revitalization, which shows how members of Taipei Tech care about our community," said Wang.

Chen Tso-Hsiao, Superintendent of Wanfang Hospital, said that the vibrant color and design of the Taipei Tech masks will bring a pleasant mood to the medical staff. Yang Shih-Hsuan, Dean of Taipei Tech Office of Academic Affairs, indicated that the university wishes to send our support and gratitude through these masks toward the medical staff who have been working hard to protect our health during the pandemic.



Six thousand Taipei Tech masks were given to the neighboring communities and hospital to express love and care to the community

