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HONG KONG SOUL-SEARCHING

HKU Scholars Examine
the City's Ever-Changing Dimensions



The Big Data Era
HKU's new
major in
Decision
Analytics



**Support for
Ethnic Minorities**
Looking into
Hong Kong's
racial hierarchy





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News in Brief

Professor Arthur Li Appointed HKU Council Chairman



HKU Council Chairman Professor the Honourable Arthur Li.

Chief Executive of the Hong Kong Special Administrative Region the Honourable CY Leung, in his capacity as the Chancellor of the University of Hong Kong, appointed Professor the Honourable Arthur Li Kwok-cheung to succeed Dr the Honourable Leong Che-hung as Chairman of the HKU Council for a term of three years with effect from January 1, 2016.

Professor Arthur Li said in his statement that he is very honoured to have the opportunity to serve HKU as Chairman of the University Council, will strive to maintain the traditions of HKU and hopes that his experience will contribute to the elevation of HKU to an even higher level of excellence, of which all stakeholders will be proud.

President Peter Mathieson and the HKU Senior Management Team were pleased that the Chairmanship of the Council was announced: "We are looking forward to working closely with Professor Arthur Li to further the best interests of the University. With the support of

the whole Council, we are confident that the University will scale new heights in realising the latest Strategic Plan centred on Internationalisation, Innovation and Interdisciplinarity, converging on Impact."

Professor Li is the former Secretary for Education and Manpower and the former Vice-Chancellor of the Chinese University of Hong Kong. Professor Li was appointed as a member of the HKU Council in March, 2015.

The Secretary for Education, Mr Eddie Ng Hak-kim paid tribute to the outgoing Chairman for his contributions: "Under Dr Leong's sterling leadership, HKU continued to capitalise on its position as one of the world's top-tier universities. Among the remarkable achievements during his tenure were the successful implementation of the new academic structure and the completion of various large-scale campus development projects such as the Centennial Campus." ■

Professor Mok Ngai-ming Elected Member of the Chinese Academy of Sciences

Professor Mok Ngai-ming, Edmund and Peggy Tse Professor in Mathematics, Chair of Mathematics, was elected a Member of the Chinese Academy of Sciences (Mathematics and Physics) in December, 2015.

A delighted Professor Mok said: "I am very honoured and very happy to have been elected by the Academy, and to have my research in Mathematics and the many years I've dedicated to the development of the discipline in Hong Kong and in Mainland China recognised this way."

President Peter Mathieson congratulated Professor Mok on his achievements: "This distinguished award is a recognition of the importance of Professor Mok's contributions to mathematical research and helps to strengthen even more HKU's research standing nationally and globally. The University is proud of his accomplishments and grateful to him for his commitment to HKU over the past two decades. We offer him our warmest

congratulations on this outstanding achievement."

Professor Mok Ngai-ming joined HKU's Department of Mathematics in 1994 and is now the Director of HKU Institute of Mathematical Research. His research interests encompass several complex variables, differential geometry and algebraic geometry. He is an acclaimed mathematician and has received many prestigious local and international awards, including the Sloan Fellowship Award, the Presidential Young Investigator Award, the Croucher Award 1998, the Second-class Award of State Natural Science Award 2007, and the Bergman Prize of the American Mathematical Society 2009.

Founded in 1955, Academic Divisions of the Chinese Academy of Sciences has served as an advanced national think-tank to the Chinese Government on major science and technology issues. It consists of six divisions, respectively in mathematics and physics, chemistry, life and medical sciences, earth sciences, information technical sciences and technological sciences.

There were 61 Members and 12 Foreign Members elected in the meeting this year. ■



Renowned mathematician Professor Mok Ngai-ming is the only local scholar elected to be a Member of the Chinese Academy of Sciences (Mathematics and Physics) this year.

Professor Vivian Yam Elected Foreign Member of the Academia Europaea



Professor Vivian Yam in the Department of Chemistry has been elected as a Foreign Member of the Academia Europaea.

Professor Vivian Yam Wing-wah, Philip Wong Wilson Wong Professor in Chemistry and Energy and Chair Professor in the Department of Chemistry, was elected to be a Foreign Member of the Academia Europaea (The Academy of Europe) in September, 2015.

Professor Yam was delighted and said: "It is my great honour to become the Foreign Member of this distinguished Academy and I am looking forward to meeting other well-known chemists and scientists within Europe and all over the world."

President Peter Mathieson congratulated Professor Yam on her election as a Foreign Member: "I and all of Vivian's colleagues here at HKU are of course delighted to see her receive yet another international accolade in recognition of her distinguished achievements in the field. That the only Foreign Member in Chemical Sciences of the Academy should be from HKU is further evidence of the University's impact and research standing in the world."

Professor Yam's research interests include inorganic and organometallic chemistry, supramolecular chemistry, and metal-based molecular functional materials for sensing, organic optoelectronics and energy research. As a prominent scientist with international acclaim, she was elected to Member of the Chinese Academy of Sciences in 2001 at the age of 38 as the youngest member of the Academy.

Founded in 1988, the Academia Europaea is an international, non-governmental association of individual scientists and scholars from all disciplines, who are experts and leaders of international distinction in their own subject areas as recognised by their peers, irrespective of nationality, gender, location or discipline. Professor Yam was the only Foreign Member elected in 2015 in the Chemical Sciences section and she will be inducted into the Academy in June, 2016 in Cardiff, United Kingdom. ■

Professor So Kwok-fai Named Fellow of the National Academy of Inventors

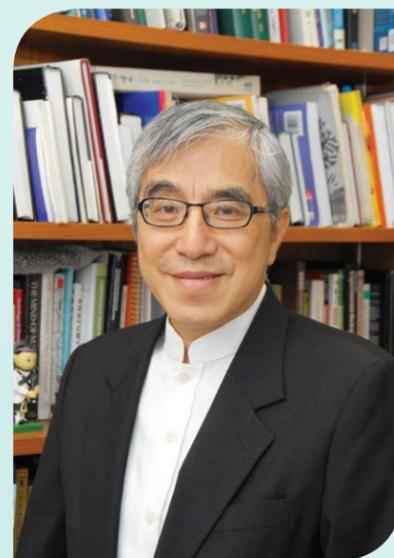
Professor So Kwok-fai, Jessie Ho Professor in Neuroscience, Chair Professor of Anatomy, Department of Ophthalmology of Li Ka Shing Faculty of Medicine, has been named a Fellow of the National Academy of Inventors (NAI) of the United States (US).

Election to NAI Fellow status is a high professional distinction accorded to academic inventors who have demonstrated a prolific spirit of innovation in creating or facilitating outstanding inventions that have made a tangible impact on quality of life, economic development, and the welfare of society. Professor So said: "I feel very honoured to be elected as the Fellow of the National Academy of Inventors. I hope this will encourage more scientists in Hong Kong to pay attention to invention and translational research. I would like to thank the members of my research team for their exceptional work over the years. This is an honour for all members of my team."

As a pioneer in the field of axonal regeneration in visual system, Professor So is a leader in the area of neuroprotection and neuroregeneration of the mammalian optic nerve, spinal cord and brain. He holds four US patents, 16 international patents and three China patents, with 16 patents in the field of hemostasis (stop bleeding) and sealant (control leaking) and is the recipient of the China National Natural Science Award, the China Spinal Cord Injury Rehabilitation Contribution Award, the Rick Hansen Difference Maker Award, and the Everfront Award for Stem Cells Research. He is also a Member of the Chinese Academy of Sciences.

The National Academy of Inventors is a non-profit member organisation founded in 2010. The 168 newly named Fellows bring the total number of NAI Fellows to 582, representing more than 190 prestigious research universities and governmental and non-profit research institutions. The NAI Fellows will be inducted in April, 2016, as part of the Fifth Annual Conference of the NAI at

the United States Patent and Trademark Office in Alexandria, Virginia. ■



Professor So Kwok-fai in the Department of Ophthalmology has been named a Fellow of the National Academy of Inventors.

HKU and Sciences Po Launch Dual Degree Programme

HKU and Sciences Po are collaborating to launch an undergraduate dual degree programme in the coming 2016–2017 academic year. President Peter Mathieson and Mr Frédéric Mion, President of Sciences Po, signed the HKU-Sciences Po Dual Degree Programme agreement in Paris in January, 2016.

The new programme capitalises on the strengths of the two world-class universities and aims to provide a global education for students interested in business, humanities or social sciences. Successful completion of this programme will give students Bachelor's degrees from both universities.

The first two years of study will be at Sciences Po in France and will include a common core of social sciences courses – law, economics, history, political science, sociology and programmes with a regional focus. Students will spend their third and

fourth years at HKU pursuing a major in one of three faculties: Arts, Business and Economics, or Social Sciences. Exceptional students may be awarded a scholarship covering full tuition plus an annual HK\$40,000 living allowance.

Sciences Po, established in 1872, is a world preeminent university in the social sciences and humanities, with its alumni playing an important role in both public and private sectors around the world. ■



President Peter Mathieson and Mr Frédéric Mion, President of Sciences Po signing a Memorandum of Understanding for the HKU-Sciences Po Dual Degree Programme in Paris in January, 2016.

A Hub for Scientific and Technological Development The Academy of Sciences of Hong Kong Established

HKU academics joined other scientists of international stature to help advance Hong Kong's scientific research and education with the establishment of the Academy of Sciences of Hong Kong. Distinguished HKU scientists Professor Che Chi-ming, Professor Vivian Yam, Professor Malik Peiris and Professor Yuen Kwok-yung were among the 27 Founding Members of the Academy.

The Academy of Sciences of Hong Kong is an independent and non-profit making organisation and was established in 2015 with a commitment to promote the development and advancement of science and technology in Hong Kong, and foster Hong Kong as a centre of scientific excellence. The Academy will also conduct studies and periodic summits to bring together international expert scientists and the business sector to discuss on issues relevant to Hong Kong's science and technology development.

The inauguration ceremony of the Academy was held in Government House in December 2015, officiated by Professor Wan Gang, Vice Chairman of the National Committee of the Chinese People's Political Consultative

Conference and Minister of Science and Technology; the Honourable CY Leung, Chief Executive of the Hong Kong Special Administrative Region; Professor Bai Chunli, President of Chinese Academy of Science; and Professor Lap-Chee Tsui, HKU's 14th Vice-Chancellor and President of the new Academy.

Professor Tsui said at the inauguration ceremony: "My fellow members of the Academy and I are aware of the importance of interplay between science and society; besides

working within the scientific community, we will enhance our role in the business sector, to facilitate application and commercialisation of our research findings, and to assist research and development in the industry sector, and in promoting STEM [Science, Technology, Engineering and Mathematics] education in schools to nurture the next generation of scientists. I am confident that the Academy will have a lot to contribute towards steering Hong Kong to become Asia's leading centre of scientific research and development." ■



Officiating guests, Founding Members of the Academy of Sciences of Hong Kong (ASHK) and international academicians came together to celebrate its establishment.

HONG KONG SOUL-SEARCHING

Hong Kong's place in the world is being re-defined by rapid changes at the local and global levels. Drawing on their deep expertise in this area, HKU scholars take various perspectives to look at how these changes have been shaping the city across economic, social, cultural, and political domains, and possible directions in future.

FINDING A NEW GROOVE

Economic activity has defined Hong Kong in ways that cannot be said of most other cities. The pragmatic focus on the bottom line has enabled it to thrive in the wake of war, revolution, political uncertainty, major financial crises and disease scares (e.g. SARS). Now the economy faces direct challenges from changing demographics, regional and global competition, and rapid technological development, can the city stay strong and flourish? Two HKU scholars see an optimistic future.



“ Hong Kong’s great asset is no longer just its people. Our open economic system and global networks, our legal system and logistics system and low tax regime, are also assets. ”

Professor Yue-chim Richard Wong

The late economist Milton Friedman declared in 1990 that Hong Kong was the best example in the world of a free market economy. Its combination of entrepreneurialism, rule of law and a government that mostly refrained from meddling in the market, set free a can-do spirit and dynamism that were the envy of many.

Today Hong Kong feels rather different. Although still ranked the world’s freest economy (by the US think tank, the Heritage Foundation), and a leading centre of international finance, the city’s raw energy has become more tamed, its economy a little more regulated. Competitors from the Mainland and the West are snapping at its heels. Can Hong Kong recapture some of its old dynamism?

Professor Yue-chim Richard Wong, Philip Wong Kennedy Wong Professor in Political Economy, and Professor Douglas Arner of the Department of Law have each been involved in recent studies looking at Hong Kong’s future economic prospects. Professor Wong led HKU’s contribution to a major study on Hong Kong’s start-up ecosystem involving San Francisco-based research firm Compass

and local firm Innofoco. Professor Arner is the project coordinator of a Theme-based Research Scheme (TRS) project entitled ‘Enhancing Hong Kong’s Future as a Leading International Financial Centre’, a five-year undertaking that also involves the Chinese University of Hong Kong, Hong Kong Polytechnic University and Oxford University.

Both scholars see opportunities waiting to be seized, from the chance to be a hub that supports start-ups, to advancing Hong Kong’s position as a regional and international finance centre. But first, the city needs to get out of the doldrums and adopt the right mindset.

Glory days

Hong Kong’s economic reputation was built on two things: entrepreneurship and *entrepôt*, one related to its people, the other to its position as the gateway to China. As Professor Wong has outlined in his forthcoming book, *Rekindling Hong Kong’s Magic and the Challenge of Inequality*, the city’s post-war success was driven by a huge influx of refugees fleeing revolutionary China. They brought not

only their labour and strong work ethic, but businesses ranging from banking to garment manufacturing to shipping to movie-making. And they were highly entrepreneurial. The baby-boom generation that followed similarly focussed on making money and experienced extraordinary opportunities from being in the right place at the right time in the early days of globalisation and China’s opening.

Three generations in and the situation is quite different. People are wealthier but events such as the 1997 Asian financial crisis have led to more inequality. Hong Kong has prospered from its connections with China but now faces more competition from there. Hong Kong also has one of the world’s lowest birth rates, meaning there are fewer young people around and therefore fewer entrepreneurs to drive economic growth (young people are more likely than their elders to become entrepreneurs). Moreover, said Professor Wong, today’s youth appear to be less willing to risk setting up their own business than their parents and grandparents were at the same age.

“Hong Kong did well in the past, but it started on a low level,” he said. “Its people had a lot of ideas for making money and an environment was created to support those ideas. But the world has changed, the people have changed. If Hong Kong is to move forward, we cannot just embrace the past.”

“Hong Kong’s great asset is no longer just its people. Our open economic system and global networks, our legal system and logistics system and low tax regime, are also assets.”

These assets are particularly useful in an area that harks back to Hong Kong’s entrepreneurial past – that of start-ups, which have become a leading source of economic growth and job creation around the world. As Professor Wong puts it, Hong Kong does not necessarily have to create its own start-ups to be a start-up hub because it already has the strong supportive environment and global connections that other



San Francisco-based research firm Compass, HKU and local firm Innofoco released a report on the Hong Kong Startup Ecosystem. The forum was attended by the Honourable Mr John Tsang (centre), the Financial Secretary of the HKSAR Government.



“ We have the advantage in terms of location, time zone, culture, political environment, but we’re not necessarily the only choice. The risk is that those institutions decide to follow the route that most other financial institutions have followed and put their international headquarters in London. Or they are lured to Singapore, which is also competing for this role. For Hong Kong, it’s an opportunity that is ours to lose. ”

Professor Douglas Arner

entrepreneurs are looking for. “It would make sense to have people come to Hong Kong to do business that supports start-ups around the world, not just in Hong Kong,” he said.

The Compass study in which he was involved makes a case for that role. It ranked Hong Kong the fifth fastest-growing start-up ecosystem in the world out of 40 studied, with the caveat that there is still a lot of catching up to do (Hong Kong ranked only 25th overall). It also offered ideas on how this could be achieved.

Hong Kong is already well-plugged into national and global networks. It could take these in new directions by linking ideas, capital, talents, production facilities and markets to become a ‘Super Connector’ in the words of the study report. It could play to its strengths as a service economy, particularly in financial services, supply chain management and professional services, and consider its advantage as a test market for new ideas given the city’s East-West culture and the high penetration of broadband and mobile networks.

The Government could support Hong Kong’s transformation into a start-up hub by making this the focus of global marketing campaigns, easing the path for talent to come here and set up business, and ensuring regulations keep pace with technological changes. Government and business could also help create demand for innovation (some firms already are, notably in finance).

But more fundamentally, the Government needs to start rethinking its model for Hong Kong’s development and how to move from an efficiency-driven model of economic development to an innovation-driven model.

Professor Wong cited the mobile service Uber as an example of the role Hong Kong could play in the global start-up ecosystem. “Uber is the biggest taxi company in the world but it owns no taxis – it’s a coordinator. This is the real model for Hong Kong,” he said.

Finance at the forefront

Professor Arner’s take on Hong Kong’s economic prospects starts with its present position as a leading international finance centre and the dangers in taking that for granted.

“Something that has come out of our research is that too much finance in any jurisdiction is not necessarily good,” he said. Crunch times like the 2008 global financial crisis can hit the economy especially hard in those circumstances. But because 30 per cent of Hong Kong’s GDP is in the finance sector, and 20 per cent of employment, it can hardly afford to set off in new directions. Professor Arner’s TRS is therefore looking at ways to reduce Hong Kong’s vulnerability and develop its finance sector in new, promising directions.

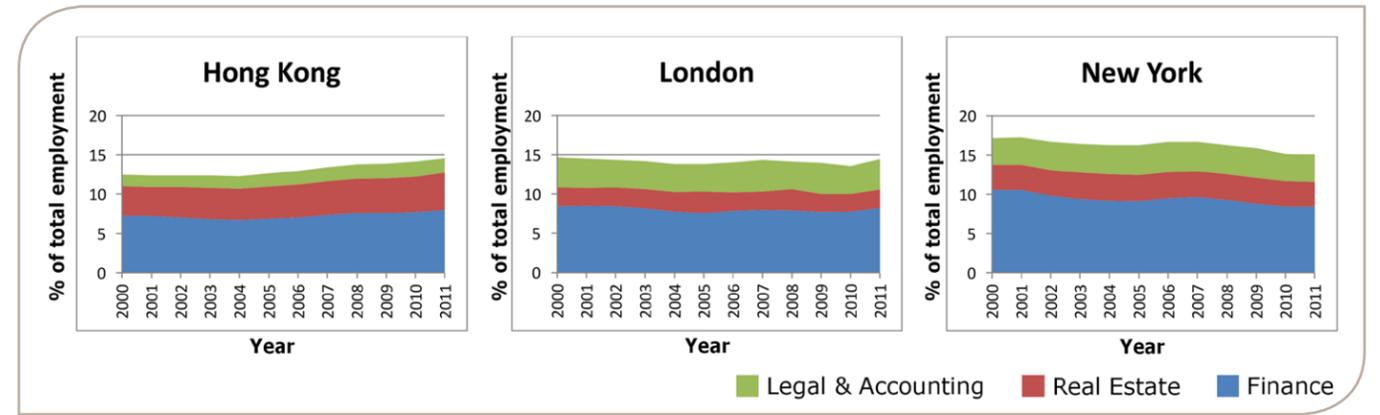
The TRS highlights the importance of beefing up Hong Kong’s role as a regional and international headquarters for Mainland and

international financial institutions, and the leading offshore centre for RMB transactions.

“Hong Kong in a sort of entrepôt role provides an intersection for these institutions,” Professor Arner said. “We have the advantage in terms of location, time zone, culture, political environment, but we’re not necessarily the only choice. The risk is that those institutions decide to follow the route that most other financial institutions have followed and put their international headquarters in London. Or they are lured to Singapore, which is also competing for this role. For Hong Kong, it’s an opportunity that is ours to lose.”

Similarly, London is seeking to usurp Hong Kong’s leadership in handling offshore RMB transactions. This is an area that will only expand given the growing acceptance of the currency. Last autumn the International Monetary Fund added the RMB to its basket of major reserve currencies alongside the dollar, euro, sterling and yen.

So how does Hong Kong strengthen itself? For one thing, it needs to plug gaps in its labour force, Professor Arner said. One study under the TRS has compared the employment composition in the finance sectors of Hong Kong, London and New York, and found Hong Kong lagging significantly behind in the number of people employed in professional services, such as legal services and accounting. A lot of the demand in this field has arisen from regulatory changes made after 2008 to rein in excesses, which has meant firms and



Graphs comparing employment in the fields of legal and accounting, real estate and finance in Hong Kong, London and New York. (Source: Wojcik & Zhao [2014], calculations based on: Longitudinal Employer–Household Dynamics, Census Hong Kong, NomisWeb)

regulators need more staff who can focus on compliance activities and reduce the risks in the finance sector. (HKU is helping to address this gap through the new Master of Laws in Compliance and Regulation to be offered in the autumn.)

An even bigger opportunity for Hong Kong to gain an edge lies in innovation, in particular ‘fintech’ or finance technology.

“Finance is already one of the world’s most digitised industries, and it’s one of the sectors that spends the most on information technology,” Professor Arner said. “In Hong Kong, we already have major financial institutions and service providers like technology firms advising those firms. Unlike industry, which Hong Kong doesn’t have much of any more, financial services and financial services technology is an area where we have major strength and existing opportunities to grow. This is not speculative.”

DBS and Standard Chartered Bank have both funded fintech start-up incubators in Hong Kong. Professor Arner has also noticed that people laid off in the wake of the global financial crisis are now launching tech start-ups. “Many of them are doing this instead of starting hedge funds,” he said. “It’s a pretty dynamic environment for fintech start-ups.”

Change your minds

For Hong Kong to really take advantage of these opportunities, and set it on a new path

of economic development, it does require one other fundamental thing: people need to get on board with these ideas. That should not be such a stretch given, as Professor Arner points out, Hong Kong successfully developed a world-class regulatory environment from the lessons learned in the stock-market crash of 1987, Asian financial crisis, minibonds scandal and 2008 global financial crisis. But there is a danger of hesitation.

“The challenge at the moment for Hong Kong as I see it from a regulatory standpoint is changing the post-crisis mindset to begin looking at things like fintech, where there is very much a need to both consider the risks and the opportunities. And to realise that if we take too conservative an approach, we may miss one of our best opportunities to really develop going forward,” he said.

Professor Wong takes a more fundamentalist view. “Hong Kong needs a mindset change across all segments of society if it is to become the epicentre of start-up activities in Asia – including the Government, business, investors, start-ups to parents and our younger generation,” he said. “Successful start-ups and investors do not just work for money. They seek to solve the world’s problems with passion and commitment. Hong Kong has to change its overly mercenary, materialistic and short-term culture if it is to truly develop its own breed of game-changing and world-changing start-ups.”

He is optimistic that that can be achieved. “I believe we are coming to the end of pessimism over Hong Kong’s entrepreneurial spirit,” he added. ■



Janos Barberis (left), Research Fellow of the Asian Institute of International Financial Law, and Professor Douglas Arner (right) at the seminar on Regulating FinTech Innovation: A Balancing Act in April, 2015.



THE PEOPLE'S PERSPECTIVE

How Hong Kong residents identify themselves – as Hongkonger, Chinese and/or other – is changing and will have implications for the development of civil society. Dr Robert Chung Ting-yiu, Director of the Public Opinion Programme, and Professor Eliza Lee Wing-ye, Director of the Centre for Civil Society and Governance, have been tracking the changes.

In 2008, as China was gearing up to host the Olympic Games while at the same time recovering from the devastation of the Sichuan earthquake, an unusual yet understandable thing happened: Hong Kong people reported that they felt more Chinese than ever.

The finding was reported by HKU's Public Opinion Programme (POP), which in 1997 began tracking whether people identified themselves as broadly Hongkonger or broadly Chinese, as well as the strength of that affiliation. In June, 2008, people rated the strength of their Chinese identity stronger than their feelings as Hongkongers (8.0 versus 7.8 out of 10). This had happened only a couple of times before, around 2002–2004 when dissatisfaction with the Hong Kong Government was strong and China was emerging as an economic powerhouse. It has never happened since.

Dr Robert Chung Ting-yiu heads the POP, which conducts its surveys every few months. He notes that while people's identity affiliation has fluctuated over the years – through such events as the handover, SARS, the July 1, 2003 protest march, China's economic boom as well as the Olympics success – it has taken a much sharper, more fractured turn in recent times. In fact by the end of last year, people's sense of Chineseness was at 6.6, against 8.1 for the Hongkonger identity. For young people aged under 30 the results were even lower at 4.9 for their Chinese identity and 7.9 for their Hong Kong identity.

"The strength of people's Hong Kong and Chinese identities was pretty similar from about 2000 to 2010," he said, "then the strength of the Chinese identity began to drop. The drop was particularly big among young people. It was a kind of warning."

Intertwined with that shift has been the rise of civic activism. Although Occupy Central is the most high-profile instance, there have been several other pivotal examples, such as protests against the Hong Kong-Guangdong high-speed rail link and the demolition of the Queen's and Star Ferry Piers. These developments, says Professor Eliza Lee Wing-ye, Director of the Centre for Civil Society and Governance, are rooted in people's affiliation with their Hong Kong identity, as well as their changing values.

"People are increasingly relating the heritage and use of space with a sense of themselves as citizens of this city. For example, a decade ago there was a big social movement against unlimited reclamation of Victoria Harbour. Why was it so important? Because the Harbour symbolises Hong Kong. People would proudly say it's one of the most beautiful harbours in the world. And they had a lot of memories and personal experiences related to it, maybe as lovers or with their families. They did not want it to disappear because they felt that then a big part of their identity and collective memory would disappear.

"We saw the same thing with the later campaigns to protect Queen's Pier and the Star Ferry Pier. A lot of the civic activism we have seen in the past 10 years has to do with citizens' stronger awareness and consciousness of their identity and their connection to this place. They want a sense of ownership over policy-making," she said.

Home ownership

The roots of that shift stem from the 1970s, when the first generation to be born mostly in Hong Kong came of age. They felt Hong Kong was their home – unlike their parents who were largely refugees and thought of home as

their village in China – but they were also focussed on improving their material lives in terms of acquiring better quality flats and possessions and education for their children. They were seemingly unconcerned about things like heritage conservation.

“If you look at the 1980s a lot of buildings of historic value were bulldozed by the Government, one by one, without any public discussion,” Professor Lee said. “The argument was that this was important for economic development. In the 1980s and 1990s people passively accepted that argument or maybe agreed with it. They associated skyscrapers with modernisation and development and wealth.”

But as historic buildings kept disappearing – buildings that, like the Harbour, were part of people’s memories and experiences of the city – and the city became saturated with shopping malls and skyscrapers, more and more questions started being asked. Who was benefiting and were they doing so at the expense of others? Was this the right development model for Hong Kong? The handover in 1997 and subsequent events sharpened the discussion.



“A lot of the civic activism we have seen in the past 10 years has to do with citizens’ stronger awareness and consciousness of their identity and their connection to this place. They want a sense of ownership over policy-making.”

Professor Eliza Lee

“1997 was a watershed because it symbolised the end of colonialism, the beginning of one country-two systems and the idea of ‘Hong Kong people ruling Hong Kong’. It gave a new political identity to Hong Kong people – they were not colonial subjects but masters of this city state.

“2003 was another watershed. On the one hand there was the mass rally [on July 1] when more than half a million people took to the streets. On the other hand there was SARS. It’s been argued that both incidents strengthened Hong Kong people’s sense of citizenship because they felt empowered” – the rally for obvious reasons but SARS because people felt they could not rely on the Government to protect their health so they had to take matters into their own hands.

That sense of empowerment was a spark to social activism, which has mushroomed over the past decade, she said. Some actions have been successful – the legal battle to constrain reclamation in Victoria Harbour and the protest against national education in 2012, for example – while others have failed, such as the Star Ferry and Queen’s Piers and Occupy Central.

“The rise in citizens’ demand to be actively involved in policy-making and the rise in local Hong Kong identity are closely connected and self-reinforcing. The more activist people become, the more it fosters a sense of citizenship, which also relates to their sense of place identity,” Professor Lee said.

Number crunching

Dr Chung’s data reveals some interesting shifts in identity alongside these developments. At first, events tended to impact more on people’s Hong Kong identity than their Chinese one. In 2003 when dissatisfaction with the Hong Kong Government soared, the strength of people’s Hongkonger identity dipped from 8.0 in March that year to 7.4 in December. Chinese identity saw a smaller decline, from 7.8 to 7.5. “People were upset with the local Government and in terms of identity, people’s self-esteem went down as Hongkongers. But they did not blame the National Government,” he said.

That generally positive outlook persisted until about 2009, when the numbers for Chinese identity began to drop, especially among the young. This outcome attracted criticism of Dr Chung and his polling, but he pointed out

their intention was only ever to provide academically-rigorous data that could be used by others to analyse Hong Kong’s post-1997 development, and see how the concept of one country-two systems was playing out culturally.

Respondents are not given a definition of ‘Hongkonger’ or ‘Chinese’ but simply asked to provide a figure up to 10 of their perceived strength of affiliation. They are also asked separately to state their ethnic identity; in December, 2015, 68 per cent said Hongkonger or Hongkonger in China, while 31 per cent said Chinese or Chinese in Hong Kong. (Other identities have also been added in recent years including ‘member of the Chinese race’, ‘Asian’, ‘global citizen’ and ‘citizen of the People’s Republic of China’. But Hongkonger and simply Chinese attract much more attention.)

Among 18–29 year olds, the strength of Chinese identity has fallen most sharply, from 7.4 in December, 2007 (the last time it was this high) to 4.9 in December, 2015, while the strength of Hong Kong identity in the same period has held steady (8.0 in 2007 and 7.9 in 2015). The effects among the over-30s are less pronounced but still, for the population as a whole, the Chinese identity remains well below 7.0 (the lowest point was 6.5 in December, 2014; in December, 2015, it was not much better at 6.6).

“A rating of 10 is absolute identification, zero is no identification and five is a half-half feeling. Anything below five would be a negative affiliation,” Dr Chung said. “The hard facts are that people’s feelings or identity in terms of being Chinese have dropped, and among young people it is turning negative.”

Value change

Those feelings are channelling into civil society, where young people have been taking a leading role. Tens of thousands of people joined the 2012 protest against the proposed teaching of national education in Hong Kong schools, led by then-15-year-old Joshua Wong Chi-fung. University students played an active role in the Queen’s Pier and Star Ferry Pier protests. And of course Occupy Central was led by young people.

It might seem obvious that youths would take part in such actions – that acting on one’s ideals and being frustrated with the

establishment are all part of being young. But Professor Lee said the situation was more complicated than that.

“Some of the older generation and pro-establishment people attribute youth activism to the decline in social mobility because young people are finding that it is not so easy to rise up the ladder. There is an element of truth to that, but I do not think it is the only cause for the rise in activism.

“In the US in the 1960s and Europe in the 1970s, many protest movements were driven by post-material values, such as equality, social justice, peace, environmentalism, gender and racial equality. They were not protesting about things related to material gain. When people become focussed on those values, it can be seen as a sign that a society has developed to a certain stage of affluence.

“I have spoken with university students in Hong Kong who do not feel that making a lot of money is their purpose in life. They want to make the world a better place, whether it is fighting for the environment, against poverty,

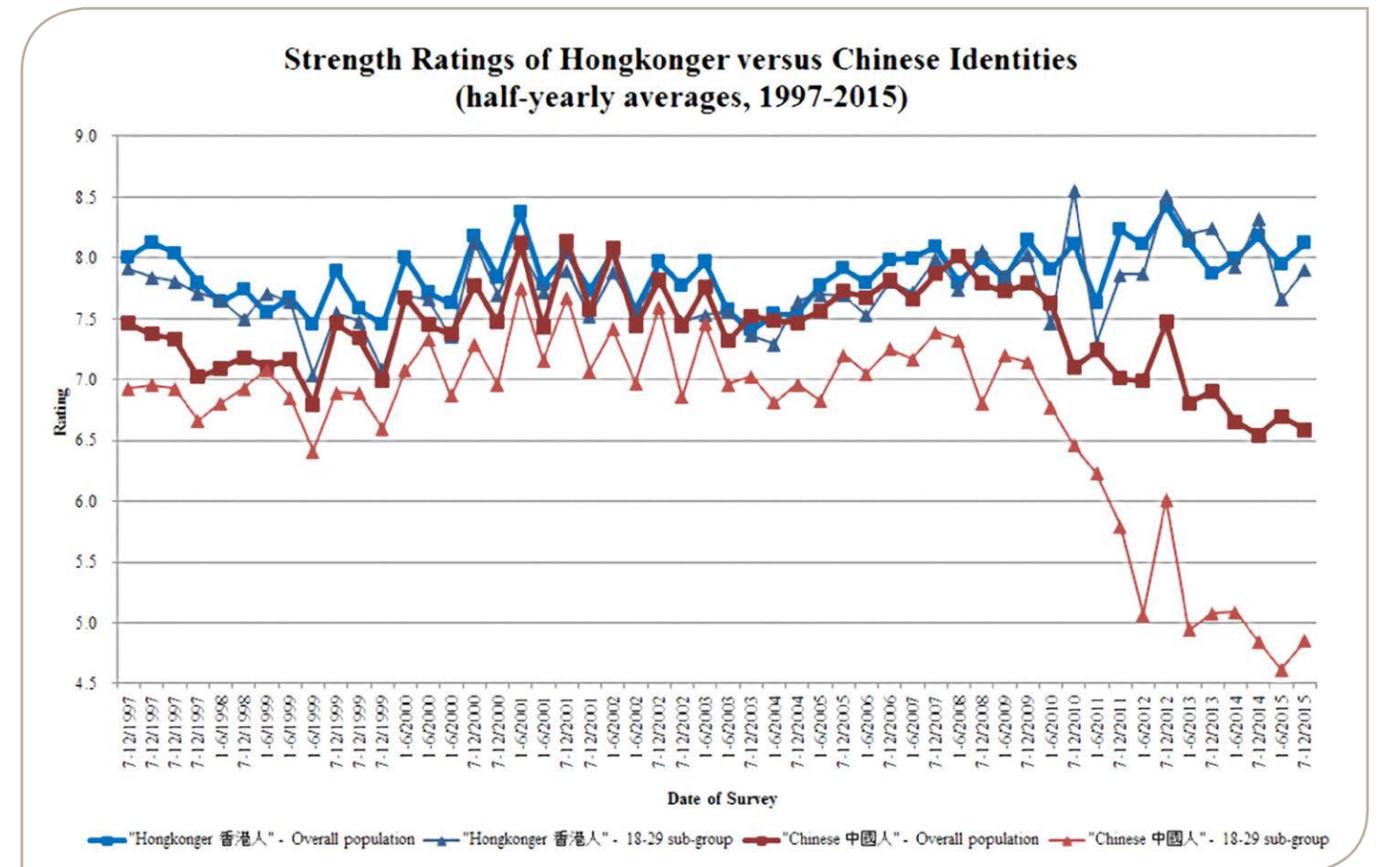
for global justice or whatever their cause. The younger generation is much more prone to this kind of idealism.”

Young people also are finding other outlets besides street protests to express their views, she said. For example, the website TVMost has become hugely popular for satirising celebrities, the terrestrial broadcasters, and politicians and other establishment stalwarts. “Young people are taking their activism to new levels that are not necessarily about marching in the streets. They are finding more ways to assert their strong sense of local identity,” Professor Lee said – implying that this identity is still evolving. It may go up as well as down as Hong Kong continues to come to terms with its place in China and in the world. ■



“The hard facts are that people’s feelings or identity in terms of being Chinese have dropped, and among young people it is turning negative.”

Dr Robert Chung



HKU’s Public Opinion Programme has been conducting surveys on people’s categorical ethnic identity since 1997.



AN UNEASY RELATION

Uncertainty about Hong Kong's future identity within China, and the Government's ineffective response to that, are fuelling mistrust on both sides of the border, suggests political scientist Dr Peter TY Cheung.



“Ultimately the Hong Kong Government has not been able to effectively mediate between Hong Kong and the Mainland over the problems arising from growing cross-boundary interactions.”

Dr Peter TY Cheung

Dr Peter TY Cheung of the Department of Politics and Public Administration has been studying intergovernmental relations between Hong Kong and the Mainland for years, tracking Beijing's increasingly interventionist approach in political and constitutional matters and its more hands-off approach to the economy. These areas have evolved towards greater integration since 1997 – inevitable given the progression of 'one country-two systems' toward 2047. But the high anti-Mainland feeling that has been building up in Hong Kong in the past couple of years is hardening opinion.

“When you talk with Mainland officials, they say they do not like Hong Kong because they think Hong Kong people discriminate against Mainland Chinese. And they don't just mean protestors but also the media.

“There is mistrust of Hong Kong. The Mainland Government believes it has offered the best possible political reform option under the circumstances, and that Hong Kong people should accept it with open arms and move forward. That is a very different assessment from the democracy advocates in Hong Kong.

“The anti-national education campaign and the rise of 'pro-independence' actions have also worried them. Beijing is increasingly concerned that nativist or localist sentiments will move Hong Kong even more out of its orbit.”

The mistrust is mutual

Dr Cheung traces one of the key sources of these sentiments to the rapid increase of Mainland visitors since 2003. “There have been too many Mainland visitors [47.4 million in 2014], which is affecting the way of life for certain groups of people. I think the Hong Kong Government is largely responsible for not effectively managing cross-boundary relations because while it greatly increased the inflow of visitors, this has benefited predominantly the real estate developers and retailers. Of course they provide more employment but it is largely low-end employment.”

The protests against this expansion have in turn upset the Mainland. “They say, you ask more Mainland people to come and then you blame us? It is a complicated issue but ultimately the Hong Kong Government has not been able to effectively mediate between Hong Kong and the Mainland over the problems arising from growing cross-boundary interactions.”

The mistrust goes both ways, evidenced in the localist movement and even local students' lack of interest in China-related courses, as Dr Cheung has discovered as the convenor of the China Area of Inquiry under HKU's Common Core curriculum.

“It may be that Hong Kong people are still in the process of soul searching and exploring how to position their city as a city in China. And its leaders have not been able to move Hong Kong forward.”

He sees the need for a strategy to address this challenge and also for a better understanding of Mainland perceptions of Hong Kong. “I hope academic research can contribute a little to this,” he added. ■



LANGUAGE LESSONS

The medium of school instruction impacts not only student learning, but also business, politics and culture. In Hong Kong it is usually framed as a stark choice: learn in Cantonese, or Putonghua, or English. But Professor Angel Lin proposes translanguaging and plurilingualism.

In Hong Kong classrooms, students are expected to use only the language they are instructed in. Increasingly that has meant Putonghua, but there are also English-medium classes that supposedly teach content subjects only in English. To Professor Angel Lin in the Faculty of Education, this single-minded approach is ineffective and potentially harmful.



“The more languages we speak and the more open-minded we are about the dynamic, fluid nature of language and culture, then the less likely we will become culturally essentialised.”

Professor Angel Lin

“If you say 'no Cantonese' in a class, the students will slip notes to each other and illegally speak in Cantonese. If you ban anything in a class, they will always resist,” she said.

What's worst, they can end up disliking subjects that they think represent the language they are struggling with, such as Chinese literature, history and culture.

While pedagogically it is best for students to learn in their most familiar language, Professor Lin does not think Hong Kong should abandon bi- and trilingualism because students gain 'utility' from being able to communicate in Putonghua and English. Rather, a change is needed in the notion that languages should be compartmentalised and separated from each other.

Professor Lin has been researching the 'translanguaging' approach which recognises that people draw on whatever linguistic resources are available to them for the task at hand.

“People in Hong Kong do this all the time,” she said. Any casual eavesdropping in coffee shops or on trains shows people often mix two or more languages – in theoretical terms they are 'translanguaging'. While superficially this is similar to code-switching, the latest sociolinguistics theories hold that translanguaging better recognises the dynamic, fluid nature of language.

Mixing it up

“Somehow schools are under the pedagogical ideology that languages should be kept apart and that you can develop bilingualism through compartmentalised monolingualisms – that is, one classroom only in English, one only in Putonghua, one only in Cantonese.”

With a translanguaging approach, all three languages would mix in the classroom in a systematic way that is built into the lesson and curriculum planning and the materials used. Professor Lin has been testing this approach in a bilingual school in Thailand that is teaching mathematics with both English and Thai materials (currently she cannot do this in Hong Kong because of the Government's one-language policy in classrooms).

That study is still underway, but Professor Lin believes the translanguaging approach could help not only student learning, but Hong Kong society.

“It's linked to the question of identity. The more languages we speak and the more open-minded we are about the dynamic, fluid nature of language and culture, then the less likely we will become culturally essentialised and say 'I'm Mainland' or 'I'm Hong Kong' or 'I'm English'. We can be all of these at the same time and not bounded by a single identity. Language can be conducive to breaking binary oppositions and achieving plurilingualism and pluriculturalism.” ■

BEYOND THE LION ROCK

Hong Kong popular culture had a brilliant flowering in the last decades of the 20th century, but has since wilted, overtaken by cultural imports from Korea, Japan, Taiwan and the Mainland. Two scholars of Hong Kong culture consider its past, present and future.



“If you look at other places, ideas of national identity are developed and promoted by government or intellectual sources. But in Hong Kong these sources were silent or absent for many years... Pop culture was the accidental hero articulating the Hong Kong story.”

Dr Ng Chun-hung

Step back 30 years ago and Hong Kong-made music, films and television programmes were everywhere. They topped sales and viewership figures not only in Hong Kong but in Chinese-speaking communities around the world. Even Hollywood came knocking.

To cultural critics like Dr Ng Chun-hung of the Department of Sociology, this was more than an entertainment phenomenon. The brash, pragmatic, heartfelt values conveyed in the songs and storylines were the embodiment and touchstone of modern Hong Kong identity. They helped to shape the city's idea of itself.

“If you look at other places, ideas of national identity are developed and promoted by government or intellectual sources. But in Hong Kong these sources were silent or absent for many years. Hong Kong did not have a proper government so to speak, it just had a colonial government, and there wasn't a big intellectual circle. So people turned to pop culture stars to feed their imagination. Pop culture was the accidental hero articulating the Hong Kong story.”

The rise of that culture is generally considered to have started in 1974 – the year HKU graduate and pop singer Sam Hui and his brother Michael Hui released their seminal

film, *Games Gamblers Play*. Its fast-paced depiction of clever amoral people who got what they wanted, peppered with lots of gags and structured around a loose plot, was a huge hit. Around this time Sam also started singing in Cantonese instead of English and Mandarin, and television shows like Radio Television Hong Kong (RTHK)'s *Below the Lion Rock* focussed on life in post-war Hong Kong. “This was a new era. The stories being told were not about China, but about Hong Kong,” Dr Ng said.

But that was then and this is now. Hong Kong popular culture is a weak presence even here in Hong Kong. Is it on its last legs? Dr Ng and Professor Stephen YW Chu, who heads the Hong Kong Studies programme in the Faculty of Arts, are among scholars who have been studying its future prospects, and also just how it helped to shape the identity of Hong Kong.

Articulating an identity

“The best starting point to look at Hong Kong identity is to examine the time when Hong Kong did not have an identity,” said Dr Ng. Before 1950, the city was a small settlement at the base of China, with a highly transient population occupied with trade and small-scale manufacturing. It was hardly a

The term ‘Lion Rock spirit’ originated from a television show called *Below the Lion Rock*, which often illustrated the perseverance and solidarity of Hong Kong's working class in the 1970s.

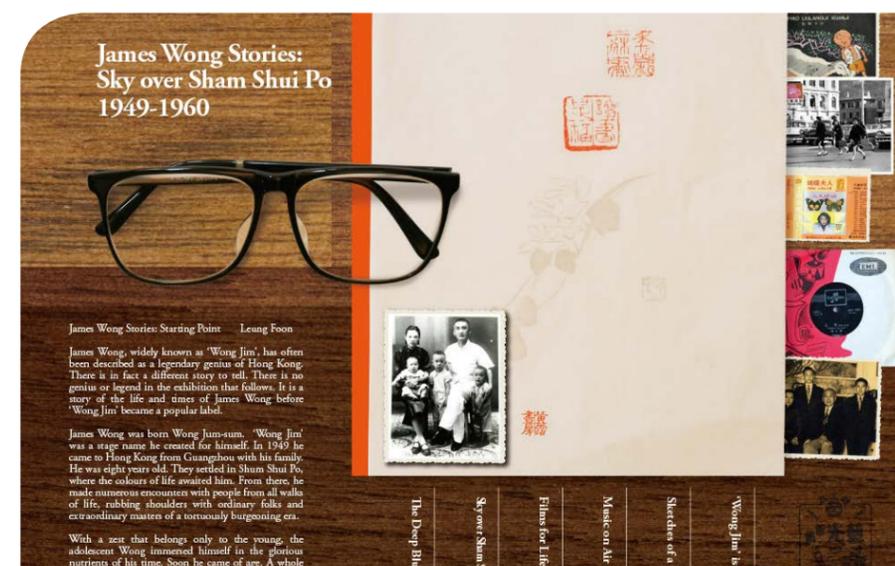
place to get attached to. Then more than a million refugees arrived from revolutionary China and everything changed.

For the first time Hong Kong had a large stable population. A baby boom ensued – in 1966, 40 per cent of the population was under age 14 and almost all of those youths were born in Hong Kong. An economic boom brought rising prosperity. And local political developments

heightened people's sense of a shared origin and future. While the 1966 and 1967 riots left many youth in particular disillusioned with Mainland politics, the policies of Governor Murray MacLehose in the 1970s – such as expanded housing, education and welfare programmes and recognition of Cantonese as Hong Kong's second official language – strengthened the sense of Hong Kong as home.

All that was lacking was an articulation of that feeling and what it meant to live and grow up in Hong Kong. This was where popular culture came in, Dr Ng said.

“A main ingredient of identity is the stories circulating in a population. Pop culture became an important source of these stories and it depicted some of the core features of Hong Kong identity: being quick-thinking, being



One of Dr Ng's projects is 'James Wong Stories: Sky over Sham Shui Po 1949-1960', a website featuring James Wong, a renowned Cantopop lyricist and an icon of Hong Kong popular culture.



James Wong was a recognised Cantopop lyricist and writer.



“ This is a very strange phenomenon. The younger generation has a heightened sense of local belonging, but they are not consuming Cantonese pop culture any more. ”

Professor Stephen YW Chu

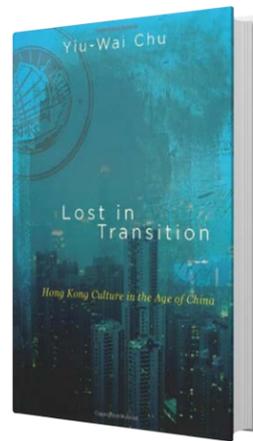
smart – I earn more money than my neighbour in China – and taking pride in being pragmatic and efficient. All of that was a big part of the Hong Kong identity.

“There was also another set of values that are integral to a refugee society. Hong Kong started as a refugee society in the 1950s and there was a memory of that in a big chunk of the population – you could be rich today but very poor tomorrow. So a second strand of Hong Kong identity lay in the need to help your neighbour and be moral instead of money-oriented. Some pop culture products worked in the idea of a hero saving a poor community, which harks back to traditional Chinese fiction and folk stories.”

These values were reflected in programmes such as the sitcom *Casanova '73* which aired in 1973 and showed families experiencing and laughing about real-life issues such as corruption, and in films like *Games Gamblers Play*. It was also conveyed by pop stars such as the ‘Four Heavenly Kings’ – singers Andy Lau, Jacky Cheung, Aaron Kwok and Leon Lai – who crossed over into television and film and reinforced the messages across mediums.

Lost in transition

From the 1990s, though, sassy Hong Kong culture started to lose its bloom under political, economic and demographic pressures – the rise of China, 1997, globalisation, and the desire of every new generation to remake the world in their own way. The old cultural products became passé, as comments by Professor Chu’s students illustrated. “They told me that anyone who is a



Professor Chu’s *Lost in Transition: Hong Kong Culture in the Age of China* was published in 2013. He is now working on a sequel that explores the new possibilities of Hong Kong culture.

Cantopop singer and at the same time a TVB (Television Broadcasts Limited) actor [a formula for huge success in the past] only appeals to middle-aged housewives,” he said.

Professor Chu is author of *Lost in Transition: Hong Kong Culture in the Age of China*, which was published in 2013. It is easy to say Hong Kong culture was swamped by China, he said, but in his area of specialty, Cantopop music, Korean and Japanese pop music are even more popular than Mandarin pop music (which is mostly from Taiwan). Industry response has also been a factor in the decline. For example, Hong Kong was the only open market for Chinese pop music in the 1970s and 1980s but the industry failed to act when Mandarin pop started gaining popularity in the 1990s. “The industry should have diversified the music and fan base, but all it did was *sik law boon* – eat up the assets.

Young workers tell me it has been impossible to overhaul the Cantopop industry because senior people are close-minded,” Professor Chu said.

“Television and cinema have seen a similar decline. The cultural industries have lost their creative synergy.”

Local filmmakers entered into co-productions with Mainland partners so they could reach the huge audience there, while singers and actors sought work there – quite a different situation from the pre-2000 period when going to the Mainland was seen a sign of having failed to make it in Hong Kong.

In terms of popular culture’s impact on identity, 2003 may have been the culmination of all these other forces taking shape, Dr Ng said. The huge protest on July 1 helped to waken people’s consciousness and also led the Government to be more vocal about Hong Kong’s relationship with China and the need to support such things as national education. Intellectuals also grew in number and spoke out. “These other agents became more active in articulating Hong Kong identity. Pop culture declined as a force that shapes identity, as well as economically,” he said.

But that force, while weaker, has not disappeared. Hong Kong audiences never really warmed to the Mainland co-production films, which appeased censors by avoiding topics that had been hallmarks of Hong Kong cinema, such as triads and ghost stories. Around 2009, several filmmakers began making movies that looked wistfully on Hong Kong’s recent past, such as *Echoes of the Rainbow* and *Gallants*.

“On the one hand these films are a nostalgic imagination of the good old days of Hong Kong and on the other hand, they use the past as a source of their imagination for a better future for Hong Kong,” Professor Chu said.

That longing for the past does not extend to the actual pop culture of that period, though. “This is a very strange phenomenon. The younger generation has a heightened sense of local belonging, but they are not consuming Cantonese pop culture any more,” said Professor Chu. So where does that leave the culture that helped to define a generation?

Still, we’ve come a long way

Dr Ng sees a different role emerging. “Pop culture has not died out. People are resurrecting some of the older links. For example, *Below the Lion Rock* used to be hated by the generation born in the 1980s and 1990s because they thought it was about old Hong Kong – it talks about sharing the same boat and having to work hard and so on. But after the Umbrella Movement, people injected new meanings into those old words. That song has been in the popular conscience for so long that it is a very good carrier for people to inject a new spirit.

“Hong Kong culture will continue to change. What was done before cannot be erased. Plus the new generation is looking at Hong Kong and saying, I love Hong Kong, I am a Hongkonger, what are some of the things we need to keep hold of? Some of them are using pop culture to reinvent things and to laugh at the Government or media.” He even thinks Hong Kong culture could strengthen as 2047



HKU alumnus and Hong Kong’s leading and award-winning lyricist Lin Xi (left) at the talk ‘The Hong Kong I Love’.

approaches, provided it remains structurally distinct from Mainland China.

Professor Chu’s Hong Kong Studies programme, the only one in Hong Kong, also illustrates the desire to deepen understanding and connect to Hong Kong’s uniqueness. The course was founded in 2012 to look at the city from a multidisciplinary perspective after it was noticed Hong Kong-coded courses were attracting growing numbers of students. Its introductory course attracts 60 to 70 students a year, though few choose it as a major – a reflection of the enduring practical Hong Kong spirit.

“Their parents say, you are born here, why do you have to study Hong Kong? There is a prejudice that Hong Kong culture is informal,

that it’s ‘just’ pop culture,” Professor Chu said. He worries this could worsen if Putonghua takes hold as the language of education. “But I still have hope,” he added. “There weren’t any courses on Hong Kong culture when I was a student in the 1980s, and in the early 1970s Cantopop was considered a subordinate genre.” He is now considering future directions for Hong Kong culture in a sequel to *Lost in Transition*, tentatively titled *Found in Transition*.

Dr Ng also thinks perspective helps. “My generation started off badly. People had no place to live, they had nothing to eat. We’ve come a long way. But it is still very sad what has happened in Hong Kong culture in the past 10 or 15 years. It has been tested.” ■



Hong Kong Studies is an interdisciplinary programme which combines the perspectives of a variety of disciplines, including literature, art history, history, sociology, politics, economics, journalism and communications.



MONEY DOWN THE DRAIN

Hong Kong's water strategy is simple: it doesn't really have one. Two scholars are investigating the causes and consequences as part of a multi-city project on water use and policy in global cities.

You need to know only one thing about water in Hong Kong: the price paid by households and businesses has remained unchanged for 20 years despite increases in costs and people's incomes. To public policy experts, economists and environmentalists alike, that is a major reason behind the city's wasteful use of water. After all, what incentive is there to conserve water or use it more efficiently?

Dr Frederick Lee, who heads the Faculty of Social Sciences' Water Governance Research Programme, has been examining the problem with economist Professor James Nickum as part of an ongoing study on water use in major cities around the world.

"Hong Kong is one of the only cities where consumption per capita is going up. In London, New York, Chicago – it's going down. The same is true for Taipei, Beijing, Shenzhen, Singapore. The reason is because it's so cheap here," he said.

Hong Kong people consume an average 220 litres per person per day, against 150 litres in Singapore and a world average of 170 litres. Given the city's famous water shortages of the 1960s and 1970s, when people were restricted to as little as four hours of water every four days, one would think water would be a



“ Hong Kong has become increasingly locked into this dependency on imported water and we're now in a very weak bargaining position in terms of how much water we should get and how much we should pay for it. ”

Dr Frederick Lee

matter of concern, at least within the Government. But several factors have pushed it down the priority list and led to complacency.

Sustainability dilemma

One is the city's financial success which makes it easier to cover costs, another the migration of industry into Mainland China. Industry uses a lot of water. As Dr Lee and Professor Nickum have discovered in their ongoing study, nearly all major cities have seen total water use fall over the past two or three decades for this same reason. But it has an impact on revenue.

"Because a lot of the costs of water facilities and supplies are fixed, the more you ask people to save water, the higher the price they have to pay per unit. So ironically as demand goes down, the price goes up.

"Hong Kong has solved this sustainability dilemma by having a huge budget surplus that can easily cover the costs," Professor Nickum noted.

However, that will not last forever. In the meantime, the costs of water provision keep rising.

Hong Kong's main water expense is the price it pays to Guangdong for a guaranteed

820 million cubic metres of water from the Dongjiang River per year, whether or not it is used. The city approached that limit only once in the past 10 years, but is not allowed under the agreement to sell the unused water. The payments for this water have increased from 34.5 per cent of the overall water budget in 1993–1994 to 44.4 per cent in 2013–2014.

"Hong Kong has become increasingly locked into this dependency on imported water and we're now in a very weak bargaining position in terms of how much water we should get and how much we should pay for it," Dr Lee said.

House of cards

An alternative would be to set targets for conserving water, which could be achieved relatively easily by such things as mandating low-flow showerheads and the like. Hong Kong, Guangdong and Macau should also consider jointly strategising water resources planning – something Dr Lee's programme is promoting.

"We need to look at the entire Pearl River Delta Region as one water planning unit and see what is the best way to utilise its resources. But there are a lot of political and institutional barriers to overcome," he said.

The Government itself has talked about desalination but this is expensive and only deals with supply not demand, Professor Nickum said. "There are no incentives anywhere in the system to save on water, even though it's all based on an artificial house of cards," he said – a house that could come tumbling down if a severe financial crisis hits government revenues, or saline water invades fresh water territory due to climate change, or demand for water continues growing in Pearl River Delta cities in competition with Hong Kong's needs, or there are political disagreements between Hong Kong and Guangdong.

In the meantime, wastefulness prevails. Hong Kong may not be as profligate as another city the men are studying, Dubai, where desalinated water is provided free and people consume an astonishing 500 litres per person per day. But the principle is the same: we don't protect what we don't value, in this case water. ■



Publicity materials of Dr Frederick Lee's Water Governance Research Programme.



From left: Dr Frederick Lee, Professor James Nickum and Professor John Burns, Dean of the Faculty of Social Sciences.



Professor Nickum and Dr Frederick Lee (centre), with postgraduate research students from HKU, Chinese University of Hong Kong, and Sun Yat-sen University at a workshop held at HKU.



Napoleon's troops in formation at the Battle of Fuentes de Onoro, 1811. (Courtesy of <http://www.albion-prints.com>)

IS ALL FAIR IN LOVE AND WAR?

Cooperation between enemies during war is an anomaly but one that is not as unusual as you might think. Ethics during warfare has long been debated, and now there are new area for discussion – drones and terrorism.

Dr Yvonne Chiu, Assistant Professor in the Department of Politics and Public Administration, has always been interested in looking at things that don't seem to go together, marrying things that are seemingly unwed.

"I'm also interested in the concept of 'meaningful exceptions'," she said. "War is surely one of the worst situations prompting people to do what they would never normally countenance – kill another person, and often for a cause that is not necessarily their own. So, morality in war – people actually

cooperating, while also trying to kill one another – that's a very interesting juxtaposition."

There are famous examples, such as Christmas in 1914 and 1915 when opposing soldiers fighting in the trenches in World War I halted their combat and sang carols together, played football and exchanged rations before returning to their respective trenches to resume battle.

What is less well-known, explained Dr Chiu, is that evidence exists that for much of the war

German and Allied soldiers also practised a live-and-let-live attitude, except when direct orders were given.

As well as studying war theory and international law, particularly the parameters for what is and is not acceptable during war, Dr Chiu originally focussed on civilian/military relations, including how soldiers who have been at war reintegrate into society. That led her to bigger questions about war theory and ethics in war, and she is currently expanding her paper into a book, this time looking at cooperation between individuals during



“ The aim of these constructs [such as the Geneva Convention] is to regulate war and produce a fair fight, which is interesting because in war surely the ultimate aim is to create disadvantages – at any cost – so you can win. But it seems we have a need to be fair. ”

Dr Yvonne Chiu

wartime and at international level, particularly international constructs such as the Geneva Convention.

"The aim of these constructs is to regulate war and produce a fair fight, which is interesting because in war surely the ultimate aim is to create disadvantages – at any cost – so you can win. But it seems we have a need to be fair."

The ethic of some kind of fairness in what is inherently an unfair situation is not new. "There are cases of World War II (WWII) snipers, whose sole job was to pick people off from a safe distance, who report that sometimes they couldn't do it," Dr Chiu said. "Perhaps someone was drinking a coffee or having a cigarette – it felt like the wrong time to pull the trigger. But a few minutes later they could do it, no problem."

She is also interested in the reasoning behind measures to protect civilians, clergy, women and children *etc.* The logical implication of this kind of protection is that it's fine to kill a soldier. Yet, what if that soldier has been called up? He's not fighting because he's a military-minded guy, he has been put in the situation. And where do you draw the lines – bombing munitions factories in WWII was considered fair game, but the people working within them were usually women.

Modern conflict

While cooperation in war is not new, a new area has opened up within the question of ethics in warfare in the context of two aspects of modern conflict – drones and terrorism.

"War theory as a field is always more popular after a war," said Dr Chiu. "Straight after the Vietnam conflict ended there was much theorising about war; after 9/11, there was much discourse about terrorism, and now

there is the rise of ISIS. The US classifies terrorists as 'illegal enemy combatants' – a subjective classification.

"The dominant international perspective is the viewpoint of the modern nation state, which originated in the West. Western issues with terrorism are grounded on the assumptions of how we do and don't cooperate during war. When we rely on cooperation between modern nation states, how we judge war from a moral perspective presupposes that cooperation."

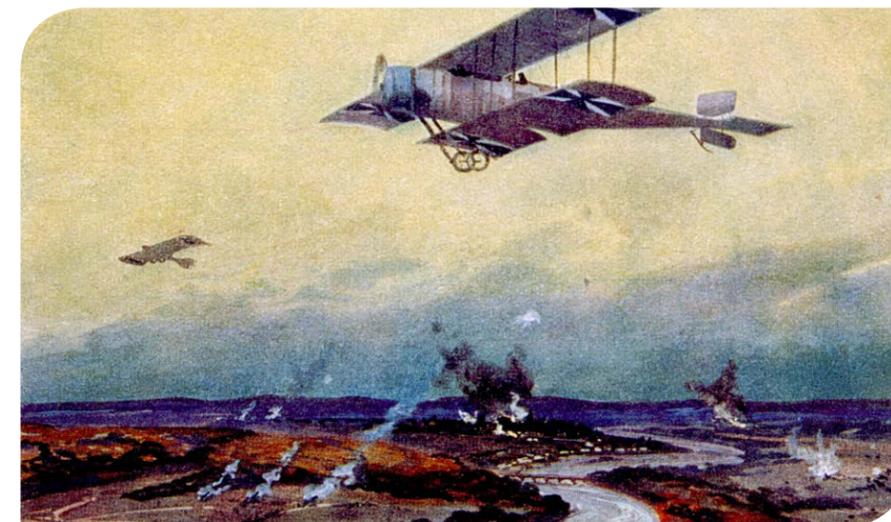
Drones are also changing how conflict is conducted and how people think about war. In the history of military technology, there has always been a clear desire to create distance between yourself and your enemy – from swords to long swords, from spears to arrows, *etc.* As the distance gets greater so the risk to yourself is minimised.

"Drones would seem to be the logical next step since there is no risk at all to the

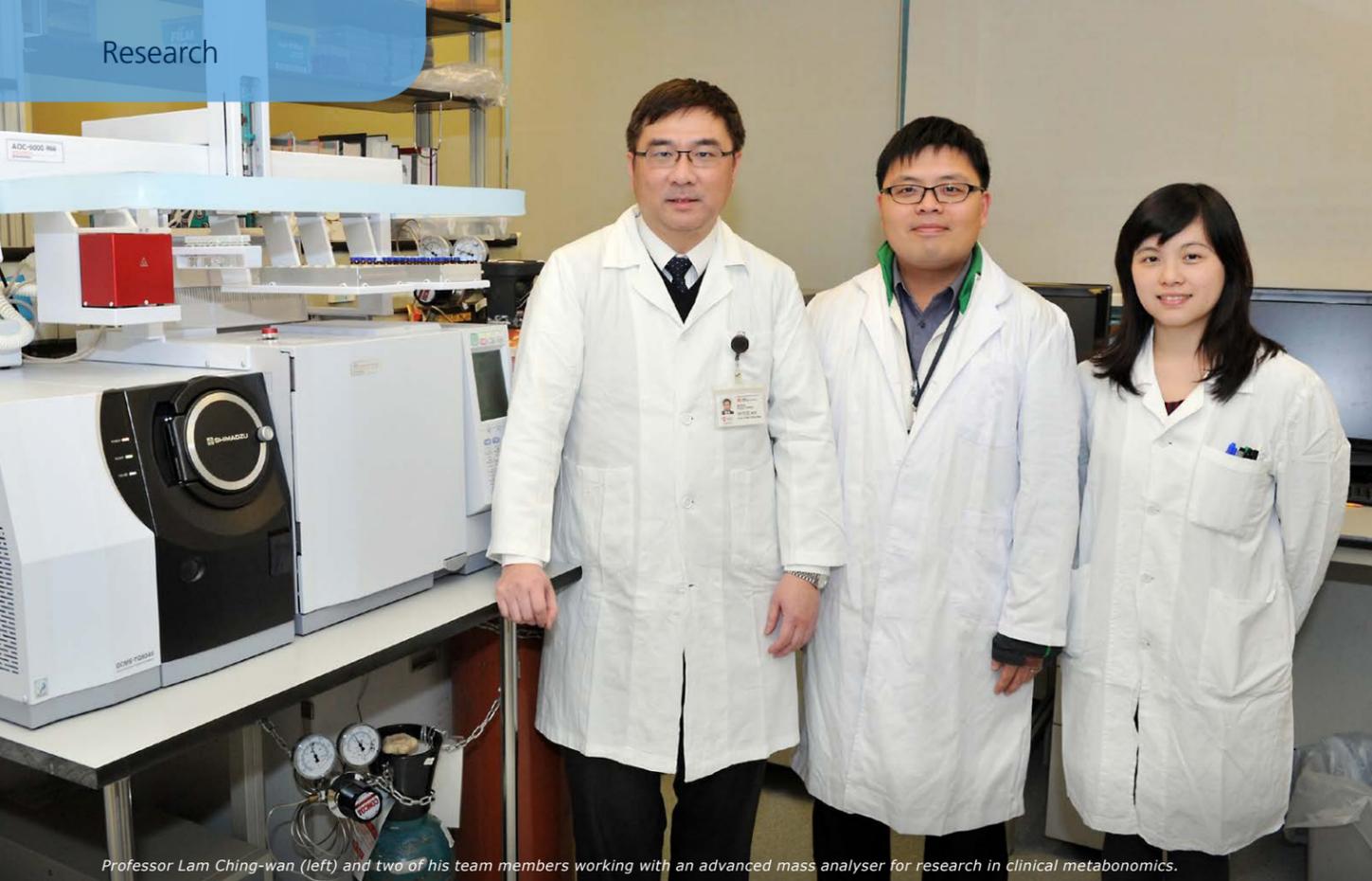
operator," said Dr Chiu. "But people are very uncomfortable with the concept, often because its perceived as an 'unfair fight'. The thinking is that drones are not ethical because the operator is not even close to being at risk. They are nowhere near – and never will be anywhere near – the combat zone.

"Interestingly there is a military divide in this thinking. Those in the Army tend to think it's unfair, while those in the Air Force and Navy usually have no problem with it. One theory is Navy and Air Force fighters have always been at a distance from the enemy – if you're five miles up in a B52 dropping bombs, the risk is minimal – while the Army traditionally fights much closer.

"Again, this comes back to ethics and warfare – it is the concept of unfairness that is interesting, when the very nature of war is unfair." ■



World War I, German biplane on reconnaissance over the Marne, painting by Hans Rudolf Schulze.



Professor Lam Ching-wan (left) and two of his team members working with an advanced mass analyser for research in clinical metabolomics.

THE SCIENCE AND FICTION OF ANTIOXIDANTS

A whole industry of health supplements and food marketing has sprung up around the idea that antioxidants can prevent cancer. Unfortunately, the promise has not held up in clinical trials. New research explains why and shows how antioxidants may in fact promote cancer.

Visit some of the major health websites, search 'antioxidants' and you will find sweeping statements about their benefits. "Add antioxidants to your diet," says the Mayo Clinic, "[They] may protect your cells against the effects of free radicals... [which] may play a role in heart disease, cancer and other diseases." "Do your immune system a favour and pack more fruit and vegetables on your plate. They're loaded with nutrients, called antioxidants, that are good for you," says WebMD. "Antioxidants are man-made or natural substances that may prevent or delay some types of cell damage," says the website of the National Library of Medicine of the US National Institutes of Health.

Marketers have picked up the cue and slapped the 'antioxidant' label on a whole range of

products such as cereals, dried fruit, herbal tea and dark chocolate and supplements such as Vitamin C, Vitamin E and beta carotene.

The science behind this enthusiasm makes sense in theory. Cells can be damaged by too much oxygen, called reactive oxygen species (ROS), which can lead to cancer and other diseases and contribute to the ageing process. Antioxidants help to reduce ROS, so the logical conclusion should be that they reduce the risk of disease.

However, the theory has not stood up in the field. Recent large-scale randomised control trials – the gold standard of clinical testing – have turned up alarming results. In some trials, antioxidant supplementation actually increased the cancer rate. For example, healthy men

taking Vitamin E supplements had a higher rate of prostate cancer and smokers given beta carotene experienced more lung cancer than those not taking the supplements.

Fuel for tumour cells

Research by an international team of scientists from North America, Europe, Japan and Hong Kong, including three scholars from HKU's Department of Pathology, has now explained what is going on and pointed to new approaches to antioxidants and new directions for cancer treatment.

Professor Lam Ching-wan was part of the HKU contingent and contributed findings from the burgeoning field of cancer metabolomics. He and his colleagues showed



“ People think antioxidant supplements are safe. Now we have evidence that they are not good for health. ”

Professor Lam Ching-wan

how cancer cells generated and used antioxidants to stay alive.

"Cancer cells, like normal cells, have a lot of ROS. They require ROS to develop into a cancer cell but if the ROS level remains high, the cell will kill itself because ROS eventually turns on the mechanism of apoptosis, or cell death. So for a cancer cell to develop and grow, on the one side it has to increase ROS, but on the other it has to increase antioxidant levels to prevent the accumulation of too much ROS in the cell," he said.

Professor Lam helped to identify how the cancer cell performed this balancing act by using two pathways for antioxidants to contain ROS levels. The glutathione pathway is turned on in the cell in the early stages, then as the cell becomes established the thioredoxin pathway takes over. He likened their role to that of a car with two brakes.

"The ROS is like the accelerator in the tumour cell and glutathione and thioredoxin are the brakes to suppress cell oxidative stress in case there is too much. This finding explains the clinical paradox that giving antioxidants to healthy patients can lead them to develop more cancers than expected."

Like a car crash

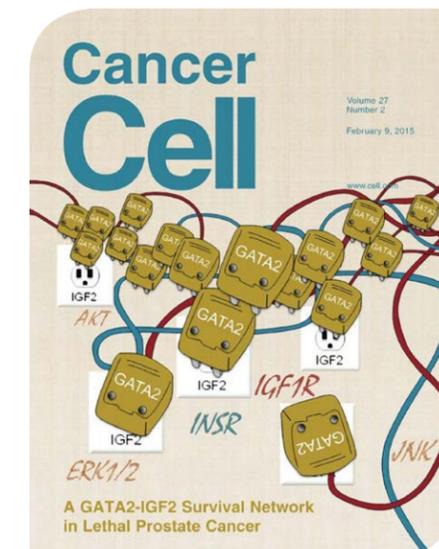
It also points to potential treatment. Professor Lam said they had applied inhibitors to both pathways in the laboratory and these resulted in cell death. "By removing the brakes, there will be a car crash and the cancer cells will die," he said.

"People think antioxidant supplements are safe. Now we have evidence that they are not good for health. For someone who does not yet have cancer, they may help the cancer to be initiated. For those with cancer or receiving treatment, it's possible that antioxidants may cause a recurrence. Anti-antioxidants may help to improve the prognosis but we do not have the data on that yet."

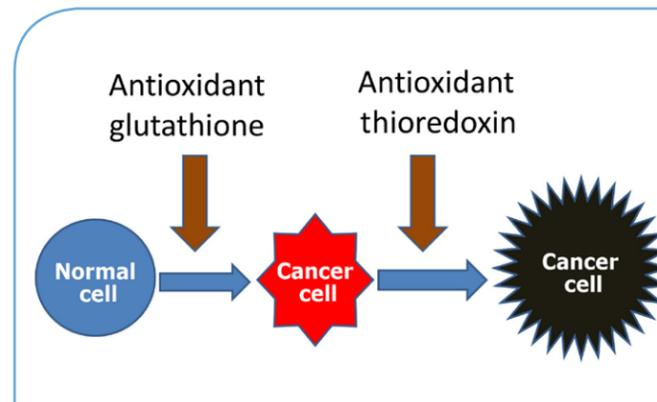
That is not to say that antioxidants should be eliminated from the diet. They are naturally occurring and they do serve multiple functions. The challenge will be in determining how much is safe.

Professor Lam anticipated that their findings, which were published in *Cancer Cell* last year with an accompanying editorial highlighting the results and which also earned him a Best Research Output Prize 2015 under HKU's

Strategic Research Themes – Development and Reproduction, would trigger widespread study and debate about the use of antioxidants in food and supplements and their potential regulation. ■



Professor Lam's findings were published in the journal Cancer Cell.



Glutathione and thioredoxin antioxidant pathways synergise to drive cancer initiation and progression.



Professor Lam (right) was presented with the Best Research Output Prize 2015 at the Symposium on Stem Cells, Reproduction, Development and Disease 2015.



Dr Wallace Lim Boon-leong (left) with his former PhD student Dr Law Yee-song (right) from the School of Biological Sciences.

A GENE OF PRODUCTIVITY

Botanists in the School of Biological Sciences have uncovered a technology to make plants grow faster, and their discovery has implications for alleviating climate change, reducing food shortages and enhancing the production of biofuel.

The team's approach is two-pronged: one, enable plants to grow faster – with the implication of cultivating more food; and two, because the plants grow faster, the rate at which they absorb carbon dioxide also increases – with the implication for thereby reducing CO₂ in the atmosphere.

Led by Dr Wallace Lim Boon-leong and his former PhD student Dr Law Yee-song, the team identified Purple Acid Phosphatase 2 (PAP2) as a gene that promotes plant growth. By over-expressing it in two energy-generating organelles of plant cells, chloroplasts and mitochondria, they promoted faster cultivation. In the tests, the model plant *Arabidopsis thaliana* not only grew faster but its seed yield increased by 38 to 57 per cent.

"Chloroplasts carry out photosynthesis, a process that fixes CO₂ in the atmosphere into sugars using solar energy," said Dr Lim. "The sugars are then used for plant growth, or consumed by mitochondria to produce adenosine triphosphate (ATP), an important energy source for many cellular processes. Basically, the process produces higher sugar so plants grow faster."

He noted that PAP2 homolog is found in the genomes of all plant species, as well as in photosynthetic green algae in the ocean. "Algae absorbs a great deal of CO₂ in the ocean," he said. "Hypothetically, if we could make algae grow faster, thereby increasing their amount in the ocean, we could absorb more CO₂. However, since it would involve

genetic modification of algae, I don't think people would agree with this strategy."

Dr Lim explained that his team made the discovery about the gene almost by accident. "While doing other research on other PAPs we noticed that PAP2 is unique because the protein sequence has an additional tail not found in other members of this gene family. I was curious about it, so we tried to over-express it in a model plant and to our surprise the plant grew faster. The big question was why?

"We worked out that the tail enabled it to anchor on to the outer membranes of chloroplasts and mitochondria," said Dr Lim, adding: "Sometimes scientific discovery comes



“ Sometimes scientific discovery comes from nowhere! Since the PAP2 [Purple Acid Phosphatase 2] gene is found in most plants and in algae, you could call it a ‘gene of productivity’.”

Dr Wallace Lim Boon-leong

from nowhere! Since the PAP2 gene is found in most plants and in algae, you could call it the ‘gene of productivity’.”

Biofuel breakthrough

It may be possible to use PAP2 to quicken the growth cycle of trees for paper or fuel, and it has other possibilities too. Dr Lim's team also used it to promote growth in *Camelina Sativa*, a crop that is being used to create biofuel. "If you squeeze the seeds, lipids come out and these can be converted to biofuel," he said. "Japan Airlines has tested *Camelina*-based biofuel in the Boeing 747-300, and the US Navy has tested it to fly the F/A18 and MH-60S Seahawk."

Following this research on *Camelina* growth, US company Agragen has licensed the technology and will test plant growth in the field. Dr Lim's team did the experiments in model conditions, but rigorous outside testing needs to be done to see if it is vulnerable to disease and field conditions.

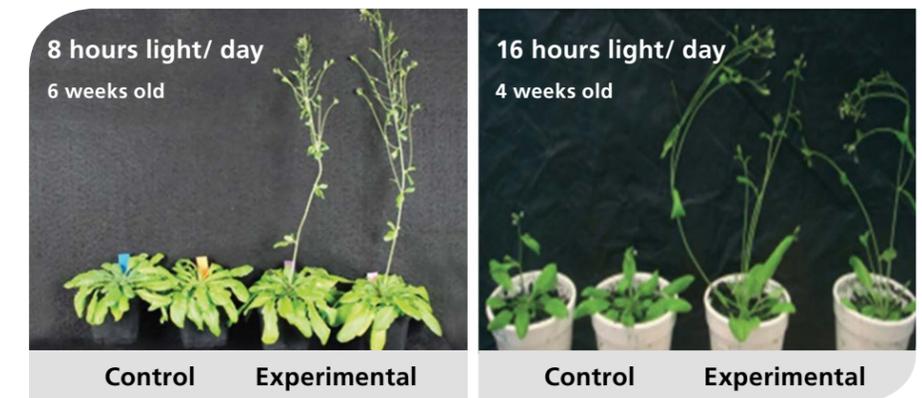
"We don't have the resources – either in terms of funding or manpower – to test it properly here," said Dr Lim. "But if it all works and receives the required approval from the USDA (United States Department of Agriculture) and the USEPA (United States Environmental Protection Agency), then it will be possible to reduce carbon emissions in planes. This is important because, while we can have electric cars, we can never have electric planes – too heavy!

"*Camelina Sativa* biofuel reduces CO₂ emissions by 80 per cent. It does this as follows: when growing as a plant, it absorbs a lot of CO₂, when burned as fuel it emits CO₂. But the point is it absorbs CO₂ in the first place – fossil fuels do not absorb CO₂ – just

emit it when they are burned. So here at least there is a cycle."

The findings have been published in eight journals including *Plant Physiology*, *Biofuels*

and *Biotechnology*, and Dr Lim reported the findings at two international conferences including the Conference for Plant Mitochondrial Biology held in Poland last year. ■



Arabidopsis over-expressing PAP2 (Experimental) grew faster than the control plants (Control) under both short and long days.



Arabidopsis over-expressing PAP2 (Experimental) matured faster and produced 38 to 57 per cent more seeds than the control plants at full maturity.



SOUND AND VISION

Advances in the speed and image quality of ultrasound technology are enabling linguistic experts and speech and hearing scientists to ask new questions about how infants learn to articulate speech and why some experience difficulties.

Why is it some children find it difficult to enunciate certain sounds in their native tongue? In crossdisciplinary research, the Department of Linguistics and Division of Speech and Hearing Sciences are looking to answer this question via an ultrasound investigation of the acquisition of speech articulation in Cantonese, Putonghua, and English.

The research is being led by Linguistics Professor Diana Archangeli, whose focus is on what this reveals about language acquisition in general, and Dr Carol To, from the Education Faculty's Division of Speech and Hearing Sciences, who is looking at how the results may help to develop new techniques in treating articulation problems in individuals with speech sound disorders.

"The advantages to using ultrasound to investigate are that it's a medical device, people are familiar with it and therefore comfortable that it's safe," said Professor Archangeli. "Ultrasound imaging used to work at 30 frames a second, now it can go over

100 frames per second and the images are much clearer. We need such speeds as the tongue can move very fast. As the technology has improved, so we have been able to ask more precise questions."

Ultrasound equipment is also portable – making it useful for classroom demonstrations or tests and easy to take overseas for remote

investigations. "With my post-doctoral research fellow Dr Jon Yip, we have taken ultrasound equipment to remote parts of the world, such as Guwahati in India and Lombok in Indonesia," she added.

Language experiments are conducted by placing the ultrasound probe under the chin of the subject, giving a clear image of the



“Ultrasound and linguistics is an exciting field to be in right now – we discover new things all the time.”

Professor Diana Archangeli

tongue's movement. "Ultrasound works by issuing high-frequency sound waves which continue until they reach an echogenic barrier, a big enough change in density for the echo to be identified by the machine," she explained. "The difference between the density of the tongue and the air above it is big so we get a sharp image of the surface of the tongue. Then we can see exactly how the tongue moves to form sounds and speech."

Articulatory problems

The Research Grants Council (RGC)-funded research project focusses on sounds that are hard to pronounce for first language learners in three languages – English, Cantonese and Putonghua. In English, for example, some children have trouble with the R sound, and differentiating between L and Y. In Cantonese different sounds are challenging, such as T and K. The aim is to work out using ultrasound what children who have difficulties are doing in their effort to master the appropriate sounds.

"When I'm asked to explain what we're doing, I always use the example of babies' arms," Professor Archangeli said. "When infants are

born, their heads are big and their arms are small – when they grow up that changes dramatically. In the same way, a newborn baby's tongue nearly fills its mouth [there are theories that this is to facilitate suckling]. The rest of the infant's body grows rapidly, while the tongue grows slowly so it becomes smaller in proportion to the mouth.

"So an infant trying to talk has to figure out how to sound right while its body is changing. So, what we are asking here is: do the ones who are not articulating correctly sound wrong because their acoustics aren't right, or because they are doing the wrong thing?"

"As an infant, my son couldn't sound his Rs, and I was told he would grow out of it. Some children do, but he did not, and later on had to have three years of speech therapy. If our research pans out, perhaps it will be a way of diagnosing kids who would benefit from early therapy."

The research groups are divided into two – youngsters aged three to four and a half, and those aged five to nine. The ultrasound images of their tongue movements are compared with those of adults who are articulating correctly.

Graphs show where there are differences in tongue movement. Some are markedly different. The research is about to move to the next stage – the technical analysis, for which the team will be drawing in physics expertise.

This is a relatively new area of linguistics research. Professor Archangeli enthused that the people within it are very proactive and involved. She recently gave her paper *Ultrasound for Language Research* at the Linguistics Society of Hong Kong Annual Research Forum, and in 2015 Hong Kong University played host to Ultrafest VII, a conference that's been held around the world since 2002 for people who use ultrasound for language research.

"It was a really fun conference," she said. "Because this is such a niche market the atmosphere was more like a laboratory group than a conference. During talks people really engaged, helped each other solve problems, suggested ways forward. Everyone came out so inspired about how they can better their own work. Ultrasound and linguistics is an exciting field to be in right now – we discover new things all the time." ■



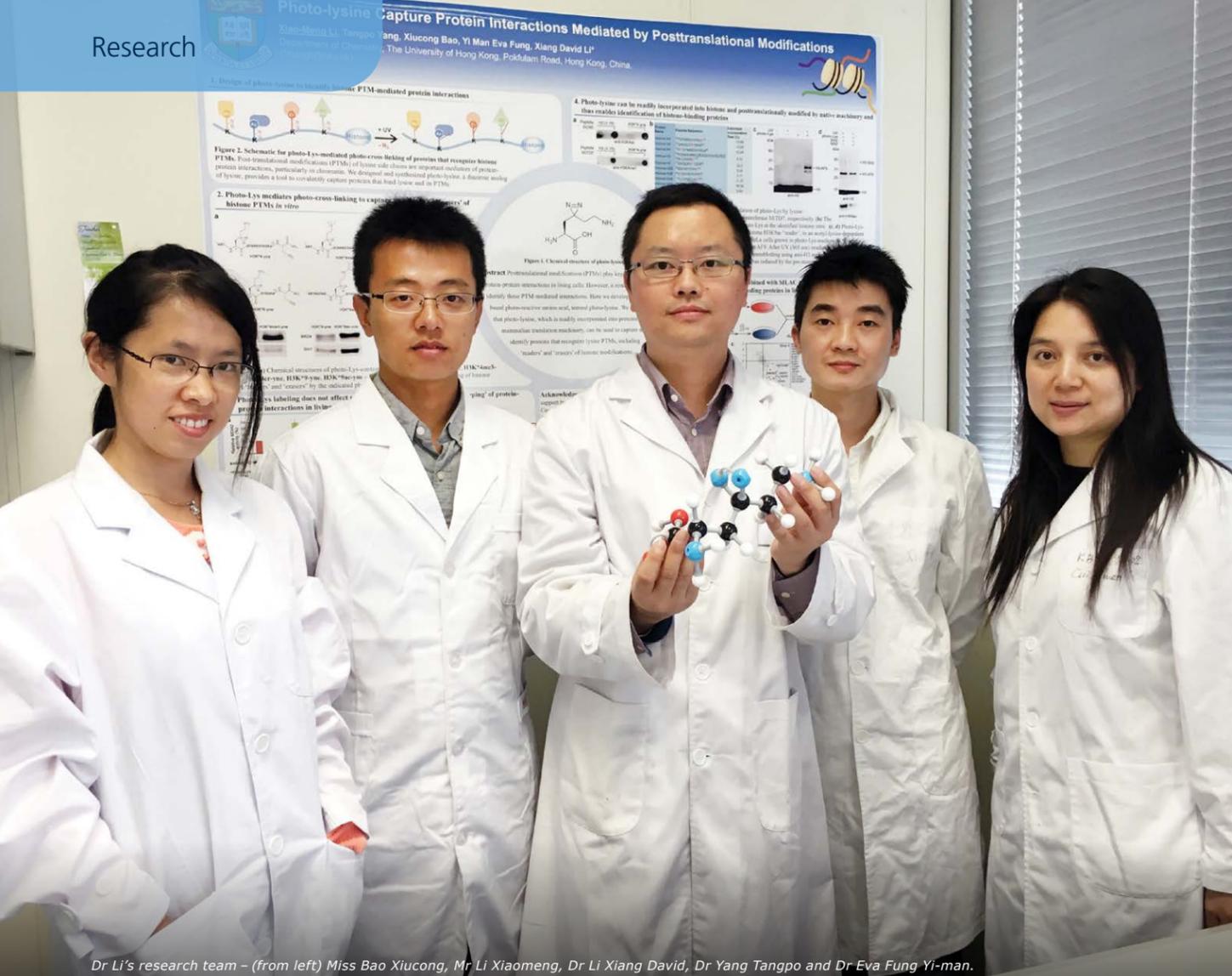
Ultrafest VII at HKU in December, 2015.



Professor Archangeli (left) and Dr Jon Yip (right) collecting data from a subject in Mataram, Lombok, Indonesia.



Professor Archangeli gave a workshop on ultrasound methods and results, in advance of Ultrafest VII, at the Linguistic Society of Hong Kong Annual Research Forum, to give locals a better understanding of the research methods before the conference took place.



Dr Li's research team – (from left) Miss Bao Xiucong, Mr Li Xiaomeng, Dr Li Xiang David, Dr Yang Tangpo and Dr Eva Fung Yi-man.

DECIPHERING PROTEIN INTERACTIONS

A chemical tool has been developed to study protein interaction within a cell, giving hope for understanding the disorders in cellular networks that can spark severe diseases such as cancer and Alzheimers.

Dr Li Xiang David of the Department of Chemistry led the research team that developed and synthesised the chemical tool – an unnatural amino acid called photo-lysine – which is sent into the cell network to survey cellular protein interactions. Put simply, it enables them to decipher complex protein networks.

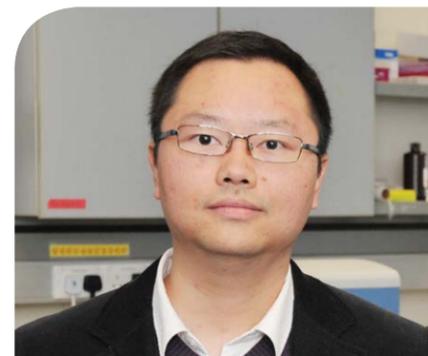
“When added into the cell culture medium,” explained Dr Li, “the photo-lysine incorporates

itself into the cellular proteins without disturbing normal cell function. The photo-lysine-labelled cells are then exposed to UV light for a couple of minutes to ‘trap’ all protein-to-protein interactions. This is possible because photo-lysine carries a light-activated capability, diazirine.

“Proteins interact with each other to cooperatively regulate essentially every cellular process,” said Dr Li. “The protein-to-protein

interaction may not be strong and it may not be stable, but we make it stable by trapping with a chemical bond. The interactions can then be examined and interpreted.”

When coupled with the latest mass spectrometry-based proteomics techniques, Dr Li's laboratory were able to identify protein interactions – some known, others hitherto undiscovered – that are important for the regulation of essential cellular processes such



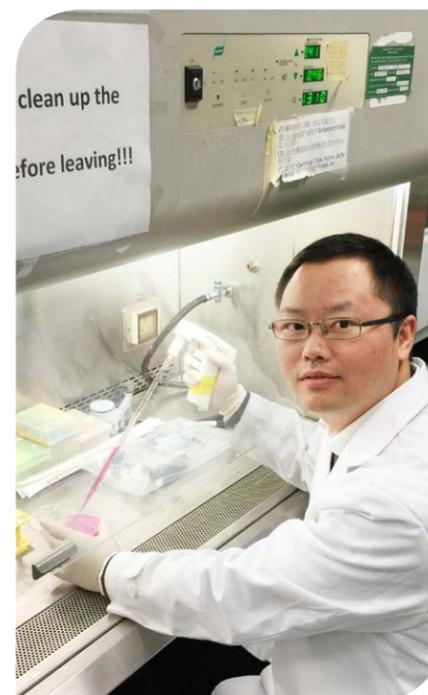
“It's a very useful research tool, which crosses myriad fields of research and can be used for long-term study. Already, many laboratories have asked us for photo-lysine – we've had requests for the compound from the US, Germany and Mainland China.”

Dr Li Xiang David

as gene expression, signal transduction and metabolism.

Mapping proteins and their interactions has until now been a fundamental challenge in modern biology, and the implications are far-reaching as the tool has applications for many areas of study, as well as for disease diagnosis and therapy.

“This method can be used to study whatever protein you want for whatever purpose,” said Dr Li. “It's a very useful research tool, which crosses myriad fields of research and can be used for long-term study. Already, many laboratories have asked us for photo-lysine – we've had requests for the compound from the US, Germany and Mainland China.”



Dr Li is adding photo-lysine into a cell culture dish to study protein interactions in living cells.

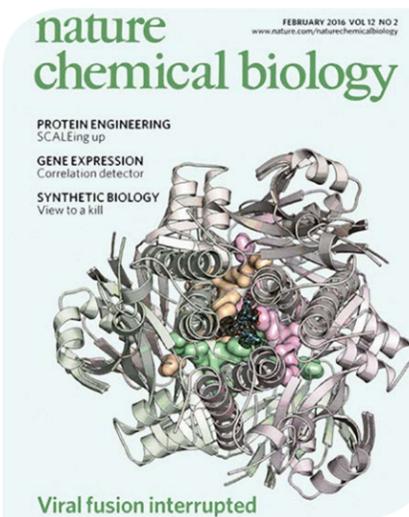
Dr Li's laboratory is focussing on taking a chemical approach to discovering biology. “Biology is very complicated, chemistry is too,” he said. When traditional biological methods don't work, chemical methods may shed new light on our understanding of its complexity.”

Chemical epigenetics

The laboratory is using this method to further explore histone epigenetics, which looks at the biological significance of histone modifications. Histone proteins serve as a structural scaffold for DNA packaging, and modifications of histones play key roles in the regulation of gene expression, repairing damage to DNA and other cellular processes involving access to DNA.

“What makes cells in our bodies so different from each other, given that they have same DNA? For example what makes a stem cell a stem cell, a neuron a neuron?” said Dr Li. “This question is important, not only because it tells us the fundamental mechanism that controls the normal function of our body, but also it has implications for why and how we may have severe diseases such as cancer.

“DNA is highly compact, it is wrapped around histones. A variety of modifications are present on histones. These modifications can serve as a heritable ‘code’ (so-called ‘histone code’), which provides information that a mother cell can pass to its daughters. Histone code is ‘written’ or ‘erased’ by enzymes, while ‘readers’ of histone code recognise specific histone modifications and ‘translate’ the code by executing distinct cellular programs necessary to establish the diverse cell phenotypes (for example, to make a neuron a neuron and a stem cell a stem cell). So the question is: what recognises what? To decode histone code we need to look at the protein-to-protein interactions and capture the



Dr Li's findings were published in the February 2016 issue of Nature Chemical Biology.

interaction partners – hence the use of photo-lysine.”

Such is the scope of photo-lysine applications that there has already been much interest in Dr Li's research, including from some areas he was not expecting. “People in the School of Public Health have asked me to give a talk to a group of virologists,” he said. “Because of SARS, there is particular research interest in Hong Kong in infectious diseases. Since the first step of infection is interaction between cells, photo-lysine may be able to help determine questions such as, which are the receptors of SARS/flu, and how does the bacterial or viral cell interact with the human cell when the infection happens? What is the interaction?” Hopefully, photo-lysine may help answer many questions concerning pathogen host interaction.

Dr Li's findings were recently published in a top-class scientific journal *Nature Chemical Biology*. ■



MINORITY REPORT

The first ever comprehensive report on the status of ethnic minorities in Hong Kong is shining a light on how the city has systematically neglected this group, and is making the Government sit up and take notice.

The Status of Ethnic Minorities in Hong Kong 1997–2014, released in September 2015, is the first coherent report reviewing research on ethnic minorities and making recommendations for future areas of focus for policy-makers, employers and educators.



“Some 34 per cent of young can't find work, which is way above the overall unemployment rate of 3.3 per cent. For women, the situation is even worse.”

Ms Puja Kapai

Commissioned by Shalini Mahtani, Founder of the Zubin Foundation, a non-profit-making think tank focussing on social issues that are being neglected in Hong Kong, the report was compiled by Ms Puja Kapai, Director of HKU's Centre for Comparative and Public Law.

It has already attracted significant interest from policy-makers, including Hong Kong's Chief Secretary Mrs Carrie Lam, who met with the two women in December, 2015 to learn about the key findings of the study and asked them to present those findings and recommendations to the Commission on Poverty in January this year. “This is a big turnaround,” said Ms Kapai. “In September, 2015, the Government didn't even send a representative to the launch of the report. Now, however, with non-governmental organisations (NGOs) and numerous movers and shakers talking about this Report, it is very interested.”

The report focusses on the six largest ethnic groups in Hong Kong – Pakistani, Indonesian, Thai, Indian, Filipino and Nepalese (excluding the ‘White/Caucasian’ group) and looks into areas of life as diverse as education, employment, health and crime.

The main reason for putting it together was that no such comprehensive record existed and Ms Kapai repeatedly found that when she wished to discuss ethnic minority problems – be it women's issues, discrimination, education

inequalities or domestic violence – the relevant policy-makers would always ask for proof that such a problem even existed.

“The data deficit is deplorable,” said Ms Kapai, who was born in India and brought up since infancy in Hong Kong. “Any city that claims to be an advanced, first-world city should be demonstrably able to show that there is equality within its society. Yet this information is not in publicly available statistics. How can you improve a situation if there is no data telling you what the situation is? We need to be able to draw connections in order to develop sound policy – this impacts governance.”

The report is a collation of existing research of academics and NGOs and the data gleaned from the Census and Statistics Department. What is new is the analysis. “For the first time we can demonstrate there are clear policy gaps that impact ethnic minorities negatively,” said Ms Kapai. “The findings, which disaggregate the performance in different areas of life by ethnicity, highlight that different ethnic groups fare differently. Targeted policies that are particular to individual groups' specificities are required to address the needs of individual ethnic groups.”

One of the most critical areas highlighted was education. “Here, Hong Kong is failing on nearly every level,” she said. “Fewer ethnic

minority kids go through pre-primary (as these are all privately run), so they are more likely to start their education late and are more likely to drop out.”

She clarifies that in some areas of education money is being poured in, particularly Chinese education for non-Chinese-speaking children. “While that's commendable, there is no balance. Other areas, such as under-employment are being completely ignored.”

Low employment levels are another area of concern. While this is partly a result of poor education, the primary barrier to finding employment is a lack of Chinese language skills. “Some 34 per cent of young can't find work, which is way above the overall unemployment rate of 3.3 per cent,” said Ms Kapai. “For women, the situation is even worse. Lack of employment or employment in low-skilled jobs also means that poverty levels are high for ethnic minorities. Around 32 per cent of children from these families are living in poverty. It's a vicious cycle.”

Domestic violence among ethnic minorities is another problem the report has highlighted. It is an area in which Ms Kapai is doing research and she believes it is critical – a “ticking time bomb that cannot be ignored”.

The report also highlighted recent studies which reveal that there is a ‘racial hierarchy’ in Hong Kong. “Basically, the darker you are the greater the prejudice you face and the lower you fit in the hierarchy. Although interestingly – given this shade bias – Africans are not bottom of the hierarchy, Arabians are,” she said, adding: “The term ‘Arabian’ itself suggests naivete at best and ignorance at worst. Who exactly does ‘Arabian’ refer to?”

Positive impact

While many of the findings are negative, the report also focusses on positives in its recommendations, and suggests areas where ethnic minorities may have a positive impact. “Hong Kong has an ageing population and low birth rate,” explained Ms Kapai. “The ethnic minority profile is the opposite – lots of children being born and few aged. So there is a potential there for labour supply in the future, when Hong Kong will need it. Hong Kong's well-being could be with ethnic minorities, so it makes sense to help improve their lives now.”

Recommendations include developing measures to ensure that ethnic minority populations have a say in the community.

“We would like to introduce a diversity lens to ensure every policy and decision made is evaluated for its impact on ethnic minority groups. This would ensure everyone's needs are being represented,” said Ms Kapai. “Ethnic minorities form 6 per cent of the population, so we propose that 6 per cent of every committee should be made up of people from ethnic minorities. The Zubin Foundation is now preparing a list of suitable candidates for such positions which it is hoped the Government would consider drawing from for its committees.”

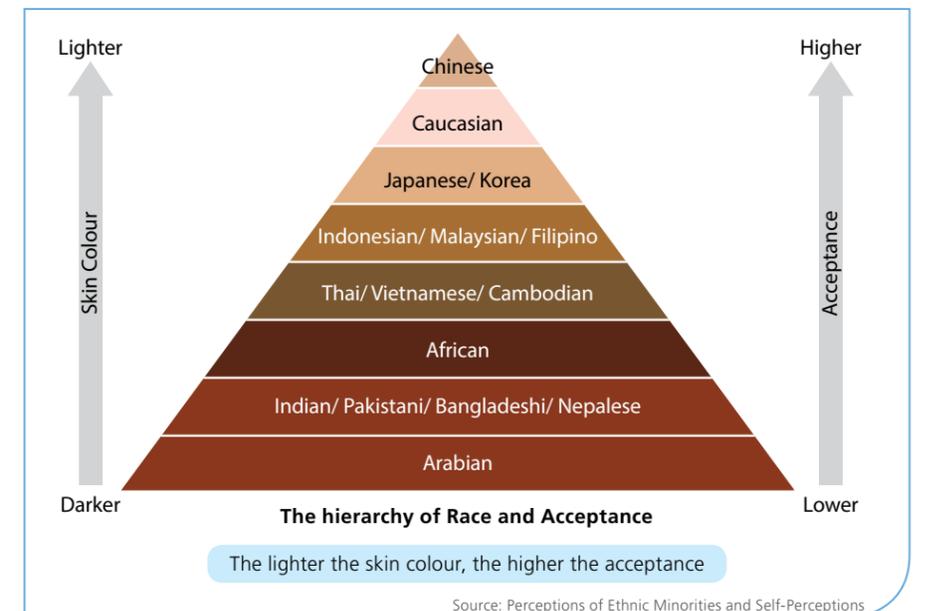
The report has certainly stirred up the pot. On the day of the interview Ms Kapai had just come from a Consul-General roundtable

meeting – and was arranging further meetings with chambers of commerce. Local television channel TVB was filming a documentary report on the Nepalese community as a result of the findings, and there has been extensive media coverage of the issues raised.

More meetings with the Government are on the cards. “We asked Carrie Lam if we could meet her regularly and suggested twice a year,” said Ms Kapai. “She said I will meet with you any time you want to discuss anything. That's very encouraging. It suggests the Government is now at least aware of the significant problems and trying to do something. That's a positive outcome and very important.” ■



Hong Kong's Chief Secretary Mrs Carrie Lam (centre), meeting with Ms Shalini Mahtani (left) and Ms Puja Kapai (right).



A pyramid illustrating the racial hierarchy in Hong Kong.

195th Congregation

第一百九十五屆學位頒授典禮



From left: Council Chairman Professor the Honourable Arthur Li, Dr Mary-Claire King, Professor Lap-Chee Tsui, President Peter Mathieson, Dr Victor Joseph Dzau, Dr the Honourable Elsie Leung Oi-sie, Dr the Honourable Lui Che-woo and Pro-Chancellor Dr the Honourable David Li Kwok-po.

HONOURING THOSE WHO GIVE BACK

The 195th Congregation of the University of Hong Kong conferred Honorary Degrees on five individuals who are not only outstanding in their fields, but have also applied their abilities to benefit wider society.



The individuals are cardiologist and global health care leader Dr Victor Joseph Dzau, geneticist Dr Mary-Claire King, geneticist and HKU's 14th Vice-Chancellor Professor Lap-Chee Tsui, Hong Kong's first Secretary for Justice Dr the Honourable Elsie Leung Oi-sie and businessman and philanthropist Dr the Honourable Lui Che-woo.

Professor Tsui delivered the acceptance speech on behalf of the Honorary Graduates, in which he noted that globalisation had greatly increased the demand for individuals with multiple skills who could innovate and lead. This made it incumbent that universities not only create and transmit knowledge and train competency in their students, but also instil value in the next generation of leaders.



Professor Tsui, who led HKU from 2002 to 2014, noted that his proudest achievement here was "building a cohesive university family of staff, students, alumni and friends" and he encouraged the University family to continue to work together and achieve excellence.

"When I was here at HKU, I had a group of absolutely brilliant and hardworking staff, both academic and non-academic, and a bunch of most loyal alumni and highly supportive friends," he said.

"I am sure you will work with Professor Mathieson in the same spirit of partnership and commitment that you did with me, and I look forward to seeing this great university of Hong Kong continue to go from strength to strength in the years to come."

A VISION FORGED IN CHILDHOOD

Dr Victor Joseph Dzau

Doctor of Science *honoris causa*



Dr Dzau, the President of the National Academy of Medicine in the United States and Vice Chair of the Governing Body of the National Research Council, is a renowned physician and scientist who has the rare distinction of making an impact in two fields: cardiovascular medicine and genetics, and health care innovation and global health.

These achievements are significant in their own right, but Dr Dzau also transformed the field of cardiac regeneration through his work on the rennin angiotensin system in cardiovascular disease and gene therapy for cardiovascular disease. His research has benefited many people suffering from heart and blood vessel disease, ranging from hypertension to heart failure.

A guiding principle in Dr Dzau's work has been to embody the concept of translational medicine, from 'bench to bedside', and to give back to society by bringing his understanding of health, social inequality, clinical practice and science to the policy arena.

The latter in particular was influenced by his childhood experiences. Dr Dzau was born in Shanghai in 1945 and his family fled in 1950 to start a new life in Hong Kong. Years later, his post-war experiences fed his passion for addressing global health inequality. At Duke University, where he is Chancellor Emeritus and James B Duke Professor of Medicine, he helped to launch the Duke Global Health Institute, among other initiatives. He has also advised many governments, companies and universities, serves on the Board of Health Governors of the World Economic Forum, and recently received the Project HOPE Global Health Partner Award for his contributions to global health care services.



A GENETIC SLEUTH AND PIONEER

Dr Mary-Claire King

Doctor of Science *honoris causa*



Geneticist Dr King has made a career of putting forth radical ideas that then become conventional wisdom and has used her considerable talents to not only inform medicine, but also advance human rights issues.

Her groundbreaking work started with her doctoral thesis at the University of California at Berkeley, where she proved that humans and chimpanzees were genetically 99 per cent the same.

She then followed a hunch that cancer could be genetic, at a time when a viral explanation was favoured, and became the first to show that breast cancer is inherited in some families through mutations in the gene she named *BRCA1*. This important work facilitated and encouraged early screening in women for breast cancer. Since 1990, Dr King has also collaborated with other scientists to identify the genetic causes of hearing loss and deafness.

Dr King has also applied her knowledge of genetics to human rights causes. She has worked with numerous human rights organisations to identify, through DNA testing, missing persons in Latin America, the Balkans and the Philippines, and has assisted the United Nations' war crimes tribunals.

Dr King has said: "We are extraordinarily fortunate to be living in this era of exciting discoveries and rapid scientific advancements in human genetics. There has not been a more exciting time since Gregor Mendel counted smooth and wrinkled peas and Charles Darwin tended finches." Her work has added to the excitement by changing critical thinking about the genetics of common complex diseases.



HKSAR'S FIRST SECRETARY OF JUSTICE

Dr the Honourable Elsie Leung Oi-see

Doctor of Social Sciences *honoris causa*



Dr Leung is a third-generation Hongkonger who knew from her school days that she wanted to be a lawyer. In the early 1960s the only route was to article for five years with a local law firm and, needless to say, there were very few women lawyers at the time. She went on to succeed in her field well beyond these simple beginnings.

She was admitted as a Hong Kong solicitor in 1968 and apart from law, took a keen interest in public service and politics. She worked with disadvantaged people through such organisations as the Hong Kong Federation of Handicapped Youth and the Hong Kong Family Welfare Society, helped to establish the Hong Kong Federation of Women Lawyers, and became a Founding Member of the Democratic Alliance for the Betterment and Progress of Hong Kong. She also found time to complete her LLM at HKU in 1988, graduating in the first cohort of that programme.

Her involvement in the community led to Dr Leung being appointed a delegate to the Guangdong Provincial People's Congress from 1988 to

1993 and to the National People's Congress (NPC) from 1993 to 1997. In 1997 she was appointed the first Secretary of Justice of the Hong Kong Special Administrative Region (HKSAR), a position she held for eight years. She had the enormous task of ensuring the smooth transition of sovereignty and the implementation of the *Basic Law*, Hong Kong's mini-constitution, and she handled the many demanding and controversial issues with determination and integrity.

Dr Leung currently is the Deputy Director of the HKSAR Basic Law Committee under the NPC's Standing Committee. As such, she continues to contribute to Hong Kong's development.



LEADING BY EXAMPLE

Professor Lap-Chee Tsui

Doctor of Science *honoris causa*



Professor Tsui has had two careers in academia and in both he has demonstrated remarkable talent and achievement. He made his mark as a molecular geneticist at the Hospital for Sick Children in Toronto, where he identified the gene that caused cystic fibrosis, and he made his mark as the Vice-Chancellor of HKU, where for 12 years he steered the University through an exciting period of change and achievement.

Professor Tsui has said that his painstaking work on cystic fibrosis was analogous to trying to find a particular house in the world without knowing which continent it was on – he and his team eventually discovered that just three of 250,000 base gene pairs were missing among those suffering from the illness. This major breakthrough in human genetics contributed to treatment strategies for those afflicted. It also made Professor Tsui prominent in the field and he was President of the Human Genome Project from 2000 until 2002, when he joined HKU.

Here at the University, he is warmly regarded for his vision and leadership as Vice-Chancellor. He made internationalisation a priority, both in student recruitment and research. He also oversaw major changes including the expansion to a four-year curriculum from three years and the building of the magnificent new Centennial Campus.

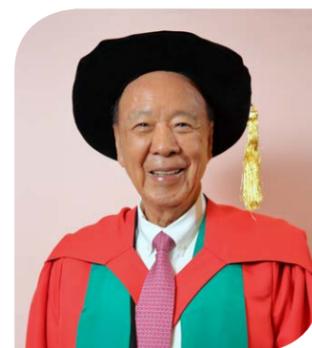
Professor Tsui also was a great advocate of academic freedom and freedom of speech, and encouraged staff and students to use their talents to help those less privileged and to pursue civic engagement. In the University community, he is fondly regarded for his modesty and integrity, and for being a leader who stands behind his team.



PHILANTHROPY FOR THE FUTURE

Dr the Honourable Lui Che-woo

Doctor of Social Sciences *honoris causa*



Fate denied Dr Lui a proper education. He managed to make his fortune through an entrepreneurial spirit and a keen eye for a good opportunity, but he continued to nurture an appreciation for education and its contribution to society's advancement.

Dr Lui was born to a well-off family in Guangdong in 1929 but in 1934 they were forced to flee to Hong Kong. His schooling here was cut abruptly short by the Japanese invasion in 1941 and by age 13 he was selling snacks on the street. After the war he took evening classes and became a stock-keeper in a car parts shop, eventually becoming the shop owner. Then, just after the Korean war, a friend mentioned the US army had left behind a great deal of machinery on Okinawa. Dr Lui bought it cheaply and from there, was on the road to great business success. In 1955 he founded K. Wah Company which, over the next 60 years, grew into one of Asia's largest conglomerates.

Dr Lui is now one of Asia's richest people, a privilege he has used to further his philanthropic interests. He has been especially supportive of

health care, education and information technology. At HKU he was a Founding Honorary Patron of the HKU Foundation and has made substantial donations.

More recently, Dr Lui established the Lui Che Woo Prize – Prize for World Civilisation in 2015 to award outstanding achievements in sustainable world development, the betterment of mankind, and the fostering of a positive life attitude and the enhancement of positive energy. In Dr Lui's words, the prize "is like sowing a seed and I sincerely hope that it will blossom one day to make the world a better place." ■





THINKING BIG

In a recent survey asking corporations to name the challenges they face regarding Big Data, most cited 'limited availability of skilled employees' as the number one problem. The Faculty of Science is doing its part to redress that shortage with the introduction of a new major in Decision Analytics.

"We have put together a highly comprehensive major that integrates computer technologies and statistical techniques to analyse data and formulate data-driven strategies," said Dr Philip LH Yu, Associate Professor in the



"We aim to teach analytics techniques that will help students work smarter by revealing underlying structure and relationships in large amounts of data."

Dr Philip LH Yu

Department of Statistics and Actuarial Science. "We want to equip students with the skills and expertise to leverage and manage Big Data in real time."

Big Data means information sets that grow so large or complex that traditional data processing applications are inadequate. Challenges include capture, storage, search, sharing, analytics and visualisation.

"The programme is interdisciplinary, combining maths, statistics and computer science – the data-handling side of it rather than the chips or hardware aspects," said Dr Yu. "It gives our students knowledge in handling and analysing Big Data so they can identify patterns and structures."

Rapid developments in computer and data storage technologies mean the fundamental paradigms of classical data analysis have become ripe for change. "We aim to teach analytics techniques that will help students work smarter by revealing underlying structure and relationships in large amounts of data," he said. "And to teach them how to make decisions based on their analysis of the data."

Dr Yu said that it all begins with data collection. Before technology, data were gathered by doing surveys or experiments. Data size tended to be limited, speed of analytics was slow and analysis very

structured. Now data are collected on a massive scale. The data can be unstructured, (that is, it does not have to be complete as it is possible to handle what is missing), and the analysis can be done in real-time, or, if not, certainly a lot faster than before.

"The major covers how to grab data from the web, and to work out if those data are representative," said Dr Yu. To illustrate the difference between old data and Big Data, he cites the example of taking photos. "In the old days, you bought a roll of film, and because it was relatively expensive you would take one shot of a scene, thinking about it carefully before pressing the shutter. You would have one observation of every scene. Now, with digital cameras and mobile phones, people take dozens of shots of the same scene. Therefore, it's essential to understand what data you are collecting. Is it one viewpoint or 1,000 viewpoints of the same scene? Just because the amount of information collected is big, does not necessarily mean it's useful."

Mining techniques

Now, data collection can be instant via wearable devices. It can also be long-term, for example health surveillance can be done over decades. "People are volunteering to wear devices that will monitor their health continuously over many years. This may help us make advances in our understanding of how

diseases such as cancer develop. We did a student project where we used travel data to look at visitor arrivals from Taiwan, and from that to forecast likely figures in the coming months," said Dr Yu. The analysis was made based on figures from the Hong Kong Tourism Board and by searching for key words in Google such as Hong Kong visa, Hong Kong hotels and Ocean Park.

"For visitors from Taiwan, these data sources were fine, but I point out to students that they must be aware of relevant outside factors when working out if a data source is appropriate. For instance, had we been trying to monitor visitors from China, we would not have been able to do it in this way as they can't access Google on the Mainland.

"We have a saying – 'garbage in, garbage out' – which means if the original data are not good, the analysis cannot be any good. You must be sure that the information you are gathering is representative and suitable to the task."

The major covers areas such as analysis of textual data, as well as data visualisation, or presenting information in ways that are instantly understandable. "Even the way data are presented is different now. Before you would draw a graph," said Dr Yu. "With Big Data you need more. One answer is infographics, data visualisation is another."

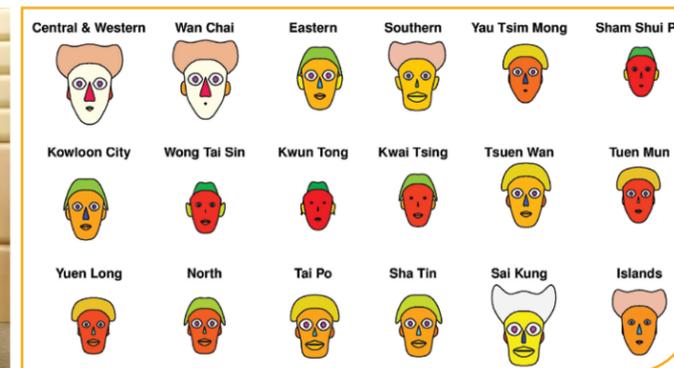
He recently published an article in the *Economic Journal* in which the 18 districts of

Hong Kong were depicted using parts of the head to represent different data. For example, the face represented median monthly household income, the mouth was average household size and the nose was the percentage of persons with secondary education and above. The resulting image meant you could see at a glance the basic demographic of areas of Hong Kong.

"Big Data analytics is an essential tool in today's world," said Dr Yu. "And the reason we use 'decision' in the major's title is because we want to equip our students with the means not only to understand and analyse, but also make decisions based on those analyses. How can the information be applied in policy-making, marketing, forecasting?"



Dr Yu (centre) with his Master of Statistics students.



Dr Yu depicts the basic demographic of areas of Hong Kong with parts of the head – the face represents median monthly household income, the mouth stands for average household size and the nose is the percentage of persons with secondary education and above.



FLIPPING THE CLASSROOM

Lectures are typically sit-and-listen sessions. But in Professor Rick Glofcheski's tort law classes, students do all the talking.

Professor Rick Glofcheski of the Department of Law is recognised as a very good lecturer. He has been honoured with teaching awards by HKU and the University Grants Council and consistently scores highly in student evaluations. But for all that, he has still found himself wondering – just how much do students learn in his lectures?

"Students say they love my lectures, but that doesn't mean they are learning anything. Research shows that after listening to something like a lecture, you only retain three or four per cent of what you heard. What does anyone really remember from the lectures in their undergraduate years? What they probably do recall is what they learned from

an assignment or project that they did," he said.

He decided to inject that understanding into his teaching and at the beginning of this academic year, redesigned the way he teaches his second-year tort law class.

Rather than sitting in a lecture theatre taking notes, students are expected to do a lot of that work beforehand. They watch online lectures recorded by Professor Glofcheski that are about half an hour long and cover the legal points that will be the focus of the class; they do readings (as they would do with regular lectures); and they do preparatory work such as finding and analysing a real-life example

that illustrates the point of law under discussion. So even before they come to class, they will already be thinking deeply about the topic.

For example, a recent session covered occupier's liability. The pre-class assignment was to take a photo of a sign related to that area of law and analyse it. "This was not just for fun – these cases go to court all the time. People fall and get hurt and the occupier, who could be a bank, a shopping mall, a university, will say they had a sign warning of the danger. Well, where was the sign? Was the warning understood? Was it posted in Chinese and English? There are a whole bunch of legal requirements to be counted



“What does anyone really remember from the lectures in their undergraduate years? What they probably do recall is what they learned from an assignment or project that they did.”

Professor Rick Glofcheski

before you can say the occupier satisfied their obligations.”

Real-world problems

On the day of the class, students are assigned to groups of five or six and told where to sit at Loke Yew Hall (chosen because it can accommodate the class of more than 260 students sitting around tables in groups). They share and discuss their photographs in their group, then the entire class is presented with a case drawn from a short newspaper report that reflects the legal area being studied – in the occupier's liability case, a story about an elevator repairman who died on the job. The students have to brainstorm and write up their legal analysis of the case, while Professor Glofcheski and tutors walk answering questions and providing guidance.

"This is called flipped learning. It's not really new, it's just new in higher education,"

he said. "When you were in primary school, you didn't take notes, you did activities. Here, students are coming to class and applying what they learned in problem-solving."

Student feedback has been very positive. Professor Glofcheski surveyed his students several times – at the end of last year and beginning of this year to gauge interest, and after the first flipped class in October – and in each case got overwhelming support for this approach.

Two videos about the session have been uploaded to HKU's teaching and learning pages and include student comments that reinforce the survey response. One student said: "You learn to juggle different opinions – very stimulating and unsought opinions – on the spot. And you also have to express your opinions in the best way possible." Another noted: "It was a very good way to apply what we have learned to real cases."

The use of real-life cases is central to Professor Glofcheski's pedagogy and he also adopts them in other courses and in assessments. The newspaper is a primary source. "I want students to see real-world problems as they would encounter them in their careers," he said, pointing to some headlines. "Couple held after young son put in boot of car", 'Helper has leg amputated after being crushed' – it's all tort law. It's there all the time but would anybody recognise it? Of course not. Even students and lawyers are waiting for somebody to tell them this is a tort law problem.

"If students can see issues on their own without being prompted, then they learn."

The opportunity to do that – and to take those observations to the next stage of legal analysis – is happening in his tort law classes. ■



Professor Rick Glofcheski shared his exciting insights on flipped learning with over 120 participants in a seminar on November 26, 2015.

JOURNEY INTO MADNESS

A Common Core course is helping students to deepen their empathy towards sufferers of mental illness and bring that understanding into their daily lives.



When Dr Paul Wong Wai-ching of the Department of Social Work and Social Administration was training to be a clinical psychologist 20 years ago in Australia, he noticed there was one standard way to understand mental illness: it was a problem of abnormality that needed professional treatment. And if sufferers did not get that treatment, they could harm themselves or others. "This was the message I was receiving from the first day I started studying psychology," he said. Now he is working to turn it on its head.

Dr Wong began teaching a broadening course a decade ago to share his research findings on suicide and help students identify and cope with stress, depression and suicidal thoughts. That course has been expanded into a Common Core course that probes even deeper, asking students to consider what is normal and providing them with the opportunity to spend time with people who suffer from mental illness.

"My major aim with this course is to raise students' awareness of mental health and equip them to look at themselves and others so they can see if someone might need help," he said.

"For example, one of the common myths of suicide is that people who kill themselves don't tell others that they want to do so. But that is wrong. A lot of them do tell others because they want help. But because of this myth, and because people don't understand mental illness, they end up being ignored.

"Relying solely on professionals to deal with mental illness and suicide issues is nonsense. How many people in a conservative society like Hong Kong turn to professionals when they



“ Relying solely on professionals to deal with mental illness and suicide issues is nonsense. How many people in a conservative society like Hong Kong turn to professionals when they are distressed? ”

Dr Paul Wong Wai-ching

are distressed? Instead sufferers rely on themselves or those who are near them, their families and friends and colleagues.”

The course explores notions of mental illness in different cultures and from psychiatric, psychological, sociological, public health, and traditional Chinese medicine perspectives, as well as how patients can help themselves and each other to recover after treatment.

First-hand experience

Students also consider the difference between mental health and mental illness by looking at what constitutes 'normal'. One of the guest speakers is a person who practises BDSM (bondage-domination-sadomasochism), which only recently was declassified as a mental disorder in the Diagnostic and Statistical Manual of Mental Disorders, a handbook used by professionals around the world.

A new element was also added this academic year in which students were offered direct contact with people who suffer from mental illness. Dr Wong found a willing partner, the Regeneration Society (RS), through HKU's

Gallant Ho Experiential Learning Centre (GHELC). The RS serves people with skin diseases but many of the users also suffer mental health issues such as depression and bipolar disorder.

The students worked in groups of 10 under tutors Martina Ambrose and Gizem Arat, and Dora Chow of the RS to either develop a half-day course for users based on their classroom learning about finding ways of being happier, or produce an information pamphlet about mental illness and distribute it on the street to raise awareness. There were 12 groups in total and each produced a short video covering their activity and student reflections on the experience. These are being collated by professional editors into videos that will be available to HKU's U-Vision, the GHELC and the RS.

Hadley Leung Hau-kwan, a first-year Business student, was part of a group that organised a session for RS's users. She said she met people she might not otherwise encounter, including a middle-aged woman who was recovering from depression and initially treated the students with suspicion. The woman later told

them how her sons had rejected her because of her depression and how important it was to have family support in recovery.

"Chinese society is conservative and it is seen as shameful to tell others you have mental problems," she said. "We rarely meet people with mental illness, so this experiential learning gave me an opportunity to play games with the patients and chat with them and hear their personal stories. I discovered they are just as normal as us and should not be discriminated against by society."

That kind of first-hand experience dovetails with Dr Wong's aims. "The literature tells us that one of the best ways to destigmatise mental illness is to learn about it and engage with people with mental illness. That is something I hope to achieve with this course," he said. He hopes in future to be able to develop it into an open learning course for the general public and thereby foster a more caring attitude toward mental illness in wider Hong Kong society. ■



Dr Wong's students are given opportunities to have direct contact with people who suffer from mental illness.



Students working with the Regeneration Society to promote the awareness of mental health.



ONE FOR THE LITTLE PEOPLE

Professor Danny Chan helps sufferers of skeletal disorders through his research in the Department of Biochemistry. Now he is helping in another way, as a Co-Founder of the Little People of Hong Kong Foundation to support patients and their families and lobby for acceptance in society.

Pre-schooler Nathan Fong was born with achondroplasia, or dwarfism. From his first months, his parents Serene Chu and Dennis Fong struggled with acceptance and understanding. The doctors and therapists they initially saw were not very familiar with the condition and did not know what to advise the family; they finally referred them to specialists at HKU. Then, as Nathan got older, local pre-schools were reluctant to admit him to their classes. He eventually was offered a place in an international pre-school.

Unfortunately, this is not an untypical situation for children with rare diseases like dwarfism, according to Professor Danny Chan who, with Ms Chu, helped to found the Little People of Hong Kong Foundation (LPHK) in 2013.

“One of the biggest problems is finding a school for these children. Most patients with dwarfism do not have any intellectual problems, they are just short. Even so, many schools reject them. They don’t want an odd student out and they worry about the special things they would have to do because the child may not be able to reach things or join sporting activities like other children.

“Many children with rare diseases experience this problem. It is very unusual to have a child who is physically disabled but intellectually fine in local schools. Very unusual.”

No definition, no help

Professor Chan has long been aware of the medical struggles endured by patients like Nathan. He joined HKU’s Department of

Biochemistry in 1998 from his native Australia and was struck by the lack of awareness here of not only rare bone diseases, but rare diseases in general.

The Hong Kong Government does not have an official definition of rare diseases, unlike other developed societies which typically classify a disease as rare if it affects about one in 10,000 people or less and offer programmes



Children with skeletal dysplasias are shorter and smaller, but with appropriate assistance from schools and society, they can grow and learn as happily as other children.



“ It is very unusual to have a child who is physically disabled but intellectually fine in local schools. Very unusual. ”

Professor Danny Chan

to support patients. That rate is per disease – there are thousands of known rare diseases.

Three years ago, Professor Chan started talking with colleagues about what they could do beyond medicine and research to help patients. Raising awareness seemed essential. He contacted local television channel TVB’s *The Pearl Report*, which then produced the programme ‘Orphan Diseases’ about the situation in Hong Kong.

During the filming, he met Ms Chu and suggested to her that they set up LPHK to bring families together and support each other. They also got support from a friend of Nathan’s family, the Master of St John’s College Dr Eric Chong, who provided them with an office space.

“I originally had wanted to focus on rare diseases in general but it’s too big a field so we started with rare bone diseases,” Professor Chan said. “We thought very hard about what we wanted to achieve and we decided that at the end of the day we needed to change the mindset of the people of Hong Kong and the Government.”

Spreading the word

Last spring they organised a symposium on how to promote awareness of rare diseases and accommodate these children in schools. The event was attended by more than 150 principals, teachers and students and Dr York Chow, the Chairperson of the Equal Opportunities Commission.

A high-table talk was also organised at St John’s College featuring two adults with rare bone disorders, one a stem cell scientist and the other a social worker. Connections were made in Mainland China through Dr Michael To Kai-tsun of the Department of Orthopaedics and Traumatology, who with Dr Brian Chung Hon-yin of the Department of Paediatrics and Adolescent Medicine treated Nathan Fong. Dr To introduced LPHK to the China Doll Association, which represents people with brittle bone disease, to discuss future collaboration and share experiences in running charitable foundations.

Early this year, LPHK also published a booklet targeting Hong Kong’s education sector, which was supported by HKU’s Knowledge Exchange

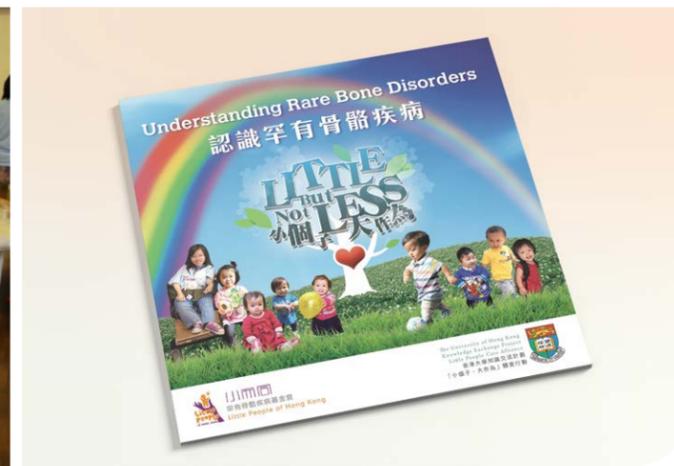
Fund. It showcases stories like that of Nathan, shows how schools can accommodate little people and highlights the achievements of adults with dwarfism.

Professor Chan is also a council member of the newly-established Hong Kong Alliance for Rare Diseases, which is working with different sectors of the community to raise awareness. They recently held fruitful talks with the representatives of the Hong Kong Children’s Hospital which is due to open in 2018.

“This has all been very rewarding for me,” he added. “As a scientist, I want to connect with the community and share what I can with them, not just sit in my office and laboratory. I am also fortunate to have a young, supportive team in my laboratory, in particular, Dr Wilson Chan and Dr Vivian Tam, who also help with all the activities of LPHK.” ■



HKU’s ‘Big Brother Big Sister programme’ aims at building long-term friendships between the junior patients and HKU students through a series of activities such as the cupcake fun day.



Professor Chan’s team, in cooperation with the Little People of Hong Kong Foundation, published a booklet to educate society with accurate information about rare bone disorders.

EDIBLE ROOF

Growing your own vegetables makes sense, but in Hong Kong's urban jungle few have gardens. Now the Division of Landscape Architecture has produced a manual for building and operating a productive rooftop garden that it hopes will not only result in people cultivating their own food but will also bring communities together.



The rooftop garden at HKU's Runme Shaw Building. (Courtesy of John Fung)

The launch of the book in January marks four years of hard work developing HKU's own edible roof. Mr Mathew Pryor, Head of the Division of Landscape Architecture, began developing the idea after an external examiner suggested there should be more practical elements to the Landscape undergraduate programme.



“In high-rise towers there is a defined community, and people are the essential ingredient in starting and maintaining any garden.”

Mr Mathew Pryor

“We launched a Landscape Practicum course in which students have to build a landscape project and one of our first thoughts was building a green roof. But, while green roofs have many benefits, they are often not easy to maintain. The idea of building a productive rooftop garden instead came about because I was working with the Feeding Hong Kong food distribution charity at the time and they were looking to add fresh produce to the other foodstuffs they give out.”

Mr Pryor collaborated with Ann Kildahl, HKU's Sustainability Manager, to find the ideal roof for the project. They chose the roof of the Runme Shaw Building on the Main Campus and, working with Landscape Architecture students, began to develop a 50-square-metre garden. “There were challenges,” said Mr Pryor. “The roof is only accessed by a narrow stairwell and everything had to be taken up by hand. We must have lugged several tons of soil up those stairs! But the garden has been a great success. Students involved in that initial garden have since graduated but some still return to help tend it.”

Next, the General Education (GE) Unit asked if they too could have a garden. “They got another organisation, Time2Grow, involved with that one, and built it alongside ours,”

said Mr Pryor. “The two gardens became the basis of the HKU Rooftop Farming Project launched in late 2013. Then there were third and fourth phase expansions, and now the garden is nearly 400 square metres.

Bringing people together

“A core group of eight or ten people tend it daily. While students are responsible for much of it, the volunteers also include colleagues from HKU's academic and non-academic staff from all over the campus. It has engendered a wonderful community spirit across all areas of the University.”

And if the labour is shared, so too is the produce. Some is given to the vegetarian restaurant on campus. Other food outlets donate to the garden, such as left-over egg shells and daily coffee grinds which help to enrich the soil. The gardeners also take some of the output from the Centennial Campus's high-speed food waste composting machine.

The garden was developed on two basic principles. First it had to be organic – no artificial pesticides or herbicides. And second, it is almost cost free. “Nearly everything has been donated, recycled, borrowed or begged for,” said Mr Pryor. “We build our own

planters, the soil has been donated by landscaping contractors, and people like the Hong Kong Gardening Society often give us seeds and plants.”

More than 40 different crops are currently being grown and the garden is also used for other purposes such as composting workshops, movie nights, sketching classes and visits by schools. Plus, it is the basis for *The Edible Roof – A Guide to Productive Rooftop Gardening*, the new book, which was funded by a Knowledge Exchange grant and is packed with key ‘how to’ information, including a chart indicating what to grow and when to plant it and advice on composting.

Bigger picture

It also includes information about other roof gardens in Hong Kong – where they are and who runs them. Mr Pryor began mapping roof gardens across the city for the book and this has led to a new direction of academic research – mapping all Hong Kong rooftops to see which have the potential to become productive gardens.

He wants to change government policy, which currently recognises only green roofs in green building coverage requirements. “We want to

say not green roofs, but productive roofs,” he said. “Productive gardens keep giving, and they have the potential to bring neighbours together.”

He is also working on a project at university level, with Mr Wayne Yau in Estates Office, Dr Sam Hui of the Department of Mechanical Engineering, Mr Fai Hui (an organic farmer and environmentalist who founded the Wildroots Organic Farm and GoGreenHongKong.com), Celeste Shai at the GE Unit, and Ann Kildahl.

“It was Ann's idea to compile a complete inventory of every roof on campus – size,

load-bearing possibilities, etc – and then work out how we can best use this space.” Mr Pryor is hoping to attract funding for this research in order to scale it up to city level.

The book is the first step: a technical guide so anyone has the information to do it themselves. “In high-rise towers there is a defined community,” said Mr Pryor, “and people are the essential ingredient in starting and maintaining any garden. It's an excellent way for everyone to get their hands dirty, grow something and enjoy a shared sense of purpose.” ■



The rooftop garden brings together students, academic and non-academic staff and alumni of the HKU community. (Courtesy of John Fung)



Mr Mathew Pryor's new book *The Edible Roof – A Guide to Productive Rooftop Gardening (2016)* published by MCCM Creations.



The spinal rod, made of a shape-memory alloy material, can deform inside the patient and exert a continuous force on the spine until it gets straight.

A START-UP WITH BACKBONE

The Department of Orthopaedics and Traumatology has developed new shape-shifting rods that offer a gentler option for correcting curvature of the spine.



Professor Kenneth Cheung (left) and Dr Kelvin Yeung (right).

Curvature of the spine, or scoliosis, affects up to four per cent of adolescents worldwide. While most cases are mild, in severe cases it can compress the lungs and internal organs and even shorten young lives. Surgery can help but it involves a tricky process of screwing rods into the spine and yanking the backbone into shape. Professor Kenneth Cheung Man-chee, Jessie Ho Professor in Spine Surgery, wondered, can this be done better?

“What we do now is pull the spine to align it with the two straight rods. I liken it to tying a bent tree to a post to support it. It works great in that the spine doesn’t curve anymore but the spine is a little bit stiff because of the rods,” he said.

“The problem is that if we pull too hard, it’s dangerous – there’s a spinal cord inside and you can paralyse the patient, or the screws could pull out and so on. But if we don’t pull hard enough, we don’t correct as much as we could. So it’s a fine balance between pulling too hard and not pulling hard enough.”

In the late 1990s Professor Cheung met Dr Jonathan Chung, a materials scientist from City University of Hong Kong who was working on a shape-memory alloy material that could change form. When cooled it could be bent but when warmed it returned to its original shape – and because it was super-elastic it always returned to the same shape no matter how much force had been used in bending it.



“ Current techniques are by brute force. This rod uses finesse, slowly, gently persuading the spine to straighten. If it becomes successful it will radically change the way we manage scoliosis patients. ”

Professor Kenneth Cheung

Professor Cheung saw the potential for use in the human body. “The thing about scoliosis in patients, some have small curves and others have big curves. Whenever we put something inside the patient we want it to be predictable. We decided to try to develop a spinal rod made of the shape-memory alloy that can deform inside the patient and exert a continuous force on the spine until it gets straight.”

One of Dr Chung’s promising undergraduate students, Dr Kelvin Yeung Wai-kwok, joined the Department of Orthopaedics and Traumatology as a research student and began work to develop such a spinal rod (he is now Associate Professor). After much trial and error, they now have a viable product and a start-up to support it, OrthoSmart Limited.

Magic rod

The rod has been trained to bend at around 10 to 15 degrees Celsius, so it can be manoeuvred into the body, but then to gradually revert to a straight shape at 37 degrees Celsius, the human body temperature. The slow rate of straightening means the body can adjust. “We call this a magic rod,” Dr Yeung said.

The rod has been tested in the laboratory, in animals and in a clinical trial in Hong Kong

involving 22 patients, half of whom were implanted with the rod. The patients were followed up for five years afterwards – against the standard for clinical trials of two years – and are all doing well. “We have gone longer to make sure that everything is safe. You don’t want to experiment in patients in a reckless way,” Professor Cheung said.

The next step is to take the rod to the commercial stage. OrthoSmart Limited has received funding under the TSSSU@HKU scheme and also has a business adviser, Dr Johnson Lau, an HKU alumnus who was previously a professor of medicine in the US and worked in the pharmaceutical industry there.

They have their sights set on the Mainland China market, but first there will be a multi-centre clinical trial there, which will also involve manufacturing the rods in China. Most of the funding has been secured and both men are keen to press ahead so this device can become available to those in need.

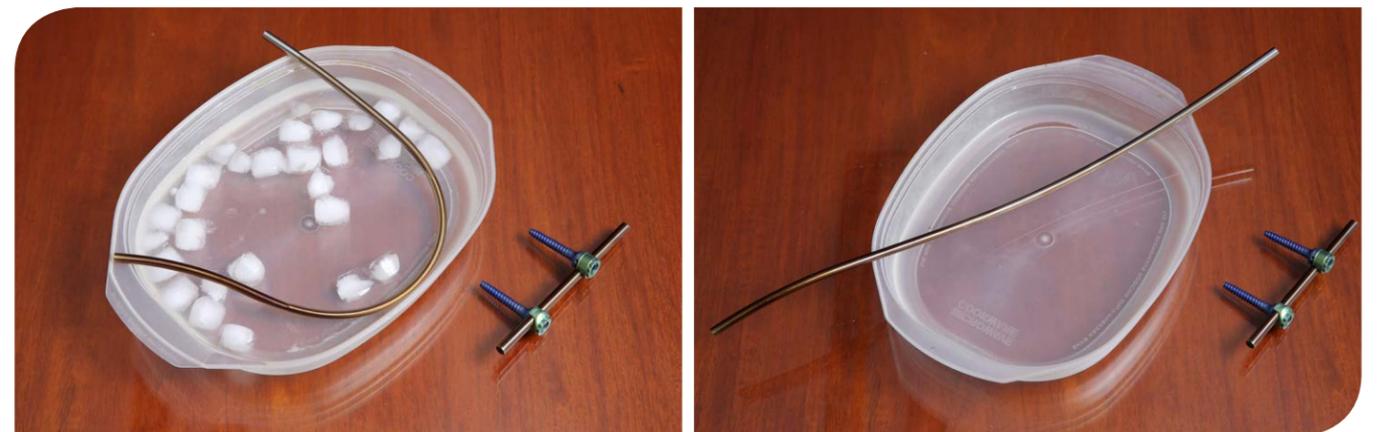
“China is a big place and it has a lot of patients who need surgery. We want to use the results from there to prove to the rest of the world that this is a good technique and that it can achieve better correction,” Professor Cheung said. “Current techniques are by brute force. This rod uses finesse,

slowly, gently persuading the spine to straighten. If it becomes successful it will radically change the way we manage scoliosis patients.”

Separately, the Department of Orthopaedics and Traumatology has also recently joined a collaborative project with experts from Canada, the United States, France, Japan and Singapore to study a new predictive model for adolescent idiopathic scoliosis, that would identify and treat patients early on – perhaps with the magic rod – so as to prevent the disease from progressing. ■



OrthoSmart Limited was established in 2014 to translate research findings to clinical use.



The spinal rod is made of a shape-memory alloy material that can change form. When cooled it can be bent (left) but when warmed it returns to its original shape (right).

LEGAL LIFELINE

Originally started to give law students practical experience and cultivate their *pro bono* ethos, the Clinical Legal Education programme has developed in new directions – sparking an innovative relationship between Legal Aid and HKU's Law Faculty and also becoming a lifeline for people who have been wrongfully convicted.



An advice session of the Free Legal Advice Scheme on HKU Campus.



“ There is much more widespread awareness about the service now, and this has prompted people in prison to write to us asking for help. ”

Mr Eric Cheung

The original reason for starting the Clinical Legal Education (CLE) programme was to supplement law students' learning. "Traditionally, Hong Kong has had the British approach to studying law," explained CLE Director Eric Cheung. "That is, classroom learning followed by an internship. Other countries introduced a clinic approach, but not Hong Kong – partly because it is resource heavy. But our former Dean of Law Professor Johannes Chan initiated the idea, my colleagues and I spent several years planning the programme and then we kick-started it in 2010."

The main objectives from the student point of view were "to enable them to deal with real clients and handle real cases so they could learn lawyering skills that can't be taught in a classroom, and to cultivate in them a sense of community service, to show them that being a lawyer is not just about making money – it is about having a heart," said Mr Cheung.

"The CLE programme's main service from the community's viewpoint is to offer free legal advice, so people know where they stand legally and how they might proceed. Because of the resources constraints, the service does not normally go beyond advice, but there are exceptions. Sometimes advice alone is not

enough – we have gone beyond and actually represented a client, usually to rectify a miscarriage of justice."

Media attention

These cases have garnered a lot of attention in the local media and engendered requests for help from people serving time in prison. "People find out about the service through our website, the alumni network and most recently through the Chinese media in Hong Kong," he said. "There is much more widespread awareness about the service now, and this has prompted people in prison to write to us asking for help."

Such has been the publicity that the English-language daily South China Morning Post ran an article about Mr Cheung's role in leading the programme entitled 'A Lawyer with an Eye on Injustice'.

One case which received a lot of attention happened last year, when a man wrote to the CLE from Stanley prison. He had been convicted by a jury and sentenced to more than eight years' jail. He wanted to appeal, but his request for Legal Aid had been turned down. Mr Cheung and a team of CLE

students felt the case had merit and mediated to get him Legal Aid.

"We then took it a step further and I took on the case," said Mr Cheung. Acting for the client, he wrote to the Department of Justice and discovered they hadn't disclosed some information which would have helped his case. "We got him bail pending an appeal on the basis of non-disclosure of this information. The Department of Justice conceded the error and we won the appeal – he has since been released from jail."

The success of the CLE has also led to another encouraging development: the Law Faculty has developed a new working relationship with the Legal Aid Department. "Such is the mutual regard now, we no longer need to challenge their refusal decisions through formal appeal channels, and we can now write or talk to them directly about a case. Even when our view is different to theirs, they recognise that our common objective is to promote justice and grant Legal Aid to meritorious applicants. They are happy to listen to our argument and if persuaded they may grant the Legal Aid even though they have previously refused for lack of merits."

Mr Cheung feels it is beneficial for students to see for themselves that while Hong Kong has a very effective and fair legal system, mistakes can happen and justice can miscarry. "The CLE experiences give them a better idea of what lawyering is really about."

"Last term, there was the case of a defendant who had pleaded guilty in the Magistrate's Court. His family came to us because they thought he should reverse his plea. The problem was their lawyer had not sufficiently explained the pros and cons to them and they felt the defendant had been forced to plead guilty.

"We advised them, and later we got a thank you card from them," said Mr Cheung. "The card said that, while in the end the defendant had not changed his plea, our advice had empowered them to be confident that they were making the best decision on an informed basis.

"This was an important lesson for our students: it showed them that it is not always about winning the case, but about having empathy with the clients who need to feel that someone is listening to them and giving them objective and sound advice."

Since the CLE began, the Law Faculty has received more than 800 requests for help covering areas of law including civil, criminal, family, probate. The programme also won the Law Faculty Knowledge Exchange Award for 2015. ■



Clients sent Mr Eric Cheung and his team thank you cards as a token of gratitude and appreciation.



Dr Travis Kong invited four local and international artists to document the current lives of older gay men through photography. (Courtesy of Gyorgy Ali Palos)

HIDING IN PLAIN SIGHT

Older gay men in Hong Kong are so conditioned to conceal their sexuality that it took one seasoned researcher repeated attempts to gain an introduction to them. The effort has paid off with a research project, a handsome book and the founding of a support group.

In 2012, when legislator Cyd Ho proposed to consult the public on outlawing discrimination based on sexual orientation, she was voted down by legislators on both sides of the political divide. Prejudice against

homosexuality is still strong and kicking in Hong Kong 25 years after it was decriminalised. No one knows this better than the gay men who came of age when their sexual preference was still a crime.

Many of them continue to live in the shadows, as Dr Travis Kong of the Department of Sociology discovered when he set out to research this group.

“There was no literature about sexual minorities born before World War II, not in studies about sexuality nor about ageing. They are really a marginal group,” he said. He secured a small research grant in 2009 to fill the gap but, although his contacts thought it was a good idea, “no one could introduce me to any older gay men. I had open advertisements in gay venues, bars, magazines – no response. Finally, a friend working at the Hong Kong AIDS Foundation mentioned they had a small group of older gay volunteers. I started to interview them one by one.”

Dr Kong conducted 20 in-depth interviews about how these men coped when their sexuality was stigmatised as a crime and mental deviance, and how they met other men and acted on their desires.



The book launch and photo exhibition in June, 2014.



“ These men grew up at a time when it was not the norm for someone to be attracted to the same sex. They may have heard the word ‘homosexual’ but it was quite remote, it didn’t relate to them. To me they are the first gay generation in Hong Kong. ”

Dr Travis Kong

Still closeted

Sadly, many remain undercover even in these liberated times, cowed not only by the stigmatism they grew up with but also by that from another quarter – younger gay men.

“Hong Kong has had a substantial gay community since the 1990s. It’s very commercialised and stratified, and there is an emphasis on body, image and youth. Some gay saunas reject these older gay men. Gay business is business, not charity work, and they have their own rules. I had an impression that the gay world is more tolerant and accepting, but in a way it is not.”

Dr Kong thought better public awareness could help them and in 2014 published their stories in *Gay and Grey: An Oral History of Older Gay Men in Hong Kong*, which has gone through three printings, sold 3,000 copies, and is being translated into English. This was followed by talks and photo exhibitions in Hong Kong, Macau, Guangzhou and London. Most of the activities were supported by HKU’s Knowledge Exchange Fund.

The book more than raised awareness – it also led to the formation last year of the Gay and

Grey self-help group and hotline, which were launched in part to help the men deal with the loneliness they felt. The book also inspired similar research in Guangzhou. Dr Kong hopes to study this community as well as the older gay Chinese community in London as part of the second phase of his research.

“I hope we can make more concrete advances in terms of how we deal with the physical, mental and emotional well-being of older people with different sexualities. There are also older lesbians and other sexual minorities. There are lots of possibilities,” he said. ■



Gay and Grey: An Oral History of Older Gay Men in Hong Kong (2014) published by Step Forward Multi Media.



A series of book talks and photo exhibitions have been held in Hong Kong, Guangzhou, Macau, and London since June, 2014. Above is the exhibition held at the Anatomy Museum, King’s College, London.



Dr Travis Kong (left) was honoured with the Prism Award 2014 at the Hong Kong Lesbian and Gay Film Festival for his contribution to the tongzhi community.



Dr Kong helped the group of older gay men set up a self-help group Gay and Grey in December, 2014 to offer services and support to other older gay men in Hong Kong.



Nestled in the Woods, 1988.

A BRUSH WITH TRADITION

A donation of nearly 300 works of art by renowned painter Tao Wan to the University Museum and Art Gallery has enriched the University's collections. More than 100 of the works were displayed in a recent exhibition entitled *Nature in its Harmonious Forms*.

In the run-up to the exhibition, a telling anecdote emerged about the painter: In the 1980s, a student at Tao Wan's Wu Liu [Five Willows] Art Studio in Hong Kong offered him what amounted to the price of a small apartment for one of his paintings. Tao Wan refused. Interestingly, it was not unusual for him to simply give away his paintings to students – but he only did so when he felt the recipient fully understood the painting and the art theory behind it. Dr Sarah Ng, Associate Curator of the University Museum and Art Gallery (UMAG) and curator of the Tao Wan exhibition, feels the anecdote says a lot about the artist – money meant little to him, art meant everything, and spreading understanding of painting was paramount.

"Tao Wan is perceived as being a *guohua* (Traditionalist) painter, and was a major representative of the art of Cantonese Diaspora painting and its development in 20th-century Hong Kong," said Dr Sarah Ng, Associate Curator of UMAG, summing up the importance of this donation to the University. "These objects form a more complete and vivid picture of his oeuvre, and are essential for an understanding and analysis of the history of the global Cantonese Diaspora, and of the general history of Chinese art during this period."

At HKU in the 1970s

Tao Wan's association with the University goes back 45 years to the 1970s, when he taught Chinese landscape painting as an Extra-Mural Studies programme at both HKU and at the Chinese University of Hong Kong for more than 10 years.

The donation was made by his son Luke and daughter Julia, both of whom have lived in Canada for many years. "They told us in 2013 that we would be getting some works," said Dr Ng, who also curated the exhibition. "They also donated about 17 to the Hong Kong Museum of Art."

Born in 1911 in Guangzhou province, Tao Wan graduated in Law at Sun Yat-sen University. His main interest was art and before World War II, he was a member of the influential Chinese Painting Research Society. He was one of many artists who fled to Hong Kong in 1949 when the Communist Party established the People's Republic of China. Unlike some of the others who moved onto Taiwan, Macau or further afield, he stayed and is considered a Hong Kong artist. He would eventually leave in 1989, after the June 4 crackdown in Tiananmen Square, when he went to join his children in Canada. He died in 2004.

While he is one of many artists who came to Hong Kong in 1949, Tao Wan was unusual in that he represented the Traditionalist style of Chinese painting. "Around 1950, many Chinese artists emerged in Hong Kong and among them there were the Revolutionists and the Traditionalists. More people followed the Revolutionists, believing a change would benefit the development of Chinese art," said



“ He believed you should paint on the spot – don't make a preliminary sketch, just paint. ”

Dr Sarah Ng

Dr Ng. "These were people who thought the old Chinese style was outdated, and were heavily influenced by Western style of painting.

"But Tao Wan stayed with traditional style. He was inspired by the ancient masters, and many of his works are reinterpretations of their landscapes. He would refine them, creating his own uniquely expressive style that illustrates his own particular 'mindscape'."

In 1980, Tao Wan and some of his followers established the Wu Liu (Five Willows) Art Studio, which gained many students and disciples. "They held regular meetings, called Elegant Gatherings, where they would do painting demonstrations, share their work, critique each other's works and discuss Chinese painting."

Tao Wan's legacy continues through those students. Thirty years on, several of them came to UMAG to give demonstrations of his

style of Chinese painting as part of the exhibition. Others discussed the man himself with Dr Ng.

"Most are quite elderly now, but they shared with me anecdotes about the artist. They said he was not particularly sociable and made no attempt to sell his own art," said Dr Ng. "His painting philosophies reflected his belief that 'the mind always leads the brush' and he told students 'don't be held back by sketches'. He believed you should paint on the spot – don't make a preliminary sketch, just paint."

Tough times

The students also told Dr Ng that Tao Wan was generous. Times were tough for some of them and if they fell behind with their tuition fees he never mentioned it, nor did he raise those fees despite rising costs. "He knew some were poor and they could not always afford the fees," she said, "but Tao Wan felt that teaching was more important than the fee."



Guided tours and painting demonstrations were also held at the University Museum and Art Gallery during the exhibition period.



The opening ceremony of the exhibition *Nature in its Harmonious Forms: Paintings by Tao Wan* at the University Museum and Art Gallery.



“UMAG is honoured to receive this large donation of Tao Wan’s works and delighted to be able to share with the public the master’s paintings documenting the life and achievement of a Hong Kong artist who is still now celebrated for his style and his passion as a teacher.”

Dr Florian Knothe

The donated works are representative of the artist’s changing style over the decades. Most of his early work was left behind when he fled China, but paintings such as *Red Trees on Autumn Hill* (1957) are noted for their sense of calm and tranquility. Later, he would paint landscapes in a literati style, employing unconventional composition and perspective,

focussing on specific aspects of a scene rather than presenting the whole picture. After 1985, his work grew more mature, employing a rhythmic brushwork that was instantly recognisable.

While the initial exhibition is now over, more of Tao Wan’s work will be shown in the future

at HKU. UMAG Director Dr Florian Knothe noted: “UMAG is honoured to receive this large donation of Tao Wan’s works and delighted to be able to share with the public the master’s paintings documenting the life and achievement of a Hong Kong artist who is still now celebrated for his style and his passion as a teacher.” ■



Tao Wan (1911–2004) created his own expressive style.



The Return of Hong Kong, Watercolour on Paper, 2008.

Modern memories

From traditional to modern: also on exhibition recently at UMAG was the show *So We Remember*, featuring the contemporary art of Chen Xi, a painter who has created a series of contemporary works to illustrate events that have shaped our lives today. Her methods relate contemporary life to a society informed by multimedia and her paintings are each framed within a television screen as sequential ‘episodes’, thereby creating a visual narrative of life.

They are like screen shots, with the TV screen setting placing them appropriately in the context of the living room, where we are used to viewing our daily news. The events depicted are historic scenes, political or social events, but from a more intimate, sometimes uncomfortably close perspective.



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Pokfulam, Hong Kong

