

Taipei Tech Post Bimonthly Newsletter



Bimonthly Newsletter

2 Taipei Tech 110th Anniversary Taipei Tech Celebrates 110 Years President Tsai Deliver

Years, President Tsai Delivers Remarks at the Anniversary Ceremony

- 4 "Soaring Into The Future": Association Exhibits Unmanned Aerial Vehicles on Taipei Tech Campus
- 5 Taipei Tech Alumni Cycle Around Taiwan for Charity
- 6 "Old Yearbook Exhibition" Allows Public Access to Rare Documents from the Japanese Rule Period
- 7 Schools of the University System of Taipei Jointly Appeal for the Expansion of Taipei Tech Campus
- 8 Faculty Members, Students, and Museum Work Together to Bring Interaction to Ceramic Arts Exhibition



10 Global

Taipei Tech and MIT Co-host 2021 City Science Summit

11 SDG Special Report Porous Sidewalks Help Cooling: Study



National Taipei University of Technology

@ L.1.2.5

0) P P \mathbf{r} 0S



Photo courtesy of the Office of the President

Taipei Tech Celebrates 110 Years

President Tsai Delivers Remarks at the Anniversary Ceremony aipei Tech celebrated its 110th anniversary on October 30th. President Tsai Ing-wen delivered remarks at the celebration ceremony. Other honorable guests at the celebration ceremony included Senior Advisor to the President Yen Chih-fa, Executive Yuan Minister Chang Jing-sen, Examination Yuan Minister Yao Leehter, Minister of Education Pan Wen-chung, and Vice Minister of Economic Affaires Lin Chuan-neng.

Wang Sea-fue, President of Taipei Tech, pointed out that Taipei Tech has been continuously cultivating extraordinary talents with practical skills and professional ethics throughout the past 110 years. "Looking forward, we will not only maintain our traditional values of honesty, sincerity, proficiency, and dedication," said Wang, "but also innovate to pursue a brighter future."



Porous sidewalks installed in Taipei last year have been found to reduce surface temperatures by up to 3°C in addition to absorbing excessive runoff, researchers said on Thursday.

The Taipei City Government has been experimenting with new building materials since launching a "sponge city" initiative in 2015 to improve drainage and flood controls in the capital. Seeking to reduce runoff along Zhongxiao E Road, which is prone to flooding, the city replaced its asphalt and concrete sidewalks with a more porous material.

To test the effectiveness of the renovation completed late last year, researchers from the National Taipei University of Technology's Water Environment Research Center installed a sensor in front of Zhongxiao Xinsheng MRT Station Exit 4 to monitor how much water was absorbed by the pavement. They discovered that the material was not only effective at reducing runoff, but also had a lower temperature than other types of pavement.

Data gathered from March 9 to Aug. 31 showed that the sidewalk can reduce runoff by 13.8 to 63.4 percent, or about 40 percent on average, compared with traditional materials, the center said. Its surface temperature was on average 2.5°C cooler than asphalt, center director Lin Jen-yang said. The highest difference in temperature was recorded on July 26, when the porous surface was 3°C cooler than asphalt amid an atmospheric temperature of 37.4°C, Lin added. The material can absorb more water because its porous structure allows runoff to seep into the ground instead of accumulating on top, he said. In sunny weather, water evaporating from within the porous pavement helps cool down the surface and the air above it, he added. "You can think of it like a sponge absorbing water," Lin said. "The less runoff there is, the better the pavement is at absorbing rainwater."

University president Wang Sea-fue praised the renovation, saying that the wider sidewalks provide safer access to the school and complement the porous sidewalks installed on campus. The university is the first school in the nation to use the more efficient pavement on a wide scale, directing the runoff to shallow decorative gullies surrounding the campus, Wang added.



Porous Sidewalks Help Cooling: Study

Article Courtesy of Taipei Times By Rachel Lin and Kayleigh Madjar / Taipei Times Staff reporter, with staff writer



del smithmit

CITIES WITH(in) Hyper-LOCAL solutions to GLOBAL problems



aipei Tech and the MIT City Science Network co-hosted the 2021 City Science Summit virtually from October 4th to 8th, 2021. The theme this year is "CITIES WITH (in)-Hyper-LOCAL solutions to GLOBAL problems," in which the summit participants talked about global solutions and strategies to cope with pressing environmental problems and sustainable issues.

This summit brought together experts, planners, engineers, and scientists from all around the world through the MIT City Science Network. Specialists from Hamburg, Shanghai, Guadalajara, Toronto, Andorra, and Ho Chi Minh City shared their experiences, knowledge, and vision regarding urban planning, data analysis, artificial intelligence, robotics, information engineering, and public policy.

Wang Sea-fue, President of Taipei Tech, indicated that Taipei Tech has established the first and only MIT-authorized research lab in Taiwan, the "City Science Lab @ Taipei Tech." The lab focuses on international research and talent exchange on the subjects of urban mobility, autonomous robots, and smart cities technologies. Many students and faculty members from Taipei Tech have visited the MIT Media Lab and participated in the autonomous mobility research.

"The cooperative program is a crucial education pillar," said Wang, "Working in close cooperation with MIT, one of the best research institutes in the world, will definitely broaden our students' academic knowledge and inspire them to dream big."

Yao Leehther, Taipei Tech Chair Professor and the Director of City Science Lab @ Taipei Tech, noted that Taipei Tech presented on the topics of autonomous delivery systems and the urban heat island effect during the summit. The autonomous delivery robot agent developed by the Taipei Tech research team is capable of operating in low-speed urban environments; it brings on-demand charging service to electric scooters.

Taipei Tech also proposed a novel methodology for analyzing the urban heat island effect in the tropical regions and suggested new materials for solar radiation absorption and emission. Yao further mentioned that these subjects are in line with U.N.'s Sustainable Development Goals of "Affordable and Clean Energy," "Industry, Innovation and Infrastructure," and "Sustainable Cities and Communities." President Tsai indicated in her remarks that she appreciates Taipei Tech's contribution to the cultivation of professionals with technical talent. "Talent is the most valuable asset to the development of Taiwan's future industry," said Tsai, "and the government will continue to support the development of vocational and technological education." Tsai further encouraged current students to hone their own strengths and professional skills. She believes that these students will soon be the driving force of Taiwan's industry development.



President Tsai Ing-wen delivered remarks at the celebration ceremony /Photo courtesy of the Office of the President

Two distinguished alumni, Lee Yi-fa and Chang Hong-chia, were conferred an honorary doctorate degree at the ceremony. Lee is the Chairman of Chant Oil, and he is also one of Taiwan's pioneers in the circular economy. Lee's oil company specializes in turning discarded oil collected from restaurants and fried chicken stands into biodiesel. Since 2015, Chan Oil has exported approximately 60,000 tons of biodiesel yearly to Europe and generates about TWD\$ 2 billion profit per year. Lee graduated from National Taipei Institute of Technology, predecessor of Taipei Tech, in 1958, and he has been generously giving back to his alma mater by offering scholarships, donating facilities, and facilitating industry-academia cooperation.

Chang Hong-chia graduated from National Taipei Institute of Technology in 1972, and he founded the Holmsgreen Group with his father in 1986. Holmsgreen Group now has investments in a wide range of industries including seafood and other food distribution, vehicle engineering, conveniences stores, logistics, and hotels. Chang served as the Chairman of Sanyang Motor (SYM) from 2014 to 2017. During his chairmanship, SYM's scooter market share increased from 11% to more than 20%. In recent years, Chang has spared no efforts in donating lab equipment, providing scholarships, and serving on the advisory board of Taipei Tech. Both Lee and Chang have made tremendous contributions toward Taipei Tech.

Global

Taipei Tech and MIT Co-host 2021 City Science Summit



Taipei Tech presented the autonomous delivery robot agent that is capable of operating in low-speed urban environments and brings on-demand charging service to electric scooters





Distinguished alumni, Lee Yi-fa, was conferred an honorary doctorate degree at the ceremony



Chang Hong-chia, the Chiarman of the Holmsgreen Group, was conferred an honorary doctorate degree at the ceremony



Association Exhibits Unmanned Aerial Vehicles on Taipei Tech Campus

aipei Tech and its New Taipei Alumni Association co-hosted the Unmanned Aerial Vehicles Exhibition at the Taipei Tech Art and Cultural Center from September 22nd through 29th. Chen Cheng-fong, the director of the Taiwan RC Model Association (RCTW) and a distinguish alumnus of Taipei Tech, lent his collection of twenty-nine drones to the exhibition. There were also educational sessions in which experts talked about the development and prospects of drones.

Unmanned aerial vehicles (UAV) are commonly referred to as drones in the English-speaking world. In Taiwan, they are commonly referred to as RC (remote-controlled) model aerial vehicles.

Chen pointed out that teams from Taiwan have won multiple helicopter drone world championships, and there are also world-class drone manufacturers here in Taiwan. "The exhibition is a fantastic event to celebrate the 110th anniversary of Taipei Tech," said Chen, "and it is also a great opportunity to promote drones and engage students and young people."

A wide range of drones were displayed in the exhibition, including fixed-wing drones, single-propeller drones, and multi-propeller drones. Chiang Yen-chang, industry expert and member of RCTW, noted that the value of all of the drones exhibited in the event totals to millions of Taiwan dollars. Chiang also pointed out that many of the drones are multi-functional and can be used in a variety of scenarios. "Take the E-1 Plant Protection Helicopter for instance," Chiang mentioned, "it can be used to carry parcels, extinguish fires, and spray pesticides."

Chiang further pointed out that drones can be any kind of unmanned aerial vehicles, and that means even space rockets can be made as drones. With modern 5G and Al technologies, drones can independently carry out a wide array of tasks in places where humans cannot reach.

Lin Ju-en, a student of Taipei Tech's Mechanical Engineering Department, who has already acquired the certificate to operate drones, indicated that the exhibition showcased many rare models. He is especially interested in the E-1 Plant Protection helicopter drone because it is not commonly found in Taiwan. "It is such an interesting and educational exhibition for me," said Lin, "I hope that Taipei Tech can offer more courses on drone-related subjects, so we can have the chance to learn more about them, especially the flight control system."



co-hosted the Unmanned Aerial Vehicles Exhibition at the Taipei Tech Art and Cultural Center



Wang Sea-fue, President of Taipei Tech, expressed his gratitude toward Wu Hsiu-tzu, the Director of the Yingge Ceramics Museum, for her generosity in displaying the collection at Taipei Tech so that all the students and professors can have easy access to the exhibition. Wang is an expert in refined ceramics and is also the president of Taiwan Ceramic Society. For the past several years, he has been promoting the ceramic arts in multiple ways. "I envision a campus enriched by arts and is full of cross-domain collaborations, especially between the humanities departments and engineering departments," said Wang.

Wu points out that the thirty-six artworks featured in the exhibition are specifically selected from the museum's international collection. The artworks include pieces by the pottery master Munemi Yorigami from Japan, David Binn from the U.K., John Albert Murry from the U.S., and many local artists from Yingge such as Lin Fa-chuan, Chen Yuan-shan, Hsu Hsu-lun, Chang Mei-yun, and Hsu Tsun-jen.

"In addition to the variety of physical ceramic artworks," said Wu, "the exhibition also has a special display area that allows visitors to explore the collection in an interactive way." This interactive display is a collaborative endeavor of the museum and Taipei Tech faculty members and students.

Yang Ming-feng, a graduate student of the Cultural Vocation Development Department, indicated that this exhibition incorporates AR technology that allows visitors to virtually interact with the artwork. "This exhibition gives me the opportunity to explore cross-domain collaborations and imagine new exhibition models," said Yang.











Faculty Members, Students, and Museum Work Together to Bring Interaction to **Ceramic Arts Exhibition**

aipei Tech is collaborating with the Yingge Ceramics Museum to hold a special exhibition on the museum's collection at Taipei Tech's Art and Cultural Center. The show will run until November 17. The ceramic artworks featured in the exhibition come from thirteen different countries throughout Asia, America, and Europe and were created from 1995 through 2015.

Students and faculty members from the Department of Cultural Vocation Development and the Department of Interaction Design worked with the Ceramics Museum to show the concepts behind each artwork through augmented reality (AR) interactive technologies at the exhibition.



Taipei Tech Alumni **Cycle Around Taiwan for Charity**

For the grand celebration of the 110th anniversary of Taipei Tech, the EMBA Cycling Club and the Taipei Tech Alumni Association held the "48-Hour Cycling Around Taiwan" event from October 15th to 17th. Ten main riders relayed and cycled around Taiwan with many alumni participating alongside them, and the alumni association also jointly donated \$400,000 NT dollars for charity causes.

Wang Sea-fue, President of Taipei Tech, pointed out that the relay cycling event shows how Taipei Tech alumni are united and are willing to give back to the society. The event also demonstrates that Taipei Tech alumni are strong to accept any kind of challenges.

"Already living their day-to-day lives in tense and competitive environments." said Wang, "our alumni show their passion and courage to continue challenging their own physical strength during their free time." Wang further noted that he is grateful to our alumni for their kind gesture to jointly donate money on behalf of Taipei Tech to women and children's service centers, education and nursing institutes, and scholarships for economically challenged students.

Taipei Tech EMBA Cycling Club started to hold the "Cycling Around Taiwan" event in 2017, and it has since become an annual featured event of Taipei Tech. One of the initiators of the event, Liu Chao-chi, who also participated this year, mentioned that the hardest part of cycling around Taiwan is riding up to the highest point of the South Link Highway. Liu also noted that this year's event is especially meaningful because the Taipei Tech alumni actively joined the charity donation. Liu looks forward to seeing the alumni community give more support to different institutes and disadvantaged groups, so Taipei Tech can continuously pay it forward.







money on behalf of Taipei Tech for charity causes

For the grand celebration of the 110th anniversary of Taipei Tech, the EMBA Cycling Club nd the Taipei Tech Alumni Association held the "48-Hour Cycling Around Taiwan" event





To celebrate Taipei Tech's 110th anniversary, the Taipei Tech Library and the Department of Cultural Vocation Development curated the "Old Yearbook Exhibition," displaying precious old yearbooks from the time of Japanese rule Period



The old workshop photos show the Industrial Institute as a very masculine school

高教深耕繁盛不息



<u><u></u>宫教深耕</u>

臺北科技大學 x 臺北大學 x 臺北醫學大學 x 臺灣海洋大學 聯合記者會

Schools of the University System of Taipei Jointly Appeal for the Expansion of Taipei Tech Campus

牧育文資

o celebrate Taipei Tech's 110th anniversary, the Taipei Tech Library and the Department of Cultural Vocation Development curated the "Old Yearbook Exhibition," displaying precious old yearbooks from the time of Japanese rule, when the school was named the Industrial Institute. The exhibition will be held until November 19th at the Taipei Tech Red House. The curators hope to engage the public in exploring the old documents of Taipei Tech.

Wu Yu-fan, professor of the Department of Cultural Vocation Development and the curator of the yearbook exhibition, indicated that the Taipei Tech Library has a relatively complete collection of historical yearbooks from the Japanese rule period. The completeness of the yearbook collection makes it quite unique among all Taiwanese higher education institutes.

The exhibition focuses on showcasing the contents, layout, binding, design, and photo developing techniques that are found in these old yearbooks. "The exhibition venue, the Red House, ingeniously echoes the theme of the exhibition as it is a historical building that traces its history all the way back to the Industrial Institute period," said Wu.

Wu further explained that the yearbooks were made for various reasons. They were essentially the records of campus life, but they were also used as a marketing tool for the school and even for the Japanese government. The contents and photos published in the yearbooks manifest a sense of collective identity, but they also demonstrate the social power structure at the time. This combination of traits makes these yearbooks interesting and authentic primary sources for further study.

Zhu Fang-yi, a master's program student of the Cultural Vocation Development Department, noted that it is rare for the public to have access to old yearbooks from the Japanese-rule period. In addition, this exhibition also showcases the old technique of albumen-based photographic papers. "From the workshop photos of civil engineering, architecture, electrical engineering, mechanical engineering, mining engineering, and applied chemistry, it shows the ambience of a very masculine school," said Zhu. "Old Yearbook Exhibition"Allows Public Access to Rare Documents from the Japanese Rule Period aipei Tech, together with partner universities from the University System of Taipei, held a press conference on October 22 to make an appeal for the expansion of the Taipei Tech campus. Present in the press conference were Wang Sea-fue, President of University System of Taipei and Taipei Tech; Lee Chen-jai, President of National Taipei University; Lin Chien-huang, President of Taipei Medical University; Hsu Tai-Wen, President of National Taiwan Ocean University; and Wang Kuang-Shiang, President of the Alumni Association of National Taiwan Ocean University.

In a joint statement, the executives appealed to the government for allocating the former brewery of Taiwan Tobacco & Liquor Corporation to Taipei Tech for classrooms and cultural preservation purposes.

Wang of Taipei Tech pointed out at the press conference that Taipei Tech has always been an important force in Taiwan's economic development. "Facing more challenges in the future," said Wang, "the university needs more space to transform and cultivate talents that meet the future industry's needs."

Wang also noted that Taipei Tech had donated 3.3 hectares of land for the development of Taipei City in the past. He urges the Taipei City Government to consider granting the land of Taipei Jianguo Brewery to Taipei Tech. Wang added that the additional land and buildings will be utilized as classrooms, laboratories and research centers. The



eco-campus concept will also be incorporated into the new space planning, along with a focus on preserving the cultural and historical features of the Taipei Jianguo Brewery.

Chang Jui-mei, president of the Taipei Tech Alumni Association, indicated that in order to propel Taipei Tech into internationally acclaimed rankings, many alumni are willing to donate to upgrade hardware and to fund new buildings. However, land space is needed to help Taipei Tech to become a stronger education institution.

Zheng Yu-chen, President of Taipei Tech Student Association, mentioned that when he first entered Taipei Tech, he immediately found that the campus size is significantly smaller than many universities.

"When we were instructed to follow the pandemic prevention measure earlier this year, it became clear that many classrooms are simply too small to meet the regulations. This resulted in many classes switching to complete or alternate remote instruction," said Zheng.

Zheng also mentioned that many clubs do not have their own activity spaces, so he believes that if the university can expand and obtain more space, it will be very helpful to the development of students.

