

Knowledge Transfer and Entrepreneurship Office 知識轉移及創業處

# KTEO NEWSLETTER



## New Name Signifies New Chapter for IfE

The University reviewed and restructured its organisation in order to enhance the operational efficiency and effectiveness, with adequate work allocation and accountability among the respective offices. To better reflect the roles and enhance the positioning of the Institute for Entrepreneurship (IfE), the *de-facto* KT office and entrepreneurship centre of PolyU, has been renamed as Knowledge Transfer and Entrepreneurship Office (KTEO) with effect from 1 July 2021. The structure of KTEO has also been streamlined for maximum efficiency in delivering tasks from IP filing and management, industry partnership and engagement, all the way to downstream commercialisation and entrepreneurial venturing of students and researchers in a holistic approach.

We at KTEO are excited to meet new challenges ahead, and we pledged to carry out our duties with professionalism as always.



### PolyVentures Seminar Gears Staff Up for KT and Entrepreneurial Journey

To accelerate KT and entrepreneurship, incubate more research-based startups and enrich staff's knowledge in entrepreneurship, KTEO has recently launched the "PolyVentures Seminars: Research-based Startup Series".

The series is specially designed for PolyU academics who are interested in commercialising their research outcomes. Featuring stakeholders of the entrepreneurial ecosystem as speakers, the seminars will guide the participants through their entrepreneurial journeys.

In the first seminar conducted on 30 June, Emeritus Prof. Philip Chan told the engrossing story about how he translated his academic research into a sustainable technology business. He went through all the critical stages of the entrepreneurial process, from setting up the company, solving early difficulties, starting manufacture and sales, growing the customer base, sustaining the business, to expanding into a multi-product company with over 170 patents. His experience and insightful advice greatly inspired the participating academics.

Meanwhile, KTEO provided guidelines on technology venturing through academic-led startups, updates on recent development regarding KT and academic-led startups, as well as highlights of PolyU's entrepreneurial support framework, such as the market validation programme, various grants and funds for different entrepreneurial stages, GBA Startup Postdoc Programme, etc.

Conducted in a hybrid mode, the sharing of the speakers was streamed live online. It was followed by a closed-door discussion exclusive to in-person participants, during which they engaged in more in-depth discussions and communication with the speakers on a diverse range of topics including patents, equity shareholding, investments and business culture in Mainland China. The seminar enriched about 100 participants' knowledge in why and how PolyU academics venture into research-based startups.

### KT through Partnership Collaboration

Smart cities leverage information and communication technologies and innovative solutions to address issues in aspects such as governance, economy, mobility, environment, living and people. The ultimate goal of smart city development is to improve the citizens' quality of life and enhance the sustainable growth and competitiveness of the city. PolyU academics have long been conducting related research and creating applications to propel smart city development in Hong Kong. Today, let's take a look at a couple of impactful innovations that are altering city operations and our lives for a better future. Both of these smart city applications are Gold Medal winners of the Special Edition 2021 Inventions Geneva Evaluation Days - Virtual Event.

### **Smart City Platform for Spatial Data Infrastructure**

Developed by Prof. John Wenzhong Shi from LSGI, Director of the Smart Cities Research Institute, the Smart City Platform incorporates patented technologies of 3D city modelling, AI-based urban object cognition, as well as spatial big data analytics and visualisation. It can acquire and process massive urban spatial information, 3D LiDAR data, and multi-scale image data to create high-precision and realistic smart city data infrastructure.

The platform integrates indoor, outdoor, aboveground, underground, and spatiotemporal dynamic 3D city model. A lightweight 3D data capture technology (mobile mapping backpack), with centimetre-level accuracy, was developed for measuring complicated 3D indoor/outdoor urban environment and constructing Building Information Models (BIMs), to provide



data source for platform.

The versatile platform supports a wide range of smart city applications to aid policy making, environmental management, transport optimisation, citizen services, etc. It can be applied in 3D

the



city measurement and modelling; multidisciplinary big data analytics for urban planning, transportation, and tourism; BIM development (covering aged buildings) for urban planning and renewal; disaster monitoring; and public health risk prediction. By incorporating highly efficient and accurate urban object recognition methods based on artificial intelligence, it has been used in landslide recognition and disaster mitigation by the Hong Kong Government. Besides, the platform implements a model which was internationally published by the team to predict the COVID-19 symptom onset risk in seven days in different areas of Hong Kong. The model can potentially support more timely public health policies than predictions of confirmed cases made by most alternative methods.

### Smart Tree Monitoring System for Improving Urban Resilience

While urban trees offer many benefits, those with weakened roots pose a danger to the public, particularly when their root systems are loosened by weather events such as rainstorms and typhoons. As long as the roots are loosened, the risk of tree fall remains after the storm.

To enable regular tree monitoring for public safety, Prof. Charles Man-sing Wong from LSGI and his team developed a Smart Monitoring System for Urban Tree Management to conduct large-scale tree monitoring by measuring tree tilts caused by weakened roots with Smart Sensing Technology. The system uses wireless smart sensors with built-in accelerometers attached to lower tree trunks to measure the tilt angle, tilt direction, sway trajectories and any unusual movements of trees. Near-real time information is then transmitted from the sensors to a data centre at PolyU for processing and analysis. The team worked out a set of dynamic thresholds taking into account different environmental



factors. If a tree is found tilting at an angle beyond one of these thresholds, the responsible tree maintenance office will be notified by the system, so that timely actions can be taken.

The smart sensors have been installed on about 8,000 trees in Hong Kong, particularly in locations with high pedestrian and vehicular traffic volumes. Besides identifying trees that require a safety inspection, the system also uses a set of Artificial Intelligence algorithms, developed using Spatial Big Data Analytics, to predict the leaning trend of trees, enabling tree monitoring on a massive scale and mitigation measures to be taken in advance.



### PolyU Supports Academic-led Startups through Tech Launchpad Fund



Prof. Li (2nd from left) and her team at HercZ



Prof. Cecilia Li from RS has been researching and developing medical devices and scar care products for those with hypertrophic scar, keloid scar and surgical scar problems. One of its well-known innovative inventions is the Smart Scar Care Pad (SSCP), an economical, convenient and effective solution that can enhance the management of skin and tissue injuries resulting from burns, trauma and diseases.

SSCP is composed of a specially designed silicone stiffener and a medical-grade silicone gel lining underneath, which was synthesised with a unique formula. Together with pressure treatment modalities, it helps to distribute pressure evenly over the scar, reduces skin tension and creates an occlusion effect, thus softening and flattening the scar.

To commercialise the research outcomes, Prof. Li founded HercZ Rehabilitation Technology Limited (HercZ) in 2018, and successfully raised HK\$2.5 million angel investment and obtained a matching grant totalling HK\$2.5 million under PolyU Tech Launchpad Fund in 2019 and 2021. The company provides scar care products and professional scar

management services in Hong Kong, and is actively preparing to gain a firm foothold in the huge Mainland China market and the Asia-Pacific region.

The team has successfully obtained the Taiwan FDA certification in 2018 and recently, after five years of hard work, the SSCP has

finally been approved by China FDA (CFDA) to be used legally in hospitals, clinics and pharmacy stores (reg. no.: 2021140862). The research team has further developed the SSCP product to apply on the surgical scars. Preliminary clinical trial has shown very successful outcomes. Further research and clinical trials will be conducted on the surgical SSCP.



The surgical SSCP pending further research and product development

### PolyU Makerthon 2021 Cultivates Students' Entrepreneurial Spirit and Mindsets



As the first funding tailor-made for makers in the city, PolyU Maker Fund Programme was launched in April 2021 under the support of Youth Development Fund. The first application track of the programme, PolyU Makerthon, was successfully held in May. The three-day ideation bootcamp was an intensive and fun weekend where students from various disciplines gathered and came up with ideas and prototypes under the guidance of industry mentors. The event had attracted nearly 130 signups from current PolyU students and five teams were shortlisted for HK\$5,000 prototyping fund support and a fast track to MVP (Minimum Viable Product) and Market Validation Training of the programme.

The Hardware Bootcamp, another application track, will be held in early August. It has drawn over 260 applications from young people in Hong Kong. At this three-day event, up to 15 teams will be shortlisted for the MVP and Market Validation Training. Along with the shortlisted teams from Makerthon, they will pitch for HK\$600,000 funding and two-year incubation support.





### PolyU Micro Fund Scheme 2021 Kicks Off New Entrepreneurship Journey

Since April 2021, over 110 teams applying for Micro Fund have so far gone through two rounds of pitching to compete for the sake of a seed fund of HK\$120,000 in total and other pre-incubation support. A total of 32 teams were shortlisted as finalists who will receive a series of pre-incubation support, including HK\$30,000 Kickstart Fund, admission to the Science and Technology Entrepreneur Programme (STEP) of Hong Kong Science and Technology Parks Corporation (HKSTP), nomination to Hong Kong Design Centre's Design Incubation Programme (DIP), workspace at PolyU InnoHub (Hong Kong & Shenzhen), AWS cloud service support and so on.

To get prepared for the Final Presentation in pitching for further HK\$90,000 Seed Fund and admission to HKSTP's Incubation Programme, all finalists took part in a five-week Lean Launchpad Programme from June to July, where they got inspired, tested their ideas and gained new knowledge. Again, congratulations to this year's Micro Fund Finalists! Good luck to them!



### Award-winning PolyU-supported Entrepreneurs and Startups

Entrepreneurs and startups supported by PolyU often make significant achievements and gain acclaim in local and international entrepreneurial arenas. Recently, two of our entrepreneurs made their way to competitive lists of outstanding young leaders. In the meantime, a number of startups and students did well in a student innovation and entrepreneurship competition. Congratulations to all of them!



### Fortune China's 40 Under 40 2021 List

### Richie Chen, Co-founder of HAI ROBOTICS

- Graduate of Department of Electronic and Information Engineering (2012)
- Awardee of PolyU Tech Launchpad Fund (TLF) Scheme 2017-18
- Company profile: A provider of efficient, intelligent, flexible and customisable solutions with autonomous case-handling robotics for warehouse operations

### Forbes' 30 Under 30 Asia 2021 List

- Edwin Wong, Founder & CEO of Cloudbreakr
- Graduate of Department of Management and Marketing (2015)
- Awardee of HKSTP-PolyU Tech Incubation Fund (TIF) Scheme 2015
- Company profile: An AI-Powered software company specialising in Influencer Marketing and Social Discovery in Asia





# The 7th Hong Kong University Student Innovation and Entrepreneurship Competition Startup – 3rd Prize: Information Technology – Merit Award:

Bo InnoHealth Biotechnology Company Limited

• Awardee of TLF 2021-22

### Startup – 3rd Prize:

### FJ005 Limited

- Finalist of PolyU Micro Fund Scheme 2021
- Awardee of PolyU Student Entrepreneurial Proof-of-Concept (POC) Funding Scheme 2020-21

#### Startup – Merit Award:

#### Aprintlab Limited

• Awardee of PolyU Micro Fund Scheme 2020

Project "Milky Assistant" by Leung Yee

Ting, Ho Lok Yi, Tong Man Po, Wong Yik Wing, Yeung Hiu Fung and Yuen Wing Yan

• Awardee of POC 2020-21

# Mathematics and Physics / Mechanics and Control Systems – Merit Award:

Project "Adopting VR and AR Technology to Minimise Human Casualty in Construction Site" by Ho Ho Nam and Wong Kwong Sau

• Awardee of POC 2020-21

### Promotion of KT, Entrepreneurship & Industrial Partnership

### Enlighten@PolyU Webinar Explores PropTech and Its Huge Impact



The 5th webinar of "Enlighten@PolyU Series" titled "How does PropTech impact our lives" was successfully held on 27 April 2021. Jointly organised by AADO, KTEO and The PolyU DBA Alumni Association Limited (DBAAA), it explored how PropTech revolutionises the industries, positively impacts our daily lives and shapes our future, and attracted over 400 participants. Dr Charles Lam, Managing Director – Real Estate, Baring Private Equity Asia and Chairman of DBAAA, acted as the moderator. He guided the speakers Prof. Eddie Hui Chi-man from BRE, Dr William Chan from Kerry Properties Limited and Ir Andrew Young from Sino Group to share their insights and engage in meaningful discussions on the market characteristics, development, applications, adoption and trends of PropTech, providing an eye-opening experience for the audience.

# Award-winning Teams at Geneva Expo Get Recognised at Chief Executive Reception

PolyU researchers who garnered a total of six awards (including three Gold Medals and three Silver Medals) at this year's "Special Edition 2021 Inventions Geneva Evaluation Days - Virtual Event", were invited to the Chief Executive's Reception on 17 May. The event was specially organised to commend Hong Kong research and development (R&D) talents whose inventions won worldwide acclaim. Chief Executive Mrs Carrie Lam pointed out that the Hong Kong delegation comprised teams from universities, secondary schools, R&D centres, startups and government departments, reflecting a fervent innovation and technology (I&T) atmosphere in Hong Kong with flourishing I&T developments in the government, industry, academic and research sectors that exemplify Hong Kong's strong innovation and R&D capabilities. PolyU's award-winners celebrated their achievements at the event along with other inventors from Hong Kong, while their projects were showcased at the concurrent exhibition.



### PolyU Tech Salon 2021 Webinar Discovers How FashTech Disrupts Industry



Aiming to promote PolyU research excellence and University-industry collaboration, the PolyU Tech Salon 2021 was kicked off with a webinar on FashTech. Supported by two strategic partners and 19 industry associations, the webinar held on 22 June featured PolyU experts in the textiles and clothing domain, including Prof. Jintu Fan, Prof. Zijian Zheng and Dr Bin Fei from ITC. They shared about the University's "FashTech" focus and explored the journey of related research with industries. Meanwhile, Mr Tenny Lam, Co-founder and CEO of Grand Rise Technology Limited, shared about his entrepreneurial journey made possible by PolyU's research excellence. Mr Peter Mok, Director of KTEO, explained how PolyU's resources can help to

create innovative enterprises. With about 170 participants, the webinar raised awareness of PolyU's expertise in developing novel fibrous materials and advanced manufacturing technologies, and enlightened the audience on the potential of FashTech which extends beyond textiles and clothing industry. In addition to the webinar, 13 videos showcasing related PolyU research projects were produced to entice cross-industry collaborations. They are available on KTEO's website and YouTube channel.

### **Knowledge Transfer and Entrepreneurship Office**



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