



# ANNUAL REPORT 2013/14

Recurrent Funding for Knowledge Transfer  
in the 2012/13 to 2014/15 Triennium

submitted to  
**University Grants Committee**



香港大學  
THE UNIVERSITY OF HONG KONG

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## Executive Summary

With the concerted efforts of all ten Faculties and the support units concerned, all the operational priorities for Knowledge Exchange (KE) as set out in the HKU Strategic Development Plan 2009-2014 have been implemented. The University is very grateful to the University Grants Committee's support in the form of earmarked funding for Knowledge Transfer (KT) since 2009/10, which has played an instrumental role in enabling the University to achieve that.

In the reporting year, we continue our efforts in public engagement and demonstration of the wider impact of the University's excellent research to the community. **The five impact case histories submitted as part of this annual report demonstrate not only high quality research, but also effective engagement processes and significant contributions to society.** The impacts are also diverse, illustrating the reach of our research to various sectors of society: from changing public perception on light pollution, to providing a secure and reliable platform for e-business, establishing the common haematology reference platform for doctors and patients from around the world, reducing Hong Kong's suicide rate by a population-based suicide prevention programme in the community, and identifying the suitable location for blood donation and transfusion in Hong Kong.

The reach of HKU knowledge is extended beyond Hong Kong, one channel being international media. The "HKU in the Media" on the HKU website (<http://www.hku.hk/hkumedia/media/>), with a selection of online news articles recently published in the international or Mainland media related to research findings and expert opinions, provides good examples in this regard.

To enhance our capabilities in the analysis and communication of the broad impacts of the University's research, during the reporting year we invited 4 Arts Engaged Research Fellows of the University of Leeds to conduct impact workshops to share their experience in preparing impact case studies. The benefits of these visit arrangements have extended to other sister institutions as the Fellows also visited other institutions to discuss research and KE collaborations during their periods of stay in Hong Kong.

KE has been embedded in the University's structures, processes, systems, calendar as well as regular activities. An important development in the reporting year is that KE has been fully encompassed in the performance review process for individual academic and academic-related staff. This will ensure recognition of individual academic staff's KE contributions as well as motivate staff members to undertake more KE activities.

This year also saw the rejuvenation of the University Museum and Art Gallery (UMAG) as a significant knowledge exchange organ of the University. An exhibition of an original Botticelli painting of the goddess Venus was held at UMAG in late 2013. It is the first time that a Renaissance masterpiece of this calibre had been shown in Hong Kong. Alongside the exhibition, UMAG organized a large-scale public outreach programme to educate interested members of the community, collectors and scholars, as well as students from local and international schools about Renaissance Art.

The Technology Transfer Office has undergone a major reorganization in the reporting year. The reorganization serves to reiterate that technology transfer, being a subset of KE, is an integral part of the University's mission.

Looking ahead, the University will further develop the impact agenda and encourage Faculties to continue to strengthen their partnerships with schools as well as stakeholder groups of their disciplines, such as professionals, non-governmental organizations, and industry. In addition, the University will consider ways to support students in not-for-profit start-ups.

## 1. Preamble

As explained in the University's annual reports for Knowledge Exchange (KE) in the past few years, underpinning the systematic development of KE is the explicit recognition of KE as the third pillar, alongside Teaching & Learning and Research, in the HKU Strategic Development Plan 2009-2014. The University is very pleased to report that with the concerted efforts of all ten Faculties and the support units for KE, all the operational priorities for KE as set out in the Strategic Development Plan have been implemented. The University is very grateful to the University Grants Committee's support in the form of earmarked funding for Knowledge Transfer (KT) since 2009/10, which has played an instrumental role in enabling the University to achieve that.

This report provides a summary of the University's KE developments in 2013/14. In this report, "KT" is used when referring to the UGC's earmarked funding allocation for the 2009-12 and 2012-15 trienniums, whereas "KE" is used when referring to HKU.

## 2. Strategic KE Developments

### 2.1 Impact as the Priority Aim

As described in the Initial Statement for the 2012-15 triennium, the key element underpinning our KE strategy in this triennium is the emphasis on the communication and evaluation of impacts of HKU's excellent research.

#### 2.1.1 Impact Case Histories

The University is pleased to submit the following five impact case histories:

(a) **Dimming the "Bright Pearl" – Changing Public Perception on Light Pollution (Annex I-A)**

Through extensive community engagement over the years, Dr Jason C S Pun of the Department of Physics has significantly changed public indifference to light pollution.

Dr Pun's studies on light pollution were the first systematic scientific research of this problem in Hong Kong. He set up the "Hong Kong Night Sky Brightness Monitoring Network" in 2010, providing automatic and continuous night sky brightness measurements at 18 urban and rural locations. A dedicated website (<http://nightsky.physics.hku.hk/>) was also set up to provide the public with real-time readings from the measuring stations. With strong outreach efforts especially to schools and through the media, the project has successfully raised public awareness of the negative impacts of light pollution. Extensive contacts with professional stakeholders have been established to introduce the good industrial practices available. The release of the *Guidelines on Industry Best Practices for External Lighting Installations* by the Environment Bureau in January 2012 represented the first step on regulating outdoor lighting usage in Hong Kong. Dr Pun's team now acts as the leading source of information for the general public on light pollution.

(b) **ebXML Message Gateway Hermes and B2B Connector Provide a Secure and Reliable Platform for E-Business (Annex I-B)**

The 'ebXML Message Gateway Hermes and B2B Connector' project led by Professor David W L Cheung and his team at the Center for E-Commerce Infrastructure Development demonstrates how excellence in research at the University can be developed into a platform technology that is successfully transferred to the business/industry sector, as evidenced by the support of four grants from the Innovation and Technology Fund for the project and installation of the technology in the HKSAR Government as well as public and private enterprises, not only in Hong Kong but also in other countries.

Through the engagement process that includes pilot projects with local and overseas enterprises, licensing to companies and open source distribution, the ebXML system has achieved global impact and penetration with recorded downloads from more than 85 countries. The technology has become the most popular open-source ebXML gateway in the world with proven quality and acceptance in many production systems.

**(c) Multi-media Haematology Protocol: the Common Haematology Reference Platform for Doctors and Patients from around the World (Annex I-C)**

To provide easily accessible, expert guidance for the treatment of blood cancers and diseases, Professor Yok-Lam Kwong and the Haematology Team of the Department of Medicine have developed the Multi-media Haematology Protocol, which is available as an iPad/iPhone application (<https://itunes.apple.com/us/app/haematology-protocol-summit/id550091470?mt=8>), through a dedicated website (<http://www.hpshk.com/>), and in book format.

This project offers both the first unified protocol in this field in Hong Kong and a new model of medical practice for Hong Kong, using online technology in the dissemination of medical management and treatment standards. The handbook and applications are available free to all practicing haematologists, oncologists, nurses and other interested doctors in Hong Kong. The website also makes the information readily available to patients and their families for reference. Furthermore, the quarterly newsletter from the Division of Haematology and other regular updates on advances in haematology are published on the website and i-media app. This pioneering project, which is a combination of a unified protocol, sharing of knowledge and clinical experience as well as use of modern IT applications, has demonstrated an inspiring way to apply medicine, and serves as an excellent success model for workers engaged in health care and education.

**(d) Reduction of Hong Kong's Suicide Rate by a Population-based Suicide Prevention Programme in the Community (Annex I-D)**

The Centre for Suicide Research and Prevention led by Professor Paul S F Yip has successfully contributed to Hong Kong's suicide rate reduction of 32% between 2003 and 2012 through a multi-pronged population-based suicide prevention programme. The programme includes research, education and training as well as means restriction, which aims to empower and educate the community to prevent suicides.

This is a pioneer programme for suicide prevention in Hong Kong and in the region, and its impact has been widely recognized. It has successfully transformed the University's knowledge, through advocacy, into concrete changes in society, such as speeding up the installation of platform doors by MTR Corporation and the practice adopted by supermarkets of putting warning labels on charcoal packs and removing charcoal from open selves. The programme also contributes to enhancing mental wellness of disadvantaged groups and school children. It reaches out to disconnected youth through social media and dedicated websites. Through its outstanding accomplishment in community engagement, the Centre has been identified as a local and regional knowledge hub in suicide research and prevention.

**(e) The Right Place for Blood Donation and Transfusion in Hong Kong Located by Data Analytics (Annex I-E)**

In recent years there has been an increasing growth in the demand for blood in Hong Kong. Dr Michael C L Chau of the School of Business helped the Hong Kong Red Cross Blood Transfusion Service (BTS) target its services to the right people and in the right format, by conducting data analysis and data mining on past blood donation data in Hong Kong and looking for patterns and trends that would identify where and how the BTS could boost donations.

The BTS took up his recommendation and opened a donation center in Yuen Long in August 2011. The center attracted more than 400 donations per week and most of these donors came from the district, just as Dr Chau had predicted in his analysis model. The project is highly beneficial to the community as the new center allows the BTS to attract more donors.

### **2.1.2 Impact Workshops**

As impact is a key element of the University's KE strategy, it is considered important to further develop the impact evaluation mechanism and capabilities to analyse and articulate the broad impacts of the University's excellent research to society. In this regard, the experience of overseas institutions that are recognized leaders in KE would provide valuable reference and inputs to us.

As part of the on-going collaboration with the University of Leeds, we invited 4 Arts Engaged Research Fellows of the University of Leeds, namely Dr James Stark, Dr Lorraine Blakemore, Dr Laura King and Dr Matthew Boswell, to visit HKU during the reporting year. The Fellows conducted impact workshops to share their experience in preparing impact case studies for the UK's Research Excellence Framework 2014, in addition to KE seminars on their community engagement projects and research seminars or public lectures on their research.

The benefits of these visit arrangements have extended to other sister institutions as the Fellows also visited other institutions, such as the Chinese University of Hong Kong and Lingnan University, to discuss research and KE collaborations during their periods of stay in Hong Kong funded by HKU.

Researchers from other overseas institutions will be invited to conduct impact workshops in other non-technology-related disciplines or technology-related disciplines in due course.

## **2.2 Rejuvenation and Reorganization**

### **2.2.1 University Museum and Art Gallery**

Overseas experience indicates that museums play a substantial role in knowledge exchange with society. Since the new Director of the University Museum and Art Gallery (UMAG), Dr Florian Knothe, came on board in 2013, UMAG has been rejuvenated as a significant knowledge exchange organ of the University.

UMAG, in collaboration with the Italian Consulate of Hong Kong and Macao and the Italian Cultural Institute, organized an exhibition of an original Botticelli painting of the goddess Venus during October 18 to December 15, 2013. It is the first time that a Renaissance masterpiece of this calibre had been shown in Hong Kong.



Alongside the exhibition, UMAG organized a large-scale public outreach programme to educate interested members of the community, collectors and scholars, as well as students from local and international schools about Renaissance Art. Special tours were organised for schools, in particular Form 4 and Form 5 students who are learning about European culture. A total of 38 school groups came to the Museum and Museum staff also visited a couple of schools to make presentations on the Renaissance. Special evening tours were organised for adult groups. Altogether, about 30,000 people visited the exhibition, which was the first time UMAG had organised outreach on this scale. The feedback has been very positive and schools are keen to repeat this experience. UMAG has already planned for more programmes to promote art appreciation to the public, with a particular focus on schools, in 2014/15.

### 2.2.2 Technology Transfer Office

The Technology Transfer Office (TTO) has undergone a major reorganization in the reporting year. In the past, all technology transfer professionals and associated service personnel were employed by Versitech Limited, a wholly owned subsidiary of HKU which was set up in 1994 to serve as the commercial arm of the University. TTO was subsequently set up in 2006 to serve as the internal interface with academic staff. Following a review of the technology transfer support structure of the University initiated by Vice-President and Pro-Vice-Chancellor (Research) Professor Paul Tam, both the University's senior management and Versitech's Board of Management agreed to have a major reorganization such that most of the staff members of Versitech should be appointed by the University instead. This move serves to reiterate that technology transfer, being a subset of KE, is an integral part of the University's mission, and as such, should be internalized in the University's resource and operational systems.

The TTO co-ordinated the University's participation in the InnoCarnival 2013, which was organized by the Innovation and Technology Commission and held from November 2-10, 2013 in the Hong Kong Science Park. HKU showcased the following 6 projects from the Faculties of Engineering, Medicine and Science at this event:



- Unconventional Batteries? Advanced Rechargeable Flow Batteries for Energy Storage (Professor KY Chan, Department of Chemistry)
- E-Guide for Visually Impaired Users (Professor David Cheung, Department of Computer Science)
- Advanced Robotics Initiative (Professor Norman Tien, Faculty of Engineering)
- iClass – A Total Solution for School Education (Dr Wilton Fok, Department of Electrical and Electronic Engineering)
- Stem Cells (Dr QZ Lian, Department of Medicine)
- The Magic of Chinese Yam (Dr Stephen Sze, School of Chinese Medicine)

The HKU pavilion attracted a lot of visitors, from potential industry partners to school teachers and students as well as families.

The Entrepreneurship Academy run by TTO since 2010 has become increasingly popular with research staff and research postgraduate (RPg) students. In the reporting year, the importance of entrepreneurship training was further recognized in that full attendance of the Entrepreneurship Academy workshop series would be recorded in the transcript of RPg students. Apart from the workshop series, support continues to be given to the participants and alumni to have networking opportunities with early stage entrepreneurs and access to CoCoon, an open co-working space for entrepreneurs.

## 2.3 Embedding KE in the HKU Culture

As explained in last year's report, KE has been embedded in the University's structures, processes, systems, calendar as well as regular activities.

### 2.3.1 KE Fully Incorporated in the Staffing Process

An important development in the reporting year is that KE has been fully encompassed in the performance review process for individual academic and academic-related staff. A central database, namely the Knowledge Exchange Activities System (KEAS), was launched in May 2013. The interface between KEAS and the Academic Portfolio of Achievement system was completed before the 2013/14 academic staff performance review exercise such that individual staff's KE contributions recorded in KEAS would be taken into account in the yearly



performance review process. In line with the Strategic Development Plan, encompassing KE in the staffing process is considered to be of strategic importance as it will ensure recognition of individual academic staff's KE contributions as well as motivate staff members to undertake more KE activities. It also relates back to the integrated engagement focus, *i.e.* engaging academic staff, as described in our Initial Statement for the 2012-15 triennium.

### **2.3.2 KE Embedded in Core Activities of Faculties**

As explained in last year's report, KE performance and plans are included in the annual Faculty Development Plan exercise, alongside Teaching and Research, which are factored into the University's internal budget allocation mechanism. KE is now fully embedded in every Faculty's core activities, as evident from the KE webpages under the Faculty websites, for example:

- Architecture: <http://fac.arch.hku.hk/cpw>
- Arts: <http://arts.hku.hk/knowledge-exchange>
- Dentistry: <http://facdent.hku.hk/index.php/engagement/>
- Education: <http://web.edu.hku.hk/community>
- Engineering: <http://www.engineering.hku.hk/enggke>
- Law: <http://www.law.hku.hk/research/ke.php>
- Medicine: <http://www.med.hku.hk/v1/knowledge-exchange/>
- Science: <http://www.scifac.hku.hk/community/ke>
- Social Sciences: [http://www.socsc.hku.hk/knowledge\\_exchange.html](http://www.socsc.hku.hk/knowledge_exchange.html)

### **2.3.3 KE Awards Presented in the Annual Award Presentation Ceremony for Excellence**

The KE Award Scheme was launched in 2011 to recognize outstanding KE accomplishments that have made demonstrable economic, social or cultural impacts to benefit the community, business/industry, or partner organizations.



The KE Awards are presented at the University's annual Award Presentation Ceremony for Excellence, alongside the long established awards for Teaching and Research. The Ceremony for 2013 was held on March 26, 2014 in Loke Yew Hall. An extract from the Ceremony programme on the KE Awards 2013 is at [Annex II](#).

### **2.3.4 Regular Features in University Publications**

As mentioned in last year's report, KE has become a regular section in publications at the University level, notably *The Review*, which is the University's annual report, and the *Bulletin*, the HKU magazine that features the University's latest activities. An extract of the KE section in *The Review 2013* is at [Annex III](#), which gives an overall picture of the University's KE developments in the past year.

## **2.4 Making Knowledge Accessible**

### **2.4.1 KE Videos**

In addition to KE newsletters and websites, videos are considered to be an effective means to disseminate the University's knowledge to society. The University has a series of research videos to explain cutting-edge research to the public (<http://www.hku.hk/research/video/>). Some Faculties, such as Engineering, have also produced videos to explain their research and KE work (e.g. <http://www.engineering.hku.hk/enggke/video.php>).

The University applauds the UGC's initiative to commission TVB to produce a 30-minute documentary in December 2013 to increase public awareness of the KT/KE work done by the institutions, and is pleased to contribute to the programme with the project on "Support for Students with Reading and Writing Difficulties" by Professor Connie Ho of the Faculty of Social Sciences.

Following that, the KE Office has initiated the production of KE videos with a view to communicating the impacts of the University's KE projects to the public. The first KE video is on "Hong Kong Seeks to Update Animal Welfare Laws to International Standards" by Associate Professor Amanda Whitford of the Faculty of Law (available on YouTube: <http://www.youtube.com/user/hkukeoffice/videos>). More KE videos are being planned, which will become complementary to the Research Videos.

With a view to reaching more young people, the videos are also accessible via the revamped Facebook of the KE Office (<https://www.facebook.com/hkukeo>).



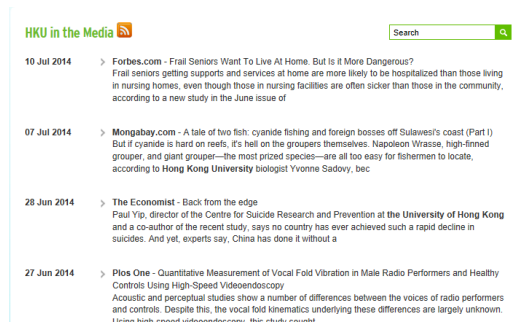
#### 2.4.2 ***The HKU Scholars Hub***

The HKU Scholars Hub (<http://hub.hku.hk/>) is the visible expertise directory of HKU and a unique one-stop online platform for searching our experts. The UGC's KT funding has enabled the University to continue to improve the functionalities and enrich the contents of the Hub. The Hub has made HKU researchers, their research and expertise highly visible, with significant increase in view and download counts. For example, the view count of the HKU ResearcherPages has increased from 1,057,210 in 2012/13 to 1,554,400 in 2013/14. According to the biannual Webometric ranking of repositories worldwide (<http://repositories.webometrics.info/en>), the HKU Scholars Hub was ranked no. 1 in Hong Kong, no. 2 in Asia and no. 68 in the world in July 2014, having moved up from no. 169 worldwide in July 2013. Plans are being made to enhance the search functions of the Hub to make targeted search for HKU experts easier, e.g. by potential industry or community partners for research collaborators, by potential RPg students for supervisors, and by the media for subject experts.

#### 2.4.3 ***KE through the Media***

Our Faculties and individual academic staff members make continuous efforts to disseminate the latest research discoveries and expert views to the public through the media. According to the media impact study coordinated by the Communications and Public Affairs Office, there were 24,846 news items relating to HKU knowledge in 2013/14, which is a 20% increase over the number (20,744) in 2012/13. The year-on-year increase in the number of HKU's KE-related news indicates that the Faculties and individual academic staff members are gaining momentum in engaging the community with their knowledge and that their efforts have been well received by the media and the community at large.

The reach of HKU knowledge is extended beyond Hong Kong through international media. "HKU in the Media" on the HKU website (<http://www.hku.hk/hkumedia/media/>) provides a selection of online news articles recently published in the international or Mainland media related to research findings, expert opinions, and events and activities which may be of interest to the community.





## 2.5 **Broadening KE Opportunities**

### 2.5.1 **Competitive Impact Project Funding Scheme**

The University continues to make use of the UGC KT funding to run the Competitive Impact Project Funding Scheme in 2013/14, which provides support to academic staff to undertake innovative projects that have the potential to create social, economic, environmental or cultural impacts for industry, business or the community by building on expertise or knowledge in the University. 64 proposals were received, of which 42 were supported. A list of the funded projects is at [Annex IV](#).

### 2.5.2 **Student KE Project Grant Scheme**

The KT funding was again used in the reporting year to run the Student KE Project Grant Scheme, under which 33 proposals were received, of which 28 were supported. A list of the funded projects is at [Annex V](#). The University also makes use of other funds to encourage students to undertake community projects, for example, the Service 100 Fund and the We Are With You Project Scheme that are administered by the Centre of Development and Resources for Students.

## 3. Quantitative Indicators

As explained in our Initial Statement, given the broad definition of KE of the University, our performance indicators are not limited to the UGC required metrics, but also other indicators that are highly relevant to the University's KE efforts. Two tables on the UGC and HKU performance indicators respectively are at [Annex VI](#). All the KE indicators are tracked by the KE Executive Group to ensure that HKU stays on track to meet targets. The progress tracked does not relate only to the UGC KT funded activities, but also KE activities supported by other fund sources.

## 4. Looking Ahead

The University will further develop the impact agenda, for example, a joint conference with the University of Leeds is being planned for 2015, with the proposed theme of moving beyond research impact.

Community and cultural engagement has firmly become an on-going commitment of the University. In particular, there is an increasing number of engagement projects with schools, including train-the-trainer or skill enhancement workshops that are outside the school curricula for teachers as well as programmes to broaden the horizon and inspire out-of-the-box thinking for primary and secondary school students. Faculties are encouraged to continue to strengthen their partnerships with schools as well as stakeholder groups of their disciplines, such as professionals, non-governmental organizations, and industry, etc.

In addition, the University will consider ways to support students in not-for-profit start-ups. This is expected to complement the efforts of the Entrepreneurship Academy in promoting an entrepreneurial culture on campus. Furthermore, a community scholarship scheme for RPg students has been approved in order to develop better connections between RPg student projects and community needs. Potential projects with interested community partners are being discussed, and upon implementation, those cases will serve as examples to encourage faculty members to explore partnership projects with outside organizations that yield community benefits while enabling students to have challenging projects.

July 31, 2014

THE UNIVERSITY OF HONG KONG  
IMPACT CASE HISTORY

Title of Case Study

Dimming the “Bright Pearl” – Changing Public Perception on Light Pollution

1. Summary

Through extensive community engagement over the years, Dr Jason C S Pun of the Department of Physics has significantly changed public indifference to light pollution.

Dr Pun’s studies on light pollution were the first systematic scientific research of this problem in Hong Kong. He set up the “Hong Kong Night Sky Brightness Monitoring Network” in 2010, providing automatic and continuous night sky brightness measurements at 18 urban and rural locations. A dedicated website (<http://nightsky.physics.hku.hk/>) was also set up to provide the public with real-time readings from the measuring stations. With strong outreach efforts especially to schools and through the media, the project has successfully raised public awareness of the negative impacts of light pollution. Extensive contacts with professional stakeholders have been established to introduce the good industrial practices available. The release of the *Guidelines on Industry Best Practices for External Lighting Installations* by the Environment Bureau in January 2012 represented the first step on regulating outdoor lighting usage in Hong Kong. Dr Pun’s team now acts as the leading source of information for the general public on light pollution.



## 2. Underpinning Research

Light pollution is a form of environmental degradation caused by excessive artificial outdoor lightings, such as street lamps, neon signs and illuminated signboards, which affect the natural environment and the ecosystem. Poorly designed outdoor lighting not only wastes energy, money, and valuable earth resources, but also deprives everyone of the beautiful night sky. The electricity that might be saved with less improper outdoor lighting would also mean less air pollution, which could in turn reduce global warming caused by the power generation process.

As revealed by satellite imagery of the Earth at night, it is obvious that light pollution is fast growing to be a global environmental problem. Dr Jason Pun, Principal Lecturer in the Department of Physics, first studied this issue in 2003 using traditional astronomical techniques (telescope and camera), which was the first scientific research of this problem in Hong Kong. To increase the geographical and time coverage of the survey, Dr Pun obtained a grant under the Environment and Conservation Fund (ECF) in 2007 to initiate the project *A Survey of Light Pollution in Hong Kong*, which was the first ever ECF grant on the topic. It was designed to be a citizen science project, with over 170 participants coming from different walks of life: amateur astronomers, campsite managers, and secondary school teachers and students.

At the end of this 18-month survey, 2,000 individual readings of the night sky conditions were recorded in over 199 distinct locations, forming the basis of the report submitted to the Environmental Protection Department. It was found that light pollution in Hong Kong was severe, with the night sky in the worst polluted urban areas being a few hundred times brighter than in some less polluted rural areas.

Building on the success of the previous survey, Dr Pun received another ECF grant in 2009 to conduct the project *Hong Kong Night Sky Brightness Monitoring Network* (NSN). Automatic night sky measuring stations were established at 18 sites all around Hong Kong to continuously monitor the quality of the night skies. Over 5 million night sky brightness data points were collected, making the NSN the largest long-term single database on night sky brightness ever developed in the world. Results from this 2-year study clearly revealed that artificial exterior lighting is the main source of light pollution in Hong Kong, with the night sky changing sharply near the top of the hour at 11pm, 12am, and 1am, matching the timing patterns of surrounding public and commercial lightings. The urban night sky is on average 15 times brighter than the rural sites, further demonstrating the damaging effects of man-made lightings. Moreover, the Hong Kong urban night sky was found to be 100 to 1,000 times brighter than the international dark sky standard between 8:30-11:00pm, making it one of the most light-polluted cities in the world. Results from this project had been submitted to the government to facilitate consideration of further regulations on the use of outdoor lightings.

### 3. References to the Research

#### Key peer-reviewed publications:

1. **Pun, C. S. J., & So, C. W.** 2011, “Night-sky Brightness Monitoring in Hong Kong: A city wide assessment”, *Environmental Monitoring and Assessment*, 184, 2537  
DOI: 10.1007/s10661-011-2136-1
2. **Pun, C. S. J., So, C. W., Leung, W. Y., Wong, C. F.** 2014, “Contributions of artificial lighting sources on light pollution in Hong Kong measured through a night sky brightness monitoring network”, *Journal of Quantitative Spectroscopy and Radiative Transfer*, 139, 90 – 108; DOI: 10.1016/j.jqsrt.2013.12.014

#### Selected external grant funding:

1. A Survey of Light Pollution in Hong Kong (ECF 2007-01)  
 Funding Scheme: Environment and Conservation Fund (ECF) of the HKSAR Government  
 Principal Investigator: Dr Jason C S Pun  
 Period: 2007 – 2009  
 Amount Awarded: HK\$148,000
2. Hong Kong Night Sky Brightness Monitoring Network (ECF 2009-10)  
 Funding Scheme: ECF  
 Principal Investigator: Dr Jason C S Pun  
 Period: 2010 – 2012  
 Amount Awarded: HK\$499,970

### 4. Details of the Impact or Benefit

It is a huge challenge to change public perception on light pollution because traditionally the general public is proud of Hong Kong being the “bright” Pearl of the Orient. In order to promote public awareness of the damage caused by light pollution to the natural environment, Dr Pun’s team has adopted a multifaceted approach in community engagement.

#### *Impact on the General Public*

- Light pollution was a topic that received scant attention before the first survey conducted by Dr Pun in 2003. Since 2005, the work of Dr Pun and his team has been covered in over 50 newspaper articles related to light pollution, including

international news agencies such as the *Wall Street Journal* and CNN. In addition, his team has also made a total of 18 local and international television appearances to advocate for the issue. Increasing public interest and changing public perception can be seen as a result. For example, the press release issued in June 2009 on the results of the first ECF project gave rise to a total of 14 articles from 11 newspapers, including the editorial of *South China Morning Post*. This indicated a gradual change in public opinion from questioning why it was even necessary to talk about dimming the bright Pearl of the Orient to becoming concerned about the damaging effects of abusive outdoor lightings.

- A dedicated website (<http://nightsky.physics.hku.hk/>) was set up to communicate real-time readings from the survey to the public. It serves as an educational resource center for the general public on all issues related to light pollution, attracting over 30,000 unique visitors and 220,000 pageviews since its launch in October 2011. A mobile version of the website (<http://nightsky.physics.hku.hk/m/>) has also been developed for people to access the night sky conditions from their mobile devices.
- In support of the *Earth Hour* organized by the World Wide Fund for Nature (WWF), Dr Pun's team held the *Light Pollution Science Roadshow* on March 23, 2013 at the Avenue of Stars, Tsim Sha Tsui, to promote the HKU light pollution research results and the importance of dark sky and energy conservation to the public. The interactive exhibition attracted thousands of visitors to participate in real-time light pollution measurements.
- The "Light Pollution Photography Competition 2014" organized by Dr Pun provides another indication of the increasingly critical view of the public on light pollution. The competition attracted 154 entries, many of which focused on the impacts of light pollution on our living and ecological environments.

#### *Impact on the Decision-Makers*

- The long-term reduction of light pollution in Hong Kong could not take place without the participation of the government and business communities which are responsible for the design, procurement, and deployment of outdoor lightings. Dr Pun met with Miss Choi Man-ye Katherine, then Principal Assistant Secretary of the Environment Bureau, together with the representatives of advocacy groups, Friends of the Earth and the Ho Koon Nature Education cum Astronomical Centre, in May 2009 to discuss results of the HKU survey and propose possible guidelines, rules and regulations to tackle the issue.
- Based partly on the results from Dr Pun's first ECF project, the Environment Bureau issued the *Guidelines on Industry Best Practices for External Lighting Installations* in January 2012 with a view to alleviating the worsening conditions. This document provides a reference for the trade and relevant parties in planning external lighting projects and their daily operation.
- Dr Pun has delivered a series of talks related to lighting use and design for various professional bodies, including the Hong Kong Institution of Engineers, Housing Authority, the Society of Operations Engineers (Hong Kong Region), Hong Kong Institute of Housing, and Hong Kong Institute of Surveyors, etc. He also organized a

course on light pollution for staff of Henderson Land Development Company Ltd in August 2008. Valuable discussions took place on how light pollution could be reduced by good industry practices.

#### *Impact on Schools*

- Engagement of young people is a high priority in this knowledge exchange project. A total of 148 students from 28 schools participated in the first ECF project. They not only contributed data to the database but also experienced the light pollution situation in person.
- Dr Pun has conducted light pollution workshops in secondary schools. Special measuring meters were loaned to the students for them to conduct their own light pollution studies (e.g. night sky brightness as a function of time, or as a function of location).
- The “Light Pollution Project Competition 2014” was organized to engage secondary school students to investigate problems of light pollution by carrying out a research project about their own environment. The competition attracted applications from 42 teams, involving 138 secondary school students from 17 schools. The best 9 teams were shortlisted for oral presentation at HKU held in May to compete for the prizes. The outstanding research projects together with the winning photographs from the “Light Pollution Photography Competition 2014” are on display at a special exhibition at the Hong Kong Space Museum from July 9 to August 11, 2014 to further spread the message of night sky preservation in Hong Kong to the public.
- Dr Pun’s team now acts as the leading source of information for the general public on light pollution. They received over 50 student requests for information in the past two years, some related to potential projects for Independent Enquiry Studies (IES) under the Liberal Studies curriculum.

## 5. References to the Corroboration of Impact or Benefit

- The *Hong Kong Night Sky Brightness Monitoring Network (NSN)* website (<http://nightsky.physics.hku.hk/>) ranks first among Google searches for keywords “light pollution Hong Kong”. Starting from October 2011, there were over 30,000 unique visitors to the website, with over 220,000 pageviews.
- To expand the reach of the NSN, the *Weather Information for Astronomical Observation* webpage ([http://www.hko.gov.hk/gts/astronomy/astro\\_portal.html](http://www.hko.gov.hk/gts/astronomy/astro_portal.html)), jointly organized by the HKU Department of Physics, Hong Kong Observatory and Hong Kong Space Museum, was launched in early 2014. This webpage provides star maps, sky brightness and weather information for star watchers among the general public.
- The press releases, “Measuring the Night Sky Brightness to understand the problem

of Light Pollution in Hong Kong” (June 12, 2009) and “Hong Kong Night Sky Brightness Monitoring Network Confirms manmade lighting is the dominant cause of light pollution” (March 18, 2013), were extensively covered by the media.

- Feedback from participants and judges of the two competitions mentioned above is available for corroboration purpose.



## THE UNIVERSITY OF HONG KONG

IMPACT CASE HISTORY**ebXML Message Gateway Hermes and B2B Connector Provide a Secure and Reliable Platform for E-Business****1. Summary**

The ‘ebXML Message Gateway Hermes and B2B Connector’ project led by Professor David W L Cheung and his team at the Center for E-Commerce Infrastructure Development of The University of Hong Kong demonstrates how excellence in research at the University can be developed into a platform technology that is successfully transferred to the business/industry sector, as evidenced by the support of four grants from the Innovation and Technology Fund for the project and installation of the technology in the HKSAR Government as well as public and private enterprises, not only in Hong Kong but also in other countries.



Through the engagement process that includes pilot projects with local and overseas enterprises, licensing to companies and open source distribution, the ebXML system has achieved global impact and penetration with recorded downloads from more than 85 countries. The technology has become the most popular open-source ebXML gateway in the world with proven quality and acceptance in many production systems.

**2. Underpinning Research**

Before the establishment of the Center for E-commerce Infrastructure Development (CECID) in the Faculty of Engineering, Professor Cheung had already spent effort in following the development of the XML technology in the Internet world. XML is a markup language that facilitates the exchange of complex information between computers. Before the existence of the XML technology, computer software in most cases exchanged information in very simple format. As the Internet becomes a super-efficient medium for exchanging information, it was discovered that there was a need to have a structural way to facilitate the encoding of complex information for exchange purpose. This triggered the development of XML as a markup language for this purpose. Professor Cheung has established his research in two directions: (1) To

develop techniques to use XML to define standards for exchange of information on the Internet. Besides academic result, he has developed guidelines for defining information exchange standards, which has been adopted by the Hong Kong Government in its service. The guideline has also been acquired by other bodies, including the Macao government. (2) To develop software to support the exchange of standardized information between parties (computers) in a secure manner. In this direction, he has led his team to develop a B2B ebXML based message exchange gateway called Hermes and transferred the technology to society in various ways.

In the area of electronic commerce, a family of XML based standards known as ebXML was sponsored by OASIS and UN/CEFACT. The mission of ebXML is to provide an open XML-based infrastructure to conduct electronic business by trading partners. In 2002, CECID, under the leadership of Professor Cheung, received a grant from the Innovation and Technology Fund (ITF) for the implementation of the ebXML infrastructure. As a deliverable of the project, a software named Hermes was released as an open source software.

The key functionality of Hermes is to support reliable and secure exchange of electronic documents between companies on the Internet. In simple terms, once Hermes is installed between two trading partners, it logically converts the unsecure and unreliable exchange on the Internet into a secure and reliable one as if it is carried out on a leased line.

Subsequently, in 2003 and 2007, two further ITF grants were awarded for the extension of the ebXML infrastructure based on Hermes. One was on process integration and the other was on its application to logistics. After successfully conducting a number of pilot projects with local and overseas enterprises, the business value and robustness of Hermes was confirmed. Following the feedback collected from users in the field, CECID subsequently developed a network device with Hermes as the core engine to support easy and fast installation of the gateway. The device, called B2B Connector, has been licensed to many companies. The B2B Connector can be configured to run within an hour. It demonstrates an impressive plug-and-play feature, which is highly appreciated by small enterprises from different industries.

### 3. References to the Research

#### Key peer-reviewed publications:

1. W.K. Sung, F.C.H. Tong, K.H. Yeung, **David W. Cheung**, C.J. Tan and William Song, Pervasive Multimedia Markup Language (PMML): an XML-based Multimedia Content Specification for Pervasive Access. Proc. *Tenth International World Wide Web Conference (WWW10)*, Hong Kong, May, 2001.
2. **David W. Cheung**, E. Lo, C.Y. Ng and T. Lee, Web Services Oriented Data

Processing and Integration. Proc. *The Twelfth International World Wide Web Conference (WWW 2003)*, Budapest, Hungary, May, 2003.

3. W. Lian, **David W. Cheung**, Nikos Mamoulis, and S.M. Yiu, An Efficient and Scalable Algorithm for Clustering XML Documents by Structure. Special Issue on Mining and Searching the Web, *IEEE Transaction on Knowledge and Data Engineering*, IEEE Computer Society, V16, N1, pp. 82-96, January 2004.
4. W. Lian, N. Mamoulis, **David W. Cheung**, and S.M. Yiu, Indexing Useful Structural Patterns for XML Query Processing. *IEEE Transaction on Knowledge and Data Engineering*, IEEE Computer Society, V17, N17, July 2005.
5. Eric Lo, **David W. Cheung**, C. Y. Ng and Thomas Lee, WSIPL: An XML Scripting Language for Integrating Web Service Data and Applications. *Web Intelligence and Agent Systems*, IOS Press, V4, N1, pp. 25-41, 2006.
6. **David W. Cheung**, Thomas Lee, Patrick Yee, Webformer: a Rapid Application Development Toolkit for Writing Ajax Web Form Applications. Proc. *The 4th International Conference on Distributed Computing and Internet Technology (ICDCIT 2007)*, Bangalore, India, Dec 2007.
7. Thomas Lee, C.T. Hon, **David W. Cheung**, XML Schema Design and Management for e-Government Data Interoperability, *The Electronic Journal of e-Government*, V7 I4, 381-390, 2009.
8. Jian Gong, **David W. Cheung**, Nikos Mamoulis, and Ben Kao, XML Data Integration using Fragment Join, Proc. *14th International Conference on Database Systems for Advanced Applications (DASFAA 2009)*, Brisbane, Australia, April 2009.
9. Thomas Y Lee, and **David W. Cheung**, Formal Models and Algorithms for XML Data Interoperability, *Journal of Computing Science and Engineering*, KIISE, V4, N4, 313-349, 2010.
10. Thomas Y.T. Lee and **David W. Cheung**, XML Schema Computations: Schema Compatibility Testing and Subschema Extractions, Proc. *The 19th Int'l Conf. on Information and Knowledge Management (CIKM 2010)*, Toronto, Canada, October, 2010.

**Selected external grant funding:**

1. Establishment of an ebXML software infrastructure in Hong Kong (ITS/101/01)  
Funding Scheme: Innovation and Technology Support Programme (ITSP)  
Principal Investigator: Professor Francis C M Lau  
(Professor David W L Cheung was the PI and Professor Lau is the Project Coordinator. It was recorded in the system that Professor Lau was the PI.)

Period:	2002-2004
Amount Awarded:	HK\$9,539,000
2. A business process and information interoperability platform based on open standards (ITS/038/03)	
Funding Scheme:	ITSP
Principal Investigator:	Professor David W L Cheung
Period:	2003-2006
Amount Awarded:	HK\$13,996,087
3. Extending web 2.0 to deliver e-commerce services (ITS/070/06)	
Funding Scheme:	ITSP
Principal Investigator:	Professor David W L Cheung
Period:	2006-2007
Amount Awarded:	HK\$982,675
4. An eLogistics Appliance with data exchange and conversion technologies for infrastructure connectivity (ITP/018/07LP)	
Funding Scheme:	Platform Research Projects - General Award
Principal Investigator:	Professor David W L Cheung
Period:	2007-2008
Amount Awarded:	HK\$5,984,600

#### 4. Details of the Impact or Benefit

The impact of Hermes and the B2B Connector in society is evident in its installations in many production systems. This platform technology has become the most popular ebXML messaging gateway in the world, with downloads from more than 85 countries. A few examples of its use are given below.

The Office of the Government Chief Information Officer (OGCIO) of the HKSAR Government has adopted Hermes as part of the Government Electronic Trading Services (GETS) system. GETS is a mission critical system. In 2007, the Government reviewed the technical architecture of GETS in order to meet the future needs of trade document processing. After in-depth evaluation, OGCIO decided to adopt ebXML as the message exchange standard and choose Hermes as the gateway software to handle all GETS document exchange between the Government and GETS service providers, which deliver front-end electronic services to the trading community. The enhanced GETS, supported by Hermes, was launched in January 2010. Hermes, as the core engine, has demonstrated its superior quality. The GETS gateway exchanges over 19 million trade documents per year on average. In addition, all the three service providers of GETS, Brio, Tradelink and Global eTrading Services, have used Hermes for their document submissions to GETS.

Another illustrative case is the e-commerce system implemented by MTR Corporation Limited (MTRC). MTRC's internal goods receiving system manages all the document exchange between MTRC and its business partners. It takes care of all office supplies procurement in MTRC. MTRC adopted Hermes as the gateway of its goods receiving system so that they could make use of the Internet to exchange sensitive business documents with their business partners. In 2005, MTRC switched to use the hardware container of Hermes, the B2B Connector. MTRC confirmed that both products perform robustly and fit the business needs of its goods receiving system very well.

Another example is from an IT executive search and staff search services company, which provides IT contract staff services to clients including the HKSAR Government. It has used the B2B Connector in the exchange of job requirement information and candidates' personal data over the Internet with their clients. The company has confirmed that the B2B Connector runs smoothly and robustly and seldom requires maintenance operations.

The impact of Hermes and B2B Connector goes beyond Hong Kong. For example, an IT company in New Zealand with business focus in the area of supply chain for the small to medium logistic/third party warehouse suppliers has used Hermes for more than 7 years in their business. Hermes provides a cost-effective and yet robust solution for small and medium suppliers to participate in the e-supply chain and gain all the advantages of using electronic document exchange that large multinationals have. The company confirmed the reliability of Hermes and acknowledged the good support provided by Professor Cheung's team at CECID.

Most recently, in 2011, the Hospital Authority has engaged Professor Cheung and his team to design and implement a secure communication module, based on Hermes, for the Electronic Health Record (eHR) Project. Among others, the eHR Project aims to develop a sharing platform for all public and private hospitals, clinics and other health service providers to securely share their electronic health record data of their patients. This lightweight, yet robust module implemented by Professor Cheung's team will be installed in up to 3,000 private clinics participating in the eHR programme to ensure the secure transfer of electronic health record data between those private clinics and the eHR sharing platform.

The technical quality of Hermes and B2B Connector has received local and regional recognition. It won the Certificate of Merit at the Hong Kong Computer Society's IT Excellence Awards in 2004, and then won the Asia-Pacific ICT Awards (APICTA) competition under the R&D category. In the Linux Business Award of 2005, Hermes was the Best Infrastructure Building and Communication Application.

The technology developed in this project has proven to be applicable to many business-to-business initiatives, and its quality and acceptance has been proven in many production systems.

## 5. References to the Corroboration of Impact or Benefit

- Statements of support from the following organizations are available for corroboration purpose:
  - Office of the Government Chief Information Officer (OGCIO) of the HKSAR Government
  - MTR Corporation Limited
  - InfoTech Services (Hong Kong) Ltd
  - B2B Fusion, New Zealand
  - Hospital Authority
  
- Awards received:
  - Certificate of Merit at the Hong Kong Computer Society's IT Excellence Awards in 2004
  - Asia-Pacific ICT Award (APICTA) under the R&D category
  - Best Infrastructure Building and Communication Application in the Linux Business Award of 2005



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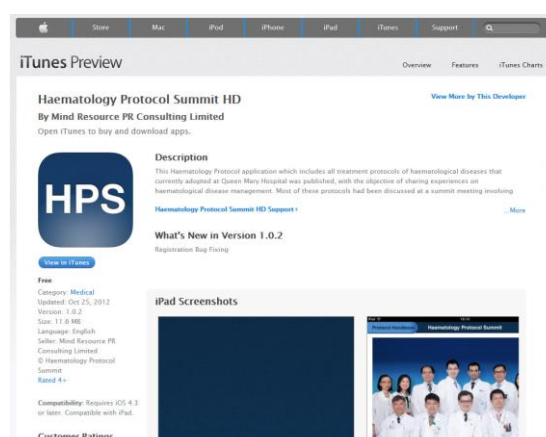
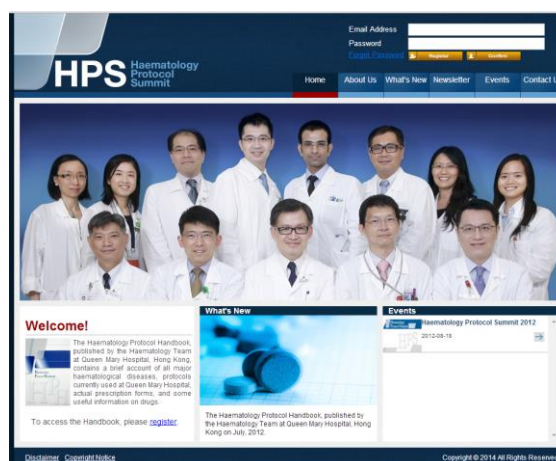
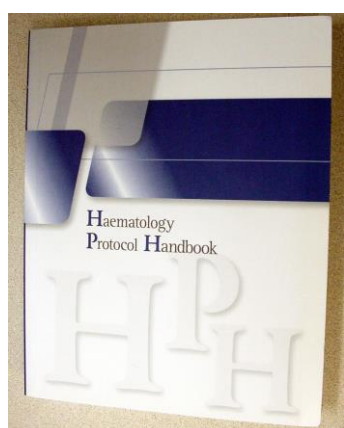
IMPACT CASE HISTORY

## Title of Case Study

**Multi-media Haematology Protocol: the Common Haematology Reference Platform for Doctors and Patients from around the World**

## 1. Summary

To provide easily accessible, expert guidance for the treatment of blood cancers and diseases, Professor Yok-Lam Kwong and the Haematology Team of the Department of Medicine have developed the Multi-media Haematology Protocol, which is available as an iPad/iPhone application (<https://itunes.apple.com/us/app/haematology-protocol-summit/id550091470?mt=8>), through a dedicated website (<http://www.hpshk.com/>), and in book format.



This project offers both the first unified protocol in this field in Hong Kong and a new model of medical practice for Hong Kong, using online technology in the dissemination of medical management and treatment standards. The handbook and applications are available free to all practicing haematologists, oncologists, nurses and other interested doctors in Hong Kong. The website also makes the information readily available to patients and their families for reference. Furthermore, the quarterly newsletter from the



Division of Haematology and other regular updates on advances in haematology are published on the website and i-media app. This pioneering project, which is a combination of a unified protocol, sharing of knowledge and clinical experience as well as use of modern IT applications, has demonstrated an inspiring way to apply medicine, and serves as an excellent success model for workers engaged in health care and education.

## 2. Underpinning Research

The Division of Haematology of the HKU Department of Medicine has a long and distinguished track record of high quality service and research in haematology and haematological oncology, and is recognized as a leader in haematology locally and internationally. Professor Yok-Lam Kwong, Chui Fook-Chuen Professor in Molecular Medicine, is chief of the Division of Haematology, Medical Oncology and Bone Marrow Transplantation at the Department of Medicine. Specializing in haematology and haematopathology, he focuses on the management of haematological malignancies in his clinical work. His research centers on the molecular pathogenetic pathways and novel treatment modalities in haematological neoplasms. Professor Kwong is among the top 1% of scientists in the world (Essential Science Indicators, June 2013). Together with the clinical pharmacology team in his department, he has pioneered the development and use of oral arsenic trioxide in the treatment of acute promyelocytic leukemia and other blood cancers. The oral arsenic trioxide formulation has successfully secured patents in the United States of America and Japan. These patents are the first and only patents Hong Kong has ever obtained for a prescription medication. Oral arsenic trioxide is to be tested in large-scale studies in Europe through international collaborations. His research team is also actively involved in defining the molecular defects and optimal treatment protocols for T-cell and natural killer cell lymphomas, which are neoplasms prevalent in Asian populations. His team is widely regarded as one of the world opinion leaders in the treatment of T-cell and natural killer-cell malignancies. The team publishes many papers in top international journals every year. The body of excellent research that the team has built up underpins the successful Haematology Protocol launched in 2012.

## 3. References to the Research

### Key peer-reviewed publications:

1. Au WY, Tam S, Fong BM, **Kwong YL**. Elemental arsenic entered the cerebrospinal fluid during oral arsenic trioxide treatment of meningeal relapse of acute promyelocytic leukemia. *Blood* 2006; 107(7):3012-3.

2. Siu CW, Au WY, Yung C, Kumana CR, Lau CP, **Kwong YL**, Tse HF. Effects of oral arsenic trioxide therapy on QT intervals in patients with acute promyelocytic leukemia: implications for long-term cardiac safety. *Blood* 2006; 108(1):103-6.
3. Wong AS, Chan KH, Cheng VC, Yuen KY, **Kwong YL**, Leung AY. Relationship of pretransplantation polyoma BK virus serologic findings and BK viral reactivation after hematopoietic stem cell transplantation. *Clin Infect Dis* 2007; 44(6):830-7.
4. Leung J, Pang A, Yuen WH, **Kwong YL**, Tse EW. Relationship of expression of aquaglyceroporin 9 with arsenic uptake and sensitivity in leukemia cells. *Blood* 2007; 109(2):740-6.
5. Au WY, Tam S, Fong BM, **Kwong YL**. Determinants of cerebrospinal fluid arsenic concentration in patients with acute promyelocytic leukemia on oral arsenic trioxide therapy. *Blood* 2008; 112(9):3587-90.
6. Au WY, Kumana CR, Lee HK, Lin SY, Liu H, Yeung DY, Lau JS, **Kwong YL**. Oral arsenic trioxide-based maintenance regimens for first complete remission of acute promyelocytic leukemia: a 10-year follow-up study. *Blood* 2011; 118(25):6535-43.
7. Yamaguchi M, **Kwong YL**, Kim WS, Maeda Y, Hashimoto C, Suh C, Izutsu K, Ishida F, Isobe Y, Sueoka E, Suzumiya J, Kodama T, Kimura H, Hyo R, Nakamura S, Oshimi K, Suzuki R. Phase II study of SMILE chemotherapy for newly diagnosed stage IV, relapsed, or refractory extranodal natural killer (NK)/T-cell lymphoma, nasal type: the NK-Cell Tumor Study Group study. *J Clin Oncol* 2011; 29(33):4410-6.
8. Man CH, Fung TK, Ho C, Han HH, Chow HC, Ma AC, Choi WW, Lok S, Cheung AM, Eaves C, **Kwong YL**, Leung AY. Sorafenib treatment of FLT3-ITD(+) acute myeloid leukemia: favorable initial outcome and mechanisms of subsequent nonresponsiveness associated with the emergence of a D835 mutation. *Blood* 2012; 119(22):5133-43.
9. **Kwong YL**, Kim WS, Lim ST, Kim SJ, Tang T, Tse E, Leung AY, Chim CS. SMILE for natural killer/T-cell lymphoma: analysis of safety and efficacy from the Asia Lymphoma Study Group. *Blood* 2012; 120(15):2973-80.
10. **Kwong YL**, Pang AW, Leung AY, Chim CS, Tse E. Quantification of circulating Epstein-Barr virus DNA in NK/T-cell lymphoma treated with the SMILE protocol: diagnostic and prognostic significance. *Leukemia* 2014; 28(4):865-70.

#### **Patents:**

1. Oral arsenic trioxide for treatment of leukaemia (US patent 7,521,071 B2)

2. Oral arsenic trioxide for treatment of leukaemia (Japan patent 4786341)

**Selected external grant funding:**

1. The role of Pin1 in tumour invasion and metastasis in hepatocellular carcinoma (HKU 767607M)
 

Funding Scheme:	General Research Fund
Principal Investigator:	Professor YL Kwong
Period:	2008-2010
Amount Awarded:	HK\$1,095,876
  
2. Provision of oral arsenic trioxide free to patients with cancers (206210)
 

Funding Scheme:	S.K. Yee Medical Foundation - General Award
Principal Investigator:	Professor YL Kwong
Period:	2008-2009
Amount Awarded:	HK\$410,000
  
3. Provision of ibritumomab for the treatment of Lymphoma (209210)
 

Funding Scheme:	S.K. Yee Medical Foundation - General Award
Principal Investigator:	Professor YL Kwong
Period:	2010-2013
Amount Awarded:	HK\$1,200,000
  
4. Provision of clofarabine for the treatment of relapsed or refractory acute leukaemia (210209)
 

Funding Scheme:	S.K. Yee Medical Foundation - General Award
Principal Investigator:	Professor YL Kwong
Period:	2010-2011
Amount Awarded:	HK\$600,000
  
5. Provision of bendamustine for the treatment of non-Hodgkin lymphoma and chronic lymphocytic leukemia (212208)
 

Funding Scheme:	S.K. Yee Medical Foundation - General Award
Principal Investigator:	Professor YL Kwong
Period:	2012-2015
Amount Awarded:	HK\$1,095,680
  
6. Provision of free azacitidine for high-risk patient with myelodysplastic syndrome (MDS) (213225)
 

Funding Scheme:	S.K. Yee Medical Foundation - General Award
Principal Investigator:	Professor YL Kwong
Period:	2014
Amount Awarded:	HK\$1,792,000

#### 4. Details of the Impact or Benefit

The treatment of blood cancers and diseases is complex and difficult. These diseases are often life-threatening, require urgent treatment, and the medications used can be toxic and complicated to administer. Even specialists may find it challenging to manage patients well. On the other hand, research into blood cancers and diseases is constantly advancing and breakthroughs occur frequently. If haematology experts and doctors can share the latest advances and developments swiftly and in a highly accessible and easily updateable format, the benefits to patients will in turn be enormous.

Led by Professor Kwong, the Haematology team in the Department of Medicine drew together the latest expert advice and practices and launched the Multi-media Haematology Protocol in 2012, which is available as an iPad/iPhone application (<https://itunes.apple.com/tw/app/haematology-protocol-summit/id550091470?l=zh&mt=8>), through a dedicated website (<http://www.hpshk.com>), in book format, and comes with regular newsletters. The project offers both the first unified protocol in this field in Hong Kong and a new model of medical practice for Hong Kong.

This project is a landmark in medical practice in Hong Kong in that it is the first time that online technology has been harnessed in the dissemination of medical management and treatment standards. The handbook and applications are available free to all practicing haematologists, oncologists, nurses and other interested doctors in Hong Kong. They have given positive feedback on the materials to Professor Kwong and his team. Doctors can now get the most up to date information on investigation strategies and treatments and they can quickly reference drug dosage, drug administration and side effects. They can also get an idea of what is working or not in other hospitals in Hong Kong and adjust their approach.

Two years since its launch, the Protocol has been a big success and its reach has gone well beyond Hong Kong. It has become a common reference for blood disease management and acts as a platform for experts around the world to exchange information on the latest developments in the field.

The website has also become the go-to place for doctors overseas seeking information on the management of a certain type of lymphoma that is derived from natural killer cells, which mainly affects people of Asian and South American origin. Professor Kwong's team has received a lot of enquiries from doctors overseas seeking guidance on treating this kind of lymphoma.

The website is constantly updated. Recent updates include information on advances in the first-line treatment of metastatic colorectal cancer, the third most common cancer worldwide and also the third most common in Hong Kong, which was contributed to the site by Clinical Assistant Professor Dr Thomas Yau Chung-cheung, and the latest drugs for the management of venous thrombo-embolism by Clinical Associate Professor Dr Eric Tse Wai-choi. Furthermore, the quarterly newsletter from the Division of

Haematology and other regular updates on advances in haematology are published on the website and i-media app.

Patients suffering from blood diseases also benefit from the information accessible from the website and app, and the team has received questions emailed by patients. There is a lot of interest from Chinese patients living abroad. To make the Protocol even more accessible, translation of the various elements into Chinese is underway. An audio element will also be introduced this year: members of the team will create videos, in which they will talk about blood cancers and diseases in Cantonese, with Chinese subtitles available. A ‘chatbox’ to the website is being added so that people – whether they are doctors or patients – can send in questions and the team will answer them on line.

This pioneering project, which is a combination of a unified protocol, sharing of knowledge and clinical experience as well as use of modern IT applications, demonstrates an inspiring way to apply medicine and serves as an excellent success model for workers engaged in health care and education.

## 5. References to the Corroboration of Impact or Benefit

- Over 1,000 institutes and specialists have downloaded, subscribed or received the iPhone App / internet website / Protocol book.
- The Haematology team receives an enquiry from doctors overseas almost on a weekly basis.
- A search by the key words “haematology protocol” at Google or Yahoo will give the website of the Haematology Protocol (<http://www.hpshk.com>) at the top of the results.
- The launch of the Haematology Protocol in 2012 was extensively covered by the media.

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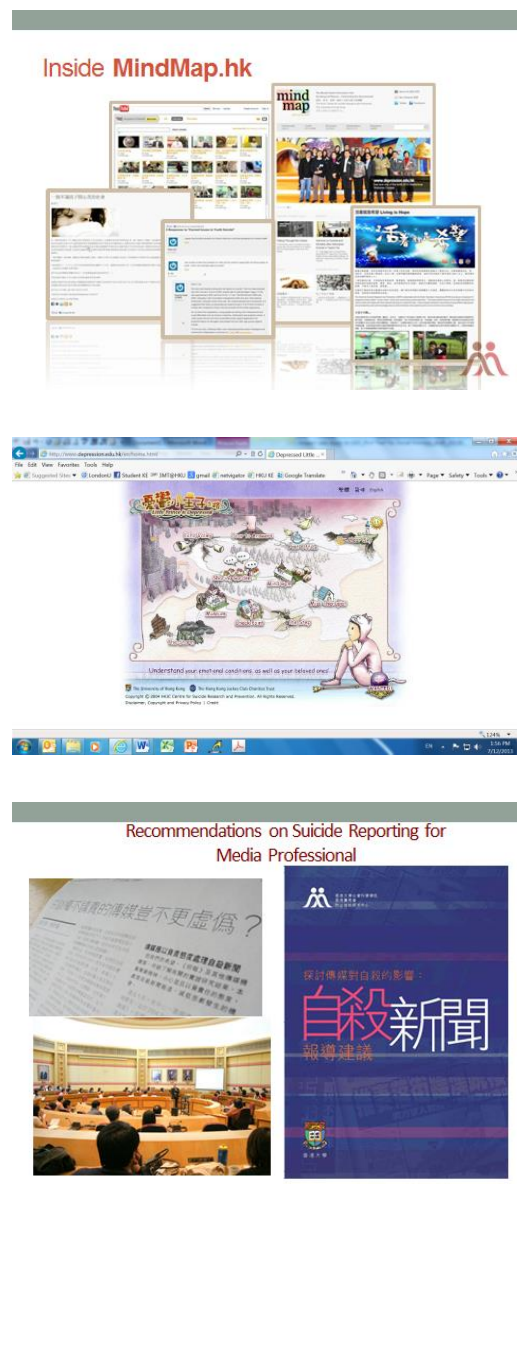
IMPACT CASE HISTORY

**Reduction of Hong Kong’s Suicide Rate by a Population-based Suicide Prevention Programme in the Community**

**1. Summary**

The Centre for Suicide Research and Prevention led by Professor Paul S F Yip has successfully contributed to Hong Kong’s suicide rate reduction of 32% between 2003 and 2012 through a multi-pronged population-based suicide prevention programme. The programme includes research, education and training as well as means restriction, which aims to empower and educate the community to prevent suicides.

This is a pioneer programme for suicide prevention in Hong Kong and in the region, and its impact has been widely recognized. It has successfully transformed the University’s knowledge, through advocacy, into concrete changes in society, such as speeding up the installation of platform doors by MTR Corporation and the practice adopted by supermarkets of putting warning labels on charcoal packs and removing charcoal from open selves. The programme also contributes to enhancing mental wellness of disadvantaged groups and school children. It reaches out to disconnected youth through social media and dedicated websites. Through its outstanding accomplishment in community engagement, the Centre has been identified as a local and regional knowledge hub in suicide research and prevention.





## 2. Underpinning Research

Traditionally, suicide has been viewed as a mental health issue best addressed primarily through clinical interventions, especially through the treatment of depression. However, it has been found that the majority of people who committed suicide had not received psychiatric services prior to death. Furthermore, in view of the size of the problem and the limited resources, the medical and clinical model involving intensive professional care service might not be practical in Asia.

Led by Professor Yip, the Centre for Suicide Research and Prevention (CSRP, or “the Centre”) in the Faculty of Social Sciences has used a public health approach for suicide prevention. Using information and knowledge generated from research studies, they have adopted a holistic, integrated and multilayer intervention approach together with community collaboration.

The CSRP conducted a large scale psychological autopsy study among those aged 15-59 who committed suicide in Hong Kong and released a report in 2005. The risk and protective factors for suicides were examined. The research findings served as the cornerstone of the public health approach to suicide prevention adopted by the Centre.

The Centre’s exemplary pilot project on prevention of visitor charcoal burning suicides and suicide pacts done in collaboration with the local community in Cheung Chau demonstrated the effectiveness of the strategy of means restriction, which resulted in a clear drop in suicides, and increased the awareness of government bodies.

By enlisting the help of all supermarkets in two districts, Tuen Mun and Yuen Long, the Centre also conducted a one-year study comparing suicides in Tuen Mun, where charcoal packs were removed from the open shelves of major retail outlets, with those in Yuen Long, where charcoal was sold openly as usual from June 2006 to July 2007. The rates of charcoal burning suicides fell sharply in Tuen Mun, by 53.8%, but similar results were not seen in Yuen Long. These results were compared with the overall drop in Hong Kong’s suicide rate during the same period, which was 5.7%. The results demonstrated the effectiveness of means restriction as a suicide prevention strategy, and were reported in major local and international newspapers and published in the *British Journal of Psychiatry* and *Lancet*.

Research of the Centre has shown that barrier installations in subway stations are effective in preventing suicides. Furthermore, their study has shown that if the loss of fare revenue, passengers’ waiting time and the lost lives due to premature mortality are taken into account, safety barriers are cost-effective based on international standard.

As a pivotal research hub in Asia for suicide prevention, the Centre has conducted independent and collaborative research involving various stakeholders, resulting in best practices and guidelines for suicide prevention in Asia.



### 3. References to the Research

#### **Key peer-reviewed publications:**

1. Chen, Eric Y.H., Chan, Wincy S.C., Wong, Paul W.C., Chan, Sandra S.M., Chan, Cecilia L.W., Law, Y.W., Beh, Philip S.L., Chan, K.K., Cheng, Joanne W.Y., Liu, Ka Y., **Yip, P.S.F.** (2006). Suicide in Hong Kong: A case-control psychological autopsy study. *Psychological Medicine*, 36(6): 815-25.
2. Wong, P.W.C., Liu, P.M.Y., Chan, W.S.C., Law, F.Y.W., Law, S.C., Fu, K.W., Li, H.S., Tso, M.K., Beautrais, A.L., **Yip, P.S.F.** (2009). An integrative suicide prevention program for visitor charcoal burning suicide and suicide pact. *Suicide and Life Threatening Behavior*, 39(1): 82-90.
3. Law, C.K., **Yip, P.S.F.**, Chan, W.S.C., Fu, K.W., Wong, P.W.C., & Law, Y.W. (2009). Evaluating the effectiveness of barrier installation for preventing railway suicides in Hong Kong. *Journal of Affective Disorders*, 114: 254-262.
4. **Yip P.S.F.**, Law C.K., Fu K.W., Law Y.W., Wong P.W.C., & Xu Y. (2010). Restricting the means of suicide by charcoal burning. *British Journal of Psychiatry*, 196(3): 241-242.
5. **Yip, P.S.F.**, Caine, E., Yousuf, S., Chang, S.S., Wu, K.C., & Chen, Y.Y. (2012). Means restriction for suicide prevention. *Lancet*, 379(9834): 2393-2399.
6. Chang, S.S., Stuckler, D., **Yip, P.**, and Gunnell, D. (2013). Impact of 2008 global economic crisis on suicide: time trend study in 54 countries. *BMJ*, 347: f5239.
7. Chang, S.S., Chen, Y.Y., **Yip, P.S.**, Lee, W.J., Hagihara, A., and Gunnell, D. (2014). Regional changes in charcoal-burning suicide rates in East/Southeast Asia from 1995 to 2011: a time trend analysis. *PLoS Med*, 11: e1001622.
8. Cheng, Q., Fu, K.W., Caine, E., and **Yip, P.S.** (2014). Why do we report suicides and how can we facilitate suicide prevention efforts? *Crisis*, 35: 74-81.
9. Wong, P.W., Caine, E.D., Lee, C.K., Beautrais, A., and **Yip, P.S.** (2014). Suicides by jumping from a height in Hong Kong: a review of coroner court files. *Social Psychiatry and Psychiatric Epidemiology*, 49: 211-9.
10. **Yip, P.S.** and Chen, F. (2014). A study on the effect of exclusion period on the suicidal risk among the insured. *Social Science & Medicine*, 110: 26-30.

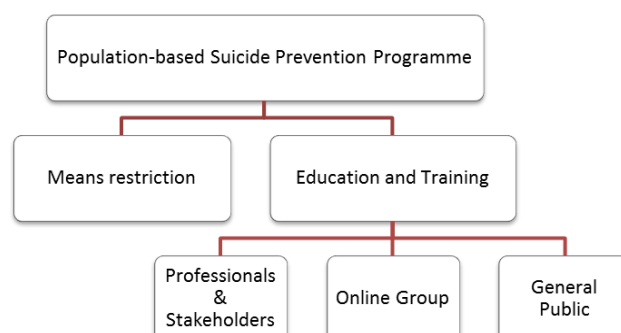
#### **Selected external grant funding:**

1. A study on Suicide Clusters: Hong Kong and Taiwan experiences (HKU 784210M)

Funding Scheme:	General Research Fund (GRF) of the Research Grants Council (RGC)
Principal Investigator:	Professor Paul S F Yip
Period:	2010-2014
Amount Awarded:	HK\$798,648
2. Suicide and employment (HKU 784012M)	
Funding Scheme:	GRF of the RGC
Principal Investigator:	Professor Paul S F Yip
Period:	2012-2014
Amount Awarded:	HK\$628,800
3. A study on suicide news reporting ecology in Hong Kong and Taiwan: accuracy, stereotyping and mutual causation (HKU7030-PPR-12)	
Funding Scheme:	Public Policy Research
Principal Investigator:	Professor Paul S F Yip
Period:	2012-2014
Amount Awarded:	HK\$300,696
4. Pilot Project on Community-based Intervention to Suicide Clusters	
Funding Scheme:	Lotteries Fund
Principal Investigator:	Professor Paul S F Yip
Period:	2012-2015
Amount Awarded:	HK\$5,139,000

**4. Details of the Impact or Benefit**

Backed by cutting edge research and evidence-based practices that follow recognized standards set by the World Health Organization (WHO), the CSRP has successfully contributed to Hong Kong’s suicide rate reduction of 32% between 2003 and 2012 through a multi-pronged population-based suicide prevention programme. The programme simultaneously promotes restriction to suicide means and targets three separate population groups for education and training to provide a holistic suicide prevention strategy (see figure 1).



The success of the Cheung Chau pilot project led to opportunities to extend to other

community-based projects in the Eastern and North Districts with the support of the Health Care and Promotion Fund (HCPF) and the Lotteries Fund respectively. For example, the Centre has joined the Eastern District Inter-Departmental Working Group on the Prevention of Deliberate Self-Harm to develop a series of practical strategic suicide prevention initiatives within the community including a systematic evaluation of its effectiveness. For the North District, the Centre has initiated a collaborative project involving different government departments and community organizations to implement measures to prevent suicides in the community with a suicide cluster. Through education, training, and increased public awareness, not only are these communities better equipped to prevent suicide, the Centre's programme and research has also had a sustainable impact on reducing the suicide rate in these areas.

Since 2007, the Centre has made a persistent effort to advocate for the construction of platform screen doors (PSDs) across all above-ground stations. Through discourse in the news, the Centre has raised public awareness of this issue and encouraged discussions with the Legislative Council. Their active voice continues to give pressure to the MTR Corporation to speed up the installation of PSDs on the East Rail and the Ma On Shan Lines.

In respect of education and training, focused workshops for Hospital Authority personnel, Hong Kong Police Force and its negotiation team, social workers and teachers have been held to address issues specific to each profession, deliver evidence-based information on suicide prevention, and empower these professionals with best practices guidelines and skills for effective suicide prevention.

A series of workshops has also been organized to provide training to local NGOs and educational institutions on the fundamentals of utilizing the Internet to engage targets via web 2.0 websites and social media.

The Centre recognized that the media has a unique role to play in preventing suicide. Over the past ten years, the Centre has been working closely with the Hong Kong media to enhance the ecology of suicide news reporting. In 2004, the Centre published the booklet, *Recommendations on Suicide Reporting for Media Professionals*, which introduced the WHO's suggestions on suicide news reporting to the Hong Kong media. Different workshops were organized for knowledge sharing with the media professionals. In 2012, the Centre and WHO co-organized a workshop for the media, which was well attended by editors, reporters and photographers of different news agencies. In 2013, the Centre organized a seminar on the "Contagion of Suicide Reporting" with the Hong Kong Press Council to gather experienced researchers and media professionals to discuss the relationship between media reports and suicide and the issue of responsible reporting on suicide.

From 2011-2014, the Centre launched 4 mentorship programmes for selected Primary 4-5 students in a Tin Shui Wai school and Secondary 2-3 students in a Sham Shui Po school. These students came from relatively disadvantaged background such as single-parent families or with learning or behavioural problems. Volunteer mentors

received training on helping students cope with their problems and develop a positive attitude on problem-solving. The project ran for nine months, after which the teachers and parents reported that both behaviour and academic results of the students had improved.

In order to reach out to people who do not come forward to seek help from professionals or who want to learn more about suicide prevention or mental health but prefer doing it in private over the Internet, the CSRP has created several e-platforms: MindMap ([www.MindMap.hk](http://www.MindMap.hk)), Little Prince is Depressed (LPD) [[www.depression.edu.hk](http://www.depression.edu.hk)], and the CSRP main page ([www.hku.hk/csrp](http://www.hku.hk/csrp)), to engage them and deliver high quality information and research findings. With substantial support from the Quality Education Fund, the CSRP also developed an online e-learning programme, “Professor Gooley and The Flame of Mind” ([www.gooley.edu.hk](http://www.gooley.edu.hk)), to provide an engaging mental health-learning experience to teens and their parents. These online and interactive efforts not only are held in high regard locally by the public, with LPD winning the top ten awards in the Meritorious Websites Contest for six years in a row, but have also received accolades from mental health professionals abroad.

The effectiveness of the Centre’s programme and its contribution to suicide prevention has been recognized locally and internationally as evident from the various awards received by Professor Yip and his dedicated team, including the Lee Awards for Best Practices in Suicide Prevention and the Stengel Research Award by the International Association for Suicide Prevention in 2011.

The Centre has been working as a strategic partner with WHO and the International Association of Suicide Prevention for promoting suicide prevention regionally and globally. The Centre has been providing consultancy advice for WHO and our neighbouring countries, such as South Korea, Japan, Taiwan, Mainland China and Macau.

## 5. References to the Corroboration of Impact or Benefit

- Statement of Support from the Committee on Home-school Cooperation is available for corroboration purpose.
- Awards received:
  - Hong Kong SAR Television and Entertainment Licensing Authority  
*Ten Healthy Websites 2004, Most Creative Website Award 2004*
  - Asia Wall Street Journal and the Singapore Economic Development Board  
*Silver Asian Innovation Award 2005*

- Hong Kong SAR Television and Entertainment Licensing Authority  
*Meritorious Websites Contest Award 2006-2011*  
(<http://www.merit.gov.hk/eng/info/result.php>)
- International Association of Suicide Prevention (IASP)  
*The Lee Award for Good Suicide Prevention Measures / Practices 2011*
- Media Coverage:
  - News clippings on MTR platform screen doors are available.
  - In 2005, the Radio-Television Hong Kong collaborated with CSRP to produce a six-episode television programme series called “Living is Hope”, which aimed at promoting suicide prevention.
  - Since 2012, in response to the CSRP’s requests, major local newspapers have removed the Internet links to Helium gas access from their reports on using Helium gas to commit suicide and more responsible reporting was observed.
- Support from Social Media:
  - In 2013, in response to CSRP’s request, Google Inc. (Hong Kong office) removed a Google blog and YouTube video with detailed description of committing suicide by Helium gas.

## THE UNIVERSITY OF HONG KONG

IMPACT CASE HISTORY**The Right Place for Blood Donation and Transfusion in Hong Kong Located by Data Analytics****1. Summary**

In recent years there has been an increasing growth in the demand for blood in Hong Kong. Dr Michael C L Chau of the School of Business helped the Hong Kong Red Cross Blood Transfusion Service (BTS) target its services to the right people and in the right format, by conducting data analysis and data mining on past blood donation data in Hong Kong and looking for patterns and trends that would identify where and how the BTS could boost donations.



The BTS took up his recommendation and opened a donation center in Yuen Long in August 2011. The center attracted more than 400 donations per week and most of these donors came from the district, just as Dr Chau had predicted in his analysis model. The project is highly beneficial to the community as the new center allows the BTS to attract more donors.

**2. Underpinning Research**

The project was based on the data mining research conducted by Dr Michael Chau, Associate Professor in the School of Business. He has conducted a wide range of data mining research and teaching at HKU. The goal of his research in this area is to advance techniques in data mining for different types of data. For example, data uncertainty is often inherent in real world applications that require interaction with the physical world. In particular, data collected from external environments are often imprecise due to measurement inaccuracy, sampling discrepancy, outdated data sources, or other errors. However, such problems are often not taken into account in existing data mining algorithms. One research direction is to study the various issues of mining uncertain data, particularly with respect to data clustering and location-based data mining.



### 3. References to the Research

#### **Key peer-reviewed publications:**

1. Chau, M., Lee, C. K., Chan, C. W., and Cheng, E., "Data Analysis for Healthcare: A Case Study in Blood Donation Center Analysis," in *Proceedings of the Americas Conference on Information Systems*, Lima, Peru, August 12-15, 2010.
2. Ngai, W. K., Kao, B., Cheng, R., Chau, M., Lee, S. D., Cheung, D. W., Yip, K. Y., "Metric and Trigonometric Pruning for Clustering of Uncertain Data in 2D Geometric Space," *Information Systems*, 36, 476-497, 2011.
3. Book Chapter:  
Eggers, S., Huang, Z., Chen, H., Yan, L., Larson, C., Rashid, A., Chau, M., and Lin, C., "Mapping Medical Informatics Research," in H. Chen, S. Fuller, A. T. McCray, and W. Hersh (Eds), *Medical Informatics: Knowledge Management and Data Mining in Biomedicine*, Springer, 2005, pp. 35-62.

#### **Selected external grant funding:**

Research Study on Multidimensional Analysis on Blood Donation Data

Funding Body: Hong Kong Hospital Authority

Principal Investigator: Dr Michael Chau

Period: Jan 2013 – Jul 2013

Amount Awarded: HK\$56,000

### 4. Details of the Impact or Benefit

The health and medical needs of an ageing population mean Hong Kong has to store up increasing amounts of fresh blood products. In 2013 alone, the Hong Kong Red Cross Blood Transfusion Service (BTS) needed 3.4 per cent more units of whole blood, plasma and platelets than it collected in 2012, when demand increased by 4.4 per cent. Added to that growing demand is the fact that donations from first-time donors have fallen, in part because the revised school curriculum means Form 7 students are now spread out in universities and the workplace, rather than easily targeted in a school.

To find additional donors, the BTS has engaged Dr Chau and they have worked closely on this project since 2009. They focused on the determination of relationship between blood donors' residential addresses and their donation habits. They studied their decision making requirements, collected their data, and applied data mining techniques on the data. The results were analysed together with the data from the Census and Statistics Department of the HKSAR Government, and statistical models were developed to predict

which district would be the preferred site of a new blood donation center for the BTS. Based on the findings of the analysis, Dr Chau made a recommendation to the BTS on selecting Yuen Long as the best location to establish a new blood donation center. Following his recommendation, the BTS established a new center there in August 2011 and the outcome was overwhelming. The center attracted more than 400 donations per week and most of these donors came from the districts as predicted in Dr Chau's analysis model.

The Head of the BTS' Blood Collection and Donor Recruitment Department has made the following comments on the impact of Dr Chau's project:

*“With his excellent analysis, a new blood donor center was established at Yuen Long Happy Plaza which opening was officiated by Dr York CN Chow, former Secretary of Food and Health, HKSAR government on 31 August 2011. On our follow up, the donation statistics closely followed Dr Chau's prediction. More than 88% of the donors are residing at the Yuen Long and neighbouring area. More importantly, by the end of the first year service, the number of donations (16,990) already exceeded the planned collection target of 15,000 by year 3 in the original proposal.”*

*“We greatly appreciate Michael's efforts in applying our service data, government information and his superb knowledge in helping us to develop model and prediction for new donor site selection. With ageing population and increasing blood demand, the BTS is facing significant challenge in maintaining adequate blood supply. Well planned and accurate selection of new fixed donation site are a must to our success in the health care system.”*

*“Without an expert, we are never able to present in a quantitative way to convince the stakeholders on the funding support of building up new donor center.”*

The project is highly beneficial to the community as the new center allows the BTS to attract more donors and thus ensure the steady supply of blood in Hong Kong, which is vital to public health in the city. It is a good example of knowledge sharing with the community for building a practical model in health care service that has achieved the goal of saving more lives in a cost effective manner.

Dr Chau has received a grant from the Hong Kong Hospital Authority to do a multidimensional analysis of blood donation data in order to identify more useful patterns, which are expected to help the BTS in future planning of new sites to facilitate the public to donate blood.

## 5. References to the Corroboration of Impact or Benefit

- Statement of support from the Hong Kong Red Cross Blood Transfusion Service is available for corroboration purpose.
- Facebook page of the blood donation center opened in Yuen Long as a result of this project:  
<https://www.facebook.com/pages/Yuen-Long-Donor-Center-%E5%85%83%E6%9C%97%E6%8D%90%E8%A1%80%E7%AB%99/101262546642756>

# KNOWLEDGE EXCHANGE AWARD

The Faculty Knowledge Exchange (KE) Award was introduced in 2011 in order to recognise each Faculty's outstanding KE accomplishment that has made demonstrable economic, social or cultural impacts to benefit the community, business / industry, or partner organisations. Individual Faculties have the flexibility to decide whether to conduct a Faculty KE Award exercise in a particular year, taking into account the Faculty's KE developments. Only one Award may be made by each participating Faculty in a year. Awards are open to individual full-time staff members on Terms of Service I; and teams led by a full-time staff member on Terms of Service I. Award winners receive a monetary award of HK\$50,000 to further their KE work.

Nominations in each Faculty were considered by an *Ad Hoc* Faculty KE Award Selection Committee chaired by the Dean, and members included the Faculty representative serving on the KE Working Group, one of the Associate Directors of the Knowledge Exchange Office (Professor John Bacon-Shone / Professor Paul Cheung), and a member from outside the University.

The selection criteria included evidence of the KE project's link with excellence in research or in teaching and learning of HKU (*i.e.* quality of the knowledge); evidence of an effective engagement process with the non-academic sector(s); and evidence of demonstrable benefits to the community, business / industry, or partner organisations.



## FACULTY OF ARCHITECTURE

Mr Jason Forbes CARLOW

### 'ArtAlive@Park 2010 and ArtAlive@Park 2012'

These projects, as part of the HK Leisure and Cultural Services Department's (LCSD) programme, 'ArtAlive@Park', were supervised by Mr Jason Forbes CARLOW, Assistant Professor in the Department of Architecture, and involved students and staff of the Faculty to explore new ideas about architecture, fabrication and public space. A total of eight installations were created for two exhibitions in 2010 and 2012, each lasting three months. The installations served not only as public art, but also as works of design that were highly accessible to members of the public. These projects have demonstrated alternative ideas about public space and architecture to Hong Kong's park management and the LCSD, and helped to heighten the awareness for and relevance of public art and design for Hong Kong by policy makers. The success of the project in 2010 was such that in the following years the LCSD has re-modelled the ArtAlive@Park programme based on HKU's pavilion design projects and extensively involved the participation of architecture programmes of local universities.

## FACULTY OF ARTS

Dr Olga A ZAYTS

### 'Language and Communication in Genetic Counselling Settings in Hong Kong and South Asia'

The research done by Dr Olga A ZAYTS, Assistant Professor in the School of English, has been influential in the development of professional standards and best practices for genetic counselling in Hong Kong and Southeast Asia. She and her team focus on genetic counselling for prenatal (Down's Syndrome), postnatal (G6PD deficiency) and adolescent and adult (Sudden Arrhythmia Death Syndrome) conditions. Their work has contributed to the development of healthcare communication practice, the development of resources to enhance this practice, the stimulation of practitioner debate over appropriate standards of practice, the development of training and education programmes, and the development of resources for the public. The importance of Dr Zayts' work was recognised by the Consortium on Clinical Genetics and Genomic Medicine (Hospital Authority Hong Kong West Cluster / HKU), which has drawn up a five-year strategic development plan proposed to maintain and enhance the provision of comprehensive clinical genetic diagnostic and counselling services to clients in Hong Kong. The project also raised public awareness about genetic disorders.

## FACULTY OF BUSINESS AND ECONOMICS

Dr Michael CHAU Chiu Lung 周昭瀧博士

### 'Data Analytics for Blood Donation and Transfusion in Hong Kong'

Dr Michael CHAU Chiu Lung, Associate Professor in the School of Business, helped the Hong Kong Red Cross Blood Transfusion Service (BTS) target its services to the right people and in the right format, by conducting data analysis and data mining on past blood donation data in Hong Kong and looking for patterns and trends that would identify where and how the BTS could boost donations. The BTS took up his recommendation and opened a donation centre in Yuen Long in August 2011. The centre attracted more than 400 donations per week and most of these donors came from the district, just as Dr Chau had predicted in his analysis model. The project is highly beneficial to the community as the new centre allows BTS to attract more donors and thus ensure the steady supply of blood in Hong Kong, which is vital to public health. The analyses are also useful for BTS in understanding the supply of blood in Hong Kong and support their decision making process.

## FACULTY OF DENTISTRY

Dr YANG Yanqi 楊雁琪博士 (Leader), Dr CHU Chun Hung 朱振雄博士 and BDS students: MA Kwan Ning 馬君寧, Stephanie SO Yuen Ting 蘇婉, WONG Yau Sing 黃佑昇, LEE Pui Chung 李沛聰, ZHONG Chao 鍾超, Janet CHAN 陳思敏, Tiffany CHAN Chi Lok 陳玟瑤, LI Tsz Yan 李芷欣, Kenneth WONG Chi Kin 黃智鍵, Kenneth CHOW Ka Chun 周嘉俊 and Kenneth YUNG Kai Hay 容啟信

### 'Improving Children's Oral Health and Development by Terminating Poor Oral Habits and Promoting Healthy Ones'

Led by Dr YANG Yanqi, Clinical Assistant Professor in the Faculty of Dentistry, this project promoted the oral health of preschool children (aged 0-6 years) by providing dental services and educating parents and kindergarten staff. In particular, Dr Yang and her team enhanced parental knowledge about breaking poor parafunctional habits (e.g. thumb / pacifier sucking, night bottle-feeding, object biting) and about good oral habits (e.g. promoting breastfeeding, correct feeding habits, healthy diet, oral hygiene maintenance, regular dental visits). Given that the HKSAR Government School Dental Care Service covers only school Grades 1 to 6, this project has addressed an unmet need for free oral health education and check-ups for preschool children as well as an unmet need for baby oral health education for both ante- and post-natal women. The project has empowered families to prevent and arrest dental health problems, such as tooth decay and malocclusion (irregular tooth / jaw alignment) during early childhood, thereby avoiding developmental problems and accompanying pain, costs, loss of work / school time, and reduced quality of life.

## FACULTY OF EDUCATION

Dr Tammy KWAN Yim Lin 關艷蓮博士

**'Achieving "Good Teaching Practice" by Student-Teachers, with Collaborative Support from Mentor-Teachers and University-Tutors: An Exemplary Demonstration of School-University Partnerships'**

Dr Tammy KWAN Yim Lin, Associate Professor in the Faculty of Education, has played an instrumental role in the establishment of the School-University Partnerships programme. Her work contributes to a mutual learning opportunity between student-teachers of the Faculty and the collaborating schools. In this project, she produced a DVD with three recorded authentic lessons by student-teachers, demonstrating innovative pedagogical methods to make learning active and meaningful and sharing the feedback from mentor-teachers, pupils and university tutors. Feedback on the DVD from schools indicated that the project has helped to promote best teaching practice, and provided a valuable resource for schools to conduct useful school-based staff development workshops or seminars to discuss the important teaching and learning elements and phases for both new and experienced teachers. There has also been an increasing recognition by schools that student-teachers act as a bridge to connect schools and tertiary institutions and promote sustainable professional development of teachers.

## FACULTY OF ENGINEERING

Dr CHOW Kam Pui 鄒錦沛博士

**'Fighting High-tech Crime in Cyberspace'**

Dr CHOW Kam Pui, Associate Professor in the Department of Computer Science, and his team in the Centre for Information Security and Cryptography have been working closely with local law enforcement agencies for over 10 years to develop technologies and tools to protect against cyberspace crime in Hong Kong. The team assisted the Hong Kong Police Force and the Hong Kong Customs and Excise Department in the deployment of the latest software systems to protect against Internet pirates. They have developed Lineament I, which detects suspected infringement of intellectual property rights over the Internet using BitTorrent; Lineament II, which uses cybercriminal profiling and artificial intelligence to detect potential auction fraud; and Lineament III, which analyses suspected criminal items in the cyberlocker. The impressive performance of these systems was recognised by the two aforementioned government departments for enhancing cyberspace safety in Hong Kong. The project demonstrated how excellence in research at the University could be applied to real problems which are of importance to the community.

## FACULTY OF LAW

Professor Simon YOUNG Ngai Man 楊艾文教授

**'Human Rights Portal'**

The Human Rights Portal (<http://www.law.hku.hk/hrportal/>) is a comprehensive and user-friendly website that provides a one-stop source of information on human rights, with a particular focus on Asia. With this project Professor Simon YOUNG Ngai Man of the Department of Law and his team in the Centre for Comparative and Public Law (CCPL) have filled the need for a user-friendly research portal in Asia that highlights human rights research and activities at the University and beyond. The website available in both English and Chinese (traditional and simplified characters) includes materials from local and international non-governmental organisations, government bodies, academic scholars from around the world, and from the CCPL. By providing a unique, easily accessible resource for government officials and policy making institutes, non-governmental organisations, students and interested members of the public, it enhances public awareness on human rights issues. Evidence of impact is tracked by using Google Analytics and comments made by individual users. The project also involved active knowledge exchange with the professions and the community.

## LI KA SHING FACULTY OF MEDICINE

Professor KWONG Yok Lam 鄺沃林教授 and the Division of Haematology 血液腫瘤及骨髓移植科

**'Multi-media Haematology Protocol: Haematology Protocol Book, iPad / iPhone App, Internet Website'**

To provide easily accessible, expert guidance for the treatment of blood cancers and diseases, Professor KWONG Yok Lam, Chui Fook-Chuen Professor in Molecular Medicine, and the Haematology Team of the Department of Medicine have developed the Multi-media Haematology Protocol, which is available as an iPad / iPhone application, through a dedicated website (<http://www.hpshk.com/>) and in book format. It offers both the first unified protocol in this field in Hong Kong and a new model of medical practice for Hong Kong, using online technology in the dissemination of medical management and treatment standards. The handbook and applications are available free to all practicing haematologists, oncologists, nurses and other interested doctors in Hong Kong, who have given positive feedback on the materials to Professor Kwong and his team. The website also makes the information readily available to patients and their families for reference. Furthermore, the quarterly newsletter from the Division of Haematology and other regular updates on advances in haematology are published on the website and i-media app. This project, which is a combination of a unified protocol, sharing of knowledge and clinical experience as well as use of modern IT applications, demonstrated an inspiring way to apply medicine and served as an excellent success model for those who engaged in health care and education.



**FACULTY OF SCIENCE**

Dr Jason PUN Chun Shing 潘振聲博士

**'Dimming the "Bright Pearl" – Informing the Public on Light Pollution'**

Dr Jason PUN Chun Shing, Principal Lecturer in the Department of Physics, was concerned about public indifference to light pollution as a form of environmental degradation. His studies on the brightness of Hong Kong's night skies were the first of their kind in Hong Kong. He set up the 'Hong Kong Night Sky Monitoring Network' in 2010, with automatic night sky measuring stations to provide long-term readings at 18 urban and rural locations. A website has also been set up to continue providing the public with real-time readings from the measuring stations. His team found the urban skies to be 33 times brighter than rural skies on average, confirming that Hong Kong had one of the brightest night-time skies in the world. With extensive outreach efforts especially to schools and through the media, the project has successfully raised public awareness in the problem of light pollution. Dr Pun also met with professional bodies and government officials to discuss the findings and possible mitigation measures, with a view to informing potential future legislation.

**FACULTY OF SOCIAL SCIENCES**

Dr Uwe Bernhard STEINHOFF 石樂凡博士

**'On the Ethics of Violence: War, Terrorism, and Torture'**

The research of Dr Uwe Bernhard STEINHOFF, Associate Professor in the Department of Politics and Public Administration, on the ethics of war, terrorism, and torture has clarified these concepts and showed under which circumstances, if ever, war, terrorism, or torture can be justified. His work challenges conventional opinion and the double standards that pervade the discussion of these issues and rests its conclusions on rational examination instead of on stereotypes. Through dissemination of his work to a wide audience internationally and various public engagement activities, Dr Steinhoff's work has stimulated discussions and heated debates far beyond the confines of academia and contributed to a less biased understanding of some of the most controversial issues of our times. His work has also been cited and included in the curriculum of military training institutes.



*Medical students take time out to play with the local children while visiting poor rural areas of Mainland China to promote health-care knowledge via a 'training the trainer' project called HOPES*





## Beyond the Campus, into the Community

How universities utilise their resources is of growing interest around the world. Scholars face increasing expectations to go beyond simply publishing their findings and to translate their research into the community for greater impact. Students, too, are increasingly expected to go beyond a university's brick walls and share their new knowledge and skills with others. At HKU, 'KE', or knowledge exchange, has become the third pillar in our mission, alongside research and teaching and learning.

KE activities are happening at all levels of the University, locally, regionally and internationally. This is having mutual benefits, as implied by our decision to adopt the term 'knowledge exchange' rather than 'knowledge transfer'. Students get rich opportunities to be innovative and apply their knowledge and values, while scholars can apply their research and develop new insights through interactions in the community. The latter is also becoming increasingly important in research funding exercises, which require applicants to address the potential impacts of their work beyond academia.

The growing recognition of KE's importance is helping to spur new activities on campus. Some of the best achievements were honoured in March 2013 when, for the first time, KE Awards were included in the University's

annual Award Presentation Ceremony for Excellence.

The Knowledge Exchange Office is the central support unit working closely with all Faculties in promoting KE activities at HKU, and its focus has turned very much to partnerships. In 2012-13 a Partnerships webpage was launched to help external organisations find out how they can collaborate with HKU. The KE Office also helped to secure approval for community scholarships in 2013, in which community partners will help fund an MPhil or PhD student to work on a project of interest to the partner.

### Translating Research

Partnerships are critical to other KE activities, too, for example, in translating research into the community. In 2012, our Technology Transfer Office formed a strategic alliance with Sinopharm, the largest pharmaceutical group in China, on the distribution of our oral drug for acute promyelocytic leukaemia (APL), and on developing drugs for atrial fibrillation. Organisations seeking contract research, expertise, media commentary and other input from our academic staff are also making increasing use of the HKU Scholars Hub, a one-stop online platform that had more than



39

Funded Knowledge Exchange Impact projects

18

Funded/awarded student KE projects





one million views by the end of June 2013.

Partnerships are also part of KE at the institutional level. The University is keen to share its expertise with other educational and professional organisations in the region and globally, and to develop ties with them. In 2013, the Faculty of Law and the Journalism and Media Studies Centre jointly organised an international conference on Media Law and Policy in the Internet Age, which facilitated vibrant discussions of the complex issues concerning press freedom, public access to information and human rights. The participants included senior judges from the UK as well as legal and media professionals from Europe, North America, Australia, New Zealand, Southeast Asia, Mainland China and Hong Kong. The University was also the first in Asia to host the IB World Student Conference,

which attracted 150 secondary school students from around the world. HKU also organises local outreach programmes to secondary school students, such as the Academy for the Talented, which offers university-level courses to high-achievers.

The Knowledge Exchange Fund is a competitive scheme that provides up to \$100,000 for projects in the community. In 2012-13, 39 projects by faculty members were funded, including the conversion of roof spaces into landscapes for growing food and facilitating community interaction, and a capacity-building programme for migrant workers featuring sessions on workers' and women's rights, ICT education and other issues of interest.

### KE and the Student

Student-initiated projects are also supported by the KE

Fund. This started on a pilot basis in 2011-12 and was continued in 2012-13, when 18 projects were supported. Examples of student projects include curating an exhibition of high quality reproductions of artworks by Austrian artists Gustav Klimt and Egon Schiele, developing an app to advance psychological health in cancer patients, and implementing a screening project on speech sound development for local kindergarten children.

These projects are not confined to Hong Kong. A holiday trip to a Cambodian orphanage inspired Cherry Zhang Yingying to found the Children's Health, Education and Environment Rescue Association with four fellow students. Their first project was a return visit to the Cambodian orphanage to perform health checks and improve sanitation,

which won the 2012 Best Student and Youth Volunteering Project awarded by a Hong Kong government committee. Cherry, who has now completed her PhD studies at HKU, said: "As a student, we don't have a lot of money to donate, but we can share what we see, hear and experience, and be a bridge to tell more powerful people outside that there are children needing help here."

### In the Community

Apart from the KE Office, faculties are also engaged in ongoing community and cultural exchanges, such as the University Artists Scheme and Summer Institute in the Faculty of Arts and continuing professional

development and public lectures in the Faculty of Law and Faculty of Medicine. In early 2013 the University and the Hong Kong Museum of Art organised *A Night at the Museum of Art with Andy Warhol* for 600 secondary-school students and teachers, which featured workshops on art and the integration of art and technology.

HKU has a long held vision and determination to transfer and share knowledge of healthcare best practices and systems to the region. This year saw two noteworthy developments towards that goal. The HKU Shenzhen Hospital completed its first year of operation in July 2013. The hospital is providing world-class clinical

care, research opportunities and continuing professional development for all categories of staff, and it has generated intense interest on the Mainland and internationally. The second development was the announcement in March 2013 that the Hong Kong government had given approval to build the Gleneagles Hospital, a private hospital at Wong Chuk Hang. The Faculty of Medicine is the sole clinical partner in this venture and will draw on teaching and research to benefit healthcare in the community.

All of these initiatives are enabling HKU to harness its value in research and teaching, and use it to benefit the community in the broadest possible way.



## Language in a Clinical Setting

A project that looks at the use of language by healthcare professionals during genetic counselling sessions with patients, on such things as Down's Syndrome, G6PD and Sudden Arrhythmia Syndrome, was one of the winners of the 2013 Faculty KE awards. Dr Olga Zayts (left) of the School of English is leading the project together with Dr Brian Chung, Clinical Associate Professor in the Department of Paediatric and Adolescent Medicine. They are conducting research and training with linguists from HK, the UK and the US and healthcare professionals from Hong Kong. Dr Zayts said: "We are trying to make medical professionals aware that the language they use can make a difference in helping patients to make an informed choice."



## Protecting Baby Teeth

Children aged below six fall outside the government's school-based dental programme, a situation that Dr Yang Yanqi and her students and colleagues in the Faculty of Dentistry are trying to address. Their Faculty KE Award-winning project teaches the importance of childhood oral healthcare and how to look after children's teeth to pregnant women, new parents of infants, and the caregivers and teachers of kindergarten children "We want to teach prevention so children can avoid problems in later life that may be painful or expensive to treat," Dr Yang said.

# KNOWLEDGE EXCHANGE FUNDING EXERCISE 2013/14: AWARD SUMMARY FOR IMPACT PROJECTS Annex IV

Faculty / Unit	Project Co-ordinator	Post Title, Department	Project Title	Summary Description
Architecture	Ms Tris KEE	Assistant Professor & Director of Community Project Workshop, Department of Architecture	Community Exhibition on Sustainable Design Practices	The project aims to organise a public exhibition to offer the general public insights into issues of sustainability in the city and the social and cultural aspects related to sustainable designs, and to create two way dialogues between citizens of Hong Kong and professionals on topics related to social, environmental and architectural sustainability.
Architecture	Ms Tris KEE	Assistant Professor & Director of Community Project Workshop, Department of Architecture	Enhancing an Understanding of Urban Edge – An Architectural Engagement	Given that many recent rapid urban developments in Hong Kong have marginalized local peripheral districts, the project aims to engage with some local non-profit organizations, district councilors, rural groups and interest groups to explore the phenomenon of “urban edge” and to establish a knowledge sharing platform to explore how peripheral spaces of Hong Kong, fringe groups and marginal lifestyles can contribute back to our urban diversity, through a series of public engagement sessions and an architectural installation.
Architecture	Ms Tris KEE	Assistant Professor & Director of Community Project Workshop, Department of Architecture	Exploring Architecture Workshops with HK Secondary Schools	The project aims to engage local secondary school teachers and students from Form 3 to 6 to enable them to better understand concepts related to the topics of Architecture, such as Architecture, Urban Planning, Conservation, Urban Sustainability and Landscape Architecture.
Architecture	Ms Vincci MAK	Assistant Professor, Department of Architecture	Hong Kong Jockey Club "Heritage x Arts x Design" Walk Project 2013 – Planning with a Landscape Perspective: Design Exhibition About Alternative Planning Strategies to the "HKSAR North East New Territories New Development Scheme"	The project aims to raise public awareness to the possible alternative planning solutions to the top-down approach of the HKSAR’s “North East New Territories New Development”, by illustrating student design works that are based on relatively grass-root and organic approaches to new town developments, through a public exhibition and publicity programs such as guided tours, lectures/forums, and community workshops.
Arts	Dr Lisa LIM	Assistant Professor, School of English	LinguisticMinorities.HK: Connecting with the Communities	The project aims to further develop the website “LinguisticMinorities.HK”, a one-stop resource on the linguistic situations of ethnic minorities in Hong Kong, by including case studies, interviews, audio and video clips of the minority community members, making an even more direct link with the communities concerned and continuing to be a critical resource for knowledge generated by HKU scholars for the community, and local and international researchers.

## KNOWLEDGE EXCHANGE FUNDING EXERCISE 2013/14: AWARD SUMMARY FOR IMPACT PROJECTS

Faculty / Unit	Project Co-ordinator	Post Title, Department	Project Title	Summary Description
Arts	Dr Olga ZAYTS	Assistant Professor, School of English	Language in Healthcare (LiH)	The project aims to develop a one-stop web-based information resource about language and communication in healthcare and the impact they have on achieving successful healthcare outcomes. The two main groups of beneficiaries are: (i) pre-and post-qualification healthcare professionals and other specialists involved in the provision of holistic healthcare services such as family psychologists and counselors; and (ii) the general public, including clients with certain healthcare conditions and their families/ carers.
Arts	Dr Opher MANSOUR	Assistant Professor, Department of Fine Arts	The Transit of Venus	The project aims to make use of the forthcoming exhibition of a Renaissance masterpiece, Botticelli's Venus, at the University Museum and Art Gallery to develop a world-class museum education programme. Based around the exhibition, the programme of educational events and resources will make the Venus in particular, and Renaissance topics and themes in general, more accessible to the wider public, to teachers, and to secondary school pupils in Hong Kong.
Arts	Professor John CARROLL	Associate Dean, Department of History	Second Century Lecture Series	The project aims to offer free public lectures given by internationally renowned experts in the Arts and Humanities as a continuation of the University's Centenary celebrations, in association with the Faculty of Social Sciences and the Hong Kong International Literary Festival.
Arts	Professor J Charles SCHENCKING	Professor, Department of History	Catastrophe and Rebirth: A Visual and Interactive History of the 1923 Tokyo Earthquake	The project aims to provide access to a wealth of visual materials and primary sources on Japan's most deadly natural disaster for members of the public, the media, and students around the globe; and to provide important and vivid historical context to one of the core KE objectives of HKU, namely "transferring knowledge and skills to help rebuild disaster stricken areas in the region".
Dentistry	Dr C H CHU	Clinical Associate Professor, Faculty of Dentistry (Oral Diagnosis and Polyclinic)	Empowering Kindergarten Teachers and Parents to Deliver Oral Health Education to Young Children	The project aims to improve the oral health knowledge and self-care capacity of local kindergarten children, by (i) training teachers to provide age-appropriate oral health education in the 15 kindergartens run by the Tung Wah Group of Hospitals and in the 22 Po Leung Kuk kindergartens and (ii) by involving parents in oral health promotion and protection of their young children.



## KNOWLEDGE EXCHANGE FUNDING EXERCISE 2013/14: AWARD SUMMARY FOR IMPACT PROJECTS

Faculty / Unit	Project Co-ordinator	Post Title, Department	Project Title	Summary Description
Education	Professor Mark BRAY	Chair Professor in Comparative Education, Faculty of Education (Division of Policy, Administration & Social Sciences Education)	Regulating the Shadow Education System: Private Tutoring and Government Policies in Asia	The project is a follow-up of the 2012/13 work and aims to disseminate the products of the Policy Forum through paper and electronic publications.
Education	Dr Wai Lam HO	Clinical Instructor, Faculty of Education (Division of Speech and Hearing Sciences)	Community Rehabilitation for Stroke Patients with Communication Disorders	The project aims to share the team's clinical knowledge and experience in the rehabilitation of communication disorders for stroke patients, their caretakers and any volunteers in the Community Rehabilitation Network (CRN) by hosting group therapy sessions, seminars and workshops and preparing therapy materials.
Education	Dr Tammy KWAN	Associate Professor & Assistant Dean, Faculty of Education	Creation of a Teacher Professional Development Platform to Address Learner Diversity in Classroom, and to Understand Good Practice of Teaching	The project aims to further develop on the key issue of teacher professional development in (i) dealing with learner diversity in classroom and (ii) understanding of good practice of teaching; and to bring about educational benefits to both teachers and students of primary and secondary sectors through professional events of talks, seminars, workshops, visits and meetings.
Education	Dr Ming Fai PANG	Associate Professor & Associate Dean, Faculty of Education	New Perspective in Parent Education	The project aims to expand the understanding of policy makers, school leaders and parent education practitioners in Hong Kong and Singapore about the nature and impact of parent education and to heighten their awareness on the importance of developing a learner-centred in-school parent education curriculum to the growth and development of young children. A series of forums and workshops will be organized in Hong Kong and Singapore for knowledge exchange both locally and internationally.
Education	Dr Allan H K YUEN	Associate Professor, Faculty of Education (Division of Information and Technology Studies)	The Apps for Parents and Teachers: Nurturing the Digital Natives	Through workshops and online community building, the project aims to help parents and teachers in understanding the changing digital lives and guiding their children to use information and communication technologies safely and positively.

## KNOWLEDGE EXCHANGE FUNDING EXERCISE 2013/14: AWARD SUMMARY FOR IMPACT PROJECTS

Faculty / Unit	Project Co-ordinator	Post Title, Department	Project Title	Summary Description
Engineering	Dr Vincent LAU	Course Instructor, Department of Computer Science	3D Modeling and 3D Printing Workshop	The project aims to introduce the 3D modeling tools and 3D printing technology, which can be used for creating learning materials for lessons and self-learning, to secondary school teachers and students in Hong Kong through seminars and workshops.
Engineering	Dr Chi Lap YIP	Instructor, Department of Computer Science	Birds of Hong Kong in Your Hands	In partnership with the Hong Kong Bird Watching Society (HKBWS), the project aims to apply HKU knowledge in mobile application development to enable mobile device users in Hong Kong and worldwide to access multimedia information about Hong Kong birds for free.
Engineering	Dr Wilton FOK	Principal Lecturer & Assistant Dean, Department of Electrical and Electronic Engineering	Knowledge Exchange on ICT for Education – e-Assessment for Learning	The project aims to exchange knowledge on how to use the new ICT tool, i-Assessment, for real-time assessment with educators, teachers and parents through a series of knowledge exchange activities such as bilingual book publication, public seminar, workshop, website and online video.
Law/ Education	Professor Anne Shann-Yue CHEUNG & Dr Dennis Chun-Lok FUNG	Professor & Co-Director of Law and Technology Centre, Department of Law; Assistant Professor, Faculty of Education (Division of Science, Mathematics and Computing)	Y Law for Secondary School Liberal Studies Curriculum: Decoding Crimes to Prevent Crimes	The proposed project aims to enhance students' legal knowledge and thereby prevent the commission of crime by infusing credible and accurate legal information into teaching materials in Liberal Studies for junior high school students.
Medicine	Dr Lei LI	Assistant Professor, School of Chinese Medicine	Chinese Medicine Culture in a Nutshell	The project aims to give a series of free public lectures on Chinese Medicine culture for the public to provide them a clear basic concept and cultural background of Chinese Medicine, and to raise their awareness of the differences between Western Medicine and Chinese Medicine. A book about Chinese Medicine Culture will also be produced.

## KNOWLEDGE EXCHANGE FUNDING EXERCISE 2013/14: AWARD SUMMARY FOR IMPACT PROJECTS

Faculty / Unit	Project Co-ordinator	Post Title, Department	Project Title	Summary Description
Medicine	Dr Julie Yun CHEN	Assistant Professor, Department of Family Medicine and Primary Care & Institute of Medical and Health Sciences Education	The Art of Empathy	The project aims to enhance empathic understanding of patients and to develop well-being among health care staff of the Hospital Authority through a structured art-making workshop and guided viewing of medical student-created art; and to increase public confidence in the humanistic capacity of the next generation of doctors by enabling visitors to public and private hospitals to engage with medical student-created art through a series of guided and roving art exhibitions.
Medicine	Mr Wai Keung CHEUNG	Assistant Professor, School of Nursing	Community Health Care Training by Simulation	The project aims to transfer the nursing knowledge and skills to secondary school students to increase their competency on handling emergency health care issues, such as an acute severe asthma attack on a family member or neighbor, by providing them case scenarios through simulation.
Medicine	Miss Sze CHOW	Assistant Professor, School of Nursing	Knowledge Exchange Project at AKA (Aberdeen Kai-Fong Association)	The project aims to organise health promotion activities for the people living in the Aberdeen district through the collaboration of HKU nursing students and teachers and the community partner of the project (Aberdeen Kai Fong Association).
Medicine	Dr Angela Yee Man LEUNG	Assistant Professor, School of Nursing	Diabetes Risk Score Smartphone Application (DRS App): Its Application in Diabetes Prevention and Health Education	The project aims to develop Hong Kong Chinese people's skills to assess their own diabetic risk through the use of a smartphone application (app), and encourage the diabetic at-risk persons to lower their risk by modifying their lifestyles.
Medicine	Dr Ching-Lung CHEUNG	Research Assistant Professor, Department of Pharmacology and Pharmacy	Genomic Medicine: What is It About?	The project aims to raise the awareness, understanding, and interest of the public on genomic medicine and how genomic medicine can transform healthcare in our next generation through a series of lectures.

## KNOWLEDGE EXCHANGE FUNDING EXERCISE 2013/14: AWARD SUMMARY FOR IMPACT PROJECTS

Faculty / Unit	Project Co-ordinator	Post Title, Department	Project Title	Summary Description
Medicine	Dr Francois Sophana KIEN	Post-doctoral Fellow, School of Public Health	"From the Plague to New Emerging Infectious Diseases" Exhibition	The project aims to organize a public exhibition which looks at historical, sociological and scientific aspects of infectious diseases in Hong Kong in order to raise public awareness about infectious diseases and to showcase medical and scientific achievements from HKU in the fight against infectious diseases.
Medicine	Dr Irene Oi Ling WONG	Post-doctoral Fellow, School of Public Health	Promoting Informed Decision Making for Early Breast Cancer Detection Practices Among HK Chinese Women: Development of a Web-based Decision-Aid	The project aims to raise the awareness of Hong Kong women, especially those aged 30 or above, about breast cancer and to better equip them for making decisions on the issue by developing a website that contains information related to breast cancer screening in Hong Kong and provides personal assessment of risk for breast cancer.
Medicine	Professor Ronald LI	Director, Stem Cell and Regenerative Medicine Consortium	Stem Cell Knowledge Exchange Program: From the Scientific Cutting Edge to Experience	The project aims to raise the public awareness about stem cells and regenerative medicine and how stem cell research can benefit the future mankind by providing secondary school students opportunities to experience and participate in various activities such as luncheons with stem cell experts, visits of SCRMC laboratories, a stem cell knowledge exchange exhibition and a stem cell booth competition.
Medicine	Dr Roberta PANG	Assistant Professor, Department of Surgery	Knowledge Exchange from the Frontiers of Cancer Research: Integrating Cancer Science into Community Awareness	The project aims to raise the awareness of the public, especially our next generations (secondary and primary school students), about cancer through public lectures, patients/family sharing sessions with our experts, debate competitions among secondary school students, clinical/laboratory attachment to our teams for more in-depth understanding of cancer treatments and cancer research, and short-play/drama performances by senior primary school students to advocate the importance of healthy eating/lifestyles.
Science	Dr William M Y CHEUNG & Professor Aleksandra DJURISIC	Lecturer, Faculty of Science; Professor, Department of Physics	Science for Everyone – HKU Sci-Tube Channel Project	The project aims to foster scientific literacy of the general public and to provide resources for secondary school teachers, by producing and uploading a series of online videos under the common theme "Science in Everyday Life" and video demonstrations of science experiments.

## KNOWLEDGE EXCHANGE FUNDING EXERCISE 2013/14: AWARD SUMMARY FOR IMPACT PROJECTS

Faculty / Unit	Project Co-ordinator	Post Title, Department	Project Title	Summary Description
Science	Mr Sze-leung CHEUNG	Outreach Officer and Science Instructor, Faculty of Science	Public Engagement in the Comet of the Century	The project aims to foster scientific literacy of the general public by engaging them in the comet of the century astronomical events such as a one-month exhibition, public observation activities and a public lecture.
Science	Dr Benny C H NG	Lecturer, Faculty of Science	Science x Art II – Learning Science via Interactive Visual Art	The project aims to foster scientific literacy of the general public, especially secondary school students, by visualizing science in an artistic and interactive manner. With the positive feedback from participants and exhibition viewers towards Science x Art last year, the project targets at junior secondary level so that students will be more well-rounded and interested in both science and art early on.
Science	Dr Yiliang LI	Assistant Professor, Department of Earth Sciences	Astrobiology: An Integrative Approach on "Origin & Evolution of Life in the Universe"	Given that Astrobiology is the new frontier of science that concerns the origin, evolution and destiny of life on Earth and elsewhere in the Universe, the project aims to promote the public understanding of Astrobiology by offering a series of public lectures, popular science articles and online dialogues.
Science	Dr J C S PUN	Principal Lecturer, Department of Physics	Light Pollution Awareness Community Engagement Project	The project aims to (i) educate the general public the ecological impacts of light pollution by collaborating with local environmental groups, and (ii) engage school students to conduct scientific studies of light pollution and to promote measures to improve the situation in their communities.
Social Sciences	Professor Cecilia CHENG	Professor, Department of Psychology	The "APPTT" Project: A New Dual-Process Scheme for Mitigating Job Stress Among Working Adults	The project aims to enhance working adults' self-understanding and efficacy of coping with job stress by (i) developing a mobile-phone app based on our team's recent theories and findings, and (ii) launching a "train-the-trainer" program that facilitates para-counseling in the workplace.

## KNOWLEDGE EXCHANGE FUNDING EXERCISE 2013/14: AWARD SUMMARY FOR IMPACT PROJECTS

Faculty / Unit	Project Co-ordinator	Post Title, Department	Project Title	Summary Description
Social Sciences	Dr Chia-huei TSENG	Assistant Professor, Department of Psychology	HKU Young Brain Scientist Program	This project aims to promote brain science literacy to secondary school students in Hong Kong by outreach events like public lectures in partner secondary schools and in-house workshops.
Social Sciences	Dr Travis KONG	Associate Professor, Department of Sociology	The Unforgettable and Unspoken: Oral Histories of Older Gay Men Living in Hong Kong	The project aims to document stories of older gay men living in Hong Kong in order to raise the awareness of the general public and service providers about their unspoken needs and problems.
Social Sciences	Professor Paul S F YIP	Director, The Hong Kong Jockey Club Centre for Suicide Research and Prevention	Knowledge Exchange of Problem-Solving Program	In view of the findings from the recent problem-solving mentorship program of CSRP, the project aims to facilitate teachers and professionals in implementing the program and to increase its sustainability for the benefits of children and the youth by developing an E-resource book and conducting problem-solving skills training workshops.
Communications and Public Affairs Office	Ms Katherine MA	Director of Communications, Communications and Public Affairs Office	Measurement of Positive Media Impact Related to HKU Knowledge Exchange	The project aims to continue on supporting an online news platform so that the University can provide consistent and systematic reference and comparison for KE performance longitudinally.
Institute of Human Performance	Dr Michael TSE	Assistant Director & Clinic Director, Institute of Human Performance	Exercise Demonstration Video for People with Down Syndrome	The project aims to prepare an exercise demonstration and teaching video for people with Down Syndrome based on best practice evidences and to launch a mass exercise promotion of more than 100 Down Syndrome individuals performing the exercises simultaneously to raise awareness on the need for Down Syndrome people to remain physically active.



## KNOWLEDGE EXCHANGE FUNDING EXERCISE 2013/14: AWARD SUMMARY FOR IMPACT PROJECTS

Faculty / Unit	Project Co-ordinator	Post Title, Department	Project Title	Summary Description
Journalism and Media Studies Centre	Dr King-wa FU	Assistant Professor, Journalism and Media Studies Centre	Dissemination of Chinese Social Media Data Analysis for the Understanding of Public Opinion in China	The project aims to provide an online digest of the social media content in Mainland China, including time trend analysis, content analysis, influencer analysis and network analysis, with the use of analytical and visualization tools which have been developed by the Centre's "Weiboscope" project.
University Libraries	Mr David PALMER	Associate University Librarian, University Libraries	ORCID Membership	The project aims to create and populate ORCID accounts for each HKU academic; and to enable unambiguous search and discovery of HKU research by all those interested.

# STUDENT KNOWLEDGE EXCHANGE (KE) PROJECT GRANT SCHEME 2013/14: AWARD SUMMARY

Student Project Team	Faculty Mentor (Post/Department)	Partner Organization	Project Title	Main Objectives
<b>Faculty of Arts</b>				
Mr Anson Chun Lok LAU, Miss Wing Ki HO, Miss Emily Jo Yee CHAN and Mr Felix Shing Hay YEUNG	Dr Joe LAU Associate Professor, School of Humanities (Philosophy)	Hong Kong Practical Philosophy Society	Introducing Critical Thinking and Basic Logic to Secondary School Students	The project aims to introduce some basic concepts of philosophy, such as logic or critical thinking, to the upper form of secondary school students and to correct their presumption that philosophy is a subject investigating impractical matters through lectures where real life examples are shown.
Miss Lok Yin WONG, Miss Shun Yan WONG, Miss Yuk Ki CHOW, Miss Joe Li WONG, Miss Si Yan CHOY, Miss Lok Lam FONG, Miss Jamie Wing Tung TSE, Miss Wan Chi LEUNG, Mr John Ka Kin LEUNG, Mr Chun Hei TSANG and Mr Chun Kui TAM	Dr Fiona Yuk-wa LAW Lecturer, Department of Comparative Literature	Serving Islam Team (Hong Kong)	Islam Connects — Publication Project	The project aims to provide Hong Kong readers an authentic understanding of Islamic and Arabic culture, raise awareness on the social misjudgment and stereotype on Islamic traditions and promote cultural integration through establishing a new magazine “Connect” with periodic issues.
Mr Zhongting CHEN, Miss Jianqiao HUANG, Miss Tianyin LIU and Mr Chong Yee WONG	Professor Li-hai TAN Professor, School of Humanities (Linguistics)	Hope International Kindergarten; Hong Kong Pre-school	Learning Chinese in the Digital Age	The project aims to arouse children’s interest in learning Chinese and ultimately improve their language abilities through teaching them Chinese calligraphy with fun games incorporated and developing a web-game or iphone/android app of learning Chinese.
Miss Kathleen Ka Yan HO, Mr Kwan Ki MA and Miss Pui Sze LI	Dr Alexandra COOK Associate Professor, School of Humanities (Philosophy)	The Conservancy Association	Take Action! Youth Biodiversity Conservation Leadership Training Scheme	The project aims to encourage appreciation of local biodiversity among Form 4 to Form 6 students , raise their awareness on existing challenges to biodiversity conservation, and initiate a solution-seeking approach towards these challenges through seminars, field trips, supervised research and model symposiums.

## STUDENT KNOWLEDGE EXCHANGE (KE) PROJECT GRANT SCHEME 2013/14: AWARD SUMMARY

Student Project Team	Faculty Mentor (Post/Department)	Partner Organization	Project Title	Main Objectives
Mr Miles Owens DUGAN, Ms Shirley Bik Cheung CHAN, Ms Yining LI, Ms Yanhong CHEN and Ms Man Hing LUK	Dr Yeewan KOON Associate Professor, School of Humanities (Fine Arts)	Asia Society Hong Kong	Transformations: Art Workshops and Art Practices	The project aims to introduce to the public how contemporary Chinese art and art history can relate to their lives with the theme of "Transformations" through workshops. Different themes under the larger rubric of Transformations will be examined such as the processes of art making, the materials used, and the relationship between the uses of these materials now and then.
<b>Faculty of Dentistry</b>				
Miss Betty LIANG, Ms Dora CHU and Miss Liying LUO	Dr James K H TSOI Assistant Professor, Faculty of Dentistry	New Tune Music Association	"Be an Oral Healthy Musician" — Dental Engagements with Chinese Wind Instrument Players	Through workshops and promotional and educational materials, the project aims to help professional and semi-professional players and teachers of Chinese orchestral wind instruments acquire essential dental knowledge, instrument care, and self-care skills that are transferrable to their students and peers, and to encourage them to make routine dental visits.
Miss Teresa Cheuk Yu HO, Miss Raechelle KOH and Mr Chun Pang POON	Professor Colman Patrick MCGRATH Clinical Professor in Dental Public Health, Faculty of Dentistry	CCC Kei Faat Primary School (Yau Tong)	Development of an 'App' for Oral Self-Care Among Chinese Children	The project aims is to promote oral health among primary school children through the development and wide availability of an app, which will be a useful public resource (free-of-charge for users) to promote good oral hygiene and prevent common dental diseases such as dental caries and gum diseases.
Mr Nichol Chun Wai TSANG, Miss Sin Yi CHAN, Miss Chui Yi HO, Mr Ming Kong KWOK, Miss Yan Yee LAI, Mr Ken Jean LEW, Mr Ching Yeung LIU, Mr Lynton Edviano LOO, Miss Pui Ying MAK and Miss Jingya PU	Professor Cynthia Kar Yung YIU Clinical Professor in Paediatric Dentistry, Faculty of Dentistry	The Independent Schools Foundation (ISF) Academy; Christian and Missionary Alliance Sun Kei Secondary School	Disclosing the Truth in Your Mouth	Through interactive science classes, the project aims to (1) promote the importance of maintaining teeth cleanliness by reinforcing students' oral hygiene knowledge, (2) educate them of the importance of fluoride in preventing tooth decay and problems associated with frequent snacking, and (3) increase awareness of science concepts behind oral health using real dental examples.

## STUDENT KNOWLEDGE EXCHANGE (KE) PROJECT GRANT SCHEME 2013/14: AWARD SUMMARY

Student Project Team	Faculty Mentor (Post/Department)	Partner Organization	Project Title	Main Objectives
Miss Wai Ling TSE, Miss Sze Tung LI, Miss Yee Lok LAM, Miss Mei Yan LIU, Miss Pui Kwan KWOK, Miss Tsz Yan LI, Mr Kenneth Kai Hay YUNG, Mr Shing Chi CHAN, Miss Oi Tung WONG, Miss Melissa Rachel FOK, Miss Janet Sei Man CHAN and Mr Tak Fai TSE	<b>Dr Yanqi YANG</b> Clinical Assistant Professor, Faculty of Dentistry	<b>Hong Kong Society for the Protection of Children (HKSPC)</b>	<b>Getting to Know More — Oral Health Consultations for Kindergarten Children and Their Parents</b>	The project aims to help parents understand their children's oral conditions and to promote oral health through personal chairside demonstrations of children's oral problems and interactive in-depth consultations to explain oral examination reports in details.
Dr Jayakumar JAYARAMAN, Dr Tao PEI and Dr Lingwei LI	<b>Dr Hai Ming WONG</b> Clinical Assistant Professor, Faculty of Dentistry	<b>India Lutheran Development and Relief Agency (ILDRA)</b>	<b>Giving an Identity to Undocumented Children in Chennai, India</b>	The project aims to (1) provide an accurate "age" for 50 children in a rural welfare home in Chennai, India through a valid and reliable method based on dental X-ray records, (2) train local forensic practitioners and dentists in the method, (3) help improve oral health of the children, and (4) educate the public about birth registration and oral health.
Ms Tiffany Chi Lok CHAN, Ms Karen Shun Ka LEE, Ms Christine Shuk Kwan TSE, Ms Mandy SHEK, Ms Echo Ying Yee CHAN, Mr Wilson Shun Wai AU, Ms Judith LUI TAM, Mr Jimmy Man Ho CHAU, Mr Annie Wing Ki LEUNG, Dr Mei Man CHONG, Dr Dion Tik Shun LI, Dr Mei Nee TAN, Dr Fong Siew HAN, Dr Liszen TANG, Dr Bosco Sheung Yu HUI, Dr Ming Yin LEUNG, Dr Kelvin Tai Yin NG and Dr Kailing SIEW	<b>Dr Mike Yiu Yan LEUNG</b> Clinical Assistant Professor; <b>Professor Lim Kwong CHEUNG</b> Chair Professor of Oral and Maxillofacial Surgery; <b>Professor Gary Shun Pan CHEUNG</b> Clinical Professor & Associate Dean, Faculty of Dentistry	<b>Anglican (Hong Kong) Primary Schools Councils (APSC)</b>	<b>Management of Jaw, Face and Dental Trauma: Educational Campaign for School Teachers</b>	The project aims to transfer the team's knowledge and skills gained at HKU to primary and secondary school teachers through seminars, so as to improve their knowledge on first-aid treatments of jaw, face and dental injury in schools and to improve the treatment outcomes of students suffering from jaw, face and dental injury with time-sensitive trauma management provided by their teachers.
Miss Shinan ZHANG, Mr Brian Hiu Shing KWOK, Miss Hwee Hsia ONG, Miss Ngai Yu CHEUNG, Miss Kay Shuen CHAN, Miss Jasmine Tak Kar LAW, Mr Ming Ho CHAN, Mr Wing Kei WU, Mr Chi Wai YIU and Mr Ming Chak LEE	<b>Dr Chun Hung CHU</b> Clinical Associate Professor, Faculty of Dentistry	<b>St. Barnabas' Society and Home (SBSH)</b>	<b>Oral Health Promotion Among Homeless People in Hong Kong</b>	Homeless people represent a socially excluded and stigmatized group that has little access to health services including dental services. The project aims to improve the oral health status and knowledge, as well as oral hygiene routines, of homeless people in Hong Kong through consultations, assessments, oral health education and visits to the Prince Philip Dental Hospital for basic treatments.

## STUDENT KNOWLEDGE EXCHANGE (KE) PROJECT GRANT SCHEME 2013/14: AWARD SUMMARY

Student Project Team	Faculty Mentor (Post/Department)	Partner Organization	Project Title	Main Objectives
Miss Stephanie WONG, Miss Carolle Kar Po MOK, Miss Venus Hoi Ching KWOK, Mr Sin Bo CHU, Mr Ming Chun NGAN, Mr Wing Tak LAI, Mr Chun Kit YIP, Mr Chak Fai YU and Miss Chloe Hor Ching LEE	<b>Dr Dominic K L HO</b> Clinical Assistant Professor & Assistant Dean, Faculty of Dentistry	Hong Kong Rehabilitation Power (HKRP)	Oral Health Promotion to the Disabled	The project aims to teach effective oral hygiene techniques to adults (including wheelchair users, people recovering from mental illnesses, and people with chronic illnesses), and to make sure all of them have learnt the techniques by individual consultation. The team will also provide training to 10 carers and HKRP staff on teaching the techniques.
Mr Chun Pang POON, Miss Teresa Cheuk Yu HO, Mr Ling Man WONG and Mr Ho Yin CHAN	<b>Dr Katherine Chiu Man LEUNG</b> Clinical Associate Professor, Faculty of Dentistry	Hong Kong Professional Teachers' Union	“Teeth for Life”: Prevention & Replacement of Missing Teeth	The project aims to (1) promote oral health knowledge relating to prevention of non-accidental tooth loss and missing tooth replacement to adults, (2) improve teachers' oral health knowledge and oral hygiene practices through seminars, and (3) encourage knowledge application within schools, and eventual improvement of students' current and future oral health.
Ms Cherrie Cheuk Yiu HUNG, Dr Alvin Yue Hin KUNG, Dr Karen Kar Yan LAI, Mr Chris Ming Ho CHAN, Mr Chris Tat Chuen FOK, Miss Crystal Rui WANG and Mr Andy Kwan Lok TSE	<b>Dr Winnie Wing Shan CHOI</b> Clinical Assistant Professor, Faculty of Dentistry	Hong Kong St John Ambulance; Auxiliary Medical Services Christian Fellowship	Updates on First Aid Management of Maxillofacial and Dental Trauma	The project aims to transfer advanced knowledge and skills on Maxillofacial and dental trauma management to the first aid providers, who have had some experience and knowledge on basic trauma management. With subsequent application of knowledge and exchange between divisions, treatment outcomes of patients suffering from maxillofacial and dental injury hope to be improved with time-sensitive trauma management provided by the first aiders.
<b>Faculty of Engineering</b>				
Mr Chun Yin CHEUNG, Mr Long Kiu SUEN, Mr Wing Tung HO and Miss Hiu Ying LO	<b>Dr Wilton FOK</b> Principal Lecturer & Assistant Dean, Faculty of Engineering	Sichuan International Exchange Center for Science and Technology Cooperation; Ying Xiu Secondary School	Design and Installation of a Multimedia Classroom, e-Learning and e-Library System in a Reconstructed School in Sichuan	The project aims to install a multimedia learning center in a reconstructed school in Sichuan. It is hoped that with the multimedia room, learning will be interesting for students, and students can learn more effectively as there will be more interaction between the teachers and students in classroom.

## STUDENT KNOWLEDGE EXCHANGE (KE) PROJECT GRANT SCHEME 2013/14: AWARD SUMMARY

Student Project Team	Faculty Mentor (Post/Department)	Partner Organization	Project Title	Main Objectives
<b>Faculty of Law</b>				
Mr Charles Cheuk Yui LEUNG, Mr Patrick Chi Lok LUI and Miss Fiona Hiu Ching LI	Ms Puja KAPAI Director, Centre for Comparative and Public Law; Associate Professor, Department of Law	Mission for Migrant Workers (MFMW Limited)	Empowerment for All (MFa)	The project aims to (1) provide research and information on law-related problems or queries raised by the NGOs and (2) work closely with the NGOs and identify the legal issues related to their operation and offer relevant training to their staff, through ongoing meetings, training seminars, an exhibition and a sharing session, etc.
Miss Ming Jie SONG, Miss Kyung Min LEE and Miss Erica Sze Wa LI	Professor Michael WILKINSON Professor, Department of Professional Legal Education	Hong Kong Chinese Women's Club College; Clementi Secondary School; New Asia Middle School, etc.	SpeechExpress Project	The project aims to provide a quality and experiential learning environment to Form 1 students who may lack the confidence and basic conversational skills to communicate in English through providing lessons with interactive class activities and innovative teaching materials that are customized to the local environment.
<b>Li Ka Shing Faculty of Medicine</b>				
Miss Tsz Ting CHEN, Miss Carmen Yee Kay CHEUNG and Mr Joseph Chi Lok LO	Dr Camie CHAN Assistant Professor, Department of Anatomy	The Hong Kong Allergy Association	Allergy Health Exhibition	The project aims to enhance public awareness and understanding of medicine, educate the public from a layman's perspective and clarify some common misunderstandings about allergy through providing health checks and health counselling and organizing an exhibition, talks, sharing sessions and interactive workshops.
Miss Man Yan HO, Miss Wan Wai YUEN, Miss Pui Shan WONG, Mr Wing Shan CHUNG, Miss Oi Tin LO, Mr Wan Fung LAM, Mr Long Him TAI, Miss Yu Tong WU, Miss Chun Wai CHOW, Miss Fong Lai CHAN, Mr Sze Ho CHAU, Miss Ka Yin HUI, Miss Ka Yuet NG, Mr Chun Ling LAU, Miss Chau Yi CHOW, Miss Shuk Man CHAN and Mr Chin Wa CHEUNG	Professor Agnes Fung Yee TIWARI Head & Professor, School of Nursing	HKSKH Lady MacLehose Centre	Health-Oriented Pupils Education Scheme 2013	The project aims to empower the impoverished people in rural China to maintain health through workshops (with themes on dental health, personal hygiene, health check and nutrition, and common diseases and treatments), "Train the Trainers" programme to local teachers, and family visits to rural villages to teach the people basic first-aid skills and health knowledge.



## STUDENT KNOWLEDGE EXCHANGE (KE) PROJECT GRANT SCHEME 2013/14: AWARD SUMMARY

Student Project Team	Faculty Mentor (Post/Department)	Partner Organization	Project Title	Main Objectives
Mr Gordon Kwok Ho CHU, Miss Jacqueline Cheuk Yan CHUI and Mr Barry Ka Yu CHAN	<b>Dr Henry Chun Kin SZE</b> Clinical Assistant Professor, Department of Clinical Oncology	Watoto Asia	Uganda Medical Service Trip	The project aims to empower the orphaned children and vulnerable women in Uganda where there is a lack of medical professionals and knowledge, by organizing health talks, providing professional medical care with guidance and assistance of doctors and professors, and designing teaching materials that can convey positive messages about the future.
Mr Geoffrey Chi Chun TANG, Miss Shannon Tsz Shan MA, Miss Cindy Sze Man LAM, Mr Elson Ho Yin LAM and Miss Yee Wing TSANG	<b>Professor Danny CHAN</b> Professor, Department of Biochemistry	China Candlelight Educational Fund	Vision of Inspiration and Child Empowerment (VOICE)	The project aims to serve communities of underprivileged children by targeting their education and health and inspire them to aim for their dreams through a 12-day programme in two local primary schools in Chenzhou with activities such as classroom teaching, carnival, health checks, health seminars, a first-aid course for teachers and home visits, etc.
<b>Faculty of Science</b>				
Miss Sin Yi LAI, Mr Cheuk Pui WONG and Miss Clarins Kar Yin LUI	<b>Dr M Y CHEUNG</b> Lecturer <b>Mr Sze-leung CHEUNG</b> Outreach Officer and Science Instructor, Faculty of Science	Ho Koon Nature Education cum Astronomical Centre	Capture Science Video Competition 2013-2014	Through organizing a science video competition, the project aims to (1) promote science to secondary school students, (2) inspire their interest in science, (3) encourage them to observe and appreciate the beauty and value of science, (4) help them get aware of the science and their applications in daily life, and (5) enrich their science knowledge.
Miss Ka Yan WONG, Mr Cheuk Pui WONG and Miss Yuk Sheung YEUNG	<b>Professor W K CHAN</b> Professor & Associate Dean; <b>Mr Sze-leung CHEUNG</b> Outreach Officer and Science Instructor, Faculty of Science	Lok Sin Tong Leung Kau Kui Primary School	Fun Science Workshop for Primary School Students 2013-2014	The project aims to promote science to primary school students by demonstrating some fun science experiments to them so as to inspire their interest in science, arouse their awareness of the applications of science in daily life, and enrich their general science knowledge.

## STUDENT KNOWLEDGE EXCHANGE (KE) PROJECT GRANT SCHEME 2013/14: AWARD SUMMARY

Student Project Team	Faculty Mentor (Post/Department)	Partner Organization	Project Title	Main Objectives
Mr Cheuk Pui WONG, Miss Charmaine Sze Man CHO and Miss Lu Ling WONG	Professor W K CHAN Professor & Associate Dean; Mr Sze-leung CHEUNG Outreach Officer and Science Instructor, Faculty of Science	Cosmoers	HKU Science Discovery Day Camp 2013-2014	The project aims to provide intensive introduction of specific scientific issues to secondary school students, enable them to have in-depth thinking and reflection on science and arouse their awareness towards science by organizing a day camp with activities such as laboratory/facility visits and experiments.
Miss Manni MO, Miss Kai Lai YUEN, Miss Hiu Ming MA, Mr Yu Hong CHENG, Mr Chek Ming HO, Ms Wai Hing LAU, Miss Yuk Ki CHEUNG, Mr Michael Ching Ho CHAN and Mr Ling CHO	Dr Thiagarajan VENGATESEN Assistant Professor, School of Biological Sciences	Carmel Divine Grace Foundation Secondary School	Science Workshop for Secondary School Students — Exploring a Drop of Seawater	The project aims to arouse the interest of senior secondary school science students in marine science and raise their awareness in environmental protection by introducing the basic skills of seawater sampling and analysis to them, giving them hands-on experience in collecting seawater samples, and guiding them to carry out simple experiments on chemical testings.
<b>Faculty of Social Sciences</b>				
Mr Ricky Van Yip TSO, Miss Wing Yan CHAN, Miss Wing Yee WONG, Mr Ka Shing CHUNG and Mr Saifullah	Dr Janet Hui-wen HSIAO Assistant Professor, Department of Psychology	Sir Ellis Kadoorie Secondary School (West Kowloon)	Inspiration Network — Mentorship Programme for Matriculation Non-Chinese Speaking Minorities	The project aims to boost the career aspiration of ethnic minority students and enhance the inter-cultural and social awareness of HKU students towards the minority community in Hong Kong by involving them as their mentors; and to set up a mentorship network between university students and secondary schools that have ethnic minority students.
Miss Lily Wai Ling LEE, Miss Fiona Hiu Ching LI and Miss Stephanie Long Ting LOK	Mr Jeffrey TIMMERMANS Lecturer, Journalism and Media Studies Centre	The Young Generation's Note Journal	Training Next-Generation Journalists	The project aims to help local migrant youth in the Thai-Burma border where there is a lack of communication channels and the collective efforts in community building are being impeded. The team hopes to empower migrant students and NGO workers living in the border in expressing and sharing their views by enhancing a local migrant communication channel.

## Annex VI

## Quantitative Indicators

Tables 1 and 2 below correspond to Tables 9.1 and 9.2 of the Initial Statement for the 2012-15 triennium respectively. The 2013/14 column shows the outcomes in the reporting year, which are benchmarked against the outcomes in 2012/13.

Table 1

Performance Indicators	2012/13 <sup>Note 1 &amp; 2</sup>	2013/14 <sup>Note 2</sup>
Number of patents filed in the year (with breakdown by country and type) <sup>Note 3</sup>	86	94 <sup>Note 4</sup>
Number of patents granted in the year (with breakdown by country and type) <sup>Note 3</sup>	33	24 <sup>Note 5</sup>
Number of licenses granted (with breakdown by type) <sup>Note 3</sup>	63	66
Income (on cash basis) generated from intellectual property rights	\$7,324,000	\$3,154,000
Expenditure involved in generating income from intellectual property rights	\$411,000	\$379,000
Net income generated from intellectual property rights <sup>Note 6</sup>	\$6,913,000	\$2,775,000
Number of economically active spin-off companies (with breakdown by type) <sup>Note 3 &amp; 7</sup>	2	2
Net income generated (or net loss arising) from spin-off companies <sup>Note 8</sup>	(\$581,000)	\$778,000
Number of collaborative researches, and income thereby generated <sup>Note 9</sup>		
- no. of projects	26	26
- income generated	\$25,229,000	\$11,097,000
Number of contract researches (other than those included in "collaborative researches" above), and income thereby generated <sup>Note 10</sup>		
- no. of projects	779	846
- income generated	\$165,962,000	\$205,281,000
Number of consultancies, and income thereby generated		
- no. of projects	710	718
- income generated	\$39,046,000	\$41,849,000
Total of collaborative researches, contract researches and consultancies <sup>Note 11</sup>		
- no. of projects	1,515	1,590
- income generated	\$230,237,000	\$258,227,000

Performance Indicators	2012/13 <sup>Note 1 &amp; 2</sup>	2013/14 <sup>Note 2</sup>
Number of student contact hours in short courses or e-learning programmes specially tailored to meet business or CPD needs <sup>Note 12</sup>	541,585	100,461 <sup>Note 13</sup>
Number of equipment and facilities service agreements, and income thereby generated - no. of agreements - income generated	24 \$886,000	18 \$255,000
Income received from Continuing Professional Development (CPD) courses <sup>Note 14</sup>	\$1,804,000	\$6,477,000
Number of public lectures/symposiums/ exhibitions and speeches to a community audience	1,001	1,547
Number of performances and exhibitions of creative works by staff or students	62	81
Number of staff engaged as members of external advisory bodies including professional, industry, government, statutory or non-statutory bodies	621	617
<i>Additional data for reference:</i> No. of external advisory bodies membership held by HKU staff		
- professional		
- industry	1,103	1,160
- Government statutory bodies	63	92
- Government non-statutory bodies	794	842
- other bodies	498	384
TOTAL	465	375
	2,923 <sup>Note 15</sup>	2,853

Notes:

1. Data of the last reporting year as stated in the last annual report, unless otherwise specified
2. Income/expenditure figures in HKD were rounded to the nearest thousand.
3. Breakdown available in CDCF.
4. The number of inventions involved is 64.
5. The number of inventions involved is 18.
6. The target increase in the Initial Statement actually referred to the net income generated from intellectual property rights.
7. The HKU strategy is that licensing rather than spin-off companies should be the preferred route for commercialization because licensing would allow the University to leverage on industry expertise and remain focused in its core capabilities. Spin-off companies will only be set up if and when deemed necessary or to the best interest of the University.
8. Versitech, the University's technology transfer company, is a minority shareholder in the spin-off companies. It is difficult to predict the companies' sales/turnover due to the volatile business environment.
9. ITF projects with industrial sponsorship and other collaborative projects with at least two partners (one of which being a government or public body) were included.
10. For the number of contract research projects, ITF projects without industrial sponsorship, Public Policy Research projects, projects funded by the Food and Health Bureau and the SK Yee Foundation, and other contract research projects were included.

11. It is considered more appropriate to target the increase in collaborative researches, contract researches and consultancies together rather than separately as in the Initial Statement.
12. Taught postgraduate programmes were not included.
13. The difference in the number with those in the previous years was attributed to the change in the data collection methodology. The manual data collection process has been replaced by a central information system, and it may take time for course organizers to adapt to the new system.
14. Expenditures including overheads were deducted. Net income from taught postgraduate programmes was not included.
15. The Community Service System has been enhanced such that data entered by individual academic staff members in respect of their memberships on journal editorial boards could be excluded from the count for external advisory bodies memberships. It was considered that memberships on journal editorial boards were more related to research and should be excluded for the purpose of KE reporting, so there was a decrease in the total number of memberships reported since 2012/13.

**Table 2**

<b>Other Performance Indicators</b>	<b>2012/13</b> <sup>Note 1</sup>	<b>2013/14</b>
Number of placement/internships <sup>Note 2</sup>	4,599	6,604
Number of books and other media for non-academic audiences <sup>Note 3</sup>	436	302
Number of mentors from outside HKU for HKU students <sup>Note 2</sup>	1,736	1,659
Number of knowledge transfer websites <sup>Note 4</sup>	175	126 <sup>Note 5</sup>
Number of postgraduate theses on open access <sup>Note 4</sup>	21,237	22,174
Download count of postgraduate theses to addresses outside HKU <sup>Note 4</sup>	1,133,966	1,664,575
Number of publications on open access <sup>Note 4</sup>	12,742	14,483
Download count of publications to addresses outside HKU <sup>Note 4</sup>	347,499	488,323
Number of positive media impact related to knowledge transfer coverage, including print, on-line and electronic media <sup>Note 6</sup>	20,744	24,846
Number of staff available for media contact <sup>Note 4</sup>	635	685
Number of appointments of external members to HKU advisory boards, committees or panels <sup>Note 2</sup>	394	322

Notes:

1. Data of the last reporting year as stated in the last annual report, unless otherwise specified
2. As HKU sees KE as a two-way process, these three indicators refer to the University's efforts to learn from the community.
3. Includes books, book chapters, textbooks, handbooks, public policy reports, and DVDs etc. published mainly for non-academic audiences by HKU staff, but excludes all research publications and patents.
4. These six indicators refer to the University's efforts in making knowledge accessible to society.
5. Some KE-related websites are being reviewed or reorganized.
6. The number was obtained through the media impact project using an online news platform to pool daily news reports concerning HKU that are KE-related.