



香港大學

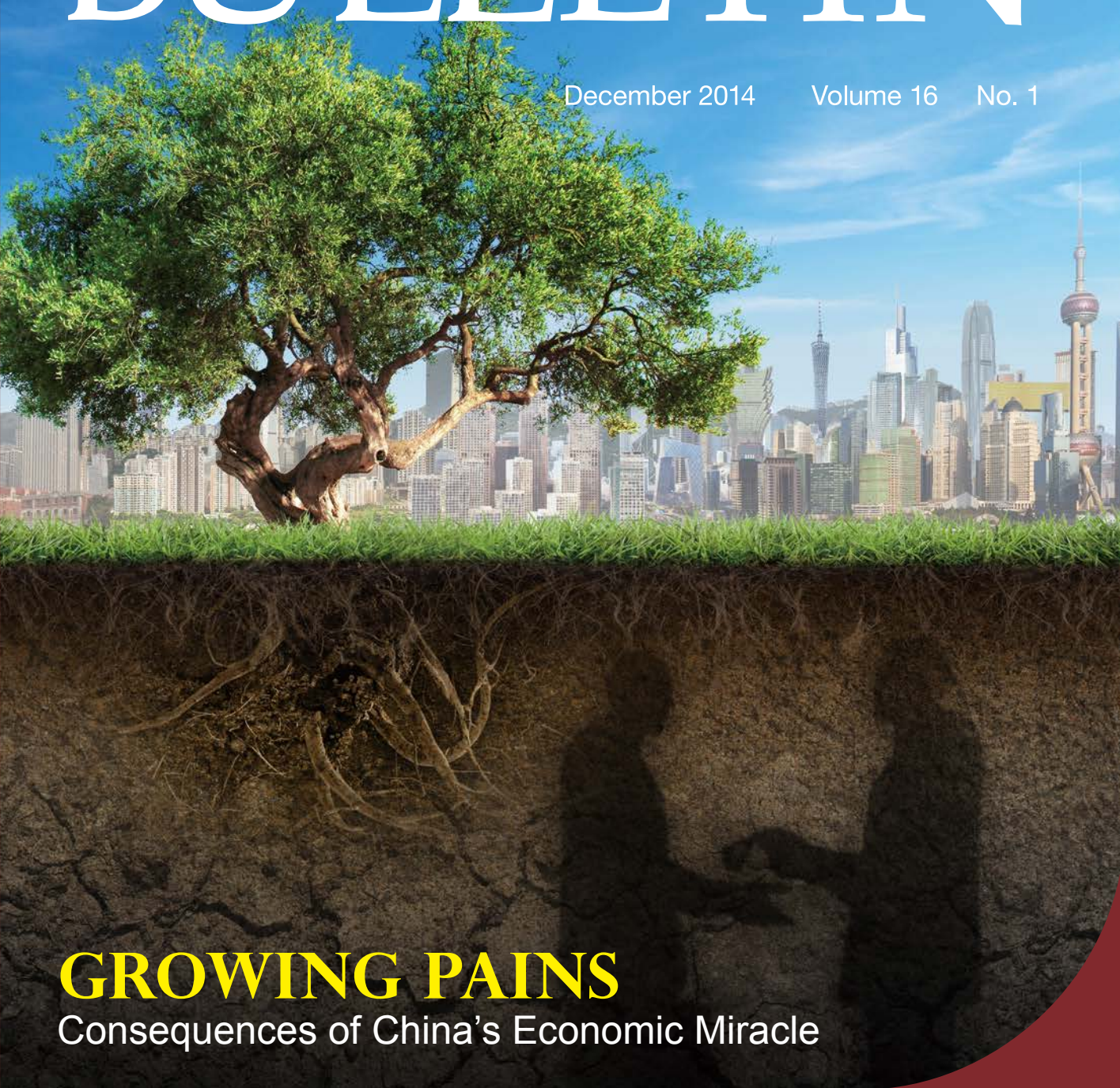
THE UNIVERSITY OF HONG KONG

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GROWING PAINS

Consequences of China's Economic Miracle



**Agricultural
Breakthrough**
Protecting
flowers from
freezing



**Mobile
Application
Takes Flight**
Digital bonus
for bird-watchers





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News in Brief

In Memoriam

Remembering Professor Ian Davies



Professor Ian Davies, 1942–2014.



A memorial service was held in the Rayson Huang Theatre in memory of Professor Ian Davies.

The University's 13th Vice-Chancellor Professor Ian Davies passed away in London peacefully on July 24 at the age of 72. A memorial service was held for Professor Davies on August 29 in the Rayson Huang Theatre, attended by colleagues, alumni and friends who came together to pay their respects to the much-loved member of the HKU family.

The service began with a silent tribute and introduction by Dean of Dentistry Professor Thomas Flemmig, followed by an address by President and Vice-Chancellor Professor Peter Mathieson.

Professor Mathieson said in his address: "Many in Hong Kong will remember him for being the driving force behind the establishment of the territory's first Faculty of Dentistry. They may remember that he was appointed to the post of Vice-Chancellor at a

very difficult time for the University. They will quite rightly remember him for his role in improving the provision of dental care for the Hong Kong community, and for the stabilising leadership he brought to the University during some challenging times."

Professor Davies's dedication, contributions and achievements were highlighted in the eulogy delivered by Professor Esmonde Corbet, Clinical Professor of Dentistry, and tributes were delivered by Dr the Honourable Sir David Li Kwok-po, Pro-Chancellor; Emeritus Professor Rosie Young, Honorary Clinical Professor of Department of Medicine; and Dr Gordon Chiu, Honorary Clinical Associate Professor of Faculty of Dentistry. Attending guests then had a chance to reminisce about the life and work of Professor Davies through a presentation of snapshots and video before the memorial service came to an end.

Professor Davies was one of the pioneers who established at HKU what was and continues to be Hong Kong's first and only Faculty of Dentistry. He served as Dean of the Faculty of Dentistry and Director of Prince Philip Dental Hospital concurrently from 1983 to 1989 and the University's Pro-Vice-Chancellor from 1991 to 2000. In the last two years of his Pro-Vice-Chancellorship, he also served as the Registrar, and was the University's Vice-Chancellor from 2000 to 2002. Professor Davies was an Honorary Fellow of the Royal College of Surgeons of Edinburgh, the College of Dental Surgeons of Hong Kong and the Hong Kong Academy of Medicine. He was appointed Emeritus Professor at HKU, made Justice of the Peace in 1991, awarded a Silver Bauhinia Star in 2003, and conferred an Honorary Doctorate by HKU in 2006. ■



Professor Davies was awarded the Degree of Doctor of Science honoris causa at the 173rd Congregation in 2006.



In 2010, Professor Davies (first from right) attended the Foundation Stone Laying Ceremony of the HKU Centennial Campus.

Doing Us Proud

HKU Academics Recognised for Their Respective Achievements



The Prince Philip Medal was presented to Professor Chan Ching-chuen during the Royal Academy of Engineering Awards Dinner in London on July 2.

Known as one of the 'Three Wise Men' of the electric vehicle industry, Professor Chan Ching-chuen, Honorary Professor of Department of Electrical and Electronic Engineering, was presented with the eminent Prince Philip Medal by the Royal Academy of Engineering in London on July 2 for his contributions to the profession. With an enthusiasm for electric vehicles that started when he was a boy, Professor Chan has contributed to the development of the field through his academic research with over 300 research papers in his 40-year career, and is a Co-Founder and President of the World Electric Vehicles Association. His expertise continues to help the advancement of modern electric vehicle technology as well as the development of infrastructure to support the electric vehicle revolution.



Dr Alexandra Cook has won the John Thackray Medal for her book *Jean-Jacques Rousseau and botany: the salutary science*.

The scholarly output of Dr Alexandra Cook, Associate Professor in the Department of Philosophy, on Rousseau has been recognised by the Society for the History of Natural History and she has been awarded the prestigious John Thackray Medal 2013 on July 19 at the Society's Annual General Meeting held in Oxford. Dr Cook has been very active in knowledge exchange projects in France and Switzerland based on her award-winning research on Rousseau. The scholarship she presents in her book *Jean-Jacques Rousseau and botany: the salutary science* (Oxford: The Voltaire Foundation, 2012) is considered 'original and compelling' by the Thackray Medal Award Committee, making her a well-deserved winner of the Medal.



Professor Jim Chi-yung (left) was presented with the 2014 L C Chadwick Award for Arboricultural Research on August 3 in the United States.

Professor Jim Chi-yung, Chair of Geography, received the 2014 L C Chadwick Award for Arboricultural Research presented by the International Society of Arboriculture on August 3 in the United States. The Award is given to individuals to recognise their research and valuable contributions to arboriculture and Professor Jim is the first Asian sociologist to receive this Award. Acclaimed as a cornerstone in the growing research community locally and internationally, Professor Jim has dedicated his 30-year professional life to ecological research and the welfare of trees: "As a university teacher and researcher, it is my duty to advance, enrich, improve, transmit, and preserve knowledge. I am delighted and thankful for the chance to participate in this wonderful and fulfilling endeavour."



Mr John Lin (right) is one of the three 2014 University Grants Committee Teaching Award recipients.

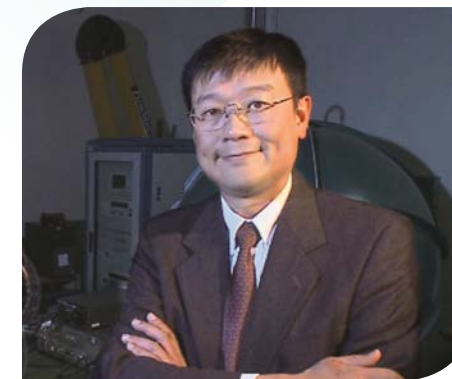
Mr John Lin, Associate Professor of Architecture, won two awards in a row. He was presented with the 2014 University Grants Committee (UGC) Teaching Award on September 10, in recognition of his teaching excellence and the leadership he brought to a project of rebuilding a historic bridge in Guizhou that involved both HKU students and local villagers. The recipients of the 2014 UGC Teaching Awards were selected from among 16 outstanding nominees through a rigorous process.

Mr Lin and Assistant Professor of Architecture Olivier Ottevaere jointly won the World Small Project of the Year 2014 at the World Architecture Festival with a knowledge exchange project called 'The Pinch' – a library and community centre in the earthquake-damaged village in Yunnan Province.



Dr Yao's outstanding research achievements on spin electronics and spin quantum computation have earned him the 2014 Achievement in Asia Award (Robert T Poe Prize).

Dr Yao Wang, Associate Professor of Department of Physics, received the 2014 Achievement in Asia Award (Robert T Poe Prize) from the International Organization of Chinese Physicists and Astronomers for his important contributions to the physics of spin and valley pseudospin in two-dimensional transition metal dichalcogenides. The Award, which is presented annually to a physicist/astronomer of Chinese ethnicity working in Asia who has made outstanding contributions in physics/astronomy, will be presented to Dr Yao and the other co-winner Dr Han Yilong from the Hong Kong University of Science and Technology during the American Physical Society meeting to be held in March 2015.



Professor Ron Hui will be presented with the 2015 IEEE William E Newell Power Electronics Award at the 2015 IEEE Honors Ceremony to be held in summer next year.

Professor Ron Hui, Chair of Power Electronics, Philip K H Wong Wilson K L Wong Professor in Electrical Engineering, has been honoured with the 2015 IEEE William E Newell Power Electronics Award for his contributions to power electronics applications in planar wireless charging and sustainable lighting technology. One of Professor Hui's accomplishments is the development of the Electric Spring, which can help stabilise the power grid, allowing increased use of renewable energy sources and thus make a significant contribution in sustainability. The Award, presented by the Institute of Electrical and Electronics Engineers (IEEE), was established in 2005 to recognise outstanding contributions of an individual to the advancement of power electronics. Professor Hui is the first Hong Kong scientist to receive this honour. ■

Honorary University Fellowships

Strengthening the Ties between Town and Gown

The success of a university should not be measured only by the excellence of its teaching and administrative staff, researchers and students. HKU is fortunate in that it also has loyal and committed individuals who strive to contribute to the University and society in different ways. This year, four distinguished individuals were honoured in the Honorary University Fellowships Presentation Ceremony 2014

presided by President and Vice-Chancellor Professor Peter Mathieson on September 23 in the Rayson Huang Theatre.

The recipients are award-winning marketer and alumni leader Ms Wendy Gan Kim-see, notable business figure Ms Beatrice Mok, celebrated industrialist Mr Daniel Yu Chung-kwong and respected entrepreneur and philanthropist Mr David Yu Kai-chiu.

Professor Peter Mathieson expressed his gratitude towards these individuals on behalf of the HKU community at the ceremony: "They are true examples of passion and dedication, commitment and enthusiasm, courage and leadership, because they themselves lead by example. Their significant contributions are made selflessly, and we are glad to have this opportunity to express our gratitude."

Initiated in 1995, Honorary University Fellowships recognise and honour those who have made important contributions in their own unique ways to the University, to academia, and to Hong Kong.

For more about Honorary University Fellowships, please go to <http://www4.hku.hk/honfellows/> ■



From left: Mr David Yu Kai-chiu, Mr Daniel Yu Chung-kwong, HKU Council Chairman Dr the Honourable Leong Che-hung, HKU President and Vice-Chancellor Professor Peter Mathieson, Ms Beatrice Mok and Ms Wendy Gan Kim-see.



GROWING PAINS

China has the world's second largest economy and it is predicted to be the largest within a decade. But this phenomenal growth has been accompanied by difficult adjustments. HKU scholars have been studying the corruption, underground dealings and fake goods that have emerged amid the country's transition to a market economy. Scholars also study how the Chinese Government is trying to create the right macroeconomic environment for a healthy and sustainable development.

AN ECONOMIC TRANSITION WITH CHINESE CHARACTERISTICS

China is dealing with the most challenging part of its shift from a planned economy to a market economy.



Shanghai is poised for faster growth with the new round of government deregulation.

The modern economic story of China is well known. In just over three decades, the country has experienced phenomenal economic growth and much improved standards of living by tearing at the seams of its formerly tightly planned economy.

The country has made substantial progress on two essential components of a market economy – letting the market determine prices, and introducing incentives to allow private ownership and wealth acquisition. It is now trying to tackle the third and most challenging component: that of creating the right macro-environment for property protection rights and contract enforcement.

Professor Tao Zhigang of the Faculty of Business and Economics said the country had started to address some of the macro-environment issues when it created Special Economic Zones, but the work had been complicated by two unique features of the Chinese economy.

“The first is the continuing dominance of state-owned enterprises [SOEs]. China has not gone for outright privatisation like Russia did, and that has important implications. The government is both the regulator, and the owner of these enterprises. So SOEs may lobby for cheaper credit or preferential treatment in government procurement, and even for discriminatory policies against private enterprises.



“The Communist Party believes that while private enterprises give you growth, state-owned enterprises help maintain social stability because they do things privately-owned enterprises don’t do, such as hiring a lot of people in a downturn. You need a balance of the two.”

Professor Tao Zhigang

“The second feature is the significant role of the state versus the market in the economy. In China people tend to turn to the government to resolve contractual disputes, instead of using litigation through courts or private settlements. That tends to make personal connections with government officials more important. You need to cultivate relations with senior level officials who control resources and who can help you to resolve a dispute. These officials won’t do this for nothing. So bribery and corruption could become a by-product – a way for you to get business done. This is how I look at the phenomenon of corruption in China.”

Striking a balance

The central government is fully aware of the problem and is starting to take action, he said. When it created the Shanghai Free Trade Zone in 2013, it introduced a new reform that limits the discretionary power of the government through a ‘negative list’. Foreign investors cannot invest in sectors named in the list but are free to do so in sectors not listed. “That concept is very powerful. It is saying the discretionary power of government officials is going to be kept to a certain minimum,” Professor Tao said. And at the recent Fourth Plenum of the 18th Party Congress, reforms were unveiled to promote the use of the law to resolve disputes, rather than the government.

But all of this does not mean SOEs are being phased out, he said.

“The Communist Party believes that while private enterprises give you growth, SOEs help maintain social stability because they do things privately-owned enterprises don’t do, such as hiring a lot of people in a downturn. You need a balance of the two. If too much of the economy is state-owned, growth slows down. If too much is privately-owned, you have growth but no stability.”

Local government officials are part of that mix, too. In the early days they were given incentives to kick-start economic growth, such as permission to keep some of the revenues they generated and to build large government buildings and guesthouses. The recent crackdown on government corruption adversely affects the incentives for local government officials. However, these incentives are no longer needed if the private sector has taken off and become the dominant part of the economy.

Macro-environment for private sector growth

President Xi has announced that 80 to 90 per cent of the economy will be privately-owned within the next decade. Currently, SOEs account for about 30 per cent of output and 40 per cent of employment.

“The central government wants to be a helping hand, not a grabbing hand. It wants to see local economies grow and it will continue to

look at local economic growth when it is promoting local officials. Those officials have to maintain the quality of their macro-environment and not just take money away from enterprises. If they are expropriation-oriented and they violate property rights, their economic growth won’t be spectacular.

“The Party’s loosening of its control of the economy, both at the central and local government levels, also has an impact on the allocation of talent. Young people don’t want to work in government when there are crackdowns on corruption, and the salaries of CEOs in state-owned enterprises are being capped. The signal President Xi is sending is very clear: the state sector will sink and the private sector will grow.” ■

CORRUPTION AND THE POWER GAME

For all its potential to shock and enrage, corruption is also a useful political tool. Dr Zhu Jiangnan in Politics and Public Administration has been looking at corruption and anti-corruption campaigns in China, and the implications they reveal for authoritarian regimes in general.

In July this year, Zhou Yongkang – former Security Chief and member of the Politburo Standing Committee – became the most senior party member to be snared in Party Secretary-General Xi Jinping's clampdown on corruption. Xi has cast his net wide, targeting all levels of government down to local officials who hold lavish banquets. Even the military, which was sidestepped by Xi's predecessors, is on his hit list. To Dr Zhu Jiangnan, who has been studying the role of corruption in Chinese politics, these actions speak much louder than their stated aims against malfeasance.

"Xi is showing he can mobilise different departments in government to help implement his policies. In China, the capacity to mobilise officials in different sectors doesn't only rely on the formal title of Party Secretary-General. You

also need a lot of factional network support. It's especially useful for him at this moment to signal his power base and prevent challenges from other politicians," she said.

Xi's actions are a pertinent example of the political realities of authoritarian regimes. Unlike democracies, which have regular elections and freedom of the press, leaders in authoritarian regimes do not have any reliable means of testing and building loyalty. Both corruption and anti-corruption efforts arise as an alternative.

Dr Zhu has been looking at the mechanisms and patterns behind what she calls the 'politicising of political persecution' and the role of factions in determining who to target. While factionalism and politically motivated

persecutions exist in democracies too, they play out quite differently in a place like China.

"Often authoritarian leaders also tend to tolerate corruption by local leaders because it's a way to buy off their loyalty. The question is, how do you draw the line? Factional identity helps officials to make this decision."

Weakening opposition

Dr Zhu has used available data to trace the factional ties (such as birthplace, university and work experience) between senior officials investigated for corruption between 1980 and 2012 and national leaders, and the timing of corruption clampdowns.

"We find that anti-corruption drives usually start during a power transition. It's understandable that officials don't have much incentive to go after corruption right under their administration as they would only embarrass themselves for promoting corrupt people. There is more incentive to go after corruption under their predecessor to weaken their power, especially if he is part of a strong faction that is a political threat.

"Ultimately the case of Bo Xilai [who was jailed last year for corruption and abuse of power] and the current campaigns are probably motivated by factional fighting." Bo was an ally of Zhou and both men came under the orbit of China's former leader Jiang Zemin. Bo also



Former Chongqing Communist Party leader Bo Xilai, who was found guilty on all charges, was sentenced to life in prison for bribery, abuse of power and embezzlement.

targeted his predecessor's allies when he was Communist Party Secretary of Chongqing, although this ultimately led to his downfall.

'Tributes' from the private sector

Dr Zhu has also been looking at the private sector's entanglement in official corruption, although this has more to do with currying favours than power plays. For example, companies often pay 'irregular fees' to government officials beyond taxes and other typical charges – something she likens to the tributes paid to emperors in the past.

"Sometimes they are not bribes but favours – the private entrepreneurs entertain officials, invite them to banquets or karaoke, or give them expensive sports memberships. This is a grey area, it may be counted as a bribe or corruption, but a lot of them may see this as

showing goodness to the officials. So we use this word 'tribute'," she said.

Using data from a survey of private entrepreneurs, she found the real estate, mining, agriculture and construction sectors paid the most 'irregular fees' – and, incidentally, were the most dependent on government support in terms of land grants, approvals and certifications.

Another form of exploitation is something Dr Zhu calls 'organisational clientelism', in which entrepreneurs are appointed to the local party congress or political consultative committee. At first glance this would seem to be a perk, but it often results in requests to fund banquets, roads and other projects, and it can be difficult to withdraw from these posts, she said.

Dr Zhu hopes her work will help to develop corruption studies beyond the sensation of



"Often authoritarian leaders also tend to tolerate corruption by local leaders because it's a way to buy off their loyalty. The question is, how do you draw the line?"

Dr Zhu Jiangnan

media coverage. "Corruption is really hard to theorise. I'm trying to link it to the general logic of authoritarian regimes to find more causal relations and mechanisms behind what is going on in China," she said. ■



Former Politburo Standing Committee member Zhou Yongkang, one of the most powerful leaders in China, has been under investigation for the abuse of power and corruption since late 2013.



GREASING PALMS: A HK\$30 BILLION INDUSTRY

The city's stellar anti-corruption reputation may be losing its shine in the face of cross-border graft and changing public expectations.

Hong Kong is home to one of the world's leading anti-corruption agencies, the Independent Commission Against Corruption (ICAC), which celebrates its 40th anniversary this year. Despite that, the city is likely exporting about HK\$30 billion in corruption to developing countries, mainly Mainland China, each year.

That is the finding of Dr Bryane Michael, former Columbia University Professor and currently a Senior Research Assistant in the Department of Law, who has advised 27 countries on anti-corruption measures and who has been looking at how Hong Kong compares to the rest of the world.

"The ICAC is a gold standard anti-corruption agency," he said, "but I was surprised at how far it has fallen behind even some African countries on things like the criminalisation of foreign bribery, corporate corruption and code of conduct programmes. Hong Kong was at the vanguard until the 1990s but it has become complacent."

A major limitation in fighting corruption here is that conspiring to bribe foreign officials or foreign public corporations is not outlawed,

even when this can benefit a Hong Kong company – a finding that the Hong Kong Court of Final Appeal confirmed in August this year. This, combined with intense cross-border economic activity and the prevalence of bribery as a way of doing business in China, means "Hong Kong companies seeking to engage in bribery can do so relatively easily on the Mainland," Dr Michael said.

A clue to the extent of such activity comes from Hong Kong's trading partners. The largest investment partner is China but the next two largest – British Virgin Islands and Bermuda – are tax and money-laundering havens.

"The pattern of Hong Kong's foreign direct investment suggests that its trade with China represents part of a larger system of corrupt payments and money-laundering," he said.

Corporate indifference

There are straightforward solutions to this problem, in particular amending the law to address cross-border corruption, which Dr Michael estimated could reduce bribery exports by HK\$5 to HK\$20 billion and increase



“The pattern of Hong Kong's foreign direct investment suggests that its trade with China represents part of a larger system of corrupt payments and money-laundering.”

Dr Bryane Michael

Hong Kong Government revenue by HK\$200 billion. But at the same time, there are hurdles to overcome.

One is the willingness of companies to reduce corruption. Hong Kong ranks near the bottom of Transparency International's scorecard for jurisdictions with corporations that implement anti-corruption measures. Companies here are not required to practise self-policing or adopt anti-corruption policies and programmes, and whistleblowers are not protected by law. Dr Michael recommends more explicit laws and incentive measures to encourage companies to give priority to reducing corruption.

Another major hurdle is the ICAC itself. Professor Simon Young, who has traced the historical development of the agency since its founding in 1974, describes it as being in the throes of a crisis of confidence.



Professor Simon Young studies the historical development of the Independent Commission Against Corruption (ICAC).

ICAC under a cloud

"In the initial heyday of the 1970s and 1980s, the ICAC was really fearless and had enormous amounts of power. It was very effective in bringing about an end to public corruption, at least compared to the state it was in before," he said.

But the enactment of the *Hong Kong Bill of Rights Ordinance* in 1991 and the *Basic Law* in 1997 introduced safeguards that placed curbs on the ICAC's powers.

"These developments, together with increasing public demand for accountability and better governance, have put a lot of pressure on the ICAC," Professor Young said. "Although it remains independent, there's a lot more scrutiny of its practices, particularly its operational practices. Its integrity has been questioned."



This year marks the 40th anniversary of the ICAC but its integrity has been questioned and its power relatively weakened.

A recent Legislative Council investigation into lavish spending by former ICAC Commissioner Timothy Tong Hin-ming has contributed to the sense that the agency is losing its way.

Professor Young believes stronger and clearer laws, more focus on corruption by private firms and better human rights education of operational staff are needed. "They shouldn't think they are invincible or untouchable," he said. "They have to recognise that the times have changed, and think about how they can be effective in this climate."

Time to look across borders

Strengthening the ICAC's hand could also help the organisation to sustain its high regard in a world where crime, like everything else, has become globalised. In fact, Dr Michael's main interest in looking at corruption in Hong Kong in the first place was to place it in the bigger context of international anti-corruption practices, particularly across borders.

"Within a country like the United States, we understand how Nebraska and California police deal with each other. What happens when Hong Kong and Mainland police work together on something that is almost impossible to assess, which is corruption?" he said.

Such cooperation has yet to emerge here, at least on transparent and formal terms, although countries such as the United States are actively pursuing corruption cases involving their citizens in China. Hong Kong needs to act, too, or its armoury for fighting corruption will remain incomplete. ■

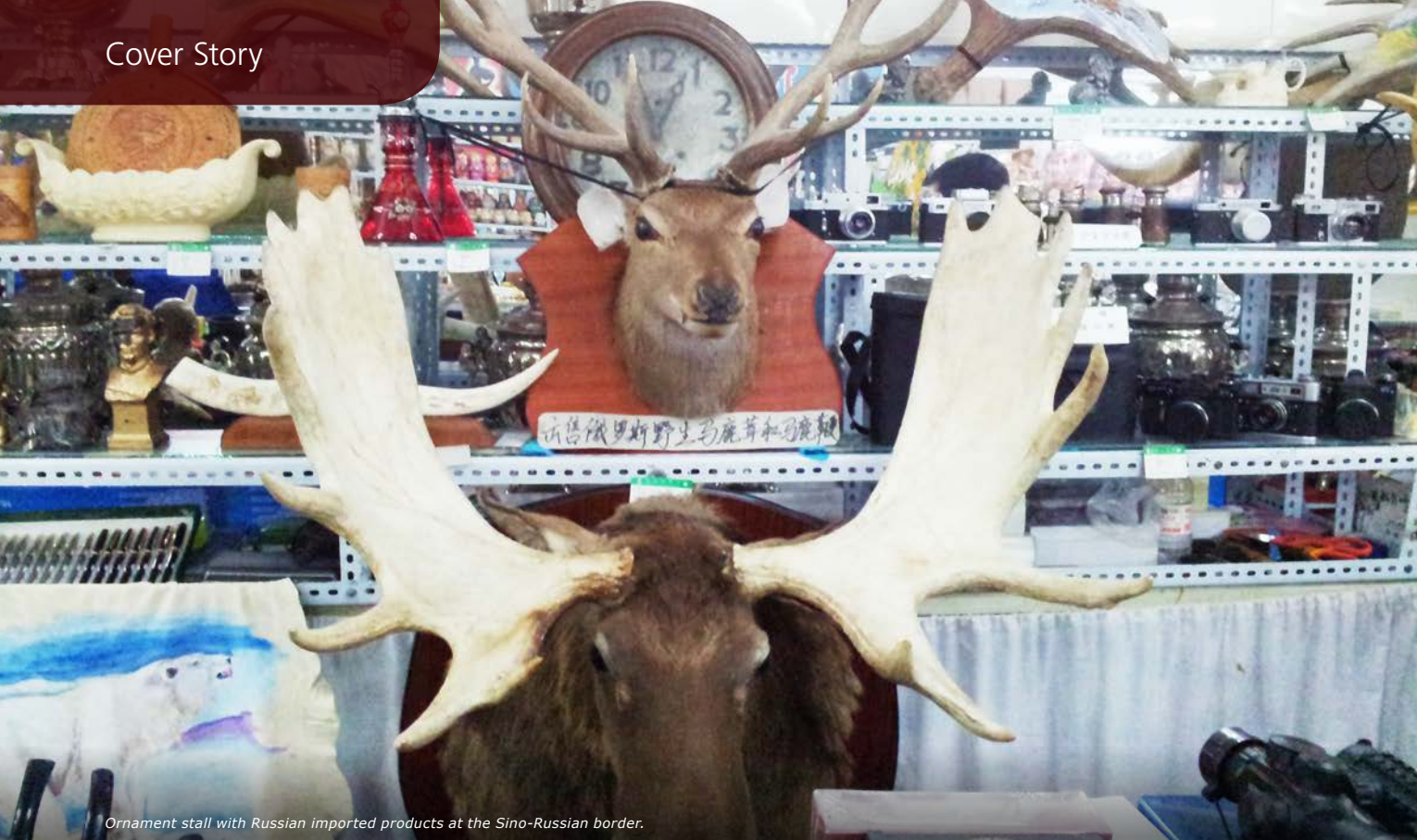


A prize-winning survey on young people's integrity

Questionable ethics and integrity can extend onto university campuses, too. A team of HKU undergraduate students surveyed 100 young people aged 16 to 25 and found 98 per cent downloaded music

illegally, 86 per cent used pirated software, 82 per cent had made up data in their work, and 73 per cent had plagiarised or copied, among other transgressions. The project – by Shirley Yung Ho-yee (Social Sciences, Year 1) and Derek Wong Chun-ki and Larry Lai Fu-wai (both Science, Year 3) – won the Gold Award and Best Presentation Award in a competition

organised by the ICAC on youth ethics and integrity. The students recommended that young people should be encouraged to think twice before acting, ask themselves whether they would be comfortable with others knowing what they are doing, and be more attentive to moral values.



Ornament stall with Russian imported products at the Sino-Russian border.

GOING UNDERGROUND

Asia has a thriving underground economy and much of the activity happens along seemingly remote borderlands. Dr Victor Teo has been studying these areas and the people who make them tick.

The China-Myanmar border may not be a financial hub, but it buzzes with illicit economic activity. Truckloads of timber cross from Myanmar to Ruili in Yunnan province, China, and from there to factories on the eastern seaboard, bearing customs papers that wrongly claim the wood is from China. Money is often transmitted well out of sight of the formal banking system, and people take advantage of large gaps between customs checkpoints to transport goods and themselves back and forth across the border.

To Dr Victor Teo of the School of Modern Languages and Cultures, the area is a vibrant example of a border economy where the boundaries exist largely in name only. These areas tended to be neglected by scholars, he said, not least because of the difficulty in obtaining data and information.

Dr Teo has stepped into this lacuna with research on the activities and traders along China's borders with Myanmar, North Korea, Russia, Central Asia and India.

"The idea of a border is an abstract and constructed one. We tend to think of border areas as neglected and economically backwards, but actually they are areas of intense interactions among people. The interactions may be off the books and not recorded, but they are immense, and the borders hold different meanings for different categories of people in China," he said.

Earning money, moving money

Dr Teo's informers are traders, residents, drivers, smugglers and other contacts he has cultivated for years in an effort to understand the workings of the economy on the borderlands from the perspectives of both international relations and anthropology.

In North Korea, despite official assertions that markets do not exist in the country, he has found institutionalised spaces where trading takes place. Many products are brought in officially or smuggled in and resold by traders

for a profit. Very often, border guards get a piece of the action.

Russia's border with China is even more fluid. Bear paws, wolf pelts and other animal parts are smuggled out and Dr Teo said in some places customs officials ferry goods across for traders for the right price.



Tibetan selling fake tiger skin in Guangdong province.

"We tend to think of border areas as neglected and economically backwards, but actually they are areas of intense interactions among people. The interactions may be off the books and not recorded, but they are immense."

Dr Victor Teo



Traders of parallel imported milk powder at the Shenzhen-Hong Kong border.

officials, criminals and traders operating in the 'grey' market, he said.

The transactions are made by giving cash to a 'banker' in China, who will text or call their contact in Hong Kong or Macau to tell them the amount and currency that will be picked up. Money also flows the other way.

"With an electronic text or passcode, the money can be picked up or transferred easily. Thousands of these transactions take place each day and they are undocumented. Physically, the money doesn't actually cross the border," Dr Teo said.

Fuel for inflation

All of this points to sound economic reasons for studying and understanding the border areas and the underground economy.

"The Chinese Government has such a hard time reining in inflation especially in the southern cities. That has a lot to do with the

underground economy. Regardless of the policies instituted, the funds that flow out of the borders often end up coming back into the country into legitimate business and the real estate sector. The Government doesn't have control over these kinds of activities.

"The remittance system is not new. Generations ago, many Chinese who went overseas to Southeast Asia or the United States had to send money back to their families in China. They made use of the trading houses in China for transmitting money back home."

In fact, he said: "Many people who partake in the underground economy are not criminals but simply traders who are exploiting differentials in the demand and supply of certain categories of goods."

Dr Teo is bringing all of these observations together in a forthcoming monograph, tentatively titled *Clandestine Globalisation and China's Borderlands*. He also organised a conference last year that looked at China's underground economy in relation to the illicit industries around fake goods, which run the gamut from fake handbags and watches to fake medicines. The bottom line for all these activities is to turn a profit.

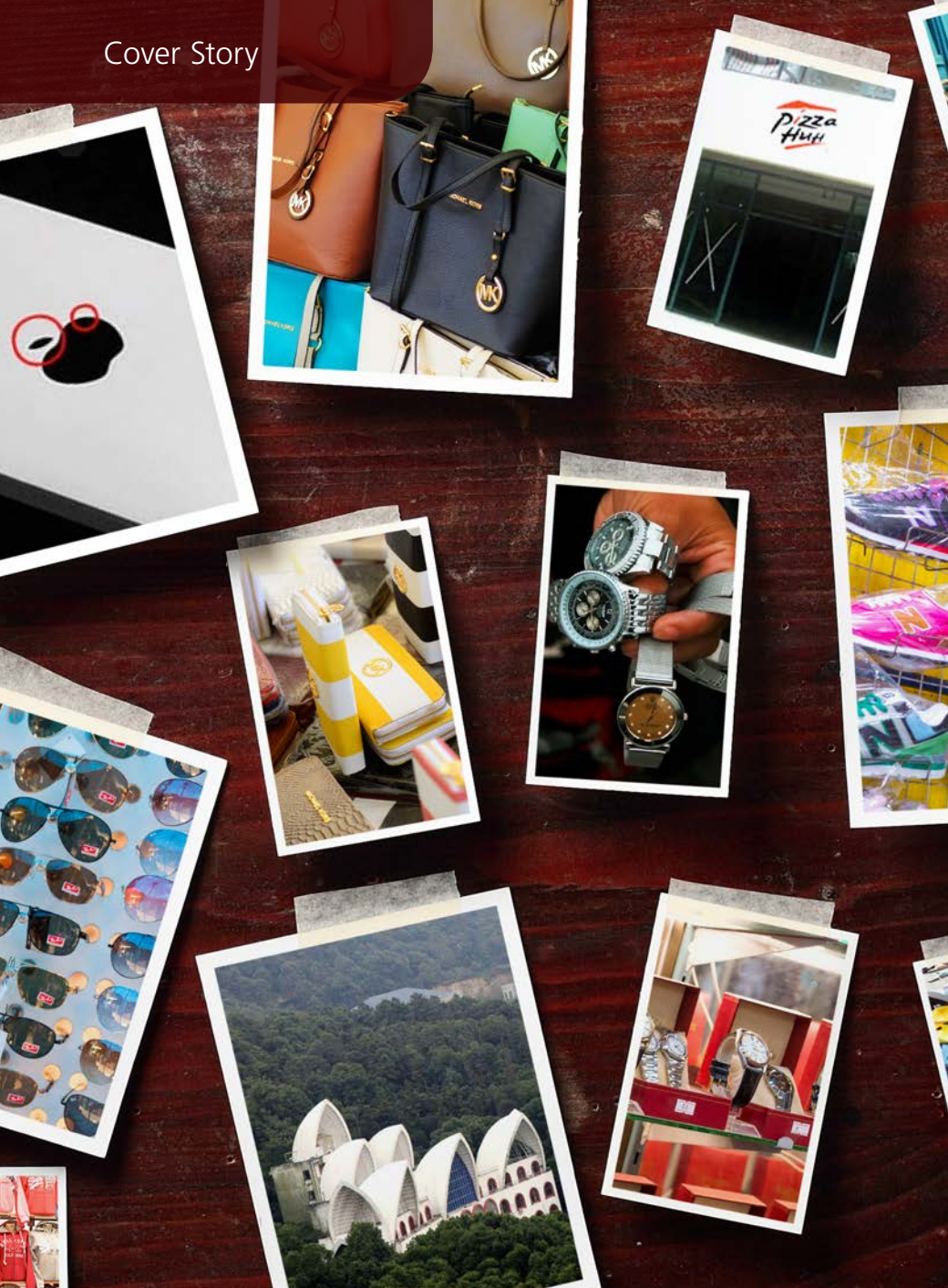
"People don't think of it as an underground economy but a way to build better lives. For them the state and governance are abstract concepts," he said. ■



Two ladies crossing the China-Myanmar border via the small hole in fence (highlighted in red).



Dr Victor Teo (second from right) participated in a knowledge exchange workshop titled 'Global Governance, Underground Economy and its Impact on Health and Human Security in Greater China and East Asia' to share his views on the illicit pharmaceutical industry in China.



RAGS AND RICHES IN THE LUXURY TRADE

Intellectual property (IP) rights protect companies and producers, but they can also restrict public access to new technologies and products. Sun Haochen has been looking at IP law in the luxury trade and how it might be tweaked to promote social justice.

The HiPhone in China makes no bones about which brand it is imitating. It looks like an iPhone and its advertising slogan is 'Not an iPhone but better than an iPhone'. Does it matter that it uses the Apple brand to promote itself?

Sun Haochen, Assistant Professor in Law, has been considering this issue from both legal and social justice perspectives. He has written two academic papers, lectured to government officials, organised an international conference and is preparing to launch a blog on the topic.

The HiPhone, he explained, is part of the *shanzhai* phenomenon in China in which companies violate IP laws or take advantage of grey areas by copying others' property, either directly or in more creative ways. This was not necessarily a bad thing, he said.

"The luxury industry has been arguing that IP protection should be strengthened, especially through enforcement, because piracy activity threatens their business. China in particular has a bad reputation for piracy.

"But that might also harm the interests of the poor. These *shanzhai* companies help to disseminate high technologies to low-income people. To be able to do that, they can't afford strong marketing or branding teams. Imitation saves on their costs so they can spend more on developing their technologies."

Shanzhai vs piracy

Mr Sun does not equate *shanzhai* with piracy, which involves a direct replication of goods. *Shanzhai* instead focusses on brands and he has identified three types of *shanzhai*. One is imitative copying, for instance by adopting a similar name such as HiPhone. One can also find oMcDonald's, Bucksstar Coffee and Pizza Huh in Mainland China.



“At first blush the *shanzhai* phenomenon seems to be a new form of intellectual property piracy and counterfeiting activity in China... But [it] has substantive and symbolic value for redistributing technological and cultural resources and redistributing the sources of innovation.”

Sun Haochen

The second is dilutive copying, which blurs the distinctiveness of a product. For example the BaiGooHoo search engine claims to incorporate the best features of Baidu search engine, Google and Yahoo.

The third is transformative copying, which adds something new. For instance, the mascots of the Beijing Summer Olympic Games were turned into Transformer toys.

"At first blush the *shanzhai* phenomenon seems to be a new form of IP piracy and counterfeiting activity in China," he said. "It challenges the legitimacy of IP law as a whole and signals that unauthorised use of IP is not necessarily illegitimate.

"But the *shanzhai* phenomenon has substantive and symbolic value for redistributing technological and cultural resources and redistributing the sources of innovation. IP law should be used as a tool to penalise the *shanzhai* products and activities that amount to blatant, wilful infringements of IP rights, it should not be used to suppress this phenomenon as a whole."

Promoting social responsibility in the luxury trade

Moreover, Mr Sun thinks IP rights could be used to encourage the trade to go a step further in terms of corporate social responsibility and tie their IP protection to a wider social justice agenda.

"In 2011 people spent about US\$250 billion on luxury goods on the global level, but in the same year 15 million children died of hunger. Why are consumers so willing to spend so much on luxury goods? Why aren't they willing to divert a small portion of money to help children who are dying? I've been thinking of how to deal with this ethical crisis."

He proposes using trademark law to require firms to disseminate brochures on world hunger (or other pertinent topics) to their customers at the point of sale, when they seek anti-dilution protection under the law. Currently, this protection is based largely on a firm's economic activities such as advertising and sales. "It would give a value to ethical responsibility," he said.

Mr Sun is also interested in helping the fashion industry by promoting a better understanding of legal protection for fashion designs and brands from not only piracy (which some argue helps to advertise products) but also competitors (for example, Christian Louboutin sued Yves Saint Laurent over its red-soled shoes).

"The luxury industry has shown people how to improve their lifestyles and it is a very important sector of the economy. I want to generate a deeper understanding of the role of IP in promoting this industry. At the same time luxury consumers control much of society's political and economic resources and I want to engage them in promoting social justice," he said.

"I want to promote the luxury industry not just economically but also ethically" – and by doing, help to spread the riches of the rag trade. ■



A joint conference on 'Value Pluralism and Intellectual Property Law' Mr Sun co-organised with the University of Pennsylvania Law School on behalf of the Faculty of Law.



Mr Sun organised a conference titled 'Charting the New Frontiers of Intellectual Property Protection of Fashion Brands and Designs' in May, 2014.

MORE POWER TO THE FLOWER

Strategy to protect flowers from freezing has major implications for improving food production.

Arabidopsis thaliana – the model plant used in this study.

Key research by the School of Biological Sciences has found a way to protect flowers of the model plant *Arabidopsis thaliana* from freezing that could have major implications for protecting them from low temperature injury. Flowers are the forbears to fruit and seed formation, which make up a large percentage of agricultural harvests that feed people and livestock. This technology has potential to improve yield, by cutting the percentage of harvests lost to cold conditions.

The research team was led by Professor Chye Mee-len, Wilson and Amelia Wong Professor in Plant Biotechnology, working with two PhD students, Chen Qinfang and Liao Pan.

“The original research findings were published by Chen *et al* (*Plant Physiology*) in 2008,” said Professor Chye. “That initial work analysed

freezing stress on rosette leaves which comprise the vegetative tissues of the *Arabidopsis* plant, but unfortunately research had to cease because we did not have enough funding to continue.”

“We were able to re-start the research in 2011 using the endowed professorship funding, plus a small grant from the Committee on Research and Conference Grants. In addition, the arrival of an intern from Germany, Linda Chi (Free University of Berlin), gave the laboratory the extra manpower it needed that autumn to photograph flowers after the freezing stress treatment.”

Previous studies had shown *Arabidopsis* to be one of several plants that can adapt when pre-exposed to low temperatures – that is, cold acclimation. Changes in gene expression,

metabolism and remodelling of lipids occur as the plant responds. Therefore identifying genes and transcription factors that enhance freezing tolerance gives a first step towards developing potential applications in agriculture.

The research came out of the knowledge that the gene that encodes lipid-binding protein ACBP6 (acyl-CoA-binding protein 6) is cold inducible, which gave rise to the question: Could ACBP6 have a role when a plant is under cold stress?

Challenging methodology

“This time the research focusses on the flowers of the transgenic *Arabidopsis* lines generated by Chen Qinfang – requiring more challenging methodology since the flowers are tiny,” said Professor Chye. “Many studies on freezing

tolerance – including ours in 2008 – have utilised *Arabidopsis* seedlings and rosettes which represent the vegetative stages, but flowers comprising the reproductive stage have seldom been tested.

“Liao Pan, who harvested flowers and treated them at subzero temperatures, was aided by Linda who took myriad photos. Liao Pan followed up with lipid profiling and analysis of gene expression on treated and non-treated flowers to better understand the mechanism of freezing tolerance conferred by ACBP6 over-expression in transgenic flowers.”

The team discovered that when ACBP6 was over-expressed in the plant, it protects transgenic flowers against freezing; at -7°C for one hour only 54 per cent of wild-type flowers remained intact after treatment, while 86 per cent of the transgenic flowers survived the stress. As ACBP6 is a lipid-binding protein, it can bind phosphatidylcholine, an important component of membrane lipids, and their interaction conferred freezing tolerance in ACBP6-over-expressing flowers.

Professor Chye said: “Finding ways to protect plants from environmental stress is an important research area given that plants form

critical components in food webs and food chains on planet Earth.

“If, after further research, we are able to extend this technology to food crops, we hope to be able to ensure that flower development progresses to fruit and seed yield, thereby improving food production in areas susceptible to freezing.”

Further, if the technology can be used to protect cultivated flowers from freezing, it will also have major implications for the floral industry, which regularly suffers major losses through cold conditions.

The laboratory has filed a patent on its research findings and is now seeking funding to go to the next research stage – to carry out similar tests on *Brassica* (oilseed), a close relative of *Arabidopsis thaliana*.

Professor Chye established her laboratory at HKU in 1993. Its main focus is to understand how stress-induced plant proteins, particularly acyl-CoA-binding proteins, function. The intention is to use these proteins to generate transgenic plants that can better withstand both abiotic and biotic stresses, which between them currently account for 40 per cent of crop losses.

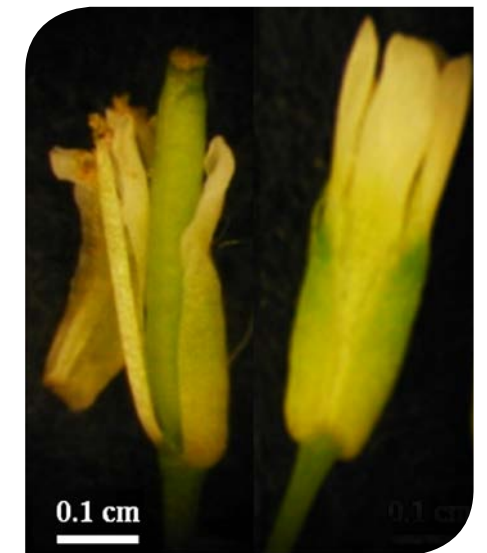
Her team will continue to promote sustainability and optimum use of resources to feed the growing global population, an aim which aligns with two of HKU’s emerging Strategic Research Themes – ‘Earth as a Habitable Planet’ and ‘Food’ – as well as with the aspirations of Dr Wilson and Mrs Amelia Wong in the use of plant biotechnology to ensure the supply of food for a sustainable future. ■



Professor Chye Mee-len (left) and PhD student Liao Pan (right).

“Finding ways to protect plants from environmental stress is an important research area given that plants form critical components in food webs and food chains on planet Earth.”

Professor Chye Mee-len



Transformed *Arabidopsis* flower over-expressing acyl-CoA-binding protein 6 (ACBP6) shows intact petals (right) while the control succumbs to freezing stress (left).

THE BACK TRACKERS

Investigations into the genetic causes of low back pain have yielded an important discovery.

Most of us will suffer low back pain as we get older, but some will experience greater pain than others and some will suffer well before they hit middle age. All of that means there is something more going on than simple ageing. So what exactly is the cause of the lumbar disc degeneration (LDD) that causes back pain?

Researchers in the Li Ka Shing Faculty of Medicine have been pursuing that question, with some important success. Starting more than a decade ago, under the umbrella of a HK\$50 million Area of Excellence scheme on developmental genomics and the skeleton, a team of scientists, clinicians and geneticists began working painstakingly to recruit a large population cohort, examine each individual's degree of disc degeneration, and sift through the hundreds of thousands of genetic variations related to the discs to uncover a likely cause of degeneration.

Recently they identified a genetic risk variant among LDD patients, which was discovered in a study led by Professor Danny Chan and Dr Song Youqiang, both of the Department of Biochemistry. It is not likely the only variant, but the finding is important in helping to fill out the picture of the causes of LDD.

"To understand the cause of disc degeneration is tough work," Professor Chan said. "By the time it becomes apparent, you are already looking at the end stage. You can't look at the early stage because you can't remove pieces of young people's spines to study them. This is where genetics come in."

Thousands of subjects

Earlier studies on twins had pointed to a genetic cause but no one had done a population cohort study before – recruiting



"To understand the cause of disc degeneration is tough work. By the time it becomes apparent, you are already looking at the end stage. You can't look at the early stage because you can't remove pieces of young people's spines to study them. This is where genetics come in."

Professor Danny Chan

people from the general population. The researchers recruited 3,500 subjects in Hong Kong and worked with collaborators in Finland and Japan who were also studying genetic variations in their populations.

Magnetic resonance imaging (MRI) was conducted on each of the subjects to determine their degree of disc degeneration and establish the overall level of degeneration in the population. Then, genetic investigations were undertaken on 4,043 individuals from families with early-onset and severe LDD and 28,000 control subjects, encompassing southern Chinese, northern Chinese, Finnish and Japanese subjects.

The team scanned through their entire genome, SNP by SNP (a SNP, or single-nucleotide polymorphism, is a variation in a DNA sequence), and pinpointed a likely cause from among 850,000 SNPs related to the damaged discs.

The variant they found was in a gene that codes for the enzyme carbohydrate sulfotransferase 3 (CHST3), which helps to keep the disc hydrated so it maintains a gel-like property and can act as a shock absorber. The variant changed the amount of CHST3 so there

was less water in the disc. It had a frequency of 43 per cent among the LDD subjects and its presence increased the likelihood of developing LDD by 30 per cent. The findings were published in the *Journal of Clinical Investigation*.

"For the first time, we have shown the key functional link between this variant form of the CHST3 gene and LDD," Professor Chan said. "There's also a clear correlation from our genetic study showing that the more severe the degeneration, the more severe the pain."

Searching for other culprits

Research is now turning to more detailed investigations of the risk and protective factors in LDD. The 3,500 cohort is receiving a second round of MRIs to see who has experienced disc degeneration. Professor Chan and his colleagues are also casting their net wider to see if they can identify more susceptibility genes, under a HK\$74.5 million Theme-based Research Scheme to analyse genomic variations in degenerative skeletal disorders.

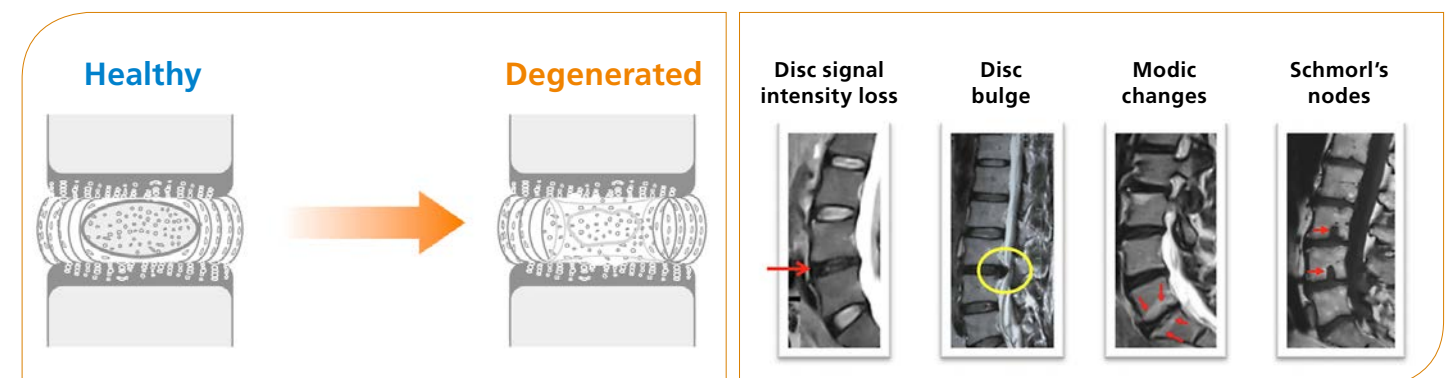
"We want to understand a group of individuals who are rapid progressors – individuals with some genetic factors that mean once discs

become bad, they become very bad, very quickly. Drug companies are also interested because if they want to test a drug, they don't want to wait 10 or 15 years, they want to see an outcome in two or five years.

"We also want to look at protective factors. Some people do not have disc degeneration or they have a bad disc but no pain. Why is that? Because at the end of the day, that is the issue – the pain."

Ultimately, they hope to improve prospects for patients who have few options for treatment or alleviating their pain. "At the moment, disc problems are treated with surgery," Professor Chan said. "It's a salvage operation, not a cure. That's why clinicians really want a biological treatment."

Every little step in that direction will help as HKU researchers continue their investigations into back pain. ■

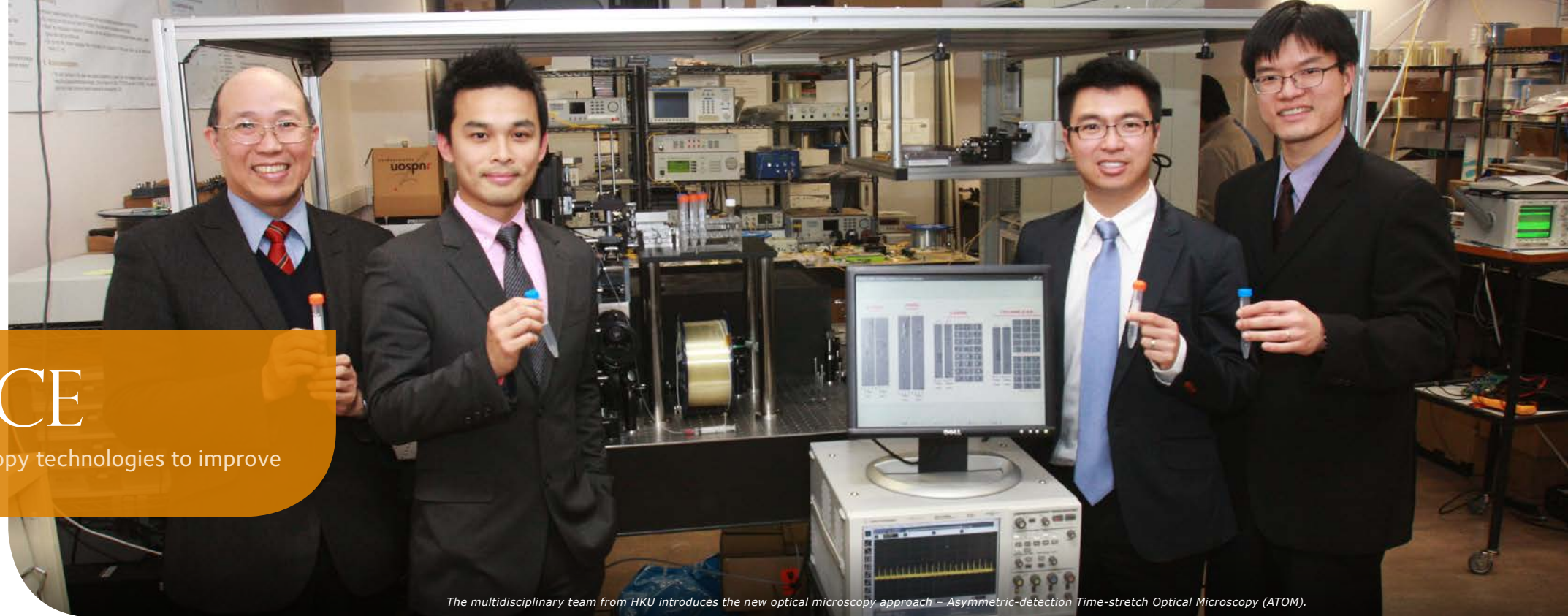


Disc degeneration, which leads to back pain, can be caused by various factors including obesity, metabolism, ageing and genetics.

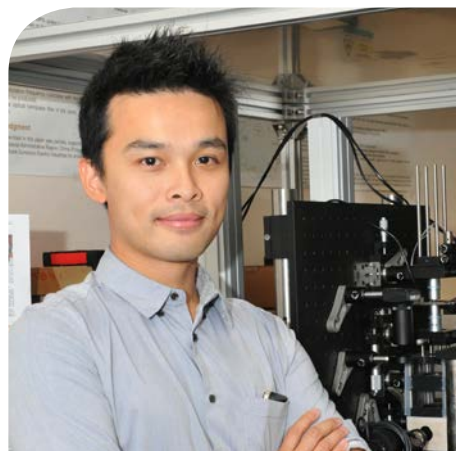
Professor Chan's team conducted magnetic resonance imaging (MRI) on each of the 3,500 subjects in Hong Kong to determine their degree of disc degeneration.

SPEED IS THE ESSENCE

Engineering and Medicine join forces to develop new optical microscopy technologies to improve early cancer detection in cells.



The multidisciplinary team from HKU introduces the new optical microscopy approach – Asymmetric-detection Time-stretch Optical Microscopy (ATOM).



“I’m a strong advocate for turning research output into something practical and useful. This is particularly relevant to biomedical engineering as it is the main driving force for better health care.”

Dr Kevin Tsia Kin-man

Biomedical imaging has come to play a key role in clinical diagnostics, as well as basic life science research. In particular, early detection of rare cancer cells and understanding their behaviours with high efficiency and accuracy has been a daunting task in the arena of biomedicine. The key technological challenge is to pinpoint individual cells in a large population and to analyse them one by one.

Now a multidisciplinary team from HKU, led by the Faculty of Engineering, has come up with new technology that will not only drastically speed up the rate at which individual cells can be monitored, but also make cellular resolution much clearer thereby making detection of suspect cells easier.

Called ATOM – Asymmetric-detection Time-stretch Optical Microscopy – it can capture images of moving cells up to 10,000 times faster than existing camera technologies.

Head of the crossdisciplinary team that developed ATOM is Dr Kevin Tsia Kin-man, who is affiliated with the Department of Electrical and Electronic Engineering and also teaches in the Medical Engineering programme.

Innovative camera concept

“There are two key features to the new technology,” he said. “One, we’re not using current camera technologies, as they are what limits the imaging speed. We have developed a

system that functions as a camera, but is not the usual concept of a camera.

“And two, a pulse laser is the source for imaging – the pulsing speed of the flashlight is very fast so that is the frame rate, 1,000 times faster than a conventional camera. Using an optical encoding technique, we are able to store the image data into the pulse of the flashlight – one pulse carries one image frame.”

The implications of ATOM for improving flow cytometry (the gold standard for cell analysis), both in terms of speed and accuracy of detection, are great. “Flow cytometers for instance can test blood cells, but there is a lot of room for human error in the blood cell screening and the subsequent data analysis processes,” said Dr Tsia. “The main reason is the lack of image information for each cell in standard flow cytometers. And it is generally true that accessing the image data of each cell facilitates better cellular identification/discrimination and thus yields high-confidence statistical data.”

The need for enabling imaging capability in flow cytometers has already resulted in the recent development of Imaging Flow Cytometers. However, they use a conventional camera so the speed is limited to about 1,000 cells per second.

“We’re marrying the super fast camera system with flow cytometer technologies,” said Dr Tsia.

“The result is biomedical imaging technology that provides not only the best combination of high-contrast and high-speed single cell imaging, but also – because it can generate an enormous image data within a short period of time – a new paradigm in high-throughput cell screening, big data bioimaging.”

ATOM can capture images of ultra-fast-moving living cells with cellular resolution in flow at a speed as high as 10 metres per second which translates to an imaging throughput of 100,000 cells per second, more than 1,000 times faster than any existing charge-coupled device (CCD) or

complementary metal oxide semiconductor (CMOS) camera technologies.

Dr Tsia came to HKU in 2009 as an Assistant Professor. “I was doing my PhD at the University of California, Los Angeles (UCLA). My interest is optics in general, and originally my research was in telecommunications – fibre optics for the internet. But I switched midway because I realised the optical technologies in telecommunication can be borrowed and adapted to advance optical bioimaging. This is a relatively underexploited area, and thus motivated me to move into biomedical engineering.”

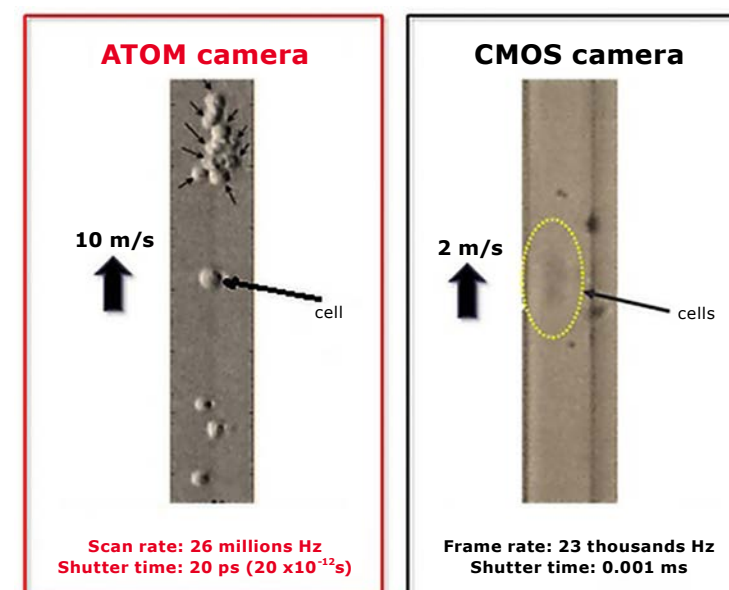
The team which developed ATOM has come together gradually over the past five years. Key members are Dr Anderson Shum Ho-cheung from Mechanical Engineering, Dr Kenneth Wong Kin-yip from Electrical and Electronic Engineering and Professor Godfrey Chan Chi-fung, Tsao Yen-Chow Professor in Pediatrics and Adolescent Medicine, from the Faculty of Medicine.

Multiple applications

The HKU team is focussing on the biomedical applications, but the technology has other applications. It could be used in industries such as paper manufacturing for surface inspection, and for high-speed quality checks in making computer chips.

“We’re now working on validating and optimising the systems – the next stage is working with doctors on the diagnostics side,” said Dr Tsia. “There is an immediate need for this in the market, so we are patenting the technology.”

“I’m a strong advocate for turning research output into something practical and useful. This is particularly relevant to biomedical engineering as it is the main driving force for better health care. I tell my students research is not just about sitting in a laboratory – our ideas should be used out there in the real world to improve medical care.” ■



Compared to conventional complementary metal oxide semiconductor (CMOS) cameras, ATOM can capture images of ultra-fast-moving living cells with cellular resolution in flow at a speed as high as 10 metres per second.

A poster of a Japanese adult video girl at a street corner in Taipei.

THE MYTHICAL ORIGINS OF JAPANESE PORNOGRAPHY

Dr Dixon Wong has been studying Japanese pornography from an academic perspective, which means looking past the titillation to examine archetypes, how they echo in society, and how consumers interpret them.

Pornography is a challenge for scholars, who must overcome the difficult nature of the material. But Dr Dixon Wong in the School of Modern Languages and Cultures has persevered, spending years analysing the basic structure of Japanese pornography as myth.

Taking his lead from French anthropologist Claude Lévi-Strauss's examinations of myth, Dr Wong has drawn parallels between the storylines of Japanese pornography videos, which are characterised by sadomasochism, and Japanese cosmology. He has co-authored several books and research papers on Japanese pornography and its globalisation.

"In Japanese cosmology, humans are the mirror of the gods. They have a dual nature of good and evil and one way they purify themselves of evil is to transfer all their impurities to a scapegoat. In traditional Japanese culture this scapegoat was a monkey," he said.

"Japanese pornography derives from this basic structure. The man wants to prove he is pure, so the woman is depicted as problematic – she doesn't enjoy sex. The man transfers all his impurities to her by committing violence and evil against her, so she becomes the scapegoat. In the process the man gets sexual satisfaction and transforms the woman to perfect, meaning she now enjoys sex.

"I see this pornography as a myth and delineate the basic structure to link it to traditional culture. The fact that it is pornography is irrelevant, it is just a text."

The Taiwanese link

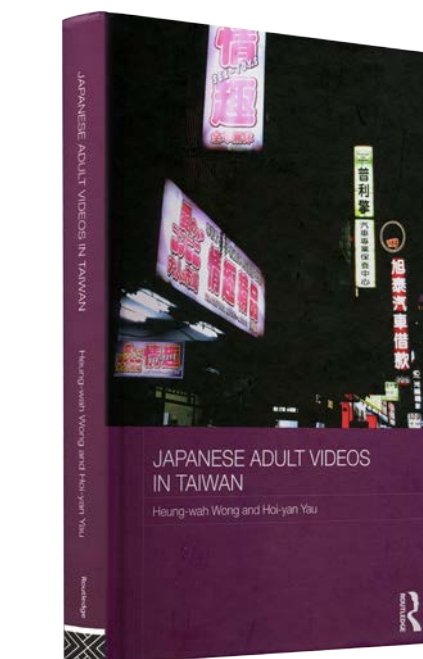
These are provocative ideas, but Dr Wong pointed out that the scapegoat structure could be seen in other cultural products from Japan. He and his co-researcher, Dr Yau Hoi-yan of Lingnan University, are studying this structure

in Japanese television dramas, and he even argues that Japan's occupation of Taiwan and invasion of other Asian countries in World War II could be another representation.

"The Japanese colonial government spent a lot of money building infrastructure in Taiwan and teaching Taiwanese people the Japanese language. A lot of people say this is a colonial policy and in a way it is. But there is also the Japanese idea that they invaded China in order to save it from the hegemony of western countries. That's why they had the Co-Prosperity Sphere in Asia: I invade you in order to save you.

"I don't know how far I can go with this concept but I don't think it is confined to pornography."

Interestingly, the Taiwanese are keen consumers of Japanese pornography, although



Japanese Adult Videos in Taiwan, co-authored by Dr Dixon Wong of the University of Hong Kong and Dr Yau Hoi-yan of Lingnan University.



“Understanding pornography can be a way of understanding how we perceive and deal with the world.”

Dr Dixon Wong

with their own cultural take on the material, as Dr Wong and Dr Yau discovered in separate research on Japanese pornography consumption in Taiwan. Taiwanese subtitle writers leave out musings by male characters on art and philosophy, which are peculiar to Japanese pornography, and instead inject their own cultural ideas about male and female sexuality.

"The Taiwanese regard man as physical, someone who thinks sex is ordinary, whose desire is uncontrollable and who is an animal. Woman is seen as cultural and spiritual, she thinks sex is extraordinary, even unnecessary, and she can control her sexual desire; she is human. The job of man is to try to transform woman into something animal so animal has sex with animal. The man's pleasure derives from this transformation. The thing that is similar with Japanese pornography is that man is the transformer, but it's for different

reasons," he said. This interpretation was confirmed in in-depth interviews with more than two dozen Taiwanese.

Globalise or shrivel

Adapting Japanese pornography comes rather easily to Taiwanese, given their long-term exposure to Japanese culture. But Dr Wong said the US\$1 billion industry faced difficulties because Japanese pornography producers had made little effort to globalise.

"The Japanese cultural industry as a whole does not know how to promote its products in other countries, so most of the globalisation of that industry, including pornography, is through piracy. People make illegal copies and sell it.

"They need a new invention, they need to find a way to go overseas, it's the only way they can

survive. But they need good local partners and culturally intelligible translations. I always encourage them to try to export their products in Asia at the least."

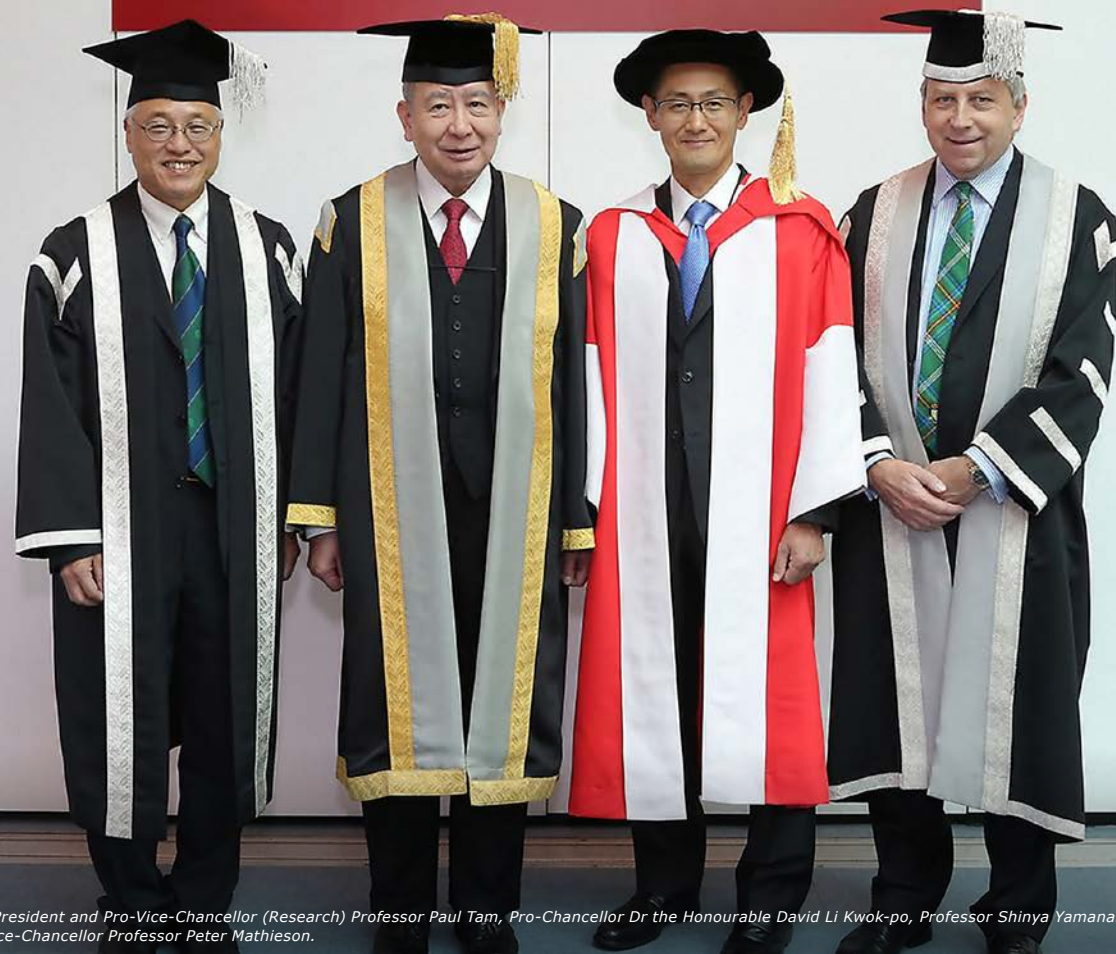
Dr Wong also sees potential for a greater presence of pornography studies within academia. "You cannot find a chimpanzee that can have its own pornography. Understanding pornography can be a way of understanding how we perceive and deal with the world," he said. ■



A Japanese adult video shop in Taipei.

191st Congregation

第一百九十一屆學位頒授典禮



From left: Vice-President and Pro-Vice-Chancellor (Research) Professor Paul Tam, Pro-Chancellor Dr the Honourable David Li Kwok-po, Professor Shinya Yamanaka and President and Vice-Chancellor Professor Peter Mathieson.

STEM CELL PIONEER HONoured BY HKU

The groundbreaking work of Professor Shinya Yamanaka has changed how we regard stem cell research and treatment.

Professor Shinya Yamanaka, the 2012 Nobel Laureate in Physiology or Medicine, was conferred an Honorary Degree by HKU in October in recognition of his outstanding contributions to health and research.

In 2006, Professor Yamanaka announced the holy grail of stem cell research – he had discovered how to derive stem cells from

existing adult cells, rather than human embryonic cells. This freed stem cell research from the restrictions that were introduced in many countries due to ethical concerns over the use of embryonic cells.

The importance of his discovery led to numerous honours and within a few short years the Nobel Prize, but it had a humble beginning.

Professor Yamanaka first became interested in medicine when he was a boy in Japan and suffered many injuries, requiring frequent visits to the hospital. His interest in research, and stem cell research in particular, came after he received his doctorate from Osaka City University in 1993, spent three years at the Gladstone Institute of Cardiovascular Disease in California, and returned home to be assigned a

“My goal as a physician-turned-scientist is to help as many patients around the world as possible, and I hope many researchers will use induced pluripotent stem cell technology as a research tool to develop new cures to various intractable diseases.”

Professor Shinya Yamanaka

job looking after the laboratory mice. The boredom of that job led him to pursue his own research, and to his discovery.

Reprogramming cells

Stem cells are present in the embryo and develop into the cells of the brain, bones, nerves, blood, organs and other parts of the human body. They are important because they are ‘pluripotent’, meaning they can differentiate into any cell.

Professor Yamanaka effectively reversed the differentiation process. Working with the genome of mice, he and his team calculated how to add a small number of key genes to a mature and specialised adult cell to reprogramme it into a pluripotent cell. The result was called an induced pluripotent stem (iPS) cell.

The research was published to much acclaim in August 2006, on the same day a team of HKU professors happened to be visiting his laboratory, according to HKU’s Public Orator, Professor Michael Wilkinson, who presented Professor Yamanaka for the Doctor of Science *honoris causa* in October. “Even amidst the excitement and the demands of the press, Shinya took time to meet our colleagues and tell them about his discovery,” he said.

A window to disease

The development of the iPS cell technique has had a number of implications. For researchers it enables them to have a steady supply of stem cells for testing and investigation. It also provides a window for learning more about diseases that are caused by cell malfunctioning because the cells of patients can be reprogrammed then induced to grow again,

revealing how the diseases progress. This approach has been found suitable for studying such diseases as Lou Gehrig’s and Alzheimer’s, and for studying the effects of possible treatments.

These developments all align with Professor Yamanaka’s own stated mission: “My goal as a physician-turned-scientist is to help as many patients around the world as possible, and I hope many researchers will use iPS cell technology as a research tool to develop new cures to various intractable diseases.”

Professor Yamanaka currently is Director of the Center for iPS Cell Research and Application at Kyoto University and a Senior Investigator at Gladstone Institutes. He has also visited HKU twice, including in 2008 when he delivered the Shaw Prize Lecture. ■



Professor Shinya Yamanaka was conferred with the Doctor of Science honoris causa when he made a trip to HKU for the European Molecular Biology Organization (EMBO) Workshops in October, 2014.



Professor Yamanaka delivered a special keynote lecture entitled ‘Dissecting Human Reprogramming Toward Pluripotency’ after the Congregation ceremony.



Some of the participants in the first week of the Summer Institute for Linguistic Research.

ABOVE AND BEYOND

Sometimes education can feel like it's all about the research – the Linguistics Department has aimed to give research postgraduates a more hands-on, immersive experience with their first summer institute.

The Linguistics Department sought to enhance the overall student experience this summer – and to contribute to the linguistic community in Hong Kong in general – when they hosted the Summer Institute for Linguistic Research, the first of its kind in Hong Kong. The Institute grew out of an idea by Dr Umberto Ansaldo who wanted to bridge the three-month summer hiatus and foster a community feel between students and faculty outside of formal interactions.

The Institute was organised by the Department of Linguistics's Dr Cathryn Donohue, Professor Diana Archangeli and Dr Michelle Li. Dr Donohue, who also set up and maintained the website, said that as a huge organisational endeavour it was also a great opportunity to work closely with our research postgraduates. "Many of the students were offered tuition waivers in return for volunteering with some of the tasks involved," said Dr Donohue, "Our research postgraduates took the lead on

organising receptions, planned social activities and took responsibility for many other tasks, as well as generally acted as goodwill ambassadors to the visitors who came from around the world, including Southeast Asia, the United States, the United Kingdom and Australia, in addition to Hong Kong and the Mainland."

The first week of the Institute was made up of a selection of five seminars each of which met for five 90-minute sessions. Guest lecturer Professor Mark Donohue, from the Australian National University – who is Dr Donohue's brother – was invited to present on 'Language History and the Pacific World'.

Integrative approach

"It was an eye-opener," she said. "The inclusion of a wide variety of data, beyond that normally used by historical linguists, has allowed us to refine our ideas of linguistic history. He's tied the results of this integrative approach in with work he's doing with archaeologists, botanists and geneticists,



Postgraduate students took part in a poster conference, with Professor Mark Donohue as the keynote speaker, to showcase their research and get feedback from other participants and faculty.



“The wide range of topics were very interesting. So many new ideas were presented, representing fascinating shifts in directions in the different sub-fields – it was really stimulating, albeit exhausting!”

Dr Cathryn Donohue

tracing the social and linguistic histories more thoroughly by bringing in new elements such as tracking pottery developments, food crop cultivation, to infer a clearer picture of social interaction (and thus linguistic history)."

Members of the Linguistics Department presented the four other seminars. Speaking on 'Complexity in Language', Dr Ansaldo examined issues of linguistic simplicity and complexity in a range of sub-disciplines. The 'Emergent Phonology' seminar by Professor Archangeli examined a range of cross-linguistic data to showcase a new approach to phonology that explores how grammars may emerge rather than be hard-wired.

Professor Tan Lihai's class on 'Brain Mechanisms of Language', explored pioneering work in neurolinguistics, while Professor Stephen Matthews looked at 'Typology and Transfer in Bilingual Acquisition', investigating how a bilingual child's developing language systems interact.

"The wide range of topics were very interesting," said Dr Donohue. "So many new ideas were presented, representing fascinating shifts in directions in the different sub-fields – it was really stimulating, albeit exhausting!"

The second week comprised workshops on Linguistic Documentation led by Visiting Professor Peter Austin of the School of Oriental and African Studies, University of London, Mr David Nathan of the Oxford University, and Professors Honoré Watanabe and Toshihide Nakayama, both from the Tokyo University of Foreign Studies.

"In the Department we have students and faculty working on the description of a language – but not documentation, so it was extremely useful," said Dr Donohue. "It was very hands-on, teaching us how to use professional audio equipment in a range of settings to produce archival quality recordings – and, crucially, what common problems to avoid.

Useful resource

"The workshop also covered principles and practice of language documentation, ethical issues, and stressed the importance of metadata – knowing who is in the room, where they are sitting, what they are doing, and how they're connected – incorporating social and cultural factors so you can produce not just a report of specific linguistic phenomenon, but a complete picture to be archived as a useful resource to others in a range of disciplines."

On the middle weekend, postgraduate students were invited to take part in a poster conference, an opportunity for them to showcase their research and get feedback from other institute participants and faculty. "We asked them to present by poster as it's less stressful than giving a talk," said Dr Donohue, "but it also ensures that they have thought their ideas through and present a complete picture, making the feedback and exchanges more meaningful."

Plans are already underway for the next institute. "One thing we learned this year is that despite a fairly thorough application process, participants didn't all have same background, so we are considering offering refresher courses immediately prior to the seminars of the next institute," she said. "We are exploring the possibility that our research postgraduate students be involved in teaching these courses. We would also like to offer more scholarships and would like to continue to bring in faculty from outside HKU to complement our expertise and are actively seeking funding to make the next institute even more successful." ■



Professor Stephen Matthews's class on 'Typology and Transfer in Bilingual Acquisition'.



A great variety of participants from around the world joined the week-long Linguistic Documentation workshop.

A TASTE OF FRANCE

HKU science and medical PhD students gain valuable experience of working in a French research environment through intern scholarships to the prestigious Institut Pasteur.

Three HKU students have spent the summer in France studying at the renowned Institut Pasteur thanks to the L'Oréal Scholarship for Research Internship, founded in 2012 with the aim of giving PhD students from Hong Kong and Macau a taste of what it would be like to do research in France full-time.

Former university administrator Anthony Tsui Tin-yau, now perhaps best known for his work with the Croucher Foundation, a private body specialising in funding projects to promote scientific standards in Hong Kong, explained how the L'Oréal Scholarship came about.

"We're particularly keen to develop scientific relationships between Hong Kong and other countries, thereby increasing exposure and competitive strength of scientists in Hong Kong," he said. "While for historical and cultural reasons, the scientists' network between Hong Kong and English-speaking

countries has existed for a long time, links with non-English-speaking countries have been weaker. Yet many major scientific discoveries and medical breakthroughs have come from scientific communities in the non-English world."

He wanted to strengthen those links, but found a major challenge was persuading Hong Kong students to pursue their studies in non-English-speaking countries – "students, even those at doctoral and postdoctoral levels, tend to be unadventurous".

Foreign research environment

It was felt that what was needed was for them to get a foretaste of what to expect, and this is where L'Oréal stepped in to provide all the funds towards airfare and stipends so that selected Hong Kong students could be exposed

to working in a French research environment in Institut Pasteur laboratories as interns for the summer.

"The L'Oréal Scholarship for Research Internship is a fabulous opportunity for dedicated research students from Hong Kong and Macau to join a centre of excellence at the heart of Europe's scientific community, where they can learn from world-leading scientists while experiencing new approaches and a completely different culture," said Professor Roberto Bruzzone, Co-Director of HKU-Pasteur Research Pole.

Three of this year's four scholarship recipients came from HKU, while the fourth was Ms Lee Ying-ying from the Chinese University of Hong Kong.

Ms Candice Chang Yuen-yan, a PhD student in HKU's Department of Chemistry, had her internship with Dr Jost Enninga's Dynamics of Host-Pathogen Interactions Group in the Pasteur Institut's Cell Biology of Infection Department. "I worked together with a postdoctoral fellow to study the influence of the bacterial effectors of *Shigella flexneri* on macropinosomes," she explained.

"Dr Enninga was a very helpful and supportive supervisor. He completely trusted my competence and allowed me to work on the project independently. He encouraged discussions among group members, which

enabled me to learn a lot from others, and he provided me with a lot of useful advice on both the research project and in developing a career in science."

Tim Tsang Kam-lun, a PhD student in HKU's School of Public Health, did his internship in Dr Simon Cauchemez's Mathematical Modelling of Infectious Diseases Unit. He said: "This research experience enhanced my research skills a lot and I am more confident about a future career in research."

Specific target

The research he was involved in used mathematical and statistical tools to model the influenza transmission in household settings. "One specific target in my internship was to identify and quantify characteristics that contribute to higher susceptibility (infected by influenza) or infectivity (ability to infect others after infection) for influenza," he said. "We

found that children were of both higher susceptibility and infectivity for influenza. This result suggests that vaccination programme targeting on children may be able to provide indirect protection to their household contacts."

Karen Kwan Hoi-lam, a PhD student in HKU's Department of Orthopedics and Traumatology, spent her internship working with Professor Jean-Marc Cavaillon's Cytokines and Inflammation Unit, Infection and Epidemiology Department.

"Institut Pasteur is an internationally renowned institute for immunology research," she said. "Since I have been studying the inflammatory response in wound healing for my PhD study, I believed that an internship there would bring me deeper understanding of the field of immunology and an opportunity to meet some bright scientists."

"I am new to immunology and Professor Cavaillon was very patient, explaining to me both the history and the latest research. He also welcomed discussion from which I learned to think critically and pay attention to detail. He was also kind enough to take some of his students and me to Versailles, the place where he grew up, and he taught us about France's history."

When they were not working in their respective institutes, the three found time to explore France and its lifestyle, lessons which they valued. Said Ms Chang: "There is a strong belief in French culture that people should live according to their will. I have learnt to enjoy work as much as to enjoy life. It is important to keep a balance between work and life so as to keep energetic every day." ■

"We're particularly keen to develop scientific relationships between Hong Kong and other countries, thereby increasing exposure and competitive strength of scientists in Hong Kong."

Anthony Tsui Tin-yau



MULTIPLE SKILLS FOR A MULTITASKING WORLD

On top of being excellent clinicians, today's graduates need to be entrepreneurs and information technology experts too, says new Dean of Dentistry.

"Information technology (IT) is radically altering how patients look for dental health care, and I'm convinced that in the very near future it will play a bigger role – particularly in a tech-friendly place like Hong Kong," said Professor Thomas Flemmig, the new Dean of Dentistry and Clinical Professor in Periodontology.

Warming to his theme, the new Dean explains that IT will radically change not only dental practice but how dentists interact with patients. One of his main aims for the Faculty therefore is to ensure that students receive an all-round education to prepare them for a career in the modern world.

"As a clinical faculty, it is our mission to prepare graduates to meet the oral health needs of the people of Hong Kong," he said. "Today, that means not only the clinical skills, but business and IT skills.

"Academia is changing: the ivory tower is no more. The market is also changing and it is up to us to provide what it needs in terms of workforce. Most graduates will go into private practice – we need to teach them not only with clinical skills, but entrepreneurial skills – how to run a business."

Professor Flemmig comes to HKU from the Department of Periodontics in the University of Washington's School of Dentistry. He is an accomplished scholar of international standing and renowned periodontist, with extensive experience working with government agencies and professional organisations. Prior to taking up the Deanship, he has visited HKU several times as Guest Lecturer.

Asked what prompted him to come to HKU full-time, he said: "The Faculty is renowned, particularly for excellence in research. Its unique educational programme is one of only a

few in dentistry which has a problem-based learning approach. Add to that the excellent resources including staff members with a very broad range of expertise, top-grade students both local and overseas, and the fact that HKU itself is a leader in research and higher education excellence, with strong interdisciplinary collaborations between the faculties, and a strong sense of community."

Praising his predecessor Dean Lakshman Samaranayake, as well as interim Dean Professor Edward Lo Chin-man, Professor Flemmig said: "Under Professor Samaranayake's decade as Dean, the Faculty has become a leader in oral health research, particularly research in biomedical and tissue engineering infection and immunity, and public health and healthy ageing."

The new Dean aims "to build on the Faculty's existing strengths and expertise, expanding the research area into comparative effectiveness research – which is needed more and more in clinical work and teaching in order to support evidence-based decision-making in dentistry."

He seeks to promote innovation, particularly when it comes to integrating new technology into the dental profession. "We are in a unique position to harness the technologies in the

“Academia is changing: the ivory tower is no more. The market is also changing and it is up to us to provide what it needs in terms of workforce.”

Professor Thomas Flemmig

University and in the community, bring them together and find areas where they can be used to benefit dentistry – both in its practice and in the education of dental students."

Professor Flemmig's research area is in the control of oral biofilms. He points out that in the United States the overall expenditure on oral biofilms and associated diseases are greater than those for each of the most costly medical conditions including cancer.

Practise what you teach

When it comes to teaching, he is very hands-on. "I have practised clinically – mainly periodontology and implant dentistry – throughout my career as I think it's important in academia that as teachers we practise what we teach. It's vital to keep up with advances in clinical practice so that we know how to integrate them into dental teaching. In departments of periodontics in the United States and in Germany I was closely involved with teaching and patient care."

He has also served on German Council of Science and Humanities, which makes recommendations to the Government on medical and dental policy, which enabled him to recognise the need to marry the academic

and policy aspects of dentistry with the business side. That in turn led him to learn more about the economics of periodontal care.

"I did a Master of Business Administration and got a certificate in Health Sector Management. I learned that the academic world can learn from the business world. There is a tendency in academia to do things the way they have always been done, whereas in business they are more inclined to look for ways to improve, via for example the pursuit of best practices in industry sectors. We can do same in academia.

"I have collaborated extensively with industry, and more recently with the start-up community. There are great opportunities to wed our academic competencies with the possibilities that technology start-ups can offer."

When he is not at the Faculty, Professor Flemmig's interests include reading – mainly non-fiction – and sport. He used to swim competitively, reaching the finals of the German nationals. He also skis, plays tennis, loves road and mountain biking, and used to hold his pilot's licence – a multitasker in word and deed. ■



Discussion about research with students in the Centralised Research Laboratory of the Faculty of Dentistry.



Clinical instruction of postgraduate students in the Centre for Advanced Dental Care of the Faculty of Dentistry.

CAUGHT IN THE MID-STREAM

The new Dean of Law has arrived at one of the most contentious times in Hong Kong's recent history, when positions are hardening over the city's political development. The question he faces from all quarters: Where do you stand?

“What the Faculty has done and should continue to do is to preserve freedom of speech and thought, and academic freedom, and maintain a liberal atmosphere so all these different ideas can be developed and flourish and contend with each other.”

Professor Michael Hor Yew-meng

Professor Michael Hor Yew-meng became Dean of Law on July 1, a day that saw hordes of people protest on the street for greater democracy in Hong Kong. Some members of his Faculty are organisers of the Occupy Central movement to increase democracy, others advocate a more conservative approach. Professor Hor himself was busy getting moved in on that day, but the former National University of Singapore (NUS) Professor has taken a keen interest in the debate. He has no choice.

“The press keeps trying to draw me into one camp or the other,” he lamented. “What I consistently tell them is, what’s the point of me saying I support Occupy Central or I support Beijing? Is it going to solve the problem? Obviously it’s not.

“What the Faculty has done and should continue to do is to preserve freedom of speech and thought, and academic freedom, and maintain a liberal atmosphere so all these different ideas can be developed and flourish and contend with each other.”

That non-partisan approach stops short, however, when it comes to Hong Kong’s legal system. The release in June of a White Paper on Hong Kong’s administration contained statements by Beijing that many regarded as undermining the rule of law and the independence of the judiciary. Efforts have since been made to soften the blows, but the legal profession harbours deep concerns.

“If indeed there is no intention to affect Hong Kong’s legal system in this way, then clear and unequivocal reassurances ought to be made to that effect in order to restore the confidence of the legal profession and the public,” Professor Hor said. “Confidence in the immutability of these features of the Hong Kong legal system is essential to the well-being and prosperity of the region.”

Mutual love

Professor Hor has long experience defending legal integrity after 25 years at NUS, where he was an outspoken and respected critic of the Singapore criminal justice system. The fact he is an outsider with knowledge of Hong Kong – as Visiting Professor in the Faculty in 2008 and 2013 and Advisor to the Centre for Comparative and Public Law – means he can step back and look at the bigger picture.

“I don’t think of Hong Kong and China as separate. If you love China, how can you not love Hong Kong, and if you love Hong Kong how can you not love China? It’s not entirely outside our experience. Think of federal countries like the United States. Texas doesn’t like Obama or the federal government, but it is part of America and it is possible to love Texas and love America. Most sensible people manage both,” he said.

That sense of balance is well established in the Faculty where differing views jostle alongside each other and the range of legal expertise

includes Hong Kong, China and the rest of the world.

International connections

“I look at what the Faculty has been doing and I see a general theme of a certain internationalisation and engagement with other jurisdictions. It’s always been there but it has intensified. Traditionally the Faculty’s primary ties have been with England, Australia, New Zealand, but not so much the United States, and countries in South Asia and Southeast Asia, where we can leverage our twin competencies in civil and common law. Maybe that’s something we can work on.

“China itself is assumed. It’s like having breakfast in the morning. We have a very strong core of Chinese lawyers here and probably the strongest pool of experts in Chinese law outside China. I will be discussing with them very closely how we can enrich, enlarge and deepen the programme we already have.”

These strengths were built up under his predecessor, Professor Johannes Chan, and Professor Hor is full of praise for the strong advances made under his 12 year-long deanship. He is now sounding out people inside and outside the Faculty on how to keep that momentum going. One thing he hopes to achieve is to draw on his specialty in criminal justice systems and develop this as a focus of study, and in the long term to establish an Asian network of criminal justice scholars and practitioners to discuss and research shared issues such as cross-border crime and terrorism.

In the meantime, the Malaysian-born scholar will focus on settling in with a new team and a new office and contributing to a smooth transition for the Faculty and, hopefully, Hong Kong. ■



Professor Michael Hor (right) and Mr Stephen Hung (left), President of the Law Society of Hong Kong, at the Faculty of Law's Postgraduate Certificate in Laws (PCLL) Opening Ceremony.



Professor Hor attending the Mass Orientation by the Law Association on August 27.



A NEW PARTICIPANT IN THE GREAT EXPERIMENT

Professor Gray Kochhar-Lindgren calls Hong Kong's university reforms 'the greatest curriculum experiment on the planet'. Now, as the new Director of the Common Core, he is a central player in one of the most innovative parts of that enterprise.

When HKU began preparations to move from a three-year to four-year undergraduate curriculum a few years back, it decided to re-envision university education. Students would not only learn their chosen disciplines, they would undertake such things as tackling novel and ill-defined problems, making connections across areas of knowledge, and increasing their capacity to make a positive difference in the world. Central to that vision has been the Common Core.

The Common Core requires all students to take six courses that cut across disciplines and

address issues of importance to our times, such as climate change, the impact of big data, sexuality and gender, global ethics, and China in the world order. Five years since being launched, the programme has received enthusiastic feedback from both students and staff. It now also has a new Director.

Professor Gray Kochhar-Lindgren comes to HKU from the University of Washington, Bothell, where he was Associate Vice-Chancellor for Undergraduate Learning and Professor of Interdisciplinary Arts and Sciences. He previously spent 10 months in Hong Kong

in 2009–10 as a Fulbright Scholar helping universities across the city prepare for the new curriculum, but he was particularly impressed with the interdisciplinary design of the Common Core.

"HKU has done an extremely sophisticated job in thinking through how to fulfil the needs of a four-year curriculum and also take into account a new situation between the University and the rest of the world at large," he said.

"There's a transition going on, partly because of technology and partly globalisation, where

"Many of the issues the Common Core is dealing with have connection to the issues Hong Kong as a city is dealing with, whether it be bioinformatics, environmentalism, Chinese studies or urban art."

Professor Gray Kochhar-Lindgren

universities are now responsible both for deepening specialised knowledge and for a corollary development of global citizenship and creative preparation for the knowledge economy.

"That gives something like the Common Core a chance to do really deep intellectual work and deep socially-oriented work that will prepare students for less pre-defined careers and more flexibility."

Enhancing student voices

The challenge for Professor Kochhar-Lindgren will be figuring out where, with collaboration from across the campus, to take the programme in its next phase. Under the leadership of Professor Amy Tsui (former Pro-Vice-Chancellor [Teaching and Learning]) and Mr Gwyn Edwards (former Director and currently Deputy Director of the Common Core), and with input from all the faculties, the Common Core has developed its strengths and offers more than 170 courses in four areas of inquiry (Scientific and Technological Literacy, Humanities, Global Issues, and China: Culture, State and Society).

"It's an intriguing moment in the history of the Common Core," Professor Kochhar-Lindgren

said. "It offers a very rich set of opportunities for students and staff and it is institutionally well established, but now it needs to be re-energised, expanded in ways that include more student voices and a greater flexibility, and to be financially and intellectually sustained over time."

Professor Kochhar-Lindgren, who arrived in June, already has plans underway. One is to share students' work with a wider audience through exhibitions and events in the new Common Core Lounge. Another is to recruit Student Common Core Ambassadors to provide feedback to the University and speak to students, peer to peer.

He also will appoint an advisory group of interested individuals, such as parents and people in business and community leadership, who could help to develop the potential for the Common Core to be more closely linked to the needs and opportunities of the city.

Connecting to the city

"Many of the issues the Common Core is dealing with have connection to the issues Hong Kong as a city is dealing with, whether it be bioinformatics, environmentalism, Chinese studies or urban art. One of the things I hope

to encourage is this flow of pathways between the campus and the city, by getting students to 'de-familiarise' themselves with the city and then see it with fresh eyes."

A limitation in achieving that goal is class size, which can reach up to 120 or more students. The curriculum committee is exploring possibilities of online and blended teaching and different configurations of the coursework, and continuing to find resources to support active teaching methods, he said. Teaching support is also continuing to be provided to both tutors and professors to help them keep students engaged with the course material.

Professor Kochhar-Lindgren is also preparing to join the HKU curricular innovations at the ground level. He has enrolled in the HKU x MOOC (Massive Open Online Courses) on epidemics and he and Mr Edwards are jointly developing a Common Core course called 'On the Move: Place-Making and Identity', which they hope to get approved and launched by early next year. ■



Professor Kochhar-Lindgren meeting students at the Common Core orientation programme.



The newly opened Common Core Lounge in the Main Building is an ideal venue for exhibitions, lectures and events.

THINKING OUTSIDE THE BOX

Playing mind games introduces the public to the infinite possibilities of the world of psychology.



The main aim of the Psychology Department's annual PsyJourney is to awaken new interest in psychology, and to raise more awareness of a subject that many people know little about.

"In Hong Kong people tend to think there are only two kinds of psychology – clinical and educational," said Dr Tseng Chia-huei, Assistant Professor in the Department of Psychology. "We want to show them there's a lot more to it – cognitive psychology for example, is a very exciting subject."

She feels that in other Asian countries there is more awareness. "In Japan, the field is seen as more diverse and commercial. Cognitive psychologists are recruited by advertising firms to advise on product marketing. They look into the psychological reasons why people buy one brand and not the other."

This year's PsyJourney was jointly organised by the Psychology Society, the Psychology Department and the Faculty of Social Sciences. The theme was 'Chronicles of the Mind', and events ran from late March to mid-April. PsyJourney has always been open to the public, but in previous years has tended to be limited to people students know. This year the net was spread much wider via local media. "Places filled up within 24 hours, the response was overwhelming," said Dr Tseng. "We got a wide cross-section of people, and all ages – 12 to 70."

Part of the attraction was the fun theme of the events, particularly Mind Crypt, a challenge that combined psychological theories with the popular Room Escape game, whereby people have to escape a darkened room within a certain time limit by solving cryptic clues.

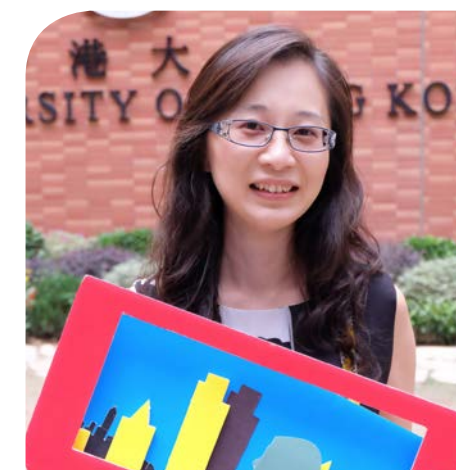
Dr Tseng explained the idea came about after she signed up to play the original Room Escape. "Three friends and I tried the game," she said, "and we failed to escape the room. So we signed up immediately for another session... and we failed again. And we're thinking 'come on, we are four PhDs – why can't we do it?' So I thought it would be good to include the game in PsyJourney as it's all about perception."

For Mind Crypt, students designed a room to look like an abandoned scientific laboratory circa 1940s. Teams of four to six people were locked in the room and given 45 minutes to escape by solving the clues. The room was pitch black, and music and sudden loud sounds were played at random moments. They had to decrypt confusing codes to unlock five boxes – the first one of which provided them with a small flashlight.

Altering perception

The psychological point of the game is perception – put in unusual circumstances people's perception alters, they have difficulty judging the passage of time. The odd sounds are based on the principle of generalisation, associating them with elements of fear.

The game also tested the perception of 'functional fixedness' by which we have tendency to view and use objects in one particular way – in this case, the flashlight. The answer to the final clue was written on a piece of paper wrapped around the battery.



“The relevance to everyday life is that perception changes how we feel – whether we are happy or unhappy, for instance, has a lot to do with perception.”

Dr Tseng Chia-huei



Participants registered as a group of four to six and needed to decrypt the codes in order to escape from the room in Mind Crypt.



Only those who are able to escape from the Mind Crypt in 45 minutes are considered as 'success' – only 10 per cent of the groups succeeded within this time frame.



In Mind Craft, participants explore the combination of distance and retinal size to create optical illusion pictures.

Only 10 per cent of the participants escaped, and the session was followed by a debrief given by students explaining the psychology used.

The second event, Mind Craft, looked at optical illusions through a practical workshop on how such phenomena play with size and distance perception. Participants created their own optical illusions. "Optical illusions work because while your eyes do their job – they see – the brain tricks you into believing you are seeing something else," said Dr Tseng.

"The relevance to everyday life is that perception changes how we feel – whether we are happy or unhappy, for instance, has a lot to do with perception. The basic parameters of life are fairly simple, so if we can change perception we can

help people deal with depression and learn how to make ourselves feel happier."

Students benefited from PsyJourney as it made them use a variety of skills, from script-writing for the game, designing the room, building props to having a contingency plan in case anything went wrong. They also wrote and presented the debriefing sessions.

"In addition, they had interaction with the public," said Dr Tseng, "which is important to make them realise we are not isolated academics, we have a role in the world. But equally, the main aim of the exercise was to teach the public about psychology. As the leading university in Hong Kong, it's our responsibility to inform them, and to share our knowledge." ■



SPEECH THERAPY

A Knowledge Exchange-funded website is putting Hong Kong's linguistic diversity on the map.

Minorities in any country tend to be marginalised, and so do their languages. When people emigrate to a new country a part of their culture that may be left behind is usually their language. While this may be considered part of a natural evolution – adapting to survive in a new environment – it does mean languages can be lost.

Ask what language is spoken in Hong Kong and the snap answer is Cantonese, with English and Mandarin thrown liberally into the mix. But Hong Kong's population is far more multicultural, and the variety of languages spoken much wider. A new linguistic website, LinguisticMinorities.HK aims to give those minorities a voice – a voice that speaks their own language.

Dr Lisa Lim who set up the website says it was not until she came to live in Hong Kong that she realised the extent of the varieties spoken here. "I'm from Singapore, and arrived here with a pretty stereotypical image of Hong Kong. It was

only when I lived here that the diversity within Hong Kong really emerged."

The website, which has just won the Faculty Knowledge Exchange (KE) Award for 2014, came about as a result of a Language and Communication programme capstone course she has been teaching since 2009 on minority and endangered languages – one of her research interests – which involves both theoretical ideas and hands-on fieldwork. Students work within minority communities in Hong Kong to investigate the linguistic issues facing them, such as language shift across generations, or language challenges in education. They discovered that information is scattered across government websites and non-governmental organisation websites, little first-hand research had been done, and nothing had been consolidated.

Dr Lim also came to realise that most of her local students didn't engage with minorities. "The course started them doing that, and their

projects were wonderful. They produced websites or blogs, and it was detailed, interesting, wonderful work. It made me think: why am I the only person seeing this work – other people would also find it useful."

Urban multiculturalism

Another reason for the website was that there has been growing interest, political and academic, in other parts of the world, particularly Europe, in the multiplicity of cultures within cities. Known as urban multiculturalism, or urban diversity, it has come about because of changes in immigration policies which have opened up borders in Europe. Less attention, however, has been given to the diversity in modern cosmopolitan cities in Asia, such as Hong Kong.

Dr Lim hopes the website will put Hong Kong's linguistic diversity on the map, and increase awareness among the public, be they local Hongkongers, or members of minority



“I want [the website] to be an academic resource for academics, journalists and policy-makers, and to contribute to decision-making on diversity and inclusion.”

Dr Lisa Lim

communities in Hong Kong, or across the region.

She would especially like it to be a platform for minorities, “so they can feel represented and thereby validated. It may also raise the possibility of their having a voice. I also want it to be an academic resource for academics, journalists and policy-makers, and to contribute to decision-making on diversity and inclusion.”

An unforeseen result of the website has been interest from the younger, internet generation in Hong Kong. “Some of my students were surprised to see Chinese minorities, such as Hakka, Hokkien and Chiu Chow, included. They thought minority meant something more exotic. Some said, my ancestors are these ethnicities, but it was the first time they had engaged their grandparents in conversations about their roots.”

Finally, it's a showcase of research and expertise within the Faculty and University, both by staff and students. “The website is constantly growing and is a collective effort. It's good for students to see their work up there – I think it encourages them. And they really enjoy the experiential learning – they say the best part is going out and meeting people from minority communities.”

Backed by a third round of KE funding this year, the next step is to translate the website into Chinese, making it even more accessible to the local community. Feedback from colleagues, journalists and laypeople has been good, and the website has had tens of thousands of hits from around the world – about 50 countries in all.

Content includes videos of interviews with members of minority communities, and these

throw up some interesting discussion points pertinent to attitudes in Hong Kong. For example, a 50-year-old Hakka woman commented: “I don't like (to speak) Hakka anymore – I might be mistaken for a Mainlander.”

Concluded Dr Lim: “It couldn't have happened without the hard work of my students, and their excellent and inspiring work on the course, and of course, the receptiveness and support of the communities themselves. It's especially gratifying when one's research, teaching and knowledge exchange come together in such a dynamic way.” ■



Dr Lim expects the new website – LinguisticMinorities.HK – to be an academic resource for academics, journalists and policy-makers and to increase awareness among the public regarding Hong Kong's linguistic diversity.



Students interviewing members of minority communities in a Guangxi Hakka village in Hong Kong.



A BIRD IN HAND

Computer scientists team up with bird-watchers to create avian application for Hong Kong.

Seeing a Black Kite gliding gracefully between the glass high rises of Central is not uncommon in Hong Kong. It is an inspirational reminder that while the world may view this city as a concrete jungle, in fact nature is everywhere. It's not just Kites – Hong Kong is home to more than 500 species of birds. To put that in perspective, Mainland China is home to 1,400

species, so in relative terms this city is positively teeming with birds.

To enhance awareness of this abundance of avifauna, a team from the Computer Science Department has developed a way to put those birds in the palm of your hand. Working together with the Hong Kong Bird Watching

Society (HKBWS), they have developed the city's first cross-platform mobile application, offering information on more than 220 wild bird species.

Called 'HKcBirds: Common Birds of Hong Kong', the application is available for free in both the App Store and Google Play. Beautifully designed, with its leafy green background, pictures and plenty of information, it is extremely easy to navigate. The information includes Latin name, habitat, nesting information, and for some there is even a recording of the bird's call. Importantly, the International Union for Conservation of Nature (IUCN) status of each bird is also listed, indicating if it is an endangered species.

Balancing out science

Project Coordinator Dr Beta Yip Chi-lap has been a computer scientist and a bird-watcher since the mid-1990s. "My area, Computer Science, is very inhuman," he said, smiling.



From left: Ms Yeung Lee-ki, Assistant Project Manager of the Hong Kong Bird Watching Society (HKBWS); Mr Lau Wai-man, Chairman of HKBWS; Dr Beta Yip Chi-lap and Dr Wong Ka-yan, both from HKU's Department of Computer Science, at the application launch media conference.

“I hope [the app] will give people a sense of conservation and a sense of the beauty around them, even in the urban jungle of Hong Kong.”

Dr Beta Yip Chi-lap

“Everything needs to be perfect and exact. I wanted a hobby that was far away from that to balance out my life.”

Now a member of HKBWS and a founding member of the HKBWS Kite Research Group, he is an expert in many species, but still relies on bird-watching books for more information. “The guide books tend to be big and are cumbersome to carry when you are in the countryside,” he said.

The idea for the application was born, and Dr Yip also saw it as a way to share technologies developed by the Computer Science Department with a non-governmental organisation (NGO) for the good of the public and as a means to raise awareness of bird conservation and ornithology. He and colleague Dr Ivy Wong Ka-yan, also from Computer Science, put the project together, using source materials from HKBWS, ornithology experts, and photographers.

Dr Wong designed the application – including graphics and user interfaces – and wrote the codes. Each platform – iOS and Android – had different requirements.

Dr Wong said: “Developing an application with professional quality is expensive and NGOs like HKBWS do not have the funds. Knowledge exchange funding enabled us to create a worthwhile tool that can enhance people's lives. As a university we are buzzing with ideas, but often the public does not know about them, let alone get to share them or benefit from them. This is what knowledge exchange is all about – knowledge for all. My speciality field is meteorological computing, but to be able to use my computing skills in a whole new area was very satisfying.”

Five-star feedback

“Currently we have over 4,500 users worldwide and we have received very positive feedback. In user reviews, over 80 per cent have called us a five-star application,” said Dr Wong. Users have also praised it as “one of the most beautiful applications I have ever used”, and for striking “a good balance between being informative and being concise”.

Though officially the project is ended, now they are in the process of updating the data of the application. “If we can get funding we

would love to expand to other wildlife too,” said Dr Yip. “Several green groups are interested.”

“What we've achieved is a platform to integrate bird appreciation with trendy technology. It's free, highly portable and useful,” he added. “I hope it will give people a sense of conservation and a sense of the beauty around them, even in the urban jungle of Hong Kong.”

He also believes that projects like this are important for helping students to expand their horizons and look beyond their own specialist areas. “I supervise undergraduate and postgraduate computer science students, and I find a lot of them think only in terms of computer science, they don't see anything from the users' point of view. I've been getting them to work on designing applications, and it helps them to integrate the softer side of social science with the exactness of computer science. These are life skills.” ■

To download the application:



iOS



Android



Interfaces of the 'HKcBirds: Common Birds of Hong Kong' mobile application.

THE ETHICS OF TORTURE, TERRORISM AND WAR

Dr Uwe Steinhoff has been examining the circumstances in which violent aggression is justified.

A young boy in Germany is kidnapped and a ransom demanded. The police manage to apprehend a man they are certain is the kidnapper, and beat him when he initially refuses to disclose the boy's location. Were the police justified in their actions?

Dr Uwe Steinhoff of the Department of Politics and Public Administration has done much research and writing on the ethics of violence, and he is unequivocal in his answer. Yes the police were justified, but not for the reasons people might think.

"Most arguments in the Anglo-Saxon debate emphasise what is called a necessity justification, which assumes a person has a right but you override that right. In a way you violate their rights so you would owe them compensation.

"But I argue self-defence. If someone tries to kill you and the only way you can stop him is by killing or severely harming him, you don't owe him any compensation. There is no rights violation in the first place. The child kidnapper is an attacker and he is currently violating the right of the child to freedom and to not be tortured.

"That takes a lot of weight out of arguments like whether you are sure that you have the right guy, or whether your actions will be effective or proportional. In the self-defence context, these arguments don't work. That is why a lot of absolutist torture opponents don't like the self-defence argument, because it's so much more difficult to find objections to it."

Torture in a political context

It's a controversial stance in a world where the use of torture in more politicised circumstances is hotly debated. Dr Steinhoff is clear, though, that there are strict limitations on when torture is justified.

"For the ticking bomb arguments that you hear, for example that by torturing a terrorist certain terrorist acts have been prevented, there is actually no evidence for that. Even a necessity justification it is not applicable here. Guantanamo and Abu Ghraib are just abuses, there is no justification," he said.

In fact, he also believes torture is not justified in armed conflict – and certainly not on the grounds that if the other side is torturing our soldiers, we are justified in torturing theirs.



“Certain acts of terrorism can in principle be justifiable but of course it's the same with acts of killing: some are justified by self-defence or necessity justifications, but almost all are not.”

Dr Uwe Steinhoff

"A lot of people try to justify the use of torture against terrorists but many of these justifications are just far too sweeping for me," Dr Steinhoff said.

For one thing, there is a lot of hypocrisy in defining terrorism. Churchill could be considered a terrorist – "he even called the attacks on German civilians terror bombing" – and the attacks on Hiroshima and Nagasaki would qualify as terrorism too. For the record, Dr Steinhoff said Osama bin Laden was without doubt a terrorist.

Terror, he said, targets innocent civilians (although not all civilians are innocent, for instance the German industrialists who supplied Zyklon B gas to Hitler's gas chambers). Like torture, there are very limited circumstances when terrorism might be justified, but this would require proportionality and a chance of success.

On 9/11 and 'just wars'

"I think 9/11 is not justifiable but even there I make a distinction. The attack on the World Trade Center is strictly a case of terrorism because it involves the targeting of innocent people, but the attack on the Pentagon isn't because it's a military target.

"Certain acts of terrorism can in principle be justifiable but of course it's the same with acts of killing: some are justified by self-defence or necessity justifications, but almost all are not. I think reasonable people can disagree on this, but it is important to me that they can be reasonable and not to say that one side are the saints and the other side the devils.

"And it shouldn't be forgotten that in wars, far more innocent people are killed collaterally than by terrorists directly. Which is a fact Osama bin Laden always emphasised."



The ethics of terrorism is Dr Steinhoff's other area of research. He regards the attack on the World Trade Center unjustifiable because it involves the targeting of innocent people.

This ties into another area under Dr Steinhoff's critical gaze, that of war. The idea of 'just war' is simply misleading, he said, because inevitably the rights of innocent civilians are violated. Even soldiers' rights are, if they are drafted. "Things like aerial bombardments inflict extreme suffering on other people for political reasons. That actually fits the United Nations definition of torture," he said.

Dr Steinhoff's arguments have stirred interest and debate not only in academia but in military echelons and in the popular media in Europe. "I am attempting to clarify what is going on and reveal this kind of hypocrisy. And this bad philosophising – that's one thing I really dislike, where counterarguments for whatever intentions are never even considered."



On the Ethics of Torture was published in 2013 by State University of New York Press, Albany. *On the Ethics of War and Terrorism* was published in 2007 by Oxford University Press. ■



A performance was staged by the renowned Shanghai Quartet and the award-winning pianist Colleen Lee in the Grand Hall in May.

MUSIC MASTER CLASS

Music in Words initiative gives concert audiences a glimpse inside the musician’s world.

One of the final elements of HKU’s Centennial Campus to be completed was the state-of-the-art Grand Hall in the Lee Shau Kee Lecture Centre. This multifunctional box-in-box structure is now the spectacular setting for University and international events including concerts, screenings, academic conferences and lectures.

But the Cultural Management Team (CMT), set up to look after the Grand Hall’s cultural programming, want it to offer more than most arts venues. “We had this vision,” said Sharon Lu, CMT’s Programme Director. “Where the Grand Hall stands now was previously a reservoir, supplying water to nearby residents. We decided to view the Hall as a reservoir of culture – we want people to drink in culture instead of water.”

Learning element

And they wanted there to be a learning element in the process. “HKU is after all a learning institution,” said Professor Daniel Chua, former Head of the School of Humanities. “We were talking about how we could do it differently to City Hall – and we thought ‘we’re a university – let’s let the brain hang out!’”

One result of this thinking is an initiative called Music in Words (MiW), whereby music concerts at the Grand Hall, include a conversation with the musicians who are performing – usually an informal chat about the piece they are playing and their approach to it.

The first MiW presentation was in February when renowned British/Canadian pianist Angela Hewitt performed a programme that included Bach, Liszt and Beethoven’s *Sonata in A-flat major, Opus 110*. Professor Chua hosted a discussion with her before the concert started. Not only did Ms Hewitt chat, but she also demonstrated passages to show what she meant.

“It’s very unusual for an audience to experience that kind of intimacy with the musician,” said Ms Lu. “It was inspiring, it felt like we were being allowed a glimpse inside her head – her thoughts on the piece and how she was interpreting it.”

The Shanghai Quartet performed in the Grand Hall in May, and Professor Chua, who is a Beethoven scholar, joined them on stage to chat about the piece they were about to play – Beethoven’s *Opus 130*. “I hope the

conversation with the Quartet helped make the music more understandable to audience members – whether they are musicians themselves or laymen,” he said.

A more unexpected product of the MiW chats is that they create a very different feel in the auditorium. “Talking breaks down the glass wall between performers and audience,” said Professor Chua. “The result is an ambience that is more intimate.”

Music in Words comes under the umbrella of MUSE – My University Spotlight Encounters – a series of programmes set up by CMT with the aim, in Ms Lu’s words, of “bringing diverse, interesting and inspiring programmes” to the campus.

To learn more about MUSE, please go to <http://www.muse.hku.hk> ■



The first Music in Words presentation, featuring the acclaimed British/Canadian pianist Angela Hewitt, was held in February.



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