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A BALANCE OF TRADITIONS

Bridging Chinese and Western medicine



Chinese Gamblers
High-Stakes disease



Grand Designs
Creating the Centennial Campus





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Upholding the Tradition of Excellence The Seventh Inauguration of Endowed Professorships



HKU presented seven new Endowed Professors and one successive appointment in its Seventh Inauguration of Endowed Professorships officiated by Pro-Chancellor Dr the Honourable David Li Kwok-po, and presided by Vice-Chancellor Professor Lap-Chee Tsui, on April 19, 2013 in Loke Yew Hall. This brings the total number of Endowed Professorships to

72, including three Distinguished Visiting Professorships. Each Endowed Professorship is established with a donation of \$10 million or more, which is matched by the University with an equal amount. The generous donation will become a perpetual endowment in a designated discipline, as the Endowed Professor upholds a proud tradition of excellence.

"The town-gown partnership is vital for the sustainability of any advanced economy such as Hong Kong. No world economy can succeed

without a vibrant tertiary sector. Increasingly, public-private partnerships in tertiary sector education are what lend that vibrancy and sustainability. The Endowed Professorships at HKU are an important manifestation of this concept," noted Dr Raymond Ch'ien Kuo-fung, Chairman, Advisory Committee to the Vice-Chancellor on Endowed Professorships.

Being regarded as the most significant award bestowed upon academics within the University, Endowed Professorships have been established since 2005 to provide continued support to areas of academic excellence.

For more about HKU's Endowed Professorships, please go to <http://www.hku.hk/ephku/> ■

Professor Che Elected Foreign Associate of the US National Academy of Sciences

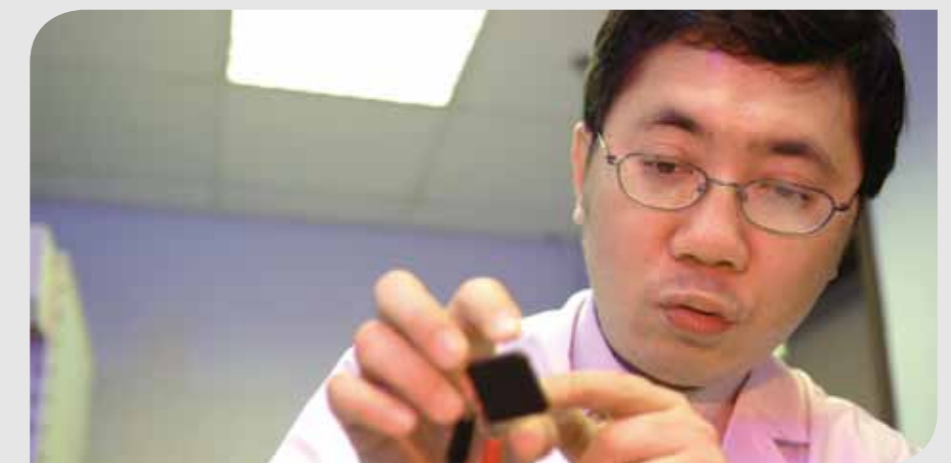
Professor Che Chi-ming, Hui Wai Haan Chair of Chemistry, has been elected as a Foreign Associate of the National Academy of Sciences (NAS), United States.

Chemical Societies. His election to the NAS is further evidence of how greatly respected Professor Che's work is around the world.

In recognition of the remarkable and continuing achievements of scientists in original research, the NAS announced the election of 84 new members and 21 foreign associates from 14 countries in April 2013. ■

Professor Che's research interests cover triplet emitters and solar chemistry, green oxidation, metal-nitrogen multiple bonds, metal-carbon multiple bonds, materials science and chemical catalysis and chemical biology of inorganic medicines.

He is the winner of the 2013 Royal Society of Chemistry Centenary Prize, a Member of the Chinese Academy of Sciences (China), and a Fellow of the Royal Society of Chemistry, the Academy of Science for the Developing World in Chemical Sciences, the World Innovation Foundation and the Federation of Asian



Winning Recognition for Our Green and Sustainable Campus

HKU's Centennial Campus has been awarded Platinum certification under Leadership in Energy and Environmental Design (LEED) for New Construction and Major Renovations, for its high performance in terms of green features and energy efficiency in six areas of assessment, including sustainable site development, water savings, energy efficiency, materials selection, indoor environmental quality and innovation in designs.

As the first higher education institution in Hong Kong and the second organisation in the territory to achieve the highest standard, HKU has been recognised for its commitment to sustainable development. Sustainable features such as the integration of landscaped spaces

into the Campus, careful positioning of buildings to capture natural light, breezes and storm water, installation of renewable energy devices for electricity generation and demonstration purposes, just to name a few, all contributed to the commendation.

Developed by the US Green Building Council, the LEED rating system is a widely recognised programme for identifying green buildings, homes and communities across the globe in terms of



From left: Mr Paul Chan, Director, Wong & Ouyang (Building Services) Ltd; Mr KL Tam, Acting Director of Estates; and Professor John Malpas, former Pro-Vice-Chancellor (Infrastructure) are delighted to receive the award.

their design, construction, operation and maintenance. ■

Distinguished HKU Academics Awarded Croucher Senior Research Fellowships 2013–14



Professor Irene Ng Oi-lin (left) and Professor Ron Hui Shu-yuen (right)

Two eminent HKU academics – Professor Ron Hui Shu-yuen, Philip KH Wong Wilson KL Wong Professor in Electrical Engineering, and Professor Irene Ng Oi-lin, Loke Yew Professor in Pathology and Head of the Department of Pathology – were awarded Senior Research Fellowships by the Croucher Foundation for their prominent scientific achievements and research endeavours. The awards were presented on March 21, 2013 by Mrs Carrie Lam Cheng Yuet-ngor, Chief Secretary for Administration of the HKSAR Government.

Professor Hui's research interests focus on power-electronics-based electrical energy conversion technologies, with an emphasis on improving energy efficiency and reducing electronic waste. The main research area of Professor Ng, the only academic to receive this award twice, is the pathological changes in the formation and progression of liver cancer, identification of liver cancer stem cells and characterisation of important genes, cell signalling pathways and microRNAs.

First introduced in 1997, the Croucher Senior Research Fellowships honour outstanding local academics who have remarkable research accomplishments, judged by leading international scientists invited to provide confidential reviews of candidates nominated in a competitive exercise. ■

When Less Is More HKU Serves up More Veggies, Less Meat on Mondays

A green campus is not realised through sustainable buildings and infrastructure alone. The lifestyle choices that those on campus make are also key. So HKU has become the first among all universities in Hong Kong to support a campaign to offer vegetarian meals, with all 11 canteens on campus offering vegetarian options every Monday, and some even every day.

The campaign is organised by HKU's General Education Unit, Centre of Development and Resources for Students and 'Green Monday', a group of Hong Kong-based organisations and individuals who aim to lessen our impact on the environment by adopting more sustainable ways of living, like eating less meat.

This is an example of HKU's ongoing push to increase awareness of conservation around campus. Since 2011, 'Less-Meat Monday, Let's Meet@HKU', a student organisation, has been promoting meatless meals on campus, and also supports the current campaign. ■



HKU Presents the First Mineral Festival 2013 A Kaleidoscope of Beauty in Nature

A trend in mineral collection and appreciation has been emerging in China in recent years as HKU hosted its first Mineral Festival 2013, organised by the Stephen Hui Geological Museum and the Mineralogy Society of Hong Kong, this past April.

The Festival included a wide spectrum of activities, such as the Mineralogy Society's 7th Mineral Fair held in Loke Yew Hall, talks, workshops, guided museum exhibition tours and a special field trip to Tung Ping Chau led by Professor Chan Lung-sang, Department of Earth Sciences.

A special highlight is the *Mineral Treasures of China* exhibition in the Stephen Hui Geological Museum, showcasing over 50 world-class and finest mineral specimens

found in various provinces in China over the last 30 years. On display are valuable minerals and crystals, including a green fluorite piece from Hunan weighing approximately 70 kilograms, the rare and large scheelite and ottensite crystals from Sichuan and Guizhou respectively, Guangdong's malachite, and hemimorphite and aquamarine beryl from Yunnan. This collection of rare and exquisite mineral specimens is the private collection of Dr Liu Guanghua, an internationally renowned enthusiast in collecting and preserving Chinese minerals, and includes some precious pieces displayed to the public for the first time.

The *Mineral Treasures of China* exhibition, which is open to the public, runs at the Stephen Hui Geological Museum until August 30, 2013. ■



From left: Dr Liu Guanghua, Dr Petra Bach and Professor Chan Lung-sang at the Opening Ceremony of the Mineral Treasures of China exhibition.

A Balance of Traditions

For many decades, modern, Western-style medicine has been the standard for healthcare around the world, offering cures and treatments based on extensive trials, and careful dissections of the causes and effects. But increasingly researchers are looking at a tradition with a very different approach. In Chinese medicine, it's not the parts but the whole that matter, and it is not just a medicine but a culture and philosophy. HKU and its researchers, located at the crossroads of East and West, are drawing on their unique position to bridge the two and move towards integrating Chinese and Western medicine and therapies into a 'one-world medicine' that is based on the best of both traditions.



Both Ends towards the Middle

HKU researchers are uniquely positioned to find the middle ground between the ancient, holistic approach of Chinese medicine and the modern, reductionist one of Western medicine.

“Traditional Chinese medicine has its own glossary of terms, its own theoretical basis for deduction of diagnosis, and it arrives at different rationales on how to prescribe and take care of patients. To blend this with modern anatomy, biology and all we’ve discovered in the last few decades – that is not easy.”

Professor Lee Sum-ping

The best way to understand how traditional Chinese medicine (TCM) and modern Western-style medicine differ is to start with the patient experience. If a young woman and an elderly man living in separate parts of the world visit Western-trained doctors complaining of a cough, they will be offered the same, standardised treatment based on the nature of their cough. But if they visit TCM practitioners, their treatment will be tailored not only to their cough, but their gender and age, climate, time of year, geographic location and other individualised factors.



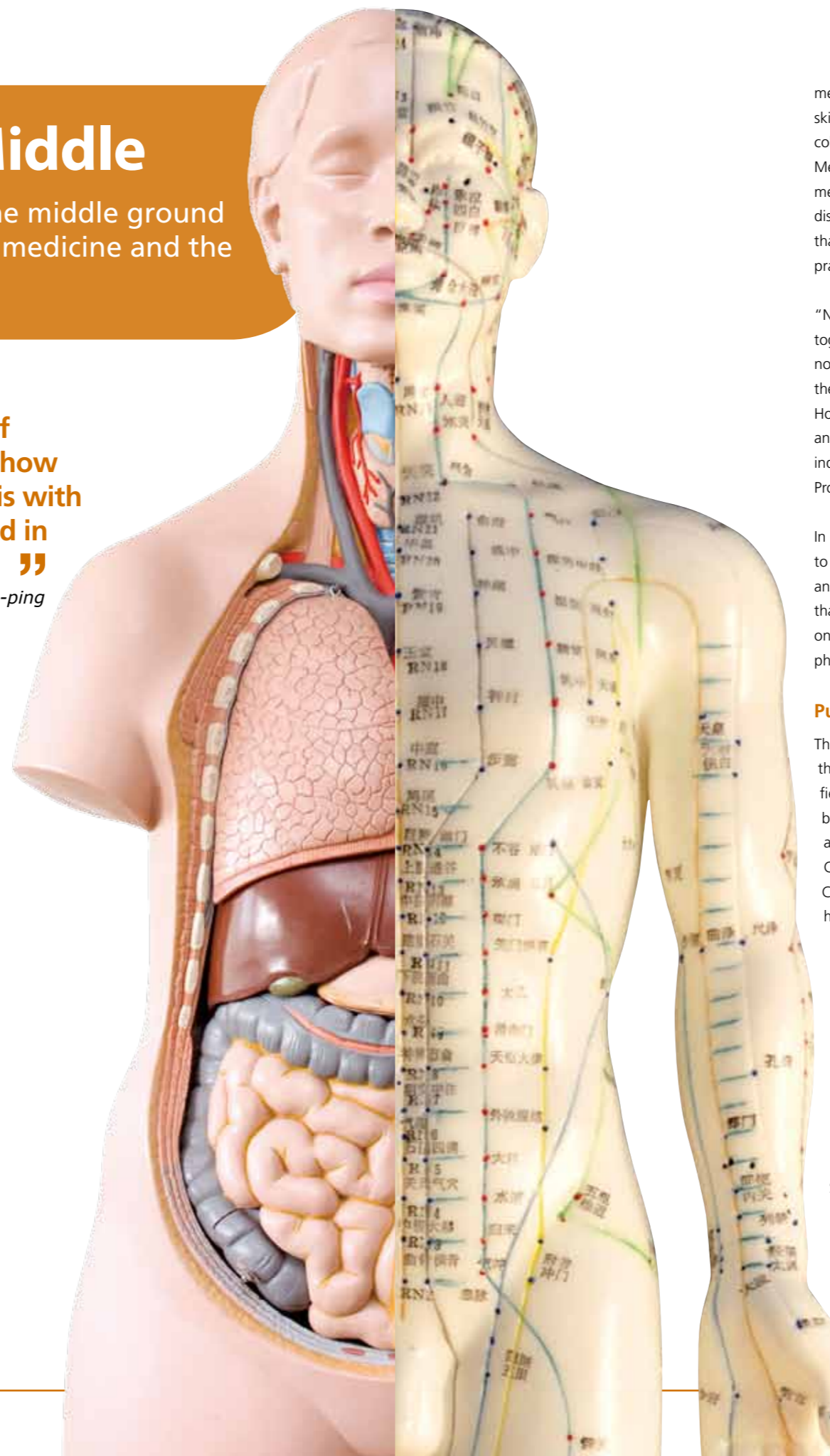
Moreover, the medicine prescribed by the modern doctors will have undergone rigorous testing in laboratories and clinics to prove that it works, while the Chinese medicine will have been formulated from texts and teachings that, although used for more than 2,000 years, have not been so thoroughly analysed.

Building a bridge between these two poles is one of the great challenges of 21st century medicine, as HKU’s Dean of Medicine, Professor Lee Sum-ping, Dexter HC Man Family Professor in Medical Science, related.

“To completely merge and rationalise these two schools of thought is like blending two religions and saying this god is a god and that god is a god and they are both the same god. That is a very difficult thing to do and the road is paved with a great number of barriers and difficulties. But it is something that has to be done,” he said.

And HKU is perhaps the best place for doing it.

HKU’s researchers are steeped in Western scientific know-how and familiar with the cultures and traditions associated with Chinese



medicine. They have strong English-language skills, which are important for international collaboration. The highly-regarded Faculty of Medicine offers both Western and Chinese medicine as independent yet complementary disciplines. And they are working in a city that recognises and regulates both forms of practice.

“Nowhere else has the ability to bring the two together like we do. Not Taiwan, not Korea, not Japan, not even Mainland China because there the two streams are mixed. Only in Hong Kong do you have Western medicine and Chinese medicine regulated separately, independently and yet simultaneously,” Professor Lee said.

In order for a merging to happen, there has to be a sympathetic environment and also an appreciation that each approach is more than the sum of its parts, representing not only a unique style of medical care but also a philosophical outlook.

Putting TCM to the test

The sympathetic environment has been an easy thing to provide at HKU. Scholars in several fields are ardently pursuing TCM research because they believe in TCM’s merits, as well as its scientific possibilities. Professor Che Chi-ming, who is Hui Wai Haan Chair of Chemistry and one of the top researchers in his field globally, is one such scholar.

“Doing TCM research is my interest, I won’t say it’s just my responsibility. I personally believe in TCM and I want to make some contributions. I’m very optimistic that it has a future,” he said.

The Department of Chemistry is one of several units in the University doing TCM research. The School of Biological Sciences, School of Chinese Medicine and several departments within the Faculty of Medicine are also applying advanced technologies and methods to study TCM treatments from bench to bedside and back again so as to



Professor Che Chi-ming

understand how they work, improve quality and derive new drugs.

Some examples of their outcomes include isolating a compound that has anti-cancer properties, showing how a herbal medicine can improve blood-flow to the brain in post-stroke patients, testing TCM drugs that manage symptoms of menopause and applying acupuncture to alleviate depression and insomnia.

HKU also advances TCM research on the international stage as Founder and Secretariat of the Consortium for Globalization of Chinese Medicine, which promotes international research and collaboration and has more than 120 institutional members from around the world.

But putting TCM under the microscope is not the same as understanding it. TCM is as much a philosophy and cultural phenomenon as it is a collection of medical components.

Uncovering the wisdom behind the philosophy

“To test a compound is an easy thing,” Professor Lee said. “Within one or two decades a number of medicinal preparations will have marched through the multi-step sequential process of extraction, of purification, of structural identification, of looking at the safety, the potential therapeutic effect and the evidence that it works in humans.”

“In Chinese medicine you treat patients, not a disease or pathology. I think that’s where it has wisdom.”

Professor Paul Tam

“But to truly understand Chinese medicine takes much work. The more profound and more challenging issue is the principle and theory of practice. TCM has its own glossary of terms, its own theoretical basis for deduction of diagnosis, and it arrives at different rationales on how to prescribe and take care of patients. To blend this with modern anatomy, biology and all we’ve discovered in the last few decades – that is not easy.”

TCM concepts such as homeostasis (balance within the body), qi (energy flow), yin and yang, and hot and cold, are unknown in Western medicine. What’s more, the ancient texts describe things that have no modern scientific counterpart. Acupuncture points do not correspond to blood vessels or nerve pathways, and meaning attached to body parts such as the liver and kidney differ from modern anatomy. Herbal remedies, while seemingly more straightforward, number in the tens of thousands and can be enormously complex to examine even with today’s technologies.

Professor Lee equated the philosophy of TCM to the pyramids of ancient Egypt. Exactly how they were built and laid out remains a mystery

because “they didn’t record what they knew in a language we use today. It is almost like an archaeology of the mind to try to understand the breadth and evolution of that wisdom”.

Yet the wisdom cannot be denied, said Professor Paul Tam, Li Shu-Pui Professor in Surgery, Pro-Vice-Chancellor and Vice-President (Research) at HKU who is also a paediatrician.

“In Chinese medicine you treat patients, not a disease or pathology. I think that’s where it has wisdom. It aims to restore the health of the individual, although it has some way to go to prove it is effective in a scientific manner.”

Improving understanding

Scientific proof is not the only issue for TCM. The unknown can breed mistrust, leading some Western doctors to warn their patients off TCM as unproven, and some TCM doctors to argue their centuries-old remedies are more trustworthy than modern treatments such as surgery.

HKU therefore is also trying to promote mutual understanding and enrichment by going beyond the laboratory and making an impact in education and clinical settings, too.



Students in Medicine, Nursing and Pharmacy learn about TCM and its humanistic spirit and students in Chinese Medicine learn about modern evidence-based medicine.

The Faculty also plans to be the first in Hong Kong to offer both Western and Chinese medicine to in-patients at its newly approved hospital, which will open in four years. Patients will be able to be treated by doctors of both traditions.

“People say to me, this must be difficult. And I say, yes – that’s why we are doing it first! There has to be a pioneer. This is a good thing for the patient. If your passion is to make patients feel better, then you would use all the knowledge and wisdom available to help them,” Professor Lee said.



The teaching and learning of Chinese and Western medicine at HKU is complementary – while students in Medicine, Nursing and Pharmacy learn about traditional Chinese medicine and its humanistic spirit, students in Chinese Medicine learn about modern evidence-based medicine.



Application of advanced technologies facilitates the study of traditional Chinese medicine at HKU. The Department of Chemistry uses high performance liquid chromatography-tandem mass spectrometry (quadrupole time-of-flight) for chemical analysis of Chinese medicines and drug discovery.

Moving closer together

The goal of merging the two traditions may be getting a little easier because they are inching closer together. As more TCM is tested and analysed with modern technologies, modern scientists are starting to appreciate its merits, particularly as a complementary adjunct to Western medicine. Philosophically, Western medicine is moving towards the more personalised approach that is at the heart of TCM, through such things as gene sequencing.

“There is a saying that a good doctor treats your symptoms but the best doctor takes care of your health before you get sick. That is the principle of Chinese medicine. The emphasis is on prevention and this is what modern medicine is coming to recognise,” Professor Lee said.

“I think the next frontier in the evolution of medicine will be the modernisation of Chinese medicine. The rediscovery and the re-

examination of our past will yield a wonderful outcome for our future.”

With a foot in both worlds, the University is best placed to forge this integrated medicine of East and West and promote the best treatment for patients. ■

Yields from science

“TCM is like a gold mine that we can explore with our current scientific methods. These are very exciting times,” said Professor Lee Sum-ping, summing up the enthusiasm felt by both medical and scientific researchers on campus.

Professor Che Chi-ming, began looking at Chinese medicine a decade ago when he led an Area of Excellence project on drug development that ultimately resulted in the discovery of a new class of saponin compounds.

He and his colleagues in Chemistry, such as Morningside Professor in Chemical Biology, Professor Dan Yang, and Professor Pauline Chiu, are continuing to apply chemistry to Chinese medicine to develop new drugs, analyse herbs to ascertain their authenticity and safety, and investigate their chemical biology to understand their mechanisms of action. They are also working closely with the Faculty of Medicine to translate discoveries to patients.

“In interdisciplinary research, you need the strong and the strong to come together if you want to succeed. The Medical Faculty is good at animal models and clinical trials, and Chemistry is strong in basic



The Molecular Chinese Medicine Laboratory adopts a modern pharmacological approach to devise new drugs from Chinese medicine. The above photo shows fractions of herbal extract in the laboratory.

research, particularly at the molecular level. Bringing this complementary and diverse expertise together is the way to go in Chinese medicine research,” Professor Che said.

Meanwhile, the Molecular Chinese Medicine Laboratory in the Faculty of Medicine is using a modern pharmacological approach to devise new drugs from Chinese medicine, including two formulations for which clinical trials are being planned. The School of Chinese Medicine is also active in studying TCM treatments, as are other departments in the Faculty such as Psychiatry, which has studied acupuncture to treat insomnia.

The School of Biological Sciences has, among other things, tested the TCM theory of ‘hot and cold constitutions’ of patients through genetic profiling, and identified a pathway involved in energy and heat production. Dr Jennifer Wan, who conducted the study, said “recent technology allows us to identify patterns and syndromes of TCM in a scientific way. However, to better understand the fundamental principles of TCM, it is important to apply its theories to our research. We can use Western scientific tools, but we should follow TCM principles when designing experiments,” she said.



The School of Chinese Medicine uses the technique of atomic absorption spectroscopy to conduct experiments on quantitative determination of heavy metals (arsenic, cadmium, lead and mercury) contained in proprietary Chinese medicines.

East-West Mixtures Improve Mental Health

Professor Zhang Zhangjin of the School of Chinese Medicine has been showing how and why acupuncture and herbal medicines help patients with mental health problems, through modern evidence-based research.

Traditional Chinese medicine (TCM) is concerned not only with physical health but also mental well-being. That well-being has been under threat in Hong Kong and Mainland China over the past three decades, where rapid modernisation has been accompanied by a large increase in such problems as depression and mood and psychotic disorders. Professor Zhang Zhangjin of the School of Chinese Medicine is showing that traditional Chinese medicine offers promise to alleviate these modern-day problems.

Professor Zhang was trained in both TCM and Western medicine and conducted psychiatric research at American universities for more than 10 years before arriving at HKU in 2006. He believes the two traditions can be brought together to improve patient outcomes.

"In general, especially in Western countries, the treatment for most psychiatric patients is limited to certain pharmaceutical medications, but these medications have shortcomings. For example, only 60–70 per cent of patients respond to anti-depression drugs, so there is still a large portion who cannot obtain a satisfactory clinical response. More than 75 per cent of schizophrenia patients relapse within one year if they stop taking their medication due to the side effects.

So we need to look for alternative treatment strategies."

"I want to bring neuroscience, TCM and psychopharmacology together to help people get better clinical care for mental problems."

Reducing side effects

At HKU, he has collaborated with researchers in Beijing to show that a traditional herbal preparation called Peony-Glycyrrhiza Decoction (PGD – *shao yao gan cao wan*) can alleviate the side effects of antipsychotic drugs in women with schizophrenia. The antipsychotic drugs increase the production of prolactin, which results in breast milk secretion, menopause, menstrual pain, reduced libido, hair growth and spots. The side effects lead many patients to give up the drug, resulting in a relapse of their condition.

In a clinical trial of 20 patients, Professor Zhang and his collaborators showed PGD could reduce the symptoms. A larger trial involving 118 patients is now being conducted with support from the Hong Kong Department of Health. In the meantime, laboratory studies have shown the mechanism by which PGD works, adding to the weight of evidence of its efficacy.

Acupuncture is another treatment he is testing, focussing on patients with depression. Depression is usually treated with selective serotonin reuptake inhibitor (SSRI) drugs that,

“I want to bring neuroscience, traditional Chinese medicine and psychopharmacology together to help people get better clinical care for mental problems.”

Professor Zhang Zhangjin

in young patients, can take four to six weeks to take effect and can even worsen their condition. Professor Zhang showed that acupuncture could speed up the effects and help lead to a better outcome, through a trial on 72 patients in Hong Kong. The improvements were reported in both doctor and patient assessments.

"Even after one session of treatment, the patients receiving acupuncture had a much better clinical response compared to the non-invasive control group, which means acupuncture can indeed speed up the therapeutic response of SSRIs," he said.

Not a placebo

Acupuncture was further tested in a six-week randomised controlled trial involving 160 patients with major depressive disorder in Guangzhou. Patients received either the SSRI paroxetine, paroxetine plus manual acupuncture,

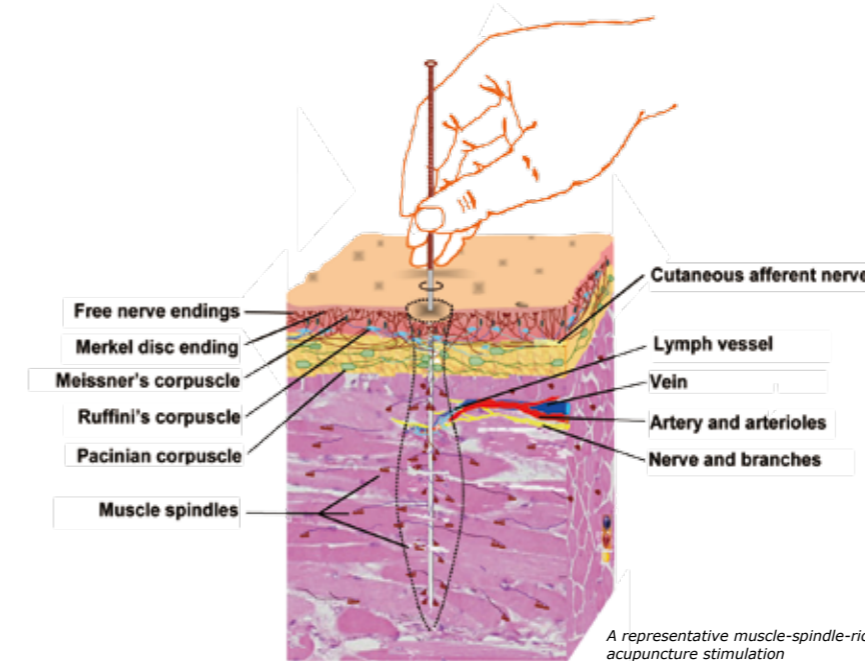
or paroxetine plus electrical acupuncture. They were assessed during the trial and four weeks afterwards, and the latter group showed the best sustained improvements.

"This finding is very important because it indicates that acupuncture is not a placebo effect," Professor Zhang said. "The second conclusion is that electrical acupuncture has a long-lasting effect in reducing depression symptoms."

A follow-up clinical trial using neuroimaging, positron emission topographic (PET) scans and functional magnetic resonance imaging (fMRI) showed that the brain indeed responds to acupuncture treatment for depression.

Explaining how acupuncture works

Those findings do raise a question, though. How is the acupuncture working? There are more



Professor Zhang performs acupuncture treatment on a patient

than 300 recognised acupoints in traditional Chinese medicine and researchers have been trying for years to understand them. Professor Zhang and his team propose defining acupoints as a 'neural acupuncture unit' – places where the neural and neuroactive components that transmit acupuncture signals to the brain are relatively dense and concentrated. This is a term and concept more easily understood by modern scientists than traditional explanations, he said.

"Acupoints are a metaphysical concept from ancient times – they are the places to which meridian energy flows and is infused into the tissues and organs. We need to advance such metaphysical concepts and update them in the framework of modern biomedical knowledge," he said.

That work, together with the clinical trials, is helping to provide evidence that can convince the international medical and scientific communities of the effectiveness of TCM remedies. ■



Bears are being afflictively caged
(Courtesy of Animals Asia)

Saving the Bears in the Name of Science

Traditional Chinese medicine draws on evidence from more than 2,000 years of use, but there are cultural beliefs attached to it, too, especially about the powers of certain ingredients. Dr Feng Yibin and his colleagues have been tearing the two apart in their work on the controversial use of bear bile and the development of new drugs.

Bear bile has a long history in Chinese medicine. Some 123 Chinese medicine products are made with bear bile and more than 180 enterprises are engaged in its production. But the extraction of the bile – which involves either caging bears, opening their abdomens and sticking tubes in to ‘milk’ their gall bladders, or killing them for their gall bladders – has attracted outrage from animal rights campaigners. The Asian black

bear commonly targeted for this process has also been put on the vulnerable list by the World Conservation Union.

To Dr Feng Yibin, Associate Professor in the School of Chinese Medicine, all of this makes bear bile an important focus of research.

“The bear is now endangered and it has a high cost in the market, which makes it even

more attractive to people because they think if they pay more, it will be more effective. It is our duty to use scientific research to find a substitute for this product and stop this cruel practice,” he said.

That substitute is a herb called coptis (*huang lian*), which comes under the same category as bear bile in the Chinese medical classification system. Over the past few years, Dr Feng and his team, working with HKU’s Department of Chemistry, have shown that the two have similarities in their bioactivity. More importantly, in cell and animal models, coptis was just as effective as bear bile, and sometimes better, in treating liver disease and cancer – two of the main uses for bear bile.

Separating science from culture

Their work was the first to demonstrate the pharmacological similarities of coptis and bear bile and it was published internationally. However, given the nature of Chinese medicine, those findings are not yet enough to save the bears.

“The scientific data shows that coptis is one of the best substitutes for bear bile. But for Chinese people it is hard to get them to accept this. Many people believe in the history and culture of bear bile, so it is a long struggle to get them to stop using it,” he said.

This is what Dr Feng calls the ‘art’ of Chinese medicine. “We want to change people’s attitude by determining the usefulness of Chinese medicine with science and seeing what, from its 2,000-year history, can stand up to evidence-based research,” he said.

It is not only bear bile that is coming under his microscope. He has been working with Hui Wai Haan Chair of Chemistry, Professor Che Chi-ming, who discovered a new class of saponin compounds. Dr Feng then tested this in cell and animal models of liver cancer to show how and why it was effective.



New drug development

Such cooperation is essential in the investigation of Chinese medicines. The herbs, animal and mineral ingredients used are made up of complete compounds, unlike the pure isolated compounds of Western drugs, and there can be dozens of compounds in just one herb. A decoction of various ingredients can conceivably have hundreds of compounds. “Professor Che has

“We want to change people’s attitude by determining the usefulness of Chinese medicine with science and seeing what, from its 2,000-year history, can stand up to evidence-based research.”

Dr Feng Yibin

first-class advanced technology to analyse the complete compounds in Chinese medicine and this is important to our work,” Dr Feng said.

The hope is that science will lead to the development of new drugs from Chinese medicines – as well as prove the efficacy of alternatives, such as coptis in place of bear bile – and that people will be convinced by the hard factual findings. Some have argued that an isolated compound is not as good as the ‘real thing’ but “while completely replacing a real Chinese medicine in chemical compositions is really difficult, producing pharmacological effects that are better than

the real products is possible and a reality,” he said.

“By knowing the active compound we can isolate it and get it in higher concentrations. This can make it easier to create a drug for wider use in the world.”

Apart from his work with Professor Che, Dr Feng also works closely with Professor Tsao Sai-wah, Professor Yuen Man-fung, Li Shu Fan Medical Foundation Professor in Medicine, and Dr Man Kwan in the Faculty of Medicine, to push Chinese medicine research into the international arena through multidisciplinary studies. ■



Steel catheters are implanted in the abdomen of bears for bile extraction
(Courtesy of Animals Asia)



Coptis is one of the best substitutes for bear bile

Qigong and Tai Chi Tame Chronic Illnesses

The gentle mind-body exercises of qigong and tai chi have been given a new purpose in research by the Centre on Behavioural Health. On the one hand they are being used to calm the mind, on the other to energise it, in patients with chronic fatigue and schizophrenia.



Qigong and tai chi have been practised for centuries to boost health and well-being. Now their potential is being harnessed to help relieve patients with symptoms of chronic diseases and try to improve their quality of life.

Dr Rainbow Ho has been leading the research in the Centre on Behavioural Health, a fitting focus for the former competitive dancer and dance therapist, who is keen to get more people moving.

“Hong Kong people are more familiar with qigong and tai chi compared with dance movement, so I thought they would be more willing to do these forms of exercise. Tai chi and qigong have also not been studied very much in a systematic and scientific way and I thought we could make a contribution towards understanding their benefits,” she said.

Dr Ho has conducted separate studies involving qigong for sufferers of chronic

fatigue syndromes and tai chi for schizophrenia patients, and in both cases found the programmes could help to reduce symptoms.

Physical and mental improvements

In the qigong study, 33 chronic fatigue patients performed qigong over four months and were compared to a control group that continued their lives as usual. Chronic fatigue is characterised by severe fatigue and is estimated to affect more than 10 per cent of the adult population, but Western treatments and medications have had limited benefits and even some undesirable side effects.

The impact of qigong was measured in two ways: by a biomarker, telomerase, which is related to the ageing of cells, and by patients' own feedback. In both cases the results were positive. Those in the qigong group were found to have higher levels of telomerase activity, a result that possibly reflected the mindfulness nature of the exercise which can help to reduce oxidative stress. Most importantly, the qigong participants reported feeling better with reduced physical and mental fatigue.

“The findings showed both an objective physiological improvement and self-reported improvement by the patients. Many of them



“Many of them told us they slept better, felt happier, worked more efficiently and had more energy in the day.”

Dr Rainbow Ho

told us they slept better, felt happier, worked more efficiently and had more energy in the day. Chronic fatigue is very annoying and the important thing is that they can sleep better, thus they can function better,” Dr Ho said.

Following this, another randomised controlled trial was conducted on another group of chronic fatigue patients that measured the stress hormone cortisol in addition to the telomerase activity and psychosocial parameters. The patients who practised qigong had a lower salivary cortisol level, higher telomerase activity and better subjective health-related quality of life after practising qigong. These improvements were not found in the control group.

Better functioning

For the tai chi study, a pilot randomised controlled trial was undertaken on 30 schizophrenic patients in residential care. After six weeks of tai chi exercises, conducted under the supervision of their caregivers, they were found to have better movement coordination and also improved social skills, possibly because they were exercising in a group.

“The buffering effect of tai chi on motor deterioration is important because movement coordination can help to sustain the patient's

self-care abilities and the completion of daily tasks,” Dr Ho said.

“Tai chi also has a mindfulness component and we hypothesise that it might help to reduce episodes of schizophrenic symptoms and maybe make patients more calm and focussed. We want to study this aspect further.”

Funding for that project has been received from the General Research Fund of Hong Kong's Research Grants Council. A trial involving 150 schizophrenic patients will be conducted over the next two years and hopefully offer a new avenue for improving symptoms.

Interest from abroad

Dr Ho has also had research projects on

qigong for cancer patients and their caregivers, which was found to have a positive effect on both groups, and on mindfulness training for medical students.

Her work has attracted enquiries from abroad, where interest is picking up in traditional Chinese therapies as an alternative to standard Western medicines and therapies.

“When the qigong paper was published online, I immediately received enquiries from Japan and the US for more details about the experiment. Some health-related overseas magazines also reported the findings. A lot of people are interested. So we are in a good place to be doing this kind of research at HKU,” she said. ■



Participants practise qigong in the chronic fatigue intervention group, stretching of trunk and hip joints by stepping forward and backward.

Editing Hope

Cancer Genetic Laboratory's discovery that ribonucleic acid editing can cause liver cancer gives new hope to patients.



Students are doing experiments under the guidance of Professor Guan (right)

A team from HKU's Cancer Genetic Laboratory has discovered for the first time a ribonucleic acid (RNA) editing event which triggers the formation of liver cancer by transforming normal liver cells into tumour cells. Until now, there has been a great deal of focus on DNA mutations in tumour genesis and progression, but this breakthrough is the first to highlight the role of transcriptional changes in RNA in cancer.

Unlike some genetic mutations which are irreversible, RNA editing is potentially adjustable and therefore potentially rectifiable, offering the possibility of new hope to patients of liver cancer.

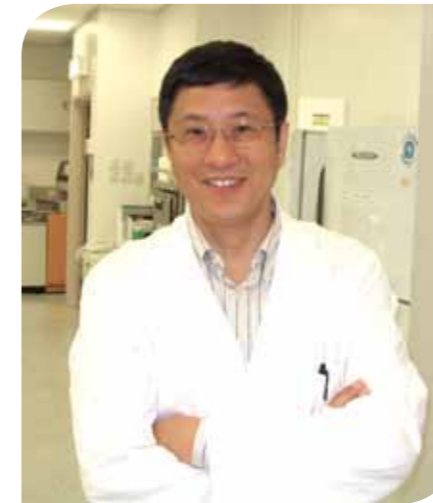
Researchers used the next-generation Transcriptome Sequencing Technique to search the RNAs. Samples from 200 local and Mainland liver cancer patients were examined by liver cells culture in-vitro and in experimental mouse models. Initially they discovered that a gene named AZIN1 was frequently excessively edited in tumour cells, but rarely in normal liver, blood and other organs.

Further studies revealed that the RNA editing machinery, known as ADAR1, was deregulated in liver cells, which wrongly edited AZIN1 at high levels. This editing altered the

protein coding sequence of AZIN1, making it capable of undergoing significant protein conformation and functional change.

Clinicopathological data showed that RNA editing was significantly associated with the presence of liver cirrhosis, tumour recurrence, and reduced chances of survival for the patient, and that it transformed normal liver cells into tumour cells.

Research leader and Professor of the Department of Clinical Oncology Professor Guan Xinyuan says: "RNA editing is a previously untouched field in cancer research.



We are just at the very beginning and are putting together a puzzle that still has many missing pieces. The next step is to find other previously unidentified editing events in hepatocellular carcinoma (HCC) – now that we have discovered AZIN1, there may be other genes or micro-RNA or uncoding regions affected by RNA editing."

"Moreover, we need to dig more deeply into the mechanisms of RNA editing. For example, what kind of molecules regulate this editing process, are there any co-factors, are there any etiologic factors affecting this process? Most importantly, we intend to test some small molecules which may target the RNA editing process to try to rectify the malfunction of that editing."

Far-reaching implications

The implications of the findings are far-reaching. Liver cancer is the third leading cause of cancer death in Hong Kong with over 1,800 new cases and more 1,500 deaths in 2010 (HKSAR Department of Health statistics). Every year, around half a million new cases are diagnosed worldwide, and more than half of those new cases come from China.

"Furthermore," says Professor Guan, "liver cancer is notoriously asymptomatic and therefore tends to be diagnosed at an advanced stage. The prognosis is very poor,

“Ribonucleic acid editing is a previously untouched field in cancer research. We are just at the very beginning and are putting together a puzzle that still has many missing pieces.”

Professor Guan Xinyuan

especially for advanced stage patients whose therapeutic choices are also limited because surgical resection, liver transplantation and percutaneous techniques are no longer available."

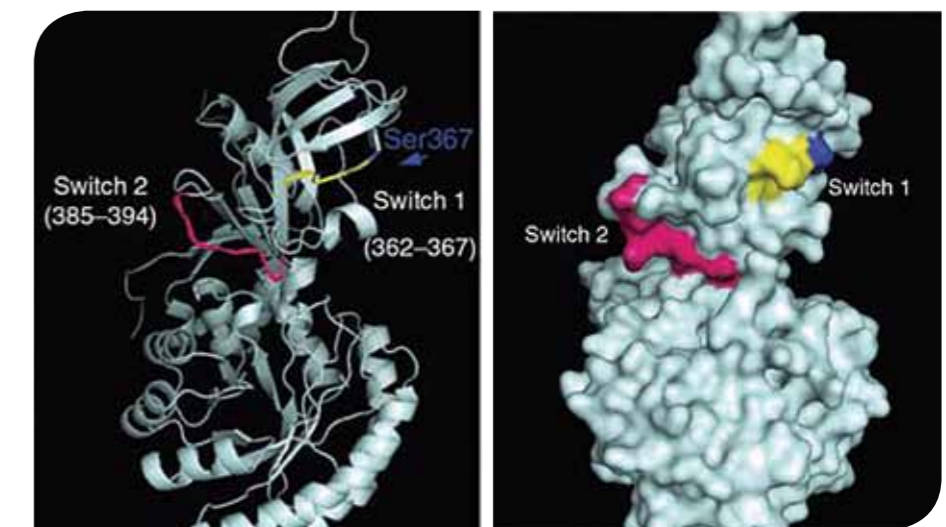
"The response rate to chemotherapy is extremely low and Sorafenib, a multikinase inhibitor, is the only molecular medicine clinically adopted now. So there is a great need to develop novel molecular targets to enhance management of the disease. Hopefully our new finding about RNA editing will provide novel and effective therapeutic targets for liver cancer, and even for other types of cancer."

Medical scientists around the world are currently engaged in developing drugs which target epigenetic mechanisms (epigenetic is a big concept and includes methylation,

histone modification, RNA editing). Professor Guan cites the treatment of myelodysplastic syndromes as one of the successful examples of this, but adds that for RNA editing itself there is no currently available medicine as it is such a new area of cancer research.

"However, some scientists have already proved in the laboratory that the inhibition of RNA editing at a specific gene is possible by using therapeutic oligonucleotides (a kind of small molecule which would usually be used as molecular medicine)," he adds. "When and whether these oligonucleotides can be applied to clinical trial is unknown right now – they need to be strictly tested before being applied to animal models or human beings."

Professor Guan and his team collaborated on the research with the Cancer Science Institute of the National University of Singapore. ■



Software analysis predicted that two switch elements (switch 1 and switch 2) are essential for determining the AZIN1 protein structure. RNA editing takes place within switch 1 of the AZIN1 gene, therefore it may trigger the 3D conformational change of the AZIN1 protein. The above figures show the AZIN1 protein structure predicted by software analysis as well as the location of RNA editing.



A student volunteer from Beyond the Pivot, an organisation initiated by HKU students, paid a visit to Hainan, China for volunteer service.

Puzzling over the 'Humanitarian'

Humanitarianism has been used to describe everything from the invasion of Iraq in 2003 to relief work after the 2008 Sichuan earthquake to teaching English to Myanmar refugees. What, then, is 'humanitarianism'?

Humanitarian projects are carried out all over the world. But in the process of doing good, how often do practitioners reflect on the ambiguities that characterise humanitarian work or consider the ethical consequences of interventions? Universities are the obvious place for such reflection, but few have taken up the mantle. HKU is a notable exception.

The Centre for the Humanities and Medicine is the first institution of its kind in Asia to promote a critical humanitarian focus. It holds an annual conference, supports research and knowledge exchange projects, publishes books, and holds public events on contemporary and historical humanitarian practices.

"Members of the HKU community are involved in many different humanitarian projects in China and around the world. What we have lacked, however, is a reflective capacity," says the Centre's Co-Director and one of its Founders, Dr Robert Peckham. "Through the Centre, we make space for those involved in humanitarian work to think about the social and ethical issues they face. We also learn from them, creating a loop between research and experience, the University and the wider community."

Moral sentiment

One of the world's leading thinkers on humanitarianism, Professor Didier Fassin, has been advising on the programme. Professor

Fassin is an anthropologist, sociologist and trained physician currently based at the Institute for Advanced Study, Princeton, where he is James D Wolfensohn Professor in the School of Social Science. As Visiting Research Professor at HKU, he has helped to provide an intellectual framework for considering humanitarian issues.

Professor Fassin notes that while humanitarianism is seen as universally good and associated with everything from relief aid to military invasion, there is a need for a more neutral definition to encourage critical thinking. "Humanitarianism may be defined as the introduction of moral sentiments into politics. This allows one to go

“A key to the success of humanitarianism is that it is morally satisfying because you address urgent questions in relation to those most in need and you see an immediate result. But... you may be less inclined to do social justice work.”

Professor Didier Fassin

beyond the actors who define themselves as humanitarian," he says.

Humanitarianism began largely as a Western, imperialist phenomenon in the 19th century and has essentially remained a story "of going into the world and doing good". But that has come with a trade-off.

Doing good vs social justice

"A key to the success of humanitarianism is that it is morally satisfying because you address urgent questions in relation to those most in need and you see an immediate result."

"But in doing humanitarian work, you may be less inclined to do social justice work. You may lose the broader picture of inequality in society. You may be understandably proud of saving lives but that becomes the reward as opposed to trying to change the structure of society."

Giving air to these ideas is not always easy because there is a 'moral untouchability' to humanitarianism which discourages critical thinking. "It is not a question of saying that humanitarianism is good or bad, but rather of asking: why can we not study humanitarianism as we study any other topic?" Professor Fassin

says. This is why the Centre for the Humanities and Medicine is important, generating dialogue between stakeholders and furnishing a forum for reappraising the humanitarian enterprise.

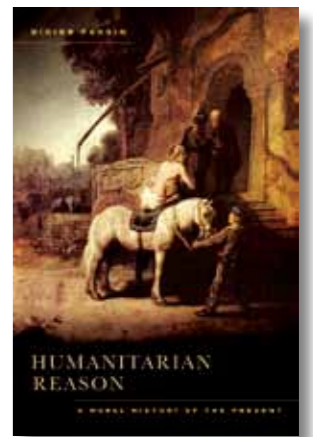
Asian perspectives

The Centre encourages crossdisciplinary activities, particularly with an Asian focus, which is increasingly important as countries like China carry out their own humanitarian work.

Dr Peckham says: "Over the last few years, a lot has been written about humanitarianism, but it seldom references Asia. Or Asia tends to be viewed as a destination for Western humanitarian aid, rather than a source of ideas on the subject, with its own histories. We are trying to change that by looking at the 'humanitarian' from Asian perspectives."

The Centre's annual conference, for instance, draws participants from around the region, and researchers are encouraged to investigate issues related to Asia.

HKU student-run humanitarian groups are also given moral and advisory support. In April, in a workshop led by Professor Fassin, Law student Nancy Yang, Co-Founder of Beyond



Professor Fassin's latest book, Humanitarian Reason, was published by the University of California Press in 2012.

the Pivot which has projects in rural China, Hong Kong and Ghana, said students faced criticism for being young and inexperienced, and encountered local officials who viewed them suspiciously. Ms Yang says the workshop provided students with practical guidance, as well as a 'big picture' context for thinking through assumptions and expectations.

"Professor Fassin helped us reflect on the criticisms we encounter," she says. "He also advised us on how to evaluate projects, which was extremely useful. He reminded us that you need to be able to step back from the field." ■



Beyond the Pivot at work in Sichuan



Dr Peckham (fourth from the left) and Professor Fassin (fifth from the left) met students in the seminar 'When Young Passion Meets Reality'.



Lowering the Odds on a High-Stakes Disease

The economic boom in the Asia-Pacific has given rise to another boom: that of casinos. And with it has come concern over the problem of gambling addiction, particularly among Chinese. Dr Samson Tse Shu-ki has been studying the problem.

Are Chinese bigger gamblers than other ethnic groups? The conventional rule-of-thumb is that one or two per cent of any population is vulnerable to problem gambling, regardless of ethnicity. But one HKU researcher sees things differently.

Dr Samson Tse Shu-ki, Associate Professor of Social Work and Social Administration, has studied gambling in Chinese communities in Auckland, Singapore and Hong Kong, and seen evidence of a higher vulnerability to gambling.

Moreover, he points to emerging international research that shows Asians, particularly those in Singapore, Macau and Hong Kong, are more vulnerable to gambling than Europeans, North Americans and Australians. Two rigorous studies on gambling in Hong Kong also found four to six per cent of adults were problem gamblers.

"There is a camp of people, including myself, who argue that particularly among Chinese, there is an elevated rate of gambling problems," Dr Tse says.

Feeding an appetite

Why would that be? Partly because of heritage – gambling is often part of celebrations such as Chinese New Year. But Dr Tse is also concerned that Chinese populations are being targeted.

He conducted a survey of casinos in the Asia-Pacific that found their numbers increased from 16 in 1995 to 77 in 2010. He also has anecdotal evidence of targeting, such as Chinese restaurant workers in Canada being offered free bus rides to a casino after their shift.

"Casino operators can see Asian people have an appetite for gambling and they build more casinos and target them unfairly. So before we leap to argue we have gambling in our blood, we need to examine how individuals and the community are targeted," he says.

“It’s a double-edged sword. If you want to reduce harm, you can’t just say ‘stop gambling’. You have to appreciate these other factors.”

Dr Samson Tse Shu-ki

A double-edged sword

Dr Tse’s observations are based on more than a decade of studying gambling. He started in Auckland in 2000 when he was recruited to a team investigating problem gambling among migrant Chinese. They found while gambling could be a problem, it was also a social and mental activity and even a way to fit in with the local community.

"It’s a double-edged sword," he says. "If you want to reduce harm, you can’t just say ‘stop gambling’. You have to appreciate these other factors."

Dr Tse continued to research gambling when he came to HKU in 2009, where he recently completed a paper with colleague, Dr Paul Wong Wai-ching on identifying problem gamblers in Hong Kong at risk of suicide and familicide.

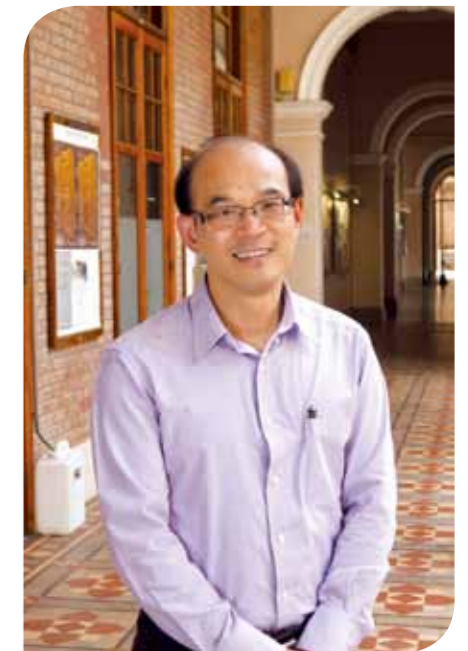
"We noticed two risk factors. One is the financial debts they owe. People chase them

for money and they may be in trouble with loan sharks, which makes their situation very desperate, not to mention posing a risk to their families."

"The second factor is that these people suffer from acute lack of sleep. They may be worrying about their debt-related problems, then they don’t sleep or eat well and it becomes a vicious circle where they are ruminating and sleeping even less. They can get so hopeless and exhausted that suicide becomes the only option."

Awareness can reduce risk

Their situation need not be dire, though, if others are alert to the situation. Dr Tse was asked by the Singapore government to help advise on reducing harm from gambling, after two casinos opened there in 2010. Singapore has been aggressive in addressing problem gambling, such as putting up barriers to local gamblers at casinos. Most importantly, the government conducts systematic, high-



profile and ongoing campaigns to maintain awareness of the problem – something Dr Tse says Hong Kong could do more proactively.

"There is a lot of information about problem gambling on the radio in Hong Kong but there is no strategy behind it. You need to progress from raising awareness to showing them where to seek help to pointing out that gambling not only hurts individuals but also families," he says.

The problem is compounded by internet gambling, but even here there is more Hong Kong could do. Clinical trials in North America are using internet-based interventions to reduce harm.

But the most important thing is to raise awareness of problem gambling among frontline workers, such as teachers, social workers and police. Parental education can also help, too. Dr Tse says many problem gamblers started their habit when young and children learn by observing their parents’ behaviour. Hence, parents’ role in ‘nurturing’ problem gambling should not be ignored. ■



Playing Mahjong is often part of celebrations in the Chinese New Year

The Dark Side of Light

Tsim Sha Tsui's night sky is more than a thousand times brighter than a normal dark sky – making our light pollution probably the worst on the planet. Dr Jason Pun thinks it's time Hong Kong saw the light.



Paris may delight in being known as the 'City of Lights', but a less romantic yet more apt name for Hong Kong might be the 'City of Too Many Lights'. According to the results of data collected by HKU's Night Sky Brightness Monitoring Network, at night our inner city appears to have the worst light pollution on the planet – more than a thousand times brighter than the natural dark sky.

The highest figures, at more than 1,200 times brighter than a night sky without light pollution, were recorded on the Tsim Sha Tsui waterfront, and even in rural areas such as the Wetland Park in Tin Shui Wai levels are 130 times the standard, most likely due to

light coming from the nearby housing estates, streetlamps and public lighting.

Dr Jason Pun Chun-shing of the Department of Physics conducted the research, which was widely reported in the local press. His findings have prompted him to ask why, at a time when the global trend is to take steps to conserve energy and reduce pollution, is Hong Kong still lit up so excessively.

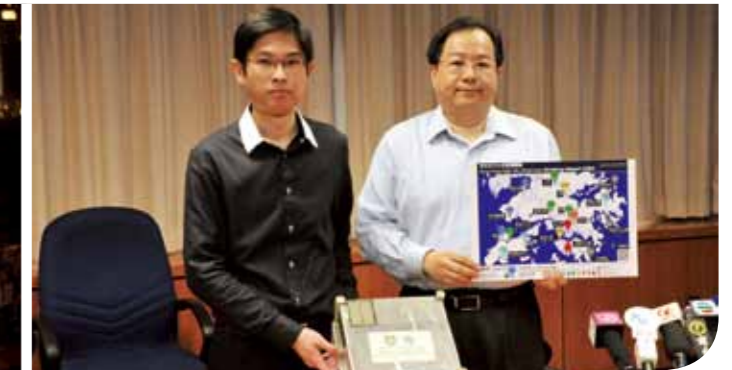
"A decade ago when I started the study many people were saying we're the Pearl of the Orient and we should be bright," says Dr Pun. "But, is this the only way to show that we are a prosperous city?"

Asked to comment on the Symphony of Lights, which nightly shines across the harbour as a tourist attraction, Dr Pun says: "From our data there is no strong evidence that it causes prolonged light pollution – but it certainly sends a particular kind of message to the public and to tourists."

But it is not the inner city that is Dr Pun's main concern: "Why are our outer urban areas so brightly lit? As far as we can tell, our city's suburbs are as bright as or even brighter than other city centres." He then clarifies that research elsewhere is not as comprehensive as his in Hong Kong. "It's a relatively new field, we're first to do this kind of systematic study



The Department did a Science Roadshow on the harbourfront in Tsim Sha Tsui on the day Earth Hour was held



Mr So Chu-wing (left), Project Manager of Hong Kong Night Sky Brightness Monitoring Network and also a PhD student in the Physics Department, and Dr Jason Pun (right).

“Brightness levels reduced by two-thirds when the lights went off, and suddenly you could see stars. It was a dramatic demonstration of what we're missing.”

Dr Jason Pun Chun-shing

on this scale. But I have seen initial findings of other studies and as far as I recall I did not see anywhere as bad as Hong Kong.”

Star-gazers worried

Dr Pun first became interested in light pollution because of his background in astronomy. "Star-gazers are the first to notice when visibility lessens!" he says. "Myself and other local astronomers saw the situation here was worsening and were very worried about proposals for more land developments – particularly in eastern Sai Kung and southern Lantau – two of the last remaining pristine places for star-gazing."

"We should protect our night sky," he continues. "Every civilisation on Earth has studied it, every culture has stories based on the night sky. It is fundamental to our thought – the eternal question, what is our place in the universe?"

In addition to the star-gazing factor, light pollution – which is the reflection in the sky of city lights – is a problem for several reasons: numerous studies of nocturnal animals show ecological damage, and some recent research has shown that increased exposure to night light has a direct negative impact on human health.

"There is indirect damage too," says Dr Pun, "simply from the waste of energy. If you're shining lights into the sky you're wasting energy because the light should reach your eyes, not the sky."

Dr Pun and his team have been studying light pollution for 10 years, initially using traditional astronomical instruments such as telescopes, then using Sky Quality Meters (SQMs), a device about the size of a pack of playing cards capable of taking very accurate measurement.

They were highly portable, enabling the team to take their research off-campus for the first time in 2007 and embark on city-wide research, then funded by the Environment Conservation Fund (ECF). "We had 40 SQMs and used teams of volunteers. In 2009 we completed 2,000 readings," says Dr Pun.

The big change in technology came in 2010 when SQMs became computer-controlled, and Dr Pun and his team developed their own interfaces to make the devices work through wireless internet. "It enabled us to set up 18 measuring stations across Hong Kong, in both rural and urban locations – we were the first team in the world to do such a big-scale project."

From dusk 'til dawn

"The meters take measurements once every minute, basically from dusk 'til dawn – in the past three years they have taken more than five million readings."

The Physics Department team are now applying for funding to expand the study to look more closely at the exact source of pollution and to determine long-term trends. "So far we have built up a huge database and are now completing publication, the next step is collaboration with overseas institutions on an international archive."

Knowledge Exchange funding in 2012 has also enabled Dr Pun to raise public awareness about light pollution. "For Earth Hour this year, we did a Science Roadshow on the harbourfront in Tsim Sha Tsui during which we measured the night sky changes," says Dr Pun. "Brightness levels reduced by two-thirds when the lights went off, and suddenly you could see stars. It was a dramatic demonstration of what we're missing." ■



Saluting Pioneers

At the 188th Congregation, six honorary degrees were conferred on individuals who have made groundbreaking contributions to their fields.

The recipients included Mr Patrick Yu Shuk-siu, Professor Sir Alec John Jeffreys, who also gave an acceptance speech on behalf of all recipients, Professor Mai Yiuwing, Professor Fan Jinshi, Professor Wang Shenghong and Mr Rocco Yim Sen-kee.

They received their awards at a ceremony in March, presided over by HKU's Pro-Chancellor Dr the Honourable David Li Kwok-po.



Mr Patrick Yu Shuk-siu was formally presented with his honorary degree by the Pro-Chancellor Dr the Honourable David Li Kwok-po and Vice-Chancellor Professor Lap-Chee Tsui in a ceremony held at his home.



Professor Sir Alec John Jeffreys

Doctor of Science honoris causa

Television crime shows, let alone medical science and law enforcement agencies, owe a great debt to Sir Alec Jeffreys, who pioneered DNA fingerprinting.

The renowned geneticist was looking at an X-ray image of DNA from various individuals on September 10, 1984 when it suddenly struck him that people could be identified by the variations in their individual genetic code.

"Most scientific research is a slow, painful slog, a sort of three steps forward, two steps back," he said afterwards. "What we had was a rare thing in science and that was my eureka moment when we first stumbled upon the whole idea of DNA fingerprinting."

The discovery revolutionised legal and forensic science. It is used globally to identify perpetrators of crime, settle paternity and immigration disputes, and carry out work on non-human species such as wildlife populations.

Sir Alec has also made great strides in the study of copy genes, split genes and pseudogenes and currently is developing techniques to detect spontaneous changes in DNA when it is transmitted from parent to child.

He has been widely honoured for his work, receiving a Knighthood in 1994, the Louis-Jeantet Prize of Medicine in 2004, the Lasker Prize in 2005 and the Heineken Prize in 2006.

Sir Alec spoke at HKU in 2008 and gave this advice to science students and budding CSI investigators: "Go for it. Science is terrific fun. The fact that you can go out with your bare hands and find out interesting things about the world through experimentation never ceases to amaze me."



Mr Patrick Yu Shuk-siu

Doctor of Laws honoris causa

Patrick Yu has been a role model of integrity, moral courage and dignity. He was the first Chinese Crown Counsel in Hong Kong, the foremost criminal lawyer in Hong Kong and one of the Founders of HKU's Faculty of Law. He was also a steadfast critic of the discriminatory employment terms that were common under the colonial administration.

Mr Yu was born in 1922 and attended HKU for three years before his studies were interrupted by the WWII. He escaped to China and served with the British and Republic of China intelligence corps, but his education was not forgotten. He was awarded a wartime degree and in 1945 received a Hong Kong government scholarship to study at Oxford University.

Mr Yu returned to Hong Kong in 1951 to take up the Crown Counsel appointment. Expatriates enjoyed more generous terms than locals and he found the discrimination intolerable, so he decided to enter private practice after one year. By the mid-1960s he was Hong Kong's top criminal lawyer.

It was during this time that he also played a leading role in the establishment of the Law School (later the Faculty of Law) at HKU.

In the 1970s Mr Yu was offered a Supreme Court judgeship three times, but he turned down each offer due to the continued unequal employment terms. He remained a private practitioner until his retirement in 1983. He has since written two autobiographies and remains a Life Member of the Hong Kong Bar Association.



Professor Mai Yiu-wing

Doctor of Science honoris causa

For decades asbestos was an important ingredient in cement but it had one major drawback: it was a known carcinogen. Thanks to the work of Professor Mai Yiu-wing, there is now an effective asbestos-free cement in the market. It is one of his many contributions in the field of mechanical engineering.

Professor Mai was born and educated in Hong Kong, coming from working class roots to achieve international recognition for his achievements. His secondary school education was in a technical school where he learned woodwork, metalwork and geometrical and machine drawing, which would serve him well during his university studies at HKU.

He obtained his PhD from HKU and went on to join the University of Sydney, where he developed the asbestos-free cement that not only protected workers lives, but also performed better as a building material.

He has also made significant lasting contributions in fracture mechanics and advanced engineering materials, including composite interfaces and crack-wake bridging, which has revolutionised the microstructure design of tough fibre composites and ceramics. His work on cellulose fibre cements has pioneered a new research area called 'quasi-brittle fracture mechanics', an important breakthrough in scientific knowledge.

Professor Mai has maintained a close relationship with Hong Kong and HKU over the years, and is an Honorary Professor in the Faculty of Engineering. His personal philosophy is to not expect too much so you will not be disappointed. In that respect he has exceeded expectations many times over and had many happy surprises over the years.

Professor Fan Jinshi

Doctor of Social Sciences honoris causa

Professor Fan Jinshi first went to study the Dunhuang Grottoes in 1963 straight after graduating in archaeology at the University of Peking. She expected to stay three years on the remote site – which had no running water or electricity – but actually stayed more than 50 years. In fact, so selflessly has she devoted her life to the study and preservation of the caves that she has become known as the 'daughter of Dunhuang'.

Now designated a UNESCO World Heritage Site, the caves date back to the fourth century and served as places of meditation for Buddhist monks. Professor Fan has been instrumental in the preserving of 735 of the caves, more than 45,000m² of frescoes and more than 2,000 sculptures.

Her many breakthroughs include grotto preservation technologies, particularly of frescoes, the consolidation of cliffs and the reduction of the impact of sandstorms on the treasures. She is now working on a 'Digital Dunhuang' project, which will enable visitors to take a virtual tour of the caves, thereby enabling more people to see the caves but also reducing the risk of damage to the actual site.

Of her work of custodianship she has said: "The caves are like an old person who needs to be taken care of constantly. Protecting the caves is an endless project since you can never say how healthy an old person is. She can get out of the hospital today and go right back in tomorrow."

Professor Fan has won numerous awards for her dedication to preservation, including the 'National Outstanding Professional and Technical Personnel Award' from four Mainland ministries in 2004.



Professor Wang Shenghong

Doctor of Social Sciences honoris causa

A renowned and innovative scientist with a life-long devotion to investigating space, Professor Wang is equally passionate about educating the young.

As a child, Professor Wang was inspired by the night sky, even making his own telescope while still at high school. He decided to reach for the stars in his own way, studying precision tracking radar at the Shanghai University of Science and Technology and continuing his research in the US from 1981 to 1983.

Much of his work has concentrated on structural design, computational mechanics and numerical optimisation software development for large-scale electronic equipment, including radio telescopes, satellite earth station and precision tracking radars. Numerous projects range from construction of a 20-metre Satellite Antenna System within the KC Frequency Range while he was Associate Director of the China Electro-Mechanical Engineering Association to collaborating with the University of Texas to construct the largest astronomy telescope in the world.

Professor Wang's achievements as an educator have also been manifold. He was appointed Executive Vice-President of Shanghai University of Science and Technology in 1984, was President of Shanghai University from 1987 to 1993 and President of Fudan University, from 1998 until his retirement in 2009. He has also been involved in education in Hong Kong as a Member of the University Grants Committee.

He believes that education is meant to inspire enthusiasm for creation, a passion for life and the pursuit of ultimate truth and good.

Mr Rocco Yim Sen-kee

Doctor of Social Sciences honoris causa

HKU alumnus Rocco Yim Sen-kee is probably Hong Kong's most internationally acclaimed, locally born and educated architect.

He graduated from HKU with a Bachelor of Arts in Architectural Studies in 1974 and a Bachelor of Architecture in 1976, and soon afterwards started the firm that in 1982 would become Rocco Design Architects Ltd in partnership with Patrick Lee and Bernard Hui.

Rocco and his colleagues have designed many famous buildings across the globe. In Hong Kong his landmark buildings include Citibank Plaza, iSQUARE in Tsim Sha Tsui, and the new Government Headquarters on the Tamar site known as 'The Open Door', a design which, according to Rocco, celebrates Hong Kong's spirit of inclusiveness, tolerance and acceptance of cultures from different parts of the world.

Rocco's philosophy is that architecture is not just an art. It is the art of problem solving which contributes to environmental and spiritual well-being.

"Architects have to avoid being self-centred," he has said. "You have to be concerned not just with what you do or who you are; you have to be concerned with the effects of what you are creating towards the neighbourhood and that which happens around you. The architecture you produce, in particular the empathy and sensitivity that it embodies, is ultimately a reflection of your personality."

His designs have won prestigious awards all around the world, but he has never forgotten his home at HKU where he has left a lasting physical reminder in the form of Graduate House, which was awarded a Silver Medal for design excellence by the Hong Kong Institute of Architects.



Award Presentation Ceremony for Excellence in Teaching, Research & Knowledge Exchange 2012



Honours for Talent and Achievement

Our scholars' outstanding contributions to academic life at HKU and to the community were honoured at the Award Presentation Ceremony for Excellence in Teaching, Research and Knowledge Exchange 2012, which was held in March this year.

For the first time, the Ceremony honoured staff with remarkable performances in knowledge exchange, the third leg of the University's mission.

The Vice-Chancellor, Professor Lap-Chee Tsui, said: "The significance of knowledge exchange between the University and the wider community has become more prominent in recent years. The University has stepped up its efforts to promote and support knowledge exchange for the benefit it can bring to both society and academia."

He also noted the achievements in teaching, where staff have worked particularly hard in recent years to prepare for the successful launch of the new four-year undergraduate curriculum in September 2012, as well as the University's ongoing excellence in research.

In total 47 awards were handed out at an event capped by warm congratulations from the Pro-Chancellor, Dr the Honourable David Li Kwok-po.

"The awards we have bestowed affirm the greatness of our University through the greatness of those who devote themselves to learning, to teaching and to discovery and who chose to do so at the University of Hong Kong. We are deeply grateful to all of you," he said.

Award Presentation Ceremony for
Excellence in
Teaching, Research &
Knowledge Exchange
2012

Outstanding Teaching Award

This award signifies the University's commitment to recognising and promoting excellence in teaching. Both the team and individual awards are given to those who have shown creativity in and dedication to making learning enjoyable and challenging.

Individual Award



Dr Chan Lap-ki

*Institute of Medical and Health Sciences Education
Department of Anatomy*

Anatomy is the foundation of clinical medicine, yet as a subject of study, it can seem dry and technical. Dr Chan's mission has been to get his students excited and energised about this most meaningful subject.

His teaching seeks to help students understand the place of humans in nature, and he encourages them to think rather than answer questions because they will learn more by exploring with their minds.

One task he set students was to interview future body donors. Victor Hui, a current MBBS student, said: "This first-hand experience with life and death allowed us to reflect on the nature of life and to prepare our minds before we have to face life and death again in our future career."

That is an outcome that Dr Chan hopes for. "As a surgeon, I can change the structure of the human body. But as a teacher, I can change the minds of my students, a task that I see as much more difficult, but much more fulfilling."

Dr Gary James Harfitt

Faculty of Education

Dr Harfitt has been teaching at HKU for 10 years and continues to receive the highest praise from students even years after they graduated.

One of the secrets of Dr Harfitt's success is that he deeply cherishes being a teacher, which is the crux of all the work he does, from research to classroom work to working with local schools.

He is also enthusiastic about getting student-teachers to use stories when teaching reading. "If their student doesn't like reading, maybe we have to go back a little bit rather than push forward with a heavy novel. We need to find texts that are creative and stimulating and colourful, and start from there," he said.

Teaching his student-teachers to focus on their students dovetails with Dr Harfitt's own feelings about his profession. "The more I teach the more I realise that the key to effective teaching is recognising the students' needs above my own. Good teaching comes from the heart."



Dr Lam Shui-fong

Department of Psychology

Dr Lam still inspires her students with the same passion that she had 18 years ago, when she started teaching at HKU. "My passion for teaching has not faded at all. I understand every student will have a natural motivation for learning if they find meaning in it," she said.

Learning motivation is also her research interest and she uses what she learns to help improve her students' learning experience. For example, she had them reply to a government consultation on education reform so they would see that their written work could have value beyond being graded by their teacher.

"I encourage students to apply their learning in the real world, particularly for the betterment of their community," she said.

But Dr Lam also wants her students to enjoy learning. "The biggest momentum for me is their smiles – I can see they really like learning and they are learning something. That makes me happy."

Outstanding Teaching Award

Individual Award



Miss Alice Lee Suet-ching

Department of Law

Miss Lee believes that teaching and learning are two sides of the same coin and that students need to be actively engaged in a subject if they are going to remember it effectively. Her two subjects are Land Law and Intellectual Property Law and she revels in finding real examples in everyday life to explain complicated principles and to spark her students' imaginations.

Miss Lee also believes that building mutual respect and trust is important and takes an interactive approach by having informal chats with students outside of lesson time to find out what really makes them tick.

When supervising research students, knowing them well as individuals also aids in identifying a research path that is most suitable for them. "I am concerned about the students' whole-person development... and I find it rewarding and encouraging when former students of mine share with me their passion for the subject – 'A life-long interest,' as one of them put it."



Dr Robert Shannan Peckham

School of Humanities (History)

Dr Peckham's pioneering approach to teaching encourages his students to question received ideas, to think creatively about issues, and, above all, to keep asking questions.

As a historian of science and medicines in the School of Humanities he is rethinking the concept of interdisciplinarity and using it as a way to encourage mental agility.

"I believe it is crucial for arts students to engage with the issues raised by science, technology and biomedicine," he said. "Reciprocally, students from science and medicine can benefit greatly from reflection on the social and cultural dimensions of their own practices."

This crossdisciplinary approach is at the heart of the Centre for the Humanities and Medicine, a joint initiative that Dr Peckham has been heavily involved in since its founding in 2009.

Said Dr Peckham: "The Humanities nurture vital critical capacities and nurture new ways of thinking about the world, which is a pre-condition for solving problems."



Mr Mathew Robert Pryor

Department of Architecture

Eight years of teaching have taught Mr Pryor many things, one of the most important lessons being the realisation that he achieved far greater success by teaching through practice – that is taking students outside standard classroom and lecture settings and into practical contexts and real-life scenarios.

Mr Pryor said, "Get [students] to work on projects that involve their own environment, their own life. Base it in their own district so they can actually see that the projects they do and the information they learn has immediate relevance to them."

More than straightforward experiential learning, Mr Pryor takes his students to everyday physical environments "where the landscape itself becomes a teaching tool, enabling them to experience the practice of landscape architecture and to interact directly with practitioners."

Team Award



From left: Professor Edward Lo Chin-man, Dr Peter Tsang Chiu-shun, Dr Susan Margaret Bridges (Leader), Dr Rory Munro Watt, Professor Cynthia Yiu Kar-yung, Dr Michael George Botelho, Dr Yang Yanqi and Miss Jessica Wong Wai

Faculty of Dentistry

The Faculty of Dentistry has long been a leader in problem-based learning (PBL) at the University. The Faculty takes a student-centred, problem-based approach to dental education and its teachers employ innovative ways to support that goal, including increasing use of new technology in the classroom.

Heightened visualisations and technological interactivity engage students and deepen their understanding. For example, in PBL tutorial rooms new interactive whiteboards have been installed on which students can move models around, make notes and diagrams and highlight key points. All of that is shared and accessible to everyone in the session.

"We are looking at e-learning and how we can engage our students in a 21st century environment through new materials," team leader Dr Bridges said.

Students said the technology helped to improve their learning. In anatomy, for example, rather than reading definitions of complex medical terms aloud, they now access various definitions and diagrams through the interactive whiteboards.

Self-learning has also been enhanced by uploading more materials that students can access from anywhere, so learning continues beyond the classroom.

From left: Dr Edmund Lam Yin-mun, Dr Hayden So Kwok-hay (Leader) and Dr Kenneth Wong Kin-yip

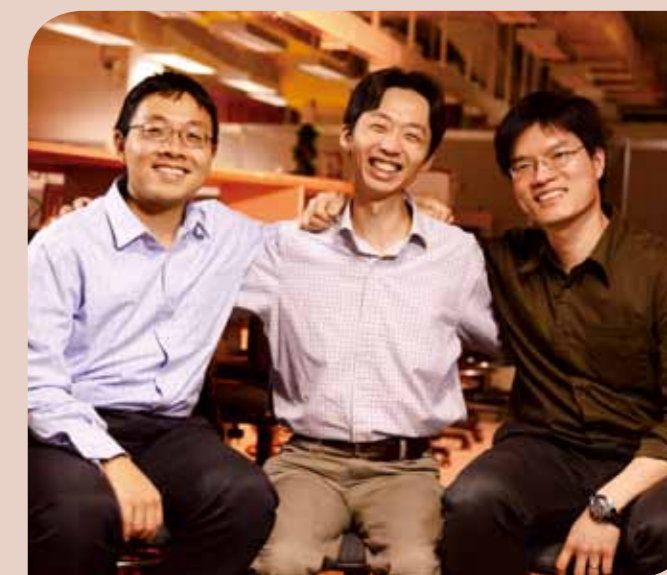
Department of Electrical and Electronic Engineering

The field of electrical and electronic engineering (EEE) has expanded over the years to cover a wide range of new disciplines including optical systems, distributed computing, biomedical engineering and renewable energy. Opening students' minds to what EEE is about had become quite a challenge and the traditional approach of simply analysing electrical components and circuits was not only boring but not showing them how wide and interesting the field has become.

"To be an engineer you need to be creative and we wanted to create something fun for the students," said team leader Dr So, adding that they wanted to enthuse the students and to inspire them to pass on their knowledge to others.

Along with major all-round curriculum reforms, the EEE department team paid particular attention to the development of a new first-year introductory course that is open to all engineering students.

The team fostered an active learning environment in the laboratory, and assigned students to work with new partners each week on the open-ended Rube Goldberg machine project. The work is challenging and demands close collaboration and good communication.



Faculty Teaching Awards

Each Faculty gives out awards to members of its own teaching staff who have demonstrated excellence and commitment in enhancing their students' disciplinary studies.

Architecture

Dr Lee Ho-yin won rave reviews in the Student Evaluation of Teaching and Learning, and made valuable contributions to the development of the curricula for the Architectural Conservation Programmes. Ms Eunice Seng Mei-feng has been a driving force in the revitalisation of the Department of Architecture's history and theory courses, and been strongly committed to implementing e-learning, outcome-based approaches and experiential learning.

Arts

A course coordinator on three Chinese Language courses, Dr Vichy Ho Wai-chi's innovations include offering the first practical Chinese course to non-local students for the Li Ka Shing Faculty of Medicine, and developing the first Chinese Language Enhancement Programme course conducted in English. Dr Tse Yiu-kay has demonstrated outstanding teaching performance and, as a Member of the Faculty Curriculum Development Committee, was instrumental in developing the new BA&BEd(LangEd) double-degree programme in Chinese Language Education.

Business and Economics

Winners for undergraduate teaching are: Dr Alex Chan Wing-ho who tailor-makes his teaching and learning strategies to meet each student's individual needs effectively; and Dr Leung Siu-ching who strives to find new ways to implement course delivery through e-learning and innovative contributions to students' experiential learning. The taught postgraduate teaching winners are: Mr David Bishop for continuously introducing new elements into his courses, and making learning active by engaging students with authentic teaching materials; and Dr Meng

Rujing who believes that learning should be geared towards practice, that is learning-by-doing.

Dentistry

As a statistician, Dr May Wong Chun-mei devotes herself to helping students to understand the biostatistics and research methodology applied in dental research. As a teacher, she considers the students' perceptions of their learning needs and designs the curriculum based on those needs.

Education

The individual award went to Dr Gary James Harfitt who is renowned for his relentless pursuit of excellence in teaching and learning, and Dr Lawrence Ng Man-wa, a strong supporter of the problem-based learning curriculum who has contributed greatly to its success. The new team award went to a group from the Division of Speech and Hearing Science led by Dr Anita Wong Mei-yin for their continued and valuable efforts in developing a problem-based learning curriculum to enhance teaching and learning.

Engineering

Dr Scott Thomas Smith coordinated the development of a new Common Core course and facilitated all undergraduate courses in adopting an outcome-based learning approach. Dr Hayden So Kwok-hay introduced an innovative machine project for first-year electrical and electronic engineering students. Professor Tse Tsun-him has a strong track-record for passionate teaching over the years. And Dr Wong Lui King-shan developed an award-winning web-based interactive learning system that facilitates classroom discussion.

Law

Mr Chow Wai-shun contributed to the curriculum reform of the Postgraduate Certificate in Laws and developed a simulated e-learning

platform for e-learning, among other things. Ms Katherine Louise Lynch built up the Master of Laws in Arbitration and Dispute Resolution and introduced a number of undergraduate mediation courses. And Dr Marco Wan Man-ho has developed a new crossdisciplinary double-degree programme.

Medicine

Dr Julie Chen Yun played a key role in developing the Medical Humanities programme which is now part of the six-year MBBS curriculum. Dr Jenny Lam Ka-wing has demonstrated great enthusiasm and devotion in teaching physical chemistry and drug delivery in chemistry. And Dr Janice Tsang Wing-hang draws on her extensive teaching experience to bring out students' full potential and nurture them to be well-rounded medical practitioners.

Science

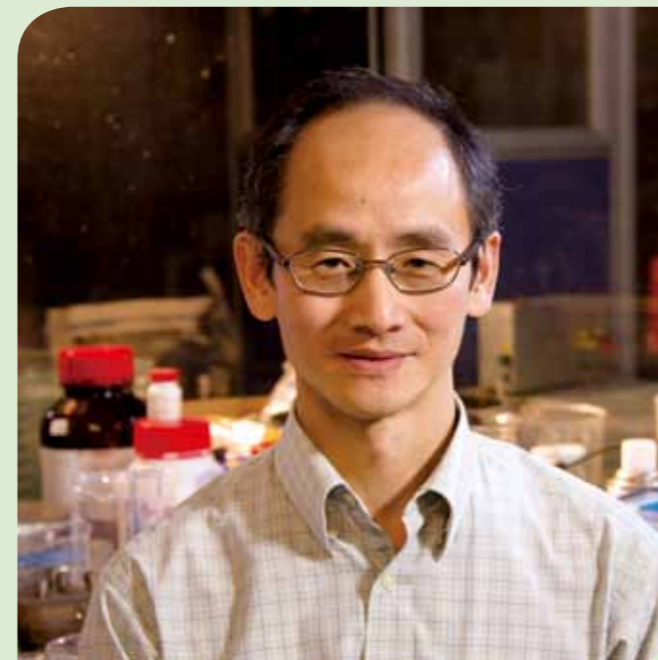
Professor Jimmy Jiao Jiujiu is Chairman of the Undergraduate Studies Committee in the Department of Earth Sciences and in that role he has been an active contributor to the development of the new curriculum and new courses. He is also a dedicated teacher and has made significant research contributions in coastal hydrogeology.

Social Sciences

Dr Michael Charles Adorjan advocates interactive learning and student engagement in the learning process, which has helped to inspire students. Dr Lam Shui-fong encourages students to be reflective learners and to query what they read in textbooks and hear from their teachers. The goal is to make students' learning authentic and meaningful.

Outstanding Researcher Award

Scholars who produce exceptional research of international merit are honoured with this award, and receive \$250,000 to further their research.



Professor Godwin Chan Kwong-yu

Department of Chemistry

Professor Chan is one of the top one per cent cited scientists in his field of electrochemistry, which involves converting chemical energy into electrical energy, and developing materials to promote electrochemical energy for a clean environment and for more efficient energy conversion.

He has made significant contributions on multi-scale structured materials for applications in fuel cells and batteries, including five inventions in these areas, and he holds out hope that one day the discoveries in electrochemistry will make it possible to recharge equipment using a liquid such as alcohol.

Professor Chan is also a pragmatist and he recognises such discoveries are rarely made by one individual. He therefore also puts effort into cultivating a new generation of researchers.

"My work involves great challenges that cannot be fulfilled by a single person's efforts, so I also hope I can make enough effort to trigger the interest of others, especially research students, and motivate them to continue to fulfill these dreams."

Professor Guan Xinyuan

Department of Clinical Oncology

After more than 25 years of research into cancer genetics, Professor Guan has made major contributions in the field including developing the micro-FISH technique, and the identification and characterisation of cancer-related genes and of cancer stem cells in hepatocellular carcinoma.

He studied in the US for 11 years. "There they pay more attention to lung cancer, colon cancer and breast cancer – but in China, liver, esophageal and nasopharyngeal cancers are common, so that's why I came back to Hong Kong to study and to try to identify the genes involved with the development of these cancers," he said.

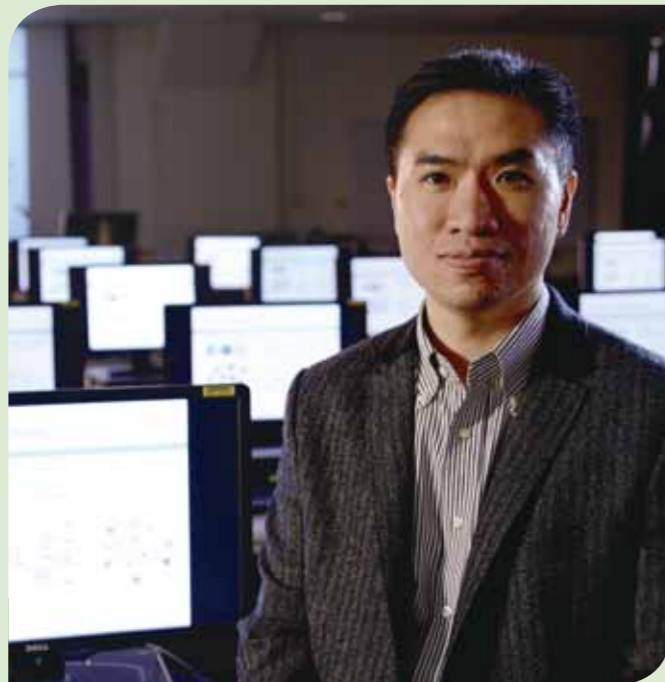
His current research is focussed on cancer stem cells, cancer microenvironments, cancer metabolism and cancer-related genes in liver, esophageal and nasopharyngeal cancers. Professor Guan admits that cancer research is not an easy job, and that researchers frequently have to face failure. "Cancer is a very complicated disease, a very smart enemy," he said. "Every time you think you can catch it, it finds other ways to escape."

But he is encouraged when other people recognise his work. "A lot of people cite our work in their papers, so our work is very meaningful to others." – this gives him the confidence to continue to fight the enemy.



Outstanding Young Researcher Award

Exceptional academic staff under the age of 40 and ranked Associate Professor or below are honoured with this award. Winners receive \$150,000 annually for two years to further their research as well as a research postgraduate studentship.



Dr Cheng Chung-kong

Department of Computer Science

Some see the forest, others see the trees. Dr Cheng falls somewhere in the middle. He likes to take the 'trees' – in his case, uncertain and probabilistic database systems that can handle imprecise data – and develop them into a bigger technological form.

"Doing research is like exploring a forest," he said. "The different leaves of the forest are like data. And in the forest there are roads that can lead to answers. Sometimes I may get lost, but I think this is the fun of research."

The technology he has developed is prevalent in mobile services, Radio Frequency Identification systems, sensor networks and biological applications, and he has published extensively in high-impact journals and elsewhere.

Dr Cheng also collaborates with and encourages his students to work on problems that have both academic and practical value. PhD student Mo Luyi said: "He works hard to apply new technology to the real world and he inspires us to believe that our academic research can really make a contribution to society."

Dr John Wang Junwen

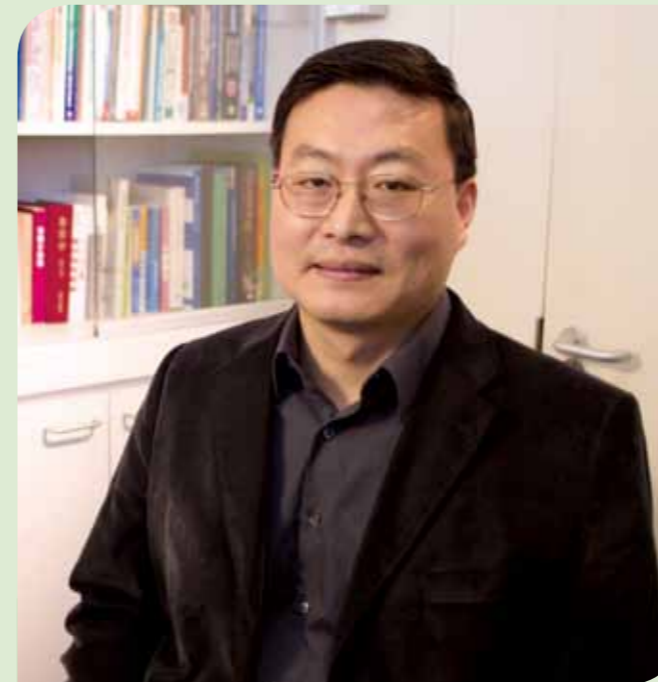
Department of Biochemistry

As an Assistant Professor in the Department of Biochemistry and Centre for Genomic Sciences, Dr Wang works in the emerging area of bioinformatics, which uses skills from biomedical science, statistics and computer science to promote scientific discovery.

He enjoys working in this interdisciplinary area, partly because it enables him to take full advantage of his diverse background, which encompasses food engineering, biology and computer engineering, and partly because he can collaborate with scientists from different fields, including recently from geography.

"Bioinformatics uses expertise from different fields such as computer science, statistics and of course a biological/biomedical background, so I'm particularly suitable for this kind of research. I can integrate those areas together and focus my energies to make an impact."

Dr Wang also credits his success to the hard work of his research team members and to the inspired help of his collaborators. Through their combined expertise, he said: "We can design drugs to treat diseases and can benefit humankind."



Dr Wang Mingfu

School of Biological Sciences

Dr Wang has an impressive track-record in food toxicology and health foods. He has demonstrated the formation and inhibitory mechanism of several foodborne toxins, changing mutant and carcinogenic compounds into non-mutant and non-carcinogenic forms.

He has published extensively on his findings, including a *Handbook of Analytical Methods for Dietary Supplements* published by the American Pharmacists Association, and he is among the top one per cent of agricultural scientists as ranked by the ISI Essential Science Indicators and a co-inventor of five patents/patent applications.

But while Dr Wang works on problems that have wide significance for food and nutritional science and public health, his motivation has been quite simple. "I really enjoy my research because I like using my knowledge to discover something that not only helps my family but also our society so we can have a better quality of life," he said.

Dr Wang's humble approach has not gone unnoticed by his students. "When he is doing research, I find he is concentrated, creative and he enjoys himself in the moment," PhD student Zhang Xinchun said.

Dr Zhao Yun

Department of Law

Dr Zhao's research interest is in the relatively little known area of space law, focussing particularly on legal issues related to space commercialisation and privatisation, and national space legislation in China.

"In Hong Kong, I'm the only person doing research on space law," he said. "I'm fighting the space law battle alone. To make a difference I need to let more people know about the subject."

He's starting with his research students. SJD student Du Rong says that in the light of China's recent progress in outer space she is hoping that with what Dr Zhao is teaching her she can "provide insight and expertise when it comes to the building of space law in China in the future."

Dr Zhao is a pioneer in an area that most people are unaware of, and he recognises that even those who have heard of it tend to view space law as being far removed from their daily lives. But with commercialisation, Dr Zhao explained, it is now much closer – even using a mobile phone or watching digital television is related to space law.



Outstanding Research Student Supervisor Award

This award goes to supervisors who guide their research students to achieve excellence. Recipients receive \$25,000 to further their research, as well as a research postgraduate studentship.



Professor Annie Cheung Nga-yin

Department of Pathology

Professor Cheung likens research to a large ship sailing on the ocean. "In the early stages of research, the supervisor is responsible for steering the direction of the research," she said, "while the students need to work hard to keep it moving forward."

Her aim is to help students fulfill their potential, contribute to advances in science and to become citizens the University can be proud of. "I believe as supervisors we need to adjust to both the special abilities and the weaknesses of the students. But it's not only about work. Harmony and happiness in the working area are also very important."

Professor Cheung has stated that her main motivation in her work is to better women's health, so she is most interested in the study of cancers of the ovary, uterine corpus and cervix. In recent years, her team has made significant findings in the studies of stem cell transcription factors and carcinogenetic signal pathways to develop potential molecular targets for cancer detection prognostication and therapy.

Dr Huang Jiandong

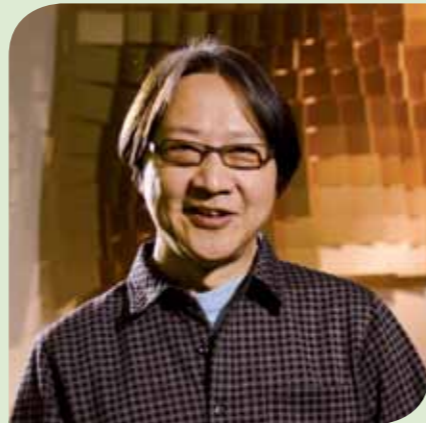
Department of Biochemistry

Dr Huang likes to explore new territory. He has applied engineering technologies to genomic studies and the development of more efficient methods in DNA and chromosome engineering and pursued synthetic biology as a means of uncovering fundamental principles of life and for cancer treatment. He approaches his work with an excitement for what he can accomplish and tries to instill that in his students.

"Scientists are trying to discover something useful for society, and they are also purely interested in going somewhere nobody has been before," he said.

Dr Huang said being a supervisor means supporting students while they travelled down their own paths of discovery. "I try to see what their needs are and to be like a car that takes them to their destination. I try my best to get them where they want to go," he said.

Students praise his efforts to offer feedback, take them on conferences, involve them in international competitions and meet other scientists.



Mr Stephen Lau Siu-yu

Department of Architecture

Mr Lau has been teaching at HKU for more than 25 years in the fields of architectural and urban design, environmental controls, and sustainability. Since the 1990s he has concentrated his efforts on fostering a critical mass of young researchers in the architectural science discipline.

He believes that architecture enables students to view the world around them in two ways – first to see the aesthetics, the visuals and culture, and second to have the scientific vision for how to turn those aesthetics into reality.

Mr Lau also believes strongly in going beyond the books, and loves to discuss and debate with his students and to take them outside the classroom to learn in the real world. "I see it as a necessity for my students to go beyond the library and I invite them to challenge their limits by taking part in international competitions. This gives each of them the opportunity to show how architectural design and architectural research can be integrated and best serve society."

Research Output Prize

The best pieces of research published or created in each Faculty in the preceding calendar year are honoured with this reward. Recipients receive \$120,000 to further their research.

Architecture

Chinese cities are undergoing great spatial restructuring as the economic emphasis transforms from manufacturing to service industries, and this research – 'Intraurbation Location of Producer Services in Guangzhou, China' – has advanced the understanding of those changes. Authors Dr Yi Hong, Dr Yang Fan and Professor Anthony Yeh Garon discovered the distribution pattern of producer services has changed from dispersed to centripetal development towards the new business district.

Arts

In his book *Strangers on the Western Front: Chinese Workers in the Great War*, Professor Xu Guoqi has created a detailed study of a hitherto little documented part of China's history, its participation in WWI. China's major contribution was sending some 140,000 labourers to Europe to free up Allied soldiers for the battlefield. The book is a significant contribution to the literature on WWI, offering a Chinese perspective on the world crisis.

Business and Economics

'Intellectual Capital and Financing Decisions: Evidence from the US Patent Data' explores a question previously left untackled in capital structure literature. Authors Professor Liu Qiao and Professor Wong Kit-pong provide a tractable theoretical framework in which to study intellectual capital in a standard dynamic model, and identify it as a key determinant of capital structure.

Dentistry

A substantial team led by Dr Rory Munro Watt contributed to the paper 'Structural and Functional Insight into the Mechanism of an Alkaline Exonuclease from *Laribacter*

Hongkongensis', research which enhances the basic understanding of DNA repair processes in microorganisms involved in oral and systemic diseases. The paper specifically reported the three-dimensional X-ray crystal structure of an exonuclease protein from the bacterium *Laribacter Hongkongensis*, which was first discovered in Hong Kong.

Education

Dr Law Wing-wah's book *Citizenship and Citizenship Education in a Global Age: Politics, Policies, and Practices in China* sheds new light on the field of globalisation and citizenship. Covering different periods, from two millennia ago to contemporary China, it is one of the first studies to theoretically examine, with empirical data, how the politics, policies and practices of citizenship and citizenship education in China respond to domestic social change and global change.

Engineering

A critical component in the operation of wireless sensor networks, 'network clock synchronisation' is usually studied from the point of view of network protocol. But in their paper 'Clock Synchronization of Wireless Sensor Networks', Dr Wu Yik-chung, Dr Qasim Chaudhari and Professor Erchin Serpedin take an innovative signal processing approach which has led to several significant advances in the area.

Law

Dr Shahla Ali enters a relatively new area of research in her book *Resolving Disputes in the Asia-Pacific Region: International Arbitration and Mediation in East Asia and the West*. She examines how different cultures approach conflict within the context of the integration of global markets, presenting empirical research on the attitudes and perceptions of arbitrators, judges and lawyers across China and much of Asia as well as North America and Europe.

Medicine

A 17-strong team contributed to 'Long-term Evolution and Transmission Dynamics of Swine Influenza A Virus', a paper offering key insights into the processes which lead to influenza pandemics in humans. Genetic analyses of influenza viruses in swine in China over the past 15 years and of previous studies in the region going back 34 years, revealed how hybrid viruses with gene segments acquired from multiple virus lineages emerged. The research unravelled the steps leading to the H1N1 pandemic of 2009.

Science

The Dirichlet distribution has a wide variety of uses in statistical literature and applications, yet Professor Ng Kai-wang, Patrick SC Poon Professor in Statistics and Actuarial Science, Dr Tian Guoliang and Dr Tang Man-lai recognised a need to extend the Dirichlet family of distributions in different directions in order to enrich the application methodologies. In their book, *Dirichlet and Related Distributions: Theory, Methods and Applications*, they systematically present the flexible parametric classes of distributions they developed, including the Grouped Dirichlet Distribution and the Nested Dirichlet Distribution.

Social Sciences

In their paper, 'The Causality Analysis of Climate Change and Large-scale Human Crisis', a team of seven from Social Sciences revealed the results of research indicating climate change as a root cause of general crises in pre-industrial societies. The team analysed a large amount of fine-grained, agro-economical, socio-economic and demographical data and climate functions in Europe from AD1500 to AD1800. This is the first scholarly work to verify scientifically a causal link between climate change and human crisis.

Knowledge Exchange Award

The Knowledge Exchange (KE) Award recognises academic work that has provided demonstrable benefits to the community, business/industry, or partner organisations. Award winners receive \$50,000 to further their KE work.

Faculty Knowledge Exchange Award

Architecture

A project to rebuild the collapsed arch of a 300-year-old in Taiping, Guizhou, led by Mr John Lin Chun-han, became a knowledge exchange opportunity to engage with the community and re-create public space. The bridge was rebuilt using stones recycled from the broken arch and pre-cast concrete, and students and staff from the Faculty collaborated with villagers and local government officials on its design.

Arts

This year, the award in the Arts Faculty was shared by Dr Peter Cunich and Dr Si Chung-mou. Dr Cunich was cited for his project to collect oral histories of Hong Kong survivors of the WWII, for compiling the largest collection of publicly available interview transcripts on the war in East Asia. Dr Si has led an eight-year project to enrich the teaching of Chinese in schools which traditionally has focussed on language matters only. He and his team have incorporated literature, history, philosophy and culture into language learning, resulting in 10 books for primary and secondary school students that have been published and distributed in Hong Kong, Macau, Mainland China, Taiwan and overseas.

Business and Economics

Dr James Vere's studies on earnings mobility and statutory minimum wages have contributed to public policy debate in Hong Kong. He was commissioned to do two earnings mobility studies in 2005 and 2008 that were widely circulated. He also provided an independent background report and

analysis on Hong Kong's proposed minimum wage to a government commission.

Dentistry

Oral health was used in a project led by Professor Edward Lo Chin-man to enhance secondary school students' understanding of biological sciences. Workshops were organised for secondary school teachers to help them use real-life dental problems, such as oral microorganisms, for teaching their subject. The project had the added benefit of increasing oral health awareness.

Education

Professor Mark Bray's work on the 'shadow education' system provided by private tutors alongside the regular school system has been a wake-up call to governments around the world. He has shown how shadow education follows and impacts on regular schooling and also has implications for social inequality because it requires the payment of fees. His work has been published by UNESCO.

Engineering

The puzzle of how SARS spread within the Amoy Gardens housing estate in 2003 was solved with input from a team of HKU engineers led by Professor Li Yuguo, who showed how infected droplets were transmitted through the estate. Their work led to the development of ventilation guidelines that have been used by the World Health Organization. They have also advised the Indonesian government on isolation room design and trained 1,500 healthcare professionals.

Law

Mr Thomas Cheng Kin-hon played an important role in the formation of a law to curb anti-competitive conduct, which was passed by Hong Kong's Legislative Council in June 2012. In 2006

he was asked by the government to advise on the drafting of the competition law. He was then asked by the Consumer Council to chair its Competition Policy Committee.

Science

The Faculty of Science launched the Junior Science Institute to provide secondary school students with hands-on programmes in different science disciplines so they can get a better understanding of thematic science issues. The Institute was launched in 2009 involving staff from the Faculty's six departments and the Medical Faculty's Department of Biochemistry and it enrolls about 1,000 students every year.

Social Sciences

Professor Paul Yip Siu-fai and his team are regional leaders in suicide prevention and they have worked with a wide range of community groups to implement a number of successful programmes. These include restriction of charcoal sales in supermarkets, good practices in media reporting of suicide, installation of platform safety-doors, and school and web-based well-being programmes. Hong Kong's suicide rate fell by almost 30 per cent from 2003 to 2010.

Knowledge Exchange Award (Non-Faculty Unit)

The HKU Scholars Hub is a one-stop information source on the University's research outputs and the achievements and profiles of 1,500 professorial staff, which previously was scattered in different systems or not available for public search. The Hub also includes media contact information for each academic indicating the languages and topics he or she is proficient in. By mid-2012 the Hub had more than one million view counts.



Some 600 secondary school students from 56 local schools had a joyful night at the Art Museum

Oh, What a Night!

The 'Night at the Museum' series is proving a hit with the secondary schools and museums involved and with HKU's growing team of volunteers, and it's a prime example of our commitment to knowledge exchange.

After the success of 'A Night at the Science Museum' in 2011 as part of the HKU Centenary Celebrations, the Leisure and Cultural Services Department invited HKU to stage another event at the Hong Kong Museum of Art. The result was 'A Night at the Museum of Art with Andy Warhol' (February 22 and March 8) which tied into the Museum's *Andy Warhol: 15 Minutes Eternal* exhibition.

The Science Museum night was led by Professor Paul Cheung and organised by the Faculties of Science and Engineering. For Andy Warhol, the event was produced by the Development and Alumni Affairs Office (DAAO) with various departments including the Journalism and Media Studies Centre (JMSC), Computer Science, University Museum and Art Gallery, General Education Unit, Electrical and Electronic Engineering, Sociology, History and Fine Arts, plus 100 student volunteers representing nearly every Faculty.

Unique journey

This time some 600 secondary students from 56 local and international schools participated. Says DAAO Director Bernadette Tsui: "We wanted to create a unique journey for the students as they discover a new meaning to creativity and pop art, media and technology, culture and society. This will be their 'Night Eternal' – something they will still remember fondly when they are 50 years old."

HKU student volunteers were assigned to one of four roles: Tour Guides, who partnered with docents at the Museum; Buddies, who took care of the teens; Drivers, who ushered them from one floor to the next; and Workshop Butlers, who facilitated during workshops.

In addition to HKU representatives there were facilitators – artists, two music bands, a dance lecturer, photographers, a fashion designer, a

cinematographer and a window display expert – all running workshops to give the teenagers practical experience of how Warhol lived and worked.

"We also included a Time Capsule session," says Ms Tsui, "where students were asked to bring an item of significance to them to the event. Professor Lui Tai-lok from Sociology and Professor John Carroll from History spent time during the night studying the time capsules students made, and at dawn shared with the students their interpretations of the memorabilia." Among the many items were a diary, a class photo, a Starbucks receipt, a photo of an egg-tart, a 'Proud to be Filipino' hat...

Students from the JMSC also got their turn, reporting live on the event through the night. With the guidance of the Centre's Masato Kajimoto and Kevin Lau, they built communication platforms on Facebook, Twitter and Instagram, produced video clips and broadcast multi-media reports while the event was unfolding, as well as editing a video to show participants the very next morning.

Says Mr Kajimoto: "It was an opportunity for them to experience the excitement and the pressure of live broadcasting and editing to a very tight deadline."

Future museum nights will have even more to offer HKU students. "At the last two camps the programmes were curated by HKU faculty," says Ms Tsui. "Next time the HKU students will be invited to curate the event – the opportunities for cross-collaboration are endless." ■



Students had hands-on experience in producing silkscreen prints of popular icon



A Light at the Museum

The University Museum and Art Gallery celebrates its 60th year with a new director, a new permanent exhibition and plans for a higher profile within Hong Kong and overseas.

Before Dr Florian Knothe left New York's Corning Museum of Glass last year, he curated a highly successful *East Meets West* exhibition. Now, as the new Director of the University Museum and Art Gallery (UMAG), he is fascinated to be embarking on what he terms 'a West meets East life'.

Dr Knothe (pronounced Noth) arrived at HKU in January from his stint at the Corning Museum, which itself followed three years at New York's Metropolitan Museum of Art (The

Met) where he had won research fellowships while still completing his PhD in European Baroque decorative arts.

Educated in England and France, and heavily influenced by an aunt who was an art historian and took him to numerous exhibitions and art galleries, Dr Knothe developed a big interest in European decorative arts, and styles such as *chinoiserie*, their origins and overseas influences. "I became very interested in the Chinese influence on European art," he says.

“If the University Museum and Art Gallery is established as an institution that draws international interest and collaboration, it raises the bar – and that in turn will provide more opportunities for exhibitions with prominent local artists too.”

Dr Florian Knothe

At The Met from 2005 to 2008, Dr Knothe worked on two European exhibitions during and after his fellowships. From there, he became European and East Asian glass curator at the Corning. "At the Corning Museum I had access to Western and Eastern collections that gave me the chance to organise the *East Meets West* exhibition."

Permanent display

Dr Knothe's plans include raising UMAG's profile – "within HKU, within Hong Kong and overseas". He is introducing a permanent exhibition in order to show more of HKU's collection – some 2,700 pieces, including ceramic and bronze collections, 20th century Chinese paintings and the world's largest collection of Nestorian crosses.

"I would like to have some of the collection out all the time," says Dr Knothe. "A permanent display will give the Museum a better profile – people will know what it is and what it has," he says. "More permanence also engenders more opportunities for crossdisciplinary research within HKU, as well as with other institutions in Hong Kong and overseas."

The changes are timely – UMAG celebrates its 60th anniversary this year. The occasion will be marked this autumn by the opening of the new permanent exhibition in the Fung Ping Shan Building, as well as a book celebrating 60 museum highlights, all of which will be on display.

"The Fung Ping Shan galleries will look similar, but there will be more information explaining our objects, their context and background. The aim is to be more educational," says Dr Knothe, adding that he hopes the permanent exhibition will encourage more schools to visit.

There will still be temporary exhibitions too – mostly housed in the TT Tsui Building, and he would like more of those to be self-initiated. "As a university museum and gallery we are at liberty to do almost anything. We can do 'blockbusters' but not every exhibition needs to be, we can do very specialist displays and programming too."

Dr Knothe's path to UMAG seemed almost inevitable: "I was increasingly interested in Chinese arts, and at the same time realised I wanted to work in a university museum. Even in well-funded American museums, it's not all research and scholarship. I wanted to work in a more academic environment, and to go to a university museum where I could teach."

He first visited China with friends in 2001 and 2004 – "zipping around visiting as many monument sites and museums as I could. The

art was terrific but I was disappointed by how the museums looked and what they provided in terms of information. There was very little description or context, usually just the name of the object and maybe the dynasty it came from." He wants to do better than this at UMAG.

In 2010–12 he gave a series of lectures in the US, and then one in Beijing, on his research into the cross-cultural influences of European missionaries in China. "It was very interesting to see how my thoughts were – or were not – received in China," he laughs. "It was a huge conference, two-thirds of the speakers were from China, and it was an eye-opening cultural experience."

"There were very few people who study foreign influences in China, and many were not interested in it at all – they were far more concerned with promoting the Chinese influence abroad. It was a political thing. Some very established academics, told me to forget about the foreign influence, as 'it is so small' and said 'why don't you study the Chinese influence?' I would say 'I do – I'm fond of studying both angles'."

Scientific side of art

Now in Hong Kong, Dr Knothe will continue to do both, and to promote collaboration. "I want to work with different departments on campus, and hope to push the scientific side of art history. I would like to work with HKU scientists, who could bring their expertise to

determining the composition of glassware. This would allow us to build up a scientific database of objects – if we know that chemically certain objects are similar it can help us to date them more accurately, and to discover the geographical origin of the raw materials from which they are made."

"The Nestorian crosses for example are believed to be a hybrid product – half West, half East. I'm already in touch with someone who wants to do scientific analysis on these."

Dr Knothe is also hoping to inspire some further East meets West research in the form of collaborations with his former colleagues. "We could do something with The Met," he says, "plus my contacts at the Victoria and Albert Museum in London and the Musée des Arts décoratifs in Paris are very interested in collaborations." He is also hoping to work with the glass museum in Shanghai, who recently invited him to visit and give them constructive criticism on their fledgling institution.

And closer to home? "If UMAG is established as an institution that draws international interest and collaboration, it raises the bar – and that in turn will provide more opportunities for exhibitions with prominent local artists too," says Dr Knothe. "A university museum has a responsibility to interact with local arts and culture – it's a question of getting the local or international balance right." ■



Dr Florian Knothe (left) and René Burri, a renowned photographer, (right) at the Opening Ceremony of the René Burri – UTOPIA exhibition held at the University Museum and Art Gallery.



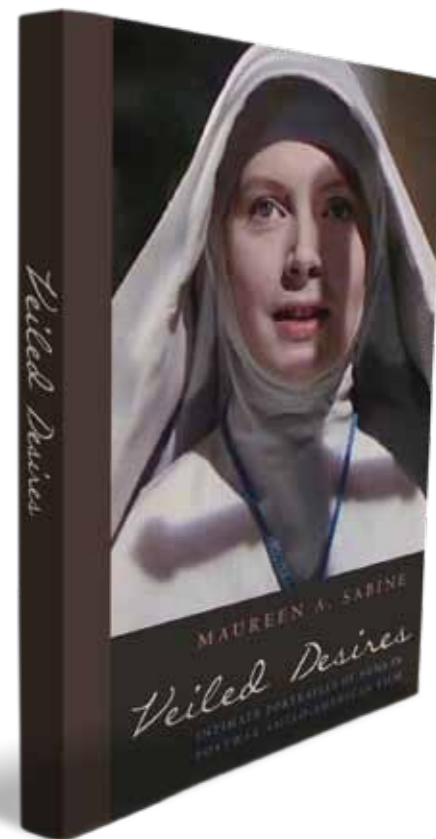
Dr Knothe was giving a lecture on Chinese glass and cross-cultural influences at the University Museum in March.

Imagining Nuns and Saints

Portrayals of two Christian icons – the nun and the saint – are explored in new books by Faculty of Arts scholars. Professor Maureen Sabine looks at nuns in film and argues that they're feminist role models, while Dr Carolyn Muir considers the challenges of depicting mystic marriages between Christ and female and male saints in art. Coincidentally, both women retire this year after more than three decades with the Faculty, making their publications a capstone to their HKU careers.

Lifting the veil

The actress Audrey Hepburn gave her finest performance in 1959's *The Nun's Story*, as a willful young nun who struggles with her vows in the 1930s and 1940s. The film was well received upon release but subsequently dismissed by feminist critics. That reaction



puzzled Professor Maureen Sabine, who was educated by nuns. In response, she has written *Veiled Desires*, a detailed analysis of the portrayal of nuns in film.

"I became interested in this hostility to the film and in re-interpreting it," she said. "Here is a heroine – although she's a cloistered nun, she's very intelligent and career orientated. She's an individualist with an integrity resisting institutional conformity. It struck me that's one definition of a feminist."

"Feminists see the vow of obedience and conclude that nuns are handmaidens of a patriarchal church. But what they often forget are their bold pioneering activities – in America they built the infrastructure of the Catholic church and ran the parochial school system and the hospitals."

Professor Sabine found many examples of cinematic nuns who defied the submissive stereotype, such as Hepburn, Ingrid Bergman in *The Bells of St Mary's* and even Julie Andrews in *The Sound of Music*. They all showed a strong undercurrent of sexuality – a life force that is a reminder that nuns are also women with passion and purpose.

"The drive you see in the cinematic nun is a reflection of eros, of reaching out, and this



Professor Maureen Sabine

appeals to the public. In *The Sound of Music*, for instance, you have aspiration, restless desire, a search for something more in songs like *Climb Every Mountain*."

"These actresses are calling attention to this erotic drive and how it might be channelled into religious life and service."

Professor Sabine explores her topic through a variety of academic lenses, including literary analysis, feminist history and cultural studies, psychoanalysis, theology, religious history and film criticism. "It turned out to be the most difficult project that I have done," she said, "but I really enjoyed it."

Veiled Desires is published by Fordham University Press.

Married to Christ

Christianity is rich in allegorical images and when Dr Carolyn Muir stumbled across a story of a 'mystic marriage' between St Catherine of Alexandria and Jesus Christ, she was intrigued. How do you translate this abstract idea of unifying the soul with god into an image? Especially when, as she subsequently found, both male and female saints 'married' Christ.

"In the 13th and 14th centuries there were a lot of individual mystics who wrote very graphically about having mystical unions. This is a theological concept you can find in many religions, not just Christianity, but here you also have this gender factor. You can gloss over the text as an allegory, but what do you do when you have to depict it? And who looked at these images?" she said.

Dr Muir studied published and unpublished materials and determined there were certain conventions in mystic marriage imagery. Female saints, represented by St Catherine and St Agnes, are shown marrying Christ as a baby based on a vision St Catherine had of the infant Christ giving her a ring after she converted to Christianity. Male saints, represented by St John the Evangelist and St Bernard of Clairvaux, are depicted embracing an adult Christ.

The two images are combined in Henry Suso, who was beatified but never made a full



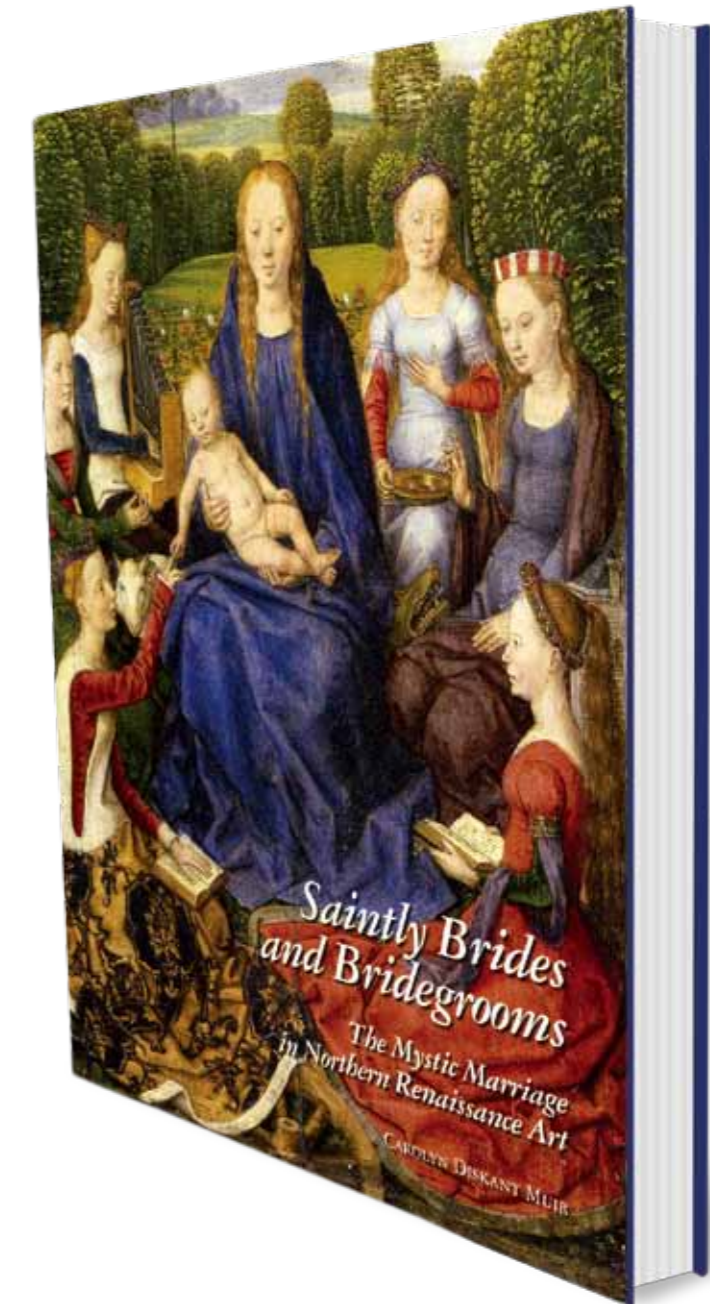
Dr Carolyn Muir

saint. He wrote about his love and marriage to 'Eternal Wisdom'. Wisdom is female in the Old Testament but identified with Christ in the New Testament, so Suso's mystic union crosses gender boundaries.

"There are very rare images of Suso wedding Christ who is depicted as a woman," Dr Muir says. "In terms of the conventions, there's a ring ceremony but there's also emotional and physical intimacy."

As to who looked at these images, 14th century nuns were quite keen on them. "St John was one of their favourites and one nun was said to have levitated in front of a sculpture showing his mystic union with Christ," noted Dr Muir.

Her findings, and the images, are contained in her new book, *Saintly Brides and Bridegrooms: The Mystic Marriage in Northern Renaissance Art*, published by Brepols Publishers. ■



Artistic Impressions

New Masters in Expressive Arts Therapy is a first for Hong Kong and Asia.



A 'Fundamentals of Art Therapy' class being held in the art studio in the Centre on Behavioural Health

When you dream, do you see images, or is the dream written out in words? That's one of the first questions Dr Jordan Potash asks, when people ask him about Art Therapy.

The next question is inevitably, what is Art Therapy? Dr Potash, who is a qualified Art Therapist and Lecturer at the Faculty of Social Sciences' Centre on Behavioural Health, explains: "It is using art and the creative process for increased emotional and mental health. At HKU we use a very broad definition of health so we use art for prevention, for wellness, to help people deal with chronic or terminal illness, as well as general life-suffering – stress, trauma, depression anxiety – a whole range."

"Usually when people use the term 'Art Therapy', it means visual arts – drawing,

painting, sculpture, photography, collage etc – but here we emphasise the 'expressive arts' – a combination of art, dance, music, drama, poetry... all of the art forms."

The Centre on Behavioural Health was founded a decade ago with a mission to promote a holistic approach to health, using integrated body-mind-spirit approaches to health recovery and rehabilitation in addition to wellness and prevention. The Centre has become a leader in the field in Hong Kong and across much of Asia, and continuing its pioneering spirit, is about to offer Hong Kong and Asia's first Master of Expressive Arts Therapy.

Leaders in the field

The stated aim of the programme is to cultivate competent clinical and educational specialists

ready to lead the development of expressive arts therapy in Hong Kong and Asia. "It's an exciting time for us to be offering this," says Dr Potash, who developed the Masters alongside Centre Director Dr Rainbow Ho. "People who do it will become leaders in the field in Hong Kong. Art Therapy started in the UK and the US in the 1960s. We have been able to take their 40 years of knowledge and incorporate it into the course."

People have been using arts in therapy and arts in health in Hong Kong since the 1980s. Psychiatrist Dr William Fan has done important work with the arts in Castle Peak Hospital. On the community arts side, Evelyn Liang was doing work years ago in the Vietnamese boat people refugee camps. The first trained art therapists came here in early 1990s – Judith

Moss from UK, local Chinese William Chao – who went to UK and came back.

But Dr Potash is quick to add that the reason the Centre holds such a leading position in this area is the work of the people who founded and developed it over the past 10 years. "We are standing on the shoulders of the University's own pioneers," such as the Centre's Founding Director Professor Cecilia Chan, Si Yuan Professor in Health and Social Work, and Dr Rainbow Ho, now Director of the Centre and a dance movement therapist.

Jordan arrived from the US in September 2006, was introduced to Professor Chan, who invited him to research meetings at the Centre, then suggested he become a PhD student. He is now Lecturer and Assistant Programme Director of the new Masters. "We want the programme to have a broad sense of health so it doesn't get locked into just therapy or psychotherapy, but can also be applied to education sectors, community arts. The Centre's approach is unique in that way."

He points out that, anthropologically speaking, the earliest forms of rituals involved in health and healing in every culture involved the arts – rhythmic music, meditating on visual images, creating visual images, dancing.

"The arts are the oldest form of health practice and Art Therapy is very adaptable – many components – one, it's relaxing and it simply makes you feel good, another is that you create images and you realise that those images have meaning to you. What do they say about your life at this moment, what do they help you to express that you couldn't express in words. That's the therapy or psychotherapy part. You can learn something about yourself, change something about you or your relationships. That's the exciting part."

Burn-out prevention

Art Therapy has many applications. The day before our interview, Dr Potash had been teaching third-year medical students – how

to have empathy with patients and gain self-awareness. Last year he facilitated three separate six-week programmes with hospice workers on burn-out prevention in partnership with the Society for the Promotion of Hospice Care.

He also recently co-coordinated a programme for people living with mental illness – depression, anxiety, psychosis, schizophrenia. In addition to Art Therapy treatment, they also had the chance to create an exhibit on what they wanted people to know about them. That exhibit was displayed around Hong Kong – at The Hong Kong Academy for Performing Arts, malls etc – people looked at the images and then they themselves were encouraged to make art on their emotional response to one of the drawings or paintings.

What Art Therapy is not is looking at inkblots and interpreting them. "People have the wrong impression sometimes," Dr Potash smiles. "I'm always reminded of the scene in the movie *The Sixth Sense* when the kid tells the psychologist how his mother was summoned to his school after he painted a particularly gory scene in art class. Bruce Willis asks what he draws now. 'Rainbows,' he answers, 'people don't have meetings about kids who draw rainbows!'"

"It always makes people smile knowingly," says Dr Potash, "But I also counter that by saying: 'But, at any moment in time there are an infinite number of images you could have drawn – so why this one now?' There's more than one way of looking at things." ■

“An art therapist can guide you through a process of finding meaning in what's going on in your art and to see what that says about you and your unconscious, your emotions.”

Dr Jordan Potash



Teamwork behind State-of-the-Art Campus

Three key members of the Centennial Campus team – Pro-Vice-Chancellor (Infrastructure) Professor John Malpas (now President of the Centennial College), Director of Estates Mr Kenneth Wong (now retired), Project Manager Mr KL Tam (now Acting Director of Estates) – reveal how their vision for the Centennial Campus became a reality.



The trio – (from left) Mr KL Tam, Professor John Malpas and Mr Kenneth Wong – spared no effort to build the Centennial Campus with vision and passion.

The distinctive terracotta tones of Centennial Campus have become familiar features of HKU so quickly it's hard to believe that site preparation work began just five years ago. Planning work for the 43,000m² development – the most ambitious expansion project since HKU's opening 101 years ago – began long before, as early as 1997, when an informal strategic working group was formed under then Vice-Chancellor Professor Patrick Cheng.

"We were thinking about how the University would develop, and even then discussing the

possibility of a four-year curriculum," says Professor Malpas. From these initial talks the idea of a Millennium Campus Masterplan was born, and from that emerged the plan that would eventually become the Centennial Campus (CC).

Early on, the core team came up with four main principles for the project, namely: to create a unified teaching and learning environment as well as a research one; to build it adjacent to or as part of the existing campus; to respect the environment, make it sustainable, and preserve

heritage buildings; and to work closely with the community.

"The level of public engagement has been extraordinary," says Professor Malpas. "They have been involved since the start, when we held preliminary design forums, and we have taken on-board many of their suggestions."

With the four principles in place, the team took another innovative approach to the design. In 2005, they invited four architectural consortia, each comprising a local architectural firm and

“The Centennial Campus is something exceptional in a university. It has added to our stature and befits what HKU should be.”

Professor John Malpas

an international partner with global experience of innovative campus development, to present proposals for the design concept.

Says Mr Wong: "It was significant that we got support for having a competition – the first time the University has done this."

Adds Professor Malpas: "We asked for an international element because we felt there had been overseas developments in campus design that had gone beyond what was appreciated in Hong Kong and we wanted that overseas expertise involved."

They were also looking for architects who understood the particular needs of a campus design as opposed to a commercial building. "Profit maximisation and reputation are the most important goals for a commercial project," says Mr Tam. "But a campus project is measured by the social benefits it can bring. That's why we set ourselves a higher standard of environmental protection and sustainability."

Wong & Ouyang and Sasaki Associates won

the task with a masterplan proposal strong on strategic planning principles. The team was now complete.

Obstacles

With a project this size, there were bound to be obstacles. "Lack of space, technical difficulties, financial constraints... and red tape – we have had to deal with 16 different government departments!" says Professor Malpas.

The biggest hurdle would be the site itself. While permission had been gained early on to build on land belonging to the Water Services Department (WSD) adjacent to the campus, there was the rather large question of how to deal with the massive reservoir tanks situated there, a storage facility essential to the city's water supply.

"Fortunately, a creative solution emerged – digging caverns deep into the hill to store the water," says Mr Wong, "which avoided extensive tree-cutting, minimised air and noise pollution impact, and ensured undisrupted

water supplies. HKU is the only institution in Hong Kong (perhaps in the world) to re-provision existing service reservoirs to form the site of a new campus."

It was a plan so audacious that, according to Mr Wong, for a while "it was considered 'Mission Impossible' by most engineers, including ourselves". But after some initial difficulty persuading the WSD that it could be done, it became mission accomplished within just two years. "The WSD said it would take seven years but we did it in two because we only had two," says Professor Malpas.

Mr Tam lists other problems. "There was a landslip during a black rainstorm in the summer of 2008," says Mr Tam. "Then, during underground excavation work we encountered extremely hard ground which caused delays. Finally, near the end of the project, we faced severe labour shortages in the construction industry."

It is testament to the strength and commitment of the team that all problems great and small were overcome.



Hammering the maiden rock to mark the commencement of works in April 2007. From left: Professor Lap-Chee Tsui, Vice-Chancellor; The Honourable Henry Fan, then Treasurer of the Council; Dr Victor Fung, then Chairman of the Council; Mr Jack So, then Member of the Council and Chairman of the Campus Development and Planning Committee; Professor John Malpas, then Pro-Vice-Chancellor and Chairman of Project Group for Centennial Campus and Main Campus Redevelopment; and Mr Chan Chi-chiu, then Director of Water Supplies.



To minimise the disturbance caused to the environment and nearby residents, a non-explosive drill-and-break tunnelling method was used to house two saltwater reservoirs in a rock cavern.

"There was an enthusiasm that I think you just don't find on commercial projects – from the University, the architects and the construction company," says Professor Malpas. "Everybody knew we were trying to do something different, to set new standards... to really succeed in the sustainability aspects – and that's in everything from conception, right the way through to running the buildings."

Campus envy

"Now that it's just about done, we've had so many visitors. Recently I showed the ex-Archbishop of Canterbury Rowan Williams round. He was astounded by it, thought it was fantastic. Dr Victor Fung, who as a former Chairman of the Council, was absolutely instrumental in supporting [the project] said 'this is a world-class facility now'. Professor Bill Kirby from Harvard said 'we don't have anything like this at Harvard'."

As well as garnering praise, the CC has already won several awards. "The re-provisioning

of the reservoirs is the first of its kind in the world," says Mr Tam. "As a result, we have been selected one of the 10 Hong Kong People Engineering Wonders in the 21st century by the Hong Kong Institution of Engineers."

"Our efforts to protect HKU heritage and the environment have also been recognised with awards from the Green Building Council, Hong Kong Building Environmental Assessment Method (HK-BEAM) and the highest performance Platinum certification from Leadership in Energy and Environmental Design (LEED) for achievement in sustainability."

The project may be near completion, but none of the three feel they can relax just yet – "not until the Mass Transit Railway (MTR) link is complete", says Mr Tam. "It's a massive achievement, but there is no time to rest on our laurels," adds Mr Wong. "A campus is a living entity."

"It needs to continue to evolve," says Professor Malpas. "I hope that in five years the Learning

Commons is different to what it is now. We've hired a Learning Environments Manager who is tasked with keeping it as a cutting-edge facility."

Says Mr Wong: "In 24 years at HKU, the CC is undoubtedly the most important project I've been involved in – not only important for the University but for Hong Kong too. I like to stroll from the old halls down to the Centennial Campus – the old is unified with the new."

Mr Tam is happy that the CC provides facilities that HKU has never had before, "particularly the 1,000-seat Grand Hall, the Learning Commons and the garden we have created on top of the WSD reservoirs – an oasis for the University and an example of good use of land."

"Everyone is proud to have been involved," says Professor Malpas. "The Centennial Campus is something exceptional in a university. It has added to our stature and befits what HKU should be." ■

The jewel in the crown

It's the part of the CC that attracts more attention than any other – despite stiff competition from the Grand Hall, the rooftop Music Library and the Moot Court – the Chi Wah Learning Commons remains the central attraction.

The idea behind it is to provide a new kind of learning environment for students. Professor Malpas, who started working on the concept in 2003–04, once described the Learning Commons as a kind of 'academic airport lounge'.

He explains: "The concept of an airport lounge is, first, to treat your customers with respect. I felt it important that we treated students with respect both because they are driving their own learning in their own environment and because of their level of maturity."

"Second, an airport lounge provides a variety of environments to suit your particular mood. In a sense we tried to do the same – at times students want to work collectively, then alone, maybe have a coffee, have access to technology..."

"Third, when you go into an airport lounge, it's very different to sitting in the rows of plastic chairs in the departure area. The idea was to provide students with something different. We wanted our innovation to excite their innovation."



The Learning Commons measures 6,000m², providing an ideal place for students' individual and collaborative learning.



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