



會 夜 中 义 大 字 Office of Research and Knowledge Transfer Services

ANNUAL REPORT

Recurrent Funding for Knowledge Transfer 2015 - 2016

submitted to: University Grants Committee

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1. Executive Summary

The success of the last funding year was accentuated by a new funding scheme, many new achievements, and a driven approach to knowledge transfer. Riding on the momentum of the highly successful Technology Startup Support Scheme for Universities (TSSSU), a new funding scheme known as "Sustainable Knowledge Transfer Project Fund" (S-KPF) was created internally to enable experienced faculty members to turn their proven social projects into sustainable social enterprises for the benefit of Hong Kong society. Meanwhile, the Technology Liaison Team established in 2014 with the mission to drive and accelerate technology transfer has started to produce the expected results; the team has successfully represented faculty members to secure contracts and sponsorship. Slowly but surely, the responsibilities of the Office of Research and Knowledge Transfer Services (ORKTS) have further extended from administration to advocacy and consultancy.

CUHK's strong integration with the society and industry is reflected by 424 contracts managed by ORKTS last year, amounting to more than \$160M of committed research and consulting projects. IP income was at a respectable level of \$38.7M. Income generated from collaborative research rose to \$84.7M, representing an increase of 30% over that of the previous year. Both patents filed and granted also increased by 30% and 40% respectively.

Income from IP	HK\$38.7M	Income from contract research	HK\$24.9M
		research	
Number of patents	Filed: 165	Income from consultancies	HK\$139.8M
Net income from spin-off companies	HK\$2.3M	Total income from CPD courses	HK\$44.3M
Income from collaborative research	HK\$84.7M	Total number of beneficiaries of KPF projects	109,007 Individuals

2015-2016 At A Glance

Three years after their inceptions, both the Pre-incubation Center (Pi Center) program and the TSSSU funding scheme have started to bear fruit. Some Pi Center teams have moved on to external incubators to continue their entrepreneurial journeys. Many TSSSU companies have launched their products; some companies received sizable venture capital investment. ORKTS has also created a new Entrepreneurship and Social Innovation team to take the Pi Center and TSSSU programs to the next level.

With the support of UGC KT Fund, many KT funding schemes at CUHK continue to thrive. ORKTS contracted Hong Kong Productivity Council last year to evaluate the performance of the Knowledge Transfer Project Fund (KPF), which is the oldest and largest funding scheme. The evaluation not only has kept the funding scheme on track but also has provided valuable insights that can be applied to other funding schemes as well.

2. A New CUHK Startup Scheme for Social Impact

Since 2009 the Knowledge Transfer Project Fund (KPF) has supported more than 150 faculty members and researchers to create 147 community projects that can immediately benefit Hong Kong society. To ensure some of these projects can continue to provide social impact, the Office of Research and Knowledge Transfer Services (ORKTS) launched a new funding scheme early this year known as "Sustainable Knowledge Transfer Project Fund" (S-KPF). S-KPF provides a seed fund for proven KPF practitioners to turn their KPF projects into sustainable social enterprises.

Adopting a stringent vetting process similar to that of the TSSSU funding scheme (see Section 3.2 about TSSSU), a vetting committee selected two S-KPF applications to receive S-KPF fund. One recipient is Prof Agnes CHAN of the Department of Psychology. Prof Chan's S-KPF company, registered as Pro-talent Association Ltd, provides music training to autistic children and adolescents. Back in 1998, Prof Chan's research team published an article in *Nature* showing that adults who received music training before the age of 12 have a better memory for spoken words than those who did not. As Prof Chan is a clinical neuropsychologist, the music training programs offered by this company are developed based on her twenty years of research and clinical work with autism. As individuals with autism are sometimes perceived as a less productive segment of the society, Prof Chan's company will help reduce the social stigma of autism.

Another S-KPF recipient is Prof Gladys TANG. Her company, recently registered as SLCO Community Resources Limited, is a spin-out from the Sign Bilingualism and Co-enrolment (SLCO) in Deaf Education Programme developed by the Centre for Sign Linguistics and Deaf Studies (CSLDS) established at CUHK. For many years, Prof Tang has observed that the Hong Kong government does not offer sign-support training service to deaf children, despite persistent requests from parents. Even with non-sign related services organized by the government, the queue for receiving service takes about three years. This new company will be offering a wide range of sign bilingual education services for deaf children and school-based professional support services. The services will also be extended to children with other special education need and even to normal children—as research has shown that sign language has the potential to facilitate children's overall development.



ORKTS has assigned two experienced social enterprise consultants to mentor both S-KPF companies. Both companies have already submitted applications for external matching fund.

Prof Agnes CHAN (middle) and S-KPF consultant Mr Antony Pang (right)



Prof Gladys TANG (lower left) and S-KPF consultant Ms Elsie Tsui (lower right)

3. Fostering Entrepreneurship

3.1. Pi Centre. Pre-incubation Centre (Pi Centre) is a physical workspace equipped with facilities for CUHK students to experiment their entrepreneurial ideas within a 12-month period. Since its inception in early 2014, Pi Center has admitted 36 teams of students. Two batches of Pi teams have already been graduated, and the graduation rate has been 100%. Most graduating teams have already completed presentation materials for investors. They moved on to external incubators such as Hong Kong Science and Technology Parks, and Cyberport. Some graduated teams received TSSSU funding (the TSSSU program is reported below); a few teams already received external funding from investors.



The R-Guardian team showed off some of their prizes

A graduated team known as R-Guardian has received considerable media coverage recently after winning both the Grand prize and a First prize of the China National Challenge Cup (Hong Kong semi-final). This developed a Bluetooth device team wirelessly paired with a smartphone application that will alert the user if the Bluetooth device is out of range from the smartphone. The device is so compact that it can be integrated into valuable belongings such as wallets, handbags and suitcases. The team already received a

total of \$400,000 contracts from two companies to implement the device in handbags and umbrellas. Two investors from China and Dubai are in the process of finalizing their investment commitments with R-Guardian. R-Guardian is also a winner of several local and regional entrepreneurship competitions.

3.2. TSSSU. This year marks the third funding year of the Technology Startup Support Scheme for Universities (TSSSU) initiated by Innovation and Technology Commission (ITC) since 2014. The vetting panel renewed and selected 17 startups to receive TSSSU fund, making it a total of 25 TSSSU startups enabled by CUHK thus far. Among them two startups have already secured sizable venture capital investment; most other startups have developed working prototypes ready for demonstrations to investors.

3.3. Extending Outside Practice (OP) Policy to Non-Professoriate Research Staff. As CUHK have enabled many startups with TSSSU and S-KPF funds, more than 60% of these startups are founded by professors. Although the university has a well-defined outside practice (OP) policy in place that limits the time commitment for professors to work on startups during normal office hours, the policy does not allow non-professoriate staff (e.g., research assistants, research associates, scientific officers) to support a startup at all during normal office hours. As products created by professor-led startups are often based on the R&D results of the professor's research team, not allowing non-professoriate staff to support the startups makes it challenging for the startups to succeed. To solve this dilemma, ORKTS has worked with the Personnel Office to devise additional rules to allow non-professoriate staff to support startups founded by their professors in a proportional and financially accountable manner. The new rules not only will make CUHK-enabled startups more successful, but also will relieve the time pressure of the founding professors whose primary duties should be teaching and research.

4. Facilitating Technology Transfer

4.1. Reaching Out to Investors and Development Partners. With a new Technology Liaison Team (TLT) established in ORKTS since 2014, there have been dedicated efforts to reach out to the industry for technology commercialization. The team has been involved in assisting CUHK inventors to prepare presentation materials and to reach out to investors and development partners. The team arranged one-on-one matching sessions between CUHK inventors and investors at the Asian Financial Forum. The team also represented inventors in business meetings at the International BIO convention in San Francisco, and worked with a Medical Center in California to conduct due diligence on some CUHK inventions on biomarkers for cancer detection and therapy. A member of the TLT team also traveled to Copenhagen and Oslo to represent a CUHK faculty member to secure collaboration contracts and sponsorship from University of Copenhagen and a biotech company. The team also created a portfolio of reading materials that showcase CUHK invention and innovation. The materials can be easily assembled and customized to meet the need of partners and visitors at different areas and at different stages of business development.



CUHK delegates at the BIO convention 2016 in San Francisco



Marketing literature on innovation and invention of CUHK

4.2. Building Relationships with Organizations Locally and Abroad. ORKTS has also explored business opportunities with overseas organizations that showed interest in CUHK technologies. ORKTS received a visit from Netherlands Network of Innovation, Technology and Science, and another visit from Fondation Nationale Entreprise et Performance (France). These delegations represent some prominent companies of their home countries to look for new technologies for investment and product development as well as to study the innovation culture of institutions such as CUHK. ORKTS also received a delegation from a large pharmaceutical company from the Guangdong province of China.

In addition, ORKTS arranged a meeting between Mr. SHEN Changyu, Commissioner of the State Intellectual Property Office of China, and the senior management of CUHK. Mr. SHEN was very interested in the technology transfer process in Hong Kong and how universities can play a role in scientific and



A visit by a delegation led by Mr. SHEN Changyu, Commissioner of the State Intellectual Property Office of China in December 2015

economic development in Hong Kong and China. Another visit was arranged for Ms. Annie CHOI, the new Commissioner of the Innovation and Technology Commission (ITC). Ms Choi visited several laboratories at CUHK and met with faculty members to review major research projects that have been turned into commercial products.

4.3. IP Licensing and Competition. The technology licensing income of CUHK has increased significantly during the last triennium, starting at \$18.6M in 2013 and ending at \$38.7M in 2016. A novation agreement between a former licensee and a new licensee also resulted in extra incentive bonuses to



Prof. Fanny M. CHEUNG, Pro-Vice-Chancellor (left), hosted a visit by Ms Annie Choi, Commissioner of Innovation and Technology Commission (center)

CUHK over the last two years. As CUHK has proven capable to create compelling intellectual property that attracted world-class licensees, the IP also drew world-class competitors to launch litigation and opposition as business tactics to compete with our licensees. Our IP and legal teams in ORKTS have learned to work with world-class legal partners to fend off competition. ORKTS will continue to build capacity internally and externally to deal with challenges in the years ahead.

4.4. Revision of IP Policy. A task force was formed in 2015 with the assistance of an external legal expert to revise CUHK IP policy, with goals not only to capture new IP domains such as eLearning and open source software, but also to enhance the process and incentives for knowledge transfer. Issues related to student ownership of IP are better defined and resolved in light of increasing student entrepreneurial activities. The task force will continue to make progress for the remaining of 2016, and a consultation process will begin thereafter to collect feedback before a revised policy will be submitted to CUHK senior management for final approval.

5. Capacity Building and Continuous Improvement

5.1. Capacity Building. Technology transfer and entrepreneurship are two rapidly growing and changing areas. ORKTS constantly looks for opportunities to equip CUHK researchers with new knowledge by means of seminars and workshops. To meet the growing interest among CUHK researchers in drug development, ORKTS contracted an expert from overseas to provide a one-day training on pre-clinical drug development. More than 20 faculty members in Pharmacology, Medicine, and Life Sciences attended and learned about the R&D and regulatory environment of the pharmaceutical industry. The training course also helped establish working relationships among the attendees. ORKTS also organized a series of seminars on the implications of recent US court rulings on the patentability of medical diagnostics and computer software, and how inventors and entrepreneurs can attract investors' attention and evaluate investment opportunities.



A one-day pre-clinical drug development course in July 2015



A seminar titled "U.S. Patent Strategy for Scientists, Engineers and Physicians" in March 2016

As faculty members can affect and motivate one another, from time to time ORKTS invites faculty members to share their KT experience with their colleagues. Prof KWAN Hoi Shan, an expert in biotechnology and the founder of a TSSSU startup, accepted an invitation to give a talk titled "Ahead of Germany, France, and Japan? Why Hong Kong is a top place for flourishing biotech innovations" to share the insights that he gained after attending a BIO convention in 2015. Likewise, ORKTS invited faculty members who have successfully created social impact with KPF projects to share their success stories with prospective KPF applicants in an information session. The session served not only as an experience sharing event but also a recognition event to honor successful KT practitioners.



Prof KWAN Hoi Shan of the School of Life Sciences shared his view in a talk titled "Ahead of Germany, France, and Japan? Why Hong Kong is a top place for flourishing biotech innovations" in November 2015



A panel of proven KPF practitioners shared their success stories with prospective KPF applicants in an information session in December 2015

Several staff members of ORKTS also attended specialized training to upgrade their KT knowledge, including a course on "IP Valuation" presented by the Royal Institution of Chartered Surveyors and another "Licensing Master Class" offered by an IP lawyer from Opteon based in Australia.

5.2. Continuous Improvement. Committed to continuous improvement, ORKTS contracted Hong Kong Productivity Council (HKPC) last year to evaluate the administrative process and performance of KPF. KPF is the largest KT funding scheme at CUHK. The evaluation took more than six months with many focus group interviews with different KPF stakeholders. Some of the recommendations by HKPC have already been implemented and resulted in higher performance. The vetting committee reviewing KPF applications has found an improved rubric valuable for evaluating applications consistently. Also, with a more effective communication strategy implemented, the number of KPF applications last year surged 40% over that of the previous year.

6. Impact Case Studies

<u>Case Study 1: Method for Preparing Titanium Dioxide (TiO₂) with Higher Photocatalytic and Antibacterial Activities (see also Annex 1.1)</u>

Urban air quality and indoor air pollution are listed as two of the world's worst toxic pollution problems in the 2008 Blacksmith Institute World's Worst Polluted Places report. Photocatalysis has become an emerging technology to solve air pollution problems, particularly with the use of titanium dioxide (TiO₂) as a photocatalyst for removing air pollutants. TiO₂ is a non-toxic, chemically stable material for photocatalysis. Upon irradiation by sunlight or UV light, the formation of oxidising agents (superoxide anion radicals and hydroxyl radicals) can completely degrade pollutants and kill bacteria on contact. However, conventional methods for the preparation of a TiO₂ thin film on a substrate exhibit very poor photocatalytic and antibacterial activities because of poor crystallinity, small surface area and low anatase content.

In 2002, Prof Jimmy YU and his research team at the Department of Chemistry developed a modified sol-gel method to fabricate TiO_2 thin films with better crystallinity, larger surface area and higher anatase content. Prof Yu's research team also discovered that when TiO_2 materials doped with fluoride (F⁻) ions by hydrolysing titanium tetraisopropoxide in Ammonium fluoride-water (NH₄F–H₂O) mixed solution, the TiO_2 materials can exhibit photocatalytic activity exceeding (up to 39% higher) that of a well-recognised and commercially available TiO_2 material. The invention by Prof Yu's team has been patented, and a license of the technology has been granted to a multi-national manufacturer of air purifying systems this year. The manufacturer planned to incorporate these patented technology into the design of a series of new generation antibacterial air filtration systems for home, hospitals and offices. These new generation air filtration systems will tackle indoor air pollution and improve urban air quality.



Prof Jimmy YU and his two award-winning secondary school students

Prof Yu's research was featured in an exhibit in the Hong Kong Science Museum and has inspired many young inventors and students. Prof Yu mentored two local secondary school students to invent a self-cleaning cylindrical door handle coated with titanium dioxide that kills 99.8% of the germs in contact. The pair went on to win the Intel International Science and Engineering Fair in USA and was also awarded a gold medal at the 44th International Exhibition of Inventions of Geneva 2016. The success of inventions created by Prof Yu and the two secondary school students sparked many discussions and inspired the young generation in Hong Kong to become scientists and inventors.

Case Study 2: Novel Therapeutics Against Rare Neurodegenerative Diseases (see also Annex 1.2)

Huntington's Disease (HD) and Spinocerebellar Ataxias (SCA) are a group of currently non-curable inherited rare diseases with neurodegenerative symptoms such as motor dysfunction, cognitive decline, psychiatric disturbances, and progressive dementia. Prof CHAN Ho Yin Edwin and his research team contributed to the understanding of rare diseases by identifying additional genetic causes and elucidating the disease mechanism. More importantly, Prof Chan's team has designed a peptidylic inhibitor (i.e. a synthetic inhibitor in the format of small protein segments), named P3,



Prof Edwin CHAN (second from left) and his research team

that is capable of rescuing the neurodegenerative symptoms. Since HD and SCA are categorized as rare diseases, research in this area is not commercially driven and often lags behind other common diseases. The discovery of a novel approach to tackle the incurable HD and SCA by Prof Chan's research team thus provides new hope for patients.

As rare diseases are least known to the public, the research of Prof Chan's team has significantly raised the awareness of rare diseases in Hong Kong and China. Prof Chan is a staunch advocate for patients of rare diseases; he has appeared in many radio shows and media outlets to share his knowledge and to educate the public. The research of Prof. Chan has also attracted donation from the Chow Tai Fook Charity Foundation, with the goal to speed up the drug discovery process of the diseases. Prof Chan's research on rare diseases also sparked discussions among policy-makers of the Hong Kong government. Furthermore, Prof Chan has helped establish a registry of Hong Kong SCA patients and develop screening and diagnosis services. The registry is valuable to identify family members of patients who may be of high risk of developing SCAs so that they can plan for these significant life changes ahead.

ORKTS has been supporting Prof Chan's collaborations with overseas institutions and industry partners, with the hope to quicken the development of drug discovery for rare diseases.

<u>Case Study 3: Nourishing a Life of Dignity: Healthy Individuals, Resilient Families and Sustainable</u> <u>Communities (see also Annex 1.3)</u>

A barrier to achieve a state of well-being among Hong Kong residents is the compartmentalization of the urban city. Professional specialization, government administration silos, market functions and individual civil organizations weaken the residents' abilities to see inter-connectedness of social issues as well as their collective capacity to overcome the issues. The compartmentalization leads to social isolation, a sense of helplessness, and even intergroup conflicts. Prof NG Mee Kam of the Department of Geography and Resource Management understands that the first step to solving the problem requires different stakeholders to understand and work with one another. With the support of Knowledge Transfer Project Fund, Prof Ng coordinated a multi-disciplinary team of experts to create a project framework known as "human flourishing" (建城・見人). Using an eclectic approach of urban planning, mindfulness training, family-centered care, and creative artistry, the project aimed to cultivate "human flourishing" with a series of training sessions, workshops, and seminars.

Also collaborating with Prof Ng in this project were Prof MAK Wing Sze Winnie of the Department of Psychology, Dr WONG Oi Ling of Department of Social Work, and Ms Amy CHEUNG who is an acclaimed artist. Training sessions, workshops, and seminars were designed to target different stakeholders: district councillors and government officials who could influence urban policy; social workers who interacted with residents and understood their communities; and the local residents. There were a total of 236 individuals participated in these events.



Snapshots of a "human flourishing" workshop

There were other workshops and seminars aiming to sensitize participants of issues related to community planning. One workshop encouraged vulnerable young females to create artworks to express their emotion. Another taught participants how to maintain a state of mindfulness in daily life. There was also a workshop for secondary school students to learn about sustainable communities and low-carbon living. These workshops and training sessions promoted mental and

emotional wellness with concepts and skills that participants could bring them into practice in their local communities.

Case Study 4: Enhancing Public Awareness of Sarcopenia (see also Annex 1.4)

Prof LEUNG Kwok Sui is a professor and clinician specialized in fragility fracture. Everyday, many elderly patients come to his clinic at Prince of Wales Hospital for treatment related to the aftermath of a fall. Falls are often the result of sarcopenia, which is an age-related loss of muscle mass, strength and physical performance. As the aging population increases much faster than the growth in number of medical professionals and facilities, Prof Leung quickly realized that it would be a losing battle to deal with fragility fracture only in the hospital. He set out a mission to prevent elderly people from falls in the first place. With the support from the Knowledge Transfer Project Fund (KPF), Prof Leung developed a public education and assessment program for the prevention of sarcopenia. The program included public educational talks, risk assessment, and professional training to front-line elderly care practitioners.

The prevalence and dire consequence of sarcopenia and how to prevent falls and fracture were explained in educational talks, booklets, posters and training workshops. Twenty-three talks about elderly care, attended by more than a thousand people, were held in different districts across Hong Kong from April 2014 to September 2015. Eleven workshops (including some train-the-trainers workshops) were held from February 2014 to August 2015. Participants were educated on various aspects of elderly sarcopenia and osteoporosis, including epidemiology, sarcopenia assessment, and knowledge on how to prevent fall and fracture. Risk assessment of sarcopenia was also performed by Prof Leung's team in many communities. 164 elderly participants were found to be high risk.



Sarcopenia and fall prevention were explained in an educational talk

An education booklet on sarcopenia titled "預防長者 跌倒及骨折社會服務計劃" was published in June 2014. The booklet can also be downloaded from a 社 區防跌行動 website (<u>http://www.no-fall.hk/t/download.html</u>). The booklets were distributed at workshops and considered very informative by event participants and collaborating units—as they were the first public educational materials in Hong Kong on osteoporosis, sarcopenia and fall prevention.

7. Looking Ahead

In the guidance released in June 2016 on the use of KT Recurrent Funding, UGC emphasized that "UGC is cautious not to prescribe in detail a list of fundable activities, as universities themselves are in a better position to put up a triennial proposal." While CUHK have fulfilled the UGC's initial vision in building KT capacity and developing an assortment of funding schemes over the last two triennia, in this new triennium ORKTS will focus on KT initiatives that best utilize CUHK's existing capabilities to create impact to the society.

CUHK will put more emphasis in supporting startups that can incorporate CUHK's research outputs into their products. The adoption of CUHK-enabled products by the society represents the most convincing proof of knowledge transfer. Leveraging the CUHK's advantage of being a comprehensive research university, CUHK-enabled startups thus far have produced a wide range of products and services based on homegrown innovations. The diversity of CUHK also prompted the creation of the new S-KPF fund for launching social enterprises to benefit the disadvantaged segments of society. The multi-disciplinary nature of S-KPF complements the technology emphasis of TSSSU. With these two funding schemes, faculty members of all disciplines—art and humanities as well as science and engineering—can use their research outputs to create startups that deliver sustainable social and economic impact. One important task in coming years is to equip faculty members with business knowledge and skills through seminars and workshops.

CUHK will also renew its emphasis on impact. As the significance of CUHK's impact to society is determined not only by the expertise that the university can supply, but also by the problems in the society that demand the expertise. Channeling CUHK's expertise—effectively—to solve significant problems of our time is an important goal in this triennium.

for the

Professor Fanny M. Cheung, Pro-Vice-Chancellor 29 July 2016

Case Study 1: Method for Preparing Titanium Dioxide (TiO₂) with Higher Photocatalytic and Antibacterial Activities

1. Summary

Prof Jimmy Chai Mei YU of the Department of Chemistry and his research team have developed a new technology in the fabrication of Titanium Dioxide (TiO_2) to address the problem of urban air quality. TiO_2 that is produced using Prof Yu's method has shown to have two times higher antibacterial and photocatalytic activities than conventional TiO_2 . A license of the technology has been granted to a multinational manufacturer of air purifying systems this year. Products that incorporate the technology developed by the research team will improve the function of air purification systems and allow users to enjoy cleaner air indoors.

2. Underpinning research

Indoor air pollution and urban air quality are listed as two of the world's worst toxic pollution problems in the 2008 Blacksmith Institute World's Worst Polluted Places report. According to the 2014 World Health Organization (WHO) report, air pollution in 2012 caused the deaths of around 7 million people worldwide.

A solution for this problem is to use the TiO_2 photocatalysis technology. TiO_2 is a non-toxic, chemically stable material and is a workhorse material for photocatalysis. Upon the irradiation by sunlight or UV light, superoxide anion radical and hydroxyl radical will be formed. These radicals are powerful oxidizing agents that can completely degrade pollutants and kill bacteria on contact (Yu et al, 2002a). Such properties render the various applications of TiO_2 in e.g. environmental remediation and solar fuels, as well as being well established as a platform for dye-sensitized solar cells and heterogeneous catalysis (Hu et al, 2010; Zhang et al, 2010; Wang et al 2015; Toro and JM Buriak, 2015). However, conventional methods for the preparation of a TiO_2 thin film on a substrate exhibit very poor photocatalytic and antibacterial activities because of poor crystallinity, small surface area and low anatase content.

In 2002, Prof Jimmy Yu together with his research team at the Department of Chemistry of The Chinese University of Hong Kong, which included Prof Jiaguo YU (Post-Doc at the time) and Prof Lizhi ZHANG (Post-Doc at the time) developed a modified sol-gel method to fabricate TiO_2 thin films with better crystallinity, larger surface area and higher anatase content (Yu et al, 2002a and b). TiO_2 thin films produced using this method demonstrated significant bactericidal activity, with the oxidizing species generated from the absorption of the UV light killing over 90% of bacterial cells after 50 minutes. The TiO_2 film also exhibited high photocatalytic activity as exhibited by the 30% UV-induced photodegradation of the Rhodamine dye in 40 minutes. Surface thickness of the films was found to be 0.17mm and the transmittance of glass is about 90% over the visible light spectral region, allowing the absorption of UV light and thus explained the promotion of bactericidal activities of the film. While the surface morphology of the thin films displayed a granular microstructure and is composed of spherical particles of about 80nm in diameter and roughness of 0.638nm (i.e. the films showed a large surface area), the average crystallite sizes of the films were 7.2nm which indicates good crystallinity (Yu et al, 2002a).

When doping with fluoride (F) ions by hydrolysing titanium tetraisopropoxide in Ammonium fluoridewater (NH_4F-H_2O) mixed solution, the team discovered that the TiO₂ materials prepared by such novel and simple method can exhibit photocatalytic activity exceeding (up to 39% higher) that of Degussa P25, a recognised excellent TiO₂ material that is commercially available (Yu et al, 2002b). The study showed that such tremendous photocatalytic activity prepared by such F doping method is owing to the even larger surface area and smaller crystallite size (Liu et al, 2011).

This research of Prof Yu and his team has led to 100 publications and has received over HK\$30M research funding.

3. References to the research

Key publications:

Yu JC, Tang HY, Yu J, Chan HC, Zhang L, Xie Y, Wang H, Wong SP. *Bactericidal and photocatalytic activities* of TiO_2 thin films prepared by sol–gel and reverse micelle methods. Journal of Photochemistry and Photobiology A: Chemistry. 2002a; 153 (1–3):211-219.

Hu XL, Li GS, Yu JC. *Design, Fabrication and Modification of Nanostructured Materials for Environmental and Energy Applications.* Langmuir, 2010; 26(5):3031-3039.

Wang W, Huang G, Yu JC, Wong PK. Advances in photocatalytic disinfection of bacteria: Development of photocatalysts and mechanisms. Journal of Environmental Sciences, 2015; 34:232-247.

Zhang DQ, Li GS, Yu JC, *Inorganic Materials for Photocatalytic Water Disinfection*, Journal of Materials Chemistry, 2010; (20): 4529-4536.

Toro C and Buriak JM. (Editorial) F^- Doping on TiO₂ Provided Important Insights into Photocatalysis. Chem. Mater., 2015; 1443–1444.

Yu JC, Yu JG, Ho WK, Jiang ZT, Zhang LZ. *Effects of F-doping on the photocatalytic activity and microstructures of nanocrystalline TiO2 powders*. Chem. Mater., 2002b; 14(9):3808-3816.

Liu G, Yu JC, Lu GQ, Cheng HM, *Crystal Facet Engineering of Semiconductor Photocatalysts: Motivations, Advances and Unique Properties*. Chemical Communications, 2011; (47):6763-6783

Selected external grant funding:

- 1. *Enhanced Photocatalysts for the Degradation of Volatile Organic Compounds.* Competitive Earmarked Research Grant, Research Grants Council (RGC), 1998-2001, HK\$435,000.
- 2. Development of Advanced Photocatalytic Nano-coating Technologies for Environmental and Health Industries. Innovation and Technology Fund (ITF), 2002-2004, HK\$6,600,000.
- 3. Sonochemical Preparation of Mesoporous Metal Oxide Catalysts for Environmental Applications. Competitive Earmarked Research Grant, Research Grants Council (RGC), 2002–2005, HK\$380,000.
- 4. *Highly Dispersed Noble Metal Nanoclusters in Mesoporous Titanium Dioxide.* Competitive Earmarked Research Grant, Research Grants Council (RGC), 2004–2007, HK\$283,000.
- 5. Development of Immobilized Photocatalyst for Disinfection of Pathogenic Bacteria under Visible Light. Competitive Earmarked Research Grant, Research Grants Council (RGC), 2007–2009, HK\$982,500.
- 6. Synthesis and Design of New Photocatalysts for Degradation of Toxic Organic Compounds. National Natural Science Foundation of China-Hong Kong Research Grants Council Joint Research Scheme, 2011–2013, HK\$613,330.
- 7. A New Composite Photocatalyst of Graphene Quantum Dots Deposited on Titanium Dioxide Nanotube Arrays. General Research Fund (GRF), Research Grants Council (RGC), 2013–2015, HK\$775,000.

4. Details of the impact or benefit

By pinpointing a key role of F^- ions in TiO₂ preparation, the research work of Prof Yu and this team has created an enormous impact on many aspects of TiO₂ research and pollution solutions.

Impact on the research field of TiO₂

The research of Prof Yu and his team has advanced the knowledge of photocatalysis which was not a mainstream research field when their papers were first published. Prof Yu's findings suggested that the efficiency of a traditional photocatalyst could be improved by simple F⁻ ion doping. This inspired subsequent studies on other chemical modification methods and also the design of nonmetal-based photocatalysts. Because of all these efforts, photocatalysis has become an emerging technology for solving our energy and environmental problems.

Impact on the innovative culture of the society

The impact of Prof Yu's research has inspired young inventors and children. Apart from being featured in a themed exhibition in the Science Museum in Hong Kong, Prof Yu mentored two local students, Simon WONG Sum-ming, aged 17, and Michael LI Kin-pong, aged 18 from the Church of Christ in China Tam Lee Lai Fun Memorial Secondary School to invent a self-cleaning cylindrical door handle coated with titanium dioxide that kills 99.8 per cent of the germs in contact. The pair conceived the idea under the mentorship of Prof Yu and completed most of the prototype in his lab. The pair went on to win the Intel International Science and Engineering Fair in USA and were also awarded a gold medal at the 44th International Exhibition of Inventions of Geneva 2016. The success of inventions created by Prof Yu and the two secondary school students sparked many discussions and inspired the young generation in Hong Kong.

Three corresponding patent filings have been submitted across five different countries / regions in 2003. This patented technology has been licensed by a multinational company in 2015. The company planned to incorporate these patented technology and its know-how into the design of a series of new generation antibacterial air filtration systems for home, hospitals and offices. These new generation air filtration systems will tackle indoor air pollution and improve urban air quality.

5. References to the corroboration of impact or benefits

Chemistry of Materials Editorial Published in March 2015:
 C Toro and JM Buriak. F Doping on TiO₂ Provided Important Insights into Photocatalysis. Chem. Mater., 10 March 2015. Pages 1443–1444.
 http://pubs.acs.org/doi/pdf/10.1021/acs.chemmater.5b00567
 The Editorial is an interview that describes the impact of Prof Yu's research on TiO₂. His paper was admitted to the Chemistry of Materials' 1k Club series having been cited over 1445 times.

- The 2 patents filings of the TiO₂ technology that led to the commercialization of the technology and the license deal with the multinational company:
 - "Method for Preparing Mesoporous TiO₂ Thin Films with High Photocatalytic and Antibacterial Activities," US 6803077, ZL 02119304.5, AU 2003229253, CA 2480736, DE 10392572, HK 1060257, WO 2003092886
 - "Photocatalytic Nano-Crystalline TiO $_{\rm 2}$ Thin Films, Method for Preparing the Same and Use Thereof," US 7638555, ZL 02147089.8, HK 1061540
- Selected newspaper coverage on the young inventors' self-cleaning door handle invention inspired by Prof Yu's research at the 44th International Exhibition of Inventions at Geneva, Switzerland:
 - 中學生創自潔門柄奪國際獎, Apple Daily; 21 Apr 2016
 <u>http://hk.apple.nextmedia.com/news/art/20160421/19579793</u>

- Selected newspaper coverage on the young inventors' self-cleaning door handle invention inspired by Prof Yu's research at the Intel International Science and Engineering Fair 2015 at Pittsburgh, USA:
 - 新進星之子「發明」新商機, Oriental Daily; 21 Jul 2015
 <u>http://orientaldaily.on.cc/cnt/finance/20150721/00269_001.html</u>

• Testimonial from the young inventors' self-cleaning door handle invention inspired by Prof Yu's research:

陳易希師弟黃深銘 克服讀寫障礙科研摘星. Hong Kong Economic Journal; 11 Mar 2016. <u>http://www1.hkej.com/dailynews/culture/article/1257495/陳易希師弟黃深銘++克服讀寫障</u> 礙科研摘星

- News report on the showcase of the TiO₂ technology to the public: 展覽: 科學館展出中大環保殺菌技術. Hong Kong Science Museum; March 2004 <u>http://archive.news.gov.hk/isd/ebulletin/tc/citylife/040312/html/040312tc20001.htm</u>
- News report and interview on Prof Yu as an awardee of the second-class State Natural Science Awards (SNSA) 2006 for his research project on TiO₂: 中大教授苦研17載獲國家獎. Sing Tao Daily; 13 Jan 2006. <u>http://std.stheadline.com/archive/fullstory.asp?andor=or&year1=2006&month1=1&day1=13&year</u> 2=2006&month2=1&day2=13&category=all&id=20060113g02&keyword1=&keyword2=

IMPACT CASE STUDIES

Case Study 2: Novel Therapeutics Against Rare Neurodegenerative diseases

1. Summary

Huntington's Disease and Spinocerebellar Ataxias are a group of currently non-curable inherited rare diseases characterised by devastating neurodegenerative symptoms. In researching these diseases, the research team of Prof CHAN Ho Yin Edwin has identified additional genetic causes of the disease and elucidated the disease mechanism. Prof Chan's team has further discovered a protein-based biological molecule that can suppress the death of cells and animals carrying the disease DNA. Apart from shedding light on the recovery path of the patients, the research project has raised not only the awareness of the public on rare diseases, but also the awareness of the Hong Kong government policy-makers of the need for prevention and treatment of the diseases.

2. Underpinning research

Polyglutamine (polyQ) diseases, including Huntington's Disease (HD) and several forms of Spinocerebellar Ataxias (SCAs), are a group of late-onset, inherited rare diseases characterised by devastating symptoms including motor dysfunction, cognitive decline, psychiatric disturbances, and progressive dementia (Roos 2010). HD is caused by the existence of the extensively repeated "CAG" DNA code within the Huntingtin disease gene. HD shares the same disease mechanism—that is, the abnormal function of the produced mutant disease protein (Roos 2010)—with six sub-types of SCA (Landles and Bates 2004). In 2014, Prof Chan's team has identified a novel missense mutation that is responsible for a dominant form of SCA (Tsoi et al 2014).

In addition, previous works of Prof Chan and his team have shown that the intermediate product during production of the disease protein from the repeated "CAG" DNA code—that is, the RNA molecules— confers also to the toxicity in cells containing the disease gene (Tsoi et al 2012; Tsoi and Chan 2013). In particular, the team has found that the disease RNA can physically interact with nucleolin (NCL), a protein in the nucleus of a cell that plays a crucial role in proteins production (Tsoi and Chan 2013). The team further demonstrated that mutant disease RNA can hinder NCL from interacting with the molecular machinery of the cell for proteins production, which ultimately leads to the stress accumulation in the nucleus and thus the death of cells containing disease DNA. Such observation is believed to explain the neurodegenerative symptoms of the disease.

Currently, there is no cure for both HD and SCA. To develop medical intervention to these diseases, Prof Chan's team has designed a peptidylic inhibitor (i.e. a synthetic inhibitor in the format of small protein segments), named P3, that is capable of rescuing the neurodegenerative symptoms as shown by benchtop (i.e. *in vitro*) and animal experiments (i.e. *in vivo*) (Zhang et al 2016). In the same work, the team further discovered that an increased dose of P3 can gradually relieve the stress of cell nucleus induced by the disease RNA. Moreover, using a drug named the polyQ-binding peptide 1 (QBP1) (a well-characterized polyQ protein toxicity inhibitor), the team found that, as compared with treatment using P3 or QBP1 alone, the co-administration of these two drugs can effectively mitigate respectively the RNA and protein toxicities and can impose additional suppression of these toxicities in cells containing the disease DNA. Such findings indicate that targeting toxic RNAs and/or simultaneous targeting of toxic RNAs and their corresponding proteins could open up a new therapeutic strategy for treating polyQ diseases.

3. References to the research

Key publications:

Roos RA. Huntington's disease: a clinical review. Orphanet J Rare Dis. 2010; 5:40.

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molecular medicine review series. EMBO Rep. 2004; 5:958-63.

Tsoi H, Yu AC, Chen ZS, Ng NK, Chan AY, Yuen LY, Abrigo JM, Tsang SY, Tsui SK, Tong TM, Lo IF, Lam ST, Mok VC, Wong LK, Ngo CK, Lau KF, Chan TF and Chan HYE. *A novel missense mutation in CCDC88C activates the JNK pathway and causes a dominant form of spinocerebellar ataxia*. J Med Genet. 2014; 51:590-595.

Tsoi H, Lau CK, Tsang SY, Lau KF and Chan HYE. *CAG expansion induces nucleolar stress in polyglutamine diseases*. Proc. Natl. Acad. Sci. USA. 2012; 109:13428-13433.

Tsoi H and Chan HYE. *Expression of expanded CAG transcripts triggers nucleolar stress in Huntington's disease*. Cerebellum. 2013; 12:310-312.

Zhang Q, Tsoi H, Peng S, Li PP, Lau KF, Rudnicki DD, Ngo JC, Chan HY. *Assessing a peptidylic inhibitor*based therapeutic approach that simultaneously suppresses polyglutamine RNA- and protein-mediated toxicities in patient cells and Drosophila. Dis Model Mech. 2016; 9(3): 321-34.

Selected external grant funding:

- 1. *Characterization of a novel pathogenic pathway of Huntington's Disease*. General Research Fund (GRF), Research Grants Council (RGC), 2015-2017, HK\$877,717
- 2. Targeting RNA and protein toxicities of polyglutamine diseases using peptidylic inhibitors. Collaborative Research Fund (CRF), Research Grants Council (RGC), 2014-2017, HK\$7,044,220
- 3. *Characterization of a novel type of protein nuclear export signal in polyalanine expansion disease proteins*. General Research Fund (GRF), Research Grants Council (RGC), 2014-2016, HK\$866,032
- 4. An inhibitory peptide approach to simultaneously target RNA and protein toxicities in polyglutamine degeneration. Health and Medical Research Fund (HMRF), The Food and Health Bureau, 2013-2015, HK\$999,908
- 5. *The role of nucleolin in CAG trinucleotide repeat-mediated RNA toxicity*. General Research Fund (GRF), Research Grants Council (RGC), 2013-2015, HK\$790,000
- 6. *Refining the bioactivity of P42, a hit therapeutic peptide, and developing a combined therapeutic peptide approach for treating Huntington's Disease.* The French National Research Agency (ANR)/Research Grants Council (RGC) Joint Research Scheme. 2015-2019, HK\$2,540,083

4. Details of the impact or benefit

Since HD and SCA are categorized as rare diseases, research in this area is not commercially driven and often lags behind other common diseases. Even worse, there are no approved drugs that modify the course of these diseases or therapies to slow down the rate of clinical decline. The research of Prof Chan's team and their discovery of a novel approach to tackle the incurable HD and SCA thus provide new hope for patients.

In particular, his research has significantly raised the awareness of rare diseases in Hong Kong and China. Through Prof Chan's advocacy for HD, SCAs and rare diseases, education and media coverage of these rare diseases in Hong Kong have increased significantly. Prof Chan has appeared in many radio shows and media outlets to share his knowledge and educate the public on rare diseases and polyQ diseases. On 28 Feb 2016, Prof Chan was invited to participate at the Rare Diseases Day 2016, which was an annual international campaign on the last day of February. Prof Chan has also been invited by local and non-local patient organisations (e.g. The Chinese Huntington's Disease Network) to share his research findings and to raise the awareness of the diseases. The research of Prof Chan has attracted donation from the Chow Tai Fook Charity Foundation with the hope to speed up the drug discovery process of the diseases. Prof Chan's research on rare diseases also sparked discussions among policy-makers of the Hong Kong Government (see a government press release listed in the "corroboration of impact or

benefits" below).

Prof Chan is a consultant for the Hong Kong Spinocerebellar Ataxia Association. Through his research into the understanding of different genetic subtypes of SCA patients, he has helped establish a registry of Hong Kong SCA patients and develop screening and diagnosis services. Such services are particularly useful since the one provided by the Hospital Authority of Hong Kong is limited to a very small number of SCA subtypes. Through the provision of these services for SCA patients, proper genetic counselling is also provided to identify family members that are high risk of developing SCAs. These processes will allow patients and family member to better plan for these significant life changes ahead.

ORKTS has been supporting Prof Chan's collaborations with overseas institutions and industry partners, with the hope to quicken the development of drug discovery for the benefit of patients suffering from rare diseases.

5. References to the corroboration of impact or benefits

- Promotional video of Prof Chan's work: *"Targeting RNA and Protein Toxicities of Polyglutamine Diseases Using Pepitdylic Inhibitors"*; Hong Kong Research Grant Council Youtube channel; 5 Jun 2016 <u>https://www.youtube.com/watch?v=onhbiVE6O81</u>
- TV interview Prof Chan's research on polyQ diseases on Rare Disease Day 2016: *至fit男女 - 中大教授為小腦萎縮症研發新藥* (0'42"-0'58"; 1'28"-2'09"); Cable TV; 28 Feb 2016 <u>https://es-</u> la.facebook.com/hkfit/videos/vb.435113873208320/991606270892408/?type=2&theater
- Selected newspaper coverage on Prof Chan's drug discovery in treating polyQ disease: 中大研P3抑制劑治六種小腦萎縮症 漸凍人症等 臨牀有效; Sing Tao Daily; 24 Feb 2016 <u>http://orientaldaily.on.cc/cnt/news/20160224/00176_093.html</u>
- Radio interview with Prof Chan on genetic disease and treatment: 精靈一點 - 遺傳學與醫療健康; Radio Television Hong Kong; 18 Jan 2016 <u>http://programme.rthk.org.hk/channel/radio/programme.php?name=radio1/healthpedia&d=20</u> <u>16-01-08&p=6794&e=340360&m=episode</u>
- TV interview with Prof Chan on awareness of rare disease and related research: *時事追擊 - 再見罕有病* (7'05"-9'44"); Asia Television; 27 Jul 2015 <u>https://www.youtube.com/watch?v=xe_mQR6ajUY</u>
- Newspaper interview with Prof Chan on awareness of rare disease research: *資源匱乏 窒礙罕有病研究*; Oriental Daily News; 18 Feb 2015 <u>http://orientaldaily.on.cc/cnt/news/20150418/00176_117.html</u>
- Discussion at the Hong Kong Legislative council regarding the support on rare disease patients and their family members: *Press Releases - LCQ3: Rare diseases.* GovHK. 6 May 2015 <u>http://www.info.gov.hk/gia/general/201505/06/P201505060526.htm</u>
- Non-local TV report of Prof Chan's genetic research in SCA: 香港中文大學發現"小腦萎縮症" 第40種致病基因; China Central Television; 2 Oct 2014 <u>http://news.cntv.cn/2014/10/02/VIDE1412230683194423.shtml</u>
- Newspaper coverage of Prof Chan's discovery of a new gene mutation in SCA patients: Discovery of new gene mutation may improve ataxia patients' lives; South China Morning Post; 25 Sep 2015

http://www.scmp.com/news/hong-kong/article/1599657/discovery-new-gene-mutation-mayimprove-ataxia-patients-lives Non-local coverage of a meeting organised by a patients' organisation (Prof Chan is one of the invited speakers) by a representative of HD patients in the Mainland China:
 Summary of the 2016 Chinese Huntington's Disease Network Meeting; Cao Qian; Hyacinth Care (風信子關愛); 12 May 2016
 http://www.hanjianbing.org/content/details_32_2976.html

Case Study 3: Nourishing a Life of Dignity: Healthy Individuals, Resilient Families and Sustainable Communities

1. Summary

In Hong Kong, the compartmentalization of the urban society has hindered the development of sustainable communities that can nurture the well-being of residents. Using an ecological system perspective, Prof NG Mee Kam (Vice-Chairman of the Department of Geography and Resource Management), Prof MAK Wing Sze Winnie (Department of Psychology) and Dr WONG Oi Ling (previously from the Department of Social Work), together with Ms Amy CHEUNG, an acclaimed artist, synergised with other professionals (e.g. psychologists, social workers and urban planners) to develop a 'human flourishing' framework. In this framework, individual well-being and cohesive families are key components in building sustainable communities for people to live a life of dignity.

2. Underpinning Research

Prof Ng has been a keen advocate for community planning. According to her research, a sustainable community should start with proper baseline studies of various socio-economic, political and environmental aspects. There is also a need to inventory psychosocial needs of individuals, strengths and capacities of residing families, local economic activities, value positions of different actors in the community before formulating a plan (Ng and Chan, 2005) (i.e. a "bottom-up" approach). Such approach of asset-based community development conjectures that neighbourhoods possess the capacities to build abundant and life-satisfying communities—an argument supported by family theories and practices (Cameron and Gibson, 2001).

Meanwhile, using a hierarchical linear modelling method, the research by Prof Mak, based on a randomized household survey of 941 Hong Kong Chinese from all 18 districts in Hong Kong, also supports that a sense of community is linked with individuals' levels of social support and quality of life (Mak, Cheung and Law, 2009).

In Hong Kong, one of the barriers to the achievement of sustainability is the compartmentalisation of the urban society (Ng, 2007): specialisation in professional knowledge and structure among government administration units, market functions and even civil organisations has weakened residents' abilities to see the inter-connectedness of issues and their collective capacity to overcoming them, leading to increased social isolation, a sense of helplessness and sometimes even intergroup conflicts. Moreover, discussions of community planning, surprisingly, have neglected family dynamics and personal psychological health. Because of the absence of planning at the local level, place-making efforts are seldom community-based. Worse still, efforts to "upgrade" places and displace local residents are confused as place-making endeavours.

To address these issues, Prof Ng lobbied with social workers to advocate the inclusion of social impact assessment (SIA) in the Urban Renewal Authority Ordinance of Hong Kong. Such assessment is crucial for assisting needed families before a plan is formulated (Ng, Cook and Chiu 2001).

3. References to the Research

Key publications:

Cameron J and Gibson K. *Shifting Focus: Pathways to Community and Economic Development: A Resource Kit.* Latrobe City Council & Monash University, Victoria. 2001.

Mak WWS, Cheung RYM and Law LSC. *Sense of community in Hong Kong: Relations with individual- and community level factors*. American Journal of Community Psychology, 2009; 44:80-92.

Ng MK, Chan A. *A citizen's guide to sustainable planning in Hong Kong : concepts and processes*. Hong Kong: Department of Architecture, CUHK & CUPEM, HKU. 2005.

Ng MK. *Outmoded planning in the face of new politics*. In HKSAR in its First Decade, Edited by: Cheng J. Hong Kong, City: University Press, 2007:591–629.

Ng MK, Cook A, Chui EWT. *The road not travelled: A sustainable urban regeneration strategy for Hong Kong*. Planning Practice and Research 2001; 16(2):171-183.

Selected external grant funding:

- 1. *Planning for sustainable urban neighbourhood change,* CUHK-University of Manchester Fund, 2016-2017, GBP 10,000.
- 2. Community, well-being, place-making and urban regeneration at the neighbourhood level: a comparative study of Hong Kong and Tainan, Research Grant for CPOSS Initiatives, Faculty of Social Science, CUHK, 2015-2017, HK\$314,000.
- 3. Shaping Hong Kong—Strategies for optimizing Hong Kong's living environment beyond 2030, Institution of Civil Engineers (Hong Kong Association), 2014-2015, HK\$810,000.
- 4. *Growth machines? Sustainable communities? Values and urban fortunes in Chinese cities*, General Research Fund (GRF), Research Grants Council (RGC), 2015-2016, HK\$672,392.
- 5. Community capacities, social capital, citizen values and impact assessment': community-based planning as a missing component in the urban planning system in Hong Kong? General Research Fund (GRF), Research Grants Council (RGC), 2014-2015, HK\$520,000.
- 6. 'Walled buildings', 'the right to the city', place governance and the delayed amendment of an outdated planning ordinance: an institutional analysis. General Research Fund (GRF), Research Grants Council (RGC), 2011-2013, HK\$487,727.

4. Details of the impact or benefits

To convey the importance of sustainable environment that fosters individual well-being and cohesive families, the project brought together and synergised with some originally discrete professions: psychologists, social workers, urban planners, artists, designers, architects, government officers, legislative and district councillors. Ecological system thinking was advocated in many workshops and training sessions to encourage participants to reframe their thinking and to make sense of the common problems experienced by individuals and families in local communities within the broader social-economic and cultural context of Hong Kong.

Establishing a multi-disciplinary network for sustainable community planning

A working committee of 21 members was formed with people of different professions. A 'human flourishing' framework for project implementation was developed through several meetings. The committee discussed how different professions could work together to achieve the goals of the project.

Training Sessions, Workshops, and Seminars

1) "Train-the-Trainers / District Councillors" sessions

On 24 May 2014 and 23 Aug 2014, the team held the "Nourishing a Life of Dignity" workshop to introduce to participants ways to achieve 'human flourishing' at different levels, from individuals to families and communities, via art and urban planning. The workshop brought the stakeholders out from the mindset of infrastructure/facility-based urban planning to people (family and community)-centred planning and design. Participants were trained to get themselves into a focused state to "listen" to themselves (to be "mindful") so as to be more sensitive to things happening around the community.



▲ Snapshot from the "Nourishing a Life Dignity workshop



▲ Prof Ng at the "Nourishing a Life of Dignity" workshop

2) "Local Workshops / Seminars" organised / co-organised with different parties

Seven separate "Local Workshops" on topics of community planning, art therapy, mindfulness and low-carbon living were held for building a sustainable community.

Workshop Title	Date	Co-organiser
"We chat We Connect"	31 Jan 2015	Caritas Charrette Centre
Mindfulness Workshop	1 Feb 2015	Simply Happy HK
Seminar on "From 'Top-down' to 'Bottom-up' Planning: The Only Route to Sustainable Communities and Low-carbon Living"	6 Jun 2015	/
Future Campus	25 Jul 2015	Hong Kong Council of Social Service
Designing Hong Kong the Urban Thinker Campus	29 Aug 2015	/



▲ Snapshot from the Mindfulness workshop



▲ Prof Ng at the seminar "From 'Top-down' to 'Bottom-up' Planning: The Only Route to Sustainable Communities and Low-carbon Living"

3) Community projects

The "bottom-up" Community planning approach has also been translated into two still-on-goingcommunity-projects; (a) "Our Kwai Fong Wai" and (b) "Revitalising Fabric Market in Sham Shui Po". The former project aimed to rejuvenate the Kwai Fong Wai neighbourhood. Two community workshops (19 Aug 2015; 26 Jan 2016) and a series of road shows (6/10/12/18/27 Nov 2015) were held. In the latter project, the team has been invited by the Yen Chow Street Hawker Bazaar (commonly known as "Pang Jai 棚仔") Concern Group to provide professional support in community planning to preserve the Bazaar. A community planning workshop was held on 3 Jan 2016.

In total, the training sessions, workshops, and seminars benefited 117 trainers and more than 200 participants. Amongst the beneficiaries, 21 are urban planners (including architects), 40 are social Workers, 5 are psychologists, 13 are District Councillors and their assistants, 2 are Government Officers, whereas the remaining are the local public.

4) Training materials and deliverables

A bilingual booklet discussing how different professions can collaborate and contribute to 'human flourishing' was published in Feb 2015

(<u>http://humanflourishing.grm.cuhk.edu.hk/images/Documents/booklet.pdf</u>). Consequently, a bilingual website (<u>http://humanflourishing.grm.cuhk.edu.hk</u>) was launched in early-July 2015 as a self-help resource.

5) Further impact imposed by the project

More than 65% of the participants expressed interests in collaborating with the project team. One beneficiary of the project, Mr Eric YEUNG from the Tung Chung Community Development Alliance, collaborated subsequently with the team to host a community planning workshop on 30 Jun 2014 to train the local volunteers to voice out their community needs and aspirations. Another beneficiary, Ms Carman YIM from the Caritas Youth and Community Service, collaborated subsequently with the team to host a "Sustainable Low-carbon Living Workshop" on 21 Nov 2015 for teenagers to promote the concept of sustainable communities and low-carbon living.

5. References to the corroboration of impact or benefits

- Comment from the participant of the "Nourishing a Life of Dignity" workshop: *"The workshop has brought me – an urban planner with only a mind-set of hardware-based planning - into a new area*". <u>https://lion1230.wordpress.com/2014/08/</u>
- Coverage, review and future planning after the community project: "Our Kwai Fong Wai" by the Community Planning Aid Hong Kong: <u>www.facebook.com/ComPAHK/photos/?tab=album&album_id=670113449756690</u>
- Media/ Social Media coverage of the community project: "Revitalising the Fabric Market in Sham Shui Po": 棚仔社區規劃工作坊 與會者多支持原區安置 – 05 Jan 2016, grassmediaction 草根行動媒體 <u>http://www.inmediahk.net/node/1039863</u>
- Interview by Ming Pao on the community project: "Revitalising the Fabric Market in Sham Shui Po": 專題故事: 棚仔布檔尋明天 - 26 Oct 2015, Ming Pao <u>http://www.mingpaocanada.com/tor/htm/News/20151026/HK-gfn1_er_r.htm</u>
- Social Media coverage on the inspiration of the community project: "Revitalising the Fabric Market in Sham Shui Po": "We strongly believe that: via the participation of community planning, Hong Kong can develop a creative market similar to the Portobello Market in the UK, which can be the highlight of the community and even the city".
 從橋頭走到橋底 深水埗棚仔布藝市集的嘗試 26 Apr 2016, Dropblog http://dropblog.2013.duckla.com/2016/04/26/從橋頭走到橋底 深水埗棚仔布藝市集的嘗試 /
- Testimonial from the group "反對深水埗布市場將被關閉 (Against the closure of the Fabric Market in Sham Shui Po)": <u>https://www.facebook.com/1667212066825293/photos/a.1672608662952300.1073741829.16</u> <u>67212066825293/1697316457148187/?type=3&theater</u>
- Prof Ng was invited to join the Legislative Council's Panel on Food Safety and Environmental Hygiene concerning bottom up planning for local markets in Hong Kong (14 Apr 2015): <u>http://www.legco.gov.hk/yr14-15/chinese/panels/fseh/fseh_hp/minutes/hp20150414.pdf</u>
- Thoughts originated in this project have been instrumental in the organization of the Urban Thinkers Campus at CUHK on 29 Aug 2015, a pre-event that will lead to the Habitat II under UN-

Habitat to be held in 2016. <u>https://www.facebook.com/utccuhk/</u>

- Interview by The Hong Kong Council of Social Service regarding urban planning in Hong Kong: <u>https://www.youtube.com/watch?v=exZubXO6Exk</u> (0'31"-1'34")
- Interview by Ming Pao regarding urban planning / heritage conservation in Hong Kong and Taiwan: 研台港活化計劃 首華人奪歐洲論文獎 得獎教授:保育需知識分子裏應外合 – 14 Mar 2016, Ming Pao <u>http://news.mingpao.com/pns/dailynews/web_tc/article/20160314/s00002/1457891762819</u>

Annex 1

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Case Study 4: Enhancing Public Awareness of Sarcopenia (aging-induced muscle atrophy) – Healthy Aging in the Community

1. Summary

Sarcopenia is the age-related loss of muscle mass and strength, which may result in frailty and physical disability. The seriousness of sarcopenia is largely underestimated by the public, and there is no public campaign to raise its awareness. Prof LEUNG Kwok Sui from the Department of Orthopaedics and Traumatology developed a public education and assessment program for the prevention of sarcopenia. The program included educational talks, risk assessment and professional training.

2. Underpinning research

Sarcopenia is the age-related loss of muscle mass, strength and physical performance. It is defined as a syndrome characterized by progressive loss of skeletal muscle mass and strength with a risk of adverse outcomes including physical disability, poor quality of life and death. It is associated with many geriatric problems like osteoporosis, insulin resistance, type 2 diabetes, obesity and frequent falls. Fall is the most direct cause of fragility fractures, leading to increased morbidity, mortality, hospital bed occupancy and nursing home care demand. The occurrence in Hong Kong is 12.3% in Chinese men and 7.6% in Chinese women aged above 70 years old. The exact mechanism of sarcopenia is not fully understood, but several mechanisms including disuse, proteolysis, neuromuscular integrity, and endocrine were proposed in recent years. Prof Leung and his team studied and demonstrated that the age-associated changes in human skeletal muscle fibers using muscle biopsies taken from 65 subjects aged 17-96. The fast-twitch type IIA/B muscle fibers were found to decrease with age and led to deteriorated muscle quality, poor balancing ability and hence falls in elderly. These findings were further correlated with bone mineral density (BMD) at hip, indicating that type IIB muscle fibers had significantly stronger relationship with BMD than other fiber types. The close muscle-bone relationship may suggest the importance of daily muscle contraction and good muscle quality for bone maintenance. Prof Leung had also conducted an animal study of vibration treatment effect on skeletal muscle where the muscles were atrophied induced by 28-day tail suspension unloading, and a randomized clinical trial of vibration treatment on 710 community elderly. Both studies demonstrated significant positive effect of vibration treatment on atrophied muscle (larger force generating capacity) and community elderly (improved muscle strength and balancing ability). The study results are important in the application of vibration treatment on sarcopenia prevention and vibration is potentially a non-pharmaceutical treatment of sarcopenia.

International Osteoporosis Foundation reminds that those aged 40 and above with sedentary lifestyle are at risk of sarcopenia. Hong Kong has 3.6 million residents at risk according to 2011 census, and it is expected that the prevalence of sarcopenia will continue to rise. The economic cost of sarcopenia will rise unless effective public campaigns aiming at reducing the occurrence and prevention measures against sarcopenia are implemented. In 2014, Prof Leung and his team, which included Prof FUNG Kwok Pui, Prof Ronald MA, Dr David DAI, Prof James GRIFFITH and Ms LEUNG Chung Kwan, with the help of the Chinese University of Hong Kong's Knowledge Transfer Project Fund (KPF), initiated a public awareness and education campaign for the prevention of sarcopenia in Hong Kong.

The research by Prof Leung and his team on sarcopenia received \$2,038,935 of research funding and generated 13 related publications. Prof Leung's team conducted 34 workshops to educate the elderly about sarcopenia and devised sarcopenia risk assessment protocols for front-line health practitioners. Moreover, Prof Leung's team invented a vibration platform and the patented technology has been licensed to a manufacturer. The vibration platform is available to the elderly in more than 30 community centres and occupational therapy clinics in Hong Kong to battle sarcopenia.

3. References to the research

Selected publications:

Lee WS, Cheung WH, Qin L, Tang N, Leung KS. *Age-Associated Decrease Of Type lia/B Human Skeletal Muscle Fibers*. Clinical Orthopaedics & Related Research, 2006; 450:231-237.

Cheung WH, Mok HW, Qin L, Sze PC, Lee KM, Leung KS. *High-frequency whole-body vibration improves balancing ability in elderly women*. Arch Phys Med Rehabil. 2007; 88(7):852-7.

Leung KS, Li CY, Tse YK, Choy TK, Leung PC, Hung VW, Chan SY, Leung AH, Cheung WH. *Effects of 18-month low-magnitude high-frequency vibration on fall rate and fracture risks in 710 community elderly-a cluster-randomized controlled trial*. Osteoporos Int., 2014; 25(6):1785-95.

Sun KT, Leung KS, Siu PM, Qin L, Cheung WH. *Differential effects of low-magnitude high-frequency vibration on reloading hind-limb soleus and gastrocnemius medialis muscles in 28-day tail-suspended rats.* J Musculoskelet Neuronal Interact. 2015; 15(4):316-24.

Leung KS, Li YH, Liu Y, Wang H, Tam KF, Chow DH, Wan Y, Ling S, Dai Z, Qin L, Cheung WH. *Effect of daily short-duration weight-bearing on disuse-induced deterioration of musculoskeletal system*. J Musculoskelet Neuronal Interact. 2015; 15(2):207-14.

Cheung WH, Li CY, Zhu TY, Leung KS. *Improvement in muscle performance after one-year cessation of low-magnitude high-frequency vibration in community elderly*. J Musculoskelet Neuronal Interact. 2016; 16(1):4-11.

Guo AY, Leung KS, Qin JH, Chow SK, Cheung WH. *Effect of low-magnitude high-frequency vibration treatment on retardation of sarcopenia – senescence accelerated mice-P8 (SAMP8) model*. Rejuvenation Res. 2016; 19(4). (Epub ahead of print)

Selected External Grant Funding:

- 1. Stimulatory effects of low-magnitude high-frequency vibration on skeletal muscle correlating interactive structural changes with enhanced functional performance. General Research Fund (GRF) Research Grants Council (RGC), 2012-2013, HK\$850,000.
- 2. The efficacy of low-magnitude, high-frequency vibration treatment on reducing fracture risks and fracture incidences in the community elderly a prospective randomized trial. General Research Fund (GRF), Research Grants Council (RGC), 2009-2011, HK\$1,188,935.

4. Details of impact and benefit

The prevalence and dire consequence of sarcopenia as well as fall and fracture prevention were explained in the educational talks, booklets, posters and training workshops. More than 1400 participants, including many elderly and volunteers from the community, benefited from the education program. Twenty-three sessions of elderly talk, attended by more than a thousand people, were held in different districts across Hong Kong from April 2014 to September 2015. Eleven train-the-trainer workshops were held from February 2014 to August 2015 in the community with more than 400 elderly attending the workshops. Participants were educated about various aspects of sarcopenia and osteoporosis in elderly, including epidemiology, sarcopenia assessment, and knowledge on how to prevent fall and fracture.



▲ Elderly participating train-the-trainer workshops and receiving the latest education booklet after the workshop

An education booklet on sarcopenia titled "預防長者跌倒及骨折社會服務計劃" was published in June 2014. The booklet can also be downloaded from a 社區防跌行動 website (<u>http://www.no-fall.hk/t/download.html</u>). The booklets were distributed at workshops and considered very informative by event participants and collaborating units—as they are the first public educational materials in Hong Kong on sarcopenia and fall prevention.

病業の第 毎日運動半週編 骨質無明易流数		肌力強化及伸展運動 しき期期交換立・使用二 セジェ 作用次下・	振動治療 熱治療道一種採用業績利344以及信制線 (0.3回転動)全身運動・ 緩快発展、止点報約/意味負担進加資類強 度、市民地通知成用素強、使用者が二支、	2至2月1月 空空月月月 空空月月月日 空空月月日日 空空月月日日 空空月日 空空月日 空雪月 空空月日 空空月日 空雪月 空雪月 空雪月 空雪月 空雪月 空雪月 空雪月 空雪月
留意飲食多 55 質 家居安全 56 少得 預防跌倒無斷骨 晤使幫襯急症室		2 直脚向外规规起· 供终 二十秒 · 然後放下; 左右 期端波着建数约3-4次 ·	與完二十分僅約增加的總統有效2418時代 生產及影响改成。 動設通時的資源。 1. 減增發質效失 2. 軟高於自建相生格 3. 改善中般力及高力 4. 或於崇行感告 5. 在自己原油明	 可見超近為点社: 当時用中源時後下 第3
健康開心我第一 防获網站; http://www.no-fall.hk 課題電話:26322756	AH	3. 普思尼尼语二十书 · 放下;左右颠簸舌重喷動 作34次 ·	 施床研究中並沒有已知的創作用・但有機 つ意人士可能者比較不良反策。其此供需 数 詳書・ 不適合相對於得人士: ・ 低度影響 ・ 低度影響 	

▲ Cover and contents of the education booklet

Risk assessment of sarcopenia was performed by Prof Leung's team in many communities, and 164 elderly participants were found to be high risk of sarcopenia.



▲ Staff performing the sarcopenia risk assessment screening

5. References to the corroboration of impact or benefit

- A website containing information about Sarcopenia by Prof Leung's team: <u>http://www.no-fall.hk/t/sarcopenia.html</u>
- The published information booklet "預防長者跌倒及骨折社會服務計劃" for public dissemination on the official website: <u>http://www.no-fall.hk/t/download.html</u>
- The promotion of the sarcopenia workshop and the dissemination of information booklet at various collaborating organizations, e.g.
 - Primary Care Office Department of Health: <u>http://www.pco.gov.hk/tc_chi/resource/files/Fall_Prevention_booklet.pdf</u>
 - Elderly Ministry: <u>http://www.elderly-ministry.org/services/no-fall.htm</u>
 - Yan Oi Tong: <u>https://www.e123.hk/site/yotnec4/focus_detail/1</u>
 - Hope Worldwide: <u>http://www.hopeww.org.hk/resources/forms/volunteer_leaflet.pdf</u>

- Hong Kong Red Cross: <u>http://www.redcross.org.hk/sec_comm_files/Red%20Cross%20News/Issue%2047/R10.pdf</u>
- Coverage by a local rehabilitation product company regarding the impact of Prof Leung's work on the awareness of Sarcopenia: *長者跌傷治療 年耗20億*;by Medimart樂康軒 - 健康知識 Health Tips; 19 Nov 2014. <u>https://www.facebook.com/medimart.hongkong/photos/a.253900218001260.68761.12306301</u> <u>1084982/809795312411745/?type=1&theater</u>

Annex 3

Updates on Table 4.1 of Initial Statement

		Last year	Current year
UG	C Performance Indicators	2014/15	2015/16
1	Number of patents filed in the year (with breakdown [Annex 5] by country and type)	125	165
2	Number of patents granted in the year (with breakdown [Annex 6] by country and type)	58	83
3	Number of licences granted (with breakdown [Annex 7] by type)	57	67
4	Income (on cash basis) generated from intellectual property rights	\$84,795,802 (a)	\$38,650,333 (a)
5	Expenditure involved in generating income from intellectual property rights	\$5,571,225 (a)	\$3,312,434 (a)
6	Number of economically active spin-off companies (with breakdown [Annex 12] by type)	16	15
7	Net income generated (or net loss arising) from spin-off companies	\$15,368,738 (a)(b)	\$2,338,012 (a)(b)
8	Number of collaborative research projects, and income thereby generated	154 cases \$64,872,740 (a)	179 cases \$84,728,127 (a)
9	Number of contract research projects (other than those included in "collaborative research projects" above), and income thereby generated	70 cases \$19,891,883 (a)	80 cases \$24,876,945 (a)
10	Number of consultancies, and income thereby generated	331 cases \$132,885,461 (a)	344 cases \$139,838,022 (a)
	Subtotal Income Item (4)+(7)+(8)+(9)+(10)	\$317,814,624	\$290,431,439
11	Number of equipment and facilities service agreements, and income thereby generated	1 (No. of facilities) \$38,650	1 (No. of facilities) \$36,370
12	Income received from Continuing Professional Development (CPD) courses	\$39,500,772 (c)	\$44,374,023 (c)
	Total Income Item (4)+(7)+(8)+(9)+(10)+(11)+(12)	\$357,354,046	\$334,841,832
13	Number of student contact hours in short courses or e-learning programmes specially tailored to meet business or CPD needs	264,329 hours (193 courses with 16,627 students)	317,619 hours (604 courses with 22,269 students)

(Data 1 July 2015 – 30 June 2016)

14	Number of public	575	950
	lectures/symposiums/exhibitions and		
	speeches to a community audience		
15	Number of performances and exhibitions	104	137
	of creative works by staff or students		
16	Number of staff engaged as members of	878	510
	external advisory bodies including		
	professional, industry, government,		
	statutory or non-statutory bodies		

Footnotes

- (a) Subject to year-end adjustments.
- (b) Only wholly-owned subsidiaries or controlling companies are included.
- (c) Including income from non-award bearing programmes offered by the School of Continuing and Professional Studies and the Asia-Pacific Institute of Business.

Updates on Table 4.2 of Initial Statement

		Last year	Current year
Oth	ner Performance Indicators	2014/15	2015/16
1	Knowledge Transfer Project Fund	2014/15: 23	2015/16: 18
	(KPF): Projects supported by the	Total: 129	Total: 147
	UGC-KT Fund	Beneficiaries:	Beneficiaries:
		301,774 for	for 109,007
		2014/15	2015/16
2	Technology and Business	5	5
	Development Fund (TBF)		
3	Number of other KT projects and	223	332
	activities not funded by the UGC-	Beneficiaries:	Beneficiaries:
	KT Fund	108,607	55,462
4	Number of websites on KT	20	35
	activities at Faculties /		
	Departments / Centres		
5	Number of publicity or media	1,560	1,968
	features related to KT, including		
	print, on-line and electronic media		

(1 July 2015 – 30 June 2016)

Knowledge Transfer Project Fund (KPF) Project List

Projects completed (2015-2016) (details in Annex 9.2):

Culture and Heritage

1)	KPF14INF01	The Eight Classic Cantonese Operatic Song Cycles
2)	KPF14INF02	Multiculturalism in Action: Promoting Nepalese Culture as Local Heritage
3)	KPF15ICF14	Active Ageing: Building an Electronic Archive on the Elderly in Preserving Hong Kong Cultural Heritage
Envi	onment and C	ommunal Harmony
4)	KPF14ICF06	Nourishing a Life of Dignity: Healthy Individuals, Resilient Families and Sustainable Communities
Heal	thy Living	
5)	KPF142ICF01	Promoting Healthy Brain Function in Elderly through Cognitive Training Programs and Social Activities
6)	KPF142ICF13	Preventive Programs on Internet Addiction Among Secondary School Students
7)	KPF14ICF04	Active Hong Kong, Healthy Citizens - A Family-Based Physical Activity, Fundamental Movement Skill, and Nutrition Program
8)	KPF14ICF05	Enhance Public Awareness of Sarcopenia (Aging-induced Muscle Atrophy) - Healthy Aging in the Community
9)	KPF14ICF10	Grief Detection and Management for Caregivers of People with Dementia
10)	KPF14ICF14	Development and Dissemination of An Online Exercise and Health Promotion Program for Hong Kong Middle-aged Chinese: The Virtual Trainer System 3rd Version
11)	KPF14INF08	Self-learning Platform of Plant Identification with Applied Knowledge in Healthy Living
12)	KPF15ICF01	Multidisciplinary team for Active and Healthy Ageing in elders of Rural Areas of Hong Kong
13)	KPF15INF07	Enhance Public Awareness of Noise-induced Hearing Loss (NIHL) for Youth: Healthy Ear, Healthy Hearing in the Community: Transfer Professional Knowledge to Practice
14)	KPF15INF08	Establishment of Geriatric Orthopaedics Co-Management for Sarcopenia - A Joint Effort to Postpone Frailty and to Prevent Fragility Fractures
Susta	ainability and F	Productivity
15)	KPF14ICF09	Enhancing Hong Kong Sign Language Education with Intelligent Recognition Systems
16)	KPF14INF03	e-Learning Platform for HKDSE Economics
17)	KPF14INF04	Enhancing Young Children's Executive Function Skills: Transferring Knowledge to Practice Using an Online Professional Learning Community
18)	KPF15ICF06	Showcasing a CUHK Developed Real-time Tracking System for Environmental Friendly Logistic Management

Projects in progress (2015-2016) (details in Annex 9.3):

Culture and Heritage

1) KPF15INF02 Multiculturalism in Action: Promoting Pakistani culture as local heritage

2) KPF15INF04 Music and the Shaping of Cultural Space: Chaozhou Music in Hong Kong

Environment and Communal Harmony

3) KPF15ICF02 Promoting Nonverbal Communication Skills Among Children with Autism Spectrum Disorders through Online Social Robotics

Healthy Living

4)	KPF15ICF04	Prevention of Vit-D Insufficiency and Promotion of Good Bone Health for the Young Population in Hong Kong
5)	KPF15ICF05	Prevention of Stroke and Enhancement of Life with Aphasia
6)	KPF15ICF07	An Evidence-Based Neuropsychological Intervention for Mildly Cognitive/ Emotionally Deteriorating Elderly in Hong Kong
7)	KPF15ICF08	An Integrated Community-based Screening and Secondary Prevention Program to Promote Physical Activity Among Physically Inactive Individuals Possessing Risk Factors of Diabetes Mellitus (DM) or Being Pre-diabetes (IGT/IFG)
8)	KPF15ICF16	Promotion of Healthy Lifestyle Among Middle-aged Chinese Population in Hong Kong: An Integrated Approach Using Body Fat Measurement, Brief Counseling, and Mobile Apps
9)	KPF15ICF17	Living with Heart: Online and Community-based Mindfulness and Compassion Programs for the Promotion of Public Mental Health in Hong Kong
10)	KPF15INF06	Moving Against Old Age! Moving Against OsteoArthritis! 「動起來! 無懼 膝痛!」
11)	KPF15INF09	Development of Multimedia Interventions to Promote Cervical Cancer Prevention Among South Asian Women in Hong Kong
12)	KPF15INF13	Effective Communications Among Hearing Impaired Elderly and Their Families

Sustainability and Productivity

13)	KPF14ICF03	The Production of an Assessment Tool to Evaluate the Spoken Word Recognition for Hearing-impaired Population
14)	KPF15ICF12	A Model of Knowledge Translation: the Active Healthy Kids Report Card on Physical Activity for Hong Kong Youth
15)	KPF15ICF15	Building Vibrant Entrepreneurial Financing System for CUHK
16)	KPF15INF01	The Hong Kong Sign Language Basic Sex Education Website
17)	KPF15INF03	Capturing Syllables: Intelligent Mobile App on Pinyin and Jyutping Dictation Trainings for Students and the Hong Kong Community
18)	KPF15INF15	Rental Index and Living Environment of Sub-divided Housing Units
19)	KPF15INF16	Experience-based Service Design with the Welfare Services Users

Projects newly funded (2015-2016) (details in Annex 9.4):

Culture and Heritage

1)	KPF16INF01	Multiculturalism in Action: Promoting South Asian Culture as Local
		Heritage

Environment and Communal Harmony

2)	KPF16ICF04	Investigation of Genetically Modified Papayas in Hong Kong: a Project- based Learning Program for Secondary School Students
3)	KPF16ICF07	StoryTaler: Fighting against Mental Illness Stigma through Story-telling Online and Offline
4)	KPF16INF07	Elder Law in Hong Kong: Advancing the Rights of Older Persons

Healthy Living

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- 17) KPF16ICF01 Developing and Sustaining the "Support Program for Secondary School Student Athletes Fostering Different Levels of Academic and Athletic Development"
 18) KPE16ICE13 Knowledge Transfer to Increase Access of Cervical Cancer Screening
- 18) KPF16ICF13 Knowledge Transfer to Increase Access of Cervical Cancer Screening Among the Difficult-to-reach Group in Hong Kong: Community-based Training on Screening by Self-sampling

Annex 9.2

Projects completed (2015-2016)

# Project Title (Project Code) Faculty (Unit)	Performance Indicators			
	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
The Eight Classic Cantonese Operatic Song Cycles (KPF14INF01) Faculty of Arts (Department of Music) Image: Control of Arts (Department of	 General public (600) Researchers, teachers and students (100) Practitioners in the creative industry and performing arts groups, especially Chinese Music and Chinese Opera circles (300) Total: 1,000 	 Professional musicians and singers (5) 	 ◆ Interviews with experts and singers were conducted for stylistic analysis of Badaqu (八 大曲) ◆ A book with a research-based historical introduction on Badaqu was published ◆ Printing of books and CDs (500 books+500 CDs) 	N/A
Culture and Heritage Project Title (Project Code) Performance Indicators # Faculty (Unit) Beneficiary Types (Numbers) Partners (No. in the group) Quantitative Indicators Qualitative Indicators 2 Multiculturalism in Action: Promoting Nepalese Secondary school students and Prof Lisa Leung Yuk-ming, LU Cultural trainer training Workshop participants and the Culture as Local Heritage (KPF14INF02) teachers (339) program including seminars, Nepali youth both enjoyed the Prof Chee Wai-chi, HKU discussion panels, and field Buddy Program. They saw it as a Faculty of Arts (Department of Anthropology) CUHK students and staff (60) Dr Rizwan Ullah, Delia School visits was organized precious chance to have a true Nepali students and members (Hip Wo) intercultural exchange between A Buddy Program (peer-to-peer) of the Nepali community (20) Mrs Raima Gurung Shah the two ethnic communities. to promote intercultural Secondary school teachers and Dr Wyman Tang Wai-man, interaction and culturally ✤ A lot of the secondary students principal, NGO and EOC University of Macau responsive experience was who are of Chinese origin representatives (5) Ms Ada Wong Ying-kei conducted enjoyed the traditional South General Public (250) Dr Sharmila Gurung, United Asian sport kabaddi Multimedia presentations at 3 Total: 674 **Christian Hospital** secondary schools and a Mrs Raima Gurung Shah Family university were carried out by (10) cultural trainers and buddies YMCA Cheung Sha Wan Centre ✤ 94% of the participants claimed that training program helped The Good Lab them know more about Nepali CMA Choi Cheung Kok culture and 65% of the Secondary School participants have developed New Asia College, CUHK interest in Nepali culture Department of Anthropology, An Intercultural Program CUHK including Nepali music, song Delia Memorial School (Hip Wo) performance, dance, Nepali New Asia Middle School food, Kabaddi, and Gurkhas Yuen Long Merchants History Exhibition was held Association Secondary School A project booklet was published Munsang College in July 2015, gaining media coverage from 10 local press H.K.S.K.H Lady MacLehose Centre The project booklet has been distributed to 336 schools. 6 libraries, 55 interested individuals and 40 collaborators/public An exhibition was held at H.K.S.K.H Lady MacLehose Centre in Kwai Chung A website for the Multicultural in Action Project was constructed

Cu	Iture and Heritage Project Title (Project Code)		Dorformon	ce Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
3	Active Ageing: Building an Electronic Archive on the Elderly in Preserving Hong Kong Cultural Heritage (KPF15ICF14) Faculty of Arts (Department of Cultural and Religious Studies) To collaborate with: Faculty of Arts (Department of Anthropology) Faculty of Education (Department of Education Policy and Administration)	 Elderly participants (160) Elderly Organizers and participants in local community groups of Intangible Cultural Heritage (ICH) (138) Researchers, teachers, students and visitors of the website (1,000) Total: 1,298 	 ◆ The Conservancy Association Centre for Heritage (CACHe) (10) ◆ Evangelical Lutheran Church Social Service (40) ◆ 大澳永續發展教育工作室 (3) 	 4 meetings were held for collaborations with partners 6 sessions of talks were held with 120 participants attended 6 site visits were conducted with 120 participants joined The satisfaction rate of the site visits is >80% 13 interviews were conducted A facebook page and a website were set up as the platform of electronic archive 	 The social workers were satisfied that the elderly members can apply what they learned from the project in organizing the cultural tours The social workers considered understanding Hong Kong cultural heritage a way of building "cultural capital" for the elderly The elderly enjoyed and appreciated for cultural heritage and arts in their daily life

En	nvironment and Communal Harmony					
#	Project Title (Project Code)			e Indicators		
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
4	Nourishing a Life of Dignity: Healthy Individuals, Resilient Families and Sustainable Communities (KPF14ICF06) Faculty of Social Science (Department of Geography and Resource Management) To collaborate with: Faculty of Social Science (Department of Social Sychology) Faculty of Social Science (Department of Social Work)	 Urban planners (including architects) (21) Social Workers (40) Psychologists (5) District Councillors and their assistants (13) Government Officers (2) Local public (250) Website visitors (2,610) Total: 2,941 	 Hong Kong Institute of Planners (14) Caritas Community Centre - Ngau Tau Kok) (2) Caritas Charrette Centre (2) Caritas Jockey Club Integrated Services for Young People – Lei Muk Shue (1) Community Development Alliance – Tung Chung (CDA) (1) HKSKH Lady MacLehose Centre – Group & Community Work Unit (3) The Hong Kong Polytechnic University – Department of Applied Social Science/ Yen Chow Street Hawker Bazaar Concern Group (1) Good Lab (1) Simply Happy HK (2) Artists and designers (3) Clinical Psychologist (6) 	 A working committee comprised four professions was formed to set the 'human flourishing' framework for the project A "Train-the-Trainers" session and a 'District Councillors' session were held 5 Local Workshops co-organized with different organizations were held with 185 participants A bilingual booklet was published in Feb 2015 >60% of the workshop participants expressed interests in collaborating with the project team to promote the 'human flourishing' framework >80% of the workshop participants agreed that the workshops can improve their understanding of mindfulness, community planning, place- making and low-carbon living 2 community projects named 'Our Kwai Fong Wai' and 'Revitalising the Fabric Market in Sham Shui Po' were initiated with the idea of "Bottom-up" 2 community planning workshops and a series of road show were held for the 'Our Kwai Fong Wai' project A community planning workshop was held for the 'Revitalising the Fabric Market in Sham Shui Po' project 	 The project team managed to form partnerships with professions including social work, psychology, urban planning, arts & design and architecture The project leader received many requests to run community planning workshops The project leader was invited to speak at the World Social Work Day 2016 on 'nourishing a life of dignity' Some of the workshop participants were inspired to conduct a community planning workshop in their own community The project leader was invited to join the LegCo's Panel on Food Safety and Environmental Hygiene concerning bottom up planning for local markets Thoughts originated in this project have been instrumental to the organization of the Urban Thinkers Campus at CUHK on 29 Aug 2015 (a pre-event that led to the Habitat II under UN-Habitat to be held in 2016) and fostering the growth of endeavours of National Cheng Kung University on issues of place, place-making, sense of community and well-being The project team received a written letter from a reader expressing her appreciation of the 'human flourishing framework' booklet 	

# Project Title (P Faculty (Unit)	roject Code) Ithy Brain Function in Elderly	Beneficiary Types (Numbers)	Performanc	e Indicators		
Faculty (Unit)	Ithy Brain Eurotian in Eldarly	Beneficiary Types (Numbers)	Performance Indicators			
	Ithy Brain Eurotion in Eldorly	beneficiary rypes (Nullibers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
through Cognit Activities (KPF1 Faculty of Arts Modern Langua To collaborate	tive Training Programs and Social 142ICF01) (Department of Linguistics and ages)	 Older adults aged 60 or above who received the printed materials (3,000) attended talks (862) received free cognitive test (397) attended social groups (352) attended computerized English learning program (79) Total: 4,690 	 BOKSS Chan Tak Sang Memorial Neighbourhood Elderly Center Caritas Elderly Centre – Lai Kok Caritas Elderly Centre – Shatin Chinese YMCA HK Chai Wan Neighbourhood Elderly Centre EFCC Mei Foo Social Centre for the Elderly ELCHK Sha Tin District Community Centre for the Golden Aged Ho Tai Neighbourhood Centre for Senior Citizens (sponsored by Sik Sik Yuen) Ho wong Neighbourhood Centre for Senior Citizens (sponsored by Sik Sik Yuen) Ho wong Neighbourhood Centre for Senior Citizens (sponsored by Sik Sik Yuen) HKSKH Tai Wo Neighbourhood Elderly Centre MKKFA Kowloon Chamber of Commerce Centre for the Elderly NAAC Ma On Shan Neighbourhood Elderly Centre Pentecostal Church of Hong Kong Ngau Tau Kok Neighbourhood Elderly Centre Pok Oi Hospital Mr. Kwok Hing Kwan Nighbourhood Elderly Centre SAGE Kai Yip Neighbourhood Elderly Centre Shatin Rhenish Neighbourhood Elderly Centre Shatin Rhenish Neighbourhood Elderly Centre Shatin Rhenish Neighbourhood Elderly Centre The Salvation Army Chuk Yuen Integrated Service Chuk Yuen Centre for Senior Citizens The Salvation Army Wah Fu Centre for Senior Citizens Tin Shui Neighbourhood Elderly Centre YMMSS Choi Hung Community Centre for Senior Citizens – Choi Hung Integrated Home Care Service 	 Connections were established with 19 elderly centres where talks, social groups and free cognitive tests were provided 16 talks on age-related mental diseases were held with 862 older adults participated Free cognitive tests were given to 397 older adults from 7 elderly centres 46 sessions of social groups were organized in eleven elderly centres with 352 elderly participants 79 older adults from ten elderly centres learned simple English by using Rosetta Stone Language Program A pamphlet was designed and 3000 copies were printed 	44 participants of the social groups filled in the questionnaire and most of them found the activities interesting and would like to participate in similar activities in the future	

ш	Project Title (Project Code)		Performa	nce Indicators	
Ħ	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
6	Preventive Programs on Internet Addiction among Secondary School Students (KPF142ICF13) Faculty of Medicine (Centre for Health Behaviours Research) To collaborate with: Faculty of Social Science (School of Journalism and Communication) Faculty of Education (Department of Educational Psychology) Faculty of Medicine (The Jockey Club School of Public Health and Primary Care) Previous research: Incidence and longitudinal factors predicting onset and recovery of internet addiction among secondary school children in Hong Kong	 Secondary 1-2 students from 4 schools (862) Parents of Secondary 1-2 students from 3 schools (57) Trained teachers from 4 schools (16) Identified students from 4 schools (118) Parents of identified students from 4 schools (18) Total: 1,071 	 Secondary Schools (4) Mentors (recruited from Fire Services Department) (16) The Boys' and Girls Clubs Association of Hong Kong (1) Advisors (2) 	 A teaching kit and a parental workshop manual were designed and distributed to teachers 2 training workshops were provided to 16 teachers All teachers agreed or strongly agreed that they were satisfied with the teaching kit and the training An integrated program on IA including mentorship scheme and four adventure-based activities along with an implementation manual was designed 2 mentorship training workshops were provided to 16 mentors All participants agreed or strongly agreed that they were satisfied with the mentorship training 862 students joined the primary prevention program and 57 parents attended the parental workshops 10% of the participants of the primary prevention program reinforced their intention to reduce internet use 118 identified students joined the in-depth intervention program; 78% of them attended each of the four adventure- based activities 5 supplemental activities were designed based on school's needs and schedule to enhance mentor-student relationship; 9 supplement sessions were conducted 	 The participants reported that they had witnessed themselves growing throughout the course of the intervention The trained teachers reported that they could provide information on internet addiction and relevant parenting skills to the parents Some students were motivated to improve their academic performance, which was consistent with teacher's observation Some students reported that they understood their parents better when mentors guided them to take parents' perspective in communication One of the schools organized a series of activities for the participants in the next academic year

 10% of the participants of the
program had increased their
scores in CIAS (i.e. from
"probable internet addiction" to
"no internet addiction")
 All teachers agreed that the
program helped promote
students' self-esteem, self-
efficacy and social support
All teachers agreed to conduct
the in-depth program
continually

" Project Title (Project Code)		Performa	nce Indicators	
# Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
 Active Hong Kong, Healthy Citizens - A Family- Based Physical Activity, Fundamental Movement Skill, and Nutrition Program (KPF14ICF04) Faculty of Education (Department of Sports Science and Physical Education) To collaborate with: Faculty of Medicine (Centre for Nutritional Studies) Faculty of Education (Physical Education Unit) 	 Primary and secondary school students (231) Parents of participating students (201) Total: 432 	N/A	 An exercise toolkit was developed 300 sets of exercise toolkits were distributed to the participating families 3 activity sessions including talks for parents, physical activity skill and fitness tests for students and a family activity day were held in CUHK >180 families-times joined the 3 activity sessions 41 parents completed the questionnaire. >50% of the parents indicated a positive change on their exercise or diet habits >80% of the parents found the program useful 	Several parents reported that they would take initiative to arrange and prioritize more time for family-based physical activities

	Project Title (Project Code)		Performance	e Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
8	Enhance Public Awareness of Sarcopenia (Aging- induced Muscle Atrophy) - Healthy Aging in the Community (KPF14ICF05) Faculty of Medicine (Department of Orthopaedics & Traumatology) To collaborate with: Faculty of Medicine (School of Biomedical Sciences) Faculty of Medicine (Department of Medicine and Therapeutics) Previous research: 1. An animal study of vibration treatment effect on skeletal muscle where the muscles were atrophied induced by 28-day tail suspension unloading 2. A randomized clinical trial of vibration treatment on 710 community elderly	 Community elderly (1,015) Volunteers (405) Total: 1,420 	 Caritas Hong Kong The Evangelical Lutheran Church of HK Tung Wah Group of Hospitals Yan Oi Tong Sun Chui Lutheran Centre for the Elderly International Church of the Foursquare Gospel Lung Hang Church Evangelical Free Church of China Sik Sik Yuen The Neighbourhood Advice- Action Council The Chinese Rhenish Church Hong Kong Synod The Family Planning Association of Hong Kong Women's Club 	 22 sessions of elderly talk were attended by 1,015 individuals, mostly elderly people 10 train-the-trainer workshops to promote "Sarcopenia Prevention" were conducted with 405 volunteers attended The overall rating of the workshops was 4.5 out of 5 1,000 booklets on nutrition and exercise training were printed and distributed Equipment and protocol of assessment were designed and tailored for the preliminary sarcopenia risk assessment for the community dwelling elderly Assessment was carried out in community centers with results explained to participants individually 164 elderly participants were found high risk of sarcopenia. Nutrition and exercise suggestions were given to them 	 The comprehensive education booklets were found very informative by all event participants and collaborating units More elder talks and train-the- trainer workshops were arranged after the project funding period Trained volunteers and the collaborating units agreed to promote sarcopenia and fall prevention education to the public and to continue the service in the community

Healthy Living Project Title (Project Code) Performance Indicators Faculty (Unit) Beneficiary Types (Numbers) Partners (No. in the group) Quantitative Indicators **Oualitative Indicators** 9 Grief Detection and Management for Caregivers of Caregivers who received the Jockey Club Centre for Positive Validation of MM Caregiver The participants deemed that booklet for evaluation (30) **People with Dementia** (KPF14ICF10) Ageing Grief Inventory – Short Form they got benefit and improvement from the booklet with 120 samples was Faculty of Medicine (Department of Medicine and Interested professionals and completed and the Cantonese Therapeutics) community members (259) version of the assessment can To collaborate with: Social welfare units (1,300) be valid to be used in Hong Faculty of Social Science (Department of Social Total: 1,589 Kong Work) ✤ A self-help booklet for the caregivers in grief management was developed and distributed ✤ 8 sharing sessions were 腦很化症患者家屬照顧者 arranged with 259 people 哀傷情緒自助手冊 attended ✤ 83.8% of the participants were satisfied with the workshops ✤ 86.7% of the participants were satisfied with the booklet Steley and center for Produce Record M. Radio interviews were arranged : 新活动系尔国家企为建27%(地址2月96) and broadcast at CR1 10 **Development and Dissemination of an Online** Subjects invited to join the Well Being Digital Limited (2) VT3 system was developed to An industry partner considered **Exercise and Health Promotion Program for Hong** intervention study (100) encourage physical activity to adopt the VT3 system for Prof Eric Tam. Biomedical Kong Middle-aged Chinese: The Virtual Trainer their newly developed heartparticipation Total: 100 Engineering, PolyU System 3rd Version (KPF14ICF14) rate earphone technology VT3 mobile apps that can be Prof Ron Kwok, Information Faculty of Education (Department of Sports Science integrated with the VT server Systems, CUHK and Physical Education) for uploading exercise data was Exercise Is Medicine (EIM) – developed To collaborate with: Hong Kong (700) ✤ A heart rate detection device Faculty of Social Science (Department of was identified for integration Psychology) into the VT3 system and mobile Faculty of Medicine (The Jockey Club School of app Public Health and Primary Care) 200 subjects were recruited for the VT3 intervention study Previous Research: Development of an automatic physical activity measuring and reporting system for online exercise promotion: the Virtual Trainer 3rd Version

Healthy Living Project Title (Project Code) Performance Indicators # Faculty (Unit) Beneficiary Types (Numbers) Partners (No. in the group) Quantitative Indicators Qualitative Indicators Self-learning Platform of Plant Identification with 11 General public (560) Sustainable Living and The website with database was Users of the platform highly Applied Knowledge in Healthy Living (KPF14INF08) Agriculture Department; completed and it is now recommended their peer Students (380) available on line for free access groups to use the website Kadoorie Farm & Botanic Faculty of Science (School of Life Sciences) Teachers (20) Garden (20) Positive comments were St. Horticulturists and botanists Hong Kong Herbarium; received from the herbarium (40) Agriculture Fisheries and visitors and NGO groups in 植物提赛 Website visitors (2,548) Conservation Department (8) Hong Kong Total: 3,548 . UG students of the School of The Hong Kong Poison Information Centre (10) Life Sciences visit the database very frequently for self-learning 法法 purposes ¥

	Project Title (Project Code)	[Performanc	ce Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
12	Multidisciplinary Team for Active and Healthy Ageing in Elders of Rural Areas of Hong Kong (KPF15ICF01) Faculty of Medicine (School of Pharmacy) To collaborate with: Faculty of Medicine (The Nethersole School of Nursing) Previous Research: 1. AMPOULE – Online Drug Information Platform for the Public in Hong Kong 2. Collaborative Ambulatory Drug Resources for Elderly (CARxE) – Promoting Medication Safety and Improved Clinical Outcomes Among the Elderly Community Through Telepharmacy and Outreach Services 3. Platform for Atrial fibrillation Care in Elderly and Disadvantaged population (PACED)	 Elderly in rural areas (539) Elderly in urban areas (1,009) Registered nurse (16) Registered pharmacist (41) Nursing and Pharmacy Students of CUHK (205) Social Workers and Elderly Caretakers (100) Total: 1,910 	 Hong Kong Housing Society – Ming Wah Dai Ha and Clague Garden Estate (153) SAGE's District Elderly Community Centres (113) Salvation Army's Multi-Service Centres and Community Development Project (275) Fung Kai Neighbourhood Elderly Centre (60) Caritas Elderly Centres and Community Development Project (228) Hong Kong Sheng Kung Hui Lady MAcLehose Centre (45) Mrs. Wong Tung Yuen District Elderly Community Centre (65) Chan Ping Memorial Neighbourhood Elderly Centre (64) ELCHK Ma On Shan District Elderly Community Centre (DECC cum DCU) (41) HKSKH Tseung Kwan O Aged Care Complex (139) Sheen Hok Charitable Foundation Kwan Shon Hing Yu Chui Neighbourhood Elderly Centre (57) Wan Ho Kan Neighbourhood Elderly Centre (85) Yan Chai Hospital Mrs Tsang Wing Neighbourhood Elderly Centre (73) YWCA Tai O Community Work Office (80) CSFC Shun On District Elderly Community Centre (67) 	 26 outreach sessions were conducted 1,548 elders in urban and rural areas were reached 205 CUHK students and 57 CUHK alumni joined as volunteers 13 public health lectures for elders and care workers were held 	 The service partners' evaluation indicated that the elderly participants were satisfied with the outreach sessions The evaluation results indicated that the geriatric knowledge and communication skills among the volunteers were greatly enhanced

Healthy Living Project Title (Project Code) Performance Indicators # Faculty (Unit) Partners (No. in the group) Beneficiary Types (Numbers) **Quantitative Indicators** Qualitative Indicators 13 **Enhance Public Awareness of Noise-induced** Secondary school students ✤ >4,000 students' response on Lion & Leo (10) Both students and teachers Hearing Loss (NIHL) for Youth: Healthy Ear, Healthy reached by hearing protection hearing protection survey were responded that they Hear Talk Foundation (6) Hearing in the Community: Transfer Professional survey (4,032) collected through 10 appreciated more about The Hong Kong Society of Knowledge to Practice (KPF15INF07) collaborating secondary schools communications with hearing-Secondary school population Audiology Ltd. (2) impaired peers and the nature Faculty of Medicine (Department of reached by educational 9 educational workshops with of hearing impairment in Otorhinolaryngology, Head and Neck Surgery) workshop (incl. students, interactive quiz were conducted general through the workshops teachers and parents) (2,471) 61.8% of students of a Students of one participating Total: 6,503 participating secondary school 我們如何聽到聲音 secondary school showed a reported there were at least slight improvement towards the partially motivated to change recommended safety limit of their music listening behaviour using personal audio devices after the talk

щ	Project Title (Project Code)		Performan	ce Indicators	
#	<pre># Faculty (Unit)</pre>	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
14	Establishment of Geriatric Orthopaedics Co- Management for Sarcopenia – A Joint Effort to Postpone Frailty and to Prevent Fragility Fractures (KPF15INF08) Faculty of Medicine (Department of Orthopaedics and Traumatology) Previous Research: Enhance public awareness of sarcopenia (Aging-induced muscle atrophy) – Healthy aging in the community	 Medical Professionals (156) Medical Technicians (89) Total: 245 	 Dr Angela Ho, Dept. of Orthopaedics and Traumatology, Caritas Medical Care Prof Timothy Kwok, Dept. of Medicine and Therapeutics, CUHK Mr Terry Ting of Dietetic Department, Hospital Authority Prof Kenneth Cheng, Dept. of Sports Science and Physical Education, CUHK 	 2 sessions of talk and workshop were attended by 156 medical professions and allied health workers; 80 participants joined the follow-up training session The overall rating for the workshops for the medical professions was 4.33 out of 5 A workshop was held and attended by 89 orthopaedic surgeons The overall rating for the workshop for orthopaedic surgeons was 4.04 out of 5 6,500 booklets were printed and over 3,851 copies were distributed to medical professions who joined the workshop 	 The workshops were found very informative by the participants Trained medical professions and orthopaedic surgeons agreed to promote sarcopenia and fall prevention education to the public and continue the service in the community and the health care industry

Sustainability and Productivity

<pre># Project Title (Project Code)</pre>		Performance	e Indicators	
" Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
 Enhancing Hong Kong Sign Language Education with Intelligent Recognition Systems (KPF14ICF09) Faculty of Engineering (Department of Computer Science and Engineering) To collaborate with: Faculty of Arts (Department of Linguistics and Modern Languages) Faculty of Engineering (Department of Electronic Engineering) Previous Research: Hong Kong Sign Language Recognition with Microsoft Kinect 	❖ General pulbic (50) Total: 50	 Hong Kong Association of Deaf Centre for Sign Linguistics and Deaf Studies, CUHK 	 The prototype of the system was demonstrated to the CUHK Centre for Linguistics and Deaf Studies with positive feedback received A Hong Kong sign language dataset containing a few hundred of words were collected 50 users tried the sign language education system 	Most of the users found the system helpful

Su	Sustainability and Productivity					
#	Project Title (Project Code)			ce Indicators		
	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
16	e-Learning Platform for HKDSE Economics (KPF14INF03) Faculty of Business Administration (Department of Decision Sciences and Managerial Economics)	 Students (270) Teachers (60) No. of video visit counts (10,000) Total: 10,330 	N/A	 3 workshops were held with 270 participants attended 2 workshops for teachers were held with 60 participants attended 3 animation videos were produced and the platform to host the video was developed The videos were viewed more than 10,000 times 	N/A	
17	Enhancing Young Children's Executive Function Skills: Transferring Knowledge to Practice Using an Online Professional Learning Community (KPF14INF04) Faculty of Education (Department of Educational Psychology) Previous Research: A project related to executive function and behavior problems	 Part-time students in teacher- education programs, CUHK (200) School teachers and school social workers (500) School-related personnel who attended the workshop and participated in the e-forum discussion (122) Total: 822 	Educational Psychology Unit and Social Service Unit, Po Leung Kuk (150)	 An e-forum was set up 50 activities were uploaded for exchanges of registered members 50 members from school related personnel registered as members 23 members used the e-forum at least once A few screening measures were posted up for members' reference 122 school teachers and school social workers attended the workshop 	Most of the workshop participants reported that they would use behavioral shaping techniques in teaching Executive Function (EF) after the workshop	

Sustainability and Productivity

#	Project Title (Project Code)		Performanc	e Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
18	Showcasing a CUHK Developed Real-time Tracking System for Environmental Friendly Logistic Management (KPF15ICF06) Faculty of Engineering (Department of Electronic Engineering) To collaborate with: Faculty of Engineering (Department of Systems Engineering and Engineering Management) Previous Research: RFID-Enabled Sensing Technologies for Real-time Environmental Monitoring and Risk Management	 Distribution Centers & Warehouses (1) Logistics & Supply Chain Management – RFID Technology Electronics Technology Service Providers – RFID (3) IT System Integration companies (1) IT Consultancy (1) Total: 6 	 Schmidt & Co., (Hong Kong) Ltd (1) Raytech (Shenzhen) Co., Ltd (1) Tech-Trans System Limited (1) 	 300 second version active RFID tags were made and installed at International Airmail Centre (AMC) Supporting Protection was added to signal light tower of all 500 RFID tags at AMC The positioning system was promoted to 6 target groups Data analysis reports were provided to AMC Cost of the newly developed tags was 2/3 of that of the old version The successful rate for controlling tags was 100% and 93% of positioning accuracy of the tags was within 3 meters Showcase site visits were conducted 	 \$ Systematic Societal improvement Productivity improvement Demonstrable evidence A crew of shooting team organized by ITC was sent to AMC for taking video of the system to demonstrate to the LegCo

Annex 9.3

Projects in progress (2015-2016)

Culture and Heritage						
#	Project Title (Project Code)			ce Indicators		
π	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
1	Multiculturalism in Action: Promoting Pakistani Culture as Local Heritage (KPF15INF02) Faculty of Arts (Department of Anthropology)	 Secondary school students (263) Secondary school teachers (12) Volunteers (62) General public (2,500) Total: 2,837 	 Prof Raees Baig, CUHK Prof Paul O'Connor, LU Dr Nazia Shahid Ms Asma Batool Prof Lisa Leung, LU Mrs Arjumand Naveed Ms Ada Wong Mr Yasir Naveed Ms Ada Wong Mr Yasir Naveed Ms Ada Wong Mr Yasir Naveed Mrs Nigar Qureshi Dr Chow Chiu wo Dept of Anthropology, CUHK Institute of Future Cities, CUHK Institute of Future Cities, CUHK Equal Opportunities Commission H.K.S.K.H Lady MacLehose Centre YMCA Cheung Sha Wan Centre Pakistan Club Pakistani Women Association of Hong Kong New Asia Middle School Confucius Hall Secondary School Munsang College Hong Kong Teachers' Centre Yuen Long Town Hall SKH St. Joseph's Church and Social Centre Lingnan University United Christian Nethersole Community Health Service The Graduate Association of Colleges of Education 	 7 train-the-trainer seminars with field visits were held An information kit on Pakistani culture was developed Presentations by the cultural trainers were delivered to 3 local secondary schools 92.7% of the students responded that they knew more about Pakistani culture whereas 60% of the them had no previous knowledge about Pakistani culture >70% of the students have developed interest in Pakistani culture A community outreach program entitled "FUN with Interculturalism" including a bilingual exhibition was launched Pamphlets in five languages and an exhibition handbook were published and distributed to the public A training session for volunteers and 10 outreach events at community centres, NGOs, carnivals, and secondary schools were organized 	 Participants of train-the-trainer seminars indicated that they appreciated learning about Pakistani Culture and having personal experience in Pakistani Culture Students who are of Chinese origin enjoyed the hands-on program of South Asian sports The project leader was invited to talk about South Asian cultures and this project in various radio programs 	

Cu	Iture and Heritage				
щ	Project Title (Project Code)		Performan	ce Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
2	Music and the Shaping of Cultural Space: Chaozhou Music in Hong Kong (KPF15INF04) Faculty of Arts (Department of Music)	 Teaching staff, students and researchers (70) Musicians, art practitioners, organisers and audience in the creative industry and performing art groups (5) Total: 75 	 ◆ Hong Kong Chiu Chow Merchants Mutual Assistance Society Ltd – Music Group (35) ◆ 香港潮劇團 (5) 	 Fieldwork has been conducted Interviews with performance groups have been conducted A lecture has been conducted No. of students taught (Target: 100) No. of workshop, concert attendees (Target: 300) No. of workshops Chaozhou Music Concert (Target: 1) 	Feedback and response on the quality of materials distributed through course evaluation and event questionnaire
En	vironment and Communal Harmony				
#	Project Title (Project Code)		-	ce Indicators	
	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
3	Promoting Nonverbal Communication Skills Among Children with Autism Spectrum Disorders through Online Social Robotics (KPF15ICF02) Faculty of Education (Department of Educational Psychology) To collaborate with: Faculty of Engineering (Department of Information Engineering) Faculty of Engineering (Department of Mechanical and Automation Engineering)	 Six-to-twelve-year-old children with Low Functioning Autism in Hong Chi Morninghill Schools (93) Total: 93 	 Hong Chi Morninghill School, Tsui Lam Hong Chi Morninghill School, Tuen Mun Hong Chi Lions Morninghill School 	 An online website for training of gestural recognition and production was developed 93 children from 3 special schools have participated in the online gestural intervention program 28 teachers were involved and 8 parents joined as volunteers in the program Intensive training was provided to the teachers and parents 3 training workshops were given to teachers and principals 3 seminars were given to parents to show the preliminary findings The project was reported by SingTao Daily 	 Teachers found that students who have completed the program can spontaneously produce the gestures for communication at schools and they show a better understanding of gestures after training Parents noticed that their children use gestures more often for communication at homes The principal and teachers found the program user-friendly and the contents are appropriate The preliminary findings were presented in a poster in Asia Pacific Regional-The International Meeting for Autism Research in Nov 2015

	Project Title (Project Code)		Performa	Performance Indicators				
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators			
4	Prevention of Vit-D insufficiency and Promotion of Good Bone Health for the Young Population in Hong Kong (KPF15ICF04)Faculty of Medicine (Department of Orthopaedics and Traumatology)To collaborate with:Faculty of Medicine (The Jockey Club School of Public Health and Primary Care)Previous Research: Prevalence of Vitamin-D Insufficiency Among Adolescents	 12 to 16 years teenagers (14,747) Parents (210) Patients in orthopaedics clinics (3,673) Total: 18,630 	 HippoTuring Technologies Company Ltd 	 Educational talks were conducted in 38 secondary schools, 5 primary schools and 1 NGO and attended by 14,747 students and 210 parents 7,153 questionnaires were collected after the educational talks. The average scores of 2 questions related to vitamin D and bone health are 3.94 and 3.95 respectively A web-based educational platform was launched in May 2016 A mobile app was launched in Jun 2016 	 Feedback on the online education platform and education app through evaluation Enrichment of Knowledge of the students after visiting the Bone Health Education Platform and using the Bone Health Education App Change of Lifestyle on bone health after visiting the Bone Health Education Platform and Bone Health Education App 			

Не	althy Living				
#	Project Title (Project Code)		Performanc	e Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
5	Prevention of Stroke and Enhancement of Life with Aphasia (KPF15ICF05)Faculty of Medicine (Department of Medicine and Therapeutics)To collaborate with: Faculty of Arts (Department of Linguistics and Modern Languages)Previous Research: Promoting Healthy Brain Function in Elderly through Cognitive Training Programs and Social ActivitiesImage: Comparison of Stroke and Str	 Elderly people aged 60 or above (340) Post-stroke patients with aphasia (60) Total: 400 	 Elderly Centres Ho Tai Elderly Center Organized by Siksikyuen (Kwong Yuen Estate) Mrs Leung Hak Chiu Social Centre for the Elderly [Yuen Long Town Hall Management Committee Ltd] (Tin Yiu Estate) Hospitals and clinics Prince of Wales Hospital Tuen Mun Hospital Rehabilitation services TWGHs Jockey Club Rehabilitation of stroke patients Hong Kong Stroke Association Tai Hing Aphasia singing class 	 2 public lectures were delivered and participated by 140 elderly people 3,000 pamphlets were printed and 200 copies were distributed 3 workshops were conducted and participated by 50 post- stroke patients Free assessments were provided to 44 post-stroke patients 2 aphasic patients were in the process of further assessment and syntactic training A project website will be created 	One patient has made great progress since training

Healthy Living						
#	Project Title (Project Code)	Performance Indicators				
π	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
6	An Evidence-Based Neuropsychological Intervention for Mildly Cognitive/ Emotionally Deteriorating Elderly in Hong Kong (KPF15ICF07) Faculty of Social Sciences (Department of Psychology) To collaborative with: Faculty of Social Science (Department of Social Work) Previous Research: Traditional Chinese mind body intervention in promoting health in older community-living adults	 Elderly people in the psychogeriatric clinic who were introduced to the intervention (350) Elderly people who participated in the clinical services (42) Family members of participating elderly people (9) Total: 401 	N/A	 Over half of the elderly and their family members showed improvement in their mood state after intervention treatment The first draft of the treatment protocol has been finished and a few thousand copies will be printed 	Participants reported some positive effects on their physical/psychological wellness after intervention	

Healthy Living					
# Project Title (Project Code)		Performance	e Indicators		
" Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
 An Integrated Community-based Screening and Secondary Prevention Program to Promote Physical Activity Among Physically Inactive Individuals Possessing Risk Factors of Diabetes Mellitus (DM) or Being Pre-diabetes (IGT/ IFG) (KPF15ICF08) Faculty of Medicine (The Jockey Club School of Public Health and Primary Care) To collaborate with: Faculty of Education (Physical Education Unit) Faculty of Medicine (Department of Chemical Pathology) Faculty of Medicine (Department of Medicine and Therapeutics) Previous Research: Prevalence of Vitamin-D Insufficiency among Adolescents in Hong Kong and Its Association with Life Style, Bone Mineral Status and Bone Micro-architecture Profile A Community-based, Theory-based, Setting- based Screening and Clustered Randomised Controlled Trial to Promote Physical Activity among Physically Inactive People with Impaired Glucose Forevious Previous Previous end Impaired Fasting Glucose 	 Residents of 9 public housing estates (4,500) Chinese residents aged 45-69 participated in screening (867) High risk individuals completed secondary prevention program (23) Total: 5,390 	 Shatin District Council (1) Public housing estates in Shatin (9) Yao Chung Kit Diabetes Assessment Centre (1) Coaches for demonstration of interesting exercises (3) Students and staff from Sports Science (11) Volunteers (2) Clinical psychologist for MI training (1) 	 Health promotion materials – Posters and leaflets were disseminated 867 residents participated in screening 23 high risk individuals completed the 6-month secondary prevention program At least 50% of the participants of the secondary prevention program will meet the WHO recommendation of 150 min of moderate/vigorous physical activity per week At least 25% of those joining the brief intervention will meet the WHO recommendation and show an intention to take up "oral glucose tolerance test" (OGTT) in the next year Secondary Prevention program will be documented Implementation manual will be produced 	 The awareness of the prevalence of DM among high age adults was increased Baseline and evaluation questionnaires will be developed and archived Participants' improvement in cognitions related to physical activity and in level of physical activity 	

Project Title (Project Code)				
Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
Promotion of Healthy Lifestyle Among aged Chinese Population in Hong Kon Integrated Approach Using Body Fat	g: An	To be developed	 The dietary information contents for the mobile apps was developed 	 Effectiveness in promoting healthy lifestyle and weight control
Measurement, Brief Counseling, and I (KPF15ICF16)			 No. of subjects to be recruited (Target: 300) 	 Satisfaction of participants with the counseling
Faculty of Medicine (The Jockey Club S Public Health and Primary Care)	ichool of		Health talks and Health Festival will be held	 Increase of self-efficacy and behavioral changes in healthy
To collaborate with:			Press Conference will be held	lifestyle adoption and weight
Faculty of Education (Department of S and Physical Education)	ports Science		A website, mobile Apps and Social Media will be built	control
Faculty of Science (School of Life Scien	ces)		 Posters, flyers and leaflets will be distributed 	measurement (body fat thickness, muscle thickness,
			No. of participants taken body fat measurements	body fat index, percentage, an distribution, body shape image
			 No. of counseling sessions 	 Feelings and opinions about changes in eating habits, PA
			No. of users of the mobile apps	levels, body shape, and health
			 Amount of time users spent on mobile apps 	status of participants
Living with Heart: Online and Commu Mindfulness and Compassion Program Promotion of Public Mental Health in (KPF15ICF17) Faculty of Social Science (Department Psychology) To collaborate with: Faculty of Medicine (The Jockey Club S Public Health and Primary Care) Faculty of Social Science (School of Jou Communication)	ns for the activities (130) Hong Kong ↔ Parents (29) Total: 159 School of	 Ms Yip Ying Chi, Registered Clinical Psychologist Ms Yiu Fong Yee, Registered Clinical Psychologist 	 130 participants joined the mindfulness workshops 29 parents joined the mindful parenting workshop The overall rating for the satisfaction of the workshops is 8.45 over 10 No. of visits to website (Target 1,500) No. of Usage of online assessment tool (Target: 500) No. of registered user of online mental health training (Target: 300) An online platform will be launched 	 Participants reported that mindfulness can reduce their stress and help them to relax They reported that mindfulness can facilitate their understanding of the self and promote their physical and psychological health Some participants commented that they were interested in applying mindfulness in their workplace (NGOs) The project team received follow-up inquiries to provide mindfulness service in NGOs Evaluation of pre-and post- outcome of the online mental health training

He	Healthy Living					
ш	Project Title (Project Code)		Performan	ce Indicators		
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
10	*Moving Against Old Age! Moving Against OsteoArthritis!"「動起來!無懼膝痛!」 (KPF15INF06) Faculty of Medicine (Department of Orthopaedics and Traumatology)	 Patients diagnosed with symptomatic Osteoarthritis and have elected to be on the waiting list for a lower limb arthroplasty (118) Total: 118 	❖ To be developed	 118 participants joined 10 Tai Chi Class Session 58% of participants completed 3 month and 6 month follow up 82.2% of the participants found the programme highly beneficial and 93.3% said they would highly recommend the programme to others Assessment of physical activity according to IPAQ-SF (70% of patients who completed the follow up maintained their activity level as category 2) Assessment of symptoms and physical functioning of joints (patients who completed the follow up showed positive improvement in terms of pain (62.6%), stiffness (55.2%) and physical activity (64.1%)) Assessment of the quality of life of participants in terms of patient self-rated questionnaire SF-36 (over 50% of patients who completed the follow up showed an improvement in terms of physical score and mental score) 	 Reduced symptoms of osteoarthritis and physical functional disability of the participants Positive feedbacks from the participants 	

Не	althy Living				
#	Project Title (Project Code)		Performan	ce Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
11	 Development of Multimedia Interventions to Promote Cervical Cancer Prevention Among South Asia Women in Hong Kong (KPF15INF09) Faculty of Medicine (The Nethersole School of Nursing) Previous Research: Perspectives on cancer preventive services for ethnic minorities: implications for services needs and utilization Improving cancer control for South Asian women through intervention by community health workers: A pilot study Translation and validation of instruments in South Asian women in Hong Kong 	 Indian women (49) Nepali women (19) Pakistani women (65) Ethnic minority women who have received health booklets (577) Total: 710 	 Hong Kong Family Welfare Society – Hong Kong Eastern Centre North Point Integrated Family Service Centre (1) Dua Foundation Funds Limited (1) Dua Foundation Funds Limited (1) Women International Guild (1) YMCA of Hong Kong Cheung Sha Wan Centre (1) The Neighbourhood Advice-Action Council Tung Chung Integrated Services Centre (1) Hong Kong Community Network LINK Centre (1) Yang Memorial Methodist Social Services (1) Khalsa Diwan (Sikh Temple) Hong Kong (1) New Home Association (1) Equal Opportunity Council (1) 	 7 health talks conducted at 7 different community partner centres were attended by 133 participants Four versions (English, Nepali, Punjabi, and Urdu) of health booklet and a PowerPoint were developed and delivered to 577 ethnic minority women 26 non-government organisations and ethnic minorities associations agreed to support the intervention. 10 of them, plus Equal Opportunity Council, supported the promotion of the health talk, provision of interpreters or display the health booklets at their centres A video clip was produced Posters and flyers were developed and distributed The advisory panel met in 2 meetings 	 Knowledge of cervical cancer, related preventive measures and access to cervical cancer screening services through completing a survey Satisfaction with the intervention Feedback from community partners through a self- reported survey Willingness of community partner association to continue carrying out the intervention at their centres after project completion Minority translators, actor/actress/interpreters were recruited to help in the intervention

<pre>Project Title (Project Code)</pre>		Performan	ce Indicators	
" Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
12 Effective Communications Among Hearing Impaired Elderly and Their Families (KPF15INF: Faculty of Medicine (Institute of Human Communicative Research) Image: State of the	 Elderly persons and their family members and/or caregivers attended 3 public talks (180) Elderly people joined on-site hearing screening (205) Family members and/or caregivers of the elderly with hearing loss reached by distribution of "communication tips" pamphlets (2,387) Staff in the elderly centres reached by outreaching hearing screening (150) Total: 2,922 	 Hong Kong Society for the Deaf (8) Hear Talk Foundation (10) HKSKH Lady MacLehose Centre (5) Sik Sik Yuen Ho Tai District Community Centre for Senior Citizens (7) Sik Sik Yuen Ho Shin Home for the Elderly (8) 	 3 public talks were attended by over 180 family members and/or caregivers Over 200 elderly persons received the outreaching hearing screening 2,387 copies of "communication tips" pamphlet were printed and distributed to the general public 	 Increase in public (including families and caretakers) awareness and knowledge or elderly hearing and communication difficulties and their rehabilitation possibilities Increase in the elderly persons' awareness on their hearing health and communication needs Improvement in self-rated communication skills among family members and caretakers

Sustainability and Productivity

#	Project Title (Project Code)		Performan	ce Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
13	The Production of an Assessment Tool to Evaluate the Spoken Word Recognition for Hearing- impaired Population (KPF14ICF03) Faculty of Medicine (Institute of Human Communicative Research) To collaborate with: Faculty of Engineering (Department of Electronic Engineering) Previous Research: The construction and validation of CanSWORT	 Audiologists in Hong Kong (27) Cantonese speaking audiologists and relevant professionals outside Hong Kong (5) Speech therapists serving the population with hearing impairment in Hong Kong (284) Speech therapy students (79) Teachers of children with hearing impairment in Hong Kong (11) Total: 406 	 Audiologists in Hong Kong (8) International manufacturer of hearing device (2) 	 The assessment kit Cantonese Spoken Word Recognition Test (CANSWORT), including software, user manual, scoring book and discs of audio recordings, was published A dissemination seminar was held and attended by 410 local professionals and students in related industries 393 professionals collected a copy of CanSWORT for education and research purposes for the coming two months so as to provide feedback to the project team A peer-review journal paper was published and 3 oral presentations were made in conferences and seminars 	 Participants showed positive attitude regarding the assessment tool's clinical applicability as well as the test reliability and validity Feedback after the hands-on demonstration session indicated that participants were satisfied with implementation and the design Enquiries regarding future research collaboration opportunities and incorporating the tool into commercially available assessment and rehabilitation devices have been received

Su	Sustainability and Productivity					
#	Project Title (Project Code)		Performance	e Indicators		
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
14	A Model of Knowledge Translation: the Active Healthy Kids Report Card on Physical Activity for Hong Kong Youth (KPF15ICF12) Faculty of Education (Department of Sports Science and Physical Education) To collaborate with: Faculty of Medicine (The Jockey Club School of Public Health and Primary Care)	 Stakeholders – secondary school physical education teachers (300) Other stakeholders (20) Total: 320 	 Hong Kong Physical Fitness Association (2) Hong Kong Association of Sports Medicine and Sports Science (1) 	 The 1st Hong Kong Active Healthy Kids Report Card on Physical Activity for Children and Youth was developed with 9 indicators assigned by the Research Work Group (RWG) ~300 Physical Education (PE) teachers and principals from primary and secondary schools attended the presentation at the Summer School for PE teachers A manuscript on Hong Kong Report was submitted to Journal of Physical Activity and Health Draft website was developed and will be finalized No. of long and short form Report Card to be printed and disseminated (Target: 500) Press conference/launching ceremony will be held Presentation at international congress on physical activity and public health will be conducted in December 2016 	Enhance educational attainment since higher physical activity and lower levels of sedentary behaviors are more conductive to learning	

#	Project Title (Project Code)			e Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
15	Building Vibrant Entrepreneurial Financing System for CUHK (KPF15ICF15) Faculty of Business Administration (Centre for Entrepreneurship) To collaborate with: Faculty of Medicine (Centre for Clinical Research and Biostatistics)	 CUHK Students, Alumni & angel investor (800) Start-up Projects and Early Stage Companies (80) Total: 880 	 Entrepreneurship programmes in CUHK (2) CUHK Alumni Associations (2) Hong Kong Trade Development Council (1) Hong Kong Sciences and Technology Park (1) CoCoon co-working space (1) 	 2 training Workshop were held 2 networking Event were held 2 pitching Event were held 2 sharing Session were held 2 sharing Session were held Exhibition showcasing CUHK start-up projects, seminars and alumni network on CUHK Entrepreneur Day (co-organized with Alumni Torch Fund and HKTDC) 12 CUHK projects were recommended for pitching events Sidecar fund (Target: 1) Online investment managing platform (Target: 1) No. of registered members of the CUHK Angel Network (Target: 25) Coaching class (Target: 3) 	 Start-up teams who joined the Entrepreneur Day had positive feedback The pitching teams got valuable feedback from investors and peer founders, and more exposure as well Assisted in the establishment or CUHK Alumni Entrepreneurs Association (CUAEA) inaugurated on 16 April 2016 which acts as a platform to provide opportunities for idea exchange and connection Knowledge transfer from experienced entrepreneurs and educations to start-up and future entrepreneurs
16	The Hong Kong Sign Language Basic Sex Education Website (KPF15INF01) Faculty of Arts (Department of Linguistics and Modern Languages) Previous Research: Taboos and Euphemisms in Sexual Signs in Asian Sign Languages Sex Education Image: Comparison of the second s	To be developed	To be developed	 The first draft of the webpage was completed with the Chinese scripts and drawing for the website The first round of video-shooting was completed No. of hits to the Website (Target: 1,500 in the first year) No. of participants in the seminars (Target: 300) 	 Help deaf teenagers to develop a better understanding towards sex-related matter Raise public awareness towards the need of sex education for deaf people, particularly youngsters

Sustainability and Productivity Project Title (Project Code)	Performance Indicators				
# Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
 17 Capturing Syllables: Intelligent Mobile App on Pinyin and Jyutping Dictation Trainings for Students and the Hong Kong Community (KPF15INF03) Faculty of Arts (Department of Linguistics and Modern Languages) Previous Research: Optimal Personalized Online Pinyin Trainings for Cantonese Speakers of Hong Kong The students of the state of the s	To be developed	The Chinese Language Centre, CUHK (200)	 The website on Pinyin Dictation Tutor was developed The website on Jyutping Dictation Tutor was developed Most syllables in Putonghua and Cantonese were recorded for mobile Apps No. of participants in seminars and workshops (Target: 1,000) No. of download of Smartphone apps (Target: 10,000) No. of Educational leaflet distributed (Target: 5,000) 	 ◆ The Pinyin Tutor website was listed by the book 《國際漢語教學網路資源與技術》(張延成, 2015) as one of the best Pinyin learning websites ◆ Feedback from users of the mobile apps through online survey 	

	stainability and Productivity Project Title (Project Code)	[Performanc	e Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
18	Rental Index and Living Environment of Sub- divided Housing Units (KPF15INF15)Faculty of Social Science (Department of Geography and Resources Management)To collaborate with: Faculty of Social Science (Department of Social Work)Previous Research: Future Housing Choices – Demographic Challenges and Mixed-Income Communities in Hong KongTomation of the second	 Social Workers dealing with subdivided units (20) NGOs dealing with subdivided units (7) Students (University) – iCare training (10) Students (Secondary schools) – Tours (500) Public – Exhibition (2,500) Webitizens (FB likes) (2,600) Political party representative and quasi-public institution officials (7) Total: 5,624 	 The Hong Kong Council of Social Service (1) Social Work Organizations (7) Platform of Concerning Subdivided Flats and Issue in Hong Kong (1) iCare, CUHK (1) Land Justice League (1) Hong Kong Art and Design Community (1) Institute of Future Cities, CUHK (1) Shadow Steering Committee of Long Term Housing Strategy (1) Alliance for Concerning Grassroots Housing Rights (1) Justice and Peace Commission of the Hong Kong Catholic Diocese (1) Land Education Foundation (1) Jockey Club Creative Arts Centre (1) 	 3 press conferences reporting the first size-adjusted rent-to- income ratio of SDUs of 2015Q1, the first rental index of subdivided units and rental determinants of subdivided units were held An exhibition received more than 3000 visitors ~20 social workers and 10 iCare students were trained on carrying out SDU surveys A website was launched 1503 likes was recorded in HKSDU FB page and 1280 likes was recorded in UnitaSuddivisa FB page No. of references making to the rental index and its change (Target: 1000) 	 Being reported by more than 100-times by various news media Attracts new funding for the Platform to continue the index Attracts new partners to co- organize the exhibition Attracts iCare to collaborate on student training Arouses public concern on the 3 issues of unaffordability, tininess, and poor living conditions of subdivided units in Hong Kong Produces two novel metrics for monitoring the situation, namely (1) a size-adjusted rent- to-income ratio and (2) a rental index of subdivided units The platform has successfully applied for a one-year funding for continuing the project of SDU rental index

Su	Sustainability and Productivity						
#	Project Title (Project Code)		Performan	ce Indicators			
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators		
19	 Experience-based Service Design with the Welfare Services Users (KPF15INF16) Faculty of Social Science (Department of Social Work) Previous Research: Towards a practice model of users participation for elderly services in Hong Kong User participation in governing welfare service organizations – An exploratory study of service users' experience Effective means to enhance users' participation in service planning and monitoring in mainstream elderly services 	 Social service practitioners and managers (23) Welfare service users (29) Total: 52 	 6 panels set up in the partner organization for implementing Experience-based co-design (EBCD) (55) 	 2 training workshops were held with 68 participants > 90% of workshop participants agreed the enhancement in their understanding about Experience-based co-design (EBCD) and over 95% found the workshop useful and informative 6 service units in the partner organization for improving service design was implemented, a total of 7 meetings were held with 65 participants Consultation on the implementation of EBCD was provided to the panels through 6 consultation meetings, 27 email and telephone communications An experience sharing meeting was attended by 15 service practitioners and 7 service user A weblink on "user involvement" was developed An operational manual will be disseminated to local welfare community (Target: 300) A seminar will be held to share the stakeholders' experience in collaborative service planning (Target: 100) 	 Change in attitude, understanding and skills among the working group members Satisfaction with the training workshops and consultation meetings Satisfaction with the dissemination seminar Sustained interest in participatory management with the welfare service users in the partner organization 		

Annex 9.3

Annex 9.4

Projects newly funded (2015-2016)

Culture and Heritage

# Project Title (Project Code)	Performance Indicators				
[#] Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
A Multiculturalism in Action: Promoting South Asian Culture as Local Heritage (KPF16INF01) Faculty of Arts (Department of Anthropology)	✤ To be developed	 Mr. Thilina Weerasinghe Mr. Sumi Sumiththa Mr. P.B. Thilakarathne Ms. Girtie B. Jirasinha Mr. Dewan Saiful Alam (Masud) Mr. Syed Ekram Elahi Mrs. Sabina Zaman Mr. Md. Ashrafuzzaman Zaman 	 No. of secondary school students participated in the project (Target: 300) No. of post-secondary cultural trainers participated in the project (Target: 15) A website was developed A Facebook page will be kept updating An information kit will be produced for public access 	 Feedback from partners through individual interview with standard protocol Improvement of knowledge of significance in Bangladeshi and Sri Lankan cultures and their daily practices Improvement in critical understanding of ethnic relations in Hong Kong society 	

Environment and Communal Harmony

щ	Project Title (Project Code)		Performar	ce Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
2		Beneficiary Types (Numbers)			Qualitative Indicators The accuracy and sensitivity of a GM papaya detection method The usability of Lab-on-a-disc Feedback on the participants about their attitudes and knowledge towards genetically modified food before and after the investigation
				 No. of schools participated in the investigations (Target: 8) No. of secondary school teachers and students participated in the investigations (Target: 80) Two workshops will be held 	

En	vironment and Communal Harmony					
#	Project Title (Project Code)	Performance Indicators				
	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
3	Story Taler: Fighting against Mental Illness Stigma through Story-telling Online and Offline (KPF16ICF07) Faculty of Social Science (Department of Psychology) To collaborate with: Faculty of Medicine (The Jockey Club School of Public Health and Primary Care) Faculty of Social Science (School of Journalism and Communication)	 General public (indicated by Facebook like) (18,147) Staff and students in Wu Yee Sun College (1,000) People in recovery of mental illness, family members, mental health practitioners and administrators, researchers and academicians from Hong Kong, Thailand, Singapore, the United Kingdom (50) People interested in promoting mental health and reducing stigma (44) Students in secondary schools and colleges along with New Life's publication (7,990) Total: 27,231 	New Life Psychiatric Rehabilitation Association (1)	 A total of 18,147 general public reached the Facebook 1,000 staff members and students in Wu Yee Sun College reached the interview in magazine Sunzine 50 people in recovery of mental illness, family members, mental health practitioners etc. attended workshop at the symposium on Peer Support Service 44 people were recruited as StoryTaler members 7,990 cards were distributed to around 453 secondary schools and colleges No. of story-telling workshops will be held (Target: 3) No. of mental health workshops will be held (Target: 3) 	 Written feedback of the participants in the events 	
4	Elder Law in Hong Kong: Advancing the Rights of Older Persons (KPF16INF07) Faculty of Law (Department of Law)	 Social and age care professionals (via Council for Social Services) (60) Community organisers of the Elders Rights League, Society for Community Organisation (3) Representatives from targeted professions: nurses, doctors, care workers, and occupational therapists (10) Total: 73 	 Elders Rights League, Society for Community Organisation (SOCO) (1) Council for Social Services (1) Legislative Council member (1) 	 A website was developed A presentation at the Asia Pro Bono Conference was conducted Targeted beneficiaries, including social workers, health care or social care professionals, community organisations and NGOs, will attend the workshop (Target: 50-80) Presentations at the workshop (Target: 1 plenary, 1 panel, 3-4 parallel sessions with 3 presentations in each session) No. of media coverage of workshop (Target: 3-4 local media outlets in attendance) 	 Representativeness of workplace participants from different sectors and positive feedback from participants Audience engagement in the workshop such as questions asked and diversity of the presentations Media coverage of workshop 	

He	Healthy Living					
#	Project Title (Project Code)		Performar	nce Indicators		
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
5	Promoting Physical and Health Literacy in Hong Kong Pre-school Teachers, Children and their Families (KPF16ICF03) Faculty of Education (Department of Sports Science and Physical Education)	To be developed	To be developed	No. of children in pre-primary schools and their parents joined two family events with talks and measurement booths (Target: 300 children & 300 parents)	 Feedback on parents and teachers at interviews Changes in parents' physical activity habits 	
	To collaborate with: Faculty of Education (Department of Sports Science and Physical Education)			 No. of teachers of full day pre- primary school joined the workshops (Target: 100) 		
	<text><text></text></text>			 Improvement of children's fundamental movement skills (FMS) and physical activity from pre- to post-program Improvement of parents' knowledge related to physical activity and health from pre- to post- program Increase of parents' physical activity behaviors from pre- to post-program Improvement of teachers' knowledge related to physical activity and health from pre- to post- program A project website will be developed 		

Hea	Healthy Living						
#	Project Title (Project Code)		Performan	ce Indicators			
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators		
6	Robot-based Intervention to Reduce Challenging Behaviors in Children with Autism Spectrum Disorders (KPF16ICF05)	 6 to 12 years old children with low functioning autism in Hong Chi schools (28) 	Hong Chi Morninghill School	The social robot, NAO, was programmed to perform the 8 gestures	 Feedback from parents and teachers from the partner schools 		
	Faculty of Education (Department of Educational Psychology)	Total: 28		 28 children aged 6 to 12 years old started the intervention 	 Increase in the degree of the inclusiveness of students with 		
	To collaborate with: Faculty of Engineering (Department of Information Engineering)			 program A press debriefing was held with 17 modils opportunity 	Autism Spectrum Disorders who participate in this program		
	Faculty of Arts (Department of Linguistics and Modern Languages) Previous Research: Using social robot to teach			 with 17 media coverage No. of parents of children in Hong Chi Morninghill School participated in the program (Target: 140) 			
	children with autism gestural communication skills (Quality Education Fund, 2016)			No. of teachers in Hong Chi Morninghill School participated in the program (Target: 44)			
				 Knowledge increased after completion of the program (Target: >50%) 			
				 Teachers' rating on students' application of gestures at school after completion of the program (Target: >70%) 			
	Exercise Control Contro Control Control Control Control Control Control Control Control			 Parents' rating on children's application of gestures at home after completion of the program (Target: >70%) 			
				Ratings provided by schools, parents and teachers on perceived effectiveness, accessibility and appropriateness of the program (Target: >70%)			

ŧ	Project Title (Project Code)	Performance Indicators				
r	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
	"Getting Our Kids Active" – Promoting Motor Skills Proficiency of Hong Kong Children with Developmental Coordination Disorder (KPF16ICF06)	To be developed	✤ To be developed	 The Steering Committee was set up No. of participants of 10-15 years old primary school 	 Motor skills level of the studen participants Feedback/interview of children families and educators 	
	Faculty of Education (Department of Sports Science and Physical Education)			students with Developmental Coordination Disorder		
	To collaborate with:			participated in the training		
	Faculty of Education (Department of Educational Psychology)			 workshop (Target: 1,200) No. of engagement in parent sharing/talk, parent-child 		
	Faculty of Education (Physical Education Unit)			activity (Target: 1,200 families)		
	Previous Research : Physical activity and fundamental movement skills in children with developmental coordination disorder (Health and			 No. of participation in in-service teacher training workshop (Target: 100-150 educators) 		
	Medical Research Fund, 2013-14)			 Distribution of promotion materials to schools (Target: 3,500 booklets and brochures, CD/DVD) 		
				 Distribution of promotion materials to wider community (Target: 5,000 flyers) 		
	Promoting Integrative Chinese-Western Medicine Care Models Through the Development of an Evidence-based Electronic Resource and Training	To be developed	✤ To be developed	 ❖ 40 synopses in English were completed ❖ No. of visits of the website 	 Findings from qualitative interviews during evaluation 	
	Program (KPF16ICF09) Faculty of Medicine (The Jockey Club School of Public Health and Primary Care)			No. of views of the targeted group of the synopses, including		
	To collaborative with:			"read" reply from mass emailing, and number of likes in social media platform		
	Faculty of Medicine (Hong Kong Institute of Integrative Medicine)			 No. of views and likes for the uploaded video of the 		
	Faculty of Medicine (The Jockey Club School of Public Health and Primary Care)			 workshop No. of consultation received 		
	Previous Research: Assessing Internal Validity of Clinical Evidence on Effectiveness of Chinese and Integrative Medicine: Proposed Framework for a Chinese and Integrative Medicine Evidence Rating			through telephone or website		
	System (CHIMERAS) (Hospital Authority, 2014-15)					

He	althy Living					
#	Project Title (Project Code)		Performa	nce Indicators		
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
9	An Evidence-based Knowledge Transfer Program Promoting HIV Self-testing with Real-time Online Counseling for Men Who Have Sex with Men in Hong Kong (KPF16ICF10)	To be developed	✤ AIDS Concern	 A panel for the project was set up 3 staff of AIDS Concern participated in the first session 	Feedback from the participants	
	Faculty of Medicine (The Jockey Club School of Public Health and Primary Care)			of the self-testing and counselling		
	To collaborate with:			No. of men who have sex with		
	Faculty of Social Science (Department of Psychology)			men (MSM) participants who take the HIVST-online (Target:		
	Faculty of Social Science (Department of Sociology)			245)		
	Previous research: A randomized controlled trial			No. of friends of MSM who receive webpage link for promotion HIVST online (Target:		
	evaluating efficacy of promoting home-based HIV			1,050)		
	testing with online counseling on increasing HIV			 Participants' behavioral 		
	testing among men who have sex with men (Health and Medical Research Fund, 2014-16)			intention to take up HIV testing		
				in the next six months (Target:		
				40% of the participants who have not taken up HIVST-online)		
				 No. of participants who have taken up HIV testing other than 		
				HIVST-online (Target: 2-3% of		
				the participants who have not taken up HIVST-online)		
				Process evaluation of HIVST- online service and health promotion components (Target: at least 80% of all testers rate "satisfactory")		
				 No. of organizations participating in the workshops jointly organized by AIDS Concern 		
				Grant applications made by the		
				NGOs to seek funding to		
				support their new HIVST-online		
Не	ealthy Living					
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#	Project Title (Project Code)	Performance Indicators				
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
10	Development and Implementation of a Positive Psychology Intervention to Improve Mental Health among Secondary School Students and Teachers in Hong Kong (KPF16ICF11) Faculty of Medicine (The Jockey Club School of Public Health and Primary Care) To collaborate with: Faculty of Social Science (Department of Social Work) Faculty of Education (School of Educational Psychology)	To be developed	To be developed	 A panel for the project was set up No. of students participated in the program (Target: 1,200 secondary 1-4 students from 3 schools) No. of teachers completed the online tutorial (Target: 16) No. of students referred by participating students (Target: 2,520) Teacher training manuals, leaflet of "Three Good Things" (TGT) and journal book will be produced The final report will be disseminated widely to stakeholders including Education Bureau, Department of Health, and teachers' association 	 Students and teachers reported positive perceptions towards the experiences in conducting the TGT exercise Students and teachers who participated in the program reported decreased depression/anxiety score after completing the program Students and teachers who participated in the program Students and teachers who participated in the program reported decreased negative affect score and increased positive score after completing the program Students and teachers who participated in the program Students and teachers who participated in the program Students and teachers who participated in the program reported increased gratitude score after completing the program 	

# Project Title (Project Code)		Performa	ance Indicators	
[#] Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
11 Mindfulness for Children with Attention Deficit Hyperactivity Disorder (ADHD) and Their Parents An Education and Practice Programme in the Community (KPF16ICF14) Faculty of Medicine (The Jockey Club School of	To be developed	✤ Heep Hong Society (3)	 No. of healthcare professionals participated in the mindfulness training programme (Target: 25) No. of parents attended the community-based seminars 	Feedback from the online video watchers/training programme and community exhibition attendants/mobile app users
Public Health and Primary Care)			(Target: 120)	
To collaborate with: Faculty of Education (Department of Curriculum a Instruction)	nd		 No. of people watched the online educational video (Target: 1000 clicks) 	
Faculty of Social Science (Department of Psychology)			 Attendance of 6 community exhibitions (Target: 1000) 	
			 No. of downloads of the mobile application (Target: 100 users) 	
12 Establishment of Fracture Liaison Services to Prevent Secondary Fractures and Enhance Post- Fracture Rehabilitation in Community (KPF161CF Faculty of Medicine (Department of Orthopaedics and Traumatology) To collaborate with: Faculty of Medicine (Department of Medicine and Therapeutics) Faculty of Medicine (The Nethersole School of Nursing)		The Evangelical Lutheran Church of HK	 21 fragility fracture patients recruited were assessed for osteoporosis, sarcopenia and nutrition screening and referred to further investigation if needed Phone call reminders were given to the recruited patients regularly by the liaison nurse Fracture Liaison Services (FLS) handbooks and FLS promotion leaflets were designed, printed and distributed to patients A website was developed No. of participants attended educational talk and training session (Target: 300) Education materials including hand grip balls, resistance training rubber bands and exercise VCD etc. will be distributed to the patients 	 Quality evaluation feedback by the participants Patients and caregivers trained in the training sessions are expected to gain knowledge on fall and fracture prevention and further reinforce their engagement in secondary fracture prevention

Healthy Living Project Title (Project Code) Performance Indicators # Faculty (Unit) Beneficiary Types (Numbers) Partners (No. in the group) **Quantitative Indicators** Qualitative Indicators Knowledge Transfer to Engage Secondary School Secondary school students The salvation Army Taipo Multi-✤ 3 secondary school visits were 13 The geriatric care dairy at Students for Healthy Living of Elders in Our (155) Service Centre (70) conducted; 155 senior high baseline and at the end of Community (KPF16ICF21) Hong Kong Housing Society – school students were recruited CUHK faculty of Medicine project provided by secondary Kwun Tong Garden Estate (70) to the voluntary program Faculty of Medicine (School of Pharmacy) students (243) school participants will Hong Kong Housing Society – Jat CHAMP To collaborate with: Elderly subjects (2,400) document what they have Min Chuen (70) 234 CUHK Faculty of Medicine Faculty of Medicine (The Nethersole School of Rehabilitation patients (65) learned and how to apply the T.W.G. Hs Wong Cho Tong students have signed up to be Nursing) Ethnic minority citizen (50) District Elderly Community knowledge Summer Outreach 2016 student Faculty of Medicine (Department of Medicine and Social worker, and caretakers Centre (70) volunteers Positive comments by the Therapeutics) (110) Fung Ying Seen Koon Tai Po ✤ 2 public lectures were participants Neighbourhood Elderly Centre Registered nurses (26) conducted (70) Registered pharmacists (51) An orientation workshop for Fung Kai Neighbourhood Elderly Total: 3,100 student volunteers was Centre (70) conducted Yan Chai Hospital Mrs Tsang CU CATALYST 2016. an e-Wing Neighbourhood Elderly learning platform for CUHK and Centre (70) secondary school student The Neighbourhood Advicevolunteers was launched Action Council Tung Chung 1 website, 1 Facebook page and Integrated Services Centre (100) 1 youtube channel with 7 Sheen Hok Charitable sharing videos were created Foundation Kwan Shon Hing Yu Chui Neighbourhood Elderly No. of elderly participants of Centre (70) both urban rural areas (Target: BOKSS Tai Po Baptist Church Au 1,350) Cheung Sau Fong Neighborhood ✤ No. of elderly family members Elderly Centre (70) of secondary school students Caritas Elderly Centre – Lei Muk participated in the program Shue (70) (Target: 90-150) Hong Kong Housing Society – ✤ A press conference on the Clague Garden Estate (70) preliminary findings will be held The Salvation Army Heng On ✤ At least 1 abstract submission Integrated Service for and 1 full paper publication will Rehabilitation (70) be submitted for presentations Hong Kong Housing Society – in overseas conference Cho Yiu Chuen (70) Improvement of the geriatric H.K.S.K.H. Tseung kwan O Aged care knowledge scores of the Care Complex (70) secondary school participants at Salvation Army Yau Ma Tei baseline and at the end of the Multi-Service Centre for Senior project (Target: >5%) Citizens (70)

Wan Chai Methodist Centre for

He	althy Living				
#	Project Title (Project Code)			e Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
			 the Seniors (70) CFSC Shun On District Elderly Community Centre (70) Hong Kong Housing Society – Bo Shek Mansion (70) Hong Kong Housing Society – Lai Tak Tsuen (70) Pok Hoi Hospital Mr. Kwok Hing Kwan Neighbourhood Elderly Centre (70) SAGE Tsuen Wan District Elderly Community Centre (70) S.K.H. Holy Carpenter Church District Elderly Community Centre (100) Yan Oi Tong Woo Chung District Elderly Community (70) Wan Ho Kan Neighbourhood Elderly Centre (80) Chan Ping Memorial Neighbourhood Elderly Centre (70) YWCA Tai O Community Work Office (100) Hong Kong Housing Society – Kwun Lung Lau (70) Caritas District Elderly Centre – Yuen Long (70) H.K.S.K.H. Tseung Kwan O Aged Care Complex (100) St. James' Settlement Central and Western District Elderly Community Centre (100) Yan Oi Tong Tin Ka Ping Neighbourhood Elderly Centre (60) HKSKH Lady MacLehose Centre (40) 	 Satisfaction survey for the secondary school participants (Target: >70% satisfied with the program) % of the elderly participants to be assessed on their medication adherence at baseline and at the end of project (Target: >20%) % of the elderly participants to be assessed on their health and drug-related problems (Target: 100%) Improvement of knowledge score of the elderly participants on their disease knowledge (hypertension, diabetes, cholesterol, fall risk and atrial fibrillation) (Target: >5%) 	

Не	althy Living				
#	Project Title (Project Code)		Performanc	e Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
14	Capacity building for NGO Elderly Service Workers in Cognitive Screening using the Hong Kong version of the Montreal Cognitive Assessment (HK-MoCA) for Early Identification of Community Elders Harboring Cognitive Impairment (KPF16INF09) Faculty of Medicine (Department of Medicine and Therapeutics)	 Allied health (unspecified) (1) Chinese Medical Practitioner (1) Clinical Psychologist (5) Doctor (11) Event Assistant (1) Lecturer (3) Management (3) Nurse (75) Occupational Therapist (76) Personal Care Assistant (1) Project officer (3) Physiotherapist (12) Researcher (1) Retired person (1) Business (2) Social workers/Social work assistants (511) Trainer (1) Unspecified (107) Total: 815 	 The Hong Kong Council of Social Service (627) The Chinese Dementia Research Association (60) Jockey Club Centre for Positive Ageing (100) various hospitals under Hospital Authority (100) 	 70 professionals attended the Professional Training Workshop > 600 social workers and elderly service assistants from NGOs attended training workshops co-organized by Hong Kong Council of Social Services at Prince of Wales Hospital 40 nurses, doctors, clinical psychologists and health care assistants attended training workshops at Haven of Hope Hospital 97.9% of the workshop participants reported the workshop is useful to their daily work 97.6% of the workshop participants reported improvement in skills and knowledge in cognitive screening for elderly persons in community 92.9% of workshop participants reported increase in confidence in handling cases with cognitive impairment 97.6% of workshop participants reported increase in confidence in handling cases with cognitive impairment 97.6% of workshop participants reported willingness to transfer the skills and knowledge acquired in the workshop to fellow workers 	Feedback from participants on the satisfaction of the workshop through questionnaire

Не	althy Living				
#	Project Title (Project Code) Faculty (Unit)	Beneficiary Types (Numbers)	Performa Partners (No. in the group)	nce Indicators Quantitative Indicators	Qualitative Indicators
15	Paculty (Ont) Planning Ahead: Preparing people with chronic progressive diseases and their carers to plan for end of life care (KPF16INF10) Faculty of Medicine (The Nethersole School of Nursing) Previous Research: A community-based advance care planning programme to improve end-of-life care in patients with advanced disease: A mixed-method approach (Health and Medical Research Fund, 2014-2016)	 Beneficiary Types (Numbers) Health professionals of the Community Rehabilitation Network of the Hong Kong Society for Rehabilitation (10) Total: 10 	The Hong Kong Society for Rehabilitation	 No. of participants in 3 staff training workshops (Target: 100 health professionals) No. of participants in the volunteer training workshop (Target: 30) No. of participants in the public educational talks (Target: 600) No. of visitors of the website (Target: 5,000) Improvement in the level of self-efficacy on communicating end-of-life care issues among patients and families Acceptance rate of advance care planning concept among participants of the public educational talks (Target: 80%) Level of satisfaction in evaluation survey (Target: 75%) 	 Positive comments about the webpage Positive comments about the event will be collected in the survey

Не	althy Living				
#	Project Title (Project Code)		Performan	ce Indicators	
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators
# 16		 Beneficiary Types (Numbers) Patients suffering from faecel incontinence (17) Relatives of patients with faecal incontinence (3) Total: 20 			Qualitative Indicators Positive feedback from the participants
				 the patients (Target: 70%) Improvement in faecal incontinence quality of life score (Target: 70%) 	

ш	Project Title (Project Code)	Performance Indicators				
#	Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators	
17	Developing and Sustaining the "Support Program for Secondary School Student Athletes – Fostering Different Levels of Academic and Athletic Development" (KPF16ICF01) Faculty of Education (Department of Sports Science and Physical Education) To collaborate with: Faculty of Medicine (Department of Orthopaedics and Traumatology) Faculty of Education (Physical Education Unit)	 Elite Student Athletes (CUHK) as mentors (33) Total: 33 	 Secondary Schools (members of The Hong Kong Schools Sports Federation) (5) Children Chiropractic Foundation (1) Sports Federation & Olympic Committee of Hong Kong, China (SF&OC) (1) Hong Kong Elite Athletes Association (1) Hong Kong Sports Institute (1) The Hong Kong Schools Sports Federation (HKSSF) (1) Physical Fitness Association of Hong Kong, China (1) South China Athletic Association (1) Watson's Water (1) 	 33 elite student athletes from CUHK were recruited as mentors and attended a training seminar on presentation and leadership skills A project website was developed No. of secondary school student athletes attended the seminars and talks (Target: 1500) % of recruited secondary school student athletes attended the workshops and sharing (Target rate: 80%) No. of parents/guardians attended the seminars (Target: 300) No. of PE teachers and coaches attended the seminars (Target: 100) No. of secondary schools received materials and information of the support program at the end of the project (Target: 509) 	 Concerns and comments in the seminars raised by parents/guardians, PE teachers and coaches Participants' feedback from interviews and post-program survey 	

" Project Title (Project Code)		Performance Indicators				
# Faculty (Unit)	Beneficiary Types (Numbers)	Partners (No. in the group)	Quantitative Indicators	Qualitative Indicators		
 Faculty (Unit) Knowledge Transfer to Increase Access of Cervical Cancer Screening among the Difficult-to-reach Group in Hong Kong: Community-based Training on Screening by Self-sampling (KPF16ICF13) Faculty of Medicine (The Jockey Club School of Public Health and Primary Care) To collaborate with: Faculty of Medicine (Department of Microbiology) Previous research: A Randomized Control Trial to Evaluate Self-Sampling as a Primary Cervical Screening Test in Women (Health and Medical Research Fund, 2011-13) Image: Screening Laboration Fund, 2011-13 	Beneficiary Types (Numbers) ◆ To be developed	Partners (No. in the group) ◆ Community centres in Kwai Tsing District	 Quantitative Indicators No. of volunteers recruited as health ambassadors (Target: 60) No. of under-screened woman in Kwai Tsing (Target: 30-40) Response rate of returning HPV DNA self-sampling in participants of pilot study as an acceptance of HPV DNA self-sampling as an alternative cervical cancer screening tool in the future A set of education materials including website, video and pamphlets will be produced Training programme and fieldwork will be conducted No. of visitors of the website 	Qualitative Indicators Increase in the knowledge of cervical cancer and HPV DNA self-sampling technique in health ambassadors Satisfaction on the materials/training programmes in health ambassadors Attitudes of HPV DNA self- sampling technique in participants of pilot study		

Sustainable Knowledge Transfer Fund (S-KPF) Projects newly funded (2015-2016)

Total number of applications:5Total number of projects funded:2

Pro-talent Association Limited

(SKPF16SSC02)

Department of Psychology

Pro-talent Association Limited is established to develop and launch evidence-based training programs based upon integration of advanced brain science and music for improving cognition, emotion and behaviours of children/adolescents who may have emotional, behavioural and/or cognitive disorders. The Company also serves as a bridge to connect enthusiastic musicians and autistic children/adolescents by providing regular musical instrument training classes. The long-term goal is to organize self-sustainable chamber orchestras for autism and other less advantaged teenagers.

SLCO Community Resources Limited

(SKPF16ART02)

Department of Linguistics and Modern Languages

SLCO Community Resources Limited is a social enterprise which promotes bimodal bilingualism (the use of spoken and signed languages) in the context of communication, education and social inclusion. Through different lines of services and products, the company aims to nurture bimodal bilingualism among deaf, hearing and special educational needs (SEN) children, enabling them to achieve optimal development in different aspects, and to support parents in learning sign language as an additional strategy of communication with their children in order to cater for their needs. The ultimate goal is to cultivate an inclusive society in which individual differences are appreciated and different languages are respected.

Knowledge Transfer Seminar Series

No. of seminars organized in 2015/16:6

5 Aug 2015 | Knowledge Transfer Seminar Series: Introduction to Patent System and U.S. Intellectual Property Law Updates Dr Albert CHAN



No. of participants

No. of participants

22

15

3 Nov 2015 | Ahead of Germany, France and Japan – Why Hong Kong is top Place for flourishing biotech innovations Prof KWAN Hoi Shan

Participant Feedback: : Inspired or given new ideas to biotech innovations



13 Nov 2015 | Knowledge Transfer Project Fund (KPF) Information Session Dr Tony TSOI

Participant Feedback: learnt more about the possible areas of research/community service





67 No. of participants

10 Dec 2015 | Sustainable Knowledge Project Fund (S-KPF) Information Sessions Dr Tony TSOI, Mr Howard LING Participant Feedback: Very useful information on business plan preparation and experience sharing 14 No. of participants 10% very much much

some

26 Jan 2016 | Technology Start-up Support Scheme for Universities (TSSSU) **Information Sessions** Dr Tony TSOI

30%

Participant Feedback: Encouraged to participate in entrepreneurial activities

60%



47



No. of participants

18 Mar 2016 U.S. Patent Strategy for Scientists, Engineers and Physicians Mr Stephen HOU

Participant Feedback: Provide insight to variables/factors to consider when applying patent









Networking Building:

Activities Conducted or Participated by ORKTS 2015/16

A. Advocating KT to CUHK Faculties and Staff

1) Orientation for New Teachers 2015, by the Centre for Learning Enhancement And Research (CLEAR), August 2015

B. Promoting KT within and beyond campus

- Entrepreneurship Symposium "How to Start Up Start-ups?", by Hong Kong Science & Technology Parks Corporation, and Innovation & Technology Commission, July 2015
- 2) Seminar "IP Challenges Affecting the Global Economy", by Law Offices of Albert Wai-Kit Chan, PLLC, August 2015
- 3) 第 30 屆全國青少年科技創新大賽, by 中國科學技術協會及香港特別行政區政府, August 2015
- 4) Seminar on Research and Development of Chinese Medicines 2015, by Committee on Research and Development of Chinese Medicines, September 2015
- 5) Seminar "Catalyst Factors in Successful Tech Transfer MIT's Experience", by City University of Hong Kong, November 2015
- 6) Seminar "Research Excellence Framework: What is Impact and How to Achieve", by The Hong Kong Polytechnic University, November 2015
- 7) Seminar "MEET with David Walt", by Hong Kong Biotechnology Organization and Hong Kong Science and Technology Parks Corporation, January 2016
- 8) 「香港大學生創新及創業計劃」啟動禮暨創新創業講座及分享會, by 香港新一代 文化協會, February 2016
- 9) CUHK Entrepreneur Day, by CUHK Alumni Affairs Office, May 2016
- 10) EmTech Hong Kong, by Massachusetts Institute of Technology, June 2016

C. Presentations to International Delegations

- 1) 中山大學南方學院教務與科研部, September 2015
- 2) 慈溪市人民政府, October 2015
- 3) University of Strathclyde, UK, October 2015
- 4) 内地高校對外交流人員赴港研習班, November 2015
- 5) 國家知識產權局, December 2015
- 6) University of Helsinki, Finland, January 2016
- 7) Hitotsubashi University of Japan, February 2016
- 8) 廣州市天河中央商務區管理委員會, May 2016
- 9) 中國高校創新創業教育聯盟秘書處, May 2016