2019/2020 ANNUAL REPORT

香港中文大學
The Chinese University of Hong Kong

研究及知識轉移服務處
Office of Research and
Knowledge Transfer Services

RECURRENT FUNDING FOR KNOWLEDGE TRANSFER

SUBMITTED TO
UNIVERSITY GRANTS COMMITTEE

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1. Executive Summary

To sustain our endeavor to facilitate both internal and external innovation, CUHK has continued to triumph in research and to foster Knowledge Transfer (KT). Here we report another successful year in knowledge transfer and the further growth of awareness of our innovations for social-economic benefits.

In 2019-20, CUHK executed 377 contracts and research agreements, which enabled over HK$216 million of research and consultancy activities with external stakeholders. Meanwhile, we recorded 61 new invention disclosures, with 386 patent applications filed and 257 patent applications granted. We also granted 52 licenses in the same financial year to local and overseas companies, and generated HK$57 million in licensing income, representing an increase of 6% over the previous year.

In addition to the Technology Support Scheme for Universities (TSSSU) by the Innovation and Technology Commission (ITC) for staff and students, we have also dispensed, as in previous years, part of our UGC KT fund to support student-initiated "startup projects" or (as we call them) Pre-incubation teams (Pi teams). Steady interest was again shown in these two programmes, as in every year since their introduction in 2014, as attested by the receipt of 60 Pi applications and 41 TSSSU applications. After careful consideration and vetting, we were able to fund 20 TSSSU companies and 14 Pi teams this year.

In the area of social innovation, our Knowledge Transfer Project Fund (KPF) provides support for knowledge transfer activities that could enable a rapid transfer of research outputs from CUHK into our community. With continuing financial support of HK$3 million from the HKSAR Government's Social Innovation and Entrepreneurship Development Fund (SIE Fund), we were able to support 17 selected social innovation projects in this financial year. We are again supporting 3 new social enterprises with our Sustainable Knowledge Transfer Project Fund (S-KPF) to ensure the maintenance of necessary social support in the community.

Building on the success of previous years, we continued to interact with regional and international industrial partners and investment communities despite the impact of COVID-19 epidemic and social events, and have further stepped up our research collaborations in both deep technology and social innovations. With the opening of our novel InnoPort premises and the newly integrated teams which it houses, we further enhanced our infrastructure and operational efficiency through the Office of Research and Knowledge Transfer Services (ORKTS) to expedite knowledge transfer processes at CUHK to contribute to society and promote a knowledge-based economy in Hong Kong.

2. The Progress of Knowledge Transfer and the Expanding KT Supports at ORKTS

With the strategic plan put forward by ORKTS last year to scale up knowledge transfer at CUHK, the expansion in resources has enabled significant progress to be made, especially in the enhancement of infrastructure enabling innovation and knowledge transfer.

This year, the University established TR@CUHK, a company to offer centralised support for CUHK innovation development. To enhance our presence and promote impactful research in the Greater Bay Area, the CUHK Hong Kong-Shenzhen Innovation and Technology Research Institute (Futian) was established as a base for faculty members to pursue projects admitted to the Hong Kong-Shenzhen Technology and Innovation Collaboration Zone.

The management structure overseeing university-wide knowledge transfer activities has also been consolidated. Since 2010, the Committee for the Advancement of Student Innovation and Entrepreneurship (CASIE) has been bringing together internal units working on different facets of entrepreneurship education and knowledge transfer, equipping students and staff alike to shine at competitions, events and exhibitions. In recent years, ORKTS has gradually taken up CASIE's position of driving relevant initiatives across campus via close partnerships with its member units. This year, riding on the opening of InnoPort – our focal hub for innovation and entrepreneurship, ORKTS is ready to serve as CUHK's execution arm with InnoPort as its base of coordination and engagements. Meanwhile, following an update in its terms of reference, the Committee on Knowledge Transfer (KTC) has taken up CASIE's governing scope and now assumes a central role of steering the development of knowledge transfer policies and strategies.

3. Entrepreneurship Development

3.1. Interdisciplinary Entrepreneurship Education

To promote an entrepreneurial culture and mindset throughout the University, CUHK launched a new Entrepreneurship and Innovation (EPIN) minor programme in 2017. It adopts an interdisciplinary approach and is open to all undergraduate students. It aims at cultivating entrepreneurship among students with events that enrich their understanding of entrepreneurship and challenge their creativity and perseverance. EPIN-coded courses are in demand and have been attended by students across eight different faculties (around 500 enrolments in EPIN-coded courses in 2017-20).

Brand new courses in EPIN

EPIN continued to expand its course list in 2019-20. Below is the list of newly-launched EPIN courses in 2019-20:
- EPIN2900 Internship in Entrepreneurship and Innovation I
- EPIN3022 Innovation Bootcamp – Pivot to Succeed
- EPIN3040 Entrepreneurship Practicum
- EPIN3900 Internship in Entrepreneurship and Innovation II
- EPIN4900 Internship in Entrepreneurship and Innovation III

EPIN1010 Anatomy of an Entrepreneur and *EPIN1020 Design Thinking and Practice* are part of the fundamental and founding courses in EPIN curriculum, proven to be higher popular among students.

Entrepreneurs from different industries were invited to share their real-life entrepreneurial stories in EPIN1010

In *EPIN1010*, 19 prominent figures and seasoned entrepreneurs in different industries were invited to share their real stories and experiences regarding creativity, innovation, problem-solving and entrepreneurship, and a total of 27 guest lectures have been launched since 2017-18. Students were encouraged to conduct group activities and develop an innovative solution to a problem, such as generating original business ideas for a startup.

In *EPIN1020,* students gained in-depth knowledge about strategic and practical thinking tools, the end-to-end design thinking approach, and creative mindsets for innovation through practice and discussion. They were encouraged to form interdisciplinary groups to build prototypes to turn a solution concept into reality by the end of the course.

Students acquired the mindset, basic knowledge and skills to innovate through group activities, discussion and practice in EPIN1020

To provide more opportunities for students to apply their learnings in practice, new courses such as *EPIN2900 Internship in Entrepreneurship and Innovation I, EPIN3022 Innovation Bootcamp – Pivot to Succeed, EPIN3040 Entrepreneurship Practicum, EPIN3900 Internship in Entrepreneurship and Innovation II* and *EPIN4900 Internship in Entrepreneurship and Innovation III* were introduced into the EPIN curriculum in 2019-20 to enrich the "Practices" area in EPIN, encouraging students to put into practice the knowledge they gained through lectures. *EPIN3022* and *EPIN3040* focused on hands-on learning through active participation and field work in startups and venturing teams; while the Internship Series (*EPIN2900, EPIN3900* & *EPIN4900*) allowed students to transfer their classroom learning to workplace activities and provided them with valuable exposure to different industry sectors and startups.

Elite Entrepreneur Sharing Series

Complementary to the formal education of EPIN, an Elite Entrepreneur Sharing Series was conceived to offer opportunities for students to network and mingle with elite entrepreneurs who might potentially become their mentors or investors. "Working in a corporate V.S. Starting your own business; A Scientist V.S. An Entrepreneur"（打工與創業、科學家與創業家） was the first in the series launched in September 2019. Mr. Lau Siu Ying (Steve), a notable CUHK alumnus and the founder and Chairman of China Fortune Holdings Limited and founder of Eagles Fund, was invited to share his entrepreneurial story and insights as an angel investor.

Steve also invited some young entrepreneurs under his investment profile for an interactive forum session

"Hong Kong Fintech Week 2019 – Shenzhen Day": Tencent Visit

CUHK students were invited to join "Hong Kong Fintech Week 2019 – Shenzhen Day" – Tencent Visit, organized by Tencent Hong Kong via EPIN. The event aims to provide an opportunity for the students to get to know Tencent and its development in financial services. In addition to the Keynote Speech and Individual Group Sharing by Tencent FiT, students were also given the opportunity to join a panel discussion on "Ethics in Data-Driven Economy". Representatives from the government, regulator, industry and academia were invited to share their experiences and insights.

Tencent visit 2019

Internship Programme

In collaboration with Cyberport, Hong Kong Science and Technology Park (HKSTP) and CUHK Alumni Entrepreneurs Association (CUAEA), EPIN introduced the EPIN Internship Programme in 2018-19 to offer internships for EPIN students to work in startups or venturing firms with innovative elements. Students who have completed qualified internship are eligible to enroll into an EPIN internship course and obtain course credits which count towards the fulfilment of the EPIN Minor Programme. Other collaboration partners include Alibaba Internship Programme, Global Entrepreneur of AIESEC and the Global Internship Programme (GIP) of the Office of Student Affairs.

EPIN introduced its newly-launched Internship Programme, offering hands-on experience in an entrepreneurial and innovative working environment to EPIN students

Maker Workshop Series

A Maker Workshop Series was introduced in 2018-19 to equip students with essential skills for their future prototype production. The Series attracted around 100 participants in total. Feedback was overwhelmingly positive. Many respondents commented that the series was fun and practical, and said that they would join other workshops of the series in the future.

While students often lacked the necessary techniques and skills on digital output and 3D design, a Marker Workshop Series was introduced to cater their needs.

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Below is the list of Maker Workshop Series:

Date	Workshop	Skills focused	Collaborate party
23 Oct 2018	Make Your Own Name Tag	3D design software and 3D printers	Learning Garden, University Library
1 Nov 2018	Make Your Own "Moai"	3D scanners	
8 Nov 2018	Make Your Own Video	Basic shooting skills with a smartphone	
26 Jan 2019	Make Your Own VR Tour	Shooting 360 images and creating a VR tour with a VR production tool	Easy VR Technology Limited
26 Oct 2019	Make Your Own VR Tour (re-run)	Shooting 360 images and creating a VR tour with a VR production tool	Easy VR Technology Limited

3.2. Pre-Incubation Centre (Pi Centre)

We have used part of our UGC knowledge transfer fund to support the running of a Pi Centre which organizes workshops, seminars, networking sessions, bootcamp and hackathon to foster entrepreneurship among students from different disciplines and also mentors and incubates undergraduate and post-graduate initiated startup projects since 2014.

In this year, the Pi Centre admitted two batches of 14 teams out of 60 teams' applications selected by the vetting panel formed with both internal and external professional assessors. The Pi Centre has organized more than 34 activities, including entrepreneur corner, talks, workshops, and bootcamp in the past year. They were organized alone or together with other internal and external units, such as Center for Entrepreneurship, Cyberport, HKSTP, South

China Morning Post (SCMP) and Hong Kong and Shanghai Banking Corporation Ltd. (HSBC). We have gained a reputation in the community and gradually inspired the formation of a start-up community within CUHK.

Pi Centre regularly invites experts from various fields to speak on their expertise, and to equip our budding entrepreneurs with business skill sets

3.2.1. Pi-Teams

In addition to the Technology Support Scheme for Universities (TSSSU) offered by the Innovation and Technology Commission (ITC) for staff and students, we also support student-initiated startup projects, which we call Pre-Incubation teams (Pi teams). These two programmes have attracted steady interest since their introduction in 2014, with a total of 181 TSSSU and 292 Pi applications. This year, we were able to fund 20 TSSSU companies and 14 Pi-teams. To date, 16 companies (including Pi & TSSSU) have been awarded term sheets, with a total amount close to HK$620 million.

CUHK student team at Hong Kong Techathon 2020, an event converging the entrepreneurial spirit and bright ideas of local university students

3.2.2. Highlights of Achievements

Member of CUHK Entrepreneurs Alliance

The Pi Centre is one of the founding members of CUHK Entrepreneurs Alliance (CUEA), formed to organize University-wide flagship events such as "CUHK Entrepreneur Day" to showcase CUHK distinctive entrepreneurship and innovation.

CUHK Entrepreneur Day (Postponed due to the outbreak of coronavirus)

To help Pi Centre Startup teams obtain more exposure, we always encourage the teams to participate in CUHK Entrepreneur Day actively. This year, we will have 10 Pi teams in the exhibition area.

HKSTP Science and Technology Entrepreneur Programme (STEP) / Cyberport Creative Micro Fund (CCMF)

To help Pi teams obtain more support, we highly recommend the teams to apply HKSTP STEP/ Cyberport CCMF for accessing up to HK$100,000 (per team) seed funding and receive guidance from HKSTP and Cyberport. This year, 3 teams entered STEP and 3 teams entered CCMF.

Potential Business Development Opportunities for Pi / TSSSU Teams in Asia market

We explore collaborations with the incubators in other locations including Taiwan for Pi and TSSSU teams that are interested in expanding their business in the Asia market. We are presently negotiating with Taiwan Startup Stadium to explore support and potential collaborations.

3.3. Student Competitions

3.3.1. 6th University Student Innovation and Entrepreneurship Competition

Taking advantage of the opportunity to represent Hong Kong in prestigious national innovation and entrepreneurship challenges, a total of 21 student teams from CUHK competed in this regional competition, with 11 of them taking home awards. In particular, CAI Meng, a PhD student of the School of Architecture, won the First-class Award in the Innovation category. He developed a hybrid method to model urban carbon emissions using open data, and generated emission maps for the building and transport sectors. Validation results have testified its robustness and broad applicability for cities worldwide to manage and mitigate carbon emissions, as part of the global effort to tackle the climate crisis.

In the Entrepreneurship category, two teams claimed the First-class Award. "Dr Body", developed by Business School student MA Chun Hung Rex and his team, is an application that provides posture health analysis through image processing and 3D model construction in comparison with clinical data. Users are alerted to their potential posture problems and directed to personalised follow-ups. The other winning team – Prof REN Wei and XU Ke from the Department of Mechanical and Automation Engineering – developed a sensing and control system for simultaneous

Mr XU Ke (right) and Professor REN Wai have designed and developed a real-time, calibration-free and ultra-sensitive gas sensing and control system.

measurement of gases. Real-time, calibration-free and ultra-sensitive, the system is deployed in power plants to monitor their capacity and efficiency in removing air pollutants. The duo established start-up LaSense Technology through TSSSU in November 2019, and have already secured collaborations with two companies in the Greater Bay Area.

4. Development in Technology and Social Innovation

4.1. Technology Innovation

4.1.1. E-News

CUHK aspires to position itself as the most innovative local university, while striving to be at the forefront of innovation to tackle global challenges. To encourage CUHK researchers to do more impactful research to address multi-disciplinary research challenges, we plan to launch an E-Newsletter (E-news) as a platform for sharing the latest news and information on research and industry to offer fresh perspectives on a broad range of global issues. Through this knowledge exchange channel, we aim to strengthen research collaborations and knowledge transfer across disciplines, and bring together areas of research excellence across a wide range of disciplines of CUHK to drive the creation of new technologies and knowledge and to address issues which benefit society.

4.1.2. Technology Start-up Support Scheme for Universities (TSSSU)

With a total of HK$8 million funding support from the Innovation and Technology Commission, 20 CUHK technology startups were awarded this year. The startups were in different areas, including biotechnology, AI and robotics, telecommunications, manufacturing, information and communication technology, and material science.

For instance, Prof AU Kwok Wai Samuel's (Department of Mechanical and Automation Engineering) Cornerstone Robotics Limited focuses on robotics technology for use in rehabilitation and surgery. Their company has four main technology development directions: imaging and sensing technology, multi-modality-based control, surgical instrument navigation and localization, surgical intelligence and perception. These developments aim to bring robotic surgical solutions within the price range of most patients, thus increasing accessibility to high-end medical services in the Greater China region.

4.2. Social Innovation

4.2.1. SoCUBE

CUHK has built a solid reputation and track record in social innovation. CUHK was the first institution in Hong Kong to receive recurrent funding from the SIE Fund to support applied research projects with a social mission. Nevertheless, there have been insufficient channels for CUHK and non-CUHK members alike to learn about these projects and their social impact. At the same time, project teams face difficulties in locating resources and connecting with partners on their own.

SoCUBE, a dedicated platform for CUHK social innovation, has been set up to serve the following purposes:

- Pooling information on all social innovation-relevant programmes in CUHK;
- Increasing exposure of CUHK's achievements to internal and external audiences; and
- Providing recognition for CUHK staff members dedicated to transforming their expertise into social impact.

Since its launch in October 2019, the SoCUBE website (socube.cuhk.edu.hk) has been viewed by 10,000 users and garnered 35,000 page views. In particular, the site houses rewritten profiles for our professors' recent projects in layman's terms and a problem-solution-impact structure, with specific emphasis on communicating impact. This provides a better picture of what our faculty members are working on and what they intend to achieve, which may open up for them opportunities in collaboration, funding and investment.

SoCUBE incubates social innovation ideas and endeavours from members of CUHK

With a mission of empowering CUHK scholars to innovate for social progress, ORKTS also initiated the following services through SoCUBE:

Impact assessment

Social Impact Assessment Workshop

Universities are increasingly held accountable for ensuring that their projects deliver targeted impacts effectively. Social Impact Assessment as an evidence-providing tool to measure tangible benefits has grown into an encouraged practice. However, there are currently no established standards to validate the outcomes of small scale projects, and research staff are often unsure how to adequately measure their social impact other than stating their outputs. The resultant difficulties in communicating with outsiders make collaboration with community stakeholders difficult. As a result, potential funders may also take a lot longer to evaluate a project's utility before investing.

To systematically track the social impact of its funded KPF projects, ORKTS has engaged Good Impact Assessment Institute Limited (GIA), one of its incubating social enterprises, to conduct social impact assessments. In the past two years, GIA has assisted four projects to modify their key performance indicators and methods to assess impacts and identify outcomes, evaluating their impact based on data collected and conducting focus groups and case studies where appropriate. GIA has also helped six projects with their research design.

By setting a standard of evaluating impact for social projects, teams were trained to consider in advance their intended project outcomes, and might better communicate their achieved impact with funders, collaborators and the general public.

Business consultancy and mentorship

For its S-KPF teams, ORKTS enlisted a team of social business consultants and mentors with expertise in sales and marketing, accounting and finance, social enterprise and venture building. ORKTS also engaged them to provide guidance and advice to selected KPF teams, who may prepare in advance for project sustainability (such as scaling up or even converting into social ventures). In addition, ORKTS matched them with faculty members interested in social entrepreneurship, to better plan their journey ahead.

Partnership liaison

ORKTS engaged its network of external partners, lining up resources where appropriate to its funded teams. It also works with internal units towards greater synergy that its funded project teams may benefit. These include training, mentor pools and networking opportunities.

Publicity and marketing

Each month, ORKTS issues its house publication *Cubic Zine* to all CUHK staff and students, as well as over 1,000 external subscribers. Each issue features a CUHK social innovator and their project, shares local and international cases of social innovation from academia, and provides event updates. Within the reporting period, a total of 9 issues with 23 original articles were published.

Each issue of Cubic Zine features the story and work of a CUHK social innovator. Other columns range from glocal cases of social innovation, book recommendations and event updates

4.2.2. Partnership with Social Innovation and Entrepreneurship Development (SIE) Fund

CUHK was the first university to establish a regular funding arrangement with the SIE Fund in driving social innovation from academia.

SIE Fund serves as a catalyst for social innovation in Hong Kong. By facilitating social innovation and cultivating social entrepreneurship, the fund supports innovative solutions to create social impacts, such as alleviating poverty and social exclusion, promoting social integration, and enhancing social wellbeing and cohesion.

Since 2017, the Fund has been collaborating with the KPF scheme to introduce applied research projects that meet the SIE Fund's objectives. This funding has been recurrent since 2019, and this successful partnership has brought significant benefits to the community. Seven projects were supported in this round:

Project Title	Project Leader
Enhancing Mental Health of the Deaf Community in Hong Kong	Prof SZE Yim Binh Felix (Department of Linguistics and Modern Language)
Decoding the concealed emotions of children with special educational needs	Prof WONG Wai Ho Savio (Department of Education Psychology)
Hip Protectors to Prevent Hip Fracture of Older Adults in Hospitals and Nursing Homes	Prof YANG Yi Jian (Department of Sports Science and Physical Education)
Reaching Out to the Unreached Community: Delivering Mental Health Outside the Box through Whole-of-Community Campaigns	Prof HO Yan Yee Fiona (Department of Psychology)
"Strong Shoulders For Elderly" Campaign	Prof LEONG Hoi Teng Annie (Department of Orthopaedics and Traumatology)
Sustainable communities lab for people's multifaceted well-being	Prof NG Mee Kam (Department of Geography and Resource Management)
Personalised Child Story Channel	Prof LEE Tan (Department of Electronic Engineering)

4.2.3. Knowledge Transfer Project Fund (KPF) Projects

In addition to the aforementioned 7 projects supported by SIE Fund, 10 projects were also funded under the KPF scheme this year. The scheme was started in 2009, and has attracted multidisciplinary teams with innovative solutions to solve current social issues. The projects funded under the scheme involve interdisciplinary collaboration, and their outcomes have social, cultural, environmental and economic benefits.

Shek O, a former fishing village on the southeast tip of Hong Kong Island, has an attractive colonial heritage and a distinctive local identity. Two recent typhoons damaged the village. The residents are struggling to rebuild the area, and have different ideas of which direction to take.

Prof FUNG Ying Him Anthony (School of Journalism and Communication) and his team have proposed a project entitled "Visualizing the past, connecting to the present: Revitalization and sustainability of Shek-O community after natural disaster「古今相建：災後石澳的社區可持續發展」" The team has engaged the stakeholders including Shek O residents, government officials and visitors, to co-build a sustainable and interconnected community.

Prof Anthony Fung's KPF project is to connect local residents in Shek-O and bringing the cultural heritage alive with VR technology

The multidisciplinary team aims to collect an oral history of the village from its elderly residents, and to preserve its fading charms. Through a tech-based platform with local engagement, the team will reconnects Shek O to the wider public and increase public awareness of the importance of cultural heritage preservation.

4.2.4. Sustainable Knowledge Transfer Fund (S-KPF) Social Enterprise

S-KPF was introduced in 2015 to provide seed funding for researchers in fostering social innovation among the CUHK community. By applying researchers' findings to solve community problems, social enterprises are set up to deliver enduring impacts in an innovative approach. Twelve social enterprises have been launched to serve disadvantaged individuals in the local community since the inauguration of the scheme. This year, 3 social enterprises received funding for the first time under the S-KPF scheme.

With support from the KPF since 2016, Prof SO Wing Chee Catherine (Department of Educational Psychology) established a new company, Science and Technology for Autism Remediation (STAR) Limited, in 2019. Prof SO teamed up with Dr LUK Sau Ha Sarah (Department of Education Psychology), to bridge the service gap between the insufficient resources provided by the government and the expensive treatment in the private sectors. STAR provides affordable assessment and evidence- and robot-based intervention programme to improve the behavioral and emotional well-being of autistic children.

Prof Catherine So (right) and Dr Sarah Luk founded STAR, one of the S-KPF companies

4.3. Enhancement of CUHK Entrepreneurship Supporting Schemes with Youth Development Fund

The Youth Entrepreneurship Assistance Scheme under the Youth Development Fund is a new initiative under the Home Affairs Bureau (HAB) to support youth entrepreneurship in Hong Kong and the Greater Bay Area. While a diversity of innovation and entrepreneurial programmes are on offer at CUHK, when in direct competition with professors for funding, student teams are often at a disadvantage. Via HAB's Scheme, we successfully secured a matching fund of up to HK$4.5 million to support more of our young entrepreneurs recommended by existing programmes, regardless of their business nature. They will benefit from training, regular mentorship sessions, and outreach opportunities in the Greater Bay Area to realise their ideas or take their ventures a step further.

4.4. Guangdong-Hong Kong-Macao Greater Bay Area + SZRI Innohub Activities

The national strategy of the Greater Bay Area (GBA) development provides attractive opportunities for startups to receive policy support and funding in the GBA. The existing cooperative partners in GBA for delivering support and services to Pi/TSSSU teams include the Gungho space in Foshan and the SZRI in Shenzhen. To enable our researchers to better understand GBA policies and receive more support from GBA, we hold field trips and bootcamps regularly for startups to explore potential opportunities in the Greater Bay Area. Currently, 8 Pi/ TSSSU teams have received support from the Gungho space or the SZRI for projects in the mainland market.

5. Facilitating Knowledge Transfer and Commercialisation

5.1. The Updated University Intellectual Property (IP) Policy

After the consultation period, the fine-tuned new policy on intellectual property ("New IP Policy") was endorsed and approved by the Administrative and Planning Committee, the Senate and the Council.

The New IP Policy consists of a number of new features to facilitate knowledge transfer and to promote entrepreneurial spirit. For example, in view of the advancement of technology, it provides that staff members have the right to release software and database created by them under open source licenses or for non-commercial use. The New IP Policy also allows the assignment of copyright ownership of scholarly works to authors to promote sharing and dissemination of knowledge. In order to foster a more entrepreneurial culture, the New IP Policy provides that companies incorporated by staff can license intellectual properties that they generated in good-faith negotiation. This offers greater security for innovators, and will encourage further innovation.

The New IP Policy is effective on 1 August 2020. We trust that it can provide the impetus to the University's mission of nurturing innovation, entrepreneurship and knowledge transfer.

5.2. Highlights of IP Management Outputs and Achievements

IP plays an important role in enhancing the research and teaching functions of universities and encouraging innovative start-ups. In the current report year, we continued to further expand our IP portfolio by securing patent applications worldwide. This year we filed a total of 386 patent applications in various jurisdictions, and had 257 patents granted.

On 10 July 2019 the US Court of Appeals for the Federal Circuit found in favour Prof Dennis LO's team from the Department of Chemical Pathology in the Quake vs Lo case involving a foetal testing patent. Started in late 2012, the Unitefd States Patent and Trademark Office declared 3 interferences in early 2013 between Quake's (Stanford) and Lo's patents and applications to determine who invented the random sequencing method, and when the method was invented. Following years of debate, investigation, and appeal, the Federal Circuit finally affirmed the decisions by the Patent Trial and Appeal Board (Board), finding that Quake's asserted claims were unpatentable. The court's decision marks the first IP litigation won by CUHK scientists against such a prominent competitor over a globally-influential patent asset in the US Federal Court.

5.3. Research Contracts and Agreements

We provide contract support for research collaboration projects. Around 663 various types of research contracts were concluded this year, with a total value of more than HK$300 million. These research contracts cover collaboration projects with both industrial and academic partners, and cover material transfer, collaboration research, clinical trials, and research services. We strive to keep abreast of the development of critical subjects which may impact research collaborations and aim to provide efficient and professional contract support to the University's research community.

5.4. Strengthening Academic-Industrial Collaboration / Reaching out to External Partners to Support Knowledge Transfer and Impact Development

Helping CUHK's researchers to engage in productive academic-industry collaboration is the key to fostering successful development of translational research and societal impact. Despite recent social unrest and the impact of the COVID-19 pandemic, we continued to press on, not only in Hong Kong, but also in Greater China. In these events (as seen below), we showcased our innovative technologies, participated in networking events, and took part in more than 13 one-on-one partnering meetings with high profile technology companies and investors

5.4.1. Effort to maximise the exposure of our innovations in Hong Kong

Aligning with the HKSAR Government's efforts to support the innovation and technology industry, CUHK aspires to position itself as the most innovative local university. Delegates from ORKTS attended various local industrial conferences during the report period to showcase technology, network, and explore collaboration opportunities, including the Business of Intellectual Property Asia Forum, the A.I.R. Week cum Grand Opening of AI Plug & RCC2.0, and The Connected Cities (Virtual) Conference.

One-on-one partnering meetings with investors / industrial partners by our KL Team and VA Team during the Redefining Early Stage Investments Conference in Taipei

5.4.2. Activities to strengthen our collaboration in the Greater China region

We continue to seek new opportunities in the Greater China region. Together with our Venture Acceleration Team (VAT), the Knowledge Liaison Team (KLT; previously Technology Liaison Team) attended the Redefining Early Stage Investments Conference – an important North America biotech investment conference that took place for the first time in Taipei City. We also

attended the Merck Guangdong Innovation Hub Inauguration in Guangzhou.

Apart from insights gained regarding the latest development and market / investment trend in biomedicine and related start-ups, investment interests with different investors were also noted in said events

Exhibition booth by our KL Team during the Redefining Early Stage Investments Conference in Taipei

5.4.3. Our global vision at the forefront of world-class innovation

Looking ahead, we are excited not only by our initiatives in Greater China, but also by our global vision to be at the forefront of innovation globally. In continuing our endeavour to strengthen collaboration with the industry, we have been continuously working with leading companies from the United States and Europe. This year, we have further assisted these companies to extend their research and development network with CUHK scientists. At least 10 research units of CUHK have liaised with these potential partners, of which two are actively discussing potential collaborations, and one of them has been awarded a grant to realize its research proposal.

5.5. InnoPort Team

Calligraphy on one of InnoPort's feature walls is drawn by former Vice-Chancellor Prof Joseph Sung

In mid-2020 InnoPort – our newly renovated co-creating space – commenced operations. Conveniently located next to University MTR Station, the facility not only offers ample space and amenities for co-working, seminars and mingling activities, but also promotes connections among start-up teams, researchers, students, alumni and industry partners. With funding and outreach opportunities for teams at all stages of development, InnoPort provides comprehensive support to budding CUHK innovators and entrepreneurs, strengthening our entrepreneurial culture on campus.

Following ORKTS's internal restructuring, InnoPort Team, Venture Acceleration Team, Social Innovation Team and Knowledge Liaison Team, along with EPIN Office, are stationed at InnoPort to enable effective management and development of services for CUHK's innovation and entrepreneurship endeavours. In particular, the InnoPort Team is set up not only to manage the facility, but also to coordinate and organise university-wide events, for instance,

- Online and offline chat sessions to spark discussion and create opportunities for networking;
- Prototype displays for start-ups to pitch their ideas with physical models, test customer behaviour and collect data for improvement;
- Themed exhibitions to showcase our projects and start-ups;
- Entrepreneurs-in-residence to share professional advice and network with project teams; and
- Online and offline talent marketing to line up students interested in joining start-ups, and start-ups looking for talents.

InnoPort sets to host various events on innovation and entrepreneurship, such as webinars and live chat sessions

6.   Impact on Society

6.1.   Impact of Technology Licensing on Technology

University and industry collaborations have been increasingly recognized as an effective way of promoting innovation through knowledge and technology exchange. This collaboration can take different forms, including technology licensing, research collaboration and start-up formation. This year we have again achieved a remarkable amount of licensing income. Licenses have been granted to a wide variety of technology start-ups in areas of vaccines development, wireless communication, C2M manufacturing solution, and imaging processing.

<u>Case 1</u>
With the adoption of massive MIMO technology in 5G mobile network deployment, the number of metal-cavity-type microwave filters for wireless communication equipment, which have been traditionally tuned manually, is expected to be 10 times more than in the 4G network era. A company aiming to develop a robotic system to tune microwave filters automatically has acquired a license for software developed by researchers from our Department of Electronic Engineering. The technology allows the company to provide microwave filter tuning services to mobile network operators and filter manufactures 24/7 and at least 2 times more efficiently than in the past. Enabled by the licensed technology, the company is expected to significantly enhance industry efficiency and bring in substantial revenue as soon as the 5G network is widely adopted.

<u>Case 2</u>
Influenza vaccinations are important, given the mortality of over half a million people each year. However, as the influenza virus is constantly mutating, it is increasingly important to identify the vaccine strains accurately for vaccine production. At present, influenza activities are usually studied in from two separate angles. In microbiology, mutations sites and strain family are analyzed by polygenic analysis; while in epidemiology, only case numbers and climate information are used to model influenza epidemics, without reference to molecular information. It is therefore desirable to develop a method that integrates these two areas, using population information to evaluate mutation effectiveness, and genetic evolution information to produce population level influenza forecasting. A technology developed by our researchers at the Jockey Club School of Public Health and Primary Care which meets this need has been licensed to a HK-based start-up this year. With the licensed technology, the company aims to collaborate with pharmaceutical companies with influenza vaccine production capability in order to produce more effective influenza vaccines in the future.

6.2. Impact of Social Innovation on Society

<u>DeepHealth Limited – Making healthcare more intelligent</u>

Prof TSOI Kam Fai Kelvin, Associate Professor of the Jockey Club School of Public Health and Primary Care, set up DeepHealth Limited to offer a low-cost and innovation healthcare management model to the community. The team believes that prevention is better than cure, and both relieves suffering for patients and mitigates the pressure on the healthcare system.

Deploying their research expertise in digital innovation in chronic disease management and big data applications in the healthcare industry, Prof TSOI's team have developed a mobile blood pressure management platform "HealthCap" with the support of S-KPF. The smart healthcare platform allows users to record and monitor their blood pressure for prevention of underlying chronic diseases. It gathers and analyses data, enabling medical personnel to assess the risks of cardiovascular related diseases in good time. With the wide adoption of smartphones, DeepHealth is empowering people to make positive lifestyle changes to improve their quality of life.

Prof TSOI's community efforts were supported by KPF in the past year. The team conducted community health talks to old people, social workers and health caretakers, contacting over 1,000 individuals.

HealthCap webpage

7. Forward Looking

Thanks to the UGC's funding support for our KT activities, we have attained new heights, especially in entrepreneurship development. Our successful rebranding campaign has brought the University's social innovation efforts to wider attention, establishing our pioneering role, especially in the field of social entrepreneurship. New dedicated teams have been formed to drive the development of CUHK's entrepreneurial ecosystem, technology ventures, social innovation and translational research. Coupled with continual enhancement in IP management and contract services, ORKTS has matured in its position of steering and supporting university-wide KT initiatives while making concerted efforts with relevant units.

We are excited to record that InnoPort – our focal facility for innovation and entrepreneurship on campus – commences operations this June. From comprehensive education to training, funding opportunities to professional services, competitions to showcases, this one-stop support centre is ready to aid our faculty members, students and alumni in their innovation and start-up endeavours. We look forward to welcoming CUHK members, community and industry partners alike to this vibrant co-creating space to develop ideas and collaborations.

Additional support from both private and public sources has always been significant in spurring our new initiatives. To complement the recurrent funding from the SIE Fund that enables social innovation projects from our professors, we will be setting up a new start-up support scheme for students and young faculty members with the recently secured funding from the HAB.

Despite a challenging start to this triennium, CUHK remains steadfast in its mission to transform knowledge for social progress, economic prosperity and human well-being. Forging ahead, we will be strengthening academic-industry connections with the launch of an e-newsletter and dedicated forum, while deepening knowledge exchange to motivate impact development. We are constantly committed to growing our ecosystem as it increasingly moves online, reaching out to communities farther away and making a broader impact

Professor SHAM Mai Har
Pro-Vice-Chancellor

Annex 2
Updates on Table 4.1 of Initial Statement

(1 July 2019 – 30 June 2020)

		Last year 2018-19	Current year 2019-20
UGC Performance Indicators			
1	Number of patents filed in the year (with breakdown [Annex 4] by country and type)	315	386
2	Number of patents granted in the year (with breakdown [Annex 5] by country and type)	202	257
3	Number of licences granted (with breakdown [Annex 6] by type)	91	52
4	Income (on cash basis) generated from intellectual property rights	$53,656,423	$57,028,289
5	Expenditure involved in generating income from intellectual property rights	$7,500,762	$7,516,869
6	Number of economically active spin-off companies (with breakdown [Annex 11] by type)	10	10
7	Net income generated (or net loss arising) from spin-off companies	$15,751,326 (a)(b)	Loss of $8,363,384 (a)(b)
8	Number of collaborative research projects, and income thereby generated	237 cases $135,293,113 (a)	264 cases $123,942,073 (a)
9	Number of contract research projects (other than those included in "collaborative research projects" above), and income thereby generated	69 cases $57,167,163 (a)	78 cases $75,278,899 (a)
10	Number of consultancies, and income thereby generated	384 cases $168,019,850 (a)	299 cases $141,080,199 (a)
	Subtotal Income Item (4)+(7)+(8)+(9)+(10)	**$429,887,875**	**$388,966,076**
11	Number of equipment and facilities service agreements, and income thereby generated	Nil	Nil
12	Income received from Continuing Professional Development (CPD) courses	$54,146,760 (c)	$1,233,278,356 (a)(c)
	Total Income Item (4)+(7)+(8)+(9)+(10)+(11)+(12)	**$484,034,635**	**$1,622,244,432**

13	Number of student contact hours in short courses or e-learning programmes specially tailored to meet business or CPD needs	1,027,125 hours (1,968 courses with 85,975 students)	5,966,385 hours (2,282 courses with 52,624 students)
14	Number of public lectures / symposiums and speeches to a community audience	1,150	698
15	Number of performances and exhibitions of creative works by staff or students	74	50
16	Number of staff engaged as members of external advisory bodies including professional, industry, government, statutory or non-statutory bodies	1,753	643 (d)

Footnotes

(a) Subject to year-end adjustments.

(b) Only wholly-owned subsidiaries or controlling companies are included.

(c) Starting from 2019/20, the number of CPD courses includes self-funded taught postgraduate programmes, certificate and diploma programmes and programmes offered by School of Continuing and Professional Studies, The Chinese University of Hong Kong, with reference to the definition of Continuing Professional Development (CPD) courses laid down by UGC under the Common Data Collection Format (CDCF).

(d) Inactive staff are not included.

Annex 3
Updates on Table 4.2 of Initial Statement

(1 July 2019 – 30 June 2020)

		Last year	Current year
Other Performance Indicators		**2018-19**	**2019-20**
1	Knowledge Transfer Project Fund (KPF): Projects supported by the UGC KT Fund	2018-19: 9 Total: 173 Beneficiaries: 61,885 for 2018-19	2019-20: 10 Total: 183 Beneficiaries: 565,610 for 2019-20
2	Sustainable Knowledge Transfer Project Fund (S-KPF)	3	3
3	Technology and Business Development Fund (TBF)	6	7
4	Number of other KT projects and activities not funded by the UGC KT Fund	539 Beneficiaries: 212,831	332 Beneficiaries: 77,633
5	Number of websites on KT activities at Faculties / Departments / Centres	5	9
6	Number of publicity or media features related to KT, including print, online and electronic media	2,546	2,362

Project completed (details in Annex 8.1)

1	KPF18CHF10	Intercultural Education in the Neighbourhood: Sustainable community innovation and women's empowerment from the ground up
2	KPF18HLF12	3D-printed Soft Robotic Hand for stroke rehabilitation and elderly healthcare
3	KPF18HLF20	Young Onset Diabetes Care Community Campaign
4	KPF18HLF26	Speech Therapy Services for Children with Motor Speech Disorders
5	KPF18HLF28	Enhance Frontline Social Workers and Caregivers' Knowledge in Dementia Screening
6	KPF18SCF30	Train the trainers: Minority girls and gender justice
7	KPF19HLF14	Prevention of Imminent Fragility Fractures: A Call to Action in Hong Kong

Project in progress

1	KPF18CHF04	Realizing children's potential in language development: input and intervention
2	KPF18HLF17	Online parenting programme for families of children born preterm
3	KPF18HLF22	An evidence-based knowledge transfer program promoting HPV vaccination among men who have sex with men in Hong Kong
4	KPF18HLF27	An Oral Exercise Training Software for Elders in Hong Kong
5	KPF18HLF34	Improving Access to Psychological Interventions: Developing and Disseminating an E- Mental Health Portal in Hong Kong
6	KPF18SCF01	Promote Psychological and Behavioural Well-beings of Preschool Children with Autism Spectrum Disorders by Implementing a TCM Paediatric Massage Program
7	KPF19CHF05	Telling stories: A digital humanities approach to documenting linguistic diversity in Hong Kong
8	KPF19CHF20	Using Virtual Reality (VR) Technology to Enhance Students' Understanding of Colonial Architecture in Hong Kong
9	KPF19HLF09	Early Identification of Hearing Loss in Aging Community through Hearing Screening App
10	KPF19HLF15	Happy muscle happy knees
11	KPF19HLF16	Implementing a chargeable full cost-recovery HIV self-testing service model for men who have sex with men in Hong Kong
12	KPF19HLF23	Drawing Patterns Tracking with E-Pen
13	KPF19HLF26	AI Based Colour Blindness Correction App
14	KPF19HLF27	A Concept Musical Drama on End-of-life Care and Death Attitudes in Hong Kong
15	KPF19HLF32	Virtual Reality Simulation of Real-World Activities to Identify Glaucoma Patients with Visual Disability for Visual Rehabilitation and Patient Education
16	KPF19HLF33	Smartphone-based Culturally Adapted Lifestyle Medicine for Improving Mental Health
17	KPF19OTF21	STEM education in Physics for Secondary Schools

18	KPF19SCF07	Born to See: Living the Life of a Deaf Person
19	KPF19SCF12	Promotion of a strength-based approach in understanding and helping children with Attention Deficit Hyperactivity Disorders (ADHD)
20	KPF19SCF17	Evaluating the effectiveness of a psychoeducation programme for asylum seekers and refugees in Hong Kong
21	KPF19SEF25	"Our Everyday. Our Borders." A study of universal accessibility in our built environment in Hong Kong - "Nutcrackers" Elderly Well-being and Built Environment
22	KPF20CHP21	Living Heritage: Transforming Hong Kong's Abandoned Villages into Cultural Destinations
23	KPF20GWP01	CURe Pain: Relieve pain, Restore function, Renew hope
24	KPF20GWP02	"Strong Shoulders for Elderly" Campaign
25	KPF20GWP05	Reaching Out to the Unreached Community: Delivering Mental Health Outside the Box through Whole-of-Community Campaigns
26	KPF20GWP08	Combating Sarcopenia in Fragility Fracture Patients in Hong Kong
27	KPF20GWP10	Youth AI Health Ambassador Training and Outreach Program for Brain Health
28	KPF20GWP16	Hip Protectors to Prevent Hip Fracture of Older Adults in Hospitals and Nursing Homes
29	KPF20GWP18	WHO-2025 Target to Reduce Children and Youth Physical Inactivity: Impact of Training Workshops and Evidence-based Electronic Portal for Educators (TWEEET)
30	KPF20GWP22	Enhancing Mental Health of the Deaf Community in Hong Kong
31	KPF20GWP23	Self-management Blood Pressure for Happier Digital Life
32	KPF20GWP27	Health is wealth, Stay active, Eat healthy
33	KPF20QEP09	Sleep to remember: Promoting early language development by making best use of sleep
34	KPF20QEP12	Decoding the concealed emotions of children with special educational needs
35	KPF20QEP15	Virtual Trainer for Improving Health & Fitness of Middle-aged Adults
36	KPF20QEP26	Personalised Child Story Channel
37	KPF20SCP07	Visualizing the past, connecting to the present: Revitalization and sustainability of Shek-O community after natural disaster
38	KPF20SCP11	Sustainable Communities Lab for people's multifaceted well-being

Annex 8.1
Completed Knowledge Transfer Project Fund (KPF)

KPF18CHF10
Intercultural Education in the Neighbourhood: Sustainable Community Innovation and Women's Empowerment from the Ground up

Prof TAM Siu Mi, Maria
Department of Anthropology

Intervention

Building upon the Multiculturalism in Action (MIA) programme launched in 2013, the project team invites past MIA participants to act as cultural trainers to mentor and train ethnic women to design and deliver their own intercultural programmes for the wider community under the four themes: handicraft, food culture, sport, and film and art.

Outcome

Participants have learnt the benefits and importance of inter-culturalism. They gained hands-on experiences and cross-cultural knowledge in the Intercultural Ambassador Program which allows them to work closely with ethnic communities.

Beneficiaries

- Cultural trainers – 25
- Participants from ethnic communities – 42
- Chinese participants – 10
- Neighbourhood programmess – 3,685
- Project publication users – 20,959

Publicity

- The News Lens
- Metro Radio Programme
- RTHK
- HK01
- Ming Pao

Partners

- Sikh Temple
- Oil Street Art Space
- Baptist Oi Kwan Social Services
- Kabaddi United Hong Kong
- UNESCO Hong Kong
- Musubi Hong Kong
- Department of Asian and International Studies, City University of Hong Kong
- BGCA Jockey Club South Kwai Chung Children and Youth Integrated Services Centre

KPF18HLF12
3D-printed Soft Robotic Hand for Stroke Rehabilitation and Elderly Healthcare

Prof TONG Kai Yu, Raymond
Department of Biomedical Engineering

Intervention

The team invented the innovative 3D-printed soft robotic hand for rehabilitation and improve hand functions for stroke patients. Along with a structured training programme, the team offered a readily available products at an affordable cost for patients from local medical centres and low-income families who are under rehabilitation.

Outcome

Patients showed improvements in hand function across various tests. The soft robotic hand is a more affordable and user- friendly option for stroke patients to recover.

Beneficiaries

- Stroke patients - 23

Partners

- Hong Kong Stroke Association

Publicity

- NOW TV
- RTHK
- Jumpstarter 2017 Finalist Pitch

KPF18HLF20
Young Onset Diabetes Care Community Campaign

Prof CHAN Chung Ngor, Juliana
Department of Medicine and Therapeutics; Hong Kong Institute of Diabetes and Obesity

Intervention

The team organized health talks, tailor-made mindfulness exercise in a day camp and outreach program with group therapies to promote young onset diabetes awareness. The program helped participants better understand topics from diabetes, including food nutrition, family relationship, positive thinking, and self-acceptance.

Outcome

Over 6,500 target audiences, project partners and members have benefited from this project. 2,100 new audiences completed the online RUBY self-test. 12 public talks and 4 community outreach were organized. Some participants, who suffered from both diabetes and depression, through mindfulness exercise and wellness practice, can reduce their stress and anxiety level.

Beneficiaries

- CUHK undergraduate students – 69
- Youth with high risk of onset diabetes for workshops and groups – 45
- General public through education talks – 3,000
- RUBY self-test through website and app – 2,191
- Industry partners– 250
- CUHK alumni through CU Homecoming – 800

Publicity

- 2018 Diabetes Prevention Day
- 2018 Lay Programme Public Talks
- 2018 CUHK Alumni Day

Partners

- Ascensia Diabetes Care Hong Kong
- Asia Diabetes Foundation
- Abbott Hong Kong and Singapore
- Amgen Hong Kong
- AstraZeneca Hong Kong
- Bayer Hong Kong
- Novartis Hong Kong
- Pfizer Upjohn Hong Kong
- MSD Hong Kong
- Merck Hong Kong
- Caritas Hong Kong
- Hong Kong Lion Clubs International District 303
- CU Champion

KPF18HLF26
Speech Therapy Services for Children with Motor Speech Disorders

Prof TONG Chi Fai, Michael
Department of Otorhinolaryngology, Head and Neck Surgery

Intervention

To provide speech therapy service to children with speech disorder and train speech therapists in implementing the evidence -based treatment programme.

Outcome

Parents and speech therapists reported that after the programme, children showed improvement in speech intelligibility. Parents were satisfied with the services. Speech therapists engaged have gained new skills and knowledge in professional seminars.

Beneficiaries

- Local speech therapists – 376
- Children with severe speech sound disorders (SSDs) and their families – 20
- Service providers of speech therapists – 22

Partners

- Macao Association of Speech Therapists
- Education and Youth Affairs Bureau of Macao SAR

Publicity

- Project information and update are posted on the Facebook page of Division of Speech Therapy
- The team is one of the exhibitors in the CUHK Entrepreneur Day 2019 for its social innovation effort.

KPF18HLF28
Enhance Frontline Social Workers and Caregivers' Knowledge in Dementia Screening

Prof TSOI Kam Fai, Kelvin
The Jockey Club School of Public Health and Primary Care

Intervention

To provide a digital platform to efficiently screen dementia with machine learning and algorithm and to promote awareness and knowledge of dementia by organising public educational talks.

Outcome

With educational talks held in elderly centres, public library and museum, the team successfully created impact in communities by strengthening knowledge and raise awareness of dementia screening with the use of digital platform built by the team.

Beneficiaries

- Social workers
- Healthcare providers
- Elderlies and their caregivers
- A total of 451 people

Partners

- Tung Wah Group of Hospitals
- Wilson T.S. Wang District Elderly Community Centre

Publicity

- AM730
- Sky Post
- Event posters sent to elderly centres across HK

KPF18SCF30
Train the Trainers: Minority Girls and Gender Justice

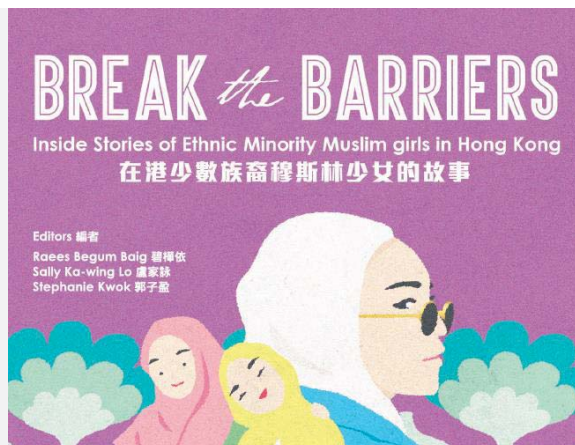Prof Raees Begum BAIG
Department of Social Work

Intervention

The project team first created a safe space for minority young Muslim women to explore gender concepts. Together in a training programme, these women were brought into direct dialogues with religious leaders to clear myths and to break down communication barriers.

With community outreach sessions, Muslim girls met with local women's groups to empower both sides to be more engaged in women's rights advocacy.

Outcome

Muslim girls have a better understanding about gender equality issues and gain knowledge on the work of local women's groups which empower them to shape their identity and know their role in the community. One participant said "This programme created a platform which enabled me to get exposed to different point of views. Before I had never met girls, who talked about gender issues openly, and they were okay to share about it."

Beneficiaries

- Minority Muslim girls – 9
- Minority parents – 3
- Local women's groups – 3
- Social service organization workers – 9
- Religious leaders – 2
- Outreach programme attendees – 110

Publicity

- Facebook Page

Partners

- The Association for the Advancement of Feminism
- Equal Opportunities Commission
- Happeriod (Trainer on gender concepts)
- The Association Concerning Sexual Violence against Women
- 480.0 Gender & Art Space
- Maslaha (Trainer on gender concepts)
- Amnesty International Hong Kong

KPF19HLF14
Prevention of Imminent Fragility Fractures: A Call to Action in Hong Kong

Prof WONG Man Yeung, Ronald
Department of Orthopaedics and Traumatology

Intervention

The team offers public education and new service model on osteoporosis and osteoporotic fractures to reduce the risk of fragility fracture. A dedicated fracture clinic was established for optimal management of fragility factures. This model decreases mortality and thus reduce healthcare costs.

Outcome

Recruited fracture patients, underwent osteoporotic screening using DXA scan. Anti- osteoporotic drug, drug compliance, medical condition and progress were monitored by coordinator. Public educational talks were ven to community elderlies across several community centres.

Beneficiaries

- Vertebral fragility fracture patients – 120
- Patients' caregivers – 120
- Community elderlies – 160

Publicity

- Project website with news and event updates

Partner

- The Evangelical Lutheran Church of Hong Kong

Annex 9
Sustainable Knowledge Transfer Fund (S-KPF)

Social Enterprise List

S-KPF graduates

1	SKPF19SSC05	Good Impact Assessment Institute Limited
2	SKPF19SCI06	Mushroom-X Limited

S-KPF newly funded social enterprises

1	SKPF20QEF01	Science and Technology for Autism Remediation (STAR) Limited
2	SKPF20CHF03	Wellness Traveller Psychological Services Company Limited
3	SKPF20GWF04	One Month One Art Limited

Social enterprises newly funded (2019-20)

Science and Technology for Autism Remediation (STAR) Limited
Prof SO Wing Chee Catherine (Department of Educational Psychology)

There is an increasing prevalence of autism spectrum disorder (ASD) around the world. The main affected areas of ASD including language and communication defects; social skills and social interaction barriers; poor cognitive and adaptive development; and limited, repetitive and paranoid behaviors and interests. The treatment for ASD is expensive by private sector and there are insufficient resources provided by the government. STAR, established in Oct 2019, is based on Prof Catherine SO's research expertise in designing and implementing robot-based intervention for individuals with ASD. She is also experienced in administering assessments that evaluate individual's cognitive and behavioral well-being and autism severity. The company offers affordable assessment and evidence- and robot-based intervention programmes, namely Robot for Autism Behavioral Intervention (RABI), to 3- to 18-year-old individuals with ASD. The RABI curriculum including self-care, conversation, vocational skills and making requests etc. STAR aims to create impact on enhancing social and behavioral skills in local ASD and policy change on local education support children with ASD.

Wellness Traveller Psychological Services Company Limited
Prof HO Yan Yee Fiona (Department of Psychology)

Under the surging demand for mental health services, there remains a shortage of mental health professionals in Hong Kong to fulfil the pressing need. Prolonged waiting and unnecessary treatment delay in public healthcare, costly private psychological services, unavailability of non-working hours/ night services in Hospital Authority, and stigmas related to psychiatric services or mental health are also the barriers for mental health services in the Hong Kong community. Prof Fiona HO translates research findings into reliable mental health services and found Wellness Traveller. The company provides low-intensity and cost-effective psychological treatments in the community, and improves access to psychological therapies for those in need. Wellness Traveller will also provide flexible services in the future so that more people can access our services anytime. In addition, the team is also committed to covering more diversified and lifestyle-oriented services to let the public understand that mental health is actually an indispensable part of life.

One Month One Art Limited
Prof AU Wing Tung Winton (Department of Psychology)

Research has long associated the relationship between a higher engagement with art and culture and the level of well-being. When it comes to art and culture in Hong Kong, although the government has invested much resources in infrastructure such as the West Kowloon Cultural District, Prof Winton AU points out that the key challenge is the lack of audience. By promoting art and cultural appreciation as a lifestyle, Prof AU aims to raise art participation by putting effort in audience education and development. With a research background in understanding how audience perceive and appreciate art and culture, Prof AU has co-founded One Month One Art Limited. Its mission is to drive positive change in art and culture community. The team is working with different theaters, music, dance and cultural heritage groups and organizations to understand their audience, organize art appreciation tours and collaborate in enhancing the overall experience of participants in cultural events and activities. In the process, the team believes that they will find ways to create a renaissance to the city where some coined as "Cultural Desert" thus to enhance the overall well-being of the city.

Information Session for TSSSU 2020-21

Date	27 September 2019
Speakers	Mr Perkins HO Mr Jonathan CHEE Miss Kayan MA
Number of participants	42

Feedback from participants

❖ Pitching tips are very useful

Knowledge Transfer Seminar Series: Challenges and Strategies for Patent Protection in the areas of Medicine, Artificial Intelligence, and More

Date	11 October 2019
Speaker	Ms Jennifer CHE
Number of participants	34

Feedback from participants

❖ It is an informative and well organized seminar.

❖ The topics related to IP strategy and patentability are useful.

Information Session for Knowledge Transfer Project Fund (KPF) 2019-20

Date	1 November 2019
Speaker(s)	Mr Perkins HO Mr Howard LING
Number of participants	44

Feedback from participants

❖ It's beneficial to know how to transfer knowledge to the public.

❖ Howard's speech is very inspiring and impactful.

Social Impact Measurement Workshop

Date	6 November 2019
Speaker	Dr KEE Chi Hing
Number of participants	12

Feedback from participants

❖ Speaker provides a lot of examples on the topic.

❖ Understand the ways to calculate social impact in different levels.

Information Session for Sustainable Knowledge Transfer Project Fund (S-KPF) 2019-20

Date	2 December 2019
Speaker	Mr Franco WONG Dr TSE Ka Kui
Number of participants	12

Feedback from participants

❖ Sharing about stories with actual success are useful.

❖ Story sharing from KK is interesting.

Annex 13
Activities Conducted or Participated by ORKTS 2019-20

Promoting KT within and beyond campus (Part of events only)

1. Judge for Esperanza: Reimagine Education Challenge, Jul 2019
2. Orientation for New Teachers 2019, by the Centre for Learning Enhancement And Research (CLEAR), Aug 2019
3. 2019 年內地與香港特區、澳門特區知識產權研討會, Sep 2019
4. LSCM Logistics Summit 2019, by Logistics and Supply Chain MultiTech R&D Centre (LSCM), Sep 2019
5. Cyperport University Partnership Programme Demo Day, by Cyperport, Oct 2019
6. 中國創新創業教育聯盟年會 2019@哈爾濱, Oct 2019
7. Redefining Early Stage Investments Conference, Taiwan, 14 Nov 2019
8. Merck Guangdong Innovation Hub Inauguration, Guangzhou, 15 Nov 2019
9. VC Judge for A-Stream Korean Demo Day, Nov 2019
10. 2019 深港科技界交流年會暨首屆深港澳科技聯盟年會, Nov 2019
11. Business of IP Asia, Hong Kong, 5-6 Dec 2019
12. Collaboration with British Council, Dec 2019
13. Collaboration with G for Good, Dec 2019
14. A.I.R. Week cum Grand Opening of AI Plug & RCC2.0, Hong Kong, 20 Jan 2020
15. 最具發展潛力社會企業 Top 20 成都場匯演, Mar 2020
16. The Connected Cities (Virtual) Conference, Hong Kong, 6 Jul 2020

Presentations to International Delegations (Part of events only)

1. Universidade Federal de Minas Gerais (Brazil), July 2019
2. The University of Manchester, July 2019
3. 第 12 屆內地高校對外交流人員赴港研習班, Jan 2020