

PolyU S5th THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學

Excel x **Impact** 85th Anniversary **Special Issue**

Autumn/Winter 2021

We Are PolyU **Together We Excel**

PolyU commences its 85th Anniversary celebrations

GBA PolyVentures 2025 Empowering young entrepreneurs and innovators

Fostering the success of a Unicorn – Hai Robotics

Alumni series Dr Allen Shi, President of Chinese Manufacturers' Association of Hong Kong

Contents | Autumn/Winter 2021

Excel x Impact





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President's Message

The year 2022 is a significant one for PolyU, since it represents the University's 85th Anniversary. For more than eight decades, PolyU and its predecessors have played an important role in the different stages of social and economic development of our community, answering the call of the times and contributing to the advancement of Hong Kong, the Nation and the world.

As a result of the efforts of many generations, PolyU is now ranked among the top 100 universities in the world by both Quacquarelli Symonds (QS) and Times Higher Education (THE). I must express my deep gratitude to members of the University community for all their contributions. Their continued support is crucial for PolyU to continue its pursuit of excellence in education, research and knowledge transfer, living up to the University Motto: "To learn and to apply, for the benefit of mankind".

To mark this milestone, we will hold a year-long programme of celebrations under the theme of "We Are PolyU • Together We Excel". Let me call upon our partners and friends in the community, as well as PolyU staff, students and alumni, to join us in the anniversary events ahead.

Jin-Guang Teng President



Cover Story

We Are PolyU · **Together We Excel PolyU commences its 85th Anniversary celebrations**

he Hong Kong Polytechnic University will proudly celebrate its 85th Anniversary in 2022. To commemorate this significant milestone, the University was delighted to hold an 85th Anniversary Launch Ceremony at the Jockey Club Auditorium on campus on 25 November 2021, which shared the accomplishments that PolyU had made over the years and paid tribute to its supporters.

More than 800 distinguished guests, alumni, staff and students joined the happy occasion. The Ceremony was officiated by Guest-of-Honour Mrs Carrie Lam Cheng Yuet-ngor, Chief Executive of the Hong Kong Special Administrative Region (HKSAR); Mr Liu Guangyuan, Commissioner of the Ministry of Foreign Affairs in the HKSAR; Professor Tan Tieniu, Deputy Director of the Liaison Office of

the Central People's Government in the HKSAR; Professor Jiang Jianxiang, Director-General of the Department of Educational, Scientific and Technological Affairs of the Liaison Office; Mr Kevin Yeung, Secretary for Education; and Mr Carlson Tong, Chairman of the University Grants Committee (UGC).

The University also paid tribute to its former and current Council and Court Chairmen and Members. former Presidents and Directors, as well as friends and supporters in society, for their unwavering support to the advancement of the University over the decades, which has facilitated PolyU's rise as a top 100 university in the world. Joining the Ceremony were Dr Tung Chee-chen, Former Court Chairman; Dr Marjorie Yang, Former Council Chairman; and Professor Poon Chung-kwong, Former PolyU President.



Guest-of-Honour Mrs Carrie Lam, Chief Executive of the HKSAR (first row, centre), with the officiating party, PolyU's Council and Court Members, and senior management

Praised for our dedication to innovation, impact and excellence

Speaking at the Ceremony, Chief Executive Mrs Carrie Lam praised PolyU for becoming a global powerhouse in post-secondary education that is known for its ground-breaking innovations. She remarked, "PolyU is clearly committed to excellence, to elevating its academic and research standards." Mrs Lam added that she supported the University's initiatives to nurture innovation and technology talents and help young entrepreneurs thrive in the Greater Bay Area (GBA). Regarding PolyU's plan to establish a new campus in Foshan, Guangdong, she said, "The new campus will, I am confident, spur innovation and entrepreneurship in Hong Kong and throughout the Greater Bay Area... I stand ready to offer my support and assistance to PolyU."

PolyU has been a pioneer in the nurturing of talents for the strategic development of Hong Kong.

> Mr Carlson Tong, Chairman of the UG



PolyU is clearly committed to excellence, to elevating its academic and research standards.

Mrs Carrie Lam,

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Addressing the audience, Mr Carlson Tong, Chairman of the UGC, applauded PolyU for receiving high ratings in various research areas in the Research Assessment Exercise 2020, noting that the University's research outputs had brought significant positive impact to society. He highlighted one of PolyU's most impactful projects, saying, "We were all thrilled and proud of how the Surface Sampling and Packing System developed by PolyU played a vital part in the Nation's first lunar sample return mission. This is indeed one of the best testimonies of your leading status in applied research." He also said, "PolyU has been a pioneer in the nurturing of talents for the strategic development of Hong Kong."





Contributing to Hong Kong, the GBA and the Nation PolyU Chairman of Council, Dr Lam Tai-fai, and PolyU President, Professor Jin-Guang Teng, also spoke at the ceremony. Dr Lam stated that PolyU has added value to Hong Kong's competitiveness, and nurtured more than 400,000 alumni empowering the development of the city. He said, "PolyU will continue to work together with the Government and support Hong Kong's integration into the Nation's development, transforming Hong Kong into an international innovation and technology hub, and make greater contributions to Hong Kong, the GBA and the Nation." Professor Teng said, "Over the years, I have proudly witnessed the development of the institution into a global top 100 university. The rich legacy of the University and its continued success is the outcome of the hard work, passion and perseverance of the PolyU community over the past years and decades."

Engaging performances by PolyU members During the Ceremony, the 85th Anniversary theme song was unveiled by performances of PolyU's Orchestra and Choir. Current students from around the world also performed a joint parade and shared what they enjoyed most about studying at PolyU.

PolyU will continue to work together with the Government and support Hong Kong's integration into the Nation's development, transforming Hong Kong into an international innovation and technology hub.





We Are PolyU • Together We Excel

The 85th Anniversary Launch Ceremony marked the beginning of a year-long series of celebratory events, which will emphasise our proud history and heritage, focus on the homecoming of our alumni and friends, and advance our mission to be a leading university with world-class education and impactful research. The theme of our celebrations is **"We Are PolyU • Together We Excel"**, to reflect the fact that the University's success is the result of the PolyU community working together as one.

An exciting series of programmes

The University has many special programmes planned during the 12-month celebratory period. A few of these have already taken place, such as National Team Olympians visiting our campus, and a Cantonese Opera Appreciation event. Activities planned for the future include enhancing the main entrance of the University at Core A, publishing a book entitled "The History of PolyU", establishing a PolyU History Museum, a PolyU Innovation and Technology Day, a Distinguished Lecture Series, and various art and cultural events. You may find further details of some of these activities on the following pages and learn more from the 85th Anniversary events calendar (see QR code).

We hope that the community will offer its strong support to our 85th Anniversary celebrations and shares our pride.



From left: Professor Wing-tak Wong, PolyU Deputy President and Provost; Dr Lawrence Li Kwok-chang, Deputy Chairman of PolyU Council; Mr Carlson Tong, Chairman of the UGC; Professor Jin-Guang Teng, PolyU President; Professor Tan Tieniu, Deputy Director of the Liaison Office of the Central People's Government in the HKSAR; Mr Liu Guangyuan, Commissioner of the Ministry of Foreign Affairs in the HKSAR; Mrs Carrie Lam, Chief Executive of the HKSAR; Dr Lam Tai-fai, PolyU Council Chairman; Professor Jiang Jianxiang, Director-General of the Department of Educational, Scientific and Technological Affairs of the Liaison Office; Mr Kevin Yeung, Secretary for Education; Dr Katherine Ngan, Chairman of the University Court; Ms Loretta Fong, Treasurer of the University; and Dr Miranda Lou, PolyU Executive Vice President

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The rich legacy of the University and its continued success is the outcome of the hard work, passion and perseverance of the PolyU community over the past years and decades.

> Professor Jin-Guang Teng, PolyU President



85th Anniversary Theme Song a joint effort of PolyU members

One of the signature moments of the 85th Anniversary was the making of the theme song to reflect PolyU's commitment across the generations to become a leading university with impactful contributions.

85th Anniversary Theme Song					
理大校園,有你我足間 紅磚牆下,求學不畏難 在這裏,立德修身 在這裏,探微求真 志存高遠,開物可成 心繋家國,勵學以利	弥 星河 跟辛 歲月 八十五載 星河 務 歲月 民 八十五載	J遙遙,無畏]悠悠,奮進 〕風雲,砥礪前行]遙遙,無畏]悠悠,奮進 ,不忘初心,砥礪前行			
Music Director: Leung Kin-fung Lyrics by: Paul Lee (Alumnus) Chen Zhuoan (PhD Student)	Arranger: Arranger for PolyU Choir: Ng Cheuk-yin Arranger for PolyU Orchestra:	PolyU Choir Conductor: Alex Tam Pianist: Candy Chik			

Song composed by: Steph Lau (Alumna)

Eagle Chan (Alumnus)

Lee Che-yi

Performers:		
PolvII Archest	ra	

PolyU Orchestra Artistic Director and Conductor: Leung Kin-fung



Premiering at the Launch Ceremony, the theme song was the result of the joint efforts of PolyU members, under the leadership of Music Director Mr Leung Kinfung, Artistic Director and Conductor of the PolyU Orchestra, and First Associate Concertmaster of the Hong Kong Philharmonic Orchestra. The specially written theme song was composed by PolyU alumni Steph Lau and Eagle Chan, while the music arrangement was made by Ng Cheuk-yin and Lee Che-yi. The exquisite lyrics of the theme song were adopted from the contributions of alumnus Paul Lee and PhD student Chen Zhuoan, and refined by PolyU Council Chairman Dr Lam Tai-fai, President Professor Jin-Guang Teng, and Professor Chan Shui-duen, Chairman of Culture Promotion Committee and Research Professor of the Department of Chinese and Bilingual Studies.

Brains behind the 85th Anniversary Theme Song



Mr Leung Kin-fung

Mr Alex Tam



Miss Steph Lau



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Finally, the theme song was unveiled by performances of the PolyU Choir and PolyU Orchestra under the baton of conductors Mr Alex Tam and Mr Leung Kin-fung. To prepare for the debut performance, 50 members of the PolyU Choir and 48 members of the PolyU Orchestra consisting of staff, students and alumni practised for over 20 sessions. The guests at the Launch Ceremony were delighted with the impressive performances that displayed the creative and artistic talents of the PolyU community.





Professor Chan Shui-duen



Mr Eagle Chan



Cover Story

Snapshots of PolyU 85th Anniversary Launch Event

香港理工大學八十五周年校慶啟動禮 PolyU 85th Anniversary Launch Ceremony























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Enhancement of PolyU's main entrance

As part of the 85th Anniversary celebrations, the University will enhance its main entrance at Core A by reconfiguring the existing entrance and enlarging the forecourt, as well as introducing new design elements.

Blending PolyU's symbolic red brick architecture with a distinctive colonnade design, the enhanced main entrance will become a landmark of the University, giving stakeholders and visitors a warm welcome to the campus. The first phase of the project is anticipated to be completed around mid-2022.





A history museum to celebrate PolyU's proud development

A PolyU History Museum to underscore the significance of the University's 85 years of contributions to society is in the pipeline. The museum will showcase PolyU's proud history and development milestones as well as display artefacts and memorabilia. It will also feature our notable leaders, scholars and distinguished alumni, and highlight the University's research contributions to society over the decades.

■ Hong Kong Polytechnic, a predecessor of the University, pictured in 1972



Engineering students during the time of the Hong Kong Technical College, a predecessor of the University

PolyU 85th Anniversary Art and Culture Series – Appreciating the beauty of Cantonese Opera



One of the highlights of the year-long celebration programme is the PolyU 85th Anniversary Art and Culture Series. It aims to enrich PolyU's education and cultural engagement, featuring renowned and talented artists from Hong Kong and around the world to inspire appreciation for a broad array of art and culture on campus and in the community.

Love of the Seventh Fairy Maiden with legendary artist Dr Liza Wang

The first performance of the Series, 'PolyU Cantonese Opera Appreciation - Love of the Seventh Fairy Maiden'(理大專劇欣賞 — 《天仙配》), was staged at the Xiqu Centre in December 2021. Featuring the highly acclaimed artist Dr Liza Wang, who is also a PolyU University Fellow and the 2020/21 Artistin-Residence, the performance attracted more than 700 members from the University community. Among them were PolyU's Court members and senior management, including Dr Katherine Ngan, Court



Chairman; Dr Miranda Lou, Executive Vice President; Professor Ben Young, Vice President (Student and Global Affairs); staff, students and alumni.

In her welcoming remarks, Dr Lou expressed gratitude to Dr Wang for her support to the University. "We are honoured to collaborate with Dr Wang in promoting Chinese culture and cultivating arts and cultural appreciation among students," she said.

A rendezvous with National Team Olympians at PolyU



From left: Sun Yiwen, Lu Xiaojun, Ma Long, Professor Jin-Guang Teng, Liaison Office Youth Affairs Director Zhang Zhihua, Dr Lam Tai-fai, Deputy Director of General Administration of Sport of China Yang Ning, Secretary for Home Affairs Caspar Tsui, Dr Katherine Ngan Ng Yu-ying, Deputy Director-General of the General Administration of Sport Publicity Department Xu Jing, Cui Xiaotong, Wang Aimin, and Su Bingtian

Six national team Olympians who participated in the Tokyo 2020 Games visited PolyU, sharing their inspiring stories with an enthusiastic audience of about 800 PolyU students, alumni and staff as well as members of the public in a meet-and-greet session in December 2021. The rendezvous was staged as a major event of PolyU's 85th Anniversary celebrations.

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The sports stars, including five athletes and a coach, informed the audience about the ups and downs in their quest for Olympic glory. They charmed supporters and young students in the audience by sharing their motivational journeys of exertion, willpower and tenacity.

Cover Story



rower, gold medallist in women's quadruple sculls

At the Tokyo Games, Cui Xiaotong and her teammates of the women's quadruple sculls crew paddled to win for China its second Olympic gold medal in rowing after the first in 2008. Cui began her training in rowing when she was 13. She had regarded the many championships she won a duty, and rowing a job, without much reflection on how significant the sport would mean to her, until she held the gold trophy in



Lu Xiaojun,

weightlifter,

gold medallist



Ma Long, the first five-time Olympic gold medallist in table tennis

Ma Long, a table tennis sensation, is a 33-year old veteran of the sport who won the men's singles gold medal in the Tokyo Olympic Games. Ma is also the first-ever five-time Olympic gold medallist in table tennis. Since 2018, he was troubled by an injury to his knee. Three months after an operation, he returned to competition, only to find that he was trapped in the

學直就是生命的 「不老軍犯 Balana 「勝利的喜悅,是靠堅持的 ——呂小軍(東京奧運會男子舉

The 37-year-old weightlifter Lu Xiaojun won the gold medal in the 81 kilograms category at Tokyo 2020, making him the oldest gold medallist in Olympic weightlifting history. He shared a secret with the audience at PolyU, saying, "My secret to staying youthful in weightlifting is my scientific training programme." Lu said that he enjoys his daily training like a young man enjoys working out in the gym. He also told the audience how he endured the pain from an injury to his waist when he lifted a weight to break a world record and win the championship in a competition in 2019. He stressed how recovery therapy and fitness training have become highly important to athletes like him, helping them to stay in the game. 突破亞洲極限

「活在紀錄裏,為破紀錄而活。」 蘇炳添(男子100米亞洲記錄保持者 東京奧運會男子100米短跑第六名)

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gloomiest years of his sporting life. "Sports is not just about winning or losing; the most important thing in sports is the courage to restart after failure, as well as the belief of never giving up," he said. "Hold on to your passion and you will always be in your athletic prime." He encouraged the audience, regardless of their age, to act now in pursuit of their dreams.

Su Bingtian, sprinter, Asian record holder

Su is the first Chinese sprinter to qualify for a men's 100-metre final in the Olympic Games and the first Asian born athlete to run the 100 metres in under 10 seconds. He has made unrelenting efforts to achieve success. "My daily training goal is to be 0.01 second faster than my original target," he said. "If you want to achieve anything, the first thing is to believe you can do it." Eventually, he made a new Asian record at the Tokyo Olympics with 9.83 seconds. Dubbed "God Su" by netizens, he spoke highly of the retired Hong Kong Paralympian So Wah-wai. Su said So is his own "God So", and he saw in So the persevering qualities of young people in Hong Kong and the Mainland – namely, that they will not give in to fate and will fight hard for their dreams.

「我必須得 為國出征,我為國, 孫一文(東京奧運會女子

一劍封后

Sun Yiwen, fencer, gold medallist

At PolyU, she revealed that what she treasured most about the Games was the process of challenging and surpassing herself. To prepare for the Tokyo Olympics, she deliberately abandoned the fencing style and strategy she had adopted for years and started from scratch. She has become who she is because of her passion, imagination, hard work, and willingness to change. "The wise have no hesitation; the brave have no fear," she quoted an ancient Chinese proverb. "The championship is glamourous, but the true spirit of sports, for me, is the painstaking struggle for excellence."

讀全世界看見 中國人的速度

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「一生做一件事,只有沿著正確的方向堅持走下 去才能成功,不忘初心,持之以恒,堅守堅持, 成功沒有捷徑可言。」 中國國家游泳隊教練王愛民

Wang Aimin, swimming coach

我的使命。」

Wang Aimin, who coaches the national swimming team, has a motto to live by: "In your whole life, do one thing and do it well". He has devoted his own life to coaching swimmers to excel and to show the world "the Chinese speed". He added that a balanced life would help enhance one's performance. "I practice calligraphy together with my swimming team members," he said. "It enriches their leisure time, reduces their stress in training and competition, and increases their ability to concentrate - these enable my team members to stay cool and think."



The Olympians chatted with the audience in the exchange portion of the meet-and-greet session moderated by Professor Lu Haitian, PolyU's Director of Mainland Development (right).

In welcoming the delegation, Dr Lam Tai-fai, Council Chairman of PolyU, said he was proud of the exertion and achievements of both Mainland and Hong Kong athletes at the Tokyo Games, adding that PolyU is committed to supporting sports development. "Hong Kong is honoured to host the 15th National Games in 2025 together with Guangdong province and Macau. By leveraging our leadership in sports sciences and sports physiotherapy, PolyU will strengthen its teaching and learning as well as R&D in these areas, and nurture more outstanding athletes so as to further contribute to sports development," he said.

The event was graced with the presence of Mr Caspar Tsui, Secretary for Home Affairs. In addressing the audience, he said, "PolyU has been very supportive to athletes in pursuit of their dreams. By enabling elite athletes to receive tertiary education while they are still committed to full-time training, PolyU helps athletes tremendously in developing their full potential and paving their future career options."



PolyU launched the Outstanding Sportsmen Recommendation Scheme in 1998. Since then,

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The Olympians' meet-and-greet was co-organised by the Hong Kong SAR Government, the General Administration of Sport of China, and the Liaison Office of the Central People's Government in the Hong Kong SAR. Ms Yang Ning, Deputy Director of the General Administration of Sport of China; Mr Zhang Zhihua, Director of the Department of Youth Affairs of the Liaison Office; Professor Jin-Guang Teng, President of PolyU; and Dr Katherine Ngan, University Court Chairman of PolyU, also attended the event.

Celebrating together – PolyU members share inspiring ideas for our 85th Anniversary

As part of the celebratory activities, the University called for ideas from members of the PolyU community on 85th Anniversary theme song lyrics and souvenirs over the past few months. A video contest for the 85th Anniversary was also held. The University received enthusiastic participation from its staff, alumni and students. Here are the brilliant contributions from the winners (see QR code) selected by the 85th Anniversary Steering Committee. Congratulations to them all!





PolyU's 85th Anniversary Theme Song Lyric Contest

Title: 紅磡足印 Lyricist: Paul Lee, Alumni, Department of English and Communication 紅磡這一角 有你我足印 紅磚屋之下 察看古今 研學最新 不分遠近 陽日照 牽手笑着行 紅磡這一角 有你我足印 紅磚屋之下 察看古今 力拓新知 新界面向 新挑戰 博學明思 慎言篤行 好學求真 逐破黑暗 星際傲翔 嫦娥牽我心 眾力齊心 在香江之濱 教育才能 歷八十五載 開創新韻 利人民

Title: 智慧有聲 Lyricist: Zhang Xinyu, Alumni, Department of **Applied Mathematics**

(The song titles and lyrics are in Chinese only.)

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Winning entries

Title: 理大 85 周年—明理

Lyricist: Chen Zhuoan, PhD Student, Department of English and Communication

> 風起香江 江水不休 八十五載風雲 未改我心 開物成務 明心為先 勵學利民 明辨篤行 以前人智慧 廣博我學識 用今日理想 回饋於社會 星河遙遙 無畏 探索未知幾多崎嶇 歲月悠悠 無懼 求學道路遍歷風霜 吾國吾民 志懷高遠 八十五載風雲 未改我心 紅樓深深 見證我心

Special recognition entries

Title: 還記得青春的那時 Lyricist: Eric Chau Kwai-him, Alumni, Department of Aeronautical and Aviation Engineering



Cover Story

You-Design-Your-PolyU Souvenir Contest

Winning entries

Wireless Charging Smartphone Stand Designer: Chau Chi-kong, Staff,

Educational Development Centre



Card Holder

Designer: Xu Siyang, Student, Faculty of Applied Science and Textiles

PolyU Board Game

Designers:

Lui Ka-wing, Alumni, Department of Mechanical Engineering

Olive Tsang Yat-yin, Alumni, School of Design

Tse Siu-kei, Alumni, Department of Electronic and Information Engineering



The winning entries and special recognition entries of the contests were awarded a cash prize, or staycation or dining vouchers of Hotel ICON.

85th Anniversary Souvenirs illustrate PolyU's key developments

The support of the PolyU community has given birth to a set of souvenirs to mark its 85th Anniversary. In the spotlight is a special edition coaster gift set designed by a graduate of the School of Design, Joe Wong. Comprising seven designs, the gift set highlights PolyU's landmark architecture, its four stages of development and its contribution to national space missions.

Other souvenirs include the 85th Anniversary two-tone canvas tote bags; disposable face masks; as well as the PU30 antiviral, washable and reusable face masks.







PolyU Picnic Mat and Commemorative Stamps

Designers: Chau Wang-yu, Chan Hoi-yin, Lui Ka-wing, Olive Tsang Yat-yin, Alumni Ambassadors,





Phone Case







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Special recognition entries —

Memo Pad

Designers: Chan Hoi-yin, Alumni, School of Hotel and Tourism Management

Chau Wang-yu, Alumni, School of Design

Lui Ka-wing, Alumni, Department of Mechanical

Olive Tsang Yat-yin, Alumni, School of Design

Wine Stopper

Designer: Dr Shih Yi-teng, Assistant Professor, School of Design





GBA POLYVENTURES 2025

Empowering the next generation of entrepreneurs and innovators

s one of the top 100 universities in the world, PolyU strives to play a part in supporting Hong Kong's development into an international innovation and technology hub. The University has rolled out its "GBA PolyVentures 2025" initiative in partnership with industries and investors to help translate PolyU's research outcomes into real-world impact. Specifically, the initiative aims to promote the development of research and entrepreneurship in the GBA and to nurture future research talent to address societal needs. It will provide comprehensive support to startups at different stages from education and incubation, to accelerating and strengthening their development.

The goal is to convert more than 300 seed stage innovation startups into at least 20 deep tech ventures each year, and to nurture 25 impactful scale-ups in the GBA in the next few years through collaboration with strategic partners and various supporting initiatives. To start the initiative, the University has signed memoranda of understanding (MoU) with three strategic partners, namely Everbright Limited, StartupHK Fund and Hai Robotics.

According to the MoU, PolyU and Everbright Limited will help accelerate the development of startups through matching technology with industry needs and investing resources in promising research projects. The partners will also jointly roll out an internship programme to nurture innovation talent.

PolyU and StartupHK Fund will co-invest in PolyU's startups, helping them to enter the GBA market, and launch initiatives to strengthen entrepreneurship education.

PolyU and Hai Robotics will explore establishing a joint innovation centre to promote PolyU's education in innovation and entrepreneurship, nurture talent in "New Engineering" and conduct applied research in roboticsrelated topics.



PolyU signed the GBA PolyVentures 2025 Strategic Partnership MoUs with three partners: (1) Everbright Limited represented by Mr Wang Yizhe, Managing Director (second from left); (2) StartupHK Fund represented by Mr Hendrick Sin, Chairman (front right); and (3) Hai Robotics Co., Limited represented by Mr Richie Chen, CEO and Founder (left).

A vision to nurture impactful scale-ups

Addressing the signing ceremony, the Secretary for Innovation and Technology of the HKSAR Government, Mr Alfred Sit, commended the GBA PolyVentures 2025 blueprint, adding that deepening collaboration with the Mainland, active participation in the development of the GBA and integration into the Nation's development were pivotal to future innovation and technology development in Hong Kong.

Dr Lawrence Li Kwok-chang, PolyU's Deputy Council Chairman, said: "The signing of the MOUs between PolyU and its strategic partners echoes the needs of our Nation and leverages the strengths of PolyU and other parties in working together for the development of innovation and technology in the GBA."

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GBA PolyVentures 2025 vision



scale-ups in the GBA in the next few years

Innovation and entrepreneurship education



300+ innovation seeds per year

Pre-incubation / Incubation



100 Projects / startups per year

Investment for acceleration



20+ Deep tech ventures per year

PolyU-HKSTP joint GBA entrepreneurship programme nurtures technopreneurs

PolyU places a high emphasis on nurturing technology ventures. The University has signed another MoU with the Hong Kong Science and Technology Parks Corporation (HKSTP) to launch pre-incubation at university through the PolyU Micro Fund Scheme 2.0, which provides six months of entrepreneurship training to help entrepreneurial projects enter HKSTP's startup incubation programme.

The collaboration will leverage PolyU's expertise in entrepreneurship education and knowledge transfer as well as HKSTP's ideation and preincubation framework to provide full-strength support to students and graduates to accelerate the development of their ventures at the startup stage.

Chief Executive of the HKSAR Mrs Carrie Lam, who witnessed the signing, said: "Talent is a key element in the success of innovation and technology. I encourage different sectors of the community to join hands with the HKSAR Government to seize the valuable opportunities to contribute to the development of our country into a science and technology power."

GBA Maker Express programme

The partnership between PolyU and HKSTP also comprises the GBA Maker Express programme. It combines the PolyU Maker Fund scheme and the HKSTP iDM-Square hardware acceleration platform to help Hong Kong's young hardware innovators accelerate their product development from ideas to market-ready products.

GBA Startup PostDoc programme

HKSTP will also collaborate with PolyU to deepen the support for PhD graduates in PolyU's GBA Startup PostDoc programme, which is targeted at PhD graduates who want to start their own businesses. Under dual academic and industrial mentorship, participants can simultaneously continue with their research and start their own businesses for the commercialisation of their research outputs.

Mr Albert Wong, CEO of HKSTP, said: "HKSTP's partnership with PolyU is a signal of our commitment to turning Hong Kong's world-class academic and R&D talent into future generations of pioneering entrepreneurs and innovators."



Dr Miranda Lou, Executive Vice President of PolyU (front row, right), and Mr Albert Wong, CEO of HKSTP (front row, left) signed an MOU to form a joint GBA-focused entrepreneurship programme to nurture young R&D talent to become tech entrepreneurs. The signing was witnessed by Mrs Carrie Lam, Chief Executive of HKSAR (back row, middle); Mr Alfred Sit, Secretary for Innovation and Technology (back row, second from right); Dr Sunny Chai, Chairman of HKSTP (back row, second from left); Professor Jin-Guang Teng, President of PolyU (back row, right) and Professor Wing-tak Wong, Deputy President and Provost of PolyU (back row, left).



Launched in 2021, PolyU Maker Fund aims to help young people in Hong Kong embrace hardware startup opportunities in the GBA.

Enhancing students' innovation capabilities

PolyU will implement departmental schemebased admissions from the 2022/23 academic year onwards, and will embed the elements of "Artificial Intelligence and Data Analysis" and "Innovation and Entrepreneurship" into all undergraduate programmes. In addition, PolyU has launched the Undergraduate Research and Innovation Scheme to provide opportunities for undergraduate students to conduct scientific research under the supervision of PolyU's professors. Participating students will be automatically admitted to PolyU's College of Undergraduate Researchers and Innovators and be given priority in the allocation of hostel space at the University's Residential College. Both colleges are newly established to encourage undergraduate students to undertake research.

A decade's commitment to entrepreneurship

PolyU is known to be a pioneer among local institutions in promoting innovation and entrepreneurship, with the launch of the PolyU Micro Fund in 2011.

Over the years, PolyU has further established various schemes, including the Tech Launchpad Fund, the Entrepreneurship Investment Fund, and the Lab-tomarket Validation Programme, to support academic and student-led startups that aim to commercialise PolyU's technologies for societal benefits.

Excel x Impact





Feature Story

Fostering the success of a UNICORN -**HAI ROBOTICS**

Hai Robotics, one of PolyU's strategic partners, was nurtured under the University's entrepreneurship ecosystem and has recently become a unicorn after completing its 7th round of financing with institutional investors.

The startup has grown rapidly by capitalising on the manufacturing advantages of the GBA and the opportunities of the Mainland China market. With a valuation exceeding US\$1 billion, the company

is widely recognised as a pioneer and leader in autonomous case-handling robotic (ACR) systems.

Hai Robotics was founded in 2016 by two graduates of PolyU's Department of Electronic and Information Engineering — Mr Richie Chen (2012) and Mr Bing Fang (2014). The two first partnered up during their undergraduate studies when their supervisor Professor Chao Lu challenged them with postgraduate level research projects.



Mr Richie Chen, Mr Bing Fang, Chief Executive Officer Chief Operating Officer

and Founder and Co-Founder

The pair continued to receive PolyU's entrepreneurship education after graduation. With funding support of RMB200,000 from the University's cross-border entrepreneurship seed fund, they founded their first startup in 2014.

Their first product was an optical communication control module, for which they received orders from the world's top laboratories, including NASA, Huawei and Bell.

Subsequently, they envisioned high future demand for robots due to an ageing society, and decided to devote themselves to robotics R&D, leveraging experience they gained from the robotics competition at PolyU.

Devoted to robotics R&D

In 2016, having identified a significant market for warehouse robots, the partners visited more than 30 warehouses to understand the industry's pain points. But they were held back from developing their business idea by a lack of capital. Again, it was their alma mater which gave them the necessary support, granting them an entrepreneurship fund of HK\$700,000, enabling them to forge ahead in their entrepreneurial journey.

World's first autonomous case-handling robot creates "blue ocean" market

They spent more than four years on research and development before Hai Robotics launched the world's first ACR, HAIPICK. The robot can increase customers' storage density by 80 to 130 percent



and offers a threefold to fourfold improvement in efficiency. The system is also able to respond swiftly to changes in storage requirements. In addition, the two PolyU alumni developed an ancillary intelligent management platform, a multifunctional workstation and an intelligent charging station.

Since its inception, Hai Robotics has sold more than 1,500 robots to customers from a wide range of industries, including footwear, medical, electronics, power and retail, in more than 20 countries, including China, Japan, South Korea, Australia, Europe and the United States. It has set up whollyowned subsidiaries in the United States, Japan, Singapore and the Netherlands, and accumulated more than 400 intellectual property rights to maintain its leading position.

Planting the seeds of entrepreneurship

"PolyU's entrepreneurship education and support cultivated our ability to innovate and cope with challenges, and provided financial assistance when we were short of capital," Bing said.

In May 2021, to recognise young business leaders who have created value, Fortune China released a list of 40 elites aged below 40, on which Richie appeared.

Looking back on his entrepreneurship journey, Richie said: "PolyU planted the seeds of entrepreneurship and irrigated our growth to allow us to survive the initial difficult years. The company is still in its growth phase. We are grateful that PolyU continues to provide help for our talents and market expansion."

PolyU's entrepreneurship ecosystem cultivates its first unicorn

PolyU is proud that Hai Robotics is the first unicorn startup nurtured under its ecosystem. In recent years, PolyU has continued to encourage innovation, promoted undergraduate scientific research, set up a problem-oriented interdisciplinary scientific research platform, and facilitated school-enterprise partnerships to support scientific research and entrepreneurship. It has also supported preincubation for entrepreneurs, increased resources to help commercialise laboratory technology, and set up venture capital funds for midstream and downstream investment to promote the commercialisation of scientific research results. More unicorns are expected to emerge from PolyU's innovation ecosystem in the near future.

Dialogue

Always do your best, don't give up.

WIDE-RANGING Efforts for **FRUITFUL**

A conversation with Vice President University Life (Student and Global Affairs) **Professor Ben Young**

With his contribution to the internationalisation and student development aspects of the higher education sector, together with plenty of accolades such as the Best **Teacher Award and Outstanding Researcher Award, Professor Ben** Young was appointed Vice President (Student and Global Affairs) of PolyU in December 2018. He oversees institutional policies and plans related to student development and culture promotion as well as global engagement endeavours in educational initiatives. Professor Young is also Chair Professor of Steel Structures and has been listed by Clarivate Analytics as the 'Top 1% scholars' worldwide by citations for many years.

PolyU's vision is to provide holistic education to students. Can you share with us some initiatives related to student development?

PolyU has been providing a range of activities, including student exchange, Service-Learning (both outbound and within Hong Kong), Work-Integrated Education and study tours to enhance holistic education.

More recently, we have launched the Global Student Hub for local and non-local students to have more opportunities to mingle together, in order to promote cross-cultural exchange and student connectivity.

We have also established a new undergraduate research initiative, through partnering with Mitacs, a Canadian notfor-profit organisation, offering a Globalink Research Internship Programme with universities worldwide. From 2022 to 2024, as many as 60 PolyU full-time senior undergraduates of any discipline will have the opportunity to participate in summer research internships at renowned Canadian universities. They will be able to acquire valuable hands-on research skills as well as gain international experience.



PolyU launches the Junior Research Mentoring Programme to deepen understanding of research work among young people under the guidance of experienced academics.

Can you also share with us some initiatives on culture promotion?

The University launched its first Curator-in-Residence programme in 2021/22. Mr Tang Hoi-chiu organised a meaningful exhibition showcasing 120 invaluable original sketches and paintings of Master Gao Jianfu, a renowned master of the Lingnan School of Painting.

Since 1999, we have promoted art and culture on campus through our Artist-in-Residence Programme. In 2020/21, we were honoured to have Dr Liza Wang, a highly respected multi-talented performing artist and a PolyU Fellow, as our Artist-in-Residence. She had an interactive session with our students in which she shared some basic elements of Cantonese opera. In addition, she contributed exhibits for the exhibition on Cantonese opera held on campus. She also gave a talk on her life experience, with the theme of "Self-respect, Self-motivation and Self-confidence".

We aim at enriching the artistic and cultural lives of PolyU members by providing opportunities to interact with masters of different artistic disciplines.

You oversee the recruitment of local and non-local students. What are the University's initiatives in attracting outstanding students?

We are in the process of setting up collaborative offices with leading universities in various countries such as Malaysia and Thailand to enhance our student recruitment drive. We are also exploring expanding our dual/joint programmes with various universities.

In Hong Kong, our newly-launched Junior Research return to campus to do research or meet with Mentoring Programme was well-received. In May students at weekends. But most nights during the 2021, about 100 students from 36 local secondary week, I go for a walk with my wife after dinner along schools and international schools were selected to the Tsim Sha Tsui waterfront. It is good exercise, and participate in the programme and work on small-scale part of my routine is to walk 10,000 steps a day. research projects across different fields under the guidance of PolyU academics. We plan to increase the I like skiing, but that was not possible during the past scale of the programme in 2022. two years due to the pandemic.

The University is also organising a new initiative, the 'Science World: Exploring Space to Benefit Mankind' Education Programme, in 2021/22 to introduce space science and technologies to secondary students. The activities, comprising lectures, lab visits and a competition, will help arouse students' interest in science and attract bright minds to join PolyU.

You were one of the code writers for the "Hong Kong Code of Practice for the Structural Use of Steel" published by the Buildings Department of the HKSAR Government. Can you share with us the significance of your research on steel structures? I am also an advisory member of the Committee on Structural Stainless Steel of the American Institute of Steel Construction, and have contributed some

equations for use in the construction industry. My research focuses on metallic structures, including high string steel, aluminium and stainless steel, looking at their structural behaviour under ambient and high temperature.

Technology creates new materials, and each new material has differing behaviours. We have to test these materials in order to come up with design equations for structural engineers.

How did your experience of studying in Australia help with your work in student development and internationalisation?

I realised that academic studies are only part of university life, and I also deliberately stayed in an international house of the student hall during my last year of study at the University of Sydney to get a taste of other cultures. I interacted with students from around the world, which gave me a better understanding of the needs of students studying in a foreign place.

What is your motto?

My motto is: Always do your best, don't give up.

How do you spend your free time? Do you have any hobbies?

I am occupied with administration work that I often

New initiatives to nurture global-minded innovators

Committed to providing a holistic education that helps students realise their potential and inspires them to become global-minded leaders, PolyU is implementing various initiatives to empower students to achieve academic success and personal development.

For example, the Global Student Hub (GSH), a new oncampus facility, will play a key role in promoting the interaction and integration of students from different cultures. "Apart from being an ideal venue for hosting student events, the GSH also provides a place to help develop our local and non-local students' ability to connect with peers from diverse backgrounds, and to become more open-minded in embracing cultural differences," PolyU's Deputy President and Provost Professor Wing-tak Wong said. Looking ahead, PolyU will implement departmental scheme-based admissions from the 2022/23 academic year onwards, providing students with more flexible study options and enhancing their competitiveness. Furthermore, two new elements, "Artificial Intelligence and Data Analysis" and "Innovation and Entrepreneurship", will be incorporated into the General University Requirement from the next academic year. "These curriculum enhancement measures will help students acquire vital interdisciplinary knowledge, and equip them with creative thinking to cope with the rapid changes in our world," Vice President (Education) Professor Kwok-yin Wong said.



The new Global Student Hub will help promote interaction and integration of students from different cultures.

New Junior Research Mentoring Programme supports secondary students in research projects



PolyU has completed its first Junior Research Mentoring Programme (JRMP) offering secondary school students the opportunity to participate in research projects under the guidance of University academics. The programme not only nurtures students' analytical and research skills but also introduces them to undergraduate programmes and helps them make informed choices about their future academic studies and careers.

Keen participation from 36 schools

More than 60 PolyU academics from a range of departments participated in the programme, and nearly 100 students from 36 local secondary and international schools were selected to take part in the inaugural programme.

Under the mentorship of PolyU academics, the students conducted research in groups over a three-month period. Their topics covered an array of subjects, ranging from rehabilitation sciences, optometry, nursing and biomedical engineering, to hotel and tourism management, design, languages and business.

Professor Ben Young, Vice-President (Student and Global Affairs), said: "The newly launched Junior Research Mentoring Programme serves to deepen understanding of research work among young people, enabling them to gain practical experience in research and broaden their academic horizons." An invaluable personal and academic experience Under the guidance of Dr Arnold Wong, Associate Professor of the Department of Rehabilitation Sciences, four students from Good Hope School and Diocesan Girls' School conducted research on musculoskeletal pain and looked into the associated risk factors among secondary students.

Reflecting on their first research journey, the students said: "During the process, we came across challenges in identifying interviewees and processing data, which were solved through collaboration within the team and the aid of PolyU's mentors. It was an invaluable experience to strengthen our critical thinking and analytical skills."

The upcoming Junior Research Mentoring Programme will open for applications in early 2022, and is expected to run between April and August.

In a study on dry eyes, Dr Chan Ka-yin (left) of the School of Optometry provided guidance to the students from The Independent Schools Foundation Academy, Holy Trinity College, Hong Kong University Graduate Association College, and N.T. Heung Yee Kuk Yuen Long District Secondary School.



PolyU PhD GRADUATES SHINE in academia

hallmark of PolyU's education is to nurture talents to tackle global challenges and have a positive social and economic impact. Over the years, PolyU's PhD graduates have benefitted from the University's distinguished faculty, international network, academic collaborations and state-of-the-art facilities. A number of them have gone on to pursue careers at renowned universities and institutions worldwide, passing on what they learnt at PolyU to the next generation and sharing knowledge to improve the world.

Dr Wayesh Qarony, Postdoctoral Research Scholar, University of California Berkeley (the US)

With a keen interest in harvesting clean energy, Dr Qarony conducted many research projects under the guidance of his PhD supervisor at the Department of Applied Physics. During that time, he had the opportunity to work with a professor from Stanford University. At PolyU, Dr Qarony experienced a turning point, going from working on theoretical and simulation-based research to conducting cutting-edge experimental research, triggering his ambition to pursue a career in academic research.

My PhD supervisor helped me to be an independent researcher with huge research productivity. I published nearly 30 SCI high-quality journal articles during my three-year studies.

Not only have I received comprehensive research training at PolyU, but I have also learnt how to think independently when facing challenges.

Dr Xia Jun, Assistant Professor, Sino-US Global Logistics Institute, Shanghai Jiao Tong University (China)

Throughout his PhD journey, Dr Xia took every chance to learn from the many world-acclaimed academics at the Department of Logistics and Maritime Studies. He has used the knowledge he acquired at PolyU to help improve the operation efficiency of businesses and industry. His work focuses on the development of optimisation and data analysis technologies to meet complex requirements in the logistics and shipping industry.

Dr Hu Maomao, Postdoctoral Research Fellow, University of Oxford (the UK)

A graduate of PolyU's Department of Building Environment and Energy Engineering, Dr Hu focuses on creating sustainable data-centric technologies for building and urban energy systems, at the interface of engineering and computer science. He loves working with professors and students, sharing his research findings and solving problems. These activities continue to enlighten and motivate him.



PolyU has provided me with a world-class education and research environment, as well as extensive resources for my research work, ncluding databases, workshops and seminars.

Dr Chau Lap-pui, Associate Professor, School of Electrical and Electronic Engineering, Nanyang Technological University (Singapore)

Dr Chau is thankful to his PhD supervisor for passing on his teaching and research enthusiasm. As a graduate of the Department of Electronic and Information Engineering, Dr Chau has sound knowledge of Artificial Intelligence (AI), and information and communication technologies. He urges those who want to work in academia to be competitive as academic jobs are highly sought-after worldwide.

PolyU is a very dynamic and pragmatic university which is set to change the world, with many innovations that penetrate people's daily life.

Dr Sylvia Tzvetanova Yung, Head, Department of 3D Design, Kingston University London (the UK)

Dr Tzvetanova thinks the PhD education she received from the School of Design went beyond professional studies, with other international students becoming lifelong friends. She regards education as being very important and, after graduating, she started teaching the next generation about design and technology. She is currently developing a wellbeing monitoring device with emotion sensors, which could potentially be used as a diagnostic tool for patients.



Excel x **Impact**

At PolyU, I have expanded my research vision and benefitted immensely from the weekly sharing by research groups. I also apply this approach in my teaching to help widen students' horizons.





Dr Santus echoes PolyU's mission to pursue impactful research that benefits the world. The training he received from the Department of Chinese and Bilingual Studies enabled him to explore technical topics in the field of linguistics, leading on to work exploring the use of AI in clinical and pharmaceutical domains. He applies Al in precision medicine to assist doctors and patients as healthcare systems are put under pressure by new epidemics. Dr Santus now works at Bayer as a Data Science Leader.

PolyU's School of Design is a worldrenowned school. In addition to its excellent education and thorough teaching approach, the School's environment hugely contributed to my development and learning.

> Dr Chen Yong, Associate Professor (Hospitality Economics), Ecole hôtelière de Lausanne (Switzerland)



For Dr Chen, there is no better way to teach, learn and deliver hospitality than doing it. The SHTM taught him that hospitality is not an abstract concept but something that is practised every day by all people at the School. After obtaining his PhD, he has focused on teaching the economics of tourism and hospitality, with a research interest in the application of economic theories to explain real-world phenomena in the sector.

World's first AMMONIA-POWERED ELECTRIC VEHICLE created at PolyU

olyU researchers have manufactured the world's first ammonia-powered fuel cell electric vehicle. The vehicle not only has zero-carbon emission, but it also offers higher efficiency and safer energy storage than conventional electric vehicles. The team aims to apply the same technique to minibuses in 2022.

The shift to electric vehicles is a worldwide trend as countries look to have cleaner air and combat climate change. In Hong Kong, the government has set out plans to accelerate the shift to electric vehicles as part of its goal to attain carbon neutrality by 2050. Most electric vehicles are currently powered by lithium-ion batteries, but the batteries' bulkiness and problems with recycling them mean they are not ideal, giving rise to alternative 'fuel cell electric vehicles' that are powered by hydrogen. Professor Eric Cheng and Dr Molly Li are among the key researchers behind the development of the ammonia-powered fuel cell electric vehicle.

Hydrogen is an energy carrier with high energy efficiency and it can be used as a zero-emission fuel for vehicles. Although it has been used in space and rocket programmes for decades, there is safety concern about the risk of hydrogen explosions.

To overcome the challenges of using hydrogen, Professor Eric Cheng of PolyU's Department of Electrical Engineering, and Director of the Power Electronics Research Centre, chose to use ammonia as a safer carrier of hydrogen to power electric vehicles.



Ammonia-powered golf cart demonstrates concept's success

After just three months of research, Professor Cheng led his research team to manufacture an ammonia-powered golf cart in 2021. "The golf cart is the first-ever ammonia-powered fuel cell electric vehicle in the world," he said.

To power the golf cart, ammonia is stored in its liquid form inside a cylinder. It then goes through a 'cracker' and is broken down into nitrogen and hydrogen by catalysts developed by the University of Oxford in the UK. While 99.9% of the ammonia can be transformed, the remainder is filtered out by a gas purifier.

The hydrogen obtained is used to generate electricity to propel the vehicle. Nitrogen is emitted with the water vapour generated in the chemical process and both emitted gases are major components of the atmosphere and are safe.

Another member of the research team, Dr Molly Li, Assistant Professor of the Department of Applied Physics, explained: "It is easier to store ammonia that requires eight bars of pressure, whereas keeping hydrogen needs over 700 bars of pressure. Also, compared with hydrogen that is highly flammable and odourless, ammonia is a much safer alternative as it is more stable and has a pungent smell, which can alert drivers if there is a leakage."



What types of electric vehicles are available in the market?

- Battery electric vehicles (BEVs) powered by electricity from lithium-ion batteries
- Fuel cell electric vehicles (FCEVs) powered by hydrogen, which is converted into electricity in a fuel cell
- Hybrid electric vehicles/Plug-in hybrid electric vehicles (PHEVs) that contain electric motors and combustion engines powered by another fuel such as diesel or gasoline

Professor Cheng added that it takes much less time to refill a vehicle with ammonia than to refill it with hydrogen or recharge a battery. "Therefore, ammonia can be a safer and more efficient option for zero-carbon fuel," he concluded.

Ammonia-powered public transport is the next goal Professor Cheng is a pioneer in developing electric vehicles and green technology. His team developed the first home-grown electric vehicle in Hong Kong and a number of high-performance electric vehicle parts.

He shared that the latest innovation is the result of collaboration between universities and industry. Other collaborators in the project included the

University of Oxford, Automotive Platforms and Application Systems R&D Centre, HKOXGI Limited, and China Dynamics Ltd. The research was also funded by the Hong Kong government's Innovation and Technology Fund (ITF).

With the support of industry, Professor Cheng's next goal is to apply the ammoniapowered fuel cell to long-distance electric minibuses by October 2022.

Looking to the future, he hopes to further the research on green energy, as it is crucial to support the development of a smart city.

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Research and Innovation

Monitoring medical conditions from inside the body with **OPTICAL FIBRE** MICROSENSORS

PolyU researchers have developed groundbreaking optical fibre microsensors which can be implanted into people's bodies for medical applications.

nce used mainly for the transmission of data, fibre optics technology is increasingly being deployed in medical applications. Professor Tam Hwa-yaw, Chair Professor of Photonics and Head of PolyU's Department of Electrical Engineering, has led a research team to develop novel fibre optic microsensors, which can be implanted into people's bodies to enable more accurate medical surveillance for surgery and treatment.

The research team used an advanced plastic material, ZEONEX, to develop the microsensors, while they also added a 'side hole' inside the optical fibres to enhance their sensitivity. Named the "Side Hole Polymer Optical Fibre Sensors", the microsensors are biocompatible, supple and extremely sensitive to very small pressure changes inside human bodies.

"Our microsensors can detect extremely subtle changes, even a difference smaller than 1% of



The new microsensors can be as small as a few micrometres

atmospheric pressure. They are sensitive enough to measure pressure inside the lungs while someone is breathing," Professor Tam said. He believes the breakthrough will enable the development of a whole new range of applications for medical monitoring inside people's bodies.

Overcoming the drawbacks of existing optical fibres

Although optical fibres are increasingly being used in medical equipment, such as sensorbased wearable medical devices and surgical instrumentation, the existing glass optical fibres and the traditional plastic optical fibres have several drawbacks. The former is too stiff and brittle, while the latter may absorb water that can affect the operation of sensors.

The PolyU-developed microsensors overcome these challenges, enabling them to be implanted inside people's bodies. Professor Tam explained: "The plastic material ZEONEX has low moisture absorption and high precision in molding. To enhance the sensitivity of the microsensors, we have also added a side hole running parallel with the light transmission path inside the optical fibre."

"Therefore, the microsensors can be made as small as a few micrometres and their sensitivity to pressure is 20 times that of traditional optical fibre sensors," he added.



Cochlear implantation with higher accuracy

The PolyU research team, in collaboration with the University of Melbourne and Royal Victorian Eye and Ear Hospital in Australia, is incorporating tailored microsensors into cochlear implants (photo above), so that surgeons can obtain real-time information on the location and force response of the cochlear implant during surgery, thereby increasing the implant's



Bone fracture recovery monitoring

The PolyU research team is collaborating with Monash University in Australia to integrate the microsensors into orthopaedic implants for monitoring bone fracture recovery. The photo shows that the microsensors (fixed by yellow tapes) are placed near the fixed implant of the fractured area (middle) of the thigh bone.

The future of microsensors

The "Side Hole Polymer Optical Fibre Sensors" research findings were published in 2021 in US-based The Optical Society's Optics Letters. Some of the applications jointly developed with other universities have already been granted patents.

Professor Tam and his team are now working to expand the sensors' ability to measure other physical or chemical changes in the body, such as acidity and temperature.

"We are also seeking to develop a sensing network that integrates our sensors with emerging technologies like the wireless Internet of Things. The sensing network would be able to give a comprehensive and precise picture of changes inside the human body, thus helping patients around the world through technological innovation," he said.

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Creating new possibilities for medical applications

As the microsensors are humidity insensitive, shatter-resistant, chemically inert and biocompatible, they can potentially be used for a broader range of medical applications.



By integrating the new microsensors with wireless Internet of Things, Professor Tam (middle) and research fellows, Dr Xin Cheng (left) and Dr Dinusha Serandi Gunawardena (right), aim to develop a sensing network that can provide a comprehensive and precise picture of changes inside human bodies.



New far infrared fibre with great potential for functional and healthcare textiles developed

Professor Lilly Li, from PolyU's Institute of Textiles and Clothing (ITC), has developed a new way of producing fibres that can absorb and emit far infrared (FIR) radiation more efficiently than conventional methods. The novel technology can be used to produce high-quality functional apparel and healthcare products. The innovation has benefits for both wearers of the garments and the textile industry.

The health benefits of FIR radiation

FIR rays can penetrate the human skin, gently raising the body's surface temperature to improve blood circulation, strengthen cardiovascular health, reduce aches and pains and boost immunity.

To benefit from these properties, the textile industry has been exploring the incorporation of FIR functional fibres into materials. These fibres absorb heat from sunlight or human body, transform the energy into FIR ray and emit it back to the body.

Traditionally, an FIR ceramic powder, or a chemical such as aluminum oxide or silicon oxide, is added to polymer fibres to make the FIR yarn.

Unlike the traditional method, Professor Li's innovative approach is chemical free. It works by modifying the structure of the cross section of man-made fibres from a conventional circular shape to a triangular one, which is significantly better at both FIR absorption and emission.



 FIR textiles using synthetic fibres with a triangular crosssection absorb and emit FIR more efficiently, raising the body's temperature and bringing health benefits.



Professor Lilly Li developed new FIR fibres with health benefits.

"The rotation angle of the triangular fibres inside a single yarn can be adapted to receive more FIR incident waves from different directions more efficiently than the circular one," Professor Li explains. "Furthermore, the received far-infrared is held inside the fibre longer to develop a larger optical path difference and, hence, a higher emission ability."

Industrial partnerships in the pipeline

Professor Li's innovation, which is applicable to different types of synthetic material, has further benefits over the conventional methods. The FIR function lasts much longer, meaning the textile products can be lighter, warmer, and more comfortable to wear. More importantly, the chemicalfree method is eco-friendly and cost-effective.

Trademarks have been filed for the innovation in Mainland China, Europe, the US, and Hong Kong. It has been licensed to and adopted by an industrial company. "Our next step is to conduct more research with human subjects to understand better the advantages of FIR fibres. We will focus on developing applications such as sportswear and sleepwear, and we are exploring commercialisation with business partners," Professor Li said.

The innovation has won Professor Li a Gold Medal and a Special Merit Award (the Best International Invention, National Research Council of Thailand) at the 47th International Exhibition of Inventions of Geneva 2019 and a Gold Award at the 4th China (Shanghai) International Exhibition of Invention and Innovation 2021.

PolyU receives the lion's share of fellows in 2021 Hong Kong Scholars Program

In the 2021 Hong Kong Scholars Program, PolyU has admitted 22 outstanding postdoctoral fellows selected from leading universities in Mainland China. This number represents the largest share of the year's cohort of 52 postdoctoral fellows among the eight government-funded universities in Hong Kong. the postdoctoral fellows admitted to PolyU will

The programme is a cross-border initiative to nurture postdoctoral fellows to conduct highlevel research work, particularly in experimental science and engineering disciplines. It helps cultivate research talent who will contribute to

The PolyU academics listed below will be supervisors for the 2021 programme:

Faculty of Applied Science and Textiles	
Department of Applied Biology and Chemical Technology	P
Department of Applied Physics	P
Institute of Textiles and Clothing	P
Faculty of Construction and Environment	
Department of Building and Real Estate	P
Department of Building Environment and Energy Engineering	P
Department of Civil and Environmental Engineering	Ρ
Department of Land Surveying and Geo-Informatics	P
Faculty of Engineering	
Department of Computing	P
Department of Electrical Engineering	D
Department of Electronic and Information Engineering	Ρ
Department of Industrial and Systems Engineering	Ρ
Faculty of Health and Social Sciences	
Department of Health Technology and Informatics	D
Department of Rehabilitation Sciences	Ρ

The postdoctoral fellows admitted to PolyU will come to Hong Kong by February 2022, and take part in two-year research projects under the guidance of PolyU academics. The research projects cover about 15 subject areas, including chemistry, civil engineering, computing science, information and communication engineering, materials science and engineering, medical technology, and textiles.

rof. Wong Wai-yeung rof. Hao Jianhua, Prof. Huang Haitao, Prof. Lau Shu-ping rof. Jiang Shouxiang, Prof. Zheng Zijian

rof. Ni Meng

- rof. Asif Usmani
- rof. Dai Jianguo, Prof. Guo Hai, Prof. Lam Hing-keung, Prof. Xia Yong rof. Chen Wu

rof. Cao Jiannong, Prof. Li Wenjie

- r Niu Shuangxia
- rof. Yu Changyuan
- rof. Chan Kang-cheung, Prof. Cheung Chi-fai

r Chan Wing-chi, Dr Law Ka-wai rof. Cheing Lai Ying

PolyU develops SEAMLESS URBAN NAVIGATION SYSTEM

owadays, it is common to use digital maps on smartphones to navigate. It requires reliable positioning and navigation supported by Global Navigation Satellite Systems (GNSS). But in densely built-up urban areas with skyscrapers like Hong Kong, positioning may be inaccurate because satellite signals are blocked by or bounced off tall buildings.

To overcome the problems of satellite positioning in urban areas, Professor Chen Wu, Head of PolyU's Department of Land Surveying and Geo-Informatics, led a research team to develop a Seamless Urban Navigation System. Applying this novel system, the positioning accuracy is within 10 metres for smartphones.

Special features and advantages

- Integrates the signals of multiple GNSSs to achieve high precision positioning
- Integrates with smartphones' built-in sensors to improve the accuracy of positioning without the need for extra hardware
- Applies Differential Global Navigation Satellite System to smartphones to achieve 1-2 metre accuracy in open areas
- Mitigates multipath effects to provide positioning accuracy of within 10 metres in dense urban areas for smartphones

Applications

- Navigation
- Smart city solutions
- Development of self-driving cars





To achieve high positioning precision, Professor Chen Wu (fifth from right) and his research team integrated the measurements provided by multiple GNSSs.

Accessing major GNSSs for high accuracy positioning

To achieve high precision positioning, researchers integrated measurements provided by multiple GNSSs - China's BeiDou, the US's GPS, Europe's Galileo and Russia's GLONASS. "To precisely determine a position, we need to receive signals from at least four satellites, preferably in direct lines-of-sight," Professor Chen said.

"The accessibility to the satellites across different GNSS platforms boosts the chance of receiving signals. The most popular platform, GPS, has around 30 satellites. Integrating all four abovementioned GNSSs means gaining access to more than 100 satellites, making the chance of access to line-of-sight satellites from a location twice as high."

Overcoming the multipath problem in urban areas

Tall buildings in cities also give rise to the multipath problem. Professor Chen explained: "Multipath happens when not all signals received are directly from satellites. Signals that are reflected or diffracted by a structure travel a longer path, leading to incorrect measurements and inaccuracy."

As a result, it is important to distinguish between direct signals and bounced ones. Making reference to 3D city models that record the shape and height of buildings, the research team utilised positioning algorithms to establish which satellites received

Excel x Impact

direct signals from a location, and which satellites got signals that were reflected or diffracted. Based on this information, distance measurements could be rectified for higher positioning accuracy.

Improved navigation leveraging built-in smartphone sensors

"The system also enhances its navigation accuracy by leveraging the built-in sensors of smartphones, such as gyroscope, accelerometer, magnetometer, inertia measurement unit, and even step counters," Professor Chen said. If there are many smartphones in an area, the collective information gathered on walking speeds, directions and positions can also help improve the accuracy of the system.

An award-winning invention that benefits society

The system was used in a consultancy project by the Cartography and Cadastre Bureau of Macao SAR to develop part of the Macau Geo Guide to provide accurate, efficient and convenient geographic information services for city residents and tourists. The Guide won a technology innovation accolade in the 2018 Euro-China Green and Smart City Awards for providing smart living solutions.

The system also won a Silver Medal in the Special Edition 2021 Inventions Geneva Evaluation Days -Virtual Event and a Hong Kong Smart City Award (Smart Mobility Category) in 2018.



Times Higher Education World University

Rankings 2022

In terms of subject rankings, PolyU also stands among the top globally in the following ranking exercises:

PolyU is among top 100 universities in the world

PolyU is rated 91st in the world in the Times Higher Education (THE) World University Rankings 2022, surging 38 places from last year's index.

The list covers more than 1,600 higher education institutions from 99 countries and regions, which are rated against 13 sets of performance indicators, including teaching, research, citations, international outlook and industry income.

In addition, PolyU is ranked 15th in the 2022 Best Global Universities in Asia Rankings by US News, and 25th in the QS Asia University Rankings 2022. The US News ranking exercise evaluated more than 1,700 universities from over 90 countries and regions based on 13 indicators that measure their academic research performance and their global and regional reputations.

Social Sciences

Mechanical Engineering





THE World University Rankings 2022 by subject

25th Business & Economics

(1st in Hong Kong)

J.

Civil Engineering

Engineering



The University will refer to the ranking information and other forms of evaluation criteria to identify areas for enhancement of its performance. PolyU will continue to provide top-quality education to students and strive for excellence in research, in order to contribute to the development of Hong Kong, the Nation and the world.



Celebrating National Day

PolyU held a flag-raising ceremony on campus to celebrate the 72nd anniversary of the founding of the People's Republic of China on 1 October 2021. Around 700 PolyU members and guests attended the ceremony, wishing for prosperity for the Nation and Hong Kong.

Professor Tan Tieniu, Deputy Director of the Liaison Office of the Central People's Government in the Hong Kong Special Administrative Region, officiated at the ceremony. He was joined by PolyU Council Chairman Dr Lam Tai-fai, President Professor Jin-Guang Teng, and University Court Chairman Dr Katherine Ngan, as well as members of the University Council and Court, senior management, staff, alumni and students.

After the ceremony, Professor Tan took part in an exchange session with a group of young scholars. They discussed how to leverage Hong Kong's edge in education and research to nurture top talents and champions of innovation in science and technology.



As a member of the tertiary education sector, PolyU strives to excel in nurturing talents, research and innovation, and knowledge transfer to help accelerate the advancement of the Nation and Hong Kong.



Professor Tian Tieniu (front row, middle), PolyU Council Chairman Dr Lam Tai-fai, Deputy Chairman Dr Lawrence Li (front row, fourth and third from right), Court Chairman Dr Katherine Ngan, Honorary Court Chairman Dr Roy Chung (front row, fourth and third from left) and other senior members of the University attended the ceremony.

President Jin-Guang Teng and Professor Tan Tieniu (front row, fourth and fifth from right) joined an exchange session with young scholars.

CHIEF EXECUTIVE VISITS

PolyU's space and advanced materials laboratories



Chief Executive of the HKSAR Mrs Carrie Lam (eighth from right) encouraged PolyU to play a greater role in developing the Greater Bay Area into an international innovation and technology hub, and to continue its efforts in nurturing young people to conduct research and development.

ast year, the Chief Executive of the HKSAR Mrs Carrie Lam visited The Hong Kong Polytechnic University to learn more about its research projects. Accompanied by PolyU Council Chairman Dr Lam Tai-fai, President Professor Jin-Guang Teng and other senior members of the University, Mrs Lam toured the Precision Robotics Laboratory of the Research Centre for Deep Space Exploration (RCDSE) and the University Research Facility in Materials Characterization and Device Fabrication (UMF).



- In Mrs Lam (centre) toured the Precision Robotics Laboratory of the Research Centre for Deep Space Exploration, accompanied by PolyU Council Chairman Dr Lam Tai-fai (third from right), President Professor Jin-Guang Teng (third from left), and other senior members of the University.
- Professor Yung Kai-leung (front row, left) explained how the Surface Sampling and Packing System collected lunar soil during the Chang'e-5 mission.



- In the Moon and Mars Mars Lam experienced the landings on the Moon and Mars through a Virtual Reality system. Using topographic mapping and geomorphological analysis technologies, PolyU researchers identified ideal landing sites for the Chang'e-3, -4, -5 and Tianwen-1 missions.
- 4 Professor Wu Bo (right), Associate Head of Department of Land Surveying and Geo-Informatics, showed Mrs Lam a 3D model of the asteroid Itokawa, and talked about initiatives supporting the Nation's future asteroid exploration.

Research in aerospace technology

At the Precision Robotics Laboratory, Professor Yung Kai-leung, Director of RCDSE, introduced Mrs Lam to PolyU's research in aerospace technology.

PolyU has been actively participating in the Nation's space exploration programme since 2010. The University, in collaboration with experts from the China Academy of Space Technology, has developed and manufactured various space instruments that were used in the Nation's lunar and Mars exploration missions. They included the Surface Sampling and Packing System for collecting and sealing surface samples from the moon and bringing them back to Earth in the Chang'e-5 mission; and the Mars Landing Surveillance Camera for monitoring the landing of Tianwen-1. PolyU researchers also helped select safe landing sites for the space missions using advanced topographic mapping technologies.

Mrs Lam said: "PolyU's cross-discipline scientific research team has distinguished deep space exploration capability and possesses practical experience in international space missions, contributing to the Nation's aerospace development with encouraging achievements."

The RCDSE brings together PolyU experts from different fields, including geology, remote sensing, civil engineering, mechanical engineering and physics, pushing the frontiers of research in aerospace technology. Professor Daniel Lau (first from right), Director of UMF and Head of Department of Applied Physics, showed Mrs Lam the projects conducted in the UMF's Cleanroom.

Research in advanced materials

Mrs Lam also visited the UMF to gain a better understanding of PolyU's research in advanced materials and their applications. For example, its Cleanroom has supported the development of products including the non-invasive, ultrafast and portable COVID-19 antibody biosensors, health monitoring devices, soft robotics, on-skin electronics and neuromorphic vision sensors.

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I hope that PolyU will continue its efforts to pursue excellence in research and development and, coupling with the massive resources allocated by the current-term Government, it will join us to develop the Guangdong-Hong Kong-Macao Greater Bay Area as an international I&T hub and make more contributions to the nation's space projects.

Chief Executive of the HKSAR Mrs Carrie Lam

New scheme to

SUPPORT INNOVATION BY YOUNG SCHOLARS

olyU is committed to providing support to its scholars and scientists in their pursuit of academic and research excellence. The University has launched the Endowed Young Scholars Scheme, in which it partners with donors to support promising early-career academics at Associate Professor or Assistant Professor level.

The University matches the contributions made by donors and sets up an endowed fund, generating annual funding to support appointees' research and scholarly activities. The fund can serve as seed funding to enable them to pursue ideas with the potential to have a positive impact on society.

After a rigorous selection process, three outstanding young scholars have been appointed under the Scheme.

Tsui Tack Kong Young Scholar in Civil Engineering

Dr Zhou Chao (left), Assistant Professor, Department of Civil and Environmental Engineering Donor: Ir Tsui Tack-kong (right), Director, T.K. Tsui & Associates Ltd



PolyU alumnus Ir Tsui is a long-time supporter of his alma mater on multiple fronts. He is a Founding Member of the PolyU Development Foundation and a member of the Governing Committee of the PolyU Foundation. With more than 60 years' experience in the construction field, Ir Tsui serves as the Senior Advisor to the President on various campus development projects.

Ir Tsui said: "I support PolyU in its pursuit to be a leading university which offers world-class research and education, and that implies the importance of nurturing outstanding young scholars like Dr Zhou. Giving them sustainable support and our trust will be the key to success. I hope my)

The Endowed Young Scholars Scheme enables me and my team to engage in more ground-breaking research in civil engineering. Such outputs contribute to the improved safety and performance of infrastructure, which is vital to the smooth operation of any modern city. Dr Zhou Chao

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contribution can make a difference to the University and the industry."

Dr Zhou has a keen research interest in civil engineering, including fundamental thermo-hydromechanical behaviour of saturated and unsaturated soils, theoretical constitutive modelling of soils, energy foundation engineering and pavement engineering. Having published more than 50 SCI (Science Citation Index) papers in leading international journals, he was awarded the Excellent Young Scientists Fund (Hong Kong and Macau) by the Natural Science Foundation of China, and the Bright Spark Lecture Award by the International Society for Soil Mechanics and Geotechnical Engineering. The University has also established Limin Endowed Young Scholar positions with a donation from PolyU Technology and Consultancy Company Limited, its strategic professional service arm that provides consultancy and technology transfer services. The

Limin Young Scholar in Aerospace Navigation Dr Hsu Li-ta, Associate Professor, Department of Aeronautical and Aviation Engineering

Dr Hsu has long been researching aerospace navigation and has undertaken many R&D projects on three-dimensional Global Navigation Satellite System (GNSS) positioning for smartphones and intelligent vehicles. His research interests include GNSS real-time kinematic positioning and ways to improve GNSS performance under challenging reception conditions. He has made significant contributions to the localisation and navigation of unmanned autonomous systems for drones and unmanned vehicles in smart cities with the integration of multiple sensors.

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I am deeply honoured by this appointment. I will continue to strive for research excellence, creating impactful and translational benefits for the betterment of society, the Nation and the world. Dr Hsu Li-ta

Limin Young Scholar in Medical Laboratory Science Dr Gilman Siu, Associate Professor, Department of Health Technology and Informatics



Dr Siu's work in rapid sequencing has helped to identify transmission chains of COVID-19 locally and provided scientific support for the Government to formulate anti-pandemic measures. Dr Siu has been actively conducting research in microbial genomics, encompassing domains such as advanced molecular testing for rapid diagnosis of infectious diseases; genetic mechanisms for antimicrobial resistance and virulence in highly infectious bacteria and viruses; and molecular epidemiology for newly emerging infectious agents.

The accolade of Endowed Young Scholar is the greatest honour to me ever. I regarded my work on COVID-19 as the duty of a healthcare professional and an academic during the pandemic. I am glad that my research is helpful in establishing health policies and infection control measures.

Excel x Impact

Chinese characters "Limin"(利民), literally "to benefit people", are taken from PolyU's motto "To learn and to apply, for the benefit of mankind 開物成務 勵學利民". The naming thus reflects the objective to benefit society through knowledge transfer.





DRIVING INTERDISCIPLINARY RESEARCH FOR SOCIETAL IMPACT

New Director of PolyU Academy for Interdisciplinary Research shares his vision

Professor Chen Qingyan

- BEng, Tsinghua University (1983)
- MEng and PhD, Delft University of Technology, the Netherlands (1985 and 1988)
- Assistant and Associate Professor, the Massachusetts Institute of Technology (MIT) (1995 - 2002)
- Professor, Vincent P. Reilly Professor, and James G. Dwyer Professor of Mechanical Engineering, Purdue University (2002 - 2021)
- Willis J. Whitfield Award, Institute of Environmental Sciences and Technology (2007)
- John Rydberg Gold Medal, Scandinavian Federation of Heating, Ventilating and Sanitary Engineering Associations (2011)
- Distinguished Achievement Award, International Building Performance Simulation Association (2013)
- Director of PolyU Academy for Interdisciplinary Research (PAIR) and Chair Professor of Building Thermal Science, PolyU (since August 2021)

rior to joining PolyU, Professor Chen Qingyan spent a guarter of a century at two of the most innovative universities in the world: the Massachusetts Institute of Technology (MIT) and Purdue University.

From MIT and Purdue to PolyU

"At MIT and Purdue, I immersed myself in interdisciplinary research to spark innovative results," Professor Chen says. "Both universities have had establishments like PolyU Academy for Interdisciplinary Research (PAIR) for years. They have built a full-fledged technology transfer ecosystem – from basic research to applied research to industry applications, and have consequently spun off and started up many enterprises."

Professor Chen thinks PolyU's recent developments show it has the potential to model itself on these two pioneers and create a robust ecosystem to channel basic research into something that has societal impact and industrial benefits. He commends PolyU's state-of-the-art laboratories

and the many distinguished professors who excel at conducting translational research.

Strategic perspective of PAIR

The Director of PAIR has set himself two challenges for leading PolyU's new research and innovation hub. He aims to build it into a world-class research organisation in the areas in which PolyU has significant strategic advantages or interests, such as artificial intelligence, carbon neutrality, deep space exploration, smart cities, and smart energy. He also wants to make PolyU research translational and applicable so that it has a positive impact on society.

Professor Chen has identified five strategies to achieve these goals. First, he suggests developing innovative interdisciplinary research projects, which can apply for large research grants from Hong Kong, Mainland China and international sources. The internal funding from the Research Institutes (RIs) or Research Centres (RCs) under PAIR can act as seed funds. He adds that interdisciplinary collaboration should enable

researchers to spark more ideas for innovation from each other.

Secondly, he thinks enhancing research collaboration with first-class universities in the world is essential. He explains that by partnering with the cream of scientists and research bodies, PolyU academics will be able to appreciate what issues concern the best minds and advance pre-competitive research. "Our researchers will be likely to envisage the future global developments and thus be in a better position to get ahead of the curve," he says.

Thirdly, research collaboration with industry should also be strengthened, according to Professor Chen. He hopes to see the establishment of universityindustry research centres where PolyU researchers can apply their research findings to produce services and products with societal benefits.

Fourthly, the Director of PAIR is eager to assist PolyU academics to become entrepreneurs. He sees that entrepreneurs should effectively communicate, sell, focus, learn and strategise, in addition to driving technology innovations. He will work with the Knowledge Transfer and Entrepreneurship Office to enhance PolyU's entrepreneurial environment.

Finally, Professor Chen thinks the University should boost its effort in promoting its excellent research capability and outputs to the public. The effort can enhance the visibility and reputation of the University as a world leader in its strategic focus areas.

People are the lifeblood of the University

"While the ten RIs and five RCs under PAIR are progressing on the right trajectory, it is our priority to actively support the newly established ones. We will offer assistance in recruiting researchers, preparing proposals, managing funding and providing promotional and administrative support," Professor Chen says.

To encourage interdisciplinary exchanges, Professor Chen plans to bring together researchers from different RIs and RCs to activities such as research salons and informal gatherings to inspire each other with ideas and perspectives. He says: "Exciting discovery could be found in a research domain

Research Institutes and Research Centres under PAIR

- 1. Otto Poon Charitable Foundation Research Institute for Smart Energy 2. Otto Poon Charitable Foundation Smart Cities Research Institute 3. Photonics Research Institute 4. Research Institute for Advanced Manufacturing 5. Research Institute for Artificial Intelligence of Things 6. Research Institute for Future Food 7. Research Institute for Intelligent Wearable Systems 8. Research Institute for Land and Space 9. Research Institute for Smart Ageing 10. Research Institute for Sustainable Urban Development 11. Mental Health Research Centre 12. Research Centre for Chinese Medicine Innovation 13. Research Centre for Deep Space Explorations 14. Research Centre for Resources Engineering towards Carbon Neutrality
- 15. Research Centre for SHARP Vision
 - linking two or more RIs and RCs." He also wants RIs and RCs to share talents and knowledge.
 - Professor Chen considers the Postdoctoral Researchers and Research Assistant Professors to be central to building up the University's research capabilities. He likens the University to a human body: "If the research institutes and centres are the organs, people are the lifeblood."
 - An accomplished academic himself, Professor Chen urges researchers to develop perseverance and go the extra mile. He says: "Even if there is only a one percent chance of success, I will give 100 percent effort to achieve it."
 - Professor Chen has literally walked many miles. He is fond of travelling and hiking, and has visited 61 countries so far. He says: "When visiting a new place, meeting new people, and learning about a new culture, the benefit to my life is immense. It also brings what I learn back to the workplace, and I see a new horizon."



Professor Chen has enjoyed many uplifting hikes with his wife.

New Dean of Students passes on his KNOWLEDGE AND CARING SPIRIT

Professor Albert Chan

- Higher Diploma and Associateship in Building Technology and Management, Hong Kong Polytechnic
- MSc in Construction Management and Economics, Aston University, UK
- PhD in Project Management, University of South Australia, Australia
- Chair Professor of Construction Engineering and Management
- Able Professor in Construction Health and Safety
- Head of Department of Building and Real Estate (2015 2021)
- Dean of Students

he PolyU campus, with its distinctive redbrick architecture, holds a special place in the heart of Professor Albert Chan, Chair Professor at the Department of Building and Real Estate. It is filled with fond memories not only from his days as a student at the then Hong Kong Polytechnic, but also of becoming an acclaimed scholar at his alma mater and pursuing impactful research for society.

In September 2021, Professor Chan assumed a new role as PolyU's Dean of Students. Expressing his vision, he said: "PolyU has given me some of the most enjoyable moments in my life. I hope to give our students a fruitful university life, where they can discover their talents, and feel the love and care of the University as much as I did as a student here."

Supporting the holistic growth of students

As the Dean of Students, Professor Chan leads the Student Affairs Office in supporting the all-round development of students. Alongside offering counselling services and career guidance, the Student Affairs Office hosts a broad array of extra-curricular activities, such as the PolyU's Got Talent show. It also provides training for sports teams, with student athletes representing Hong Kong in many international sports competitions, including the Tokyo 2020 Olympic Games. "We put a strong emphasis on the holistic growth of students in addition to academic development. Through our diverse programmes, students can develop their creativity and talents as well as hone their leadership, communication and critical thinking skills," he said.

Professor Chan encourages students to broaden their horizons through taking part in different activities, such as the Global Student Ambassador Programme and the Student Exchange Programme, which can lead to unexpected gains. "Through these programmes, students can connect with people of various cultures and from all walks of life. A student told me that she has even got several job offers prior to graduation thanks to her exposure through these programmes."

Also serving as the Warden at the student residence Min Yin Hall, Professor Chan believes hall activities are beneficial to students' growth. At the hall, local students can learn about different cultures from their international counterparts. He said that before the COVID-19 pandemic, students enjoyed the annual 'international food party' most, for which they prepared signature dishes from their hometowns to share with others.



 As a Hall Warden, Professor Chan maintains a close tie with students through various activities.

To break down language barriers, the hall has a buddy programme, while Cantonese classes are offered to international students. "Sometimes, I treat the students to a meal, and listen to their adventures in the city. We have a good laugh at the funny jokes about using Cantonese in communication," Professor Chan said.

Passing on knowledge and guidance

Professor Chan is a PolyU alumnus who studied building technology and management at the then Hong Kong Polytechnic. He was a student representative during that time . "At first, I was just doing some donkey work, like printing handouts for professors. Gradually I started to join meetings as a student member to voice students' opinions," he said.

He is thankful for the love and guidance he has received at the University over the years. "There was a law-related course that we, as science students, often struggled with. I initiated peer tutoring and sought guidance from business



Professor Chan (circled) and his classmates at the then Hong Kong Polytechnic

students who were more familiar with law. They agreed to help immediately," he recalled. During his master studies in the UK, he continued to receive useful advice from PolyU professors.

Having been teaching at PolyU for 26 years, Professor Chan is committed to passing on his knowledge and care to students, so that they can benefit society. He teaches by example. One major success for his inter-disciplinary research team has been the invention of the Anti-heat Stress Uniform, which is designed to protect construction workers from the heat. It has now become a standard uniform in all public works carried out by the Hong Kong Government, benefitting countless workers in the industry.

"I often tell my students that if they have ever received useful knowledge and guidance from me, just pass that on and inspire others. This is the best way of giving back to me," he said.

Professor Chan acknowledges that the road to success is often filled with challenges and failures, but there is always a way through if you persevere. He gives his research for the Anti-heat Stress Uniform as an example. "We came up with many ideas at the beginning, but they later proved to be unsuccessful. Of course, there was disappointment, but we would cheer up each other and continue our dedicated efforts. We eventually succeeded."

To encourage students, he added: "Similarly, there are ups and downs in life. And I believe that one can ultimately overcome adversities with hard work and perseverance."

PolyU Community

Award

Engineering

Appointments

Social Sciences

Energy

Major external appointments and awards of PolyU members

From July to September 2021, the following PolyU members were either appointed significant duties to share their scholarly expertise to benefit the wider community or had their academic efforts duly recognised. (listed in alphabetical order)



Professor Chen Changwen

Chair Professor of Visual Computing, Department of Computing

Member, Academia Europaea

Chair Professor of Energy Conversion

Otto Poon Charitable Foundation

• Editor-in-Chief, Process Safety

and Environmental Protection -

Transactions of IChemE – Part B

Professor Sylvia Xiaohua Chen

Associate Dean, Faculty of Health and

Professor in Smart and Sustainable

Associate Director, Expert Committee

(New Energy), China Energy Society

and Storage, Department of Mechanical

Professor Chen Guohua



Mr Brian Kwok

Professor Carly Lam

Appointment

Optometry

Professor, School of Optometry

Associate Professor, School of Design



- Best of the Best Award (Social Science category), Hong Kong Publishing Biennial Award 2021



Dr Franco Leung Assistant Professor, Department of

Applied Biology and Chemical Technology

President, Asia Pacific Council of



Award • 2021 Croucher Innovation Award



Professor Daniel T. L. Shek

Chair Professor of Applied Social Sciences Li and Fung Endowed Professor in Service Leadership Education Associate Vice President (Undergraduate Programme)

Appointments

- Chairman, Assessment Panel of the Public Policy Research Funding Scheme and the Strategic Public Policy Research Funding Scheme, Policy Innovation and Co-ordination Office, HKSAR Government
- Member, Research Grants Council of the University Grants Committee, HKSAR Government



Professor Zheng Zijian

Professor, Institute of Textiles and Clothing





RGC Senior Research Fellow

Senior staff appointments and promotions

(between 1 July and 31 December 2021)

Congratulations to the following PolyU members who have recently taken up a new capacity at the University.

Promotions



Professor Hao Jianhua

as Chair Professor of Materials Physics and Devices, Department of Applied Physics on 1 July 2021



Mr Lawrence Lau

Professor Asif Usmani

as Director of Campus Facilities and Sustainability on 1 July 2021

as Chair Professor of Building Sciences and Fire Safety Engineering, Department of Building Environment and Energy Engineering on 1 July 2021



Professor Frances Wong Kam-yuet as Chair Professor of Advanced Nursing Practice, School of Nursing on 1 July 2021



Ir Professor Zhang Ming as Chair Professor of Biomechanics, Department of Biomedical Engineering on 1 July 2021

Appointments



Dr Chai Yang as Assistant Dean, Faculty of Applied Science and Textiles on 13 September 2021





Appointments President, Asian Association of Social Psychology

• Editor-in-Chief, Journal of Cross-Cultural Psychology



Professor Hao Jianhua

Chair Professor of Materials Physics and Devices, Department of Applied Physics

Award • RGC Senior Research Fellow



Professor Sam Kim Professor, School of Hotel and Tourism

Management

Appointment

President, Asia-Pacific Council on Hotel, Restaurant and Institutional Education

Excel x **Impact**



Professor Mike Lai Kee-hung

as Chair Professor of Shipping and Logistics, Department of Logistics and Maritime Studies on 1 July 2021



Mr Chris Leung Chun-bong as Director of Health and Safety on 18 Oct 2021



Ir Professor C. Y. Wen

as Chair Professor of Aeronautical Engineering, Department of Aeronautical and Aviation Engineering on 1 July 2021



Ir Professor Ben Young

as Chair Professor of Steel Structures, Department of Civil and Environmental Engineering on 1 July 2021



Ir Professor Albert P. C. Chan

as Dean of Students on 7 September 2021



Professor Chen Qingyan

as Chair Professor of Building Thermal Science and Director of PolyU Academy for Interdisciplinary Research on 13 August 2021

PolyU Community

Appointments



Professor Cheng Li as Associate Dean (Research), Faculty of Engineering on 15 November 2021



Professor Eric Chui as Head, Department of Applied Social Sciences on 1 September 2021



Professor Han Xiaorong as Head, Department of Chinese Culture on 1 July 2021



Professor Geoffrey Q. P. Shen as Director of Global Engagement on 1 August 2021



Ir Professor Su Zhongqing as Head, Department of Mechanical Engineering on 1 July 2021



Professor Weng Qihao as Chair Professor of Geomatics and Artificial Intelligence, Department of Land Surveying and Geo-Informatics on 19 July 2021



Professor Raymond W. Y. Wong as Dean, Faculty of Applied Science and Textiles on 1 July 2021



Ir Professor Michael C. H. Yam as Head, Department of Building and Real Estate on 1 July 2021



Professor Zhang Weixiong as Chair Professor of Bioinformatics and Integrative Genomics, Department of Health Technology and Informatics on 6 Dec 2021











Ir Professor Wang Shengwei as Director of Otto Poon Charitable Foundation Research Institute for Smart Energy on 1 July 2021

Professor Larry M. C. Chow

on 1 July 2021

Professor Dai Min

Professor Ni Meng

on 16 August 2021

as Director of Research and Innovation

as Chair Professor of Applied Statistics

Applied Mathematics on 15 Oct 2021

and Environment on 1 July 2021

Professor Nancy Su Lixin

and Financial Mathematics, Department of

as Associate Dean, Faculty of Construction

as Head, School of Accounting and Finance



and Environment on 1 July 2021

as Associate Dean, Faculty of Construction

Professor Charles M. S. Wong



Professor Xiao Fu as Associate Dean, Faculty of Construction and Environment on 1 July 2021

Dr Yung Ka-fu



as Director of University Research Facility in Chemical and Environmental Analysis on 1 September 2021

Congratulations to Outstanding PolyU Alumni

PolyU held the 13th Outstanding PolyU Alumni Award (OPAA) presentation ceremony in October 2021, to honour 10 accomplished alumni who have achieved illustrious accomplishments in their respective professions and made significant contributions to the University and the wider community. Congratulations to the following awardees (in alphabetical order of last name):

- Mr Jack Chan Hoi, EY China Chairman, Greater China Regional Managing Partner and Global Executive Member
- Ms Janet Chen Lijuan, Chairman, Shenzhen Ebeca Beauty Technology Investment Company Limited
- Mr Tino Kwan Wing-kuen, Founder and Principal Consultant, Tino Kwan Lighting Consultants Limited
- Ir Dr Kelvin Leung Kai-yuen, CEO, Asia Pacific, DHL Global Forwarding (Hong Kong) Limited
- Mr Michael Ross, Vice Chairman, Charoen Pokphand Group and Co-chairman, CP Commercial Real Estate
- The Hon. Alfred Sit Wing-hang, JP, Secretary for Innovation and Technology, HKSAR Government
- The Hon. Tony Tse Wai-chuen, BBS, JP, Member, Legislative Council (Architectural, Surveying, Planning & Landscape), HKSAR
- Sr Augustine Wong Ho-ming, JP, Executive Director and General Manager of Property Development Department, Henderson Land Development Company Limited
- Dr Alex Wong Siu-wah, Chairman and CEO, King's Flair International (Holdings) Limited
- Ms Mary Yu Wah, Founder, Mary Yu Design





Officiating at the ceremony were Dr Lam Tai-fai, PolyU Council Chairman; Professor Jin-Guang Teng, PolyU President; and Dr Katherine Ngan, PolyU Court Chairman. Dr Ngan, also Chairman of the Panel of Judges, expressed thanks to the panel members, including (in alphabetical order of last name): Ms Dee Dee Chan, Director, Seal of Love Charitable Foundation Limited; Dr Christopher Cheng Wai-chee, Chairman, Wing Tai Properties Limited; Ms Doris Lian Shaodong, Chairman, Chinese Asset Management Association of Hong Kong; Ir Eric Ma Siu-cheung, President, Outstanding PolyU Alumni Association; Dr David Ng Kin-ching, President, Federation of PolyU Alumni Associations (FHKPUAA); Professor Jin-Guang Teng; and Dr Daniel Yip, Chairman, Federation of Hong Kong Industries (2019-2021). PolyU and FHKPUAA have jointly organised the biennial OPAA since 1996. Over the years, more than 90 outstanding alumni in various fields have been honoured.

2021



Dr Allen Shi Lop-tak

- Higher Certificate in Fashion and Clothing Manufacture, Hong Kong Polytechnic (1980)
- Executive Master of Business Administration, City University of Hong Kong (2007)
- Honorary Doctorate of Management, Lincoln University, US (2009)
- University Fellow, PolyU (2016)
- Bronze Bauhinia Star, HKSAR Government (2017)
- President, PolyU CEO Club (2021 2023)
- President, Chinese Manufacturers' Association of Hong Kong (2021 2023)
- Founder and Chairman, Brilliant International Group Limited

e are entering a new era and the most important thing is our willingness to change," according to Dr Allen Shi Lop-tak, founder and Chairman of Brilliant International Group Limited. Dr Shi spoke these words on his election as President of the Chinese Manufacturers' Association of Hong Kong (CMA), one of the major industrial associations in Hong Kong. They sum up the spirit in which he has lived his life.

From apprentice to conglomerate chairman

For the renowned industrialist and philanthropist, change has been a recurring element throughout his distinguished career, which began more than half a century ago. Born in Hong Kong in the 1950s, Dr Shi joined the printing industry as an apprentice immediately after completing secondary school. "I came from a low-income family and needed to start working at an early age," Dr Shi said. "Life was very difficult at that time."

Unfortunately, the young Dr Shi had a traumatic accident while operating a printing machine at work. He lost three fingers and had to spend three months in hospital. "I decided to change field and began work in the office of a garment factory," Dr Shi said. Determined to improve his skills, he took evening courses after work at the Hong Kong Polytechnic,

PolyU's predecessor, to stay abreast of the latest knowledge and developments in the clothing industry.

In the early 1980s, Dr Shi suffered another setback when the garment factory where he worked closed down due to a lack of business. He again felt compelled to make a new career move. "There was no turning back at that point," Dr Shi recalled. "The only way to go was to establish my own business and start afresh." With financial support from his family, Dr Shi set up a small printing factory in 1984.

Dr Shi's pursuit of entrepreneurship was not all plain sailing. However, his perseverance and determination to adapt to the ever-changing economic environment enabled him to triumph over numerous challenges and became a leader of the printing industry. Today, his factory has evolved into one of the largest manufacturers of commercial printing and paper packaging products in southern China, serving clients all over the world.

Leading the industry towards re-industrialisation

When Dr Shi became President of the CMA in early 2021, Hong Kong's manufacturing industry was suffering from the economic fallout caused by the COVID-19 pandemic and the China-US trade dispute. But for Dr Shi, the situation presented not only challenges but also opportunities for businesses and industries.



 (Right) PolyU conferred the University fellowship upon Dr Shi in recognition of his significant contributions to the community. (Left) Dr Shi moved the major production facility of his printing company to the Mainland in the late 1980s, with the opening of a factory in Shenzhen.

"The use of technology in our daily lives has increased tremendously as the pandemic has changed people's behaviour and habits," he explained. "It is time for the industry to actively engage in re-industrialisation and develop advanced manufacturing. CMA is assisting traditional enterprises in applying new technologies to product development, production processes, sales and marketing, so that they can survive and thrive in the technological revolution."

Leveraging his affiliation with the higher education sector, Dr Shi is keen to forge closer collaboration between industry, academia and the research and development sector. CMA has recently established a technology commercialisation centre, CMA+, to help match manufacturers with appropriate technical solutions developed by universities to assist in the upgrading and transformation of their industry.

Without persistence and resilience, there will be no reward.

Excel x Impact

In addition to making significant contributions to Hong Kong's industrial development, Dr Shi is also committed to serving the community, particularly in supporting education and charitable causes. He has set up bursaries and donated to local universities, including his alma mater PolyU. In 2016, PolyU named a lecture theatre after Dr Shi as a tribute to his strong support to the University.

Over the years, Dr Shi has taken up a number of important roles at PolyU to support its long-term development. He is a Member of the Governing Committee of the PolyU Foundation and President of the CEO Club, established by PolyU's Knowledge Transfer and Entrepreneurship Office. In 2016, PolyU awarded the title of University Fellow to Dr Shi in recognition of his significant contributions to the community. He also serves as an ex-officio Advisor of the PolyU University Fellows Association.

Advice for aspiring entrepreneurs

As a self-made entrepreneur who overcame adversity to achieve success through hard work and perseverance, Dr Shi always shares his experience and insights with young people. "Hardship is an inevitable stage on the way to success. Without persistence and resilience, there will be no reward." He also encourages aspiring entrepreneurs to broaden their horizons and look to the Greater Bay Area where opportunities for ventures are abundant.

PolyU Community

NAVIGATING LIFE AND DEATH through hospice care

Ms Wang Ying

- Master of Social Service Administration, PolyU (2014)
- Top 10 Outstanding Young People of Pudong New Area, Shanghai (2015)
- Top 10 People of the Year for Charity by ifeng.com, China (2020)
- Founder of Shanghai Hand in Hand Life Care Developing Centre

ang Ying is the founder of Shanghai Hand in Hand Life Care Developing Centre, a pioneering non-profit organisation for hospice care in Mainland China. Over the past 13 years, the centre has trained more than 2,000 volunteers, and provided health care and counselling services to more than 40,000 cancer patients.

In 2020, Wang was named one of the Top 10 People of the Year for Charity in China. This recognition has a special meaning for her, as she had just overcome the biggest adversity in her life after being diagnosed with a rare cancer in 2018. As soon as she recovered from surgery, Wang set herself a new goal and launched a nationwide campaign called "Death Cafe" to educate people about life and death. "Death is just a part of our mortal life. What matters most is that we treasure life and try our best to achieve our dreams," she said.

From advertising to hospice care

Wang has long been aware of the trauma of cancer, after her mother was diagnosed with breast cancer more than a decade ago. At the time, doctors expected her mother to live for less than a year. "I felt miserable because I knew very little about cancer. As the only child in my family, I had to shoulder all the responsibility to care for my mum," she recalled.

Wang Ying (right) organised trips for the elderly and their families, so that they could create some happy memories together.

Fortunately, her mother recovered after medical treatment. But the experience prompted Wang to make a life-changing decision - leaving her eightyear-long advertising career and starting from scratch in hospice care. "Many people were not aware of hospice care back then, and there was insufficient support for the severely ill and their families. I hoped to make a difference," she said.

Gaining new perspectives at PolyU

In 2008, Wang established Hand in Hand in Shanghai with her savings. But she soon became aware of the immense challenges of promoting hospice care to the public. "When we placed promotional boards on a street, people would simply take another route." She started collaborating with hospitals, so that she could learn from medical professionals and understand patients' needs.

After a few years, she found herself lacking the skills to run her centre, such as manpower management, campaign organisation and fundraising. At the time, PolyU was offering the Master of Social Service Administration, a comprehensive programme that covers the various aspects of running a social service organisation. Wang joined the programme without hesitation.

She was amazed by the new perspectives she acquired through the programme, for example, that the role of an organisation can change from time to time. "During the worst times of the COVID-19 pandemic, we could not provide services in hospitals. We then shifted to collecting donated medical supplies for them, so as to help patients in another way," she said.

"I also learnt about project management and evaluation, and I applied those skills in the work of my centre. I feel that studying at PolyU was like completing the missing pieces of a puzzle," she added.

Facing a rare cancer with positivity

One of the core services Wang provides is counselling, through which she guides cancer patients to find meaning in life. "I encourage them to make a wish list. Many of them, whether they are rich or poor, have very simple wishes, like expressing love to their families," she said.

Family is also where she found peace when a malignant tumour developed on her left cheek, and she was diagnosed with a rare cancer -"lymphoepithelial carcinoma". Although feeling devastated at first, she managed to draw from her service experience, and opted for palliative care that



The "Death Cafe" campaign encourages people to discuss life and death with an open mind.



Wang Ying (second from left) graduated from PolyU's Master of Social Service Administration and made good friends who are equally devoted to social service.

would minimise the impact on her social life. "My family is fully supportive of my decision. My boyfriend also proposed to me, giving me refreshed hopes in life," she smiled.

Life and death education

Having teetered on the edge of death, Wang has learnt to treasure life and is determined to share her experience with others. In 2019, she launched the "Death Cafe" campaign to encourage people to discuss life and death with an open mind. In just two vears, more than 500 events have been held in 50 cities across China. She also trained new hosts to organise their own sessions.

In the days ahead, she plans to write a book and design a course about death education. "I want to record the development of hospice care in the Mainland, share my experience and the countless touching stories I witnessed," she said with optimism for the future.

Budding fashion designers display their **CREATIVE FLAIR**

olyU's Institute of Textiles and Clothing (ITC) has long been offering some of the most innovative design courses in the Asia-Pacific region to nurture fashion talents for Hong Kong and beyond. A series of fashion shows were held in 2021, showcasing the talents of its graduating students, who will play an active role in the development of the fashion and textiles industry in local and overseas markets in future.

Master of Arts (MA) in Fashion and Textile Design



Graduation Fashion Show 'Vessels'

The MA fashion show, held at The Mills, attracted 200 guests and prominent figures in the industry, including Ms Vivienne Tam, world-class fashion designer and PolyU alumna; Mr Raymond Chu, Chairman of The Hong Kong General Chamber of Textiles; Mr Bosco Law, Chairman of Hong Kong Woollen and Synthetic Knitting Manufacturers' Association; Ms Janet Cheung, Vice Chairman of Hong Kong Fashion Designers Association; and Ms Lulu Cheung, Creative Director of Rolls Group Ltd.

A total of 24 graduating students demonstrated their ingenuity and foresight for future fashion trends through their design collections. They also put great effort into the choice of materials and the use of advanced technologies, such as threedimensional design software 'CLO 3D', to minimise the materials consumed in the production process.

Under the leadership of programme leader Mr Ryan Houlton, the Programme is gaining in reputation as a flagship for innovative design training in the region.





PolyU Fashion Show

Under the new normal, the Show integrated an online video broadcast and physical catwalk show at PolyU's campus as a runway stage. According to programme leader Dr Joe Au, the event was the first of its kind to showcase 30 BA show finalists' talents in a unique platform.



PolyU Intimate Fashion Show



ITC is the first tertiary education institute to offer intimate apparel and activewear courses. A total of 12 graduating students who took the specialism of Intimate Apparel and Activewear of the BA Scheme in Fashion and Textiles demonstrated their creativity through their outstanding creations.

According to Dr Joanne Yip, Associate Dean of the Faculty of Applied Science and Textiles and Associate Professor of ITC teaching in the course, students in this specialism will gain academic and practical knowledge of intimate apparel and activewear, including the integration of design and technology aspects.

Bachelor of Arts (BA) (Honours) Scheme in Fashion and Textiles

The finalists had overcome multiple challenges during the pandemic, and competed for ten awards and scholarships through their creative design. The judging panel was comprised of well-known fashion designers and seasoned industry practitioners, including Ms Janet Cheung; 🕨 Video Ms Lulu Cheung; Mr Anthony Keung, President and C.E.O., Fenix Group Holdings Ltd; and Mr Walter Ma, Director, Walter Ma & Co. Ltd.

is Chen Wai-





Students win scholarships with **INNOVATIVE IDEAS AND ACADEMIC EXCELLENCE**

ongratulations to PolyU's outstanding students who have been awarded major scholarships for their distinguished performance in various aspects. These students are shining examples of the University's efforts in nurturing all-round future leaders for society.

Meryl Cheung

Innovation and Technology Scholarship 2021

Three PolyU students who are passionate about innovation and technology have been awarded the Innovation and Technology Scholarship 2021 jointly sponsored by the Innovation and Technology Commission and HSBC, and organised by The Hong Kong Federation of Youth Groups. The recipients will each receive a scholarship of up to HK\$150,000 to support them joining overseas/ Mainland attachment programmes, as well as other opportunities such as mentorship programmes, internships and service projects.

I've registered for an MIT course and plan to work as an intern in a research institute at the University of Toronto to learn how artificial intelligence can be used to develop a smart home system for the elderly.

> Meryl Cheung Yin-chi BSc (Hons) in Occupational Therapy, Year 4

The scholarship will enable me to enrol in an overseas exchange programme to broaden my horizons in the fields of medical product development and clinical technology. This will facilitate my efforts to modify the design of an ankle-foot orthosis for stroke patients.

(risty Loo

Kristy Loo Hiu-tung BSc (Hons) in Biomedical Engineering, Year 4

I hope to incorporate virtual reality and augmented reality technologies into rehabilitation training for the elderly. The scholarship scheme will help keep me abreast of the latest technology developments in healthcare, facilitating the implementation of my project in future.

leffrey Ng

Jeffrey Ng Chit-yui BSc (Hons) in Physiotherapy, Year 4

AIA Scholarships 2020/21

A total of 14 undergraduate students with a track record of academic excellence and community service have been awarded scholarships by the AIA Foundation. They will receive an award of HK\$50,000 each year throughout their undergraduate studies, together with valuable mentoring opportunities. The following three students shared their aspirations after winning the scholarship.

The scholarship will financially support my exchange studies in Year 3. I will make good use of the opportunity to study outside Hong Kong to expand my horizons and equip myself with professional skills from industry experience.

> Cindy Pang Sum-yi Events Management, Year 2

I intend to acquire skills and knowledge in robotics and computer vision through employment and mentorship opportunities in the GBA. I will also enrol in a master's degree programme to learn the latest technologies and launch my recycling startup in the GBA.

Allan Chan Cheuk-yiu BEng (Hons) in Electronic and Information Engineering, 2021 graduate

> I hope to build an online learning platform in the GBA with the scholarship. With a great variety of courses available for people to choose from, this platform will be a useful tool to promote lifelong learning without time and space constraints.

Emily Wong Chin-wai BA (Hons) in Social Policy and

animation.

Allan Chan

Design, Year 4

Excel x Impact

Cindy Pang



The scholarship will help achieve my dream of contributing to society with my knowledge in biomedical science. I will devote more time to enrich my knowledge of biomedical research and learn from experienced business executives on how to be a well-rounded

Yuki Lam

Yuki Lam Ka-yi

I bought a camera with the funding and learned to shoot photographs for community service purposes. My photography training will widen the scope of volunteer works I can now undertake. I will also join AIA's development programme to hone my leadership skills for future career development.

Kevin Cheng Hon-kit BBA (Hons) in Accountancy, Year 2

Sharon Choi

HSBC Greater Bay Area (Hong Kong) Scholarship 2020/21

Three PolyU students were among the recipients of this scholarship launched by The Hongkong Bank Foundation to support undergraduates' studies, internships or activities that can help fulfil their career aspirations in the Greater Bay Area (GBA). They were each awarded HK\$80,000 as an endorsement of their career development plans in the GBA.

Emily Wond

After graduation, I would like to work in a design agency to promote the GBA as an adventurous place to visit and live. One of my ideas is to rebrand the GBA's urban identity with more interesting methods such as using 3D

> **Sharon Choi Yuet-sum** BA (Hons) in Communication

Smart system for feeding the elderly wins James Dyson Award

A fresh graduate of PolyU's School of Design, Peggy Chang Pei-chi, was named the National Winner (Hong Kong) of the James Dyson Award 2021 with a smart dining service and product system specially designed for caregivers to feed the elderly in care homes.

The winning invention, "omnom.", can enhance safety in feeding the elderly and raise their satisfaction during the eating process. It also addresses swallowing difficulties, improves

interaction guality between the elderly and caregivers during meals, and facilitates stakeholder communication and effective management through data digitalisation.

"omnom." comprises five components: a wearable neckpiece for monitoring, a spoon for sustaining oral muscle abilities, a tray for personalised care, a trolley for smart catering, and an app for data digitalisation.



that gives caregivers substantial work pressure and exposes residents to safety hazards. 'omnom.' can help optimise the workloads of care home staff, and maximise service quality through design and technological intervention."

A judge of the Award commended "omnom." as being "an enlightened project that improves service quality and efficiency through the proper application of technology". As a Hong Kong Award finalist, Peggy will enter the international round of the competition.



A demonstration of feeding with "omnom."

The James Dyson Award is an international award that encourages aspiring design engineers to apply their knowledge and discover new ways to improve lives through technology.

participation in blood donation



As an advocate of university social responsibility, PolyU has been actively promoting blood donation to bring hope to patients. In 2021, the University organised the 4th PolyU Blood Donation Campaign with the Hong Kong Red Cross Blood Transfusion Service (BTS), engaging the enthusiastic support from hundreds of staff and students.

The Hong Kong Polytechnic University Magazine **Excel** x **Impact**

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Excel x Impact is published quarterly to keep the local and international communities informed of PolyU's activities, people and achievements. For contributions and enquiries, please contact the Communications and Public Affairs Office at paadmin@polyu.edu.hk.

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Excel x Impact

Professor Ben Young, PolyU's Vice President (Student and Global Affairs) (back row, fourth from left) received the award from Dr C. K. Lee, BTS's Chief Executive and Medical Director (back row, fourth from right).

PolyU also received the "Elite Partnership Award 2021 (Community)" from BTS in appreciation of the University community's unfailing support in giving blood to save lives.

ence	Prof. Lu Haitian, Director, Mainland Development Office
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