

IFE NEWSLETTER



If E Expedites KT Activities under PolyU's Strategic Directives

The University embraces and supports knowledge transfer (KT) activities underpinned by research and innovation to address the challenges of the world and create far-reaching impact on industry and society. Academics are therefore encouraged to pursue impactful KT activities and entrepreneurial endeavours, so that their valuable IPs and intellectual knowhow can go out to the market and create impact.

Despite the unprecedented challenges associated with the COVID-19 pandemic, IfE has continued to witness a surge in demand for support from academic colleagues in KT. Along the University's strategic directives, we have long been supporting academic colleagues and students to foster impactful KT and striving to expedite and promote KT, entrepreneurship and industry partnerships.

In this newsletter, we are pleased to share with you a portion of our recent progress, such as developments of some cases of high impact commercialisation, programmes for driving entrepreneurship and academic/student-led startups, and executive training at the Institute of Advanced Executive Education (IAEE). Special acknowledgment is extended to all our colleagues and external partners for their heartfelt support and hard work in making this possible.

PolyU's Achievements in KT and Entrepreneurship



Knowledge Transfer through Partnership Collaboration

PolyU is committed to benefitting the society by translating well-developed researches into solutions with remarkable impact through IP commercialisation and consultancy, and IfE seeks to facilitate and accelerate such undertakings. Let's take a look at a few of those high impact cases.

Caring for Visual Health in Children

People with moderate to high myopia, i.e. nearsightedness, are more vulnerable to serious eye diseases, so it is essential to keep myopia under control. Inspired by a homeostatic mechanism of the eye, a School of Optometry research team led by Prof. Chi-Ho To and Prof. Carly Lam



developed "myopic defocus", a revolutionary non-invasive myopia control method. The Defocus Incorporated Soft Contact (DISC) lens and the Defocus Incorporated Multiple Segments (DIMS) spectacle lens were subsequently invented on this foundation, both clinically proven to slow down myopic progression in children aged 8 to 13 by around 60%.



In 2018, the DISC lens was licensed to Vision Science and Technology Co. Ltd (VST), a PolyU-supported academic-led startup founded by Prof. To and an alumnus, for its commercial production. VST launched the daily disposable "DISC - 1 Day" a year later. Today, it is distributed



in Hong Kong and Mainland China and plans of expansion into the Asia Pacific markets are underway. Over the years, VST has secured more than HK\$2.3 million of further investment in addition to HK\$1.1 million worth of funding support from the HKSTP-PolyU Tech Incubation Fund and the PolyU Tech Launchpad Fund. More investment is in progress.

On the other hand, the DIMS spectacle lens is the research outcome of a joint effort between PolyU and HOYA Corporation (HOYA), PolyU's research collaborator and co-owner of the technology. It is available in Hong Kong, Mainland China and other

countries, benefitting over 350,000 myopic children since its launch in 2018. In particular, HOYA has launched ambitious plans to expand its territorial coverage and marketing channels in Mainland China.

DIMS and DISC offer convenient and effective alternatives to other myopia control methods on the market. Today, they have gained widespread awareness and popularity among school children, parents and optometrists alike. With more players entering, the market has been enlarged and become more competitive. PolyU's research provides strong endorsement for these high efficacy products, instilling a high level of confidence among consumers.

Embracing Social Inclusion in Hong Kong

With its aims to discover, integrate, and apply knowledge to improve the health and wellness of people with health conditions and disabilities, the Department of Rehabilitation Sciences (RS) has undertaken numerous projects with the government sector and industry for the benefit of the community.

One such project completed last year is the formulation of the new Hong Kong Rehabilitation Programme Plan (RPP) for the Rehabilitation Advisory Committee of the Government of the HKSAR. The last review and update of the RPP was in 2007. The

new RPP sets out the strategic directions as well as the short, medium and long-term measures to address the various service needs of persons with disabilities, covering domains of residential and daycare, community support, employment, barrier-free facilities, transport, healthcare, education, sports and arts. The Government has accepted in principle the strategic directions and recommendations in the RPP, and will arrange for the implementation of the recommendations with a view to keeping these services abreast with the times and addressing the emerging changes in the needs of persons with disabilities and enabling them to fully participate in social life, personal development and equal opportunities.



Assessing High Strength Steel Materials for New Bridge in Macau

There is a growing need for the construction industry worldwide, particularly in major Asian cities, to improve their productivity through innovative use of materials, design and construction. With abundant supply of steel in the Pearl River Delta Region, high strength steel materials are increasingly used in heavily loaded building structures, such as long span bridges and high-rise buildings.

Underpinned by the research on the effective use of high strength steel materials S690 produced in China in building structures, the Department of Civil and Environmental Engineering (CEE) was recently engaged in a project to assess the effectiveness of application of using S690 high strength steel in key structural members of the fourth bridge in Taipa, Macau. Connecting the peninsula of Macau and the island of Taipa, the cross-sea bridge will be 3.1 km in length and have eight lanes. With a total construction cost of MOP\$ 5.2 billion, it is expected to complete at the end of 2025. This is the first major use of S690 high strength steel in a long span bridge, with potential benefits of reduced weight and cross-sectional



with potential benefits of reduced weight and cross-sectional dimensions. Design stresses can be increased and plate thickness may be reduced, resulting in significant weight savings. Compared with common strength steel materials like S355, the use of S690 high strength steel can often lead to 50% reduction in the amount and a direct saving of 35% on the cost of steel materials used. Reduced plate thickness can also save on welding costs as well as on fabrication, erection and transportation costs.

Providing Comprehensive Railway Solutions for Sanmen County

Railway is another crucial part of modern infrastructure that fuels urban development. CEE and the National Rail Transit Electrification and Automation Engineering Technology Research Centre (Hong Kong Branch) were engaged by Sanmen county government to build a smart transit transportation system and application platform. The platform will assist the local government in setting up a professional team to facilitate research and development and the commercialisation of projects. In addition, the team will also set up the "Sanmen Rail Transit Innovation Centre" to create innovative solutions, provide support services and promote the commercialisation of smart transit transportation technologies.



Through IfE, the University provides holistic supports for researchers, students and alumni to commercialise their innovations and researches through startup venturing, offering critical resources such as seed and scale up funding, facilities, training, mentorship and networks in different stages of their entrepreneurship journey.

From research to impact through entrepreneurship

Fuelling Growth of Startup -PolyU Entrepreneurship Investment Fund

The University Council has recently approved the establishment of PolyU Entrepreneurship Investment Fund. Positioned as an early-stage equity investment fund with a funding pool of HK\$50 million focusing on angel to pre-VC stages, the Fund aims to support the growth and scale-up of impactful PolyU startups and spinouts with no more than HK\$4 million per investment.

Currently, the Fund is calling for investment partners with a strong interest to co-invest in startups with PolyU research technologies or innovations from the PolyU researchers and alumni.

For more information, please refer to the following webpage: https://www.polyu.edu.hk/ife/corp/en/entrepreneurship_dev /polyu_eif.php

Nurturing Technopreneurs -GBA Startup Postdoc Programme



As a signature programme in the Greater Bay Area to nurture PhD entrepreneurs, the GBA Startup Postdoc Programme piloted in 2019 provides a dual career opportunity for talented PhD graduates pursuing translational research while venturing commercialisation, under academic and industry

supervisors' dual supervision. The 24-month programme is the first of its kind in Asia to nurture future technopreneurs for the leap.

Dr Chang, one of the six startup postdocs recruited under the pilot programme in 2019, developed a novel microencapsulation technology, with mushroom cells as wall material, to make probiotics microcapsules and artificial spores. The technology can protect probiotics against heat and pressure, enabling more extensive use of probiotics in the food industry, such as snacks, hot drinks and pet food. In less than one year, Dr Chang's startup, Guangdong Moogoo Biotechnology Limited, has won several entrepreneurship competitions, been awarded HK\$120,000 PolyU Micro Fund and admitted to HKSTP Incu-Tech Incubation Programme. Recently the startup raised HK\$1.5 million angel investment with a matching grant of HK\$900k under the PolyU Tech Launchpad Fund.

With the initial results, the University will scale up this programme, aiming to recruit 40 to 60 startup postdocs in the coming 2 years, continuing to nurture our PhD graduates into technopreneurs to realise their research impact to society.



Supporting Academic-led Startup through Tech Launchpad Fund

Translating impact from research to society is one of the most important objectives for PolyU's KT endeavours. We therefore strategically put up resources to actively support



the commercialisation and venturing of our researchers' research outcomes to benefit industry and society at large.

For decades, Prof. Pei Li of the Department of Applied Biology and Chemical Technology (ABCT) has been developing core-shell technologies with multiple industrial applications, one of which is a safer and greener patented antimicrobial coating technology using water-based core-shell particles to inhibit the growth of micro-organisms.

With the support from IfE, Prof. Li partnered with Tenny Lam, a CEO Club member and a PolyU DBA candidate with a family business in chemicals to commercialise this latest research outcome. They founded Grand Rise Technology Limited, and successfully raised angel investment within three months and obtained a matching grant of HK\$1.5 million under PolyU Tech Launchpad Fund (TLF). The company is currently preparing for the product launch.



The application for TLF 2021/22 has been successfully closed, with a total of nine early-stage technology startups out of a record breaking 48 applicants recommended for a matching grant, ranging from HK\$0.5 million to HK\$1.5

million. Among the nine startups, five involve academic staff and five shall involve commercialising PolyU technology.

Navigating Commercialisation Pathway -Lean Launchpad (LLP) Programme

Launched in 2018, the LLP Programme has come to its third cohort in 2020. Aiming to support our research teams to bridge the gap between research and commercialisation, the programme has supported more than 40 research and startup teams since 2018. In the 2020 cohort, we made the Programme online to expand beyond Hong Kong – 17 PolyU teams joined together with another nine teams from the Southern University of Science & Technology (SUSTech) in Shenzhen and the National Cheng Kung University (NCKU) in Tainan to go through a 10-week experiential learning on searching the commercialisation pathway and validating the market potential of their research projects.

As an essential step in launching a new technology to the

market, LLP Programme becomes an integral part of the PolyU's holistic entrepreneurship support framework, supporting startup postdocs, students and academic-led startups on their commercialisation and venturing.



Nurturing students' innovations & entrepreneurship



PolyU InnoHub - One-stop Resources Support for Entrepreneurship

Established in 2017, PolyU InnoHub is a co-creation and co-working space that provides not only infrastructure but also other supports to students, alumni and academic researchers, including training, networking and mentoring / business consultation through "entrepreneurs-in-residence". Throughout the last three years, more than 100 teams have been admitted to the InnoHub. Besides, more than 100 events have been organised together with our partners like MIT Hong Kong Innovation Node, CoCoon, RISE Conference, Alibaba Cloud and Alibaba Entrepreneurs Fund, etc.



To provide further support to PolyU members on their entrepreneurship endeavours, the PolyU InnoHub has been renovated and expanded in 2020 to provide further spaces and incubation supports to nurture more young entrepreneurs and startups. Currently there are 55 teams incubating at the InnoHub Hong Kong.

Supporting Students' Proof-of-Concept (POC) Fund Projects

Five student teams from occupational therapy grabbed five awards in the 2020 Global Student Innovation Challenge at the 14th International Convention on Rehabilitation Engineering and Assistive Technology (i-CREATe 2020). Among them, two teams – "Slide 2 Try" and "Bedman" were supported by the Proof-of-Concept Fund.



"Slide 2 Dry" is a practical, durable and affordable alternative for traditional clothes pegs, especially for people with weak pinch strength, hand dexterity and/or disability inducing conditions, whereas "Bedman" aids bed sheet changing for people with physical difficulties such as hemiparesis, rheumatoid arthritis or reduced upper limb muscle strength.



Leveraging GBA Opportunities

Mr Nick Zeng, the co-founder of RenRenZhuang (人人壯), our supported startup currently at InnoHub Shenzhen, was recently included in the list of Hurun China Under 30s To Watch 2020 – Healthcare & Medical Industry (2020胡潤 Under 30s 創業領袖 - 醫療健康行業). He was also listed in 2019 Forbes China 30 Under 30 (2019福布斯中國30位30歲以下精英榜). Nick is a PolyU graduate from the School of Design in 2013. He founded his startup in Shenzhen after graduation with the support of joint funding from PolyU and Shanghai Technology Entrepreneurship Foundation for Graduate to develop smart pillbox for elderlies.



His startup has been growing tremendously in the last few years with focus on gerontechnology and smart aging solutions. In 2020, RenRenZhuang has developed a rapid temperature detection system for elderly homes, which has been widely used in Zhongshan under COVID-19 pandemic. Our startups and their co-founders have recently won many awards both locally and internationally.

Congratulations to the following award-winning startups and teams:

Award		Awardee	Funding Scheme*
Asia Smart App Awards 2020	Bronze Prize	Innospire Technology Limited	MF
	Public Sector Distinction Category - Gold Award	Pokeguide Limited	MF
Global Student Innovation Challenge	Best Presentation Award	Bedman	POC
	Merit Award	Slide 2 Dry	POC
Hong Kong Social Enterprise Challenge 2019-20	Champion	Walkpner	MF
	1st Runner-up	Innospire Technology Limited	MF
Hong Kong ICT Awards 2020	Smart Living (Smart Healthcare) - Silver Award	Zunosaki Limited	TIF
	Smart Living (Smart Home) - Silver Award	ASA Innovation & Technology Limited	TLF
	Smart Living (Smart Lifestyle) - Certificate of Merit	Blue Pin Consulting (HK) Limited	MF
	Smart Mobility - Certificate of Merit	Win Victory Enterprises	TLF
TechConnect	Global Innovation Award	CLAIRE Clinical AI Research Limited	MF
YDC Dare to Change Business Pitch Competition	HKSTPC Bronze Technopreneur Award	RR Fun Creative Lab Limited	POC
2020年廣東"眾創杯" 創業創新大賽之大學生啟航賽	團隊組銅獎	Guangdong Moogoo Biotechnology Ltd	MF
第十二屆中國深圳創新創業大賽 深港澳高校預選賽暨第二屆 深圳虛擬大學園創新創業大賽 - 深港澳高校預選賽("深創賽")	團隊組優秀獎	Guangdong Moogoo Biotechnology Ltd	MF
	企業組入圍獎	Dr Ning-Hui Yu	GBA Startup Postdoc
	團隊組入圍獎	ZHIZI AI Education (Shen Zhen) Limited	MF
第十二屆"挑戰杯" 中國大學生創業計劃競賽 全國決賽	銀獎	Guangdong Moogoo Biotechnology Ltd	MF
第六屆中國國際 "互聯網+" 大學生創新創業大賽	港澳台地區項目金獎	Dr Ning-Hui Yu	GBA Startup Postdoc
	金獎	Guangdong Moogoo Biotechnology Ltd	MF
*Funding schemes: MF: PolyU Micro Fund POC: PolyU Student Entrepreneurial Proof-of-Concept Fund TIF: HKSTP-PolyU Tech Incubation Fund TLF: PolyU Tech Launchpa			

POC: PolyU Student Entrepreneurial Proof-of-Concept Fund TIF: HKSTP-PolyU Tech Incubation Fund



Creating a PolyU Fintech Community @ IAEE

Fintech has become a local and international buzzword these days. As a nurturing ground for talents, the Institute of Advanced Executive Education (IAEE) has actively taken part in promoting FinTech through two major events in 2020.

During the Hong Kong Fintech Week in November, IAEE collaborated with Faculty of Business and Department of Computing on a webinar themed "Fintech Development and Opportunities in Greater Bay Area" to discuss how today's and tomorrow's leaders can stay on top of the rapid technology changes in the Fintech ecosystem.





IAEE also supported CGTN, the CCTV English language news channel, in organising two forums in Shenzhen on the theme of "Hong Kong and the Greater Bay Area: Internationalisation and Integration" to explore how Hong Kong can stay competitive as a financial hub in the post Covid-19 era.

Promoting Knowledge Transfer, Entrepreneurship and Industrial Partnership

Despite the pandemic, IfE and SZRI have been actively promoting KT, entrepreneurship and industrial partnership among various communities. We are glad to share some of the many events that we organised with you.



Enlighten@PolyU Series

To promote alumni and partner engagement as well as to showcase PolyU's research excellence, the Enlighten@PolyU webinar series has been launched. The inaugural webinar, themed "Innovate for a Sustainable Future", was jointly held by the Alumni Affairs and Development Office and IfE in November to explore solutions and practices for building a sustainable city. Over 350 participants consisting of scholars, alumni, students and industry partners were attracted to the event. The speakers included renowned guests from CLP Holdings Ltd, Tony Ip Green Architects Ltd and Yau Lee Holdings Ltd, as well as Ir Prof. C. S. Poon, Chair Professor of Sustainable Construction Materials and Head, Department of Civil and Environmental Engineering, PolyU.

Booting Re-industrialisation Webinar Series

As an industry association engagement initiative, PolyU organised a four-part webinar series to examine re-industrialisation as a key way to reboot economy in Hong Kong, which attracted around 900 participants. The series focused on the development of high-end manufacturing based on new technologies and smart production, as well as the role of collaboration between the government, industry and academia. Our partner organisations include the Federation of Hong Kong Industries, Hong Kong Young Industrialists Council, Hong Kong Electronic Industries Association, Hong Kong Science and Technology Parks Corporation, Hong Kong Biotechnology Organization, Hong Kong General Chamber of Textiles, The Hong Kong Research Institute of Textiles and Apparel, and the Sustainable Fashion Business Consortium.





PolyU InnoHub x Poly-preneurs® Venture Talk Series

The Venture Talk Series was designed to tap into wisdom and brain of investors for practical tips and advices on fundraising for PolyU startup community. The Series featured one investment organisation at a time, from Alibaba Entrepreneurs Fund and Gobi Partners from China to Fresh Fund, a student venture capital from Israel, giving the audience a peek into the mysterious world of investors.

Term Sheet Bootcamp

Since 2017, PolyU has organised the Term Sheet Bootcamp for a consecutive four years to provide students, alumni, researchers and startups with practical training on fundraising, with investors as trainers. In 2020, PolyU collaborated with Taiwan Startup Stadium to organise the two-day Term Sheet Bootcamp, offering insights on fundraising from investors' perspectives. Over 200 participants from Hong Kong, Taiwan, Singapore, Thailand and Vietnam attended the event.





PolyU Entrepreneurship Society (ES) Webinars

Partnering with Amazon Web Service (AWS) Educate, ES launched the Cloud Career Pathways Competition 2020 to offer complimentary cloud learning opportunities to PolyU students. The three-month competition kicked off with a webinar on "Cloud Computing: Must-knows for Future Co-founder!" and has attracted more than 130 PolyU students.

Virtual Innovation & Entrepreneurship Tour for Freshmen

To proactively introduce PolyU's research achievements and wide-ranging entrepreneurial support to our freshmen, IfE organised a series of virtual tours through live webinars in coordination with various academic departments. From its launch in October to the end of December, over 1,100 freshmen were reached through 12 tours conducted.





Theme-based Technology Sharing Forum Co-organised with SUSTech

To promote PolyU's research excellence, PolyU partnered with Southern University of Science and Technology (SUSTech) to organise a technology forum in Shenzhen in December, with the support from HAX Accelerator and 尋材 間料, an internet company specialised in new materials. Dr Kwok-Ho Lam, Associate Professor, and Prof. Wei Jin, Chair Professor of the Department of Electrical Engineering, were among the guest speakers and presented PolyU's impactful research on smart sensing and communication technology at the forum.



KT Salon @ PolyU Shenzhen Base

The first KT Salon organised by PolyU Shenzhen Base was held in September. Thirty participants, including PolyU alumni and industry partners, gathered to explore how to facilitate industry-university collaboration under the government's favourable policies. The salon allowed them to gain better understanding of the technology-related plans on the national, provincial and municipal levels, as well as Guangdong-Hong Kong and Shenzhen-Hong Kong technology collaboration policies. Our alumni also had vigorous discussions with our industry partners on topics such as policies, collaboration modes, patent collaboration and the matching of research resources.

Micro-lectures @ Shenzhen Virtual University Park (SZVUP)

In 2020, SZVUP co-organised a series of Micro-lectures for Innovation and Entrepreneurship with entrepreneurial service providers. Aiming to help create impactful brand names through education, experts and successful entrepreneurs were invited to share their insights, experiences and knowledge. In December, SZVUP partnered with PolyU InnoHub@Shenzhen to conduct a micro-lecture titled "Identifying business opportunities: Innovation driven by design thinking". In this lesson, the speaker Mr Patrick Chan from the College of Professional and Continuing Education (CPCE) illustrated the concept of design thinking, and taught the audiences how to inspire innovation, identify business opportunities and increase market value with design thinking.





Institute for Entrepreneurship

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