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THE UNIVERSITY OF HONG KONG

The Flu Hunters

**New Funding
Boosts Pandemic
Research**



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A World-Class University

The University of Hong Kong has been ranked 18th among the world's best universities by the *Times Higher Education Supplement* (THES).

The ranking is based on the excellence of a university's teaching and research, its reputation among peers and its international outlook.

The University came ahead of all universities in Mainland China and Hong Kong and was the 2nd highest ranked university in Asia, coming just after Tokyo University.

The University jumped 15 places from its 2006 ranking of 33rd and achieved a goal set by the Chairman of the Council, Dr Victor Fung, to see HKU among the top 25 universities in the world.

"I have been very confident that HKU had all the capabilities of becoming the top English-medium university in Asia," he said. "The rankings show that HKU has surpassed my expectations."

The Vice-Chancellor and President, Professor Lap-Chee Tsui, said the achievement was based on a collective effort of staff, students and alumni, with the support of donors, the Government and the wider public.

"Although many of us at the University regard rankings and league tables with a degree of ambivalence, as they often highlight only certain aspects of the achievements of universities, I think we can all agree that our position in the well-respected THES league table at least indicates that HKU is among the very best in the world," Tsui said.

Vice-Chancellor and Leading Professor Receive Top Honour

Two of the University's leading scientists have received France's highest honour.

Our Vice-Chancellor and President, Professor Lap-Chee Tsui, and Professor Malik Peiris, Personal Professor in the Department of Microbiology and Scientific Director of the HKU-Pasteur Research Centre, have both been made Knights of the Legion d'Honneur.

Created in 1802 by Napoleon Bonaparte, the Honneur is awarded to distinguished individuals in recognition of their outstanding services and is not restricted to those of French nationality or birth.

On receiving the award Professor Tsui said: "This is a great honour for both Professor Peiris and myself as well as for the University. It

signifies the French government's recognition of the contributions made by our University. We aim to further enhance our collaboration and exchanges with our French counterparts in research and education programmes."

Professor Peiris agreed and added: "It is very pleasing that our efforts are recognized in this way. Research is a team enterprise and this honour really goes to the whole team of people within HKU, the HKU-Pasteur Research Centre as well as other organizations in Hong Kong which have contributed to those collaborative efforts."

The awards were presented by General Jean-Pierre Kelche, the Grand Chancellor of the Legion d'Honneur and Chancellor of the National Order of Merit who visited the HKU-Pasteur Centre and met with researchers and students who have benefited from exchanges supported by the Legion d'Honneur Club (Hong Kong Chapter).

A Generous Donation to Boost University Development

The University was the grateful recipient of \$500 million thanks to the generosity of businessman and philanthropist, Dr Lee Shau Kee, Chairman of the Lee Shau Kee Foundation.

The donation will be put towards institutional advancement with \$250 million going to support student scholarships and the remainder going towards campus development.

Dr Lee said of the gift: "Nurturing great talent is a long-term investment. The result, however, is immensely rewarding as the society benefits from the knowledge and expertise that these leaders acquire during their school years.

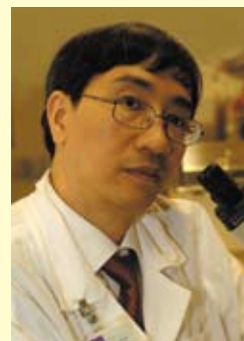
"The University of Hong Kong is an outstanding institution. Through this donation I wish to support the future development of the University, thereby enabling it to continue its excellent tradition of producing exemplary leaders for Hong Kong, Mainland China and the global community."

In thanking Dr Lee the Vice-Chancellor and President, Professor Lap-Chee Tsui, said: "This generous gift is a major investment towards higher education in Hong Kong, as with Dr Lee's astute business sense, this will surely be a valued investment for the future."

In recognition of the donation the Lecture Centre and the Learning Commons on the new Centennial Campus (which is targeted for completion in 2012) will be named the Shau Kee Lecture Centre and the Colin Lam Learning Commons respectively.



A New Fellow of the Chinese Academy of Engineering



Professor Yuen Kwok Yung, Henry Fok Professor in Infectious Diseases and Head of the Department of Microbiology, has been selected a Fellow of the Chinese Academy of Engineering and was one of only two Hong Kong academics so honoured at the end of last year.

Pro-Vice-Chancellor and Vice-President Professor Paul Tam said: "This is an exceptional accolade as only six out of all the 721 Fellows of the Academy are Hong Kong academics."

The Chinese Academy of Engineering was established in 1994. As the most prestigious and informative advisory institution in China's engineering science and technology environment, the academy boasts a

group of academicians with outstanding contributions to engineering and technological sciences. They are the cream of the country's ten million engineering science and technology workers.

Yuen, who graduated from The University of Hong Kong in 1981, has the rare distinction of being a microbiologist, surgeon and physician. In 2000, he was appointed the Scientific Co-director of the HKU-Pasteur Research Centre, a joint research venture between the Institute Pasteur and the University, based on his expertise in the area of emerging infectious diseases.

Widely known among specialists in infectious diseases, he played a key role in the discovery of the agent causing Severe Acute Respiratory Syndrome (SARS), the SARS coronavirus in 2003, which led to measures that were crucial to containing the outbreak of the disease. He has also led his team in the discovery of other disease agents.

Yuen is one of the top 1% researchers in the world and has published more than 300 papers in peer reviewed journals with over 6000 citations.

Mathematician Scoops State Science Award

One of our leading mathematicians has received the State Natural Science Award at a ceremony, at the People's Great Hall in Beijing, presided over by Chinese leaders including Hu Jintao, Wen Jiabao, Li Changchun, Xi Jinping and Li Keqiang.

Professor Mok Ngaiming, Chair of Mathematics, was conferred the award on the basis of his research programme *Complex geometry on symmetric and homogeneous spaces*. He was one of the only two Mathematics recipients in the last year.

The award is a recognition of Mok's significant contributions to the development of Mathematics in China over the past three decades.

As early as 1980 he was invited by the Chinese Academy of Sciences to lecture on the subject of Complex Geometry. This was followed by a number of fruitful collaborations with outstanding mathematicians from the Mainland.



In 1989, he published two articles in the flagship journal *Annals of Mathematics*; one of the articles, co-authored with the late Professor Jiaqing Zhong of the Chinese Academy of Sciences, was the first article (co-)authored by a Mainland mathematician to appear in *Annals of Mathematics* since China opened up to the world in the late seventies.

Mok said he was delighted to have received the Award. "I am glad to see that China is attaching great importance to the Basic Sciences, and I am honoured to be able to contribute at a moment when China is making great efforts to develop the Sciences through innovation. Mathematics is of fundamental importance to the development of the Natural Sciences. Through innovations and discoveries in Mathematics, I hope to continue making contributions to the advancement of China's scientific research," he said.

Mok's award-winning programme *Complex Geometry on symmetric and homogeneous spaces* is a comprehensive research programme in Pure Mathematics, covering the theory of the functions of Several Complex Variables, Complex Differential Geometry and Algebraic Geometry. The research encompasses Classical Domains, initiated by the late distinguished Chinese mathematician Professor Loo-keng Hua, and research areas such as rational homogeneous spaces and Fano manifolds in Algebraic Geometry.



A Dutiful Engineer

Professor Chew Weng Cho entered academia at age 32 to avoid becoming a senior manager too early in his career. Now, 22 years later, he has finally decided the time is right to take up duties as an administrator.

Chew is the new Dean of Engineering, a post that involves more administration than research and requires him to play a leading role in shaping the future of the Faculty over the next few years.

"It was time to pay my dues," he said. "I have been asked for some time to serve as an administrator. It is now almost called for, given the stage of the career I am in."

"In the back of my mind I had thought I would come to Hong Kong, Taiwan or Singapore in the later part of my career. They're all quite westernised places and their economies are booming, and their leaders want their universities to be world class. With my experience, I have a lot more to share with these places than an established organization in the US, where there is less need for change."

Born in Malaysia, Chew was educated at the Massachusetts Institute of Technology and worked for several years with Schlumberger-Doll Research in the US. His work there focused on using electromagnetic fields to search for underground hydrocarbon and oil reserves. He rose quickly through the ranks to become a department manager before deciding that he preferred the academic world and, in 1985, joined the University of Illinois.

He soon established himself at the forefront of research on electromagnetic waves and fields, and is one of the most cited authors in his area of speciality, according to the ISI Citation. While at the University of Illinois, he was awarded Founder Professorship and Y.T. Lo Endowed Chair Professorship, and received teaching and research awards. Fittingly, he is now our Faculty of Engineering's Chair of Electromagnetics.

Chew will continue his research at HKU and hopes to inspire academics in the Faculty to go deeper and wider in their own research pursuits.

"A lot of the research here has been driven by industrial applications. It's important to be engaged with industry, but we would like to have a longer term vision and place more emphasis on science-based engineering, where we take the approach of basic science but with an eye for technology development," he said.

"We would also encourage faculty members to be internationally engaged, attend international conferences, and visit with the top research groups in the world. By so doing, they can acquire an international mindset and be on the right track in

dealing with the most current research problems. They can also share what they have learned with our students in the classroom."

Chew considers the undergraduate programme to be one of the Faculty's strengths, but even here, there is room for pushing the boundaries.

"HKU Engineering offers the best undergraduate education to students here. We also want to serve the needs of the region rather than just Hong Kong itself, and recruit more students from the hinterland – the Pearl River Delta and further into Mainland China, as well as from South East Asia and the rest of the world," he said.

"Our approach will remain the same: we emphasise the importance of teaching the fundamentals, and continue to educate students who are creative, good thinkers and good leaders. More likely than not, they will become leaders in their workplace and not be run-of-the-mill engineers. They will need very good communication, interpersonal and language skills, and be able to engage with the rest of the world.

"They should also be encouraged and given the liberty to pursue their passion in engineering – making and creating new technologies that can benefit society and alter our way of life.

"The engineering profession is involved with the creation of wealth at the grassroots level. There are a lot of technology companies in the Pearl River Delta that are indirectly a source of wealth for Hong Kong.

"If we can upgrade these industries by introducing advanced technologies with higher added values, then the wealth created can directly and indirectly benefit Hong Kong and strengthen its role as a regional hub," he said.



Putting an End to a Silent Killer

A team of medical scientists is hoping to combat one of China's biggest killers – stomach cancer – with a broad and far-reaching screening programme.

Stomach cancer is the number one cause of cancer death in China's Fujian Province and the nation's second biggest cancer killer. Thought largely to be triggered by the bacteria *helicobacter pylori* (which also cause stomach and duodenal ulcers), Professor Benjamin Wong Chun Yu, Simon K.Y. Lee Professor in Gastroenterology, has discovered that treating the bacteria with antibiotics can significantly reduce the cancer's occurrence.

Wong, a specialist in gastroenterology and hepatology in the Department of Medicine, explained: "The relation is like that between smoking and lung cancer. We know that smoking causes lung cancer but if you stop smoking, does it help? Similarly, we know these bacteria are present silently in the stomachs of half the world population. Back in 1994 we wanted to know if treatment of the bacteria could actually reduce the risk of stomach cancer in someone who has been carrying these bacteria for decades without knowing it."

To answer the question Wong began a research project in Fujian Province. "We couldn't do it in Hong Kong because, by then, Hong Kong was already quite affluent with a relatively low incidence and stomach cancer is associated with poor living environment in poor countries," he said. "The bacteria are more common in places of poor hygiene and poor socio-economic areas. People at risk are probably eating foods that may be rotten, overcooked, preserved, artificially coloured or highly salted, all of which are bad for the stomach. So it is very high in countries like Korea and Japan and a lot of northern and eastern European countries."

In the summer of 1994 Wong and his team spent one month conducting endoscopies on 2,400 subjects. "Our aim was to look at the treatment of bacteria so we only looked at people who were infected but had not developed an ulcer or cancer. At the end, 1,630 people were enrolled, half were given treatment and half were given a placebo. Subsequently, in 1999 and 2006, we went back to the village and repeated the endoscopy on the subjects we could find."

What he discovered was a reduced number of cancer cases in the treatment group compared to the placebo group. "But this reduction was a trend only, we couldn't show a statistical significance which we needed. But just looking at the numbers we could see there was a difference."

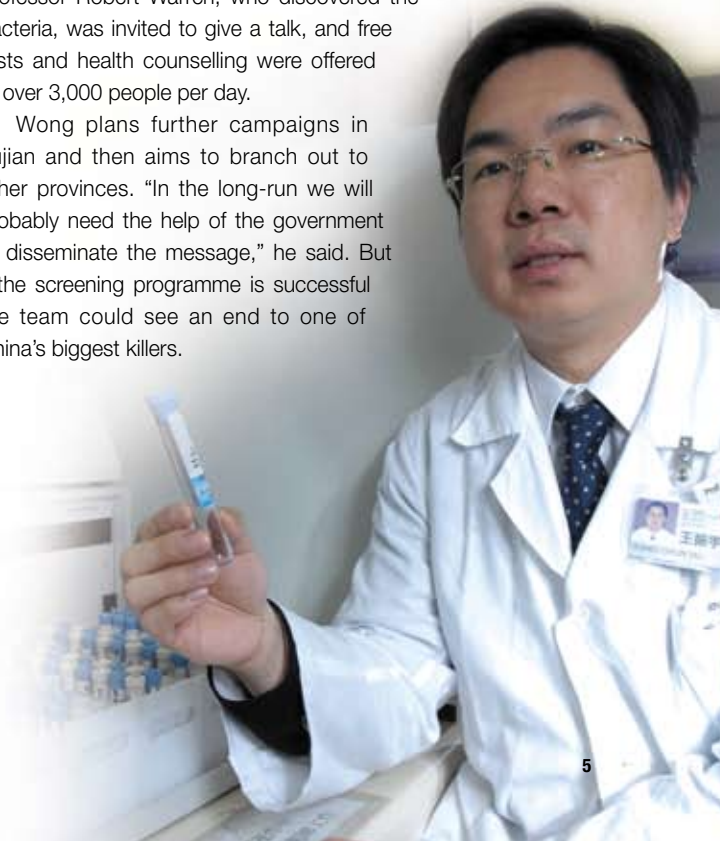
Wong credits two major reasons for the reduced number of cancers – first, an improvement in the patients' quality of life since the Cultural Revolution, which has reduced the number of cancers nationwide and, secondly, early intervention.

"With some patients it may have been too late to intervene," he said. "One group was still relatively healthy while the other group already had severe inflammation and what we call pre-cancerous changes. We found in the two groups those who already had severe changes had similar cancer rates, but in patients that only had mild inflammation the difference was huge."

Wong is continuing to follow the progress of that group but in the meantime he has launched a nationwide public campaign. "We have a strong idea, backed by data from other parts of the world, supporting our claim that treatment of the bacteria is very good for preventing stomach cancer. In urban areas, rates of stomach cancer are certainly dropping, but it is still a major cause of death nationwide. We can't prevent it in everyone, but at least our data show that treatment reduces the chances of developing it," he said.

The first campaign, targeting the public, started in December 2006 and was comprised of a two-day exhibition in Fuzhou, the capital city of Fujian Province. The Nobel Laureate, Professor Robert Warren, who discovered the bacteria, was invited to give a talk, and free tests and health counselling were offered to over 3,000 people per day.

Wong plans further campaigns in Fujian and then aims to branch out to other provinces. "In the long-run we will probably need the help of the government to disseminate the message," he said. But if the screening programme is successful the team could see an end to one of China's biggest killers.



A Matter of Good of Taste

One Professor has developed a new way of helping maintain quality control in the food tasting industry.

An electronic tongue has been developed in the Department of Chemistry that mimics the way humans taste and holds promise for better quality control in the food industry.

The machine absorbs taste-related molecules and uses patterns to discern the type and concentration of flavour. Previous electronic taste machines could only measure the ions emitted by salty and sour flavours, but this one more closely imitates human taste processing and can also apply to bitter and sweet flavours.



The machine was developed by Associate Professor Dr Fung Ying Sing with funding from the Innovation and Technology Fund (ITF).

“Taste is very difficult for the food industry in terms of quality control. Different people have different sensitivities so even if you have a taste panel, they might not be able to detect tastes that some customers can detect,” he said.

“Also, if the panel doesn’t agree, and there’s only one person who can make the final decision, what happens when they go?”

This kind of equipment can make quality control more consistent and reliable.”

Fung and his team developed a molecular imprinted polymer for capturing, recognising and quantifying taste molecules. The information is fed into a computer, which uses patterns to determine the concentration and intensity of the flavour.

In the laboratory he tested tonic water, which includes sweetener to mask the bitterness of quinine. The electronic tongue was able to distinguish both flavours.

Word of the results has spread quickly and his team was called on by a Hong Kong orange juice manufacturer to test its product when it changed suppliers last summer. A machine with eight sensors was able to distinguish between orange juice and orange drink, and between drinks from different manufacturers.

“It’s not yet subtle enough to detect differences in a drink produced by the same manufacturer. We need more sensors and more time to develop that,” Fung said.

Ironically, the greatest interest in the electronic tongue is coming, not from companies interested in improving taste, but from those who want to eliminate it.

Distilled water bottlers in the US, the Mainland and Hong Kong have expressed interest in the product to address customer complaints about a bad or mouldy taste in the water. Even when bottlers go through the expense of putting together a panel of tasters, they cannot always detect the problem.

Fung is still considering their request because this would require a different technological approach. Bad tastes in water are produced by algae and other sources, not taste molecules, and they would have to be measured and quantified using other mechanisms.

“We’re still thinking about whether this could be an extension of the electronic tongue project,” he said. “In fact it is very different from our project. We have focused on developing taste, but drinking water shouldn’t have any taste.”

Pinpointing Traffic Hot Zones

The dangers on our roads are revealed thanks to innovative data analysis.

One of the University’s leading researchers in transport development has established a new methodology for assessing dangerous stretches of road across Hong Kong.

Dr Becky Loo Pui Ying, Associate Professor in the Department of Geography, is researching methods of identifying dangerous road sections.

“I deal with the basic ideology that they are not accidents, they are crashes,” she said. “Accidents are purely random events, they cannot be avoided, whereas crashes can.”

Starting from this viewpoint she and her team identified Hong Kong’s most dangerous stretches of road.

“The government has identified black sites, or dangerous areas, and most of these are all in the urban parts, which makes the roads in the New Territories appear safer, but we just have to read the newspaper to know this is not the case. We know that areas like Yuen Long and Tuen Mun are quite dangerous locations,” she said.

So, Loo went to work on plotting all the crashes in Hong Kong and found that they were spread all over the territory with clustering in different parts of the city.

“I reduced these dangerous areas to 100 metre units to map the density of crashes and found the highest density in the Yuen Long, Tuen Mun, Sha Tin and Tsuen Kwan O areas. This type of analyses gives us a better idea of where the crashes are. But these are districts with no government-designated black sites at all.

This is because the black site methodology focuses only on the road junctions and the 70 metre stretch either side.

“If there are more than six pedestrian accidents in a year, or nine vehicle to vehicle crashes, it is a black site. Highways like Tuen Mun Road do not have many junctions, that’s why much of the New Territories appears to be safe, but they are dangerous and they are being ignored,” said Loo.

The more sophisticated ‘black spot’ methodology deals with both junction and non-junction areas. Loo went on to dissect the entire Hong Kong network – 4,000 kilometres of road – into similar 100 metre units. She ended up with more than 59,000 road segments, in 18 districts. Then she assessed the actual crash rate of each unit, and compared urban with rural areas and established a critical crash rate. “If a unit exceeds the critical crash rate of, let’s say three crashes, we call it a hot spot.” A stretch of road with two or more contiguous hot spots becomes a hot zone.

“A hot zone has six or more crashes because it consists of two or more units. So we have located 159 hot zones in Hong Kong, with a cluster in the New Territories, especially Yuen Long, Sha Tin and the Tsuen Kwan O areas. This is a vast improvement on the black site methodology,” said Loo. “A lot of our hot zones are on the expressways. So our methodology gives a clearer



picture of where the hidden dangerous locations are. We can now prove that expressways in Hong Kong are very dangerous even though the existing black site methodology does not take them into account.”

Loo is now sharing her findings with Government to help the Transport Department make more informed decisions when analyzing dangerous stretches of road.

The Flu Hunters

The race to avert an impending pandemic has received a massive boost from government funding.

Fears of a global flu pandemic have been growing ever since the first outbreak of bird flu in Hong Kong in 1997. And, although in the last decade, research on the ecology and pathogenesis of influenza has increased steadily, scientists say there is still much to learn if we are to minimize the morbidity, mortality and socio-economic disruption that will follow the next flu-pandemic.

Now, thanks to a multi-million dollar grant from the University Grants Committee (UGC), and other sources, HKU will capitalize on its well-established excellence in influenza research to lead a multi-disciplinary, multi-institutional team in developing a synergistic programme that will have a global impact.

Together with leading scientists from The Chinese University of Hong Kong (CUHK), the Hong Kong University of Science and Technology (HKUST), and the Baptist University and several government departments, the HKU team aims to integrate basic, clinical and epidemiological research to enhance understanding of the avian flu viruses (such as H5N1) from which pandemics arise as well as the 'regular' seasonal influenza (which claims up to a thousand lives annually in Hong Kong alone).

The eight-year project, part of the Area of Excellence (AoE) scheme, will build on a niche advantage and the international excellence already achieved in this area to define the ecology and evolution of animal and human influenza. It will also seek to identify the viral and host determinants, the complexities of anti-viral immunity and inter-species transmission and go on to develop new options for diagnosis, vaccines and therapy.

Project Director, Professor Malik Peiris, of our Department of Microbiology, said: "This is an urgent issue; pandemic influenza

is inevitable and will have immense health and socio-economic impact on today's globalised and interconnected world. Yet many of the key questions regarding the emergence, transmission and pathogenesis of pandemic and seasonal influenza remain unanswered.

"There is still the fear that bird flu could cause a pandemic, it has not done so yet but that does not mean it will not happen. If

we look at the parallel with the Severe Acute Respiratory Syndrome (SARS), that was a virus in animals that kept jumping the species barrier and that was probably going on unknown for some time until finally it made the switch to transmit efficiently. I think we are in a similar situation with avian flu. But we also have to keep in mind that there are a number of avian viruses out there and H5N1 is not the only pandemic threat."

One of the major focuses of the programme is to look beyond H5N1, to conduct a broad ecological surveillance. Explaining the rationale behind this Professor Guan Yi of our Department of Microbiology, an expert in viral ecology said: "Many other viruses are at least on a par with H5N1 in terms of a pandemic threat. For

example H9N2 – this is widespread in poultry all the way from Japan to Europe, and although it does not cause diseases it does infect humans and the fact that it is not lethal at the moment does not mean it cannot be a pandemic candidate. So this is an opportune time to start this project."

Given that two of the three flu pandemics of the 20th century are known to have emerged from Southern China and caused two million combined deaths the importance of establishing a world-class Influenza Research Centre here is clear. The



Professor Malik Peiris



Centre will host a bio-bank of well-characterized viruses and specimens for the world community with the aim of enhancing pandemic preparedness. Another significant aspect of the project is to nurture the next generation of bio-medical and public health scientists in this area.

The AoE builds on a legacy of excellence in influenza research that stretches back more than 30 years. “We have a tradition of work on influenza at HKU that was started by our predecessor Emeritus Professor Ken Shortridge and although his research was focused on animal influenza and its potential risks to human health our knowledge has grown from that foundation, especially in the last ten years or so,” said Professor Peiris.

The team has achieved an international reputation for excellence, is the second most widely cited research group on avian flu and is one of nine World Health Organization H5 reference laboratories.

The group has contributed an enormous amount to the understanding of how H5N1 emerged, evolved and spread to other parts of the world. “That is an internationally accepted contribution of Hong Kong University,” said Professor Lau Yu Lung, Chair of Paediatrics. “Beyond that we have looked at other aspects of influenza, at pathogenesis – the mechanism of how flu causes disease – and specifically speaking why the H5N1 virus is so lethal to humans, to trying to look at the epidemiology of flu. The ultimate aim is to increase our knowledge, we are thinking broadly in understanding the whole knowledge base of influenza, from seasonal flu to viruses with a potential pandemic threat.”

The AoE team comprises over 30 researchers across the four universities in Hong Kong. Led by Project Director Malik Peiris,

who is internationally-recognized for his work on influenza, SARS and viral pathogenesis. Likewise, all the group leaders listed below are eminent researchers in their fields:

- Guan Yi, Poon Lit Man, Yuen Kwok Yung, N.Y. Ip are ranked in the top one per cent of cited researchers worldwide.
- Guan is globally recognized for his contributions to understanding the ecology and evolution of the avian flu virus and for defining the animal host of SARS.
- Poon is a molecular virologist also highly cited for his work on influenza and SARS.
- Yuen has made major contributions to understanding the clinical and virological disease profile of avian flu and SARS, to identify the animal reservoir of SARS and to clinical infectious disease.
- Lau Yu Lung is a paediatric immunologist who has published extensively on innate immune responses and is on both national and international advisory committees on immunization.
- P.K. Chan (CUHK) is a clinical virologist who has contributed enormously to the understanding of respiratory viral pathogens including SARS and avian flu.
- Gabriel Leung (with Steven Riley) helped elucidate the epidemiology of SARS.
- Chen Honglin is a virologist with a strong track record in research on influenza and other viral pathogens.
- N.Y. Ip (HKUST) an Academician of the Chinese Academy of Sciences, brings world-class expertise on cell-signalling, bioinformatics, drug-screening and neural cell models.

An Education in Facing Death

A new project is helping people face the inevitable.

Death is often a taboo topic of discussion in Chinese society, leaving people unprepared for the inevitable, and their loved ones burdened by guilt. The Centre on Behavioural Health is addressing that situation with a project to educate people about death and dying.

The Centre is co-ordinator of the Empowerment Network for Adjustment to Bereavement and Loss in End-of-life (ENABLE), which is seeking to change people's attitudes to death, dying and bereavement through awareness campaigns, training and research. The Hong Kong Jockey Club has donated \$20 million to the project.

“There is a strong belief in Chinese society that any discussion about death will bring bad luck, so people don't talk about it and they don't think about it. When it happens, they are always unprepared and there is a lot of regret and blame and guilt in the process,” the Centre's Director, Professor Cecilia Chan, said.

“Our main focus is to raise the general competence of the community to prepare and handle issues related to death and bereavement.”

Training programmes have been organised for professionals in social services, health and medical care, and for bereavement counsellors, with the support of 37 community groups.

The participants are taught how to encourage people to talk about and prepare for death. They are also shown videos of several local families facing death, such as Assistant Professor in the Department of Professional Legal Education, Eric Cheung Tat Ming, whose wife Portia died of breast cancer in February 2007.

Cheung's video shows a party held days before Portia died. She had wanted to say goodbye to all of her friends and family but did not have the strength to see them individually.

Cheung said the party fulfilled her wishes and enabled those close to her, including their children aged 10 and 12, to celebrate her life and face the reality that she would soon depart.

“To me, it's important that rather than try to escape and avoid it, we should embrace and face death and reality. It helps the dying person and those around him or her,” he said.

“However, if the dying person is not ready, it can be very difficult. You need to take your cue from the dying person. It's fortunate that my wife was quite prepared to face death. Indeed she became ready much earlier than I did. Our Christian faith was instrumental in sustaining us as we faced all of this.”

Chan said the video was a valuable resource because it showed people there were different, more positive ways of dealing with death and bereavement.

ENABLE is also supporting public awareness campaigns that encourage people to see meaning in both death and life, reconcile with loved ones, prepare wills and make other death-related arrangements.

Attitudes to death and dying among the elderly are being monitored to see if ENABLE's efforts have any effect, and research on bereavement in Chinese society is also planned, following a long-term US study that found 10–15 per cent of bereaved people were still depressed two years after their loved one passed away.

“Death is a very important mental health issue. The death of a loved one can lead to a lot of emotional and behavioural problems. We have seen many people who become chronically depressed following a death in the family,” Chan said.

“ENABLE is trying to address these complicated cases. At the same time, we want to show that death is not necessarily all negative. It can be converted into a celebration of life because every death means the end of a life well lived.”



Some members of the team: (pictured from left) Dr Gavin Smith, Dr Poon Lit Man, Professor Gabriel Leung, Professor Lau Yu Lung, Dean Raymond Liang (not a team member), Professor Malik Peiris, Professor Guan Yi and Dr Chen Honglin.



The Link Between War and the Weather

New research sheds fresh light on the catastrophes of climate change.

Global temperature swings go hand-in-hand with widespread anarchy and destruction as nations battle for dwindling resources, according to a ground-breaking paper from the Department of Geography.

Dr David Zhang Dian, Associate Professor and his fellow researcher Harry Lee, postgraduate research student in the Department, have established a firm historical link between the miseries of war, famine and population collapse and periods of global cooling.

In their paper *Global Climate Change, War and Population Decline in Recent Human History* they studied more than 3,000 wars around the world between 1400 and 1900 (a period known as the Little Ice Age) and revealed the relationship of armed conflict to changing weather patterns.

This is the world's first quantitative and scientifically-based study to illustrate the impact of climate change on pre-industrial society. The results show that cycles of war and peace closely follow global temperature patterns.

Zhang said: "The concept of environmental conflict has been suggested by several researchers, but they focus only on conflicts caused by short-term climate variations. We studied a long span of Chinese history and found that the number of wars and population collapses is significantly correlated with northern hemisphere temperature variations and that all of the periods of nationwide unrest, population collapse and dynastic changes occurred in the cold phases of this period."

Zhang and his team investigated the data on agricultural production, food prices, population and war numbers and he said: "You can see the successive order, one after the other; after a few years of global cooling, agricultural production goes down and prices go up, when the prices go up the number of wars goes up too."

"It follows exactly this kind of order in both Europe and China. In political, cultural and developmental terms Europe and China are at totally different stages during this period and they are totally separate places but the graphs show the same picture. The question is why?"

To answer that question Zhang adopted a quantitative and macro-historical approach to exploring the climate-agriculture-war-population relationship. And what he found was a cyclical pattern that followed the weather with a turbulent period followed by a relatively tranquil one. He also looked at the severity of the

wars and their impact on human populations by checking a fatality index. This showed two peaks in the colder 17th and early 19th centuries. Two of the greatest population declines since 1400 coincided with these cold periods, while the relatively mild global weather of the 18th century was one of the most peaceful worldwide.

Zhang's theory is that the majority of wars are caused by a battle over resources and he cites the conflict in Darfur and Iraq as examples. "Also the Thirty Years War in Europe, which has been blamed on religion. Okay religion had a role but the real reason was lack of resources. Climate change causes economic turmoil which intensifies social and cultural differences and triggers wars. I'm not saying every war is caused by lack of resources but this is the major cause."

Zhang's new perspective on history also shows the link between nature and cultural advances. Interestingly, in both China and Europe, the greatest cultural and social progress occurred during the mild periods; the rise of Dynasties like the Early Ming and the early Qing in China and the Renaissance and the Enlightenment in Europe coincided with warmer weather.

Research on the living standards of Europeans during the period also reveals that their average height dropped by 2 cms in the 17th century making them the shortest Europeans in two millennia. In the warmer 18th century, when food was more plentiful, they grew again by 2 cms.

The implications for our world today should not be underestimated according to Zhang. "Although this research investigates global cooling this is a warning for our own societies facing a period of global warming. We have been through cool, or cold, periods many times before so in a sense we may be better able to adapt. We have never experienced global warming on this scale; the last ten years have seen the warmest climatic phase of the last two millennia and a dramatic change in temperature – either up or down – is going to have a major ecological impact. Such an extreme change in temperature will certainly tilt the balance of our human ecosystems.

"Even though scientists are unable to predict the chain ecological effects induced by climate change we are afraid that it will lead to a shortage of resources like fresh water, arable land and food that will trigger new armed conflicts."

And he added: "It can be argued that we have advanced technology and more robust social institutions that will cushion the impact of climate change, but we also have a much larger population, higher living standards and more strictly controlled political boundaries which restrict migration and these will limit our adaptation to climate change."



The Pathway from Bats to a Pandemic

Animals have been implicated in many of the emerging infectious disease of recent decades – from AIDS to Ebola – but could they also hold the key to averting a pandemic?

Since the outbreak of Severe Acute Respiratory Syndrome (SARS) in Hong Kong, in 2003, Professor Guan Yi, Professor in the Department of Microbiology, has had little more than the coronavirus on his mind. Like a latter day Philip Marlowe this fast-talking scientist has turned medical detective in his single-minded pursuit of first, the killer virus and, then, its source.

He was the first to identify civet cats as the intermediate host and, in 2004, advised the People's Republic of China Government to close the live animal markets in Southern China to avert a second SARS outbreak.

Before SARS, relatively little was known about the evolutionary and ecological aspects of coronaviruses, most knowledge came from investigations involving disease in domestic animals and humans, rather than wild animals. So it was clear, that if a future SARS pandemic was to be averted, a lot of work had to be done.

Guan's years of dedicated research paid off recently with the publication of *Evolutionary Insights into the Ecology of Coronaviruses*, (in the *Journal of Virology*), written in tandem with Professor of Microbiology, Malik Peiris, and other leading researchers.

That paper finally revealed the Holy Grail of coronavirus research – the natural reservoir of the whole virus family.

Guan, an expert in the ecology and evolution of influenza viruses and Director of the University's State Key Laboratory of Emerging Infectious Diseases, credits philosophy and history in helping him draw the conclusions detailed in the paper: hailing it as the best research he has published since returning to HKU, from the US, over eight years ago.

Several previous studies had suggested that horseshoe bats may be the source of the virus but no firm evidence had been presented to support the claim. So, in 2006, Guan and his team began looking at its prevalence in bats throughout Mainland China.

It is commonly accepted that coronaviruses (the cause of the common cold) can infect a variety of animals including poultry, livestock and humans and, until recently they were classified into three groups. Guan's research, which sampled 985 bats from 35 species in 15 provinces, found that bat coronaviruses

mainly clustered in three different groups: group 1, another group containing all SARS and SARS-like coronaviruses (putative group 4) and an independent bat coronavirus group (putative group 5).

"Because the bat so openly carries the coronavirus and because the virus in bats is so genetically diversified, (different bat species contain different coronaviruses even when they roost in the same cave) and because all the bats are free from disease we said maybe the bat is the natural reservoir for all coronaviruses after all.

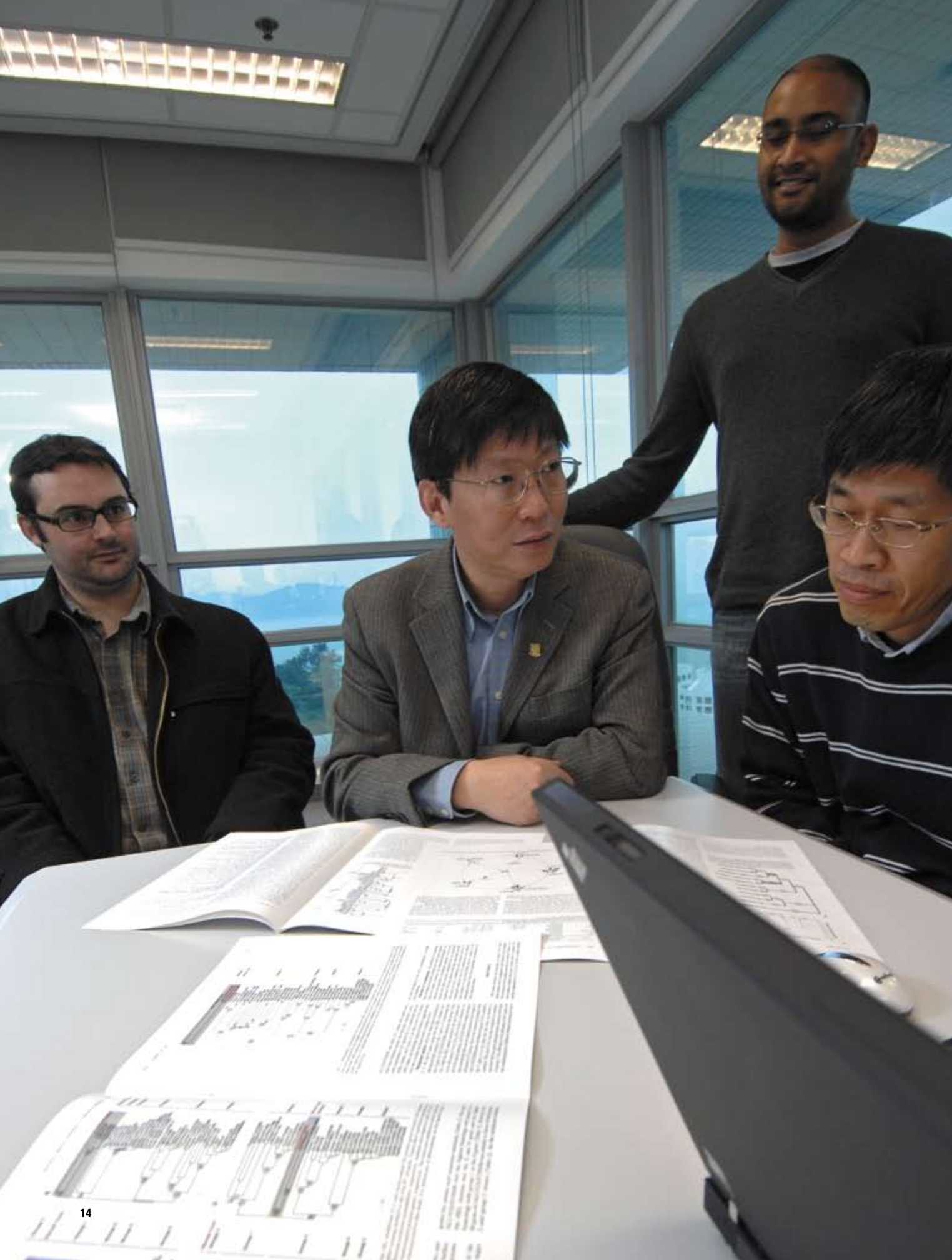
"We built up new knowledge – initially the coronavirus family was only separated into three groups. Then when we discovered this new information, we found that the three groups were not enough, so we created a new group system for coronavirus and the genetic information suggests that we are right. So, we proposed the natural reservoir, proposed a new group system, and proposed a new knowledge system for the virus."

The research was published in the August 2006 edition of the *Journal of Virology*. Armed with that knowledge Guan went on to establish that bats harbour a much wider diversity of coronaviruses than any other animal species and that the lineage of their coronaviruses were older than in any other animal – dating back as far as the 17th century. Guan's detailed research into the evolution of the virus was able to pinpoint the moments in history when it jumped the species barrier; for example, it first entered humans in 1941. "Then sixty years later we have SARS," said Guan. "What happened in between? There is a huge information gap. This virus has not received much scientific attention, that's why it took so long to recognise SARS.

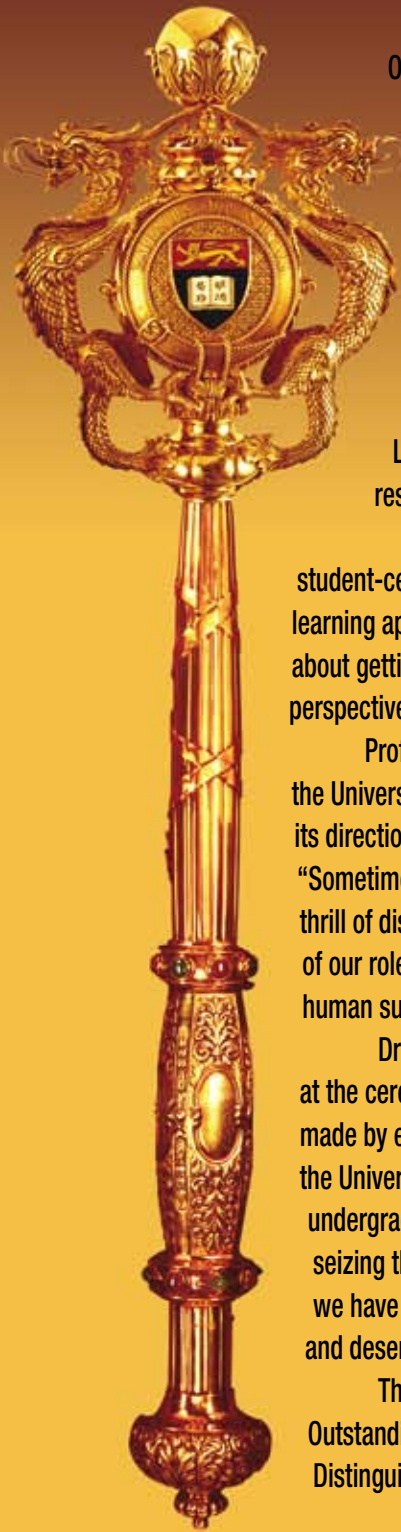
"We now know there have been repeated introductions from bats to other animals and occasionally coronaviruses have become established in other species. It looks like SARS was circulating for 10 to 20 years, in an unidentified host, before it caused the epidemic in 2003."

But the battle to avert a SARS pandemic is not over. Guan is still searching for the missing link – the creature that passed the SARS virus from bats to wild animals.

"We don't know how the virus got into the civet cats," he said. "It may not have come directly from bats. This is just the beginning, the more research we do the more questions it raises. In a way we are writing the history of the coronavirus, but the intermediate host for SARS is still a mystery, it's something we never found and until we can answer all the questions there are no guarantees that SARS will not re-emerge or cause the next pandemic."



Excellence in Teaching and Research, 2006-07



Outstanding achievement on the part of the University's teachers and researchers was recognized at the Award Presentation Ceremony for Excellence in Teaching and Research 2007, held on January 22, 2008 in the Rayson Huang Theatre. During the ceremony three University Teaching Fellowships were awarded. An Outstanding Research Student Supervisor Award, Outstanding Young Researcher Awards, Outstanding Researcher Awards and a Distinguished Research Achievement Award – the University's highest award for research – were also made. Research Output Prizes were also presented in recognition of outstanding individual publications in each Faculty.

Speaking at this seventh annual ceremony, the Vice-Chancellor and President Professor Lap-Chee Tsui reminded his audience that outstanding achievement in both teaching and research lay at the heart of the University's reputation.

Professor Tsui noted that the University pursued a teaching philosophy which focused on student-centred learning and whole-person development and employed a challenging, problem-based learning approach. "At The University of Hong Kong," he said, "we believe that education is not just about getting a qualification in a particular subject. It is also about developing character and broadening perspectives. It is about encouraging students to ask questions."

Professor Tsui also praised the quality of the University's research, reminding the audience that the University was one of the region's leading research-intensive universities. He stressed that, in setting its directions for research, the University was always aware of its responsibility to the community. "Sometimes we say that research knows no boundaries, and that so long as we are all fired up by the thrill of discovery we are doing our duty as scholars should. At the same time, however, we are conscious of our role in society. We perform research on practical problems and work with the community to reduce human suffering and to improve our physical as well as our spiritual environment."

Dr the Honourable David Li Kwok Po, the University's Pro-Chancellor, was the guest of honour at the ceremony and gave a concluding address. He reminded his audience of the strenuous efforts made by each of the award winners, and praised the University's commitment to excellence. Noting that the University faced a period of significant change and development as it implemented the four-year undergraduate curriculum, he said that he was heartened to see it eagerly embracing this challenge and seizing this opportunity. "I have no doubt at all that, with teachers and researchers of the calibre of those we have seen honoured today, the University will enter its second century of existence in a mood of high and deserved confidence."

This year's *Bulletin* includes features on the 2006–07 Teaching Fellows and the winners of the Outstanding Research Student Supervisor, Outstanding Young Researcher, Outstanding Researcher, and Distinguished Research Achievement Awards.

What it Takes to be Good Teacher

Every year the University recognizes teaching excellence by honouring outstanding educators. Teachers were selected for their contributions to teaching and learning.

Professor Frederick Leung Chi Ching, Professor of the School of Biological Sciences, said "My teaching philosophy is simple; teaching is about changing a student's life. My aim is to make sure that every student I have educated is changed through the learning experience. For science students, who are taking advanced scientific courses, I make sure that their learning experience is not limited to printed materials; for non-science and new science students, I make certain that the subject is not only interesting but necessary for modern day life. I tell them they should not be afraid of science.

"I was not born a teacher – the skills of an excellent teacher have to be learned. One teacher changed my life; he instilled in me the importance of having passion and a love of

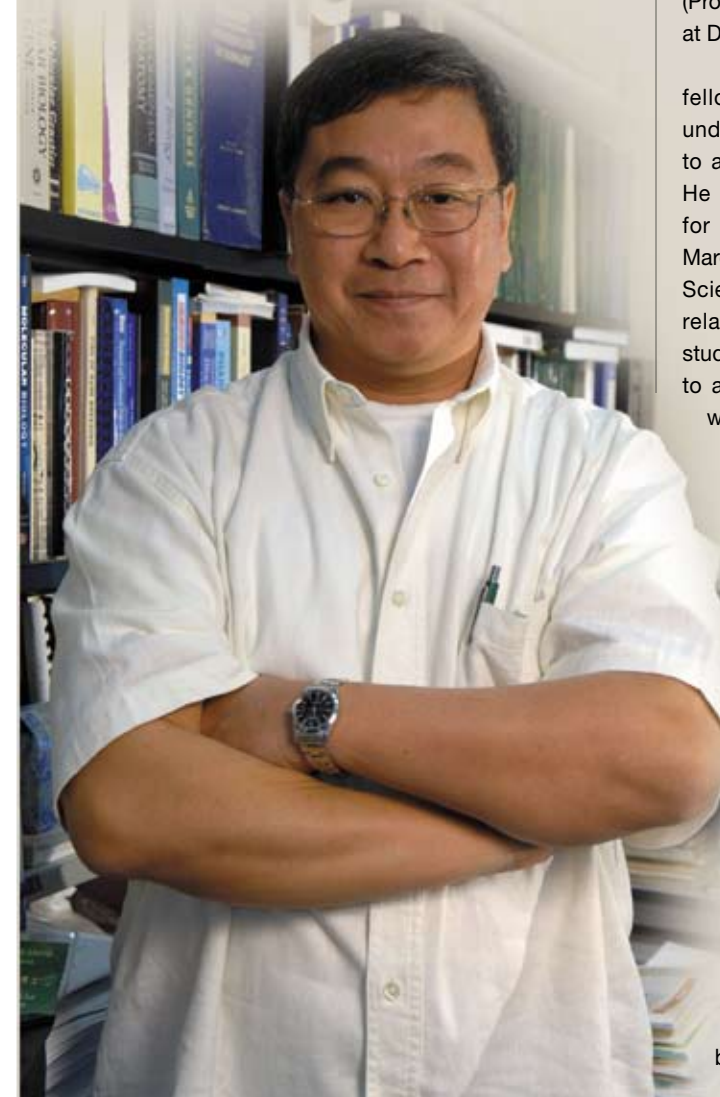
students. I also learned that I need to continue learning and updating my teaching skills. Another important aspect is my willingness to adopt new teaching techniques. I practise the Socratic Method as I believe it is through asking questions that students learn. So, I engage students in discussion, tell them stories and ask open ended questions.

"I believe students learn from what they observe and I have attended educational conferences and workshops to keep abreast of the latest curriculum developments and reforms and to establish a highly motivated environment – beginning with myself and extending to everyone in my research laboratory including postdoctoral fellow, postgraduate and undergraduate students. I also share what I have learned with colleagues at HKU by running PBL (Problem-based Learning) workshops and seminars sharing at Department and Faculty level."

Leung's former PhD student, and now his postdoctoral fellow, Dr Hon Chung Chau, added: "Professor Leung understands that in this information era, students need to acquire skills that are instrumental to life-long learning. He teaches both advanced and basic scientific courses for science and non-science major students. Professor Marcel Ken-Jie Lie, his colleague in the School of Biological Sciences has said: 'He has the ability, a natural gift, to relate science to both science and non-science major students and to bring the most difficult scientific concepts to an appreciative level by most of the audiences. I have witnessed him taking on over 200 students at one setting and the interflow between him and the class was most impressive.'"

As the Warden of Starr Hall, Leung emphasizes that his aim is to share with his hall mates the idea that university learning is not limited to lecture theatres. "The concept of life-long learning should be a way of life." The former Senior Tutor of Starr Hall, Dr Lui Wing Yee added: "Fred demonstrates a perfect example of how to extend a passion for teaching beyond the classroom, by sharing his life experiences through daily face-to-face interactions and during formal occasions like high table dinners in a residential hall."

Chau added: "He believes that learning from one's mistakes is an important part of the learning process and advises us not to be afraid of taking risks – provided we do not keep on repeating the same mistake! He always emphasizes the notion that scientists should have the ability and responsibility to communicate beyond the academic world."



Dr Duncan Macfarlane, Associate Professor of the Institute of Human Performance (IHP), said: “I base my teaching philosophy around the premise that to teach well, you need to have an innate passion, and gain a deep sense of satisfaction from seeing students learning successfully. Good teachers generally need a wide repertoire of skills: they need to be inventive and creative in order to engineer student learning to be an active, challenging and rewarding experience, one that is also a fun and interesting part of a research-led environment. Without these components students will rapidly find the teaching dull and they struggle to learn.

“It therefore helps to also think and react like a student by reflecting on what teaching strategies are most likely to succeed. It is important to facilitate students to become critical and independent learners, who believe their learning is relevant, as today’s students are highly pragmatic – they typically only learn knowledge that is relevant in achieving their goals.

“Although most of the rewards from good teaching are intrinsic, it is very gratifying that HKU recognizes the importance of excellence in teaching (and research), by providing tangible rewards to good teachers via the Performance Review and Development (PRD) process, and ultimately in the form of a University Teaching Fellowship (UTF). Obtaining a UTF is indeed an honour and it serves to validate my commitment to teaching at this world-class University.

His PhD student, Anson Chan, added: “We all know that the basic responsibility of a teacher is to facilitate student learning but how can we define an excellent teacher and how can we distinguish one? It is not simple but I have come up with some elements: they are dedication, uniqueness, neutrality, consideration, appreciation, and a never-ceasing spirit.

“Being dedicated is undoubtedly the most important element for a teacher while an excellent teacher should also have his or her own unique style. Dr Macfarlane teaches in a truly interactive way, not only asking students questions, but also inviting students to prepare teaching topics and present them in class – as well as making the learning fun, often by making jokes that reinforce learning concepts. This fun and interactive teaching style enhances students’ attitude to learning and helps break the ice between the teacher and students.

“Being neutral means being fair and a good teacher should remain neutral when teaching or assessing a student’s performance. Dr Macfarlane rewards good effort but equally penalizes poor effort. When some fellow staff members enrolled in his anthropometry course, he did not show any favouritism for his colleagues. If any of them were absent from the lab, he deducted their marks as he would for any student. We respected his neutrality.

“Being considerate is also very important and Dr Macfarlane tries his best to be familiar with his students’ needs, by regularly staying behind after class to talk with them.

“Being appreciative is another key. Dr Macfarlane appreciates students not only when they do well, but even when they make mistakes, because he believes we learn from our mistakes.

“The last element is a never-ceasing spirit. Some teachers begin their career with a lot of enthusiasm but slowly their good teaching begins to decline. Dr Macfarlane has been teaching at HKU for more than 12 years, yet he has always maintained an excellent teaching reputation and has shown strong leadership within the IHP, and his never-ceasing spirit makes him a role-model for both students and staff.”



Dr Yoshiko Nakano, Assistant Professor of the School of Modern Languages and Cultures, said: “I have always believed that teaching doesn’t have to be confined to the classroom. So, after joining the Department of Japanese Studies in 2000, I began to search for ways in which we might cooperate with Hong Kong’s 25,000-strong Japanese community, and subsequently initiated a number of experiential – and experimental – learning programmes. These included cultural workshops, summer internships, and a project-based course in Japanese business.

“I run the project-based course in cooperation with two Japanese companies in Hong Kong: an airline and an entertainment business consultancy. One of the tasks has involved developing a J-pop soundtrack for a Japanese restaurant chain called Watami. By dealing with the various music labels and acting as a liaison between the restaurant chain and the consultancy, students learn to operate effectively in a Japanese business environment.

“Experiential learning programmes tend to be high-risk and high-maintenance. No one can predict whether a project will succeed or fail, or what problems may arise along the way. Nevertheless, I believe that both students and teachers can benefit greatly from these experiences and, for me, this Fellowship is an endorsement to keep moving forward and I hope to build many more bridges between HKU and the international community.”

Nakano’s third year student, Joyce Leung, added: “Dr Nakano is one of the greatest teachers I have ever met in my life. When I knew that she was to be awarded the University Teaching Fellowship, I thought it was a great recognition of her contribution and effort in teaching and creating learning opportunities for students.

“She is an inspiring teacher, who is now responsible for teaching three undergraduate courses and for three postgraduate students. In class she actively initiates interactive discussions and guides students to think and express their opinion. Thanks to her advice I have been encouraged to think in a logical and critical way, and to write in a more precise manner.

“In addition to academic study, Dr Nakano also offers much valuable guidance to students in their future career choices. Thanks to her extensive network within the Japanese community, and her hard work in establishing a platform to bring the Japanese and HKU students together, a win-win situation has been achieved.

“The internship programme initiated by Dr Nakano has also benefited students in terms of career exposure and exploration. During the internship period I gained many ideas and received good advice for my future career. Thanks to Dr

Nakano’s effort the internship programme has proven to be a strong off-campus learning platform that contributes enormously to students’ development.

“Furthermore, Dr Nakano has pioneered a new one-year course, entitled *A Project in Japanese Business*. Although she faced setbacks while administering the course, she did not give up, rather, she has worked hard to run the programme, making it a great success. The opportunities and challenges that Dr Nakano has created have increased my interpersonal and communication skills – crucial elements for success in a real-life working environment. Dr Nakano is a great teacher and a valuable bridge between the Japanese community and HKU students.”



Outstanding Research Student Supervisor Award

The Outstanding Research Student Supervisor Award is granted in recognition of supervisors of research postgraduate students whose guidance has been of particular help to their students in the pursuit of research excellence. Awards are made annually, and are open to teachers of all grades who have served as supervisors of research postgraduate students.



Professor Edward Lo Chin Man

Professor, Faculty of Dentistry

Professor Lo, who was among the first class of dental graduates from the University of Hong Kong in 1985 and also obtained his master and PhD degrees from HKU, is now an internationally-recognised expert in the research fields of oral epidemiology, preventive dentistry and oral health care services. In 1998 he was the first recipient of the prestigious John Clarkson Fellowship, which he used to improve his own dental knowledge, learning from some of the world's best researchers at three leading dental research centres in the USA and one in the UK. According to his students, Professor Lo is a very caring supervisor and a source of valuable advice on research, career and personal matters. He knows the strength and weakness of each student well. He operates an open door policy and encourages students to talk with him informally, outside the scheduled teaching sessions and share with him their joys and frustrations, whether work-related or not. He continues to be a mentor even after his students graduate, providing advice on career development and encouraging them to aspire to the highest standards of research excellence.

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Outstanding Young Researcher Awards

The Outstanding Young Researcher Award is given to researchers of promise who have attained excellence in their research performance within 10 years of receiving their PhD or equivalent.

Dr Douglas Wayne Arner

Associate Professor, Department of Law

Dr Arner specialises in international economic and financial law and policy. He is the director of the Faculty of Law's interdisciplinary Asian Institute of International Financial Law (AIIFL) and also the director of its LLM (Corporate and Financial Law) programme. He is the author of *Financial Stability, Economic Growth and the Role of Law* and the co-author of *Financial Markets in Hong Kong: Law and Practice*, and has also made major authorial or editorial contributions to a large number of studies, articles and chapters on economic and financial law and policy published in a variety of international venues. He has

presented academic papers at over 40 academic conferences in more than 15 countries. As director of AIIFL, he has developed a leading interdisciplinary, multicultural research team working in the area of economic and financial law and policy, and in 2005 had the satisfaction of seeing 'Corporate and Financial Law and Policy' selected as one of the University's Strategic Research Themes. More generally, he has been involved with financial sector development projects in economies in Africa, Asia and Europe, most recently as leader of teams advising senior policymakers in China and Cambodia.

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Dr David Martin Pomfret

Assistant Professor, School of Humanities

Dr Pomfret, who received his PhD from the University of Nottingham in 2000, is currently Assistant Professor of Modern European History in the School of Humanities and an Associate Dean of the Faculty of Arts. He has published widely on the history of childhood and youth, the history of cities and the modern history of Britain and France. His research has won recognition for its innovative emphasis upon age as a category of analysis and its use of a

comparative methodology. He is currently completing work on a book examining how ideas, assumptions and practices relating to youth informed the ways Europeans perceived and implemented colonial rule. He is editor of the journal *Planning Perspectives*, and a Council Member of the International Planning History Society. He says that his commitment to painstaking archival work has over the years brought him face to face with a number of challenging scenarios, including terror attacks in Paris and London, giant rats in the Vietnamese National Library, and attempts by French police in Niort to detonate his notebook computer in a controlled explosion.

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Dr Alice Wong Sze Tai

Assistant Professor, School of Biological Sciences

Dr Wong joined the University as an Assistant Professor in 2002 after working as a postdoctoral fellow at the Memorial Sloan-Kettering Cancer Centre. Her primary research interest is cell adhesion and signal transduction in cancer. Cell adhesion molecules are very important for many physiological processes which, if deregulated, can contribute to cancer. Traditionally, their ability to affect cell functions has been attributed to their adhesive properties, but Dr Wong's research findings have presented new evidence that suggests a different scenario. Her research has also involved the identification and characterisation

of novel genes and proteins of ovarian cancer, the most lethal of all gynecological cancers. These studies have provided important insights into the nature of ovarian carcinogenesis and have helped to identify new targets in cancer diagnosis and therapy. Dr Wong's work has been widely published, and some of her articles have featured as cover stories in a number of distinguished scientific journals. She believes that it is very important for young researchers to pioneer — to have new ideas and to have the courage to pursue them.

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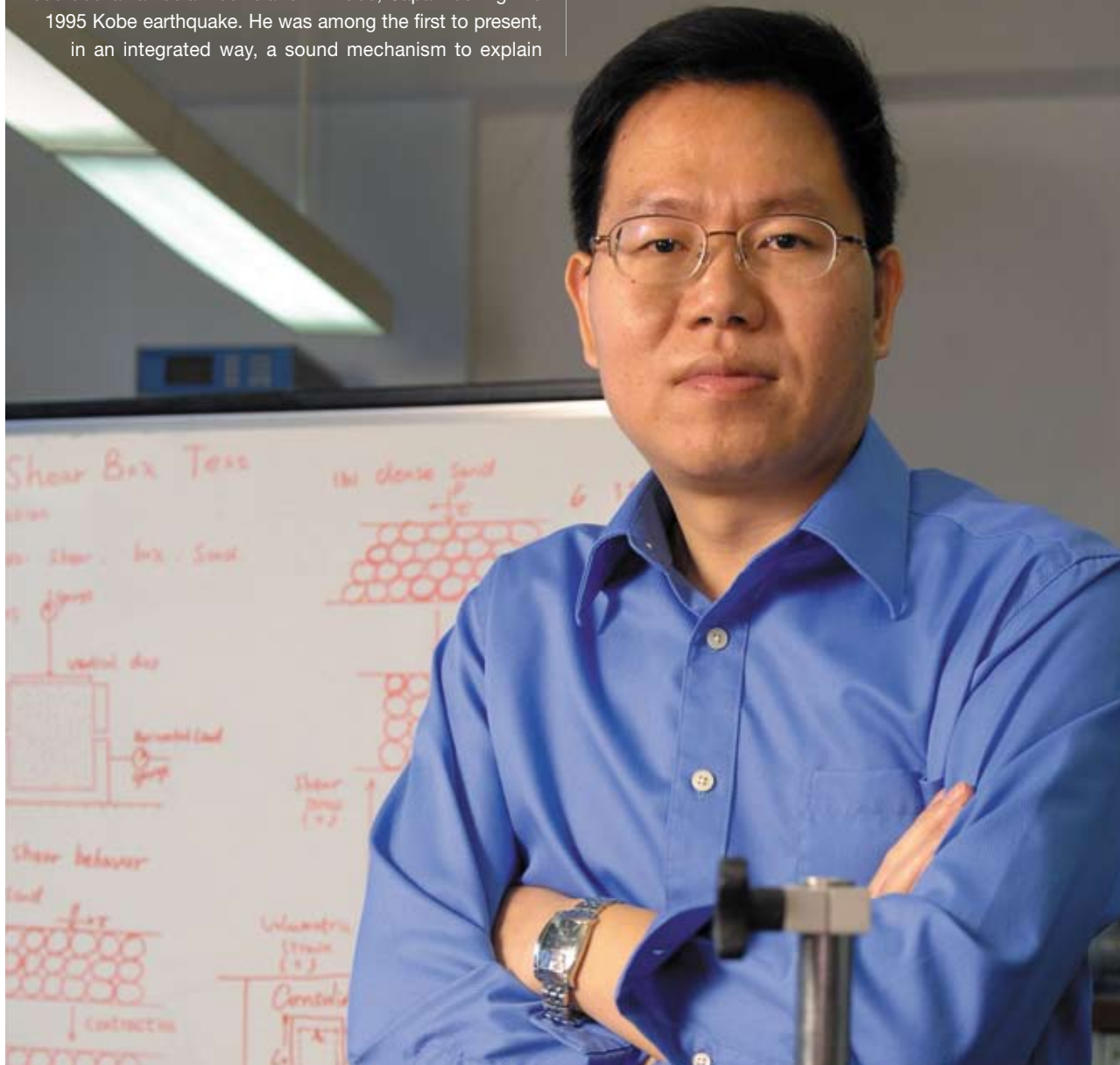
Dr Yang Jun

Assistant Professor, Department of Civil Engineering

Dr Yang's research spans a broad spectrum of topics in geomechanics and earthquake engineering. During the past ten years his research has focused on obtaining a better understanding of ground motion during large earthquakes and its impact on man-made structures and buildings. Dr Yang has published widely in specialist journals in recent years, and one of his most important articles was a study of the unusually large amplification of vertical ground motion recorded at a reclaimed island in Kobe, Japan during the 1995 Kobe earthquake. He was among the first to present, in an integrated way, a sound mechanism to explain

the observation. His proposal on the non-uniqueness of flow liquefaction line for loose sand, which challenges a widely accepted theory, has particular significance for studying flow failures of earth dams. Dr Yang says that he enjoys his life as a young researcher very much, but stresses that there is no easy way to success. In his view, researchers must work hard to achieve the goals they set themselves.

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Outstanding Researcher Awards

The Outstanding Researcher Award is conferred for exceptional research accomplishments of international merit.

Professor Chye Mee Len

Professor, School of Biological Sciences

Professor Chye joined the University's Department of Botany in 1993 and became a professor in 2005. Her research interests are plant molecular biology and plant biotechnology. Her research team has characterised a new gene family encoding acyl-CoA binding proteins in the model plant Arabidopsis. These proteins were shown to bind different acyl-CoA esters and exhibit various subcellular localisations, implicating their non-redundant roles in plant lipid metabolism. These studies, funded by the Research Grants Council of Hong Kong, have

improved our understanding of plant lipid transfer and lipid-mediated stress tolerance. Her research in plant biotechnology has resulted in the issue of two US patents and the filing of three others. She currently serves on the editorial board of the international journal *Planta*. Professor Chye says that she values the opportunity to collaborate with other investigators both in Hong Kong and abroad. She enjoys the company of her enthusiastic research students and values their teamwork. "It makes life in the laboratory fun and rewarding."

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Professor Leung Suet Yi

Professor, Department of Pathology

Professor Leung's research aims to determine the genetic basis of gastrointestinal tract cancer. Through study of gene mutations that cause the most common type of familial colon cancer, hereditary nonpolyposis colorectal cancer, she and her team have identified a new causal mechanism through heritable methylation of the gene promoter. Her team also found that one-fifth of local families with this kind of cancer have inherited the same form of mutation from a common ancestor, presumed to have lived around 2000 years ago in Guangdong province. These research findings have helped her team to save lives, by providing a charitable territory-wide genetic diagnosis service for hereditary colon cancer patients. Professor Leung's other achievements include pioneering the usage of microarray

technology to study genetic changes in cancer. Microarray technology can interrogate changes in tens of thousands of genes simultaneously, and can therefore substantially speed up cancer gene discovery and facilitate anti-cancer drug development. Professor Leung has published over 100 papers, including many articles in high impact journals, and is one of the world's most cited scientists in the field of clinical medicine. She says that she considers research to be an integral part of her life, and is naturally driven by curiosity and passion. She is grateful for the unfailing support that her research team has given her in the past few years, and delighted that its research findings can be translated into practical benefits for the community.

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Professor Alfonso Ngan Hing Wan

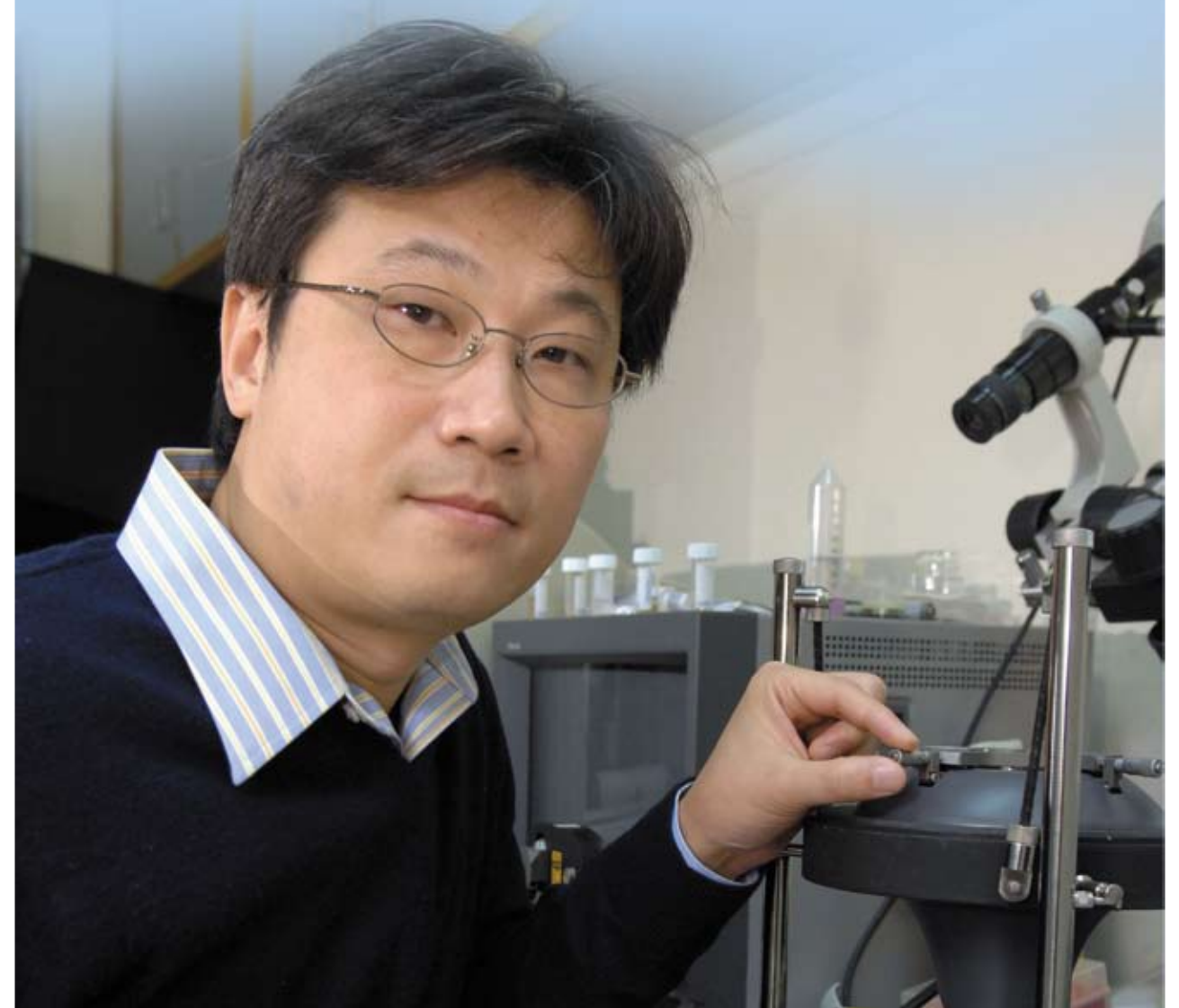
Professor, Department of Mechanical Engineering

Professor Ngan is interested in studying the atomic-level mechanisms that determine why materials exhibit different mechanical strengths, as understanding the strength of different materials and structures is very important in engineering. Metals are stronger than plastics and ceramics are even stronger, and the scientific basis for such differences goes far beyond a simple explanation that can be offered by considering the bonding strength between atoms in these materials. During his PhD studies at Birmingham, Professor Ngan learnt to use electron microscopy to investigate the atomic processes accompanying a material's mechanical deformation, and his postdoctoral

training at Oxford involved the use of computer modeling techniques to predict these processes. He is thus interested in using both theoretical and experimental approaches to conduct his research. In more recent years, he has focused on materials with nanometer to micron dimensions, as understanding the mechanical properties of these small materials is very important in designing successful devices that make use of them. His research results have been published in top materials science journals, and his work is well respected by materials scientists around the world.

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Professor Ronnie Poon Tung Ping

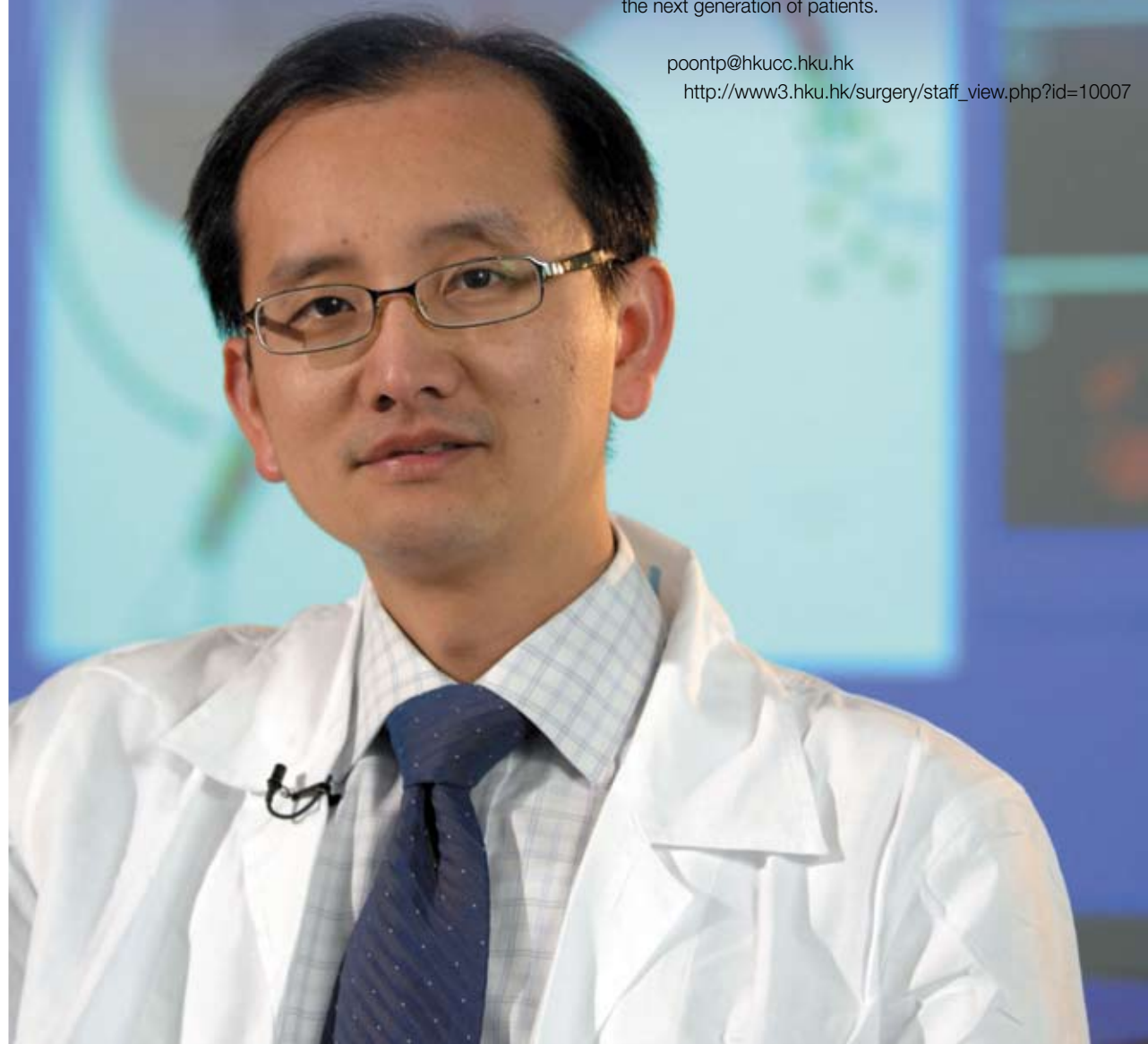
Professor, Department of Surgery

Professor Poon's main research interest is liver cancer, which has a particularly high incidence in the Chinese population. He has performed numerous clinical studies to improve the results of surgical resection for liver cancer at Queen Mary Hospital, achieving a very low operative mortality rate and one of the best long-term survival rates in the world. He is currently serving as the global lead investigator of two international large-scale clinical trials of adjuvant therapy using novel drugs after resection and radiofrequency ablation of liver cancer,

each involving more than 60 centres in Asia, North America and Europe. He is also interested in basic research on the angiogenesis of liver cancer and has demonstrated the pivotal role of vascular endothelial growth factor in this process, leading to the development of an FDA-approved drug for the treatment of liver cancer. Professor Poon believes that, in research matters, academic clinicians are at the crossroads of research and clinical practice, and can play an important role in translating research on basic mechanisms of disease into new treatments for patients. As the Chairman of the Research Committee of the Department of Surgery, he hopes to foster a new generation of young surgeon-scientists who can elucidate our understanding of diseases and develop novel treatments for the next generation of patients.

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Distinguished Research Achievement Award

The Distinguished Research Achievement Award is the University's highest research honour. Awards are made only once every two years, and no more than two awards may be made in each exercise. Candidates are expected to have achieved international distinction and to be at the forefront of their chosen field (ideally, among the top 1% of researchers in that field).

Professor Vivian YAM Wing Wah

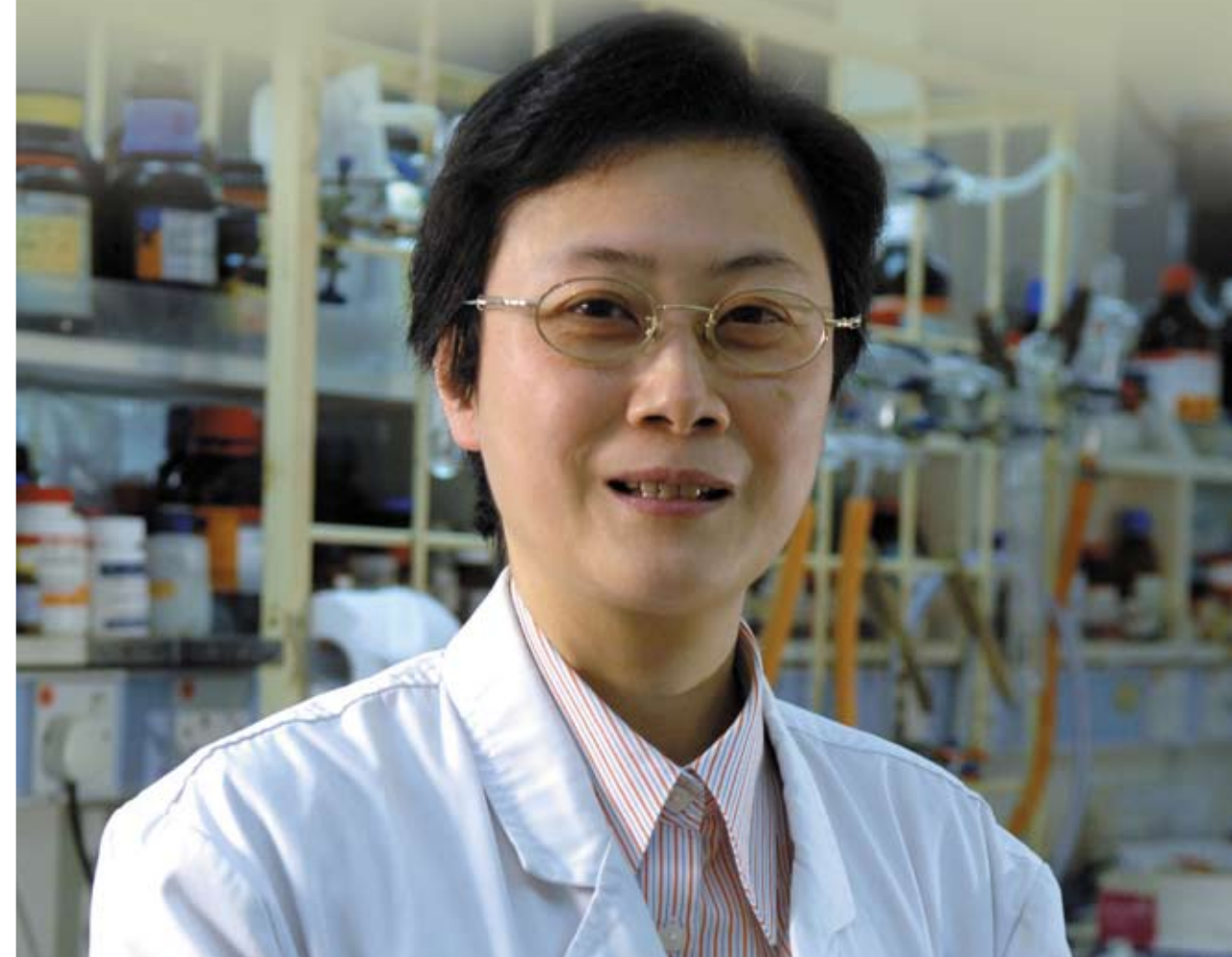
Professor, Chair of Chemistry

Professor Yam's major research contributions are in the areas of inorganic and organometallic chemistry, particularly in the employment of molecular design and synthetic strategies to create novel classes of luminescent metal complexes and metal-based molecular functional materials. Her seminal works on luminescent polynuclear metal complexes and clusters and light-emitting carbon-rich organometallics have gained her international recognition. In 2001 she became the youngest member of the Chinese Academy of Sciences. In the past three years she has been awarded a Class II State Natural Science Award for her project 'Molecular Design and Luminescence

Studies of Transition Metal Complexes with Alkynyl- and Chalcogen-Containing Ligands', and a Royal Society of Chemistry (RSC) Centenary Lectureship and Medal for her innovative design and synthesis of metal-based luminescent materials and novel contributions to light-induced chemical reactions. She is also the first Chinese scientist to be honoured with the RSC Centenary Lectureship and Medal. In 2006 she also won the prestigious Japanese Eikohsha Award. Professor Yam says that research is an integral part of her life. She believes that, provided they have the passion, dedication and determination to pursue research with all their heart, scholars in Hong Kong can excel internationally and produce results of world-class quality.

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A New Accessible History of Hong Kong

When the British occupied the tiny island of Hong Kong during the First Opium War, the Chinese empire was well into its decline, while Great Britain was already in the second decade of its legendary 'Imperial Century'. From this collision of empires rose a city that continues to intrigue observers. Melding Chinese and Western influences, Hong Kong has long defied easy categorization.

John M. Carroll's engrossing and accessible narrative details the remarkable history of Hong Kong from the early 1800s through the post-1997 handover, when the former colony became a Special Administrative Region of the People's Republic of China.

The book explores Hong Kong as a place with a unique identity, yet also as a crossroads where Chinese history, British colonial history, and world history intersect.

Carroll, Associate Professor of the School of Humanities, said: "There are not that many books on the history of Hong Kong. We really only have two so far; George Endicott and Frank Welsh which are both very much the British history of Hong Kong. Then there is the more recent *A Modern History of Hong Kong* by Steve Tsang.

"I wanted something that was shorter and more accessible to undergraduate students and general readers. One of the goals was to make it jargon-free and readable. More importantly, though, what I've really tried to do is add in elements of social and cultural history, as well as gender. I tried to focus in several areas on women in Hong Kong; I do talk at some length about the debates about the *mui tsui* – the girls who had been sold to richer families," he said.

Based primarily on the work of others the book ends in 2005, making it the most up-to-date history of the territory. "One of the

goals was to present the work of all these other scholars in a very readable way," explained Carroll.

The book concludes by exploring the legacies of colonial rule, the consequences of Hong Kong's reintegration with China, and significant developments and challenges since 1997.

"What I really tried to do in the Epilogue was to give a more

balanced picture of some of the positive and the negative legacies of colonial rule. Nowadays we almost solely hear about the negative legacies – the lack of any kind of political culture, the *laissez faire* system which has, according to many people, left Hong Kong unable to keep up with rising population pressures. I also look at the language problem, people here talk a lot about the declining quality of English and I point out (in referring to the work of the journalist C.K. Lau) that one problem with English language in Hong Kong is that, because it was such a segregated society, people rarely had the opportunity, or the need, to speak English spontaneously.

"There is also the argument that the colonial government did not do more for Hong Kong in terms of social services, because there was a feeling here (and it was not just a colonial one) that if life was too good then everybody would want to come in, to a certain

degree; this is really one of Hong Kong's cultures – we don't give people too much, the safety net is a very fragile one here."

A Concise History of Hong Kong by John M. Carroll is Available from Hong Kong University Press



Brush Strokes

A recent exhibition at the University Museum and Art Gallery from January to March 2008, featuring the internationally-renowned artist, Kan Tai-keung, explored his concept of painting in relation to Chinese calligraphic compositions.

A designer and painter, Kan was born in Panyu, Guangdong province in 1942, and moved to Hong Kong in 1957. From 1964, he learned drawing and water colour painting from his uncle, Kan May-tin (1911-1998), and later studied Chinese ink painting with Lui Shou-kwan (1919-1975), as well as applied design with Wucius Wong, in the Department of Extramural Studies, at The Chinese University of Hong Kong.

In 1967, Kan began his career as a designer and went on to establish his own design company in 1976. His earlier ink paintings (from the 1970s and 1980s) are characterized by

graphic elements, featuring landscapes in very refined concrete brushstrokes. His later works are much more naturalistic landscapes in ink, featuring mountains, rivers, trees, rocks, and clouds which possess a far deeper realism.

Some of his most recent works consist of several panels combining visual elements of painting and calligraphy. Kan suggests the structure of the running and cursive scripts in cloudy mountains and flowing rivers in his landscapes. Over thirty paintings, dating from the 1970s to 2007, were included in this exhibition.

Kan is currently Creative Director of the Kan & Lau Design Consultants, he is also a Council Member of the Hong Kong Arts Development, and Dean of the Cheung Kong Institute of Arts and Design at Shantou University.





Old Kowloon

An exhibition featuring over seventy photographs, focusing on the areas through which a proposed tramway might have been constructed in early 20th century Kowloon was shown recently, at the University Museum and Art Gallery.

The photos, from a collection owned by Mr Cheng Po Hung, showed the parts of Kowloon owned by the Colonial Government, such as Tsim Sha Tsui, Yau Ma Tei, Ho Man Tin, Mong Kok and Tai Kok Tsui, as well as those owned by the Chinese Government (later renamed the New Territories). Also included were images of then undeveloped areas such as Ngau Chi Wan, Wong Tai Sin, Ngau Tau Kok, and the new town of Tseung Kwan O.

In the early days, Kowloon was divided into “British Kowloon”, which referred to an area south of Boundary Street, ceded to the British in accordance with the Convention of Peking in 1861, and “Chinese Kowloon” (later known as the New Territories), the area

from Boundary Street to the Shenzhen River, which was leased to the British in 1898.

Over the past hundred years Kowloon has played an important role in Hong Kong's economic, transport, and social developments. Factories, producing textiles, clothing and ironware, were built in Sham Shui Po, Tai Kok Tsui, and Cheung Sha Wan, and these contributed enormously to the industrial development of Hong Kong in the 1970s.

The Canton-Hong Kong Railway, which terminated in Tsim Sha Tsui, and the Kai Tak Airport, completed in 1931 in Kowloon City, facilitated the development of both trade and tourism. At the foothill of Lion Rock, the public housing estates of Wong Tai Sin were home to typical working class communities in the 1950s.

This fascinating pictorial collection gave witness to the enormous changes that have helped shape the Kowloon Peninsula over the last hundred years.