

Knowledge

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Exchange

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Reflections from a “Storey-Teller”



The Historic Centre of Macau achieved World Heritage status in 2005

Architecture may be the art of designing and constructing buildings, but Professor David Ping-yeung Lung, retired Lady Edith Kotewall Professor in the Built Environment, sees it as so much more – a source of stories that “express the identity of a certain place or a certain people to the world”. His job is to help them to preserve this heritage.

Starting from the 1990s, when he chaired Hong Kong’s Antiquities Advisory Board (AAB), Professor Lung has been educating professionals and the public about the cultural value of built heritage and has helped three places to achieve UNESCO World Heritage status.

His UNESCO involvement started in Macau in 2000, when he led the inaugural class of his taught Architectural Conservation Programme on a study trip. When he contacted the heritage office of the Instituto Cultural de Macau, they were putting together

Professor David Lung has been educating professionals and the public about the cultural value of built heritage and has helped three places to achieve UNESCO World Heritage status. “The value of education is in knowledge exchange”, he says.

an application for World Heritage status and immediately recruited his help. He steered the enclave to achieving World Heritage status in 2005.

That success led another city, Kaiping, to recruit him for their UNESCO application. Kaiping, in the western part of Pearl River in Guangdong, is remarkable for the Western-style towers, called *Diaolou*, that dot its countryside. They were built by families of labourers who worked in the gold mines and railways of North America and Australia in the late 19th and early 20th centuries. Those labourers worked in difficult and sometimes slave-like conditions, and remitted their earnings back to Kaiping, where their relatives thought they were rich and would

throw lavish parties. Those relatives and the labourers who returned would later be denounced as landlords in the early days of the People’s Republic of China.



Kaiping Diaolou and Villages became World Heritage site in 2007



Case studies from many parts of Asia, e.g. Japan, Malaysia, Thailand, Bangladesh, India, Nepal, Macau and mainland China, are included in the MOOC by Professor David Lung

“This is the kind of human and cultural story you want to tell the world. The outstanding universal value of the *Diaolou* is not so much the architecture; it’s the stories behind the facades. That’s why I was interested to get involved and that’s why it became a World Heritage site in 2007,” he said.

His third World Heritage project was as UNESCO evaluator of a joint application from Malacca and Penang in Malaysia. On his recommendation, the application was expanded to include the hillside

Bukit Cina, which has graves of Chinese of Ming Dynasty, some pre-dating the arrival of the Portuguese in the 16th century and a temple to Admiral Zheng He. World Heritage status was accorded in 2008.

Since then, Professor Lung has pulled back from international work to focus more on teaching, including an HKU Massive Open Online Course (MOOC) on edX; the three respective courses are: “In Search for Vernacular Architecture of Asia”, “Vernacular Architecture of

Asia: Tradition, Modernity and Cultural Sustainability” and “Interpreting Vernacular Architecture in Asia”. He has also served on more than a dozen public bodies on issues relating to architecture, the environment and cultural heritage.

“The value of education is in knowledge exchange,” he said, “as teaching and learning is mutually enhancing. Students learn to interpret historic environments and make it relevant to their own cultural context and identity.”

Digital Construction: A Better Way to Build



A pre-fabricated construction site in Hong Kong

The shortage of housing is often cited as Hong Kong's most pressing problem so there is a lot of interest in getting new units built more quickly and efficiently. A cross-disciplinary team of scholars has come up with a solution that saves valuable time and makes the operations more transparent.

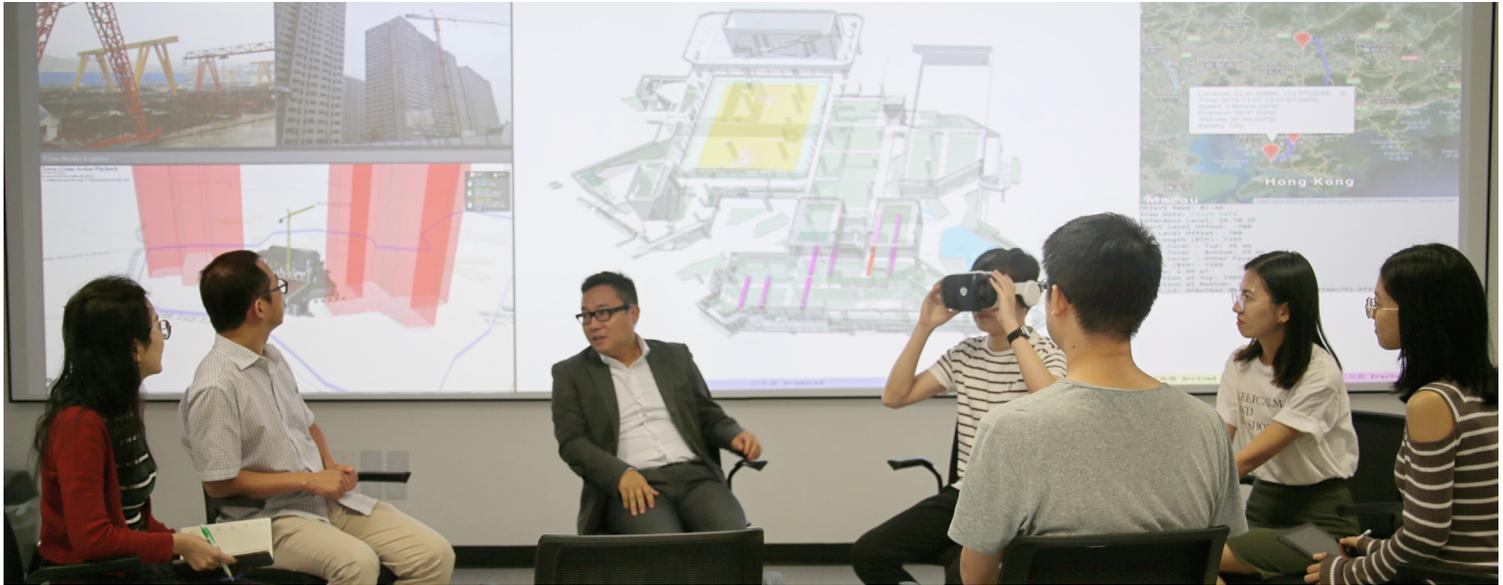
They unveiled their system in 2014 and quickly attracted attention from the Housing Authority, which provided a site in Tuen Mun to test out its application in pre-fab housing manufactured in Guangdong then shipped to Hong Kong for assembly. The Innovation and Technology Fund provided funding, and industry partners also became involved.

The RFID-BIM platform developed by Dr Wilson Lu's team enabled everyone in the building process, from manufacturer to transporter to contractor, to see where each component was at all times, which resulted in shorter production cycle for manufacturing prefabricated components and 100% accuracy in on-site assembly.

Their system combines two types of technology, radio-frequency identification (RFID) and building information modelling (BIM), to tag pre-fabricated building components and monitor their progress throughout the production, transportation, and assembly process. No more guesswork is needed about when to procure new components, and no more mistakes slip through, such as forgetting to order components which can cause lengthy delays.

The RFID-BIM platform they developed enabled everyone in the building process, from manufacturer to transporter to contractor, to see where each component was at all times because the RFID tag uploaded location data using a global positioning system. "This meant there was real-time information, traceability and visibility," said Dr Wilson WS Lu of the HKU Department of Real Estate and Construction.

The system was developed in a collaboration between engineering and architecture scholars at HKU and Hong Kong Polytechnic University.



Dr Wilson Lu (third from left) and his team discussing the digital construction platform

The resulting improvements in communication and efficiency meant the production cycle for manufacturing prefabricated components decreased to six days and the accuracy of on-site assembly increased from 99.85 per cent to 100 per cent – a potentially significant saving given the large scale of public housing construction in Hong Kong.

Moreover, less time was required for checking the on-site availability of prefabricated components, the quality of work could be tracked at each stage, and the system could respond quickly to design and order changes and to repairing defective components. There were even paper savings because less paperwork was required.

The project has solidified the team's ties with the Housing Authority and construction industry representatives and firms in Hong Kong and Shenzhen. It has also attracted attention from experts at the University of Florida, who have visited to learn more about the unique blending of RFID and BIM technologies, and from the Housing Society, which has commissioned the team to test their platform at a site in Tseung Kwan O. "We hope the private sector will start using it too," Dr Lu added.

Dr Wilson WS Lu of the Department of Real Estate and Construction and his team members, Professor Guo Quan Huang of the Department of Industrial and Manufacturing Systems Engineering

and Professor Thomas Shiu Tong Ng of the Department of Civil Engineering, received the Faculty Knowledge Exchange Award 2018 of the Faculty of Architecture for the project 'RFID-Enabled Building Information Modeling (BIM) Platform for Prefabrication Housing Production in Hong Kong'.



Project kick-off meeting with the Hong Kong Housing Authority

The Law in Plain Language



Team Decoding Law pitched at the Global Legal Hackathon Final Round Gala Dinner in front of over 100 guests from all around the world

An innovative tool that uses machine learning and AI technologies has been developed by students to cut through legal jargon and convoluted sentences and make the law more comprehensible to the general public.

Decoding Law is a browser plug-in that has a chatbot for submitting questions about which laws might apply to specific situations, and an ability to explain legal terms in more understandable language. It is also nearly at the stage where it can break down sentence structures and help people understand more clearly how the law might apply to their situation.

For example, users could ask the chatbot whether they are allowed to play mahjong in a public place, and the chatbot would scour its database of Hong Kong laws and cases to provide a relevant section of the law and other verified online sources in a pop-up box. Users could then hover over legal terms to get their specific legal meaning as defined in the legislation, which may be different from the ordinary dictionary meaning. An example would be the definition of “gaming” in the Gambling Ordinance (Cap. 148), which means “the playing of or at any game for winnings in money or other property”. The final stage would break down the sentence

structures to see if any specific law might apply in this case.



The browser plug-in was developed by third-year Bachelor of Business Administration (Law) and Bachelor of Laws (BBA[Law]&LLB) students Alison Pui-wun Li, Edelweiss Yuet-yi Kwok and Sally Man-ki Yiu, in collaboration with

seeing how it could be included in its e-legislation initiative. Although there is no concrete collaboration plan at this stage, they hope there would be a possibility to collaborate in the near future.

We hope that our tool will be especially helpful to those who are involved in court cases but don't have the financial resources to hire lawyers.

two law students from The Chinese University of Hong Kong and four Hong Kong-based IT experts, with the aim of improving access to justice and helping litigants.

“As law students, we have to read a lot of legislation and we understand how difficult it can be to understand. For the lay person, it is even more difficult,” Sally said. “We hope that our tool will be especially helpful to those who are involved in court cases but don't have the financial resources to hire lawyers.”

The non-profit browser plug-in has not gone live yet. Previously the team has talked to the Department of Justice (DoJ), which was interested in

“We are at the beginning of the process but we may open the browser plug-in to our classmates to use and improve the accuracy of the machine learning function. Before we promote this further, we need to do a lot of vetting and ensure the information is accurate,” Edelweiss said.

So far the signs of success are encouraging: Decoding Law won in Hong Kong's very first LegalTech and RegTech Hackathon held in February 2018, and won again at the first ever Global Legal Hackathon held in New York City in April 2018, beating out teams that mostly comprised legal and tech professionals. The Global Legal Hackathon is a legal tech development



HKU BBA(Law)&LLB students on team Decoding Law (left to right): Alison Li, Edelweiss Kwok, Sally Yiu

competition that attracted participants from across 6 continents and over 40 cities. From among the 14 finalists, who had to present live prototypes of their solution to the event's judges, four winning teams were selected, two of which developed solutions to serve the private sector, and two for the public sector. Decoding Law won in the public service (access to justice) category, and the other three winners were from the United States and Hungary. 

A Culturally-Sensitive Tool to Assess Asia's Young Children



Professor Nirmala Rao (fourth from left in the front row) at the EAP-ECDS Dissemination Workshop in Bangkok

A team of scholars led by the Faculty of Education has produced the first child development tool to be based on the cultures and values of a world region – East Asia – and that is supported by UNICEF.

The East Asia-Pacific Early Childhood Development Scales (EAP-ECDS) to assess children aged 3-5 years old was developed with the input and participation of organisations or governments from eight countries, including China, Cambodia, Laos, Mongolia, the Philippines, Thailand, Vanuatu and Vietnam.

The impetus behind the EAP-ECDS came from concerns that most such tools are based on Western populations and norms and many children in the

Children tend to be precocious in the skills that are valued in their culture.

Asia-Pacific region are not reaching their developmental potential, such as having stunted growth or being ill-prepared for school. Professor Nirmala Rao, who leads the research,

said, “Measurement is the first step to improvement. We need appropriate tools that are valid, reliable and culturally appropriate to assess child development.”

While there are universal milestones for all children, such as cognitive and psycho-emotional development, some indicators matter more in some countries than in others. Health hygiene and safety, for instance, are particularly important in Asia given the threats of infectious diseases. Cultural knowledge and participation is also important, such as filial piety and awareness of behaviour around traditional festivals. The EAP-ECDS therefore includes measures on these topics.



Policy Briefs



Assessment in Papua New Guinea

“All children develop these skills but children tend to be precocious in the skills that are valued in their culture. That’s why this scale is different,” Professor Rao said.

She and her team trawled through more than 1,700 indicators of child development from the participating countries to create the scales, which underwent validation studies in six original participating countries as well as Myanmar. The Scales are currently being used in research projects in Cambodia, Papua New Guinea and Vietnam. Professor Rao is working on an impact study to see how the tool has affected their policies, in particular

whether it is helping governments to address disparities in early childhood outcomes between urban and rural children and boys and girls.

“We’re saying to countries, don’t compare yourself to other countries – this is not a league table. But get the rural children up to the level of urban children and the boys up to the level of girls,” she said.

The EAP-ECDS has also informed the monitoring indicator of the United Nations’ sustainable development target to ensure all girls and boys have access to quality early childhood development, care and pre-primary



Training Workshop in Vanuatu

education by 2030. Professor Rao is involved in another on-going project on assessing this outcome.

Professor Nirmala Rao and her team members, Dr Diana Pui-ling Lee of the Faculty of Education, Professor John Bacon-Shone of the Social Sciences Research Centre and Dr Patrick Ip of the Department of Paediatrics and Adolescent Medicine, received the Faculty Knowledge Exchange Award 2018 of the Faculty of Education for the project ‘Impacting Early Childhood Policy in East Asia and the Pacific through Contextually-appropriate Assessment of Early Child Development.’ 

Government Adopts Special Needs Trust on back of Scholars' Work

The parents and caregivers of Hong Kong individuals with cognitive impairment live with an agonising worry: since their children are unable to manage their own financial affairs, what will happen to them when they pass away? HKU law academics have played a key role in providing them with an answer.

Professor Lusina Ho and Ms Rebecca Lee, in collaboration with parents' support groups, proposed a Special Needs Trust (SNT) that has recently been adopted by the Government. The

SNT lets parents or caregivers leave funds from their estate to care for their offspring, while the Government acts as trustee to manage the trust fund.

HKU law academics have played a key role in providing parents and caregivers of Hong Kong individuals with intellectual disabilities with an answer.

The idea was developed in 2015 when two non-government organisations approached Professor Ho and Ms Lee

about setting up a private trust. The scholars' research convinced them that it was better to let the government manage it to keep fees low and enable

better monitoring – something that had not been attempted elsewhere (Singapore has a similar system but created an NGO supported by the government to be trustee).

The suggestion was submitted to the Government in an informal policy paper in October 2015 and received a quick response. In February 2016, the Government set up a working group to investigate the feasibility of an SNT and appointed Professor Ho; in October 2017, it announced it would set up an SNT with the Government acting as trustee; and in early 2018, it allocated \$50 million to get the trust up and running, with a target start date of end 2018 / early 2019.



Professor Lusina Ho and Ms Rebecca Lee (fourth and fifth from left in the front row), together with a Parent Concern Group, at a press conference on a questionnaire survey on the Special Needs Trust



Professor Ho and Ms Lee deliver a public forum on Special Needs Trust at HKU

Apart from proposing the idea for the SNT, Professor Ho and Ms Lee also worked with the Concern Group of Guardianship System and Financial Affairs to provide supporting data. In 2016, they surveyed 2,500 parents and caregivers of individuals with cognitive impairment on their interest and wishes in an SNT. Among the findings was that more than 90 per cent had not executed a will or set up an enduring power of attorney for their dependents, and only five per cent could afford to set up a private trust.

“SNT is the result of a tripartite partnership between the special needs community, the University and the Government – all three groups came together,” Ms Lee said.

Professor Ho noted that up to now, other governments had been reluctant to make the same commitment. “This is one thing we feel really proud about – we helped to convince the Hong Kong Government to do this and they listened,” she said. On the back of that success, Korea and Taiwan

recently invited them to explain the workings of the SNT and guardianship to government officials, NGOs and academics.

Ms Rebecca Wing Chi Lee and Professor Lusina Kam Shuen Ho of the Department of Law received the Faculty Knowledge Exchange Award 2018 of the Faculty of Law for the project 'Introducing the Special Needs Trust to Hong Kong'. 

A Boost for Workers' Rights

Research by Professor Pun Ngai of the Department of Sociology has helped to sustain attention on working conditions in Mainland China's factories and led to some improvements.

Her work began in 2010 when, following a spate of suicides at Foxconn

one million people to make Apple and other products.

One particular concern she flagged was the use of students from vocational training colleges as cheap labour. The students had been advised by their schools to do their required internships

schools tied up with the corporation and then sent these students to work on production lines, not simply during summer or winter breaks but in their third years when they are meant to do placements. The vocational schools worked closely with the company to provide cheap, young labour, not only

Professor Pun Ngai's research not only has brought attention to the widespread use of vocational school students as a new form of labour use in Apple's supply chain in Mainland China, but has also influenced campaigns launched by local and international NGOs that seek to improve working conditions for those student interns.

factories, she pulled together a group of academics and students from Hong Kong, Mainland China and Taiwan to investigate conditions in these factories. Foxconn employed more than

at the factories, even when the work was unrelated to their majors in such subjects as nursing and accounting.

"My research showed how the vocational

to Foxconn but companies in almost all sectors," she said.

After she reported on this, some vocational colleges scaled back on



Professor Pun Ngai's research has raised awareness on student labour: the iSlave at 10 campaign in 2017 was supported by international NGOs in more than 10 regions, including Austria and Hong Kong

internships or secured better wages for students, but when Foxconn started to expand in the western part of China, local governments began pressing local vocational schools to send their students to work at the firm's factories. She flagged this activity, too.

Professor Pun's research has been shared with local and international NGOs so they can bring attention to the situation. One group, Students and Scholars Against Corporate Misbehaviour, released a report in 2017, called *iSlave at 10*, that culminated with the iPhone's 10th anniversary and highlighted ongoing concerns about working conditions in factories. Foxconn subsequently pledged to stop using cheap student labour but recent reports suggest the practice may have resumed.

Professor Pun acknowledged that students need to earn money, but she hoped they would be paid a fair wage and that hospitals, accounting firms and other outlets would provide them with appropriate internships – it is not uncommon for students to have to pay companies to let them intern. “The internship often turns out to be a bad experience. They have high hopes when they get into vocational school and they get frustrated when they are sent to work inside a place like Foxconn, doing very repetitive tasks,” she said.

Professor Pun has also partnered with vocational schools in the Mainland to create curriculum content about labour protection and rights to increase awareness.



Professor Ngai Pun of the Department of Sociology received the Faculty Knowledge Exchange Award 2018 of the Faculty of Social Sciences for the project 'Changing the Practices of iSlave Producers and the Working Condition of Student-labourers in Apple Supplier Factories in China.'



Faculty Knowledge Exchange Awards 2018

Warm congratulations are also extended to the following colleagues who have won the Faculty Knowledge Exchange (KE) Awards 2018 of their respective Faculties:

Faculty of Arts

Dr Li CHONG, School of Modern Languages and Cultures
'Promoting German in Secondary Schools'

Faculty of Business and Economics

Mr David Lorin BISHOP, Faculty of Business and Economics
'Enhanced Employment Agency Enforcement: A Step Towards Eliminating One of Hong Kong's Largest Black-market Industries'

Faculty of Dentistry

Professor Edward Chin Man LO and team members –
Professor Chun Hung CHU and Dr Duangporn DUANGTHIP,
Faculty of Dentistry
'Managing Tooth Decay in Preschool Children through Community Engagement, Prevention and Caries Arrest Treatment with Silver Diamine Fluoride'

Faculty of Engineering

Professor Tak Wah LAM and team members – Professor David Wai Lok CHEUNG and Dr Ruibang LUO, Department of Computer Science
'Bioinformatics Algorithms and Next-Generation-Sequencing (NGS) Data Analysis'

Li Ka Shing Faculty of Medicine

Professor Richard Man Fung YUEN, Department of Medicine, and team members – Dr Kevin Sze Hang LIU, Dr Walter Wai Kay SETO, Dr Danny Ka Ho WONG, Dr Siu Yin WONG, Dr Michael Ka Shing CHEUNG, Mr John YUEN, Mr Chi Hang WU and Mr Charles Tze Kin CHENG, Department of Medicine; Professor Joseph Tsz Kei WU and Dr Eric Ho Yin LAU, School of Public Health
'A Population Based Study on the Seroprevalence of Viral Hepatitis in Hong Kong' 

HKU DreamCatchers MedTech Hackathon Hong Kong 2018

DreamCatchers MedTech Hackathon Hong Kong 2018, co-organised by HKU DreamCatchers and Hong Kong Science and Technology Parks Corporation (HKSTP), was successfully held between June 24 and 30, 2018.

55 participants, including students from Stanford University, Hong Kong universities and Shanghai Jiao Tong University, and young professionals from HKSTP, joined this week-long hackathon to experience Stanford Biodesign methodologies, design thinking, business model canvas, and to work in interdisciplinary teams to come up with prototypes of sustainable healthcare solutions.

This year's theme was 'Automating Medical Care' and the champion went to Team Echo Eco, comprising students from HKU, Stanford University, Hong Kong Polytechnic University and Shanghai Jiao Tong University, who came up with a software to increase the efficiency of taking and reading

echocardiograms for patients with cardiac concerns in Hong Kong in order to improve their ability to receive proper treatment.

See the full list of winners at <http://www.dreamcatchers.hku.hk/?p=57304>. 



HKU Visualise Your Thesis Competition 2018

Visualise Your Thesis is a new initiative introduced by The University of Melbourne that challenges research postgraduate students to present their research in a 60 second, eye-catching digital display.

The HKU Visualise Your Thesis Competition 2018 was jointly organised by the Graduate School and Knowledge Exchange Office (KEO) on a pilot basis. The judging panel included Professor John Bacon-Shone, Associate Director of KEO, Professor Ricky Kwok, Associate Vice-President (Teaching and Learning), and Professor Ben Young, Associate Dean of the Graduate School. Competition submissions were judged on their visual impact, and how well the content presents the research to a non-specialist audience. The Competition was successfully held in July – August 2018 and the winners are:

First Placed Winner

Ms Mei Li KHONG
PhD, Li Ka Shing Faculty of Medicine
'Too Many P-s Spoil the Protein'
(Primary Supervisor: Dr Julian Alexander Tanner)

Second Placed Winner

Ms Jasmeen Kaur SETHI
PhD, Li Ka Shing Faculty of Medicine
'Pursuit for Alternative Druggable Targets in Ovarian Cancer'
(Primary Supervisor: Professor Annie Nga Yin Cheung)

Third Placed Winner

Ms Dai PU
PhD, Faculty of Education
'Predicting Swallowing Disorders in Older Adults'
(Primary Supervisor: Dr Karen Man Kei Chan)

Visit the KE website at <https://www.ke.hku.hk/support-for-researchers-and-students/hku-visualise-your-thesis> for the 2018 gallery. The first placed winner's ePoster will also represent HKU in the online showcase hosted by The University of Melbourne in September – October 2018. 



HKU Visualise Your Thesis Competition 2018 participants with mentors from the Technology-Enriched Learning Initiative (TELI)

Asia-Pacific Three Minute Thesis Competition 2018



Ms Mei Li Khong (fourth from left) with the other 9 finalists at the Asia-Pacific 3MT Competition 2018 Final

Warm congratulations to our HKU representative, Ms Mei Li Khong, for entering the Asia-Pacific Three Minute Thesis (3MT) Competition 2018 Final!

Ms Khong, PhD candidate in the Li Ka Shing Faculty of Medicine and the HKU 3MT 2018 champion and winner of the People's Choice Award, represented HKU in the Asia-Pacific 3MT Competition 2018 at The University of Queensland, Brisbane on September 27, 2018. The Asia-Pacific 3MT this year had 58 doctoral student representatives from universities in Australia, New Zealand and Asia. Ms Khong was one of the 10 finalists who got into the Final. Videos on their presentations can be viewed at <https://threeminutethesis.uq.edu.au/asia-pac/2018>. 

Finding Experts

The **HKU Scholars Hub** is the University's online expertise directory, which makes HKU researchers and their research visible. It provides an expert finder for businesses, industries, social enterprises, the public sector, and interested student applicants to find HKU experts for contract research, consultancies, and postgraduate student supervision etc.

Please visit the HKU Scholars Hub at <https://hub.hku.hk/>.



Tech Ready

For a complete list of HKU technologies that are currently available, please visit: <https://www.tto.hku.hk>



Entrepreneurship Series

Visit <http://www.dreamcatchers.hku.hk> for the DreamCatchers programmes



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