



香港大學
THE UNIVERSITY OF HONG KONG

BULLETIN

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STEM CELLS

Hope for
the Incurable

COMMON CORE

Preparing HKU students for complex global issues facing humanity.



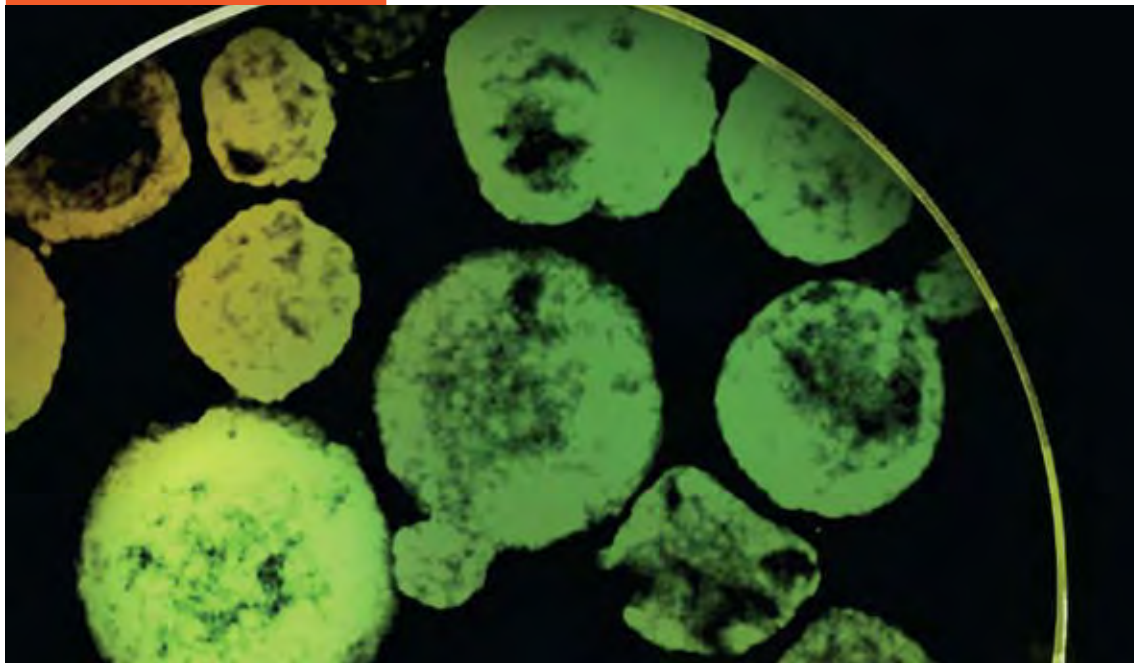
A BALD MOVE FOR CHARITY

Three selfless volunteers shaved their heads to raise money for children's cancer research.



THE UNIVERSITY OF HONG KONG
Pokfulam, Hong Kong

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HKU CHOSEN TO SET UP TWO MORE STATE KEY LABORATORIES

The Ministry of Science and Technology of the Central Government has given approval to HKU to establish a State Key Laboratory (SKL) of Liver Diseases. A State Key Laboratory of Synthetic Chemistry will also be established in collaboration with the Chinese University of Hong Kong.

The decision was made by the Ministry in recognition of HKU's excellence in research in the two areas, citing its outstanding research team and advanced laboratory facilities. The move represents another significant step in the collaboration between Hong Kong and the Mainland in frontier research that will ultimately benefit the country's technological advancement.

HKU Vice-Chancellor Professor Lap-Chee Tsui expressed delight at the decision of the Ministry. He believes the setting up of the two SKLs will provide good opportunities for HKU to further its academic and technological collaboration with the Mainland.

The two SKLs are the newest additions to those already at the University, following the

SKL of Brain and Cognitive Sciences and the SKL of Emerging Infectious Diseases established in 2005 at HKU, which were then the first and only SKLs in their respective fields located outside of the Mainland.

The HKU SKL of Liver Diseases will be led by Professor Irene Ng Oi-lin, Loke Yew Professor in Pathology, Faculty of Medicine. It will partner with the SKL of Oncogenes and Related Genes of the Shanghai Cancer Institute, while operating independently.

The SKL of Synthetic Chemistry will be directed by the HKU Dr Hui Wai Haan Chair of Chemistry, Professor Che Chi-ming. Professor Henry N.C. Wong, Professor of Chemistry of the Chinese University of Hong Kong, will act as Deputy Director. The SKL will partner with the SKL of Organometallic Chemistry of the Shanghai Institute of Organic Chemistry.

SKLs are regarded as key components of China's science and technology research system. They

serve as hubs for top-level basic research and applied basic research development, the assembling and nurturing of outstanding researchers, and for scholarly exchanges throughout the country. ■



Professor Che Chi-ming



Professor Irene Ng



Professor Lap-Chee Tsui



UPHOLDING RESEARCH INTEGRITY

As one of the leading research institutions in Asia and the world, HKU upholds the highest standards of professional conduct in research and is well in step with the global trend to encourage discussion and awareness of research integrity.

Recently seminars were organized for new and existing staff, and young and experienced researchers, to reinforce awareness and ensure everyone is on the same page when it comes to the responsible conduct of research.

The three seminars were tailored to different discipline-based research cultures and attended by the Vice-Chancellor, Deputy Vice-Chancellor and Pro-Vice-Chancellors.

Presentations covered such topics as the responsible conduct of research, conflicts of interest, and ethical clearance for human participants in research.

"Through these seminars, we want to raise awareness and let colleagues and the community within and beyond HKU know how much value we place on research integrity and proper research conduct," Professor Paul Tam, Pro-Vice-Chancellor for Research, said.

Participants were encouraged to share their experiences and views, and case studies were discussed in break-off

groups. Some of the issues raised included publication authorship, copyright, patents, data ownership, PhD theses, hiring and appointments, peer review, participant consent, and the ethical review process.

"The seminars provided an interdisciplinary perspective. We learned what others experience and think and we could share information, for example on research design and data collection," Dr Anatoly Oleksiyenko of the Faculty of Education said.

They also were a good refresher course for experienced hands. "We are already aware of the standards and good practice to follow, but seminars such as this are beneficial in reminding us, and they're a good chance

to potentially improve what we are doing," Dr Chan Kwok-ping of the Department of Computer Science said.

A fourth seminar is planned for later in the year. In the meantime, participants were introduced to CITI – the Collaborative Institutional Training Institute, a worldwide online training programme for human participants and scientific research ethics. HKU is now a CITI member and modules will be adapted to suit the Hong Kong and Mainland China research context. Our research students are required to undertake CITI modules, and staff are encouraged to access the programme because it provides research integrity training and certification recognized by some US funding bodies. ■



A BALD MOVE FOR CHARITY

Professor Paul Tam Kwong-hang and Professor Godfrey Chan Chi-fung each took a big gulp this spring and said goodbye to their hair to promote a good cause and achieve empathy with young cancer patients.

The two academics participated in a head-shaving event to raise money for children's cancer research, organized by the Children's Cancer Foundation (CCF) and the St. Baldrick's Foundation, an international group. Professor Tam's wife, Amy Chum, who is a council member of the CCF, was the driving force behind the shave-in and also went under the razor.

Professor Tam, Pro-Vice-Chancellor of Research, paediatric surgeon and Chair Professor in the Department of Surgery, said the event had value for him both personally and as a teacher.

"As a doctor, you always feel for your patients and this is a meaningful way to relate to them and show solidarity with them. As a teacher, I would like to think our students are inspired by this act and will do something even more worthwhile to help society," he said.

The event was held before a packed audience and raised some \$1.3 million in donations on the day. Staff, students, friends and members of the CCF and St. Baldrick's all came to watch, along with a large contingent of media.

Some in the audience took turns shaving the heads of the three volunteers, including paediatric patients. Professor Chan, from the Department of Paediatrics and Adolescent Medicine, was happy to let them have a go.

"I said to them, I give you chemotherapy and I inflict pain and hair loss on you, now it's your chance to do it back to me," he said, smiling.

"I'm a paediatric oncologist and this event is very much in my heart. Over the years I've seen a lot of children receive treatment and lose their hair. Some doctors and adults may not realize that this has a major psychological impact on them."

The St. Baldrick's event makes them sit up and notice. It was begun in 2000 in the US and has raised more than US\$87 million around the world. This is the first time the head-shaving event was held at a Hong Kong tertiary institution.

The Dean of Medicine, Professor Lee Sum-ping, said he was deeply inspired by the actions of Professor Tam, Professor Chan and Ms Chum.

"This is a true expression of one's generosity and selflessness and love and concern for people who are less lucky than us. It involves not only these three who are being shaved, but those who have so generously given support.

"The important thing is to raise the awareness of the public and for those of us in healthcare to focus on our children and their well-being. I hope this meaningful action will serve as a reminder to us all about the kinder side of human nature." ■



From left: Professor Godfrey Chan, Ms Amy Chum and Professor Paul Tam.

OUTSTANDING HKU MEMBERS NAMED MODELS OF HUMANITY

HKU alumni Dr Margaret Chung Wai-ling (BSc 1980; PhD 1987), Dr Albert Ko Wing-yin (MPhil 2004; PhD 2006) and Dr Poon Tak-lun (MBBS 1982) have been chosen to receive this year's Hong Kong Humanity Awards, for their exceptional spirit of humanity, community involvement and volunteerism.

The Hong Kong Humanity Award, co-organized by the Hong Kong Red Cross and Radio Television Hong Kong, is the first of its kind in Hong Kong and was launched in 2007. It honours those who live up to and put into practice the spirit of humanity. The awardees stand as examples of how individuals can spread the spirit of humanity by caring about others through volunteer work.

Three of the five award winners are HKU alumni. Dr Margaret Chung suffered from Systemic Lupus Erythematosus, but has kept on influencing other patients



Dr Albert Ko (left), Dr Poon Tak-lun and Dr Margaret Chung.

with her positive attitude. Dr Albert Ko is a mechanical engineer who actively participates in disaster relief projects and facilitates emergency engineering activities, and is currently also a Senior Student Advisor at HKU. Dr Poon Tak-lun has been participating in medical relief missions and providing clinical and surgical services for over three decades.

Whether in Hong Kong, mainland China or other places around the world, the awardees have shown their dedication to helping those in need, and have tried to prevent and alleviate human suffering, regardless of the background and social status of those they are helping. Their work shows the public that one can truly live a life of humanitarian service based on a belief in 'the spirit of humanity'. ■

WRITERS REVEAL THEIR SECRETS



From left: Mr Stephen Fry, Mr Frederick Forsyth, Sir David Tang and Mr Andrew Roberts.

'Who' trumped all other questions at a public forum titled 'How and What and Why Do Writers Write?' held as part of the Faculty of Arts' Summer Institute in July.

Three renowned writers gave answers that said at least as much about themselves as about writing. On why they write, Frederick Forsyth, the blunt and practical author best known for thrillers like *The Day of the Jackal*, said money was the motivator. Andrew Roberts, who writes acclaimed books on military history, said writing should be about anything *but* money – inspiration, avoiding boredom, and learning were all better reasons, but the quality had better be good.

Stephen Fry, raconteur, actor and writer of a diverse range of texts for television, film, radio and books, skirted around the question altogether. "Anybody can write if they speak. It's just very odd having pegged writing as an incredibly separate and incredibly different engagement or pursuit as that of every-day conversation," he said, although he spoke repeatedly of the hard work involved in writing.

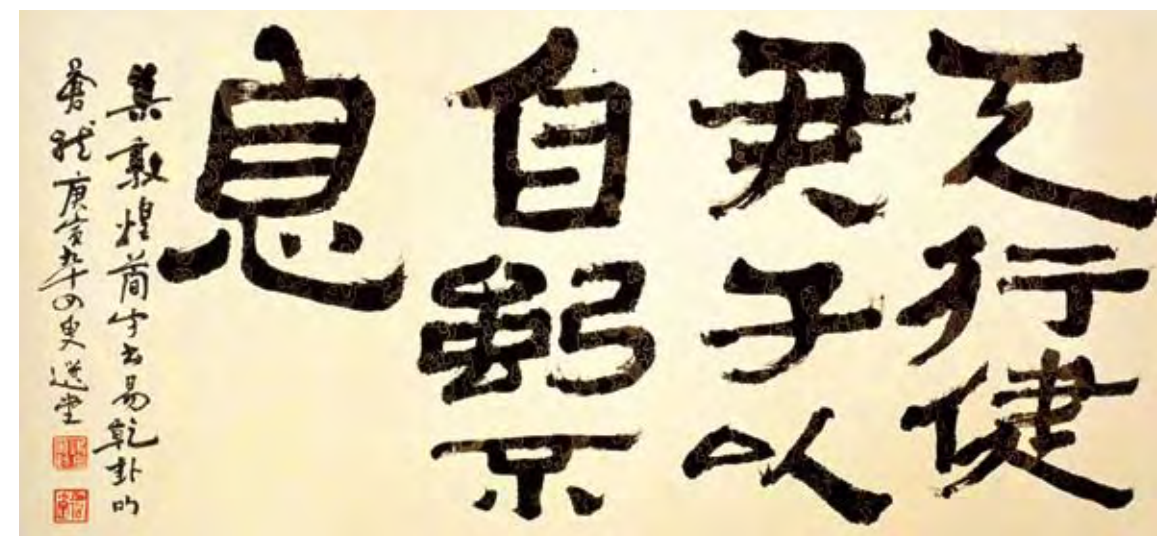
The three authors appeared with acerbic moderator Sir David Tang before a full house of about 1,000 people at Loke Yew Hall, where they offered similarly revealing responses to audience questions over two hours.

On social media, for instance, Mr Fry was

excited about its potential and Mr Roberts about the impact on English-language use, while Mr Forsyth said he still used a typewriter. On autobiographies, Mr Fry has completed two and did not rule out more, Mr Roberts plans to release his diaries when he is 60, while Mr Forsyth, who has spent a colourful life in the company of spies, arms dealers and renegades, refuses to write one.

When asked if great skill was necessary to become a great writer, Mr Fry and Mr Roberts both said skill and hard work were part of the equation. Mr Forsyth, referring to himself, said, "Obviously no is the answer," but he admitted that he did "look at those who are [great writers] and say, wow." ■

95 YEARS YOUNG! CELEBRATING PROFESSOR JAO TSUNG-I'S BIRTHDAY AT DUNHUANG



Over 500 celebrities from the Mainland, Hong Kong and overseas gathered at Dunhuang, Gansu Province, to celebrate the 95th birthday of renowned contemporary sinologist and world-acclaimed artist Professor Jao Tsung-I.

A banquet was held at the scenic Mogao Grottoes in southeast Dunhuang. The frescoes in the caves, painted from the fifth through the 13th centuries, feature some of the finest examples of Buddhist art. Professor Jao started his Dunhuang studies in the early 1950s. Inspired by Dunhuang art, he later created his own style of painting and calligraphy.

At Dunhuang, HKU Vice-Chancellor Professor Lap-Chee Tsui said: "We are here today not only to celebrate the birth of a great scholar, but also to express our heartfelt gratitude to his significant contributions in enriching Chinese culture."

Professor Tsui also thanked Professor Jao for teaching at the Chinese Department of the University in the 1950s and 60s. In 2003, the Jao Tsung-I Petite Ecole was established at HKU. Professor Jao generously donated many of his valuable books, paintings, calligraphy and ceramics to the Petite Ecole, and the collection now contains 30,000 items.

Professor Jao in turn thanked his guests, many of whom had travelled from abroad to see him. He wanted in particular to thank those who had made donations in his name for the protection of Dunhuang's

cultural relics, and called for the continued protection and preservation of Dunhuang art.

Professor Jao has spent more than 70 years in academic research and artistic creation. He has been

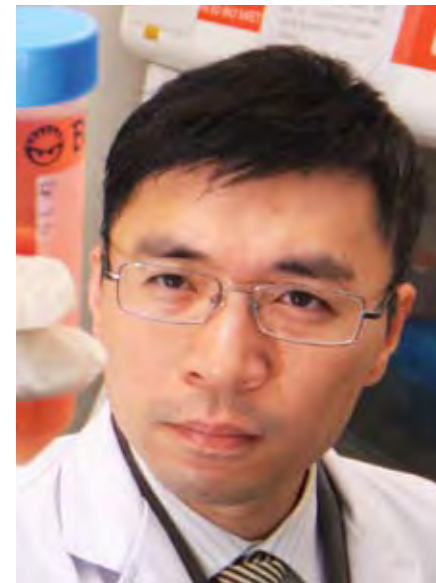
widely acknowledged as an historian, sinologist, archaeologist, translator, painter and calligrapher. He is also a highly regarded poet and an expert on Chinese musical instruments. ■



Professor Jao Tsung-I (right) and Ms Fan Jinshi, Director of the Dunhuang Academy.

THE BRAVE NEW (AND OLD) world of stem cells

The University is stepping up its profile in a field that promises to revolutionize medical care.



Professor Ronald Li

Stem cell research has a futuristic aura to it, a promise of the incurable being cured and bad health being relegated to the past. It excites scientists and the public, and at HKU academics are galvanising their expertise to tap into this rapidly evolving field.

The University's Li Ka Shing Faculty of Medicine recently established the Stem Cell and Regenerative Medicine Consortium (SCRM) on the back of a new donation and several years' experience with stem cells. The Faculty of Engineering and the Faculty of Dentistry are also applying their own expertise to investigate stem cells and their applications.

"The stem cell field is going to change how medicine is being practiced," says Ronald Li, who was appointed Professor of Stem Cell and Regenerative Medicine and Director of SCRM earlier this year and has a strong track record in stem cell research in the US.

"I'm optimistic that in the lifetime of the current generation, we will see therapies for some diseases that are currently incurable. We're making rapid progress, but no single institution can do it alone, not even one single country. There is room for every university to develop its own niche."

HKU has started carving out its corner in such areas as cardiac regeneration, colorectal cancer stem cell research, and other areas, some examples of which are on these pages. The University has also developed support systems for stem cell research by providing training programmes for researchers and investing in tailored research facilities, from the laboratory to the clinical setting.

"The time is now to have this consortium," Professor Li says. "I really think there is a lot that we can potentially discover. We have expertise, we just have to find a way to inject a stem cell component into many of our existing directions."

What are stem cells?

That injection is admittedly a tricky one. Stem cells are a collective term and there are billions of them. Indeed, scientists are

just beginning to better understand the definition of 'stemness'. Only two types, human embryonic stem cells (hESCs), isolated from embryos that are a few days old, and induced pluripotent stem cells (iPSCs), derived from adult somatic (i.e. the body) cells by a process called "reprogramming", have the potential to develop into any cell type. Scientists want to manipulate that potential to develop cell lines that can repair or replace damaged body parts and fight disease.

However, there are many hurdles to overcome. For one, it is not easy to find the suitable stem cell types among the many billion others. Some of these cells also have more potency to develop a certain way than others, and extensive tests and experiments are needed to induce, or differentiate, them into a desired new type of cell. Their growth also needs to be controlled because otherwise they may form tumours. And numerous tests and studies are needed to see if they behave the same way in a test tube as they do in animals and eventually humans.

HKU scientists are tackling many of these problems. And while their studies on mice or larger animals are starting to offer hopeful results, Professor Li supports a cautious approach, of taking time to do extra tests on animals. He cites the example of an overseas study where stem cells were transplanted into cardiac patients.



23 pairs of chromosomes of the pluripotent human stem cell colony shown after culturing for ~3 years. The sex chromosomes (XY) show that the cell line has a male origin.

Some of the survivors showed significant improvement, but others experienced greater arrhythmia and died.

"This is not about saying, what doesn't kill you makes you stronger. We want to avoid that. Before we think of clinical efficacy, let's make sure that what we're developing is safe," he says.

Having said that, there is good reason for optimism. Stem cell research has actually been around for about 50 years, and bone marrow transplants, which resulted from early research, have been helping patients for three decades. HKU haematologists conducted Hong Kong's first bone marrow transplants in 1990.

The stem cell field really shot to prominence, though, in 1998 with the discovery of the first hESCs, followed by iPSCs in 2007. Professor Li cites a comparison of stem

cell research to the state of electronics in the 1960s to suggest how quickly and how far things could advance. But given the sensitive nature of the source of stem cells, the way may not be all smooth sailing.

Ethical considerations

Stem cells entail ethical considerations that came under the spotlight under former US President George W. Bush. hESCs were discovered in the US and subsequently sourced from the unused embryos of in vitro fertility treatments, which would otherwise be destroyed. Nonetheless, the pro-life movement objected that using hESCs in research violated the sanctity of life, and Bush banned federal funding for all forms of hESC research other than lines derived before 9:00pm EDT on August 9, 2001. This ban was lifted by US President Barack Obama.

Professor Li says HKU is mindful of the concerns and sources hESCs from recognized laboratories in the US and Singapore. Hong Kong allows unused embryos from fertility treatments to be used in stem cell research, although the related law, the Human Reproductive Technology Ordinance, is concerned mostly with reproduction. Dr Athena Liu of the Faculty of Law helped to draft the ordinance, which was enacted in 2000 when hESC use was in its infancy.

The law and its code of practice address some of the key ethical points, such as securing donor consent and prohibiting donors from profiting so they will not create embryos specifically for research. Still, there are lingering issues that apply to donors of both embryonic stem cells and adult stem cells, she says.

"How is informed consent possible if the donor has no idea how it will be used?" she asks. "There is also the issue of whether the donor of adult stem cells should have the right to participate in some of the windfall, although since the law says you can't profit from embryonic research, I don't see why it should be different for other stem cells."

"The thing is, science is always racing ahead and the law is trying to keep up desperately."

That situation is behind efforts by the Faculty of Medicine to draft standard operating and guidelines for clinical trials with stem cells. Professor Li says he would also like to see the Hong Kong government get more actively involved in the field. He points out that while HKU is making advances in stem cell research, government interest and commitment lags behind other places.

Government investment is needed

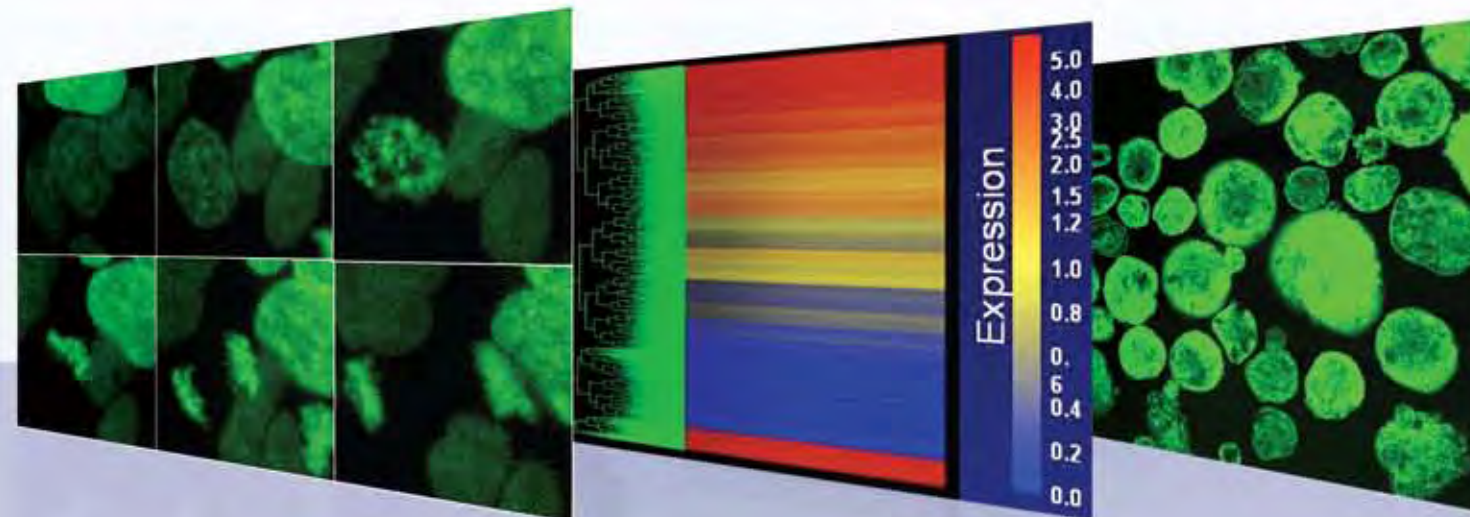
"The challenge is to keep our research programme sustainable. I haven't seen a single successful stem cell research centre that hasn't been backed by their government. These include Harvard, Johns Hopkins, University of Wisconsin (where human ESCs were first isolated) and others in Europe, Japan and Singapore," he says.

Government support accords attention and priority – and most importantly, funding. While stem cell research at HKU has had a good start, with funding from the University and donors and international experts lined up to assess projects and collaborate with researchers, this is not sufficient on its own to carry things forward, Professor Li says. A specially-earmarked funding

commitment is needed to support stem cell research across Hong Kong.

"You might argue there are already existing funds for medical research, why have another? The reason is that stem cell research is a new field and it is very difficult to compete with existing fields that have a lot more mature findings to report. It's a young field and still in its infancy, and it needs room and resources to grow. This is usually the case with major scientific advances. That's why different countries and governments are coming up with initiatives to support it," he says.

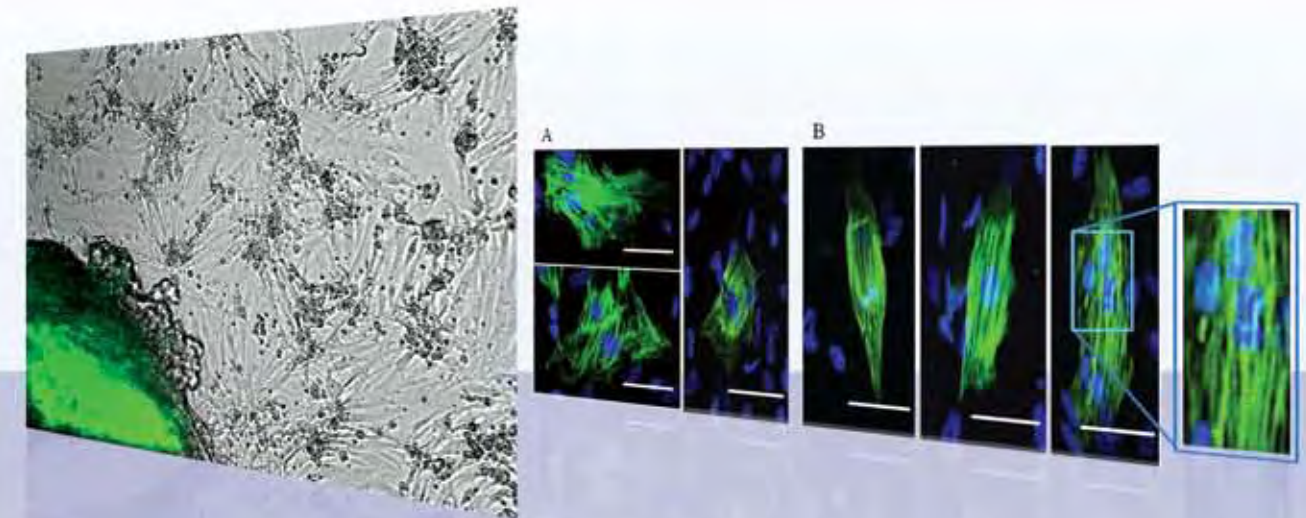
Like the stem cells themselves, the HKU researchers hope that Hong Kong, too, will receive enough government stimulation and support so they can differentiate themselves and become an international hub for academic stem cell research. ■



Real-time imaging of the chromosome of an actively dividing human pluripotent stem cell.

Examination of over 35,000 human genes expressed in human pluripotent stem cells.

Human embryoid bodies (rounded structures) that contain ALL cell types of the body, including even the most specialized ones such as brain, heart, pancreatic, liver, blood cells, etc. These specialized cells can serve as the 'building blocks' for curing untreatable diseases. Our scientists have genetically engineered them to express the so-called green fluorescent protein for tracking their origin as donors after transplantation.



Human pluripotent stem cell-derived 'cardiac pacemaker' (green), transplanted to recipient heart muscle cells, can potentially replace conventional electronic pacemakers for treating certain heart rhythm disturbances (i.e. arrhythmias).

Human Pluripotent Stem Cell-derived heart muscle cells, stained green for the cardiac-restricted protein tropomyosin, before (A) and after (B) engineering with a 'microgroove' technology. The latter display a more organized structure and better resemble what are seen in the adult heart. Scale bars = 10 μm



SAVE YOUR wisdom teeth

The Faculty of Dentistry is testing teeth as a source of stem cells and investigating a faster, more efficient way to transplant these cells.

The new medical possibilities promised by stem cells are flagged with two important considerations: where should the stem cells come from, and what is the most efficient way to put them to work in patients? The Faculty of Dentistry may have some answers.

Researchers there are extracting stem cells from teeth to grow jawbone, which could eventually help patients whose healing is compromised by radiation therapy, diabetes or heavy smoking.

They are also collaborating with the University of Freiburg in Germany to develop one-step dental stem cell transplantation, which would reduce contamination risks by doing all the extraction and transplantation in the operating theatre.

“Every person has baby teeth and permanent teeth and sometimes young patients need to extract their wisdom teeth or other teeth,” says Cheung Lim-kwong, Chair Professor of Oral and Maxillofacial Surgery. “It’s more comfortable for patients to get stem cells from their teeth than from bone marrow.”

The stem cells come from inside the pulp of the tooth and in the membrane of the ligament around the teeth. Although the volume of dental stem cells is not as great as that from bone marrow, the researchers have shown that they are at least as effective.

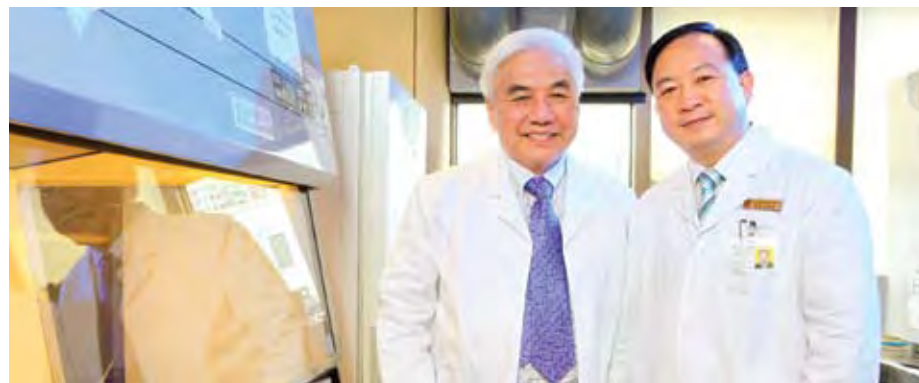
They manipulated dental stem cells to grow into jawbone and transplanted them into rabbits with jawbone defects. The result was a regeneration of bone, offering

hope to those who are disfigured due to jawbone loss.

The researchers are also keen to explore the possibilities of one-step stem cell transplantation. Everything from stem cell extraction to stem cell differentiation into the desired type of bone or tissue to transplantation into the patient, is done within the operating theatre.

“The University of Freiburg started doing this three years ago and we’re collaborating with them and getting advice. We’re trying to learn from them and build on their findings. We want to do a basic science approach to confirm it’s working so we’ve started some animal studies with this,” Professor Cheung said.

A further boost to the Faculty’s stem cell research is coming from Visiting Research Professor Herman Cheung from the University of Miami, who has successfully tested dental stem cells in cardiac repair. Professor Cheung visits the Faculty this summer and will return several times over the next couple of years to collaborate with our researchers. ■



Professor Herman Cheung (left) and Professor Cheung Lim-kwong.



HELPING AILING hearts to beat

Our researchers have been at the forefront in using stem cells to repair sick and damaged hearts.

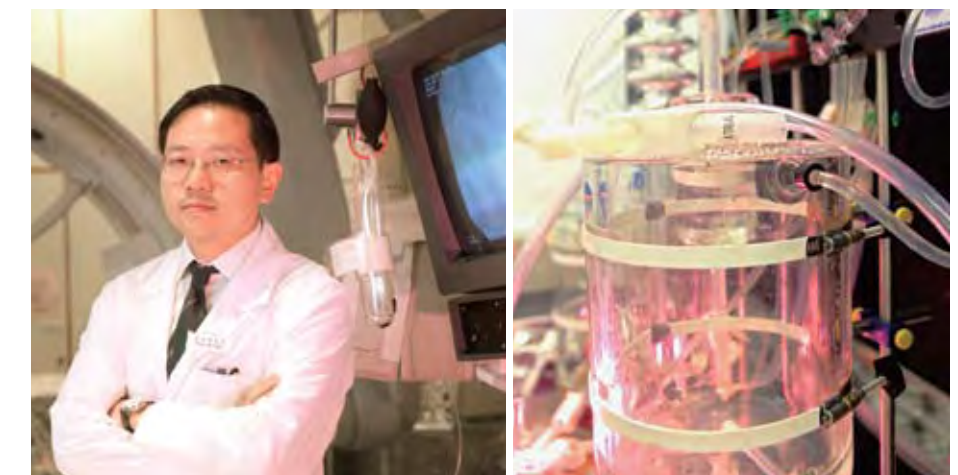
Stem cell therapies are old hat to Professor Tse Hung-fat, William M.W. Mong Professor in Cardiology of the Department of Medicine. He led a team that conducted the first human trial of bone marrow stem cells to treat patients with severe coronary heart disease in 2001, and has been focused ever since on finding the best stem cell therapies for patients.

“Despite advances in medical and surgical therapies, a large number of patients with cardiovascular disease remain severely symptomatic and have poor clinical outcomes,” he says. “Regenerative medicines are going to play an ever more prominent role in these cases, but we do have some significant challenges to overcome first.”

The bone marrow trial showed that stem cell therapy could be effective in patients who otherwise had irreversible damage to their hearts. The cells were injected into the heart through a catheter and more than half of the patients showed clinical improvement, such as better cardiac function and enhanced development of new blood vessels. The treatment was also shown to be safe. Initial trials involved 36 patients in total and a larger-scale study is now underway with about 100 patients.

However, bone marrow-derived stem cells are not a perfect solution because they are limited in their ability to generate new cells in the heart muscle. This is where recent developments in stem cell research show promise.

Professor Tse and his team have demonstrated in laboratory testing that induced pluripotent stem cells (iPSCs) – derived from adult cells – could more effectively develop into cardiac cells than bone marrow stem cells. Tests have



Professor Tse Hung-fat

supported this using small animals and the scientists are now investigating the response in pigs.

“We want to make sure it works and that we don’t get any harmful effects before we move to human trials,” he says. “It’s still a long road and also expensive, because every patient would have to generate their own iPSCs” to avoid problems of rejection. But the researchers are also looking into an alternative stem cell source that could be applied to all patients and would not have a rejection risk.

Another stream of research has used stem cell and gene therapies to develop a bioartificial pacemaker. This involves injecting cells into the heart, rather than implanting an electronic pacemaker as is done at present. Tests on pigs with arrhythmia have so far shown good results and the scientists are monitoring them to see if the bioartificial pacemaker can work well over the long term.

Professor Tse says HKU is unique in enabling its scientists to follow through their research from laboratory bench to hospital bedside.

“A lot of other institutions around the world have good people doing basic research and good people doing clinical research, but the two aren’t linked as such. We’ve streamlined the whole process so we can actually go through from basic research to human trial,” he says.

That capability has been supported by the University’s investments in stem cell research, including a \$10 million allocation for the cardiac repair programme and funding for core facilities that enable research on human stem cells. ■

Restoring Movement

The loss of movement is a frightful prospect, especially when there is scarce hope of recovery. Here, too, stem cell research offers much promise. Two lines of research at the University are exploring how to restore mobility, one focusing on the mechanics of rebuilding damaged tissue such as cartilage, the other on regenerating damaged nerves.

TURNING STEM CELLS INTO schwann cells

Damage to the neurons, or nerves, that carry signals to and from the brain can lead to the loss of sensation and paralysis. While the nerves can self-repair from minor injury, the ability to restore this signal-carrying ability after major damage has thus far eluded scientists.

Professor Chan Ying-shing of Physiology and Professor Daisy Shum of Biochemistry are among those who think stem cells may hold the answer to this problem. They are investigating neural regeneration in injured peripheral nerves and the spinal cord, and have had encouraging early results.

Their focus is Schwann cells, the principal support cells in peripheral nerves. Schwann cells form insulating sheaths around the axons along which nerve signals are conducted. Earlier experiments have shown that transplanting Schwann cells into the injured spinal cords of rats could clear up the debris caused by injury and make a route for nerve fibres to grow and transmit new signals. The problem is, sourcing Schwann cells has meant harvesting them from healthy peripheral nerves, causing new damage there.

Professor Chan and Professor Shum have managed to address this problem by deriving Schwann cells from stem cells and using them to bridge nerve defects in experimental animals.

They sourced the stem, or progenitor, cells from bone marrow and differentiated them into 'fate-committed' Schwann cells, meaning they will remain as Schwann cells and not undergo further change. They then transplanted the stem cell-derived Schwann cells into injured animals and looked for evidence that the axons were re-growing and associating with the Schwann cells. If this does not happen, the axons die and the animal may lose digits and have a contracted paw on the affected limb. In Professor Chan and Professor Shum's experiments, though, the Schwann cells did indeed bridge the gap in the injured nerve sites, resulting in a better recovery of nerve function for the animals.

"There was a great improvement," Professor Chan says. "The transplantation helped to improve their gait, which would otherwise be very distorted."

A key question is whether this approach can be used in humans. There is still some way

to go in this, but the two professors have made important progress.

For one thing, they solved the problem of stem cell differentiation by ensuring the stem cells were irreversibly 'committed' to becoming Schwann cells. If the cells were transplanted before they were fate-committed, they could develop into a tumour.

Understanding the signalling process also means the professors and their team can start to address the crucial issue of timing. It takes about six weeks to direct the differentiation of stem cells into Schwann cells, which may be too long to repair the effects of some injuries. They are now trying to find a more expeditious way of differentiating stem cells, and they are thinking long-term about how to apply their findings to humans.

"We have to test if the human equivalent can be similarly directed to differentiate into Schwann cells," Professor Shum says. "If so, the derived Schwann cells will be tested first in animal models of nerve injury. If that works, then there is hope that we will be able to use the injured person's own bone marrow cells to derive Schwann cells for transplantation therapy. That's our goal." ■



Professor Daisy Shum and Professor Chan Ying-shing.



AN ENGINEERING solution

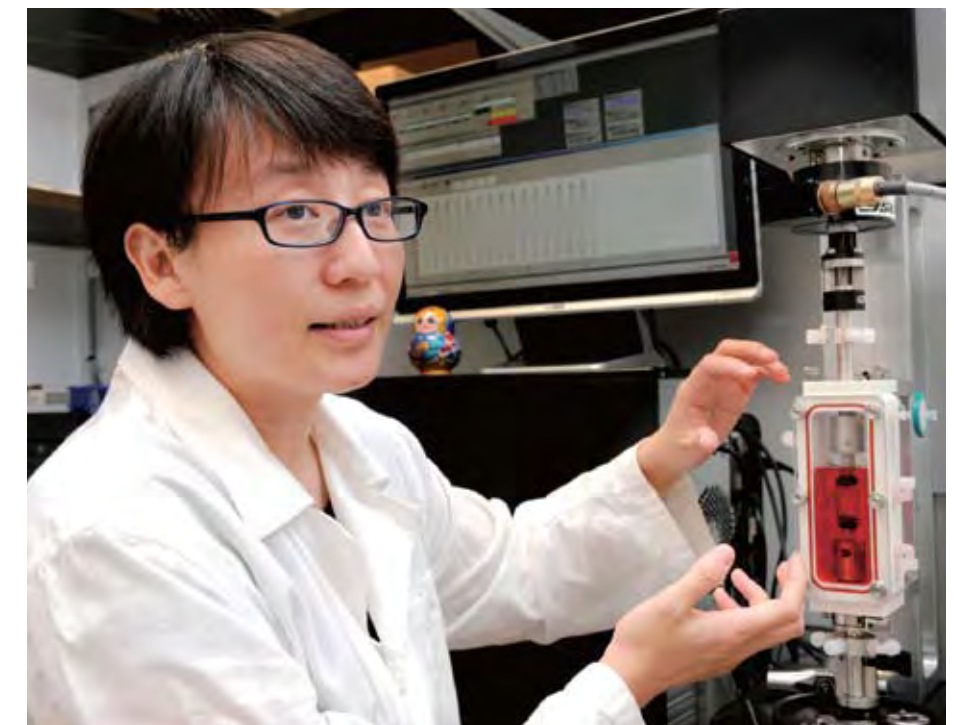
Applying engineering principles to medical problems has led to bioengineering, a field that is playing a central role in stem cell research.

Dr Barbara Chan, Associate Professor of Mechanical Engineering and her team are developing stem cells into tissues for transplant, such as cartilage, bone and inter-vertebral discs. They wrap the stem cells in tiny collagen micro-spheres, which provide a structure for the cells to develop in, and subject them to biological and mechanical signals to encourage them to differentiate, or grow, into the desired cell type.

"Stem cells are naïve cells," she says. "They don't perform any specialized function. You have to give them the appropriate 'educational programme' so they can be induced to differentiate into a particular functioning cell, such as a cartilage cell."

The 'programme' in this case involves introducing growth factors into the three-dimensional micro-sphere environment and subjecting it to mechanical loading through a bioreactor. The bioreactor is a specialized equipment that uses physical forces such as tension, torsion and compression to train stem cells to differentiate into tendons, ligaments or inter-vertebral disc cells.

In the example of cartilage cells, Dr Chan and her team were able to show that the stem cells entrapped in the microsphere underwent biological changes and developed the function, shape and structure of cartilage cells. The cartilage cells deposited new matrices in the microspheres, leading to significant mechanical changes such as increased stiffness, so that they came to resemble native cartilage tissue.



Dr Barbara Chan and a bioreactor.

To test whether the cartilage-like tissue helped in cartilage repair, the scientists transplanted thousands of the tiny microspheres into cartilage defects in rabbits, to make up one mass of tissue. While the study is not yet complete, the rabbits receiving the transplants have shown encouraging signs of repair to their cartilage, bone and the interface in between, unlike those left to self-heal. The stem cells had come from the rabbits themselves so there is no chance of rejection.

Dr Chan is now trying to secure funding to continue her studies with larger animals on the way to hopefully developing an application for humans.

"Our ultimate goal is to understand all the factors that can influence stem cell differentiation," she says. ■

STEM CELLS in cancer

A breakthrough study sheds light on the spread and recurrence of cancer.



Dr Roberta Pang

HKU researchers are the first to identify cancer stem cells that are responsible for metastasis – the spread of cancer to other parts of the body.

Their work focuses on colorectal cancer, the second most common cancer in the world and in Hong Kong. More than 50 per cent of patients develop metastasis even after adequate surgical removal of the primary tumour, and aggressive treatment of the metastasis usually fails: fewer than 10 per cent of patients with metastasis of colorectal cancer survive for more than five years. Researchers from the Departments of Medicine and Surgery have shown that cancer cells endowed with stem cell properties are the likely cause.

‘Cancer stem cells’ are like all other stem cells in that they can produce further cells like themselves (self-renewal) and also differentiate to provide more mature cell types. They are largely dormant and divide infrequently within the tumour, while the mature cells usually divide rapidly and make up most of the tumour bulk.

“What happens with current therapies such as chemotherapy and radiotherapy is that they target and kill all the rapidly dividing cells, leaving behind the cancer stem cells,” says Dr Roberta Pang, Research Assistant Professor of Medicine.

“Moreover, these cancer stem cells cannot be killed because like other stem cells, they are equipped with an intrinsic detoxifying capacity. Cancer stem cells that have not been eradicated can lead to a recurrence of the cancer because they are able to replenish the tumour mass through self-renewal and differentiation.

“The re-established tumours are more enriched by cancer stem cells and become more resistant to conventional therapies, which accounts for the more aggressive and resistant nature of recurrent tumours.”

This pattern parallels what’s often seen in clinical settings. “When patients are treated with chemotherapy, you may observe tumour shrinkage initially and the disease will seem to resolve. However, in a substantial number of patients, recurrence or a distant metastasis will then develop and the recurrent tumour usually becomes much more aggressive and resistant to conventional chemotherapeutic agents. We believe the reason for this recurrence and metastasis is the failure to effectively target the cancer stem cells,” Dr Pang says.

Alarming as that may sound to patients, the research offers hope of detecting the risk of metastasis at an early stage.

A new marker was found that detects cancer stem cells in the blood even when

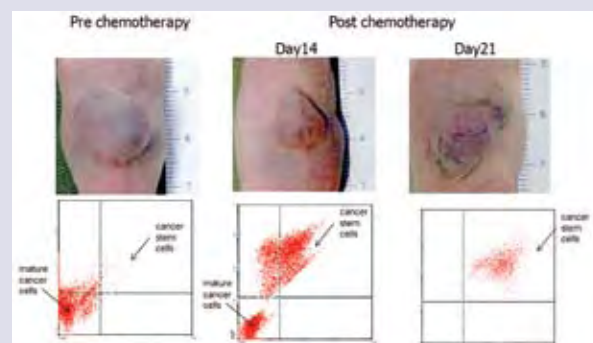
the disease is at an early stage, which can accurately predict the likelihood of metastasis. (Current monitoring consists of a blood test that is not accurate in detecting cancer recurrence and cannot detect metastasis.) This will alert doctors to be extra vigilant in monitoring.

“Patient compliance is also an issue. Some patients may attend follow-up for only one or two years and think the disease is cured. So it’s important to have a marker that can accurately predict their likelihood of metastasis,” Dr Pang says.

The HKU team has begun testing different molecular targeting drugs that can specifically target these cancer stem cells, and is conducting similar studies of cancer stem cells in gastric and liver cancer.

The findings on colorectal cancer were featured on the cover of the June issue of *Cell Stem Cell*, the leading publication on stem cell research. ■

CHEMOTHERAPY
LEADS TO
REDUCTION IN
TUMOUR SIZE, BUT
ENRICHMENT OF
CD26+ POPULATION



SECRETS OF ageing

Premature ageing may be linked to stem cell decline. One researcher has shown it can be halted.



Stem cells are the origins of all the things that bring us to life – our organs, bones, skin, hair and other features. They may also hold clues to ageing.

Zhou Zhongjun, Associate Professor of Biochemistry, has shown that stem cell numbers decline rapidly in mice with progeria, an accelerated ageing disease, unlike normal mice. Moreover, he identified oxidative stress as the cause for this and used that knowledge to extend the life spans of the mutant mice by rescuing their stem cells.

“We can’t say for sure that stem cells are the reason for ageing, but they definitely have an important role to play in the process because when you rescue stem cells, you can rescue or extend the life span of the animals,” he says.

Mutant and normal mice have almost the same number of stem cells at birth but this quickly declines in the mutant mice after a few weeks. Dr Zhou and his team found that left untreated, half of the mutant mice they tested died within 20 weeks. However, those treated with anti-oxidants such as resveratrol – a constituent of red

wine, among other things – lived to 28 or 29 weeks. In addition, the bone density of the treated mice was much greater so they had less osteoporosis, which is related to ageing.

The best results occurred when the mice were treated at one to two months old, but improvements were also achieved in older mice.

Unfortunately, that result does not yet extend to somatic cells – the cells that have differentiated from stem cells into organs, tissues and other body parts. It may also be difficult to test the results in humans.

“Our results give an impression of the relationship between stem cell decline and ageing. So far there is little evidence to show a direct link because technically this is difficult to achieve unless you could physically eliminate stem cells after building up tissues,” Dr Zhou says.

“One could imagine, though, that because stem cells are an important resource for replenishment of all these somatic cells in our tissues, that there is some correlation between stem cells and ageing. Whether it’s a consequence or cause of ageing is hard to say.

“This area of study could have practical applications in future to improve the health standards of ageing populations and find ways for them to live longer and healthier. If we could improve osteoporosis under normal circumstances, it would mean people suffer few fractures. So the results from the animal experiments should hopefully apply to human situations in future.” ■



IN THE LINE OF FIRE chinese peasants on the western front

The little-known story of China's role in the First World War is being brought to light through the remarkable research of historian Xu Guoqi.

Until now, the tale of how 140,000 Chinese peasants travelled to France to dig trenches on the Western Front, and work in munitions factories in French towns, has been largely consigned to oblivion – thanks to the secrecy surrounding their contribution.

It is a secret that has been conveniently kept, for almost a century, by both the allies and the Chinese. But, for the last ten years, Professor Xu, Associate Professor in the Department of History, has been following the trail of these mystery recruits. It is a path that has led him across the globe from Shandong Province to Europe, Canada and America.

He first stumbled upon the subject while researching his Harvard University PhD on *China and the Great War*, later published as a book by Cambridge University Press, 2005.

"When I worked on that book I noticed this issue," he says. "In 2008 I sponsored a conference in Weihai, Shandong Province on this subject, which is where most of the workers came from. It generated enormous media attention in China and resulted in a six-part documentary by China Central Television and one book of photographs and another of conference papers.

The story of these Chinese labourers, most of them illiterate farmers, has taken both the public and many historians by surprise because, as Professor Xu points out, "Even the Chinese government played a part in the cover-up."

The reason? "China, a neutral state until 1917, did not want Germany to know it had co-operated with the allies, and its officials always downplayed the importance of the labourers' recruitment." They were helped in their task by the illiterateness of the labourers who were unable to keep diaries, or pen memoirs, detailing their experiences in Europe. However, Professor Xu's detective work has unearthed materials such as YMCA reports as well diaries and personal letters of officers who had daily contacts with the Chinese labourers.

His research has also thrown light on the Chinese government's desire for internationalization and its ambitions to join the community of nations as an equal member.

"The thinking went, that volunteering to have Chinese labourers work alongside westerners in France would forge crucial links between China and the West," he explains. A further motivation was China's hope of recovering Shandong Province, part of which had been a German concession since 1898.

"Unfortunately, when Japan entered the War on the side of the allies in 1914, they did all their actual fighting on Shandong soil and soon took over the province." Later, the decision of the great powers to allow Japan to keep Shandong at the post-war peace conference, triggered the May Fourth Movement in China.

Professor Xu has helped add a human element to this period in history by

uncovering stories of how several Chinese workers fell for French women – some never to return home. One man, he says, married his 16-year-old French sweetheart and they went on to have 13 children. Another love affair did not fare so well. "He tried to bring his French girlfriend through immigration, wrapped in a big military blanket carried over his shoulder, but he was caught and she was sent back to France. I met the grandson of one man, in Shandong Province, who told me that his grandfather's only regret in life was returning home to China without his French girlfriend.

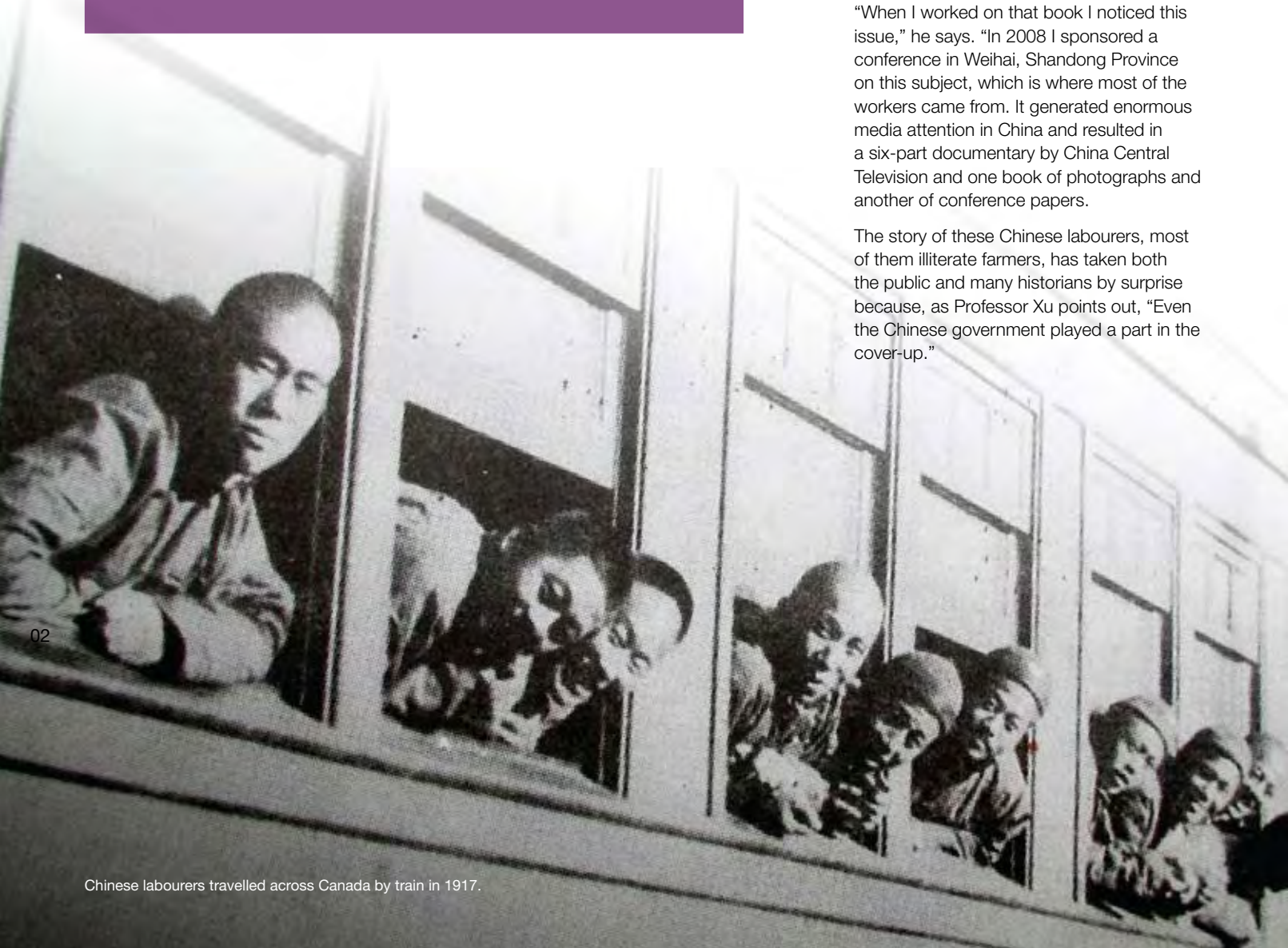
"Part of what made the Chinese attractive to French women was that many of the French men were away in the war and, although the Chinese could not speak French, they had a lot of money because the government provided everything for them – food, clothing, lodgings – so they had a disposable income." After the war three thousand of them remained in France.

Under their original contract with the British and French governments the recruits were exempt from fighting – as China was a neutral state and also a weak state that did not dare to offend Germany. "Although they were not allowed to fight many of them lost their lives, because they were on the frontline digging trenches. According to my research about 3,000 of them died, either on their way to France or in France. For example, during the journey to Europe, a German submarine sank one boat that was carrying Chinese workers, hundreds of them died instantly."

The first group arrived in 1916 to work for the French. Later both Britain and America employed Chinese workers. According to British reports, Professor Xu says, they were excellent trench diggers "because they were quite strong, most of them were aged between 20 and 40 years old and had to pass 25 different physical examinations to qualify".

"Those who worked for the French worked mainly in factories or in the villages, but on the British and American sides they travelled with the soldiers, digging trenches, transporting munitions. The ones who worked for the British suffered badly because they were on the frontline a lot of the time and the British soldiers bullied them. After work they were locked in prison-like camps and were given little freedom, gambling and miscommunication were widespread."

Now Professor Xu hopes that his research, soon to be published in book form by Harvard University Press, will help bring wider recognition of the Chinese labourers' contribution to the war effort. "Until recently these men have been all but forgotten by their own motherland," he says. "The time has come to write a thorough international history of their experience. I am hoping this book will serve as a meeting ground between Western and Chinese history and will generate international dialogue about our shared history." ■



Chinese labourers travelled across Canada by train in 1917.



A martial arts performance. Many labourers from Shandong and Hubei were skilled in martial arts and were selected as gangers for their strength and endurance.



Chinese labourers transporting shells at Proven, Belgium, 1917.



A cemetery of Chinese labourers under British control. Many died of illness or other causes.



DISASTERS AND opportunities

The response to the Great Kanto earthquake of 1923 is a recurring theme throughout history.

Acts of God, or revealers exposing social problems real or imagined, natural disasters have been interpreted and explored in various ways throughout history. Frequently, they have provided fertile ground for religious zealots, politicians and social commentators intent on peddling their individual ideologies. The Great Kanto Earthquake that reduced Tokyo to a smouldering wreck in September 1923, leaving more than 110,000 dead, was no exception.

“It caused people to think about the state of the nation and on the nature of the city in profound ways. It was modern Japan’s first national trauma. People compared it to the First World War in Europe,” says Charles Schencking, Associate Professor and Chairperson of the Department of History. “It was described as Tokyo’s baptism by fire and Japan’s unprecedented national tragedy.” It compelled people to reflect on all aspects of life – religion, science, politics, urban planning, death and mourning.

Sin cities

In looking at major natural disasters around the world, the reaction – an act of God brought on by a society’s love of luxury, materialism, decadence, and hedonism – is not unusual. After Katrina hit Louisiana in 2005, people claimed that New Orleans was a sinful city replete with gambling, social degeneracy, crime, and debauchery. Select commentators suggested that Katrina was an act of divine intervention, brought about by a desire to clean up the city.



“In terms of New Orleans those voices emanated from the margins and were distinctly religious, but in Tokyo in 1923 they came from individuals across the spectrum,” says Dr Schencking, who is in the final stages of completing a book entitled *Japan’s Earthquake Calamity*.

“In Japan, people without strong religious convictions argued that society had become too materialistic, too hedonistic, too luxury minded following the First World War.” More than a few commentators claimed that the people had brought the calamity upon themselves through their decadent, selfish, and spendthrift practices. Elites used the earthquake to admonish the people and to compel them to become more frugal, serious, diligent, and sincere.

Over the long run, it didn’t change peoples’ behaviours much. The consumption of items deemed luxuries by the government fell in 1925 due in large part to the introduction of a steep tariff (up to 1,000% in some cases) on items such as jewellery, perfume, cosmetics, cameras, and phonographic records. But by 1927, people were buying more luxuries than ever before, even with the tariffs. If people can afford luxuries they will buy them despite government proscriptions.”

Earthquake nation

Japan is often referred to as the ‘earthquake nation’ as it experiences 20 per cent of the world’s earthquakes of 6.0 magnitude and over each year. But the 7.9 magnitude Great Kanto Earthquake resulted in unprecedented death and destruction. Most of this was caused by firestorms that broke out across the city.

One response was to try and turn a tragedy into an opportunity by constructing a modern, disaster resistant city from the ashes. Almost immediately, however, plans for a grandiose reconstruction were challenged. Rather than bonding the fragments of Tokyo, reconstruction plans opened new fissures throughout the city and within the political establishment: with opportunity came contestation.

“When people developed large, expensive plans, many financial commentators claimed the nation could not afford such a reconstruction. Some suggested, in fact, that developing a great new city would ultimately be futile as it would only be destroyed again by a future calamity: Tokyo had been devastated by earthquakes and fire before in 1855 and 1703.”

Shelving the grand plans

For all intents and purposes, the grand plans were shelved and the city was rebuilt along previous lines. “Although a few structures such as schools, hospitals, and bridges became showcases of modernity, most of what was included in the grand plans never materialized.”

“There is logic to the idea of an easily replaceable city and rebuilding the city as it stood prior to the disaster, but I’m of two minds about whether the failure of the grandiose reconstruction dreams were a good thing or a shame. Looking at it from the perspective of 80 years I think if the grand reconstruction plans had been followed, Tokyo would have looked and felt very modern, impressive, and in a sense, awe inspiring. In a way, I really feel for the big dreamers who were left disillusioned.”

“But, on the other hand, the people who lived in the city didn’t embrace what planners had put forward. They fought against a total makeover of ‘their city’. The average landowner didn’t want to give up 20 to 30 per cent of his land to widen streets, build community centres, social infrastructure projects, or add green space to the capital. This was particularly true because so many landholders had lost so much and insurance failed to cover damage caused by earthquakes. People wanted to return to their normal lives, they didn’t want to sacrifice and then wait ten years for a city that would be totally foreign to them.”

Dr Schencking credits this project with making him a different historian. “When I began this book, I focused on the reconstruction of Tokyo from a political and urban planning perspective. As I delved into the archives, I realized that this calamity cut across science, religion, economics, trauma, commemoration, and memory. It was a totalizing event for interwar Japan and its people. I started this book as a political and institutional historian but as I read more and more survivor accounts, I really found myself focusing on the human side of this calamity and what it, and the subsequent reconstruction meant for average Tokyoites. As I drew myself into the human side I realized I had to bring out the stories of ordinary people. It is a history from the top down and the bottom up. ■



Dr Charles Schencking

Families in Crisis

Suicide, abuse, delinquency and other problems plague Hong Kong families, but often get scant attention or are misunderstood. Two HKU studies shed light on family-related problems. One identifies a simple way to reduce suicides that is still not being adopted across Hong Kong. The other reflects on media coverage of families in Hong Kong that often dwells on conflict and violence but may be missing the bigger picture.



"It's not to say every case of spousal or elderly abuse is newsworthy, but it is indicative that public recognition of these problems appears to be quite low," he said.

"If you don't talk about the issues, the larger societal problems often get buried. What good journalism and good news organizations can do is select issues and find ways to promote discussion about them."

Most of the stories in the study, though, focused solely on the individuals involved and treated the situations as isolated events.

The striking exception was the Tin Shui Wai tragedy in which a woman killed herself and her two children in October 2007. Because there had been other unhappy incidents in the area, the media questioned the social factors behind the murder-suicide – an indication that, with sufficient motivation, news organizations in Hong Kong are willing to look at the bigger picture.

"They asked, why this housing estate? Why were there so many problems there? What were the underlying social issues?" Mr Abraham said. "Quality journalism can ask these deeper questions and in a sense help society to reflect on itself and understand itself."

It can also help to convey solutions. However, only 1.9 per cent of the stories focused on advice, help or solutions to family-related problems, although some of this information was contained in other stories, such as surveys and government policies.

The study has provided input to a larger on-going project on family problems and family health, happiness and harmony in Hong Kong, conducted by The Hong Kong Jockey Club Charities Trust and the School of Public Health. The "FAMILY: A Jockey Club Initiative for a Harmonious Society" and the JMASC study are funded by the Jockey Club. ■

The Journalism and Media Studies Centre (JMASC) reported these findings after studying 2,430 news reports and commentaries over six months in four major Hong Kong newspapers and the ATV and TVB newscasts.

Family-related stories made up less than three per cent of all stories covered and more than half of the stories concerned violence, such as murder, suicide and assault, or juvenile delinquency.

"We were surprised at how limited the overall coverage was, only three per cent. A large part of our lives revolves around family, so some of our biggest problems will be family-related," Thomas Abraham, Assistant Professor of the JMASC, said.

Curiously, only certain kinds of violence tended to be covered. A comparison of stories with cases reported to the Social Welfare Department showed 71 per cent of child abuse cases were covered in the media, but only five per cent of spousal abuse cases and two per cent of elderly abuse cases.

A SAD STORY to tell

Media coverage of families in Hong Kong dwells, unsurprisingly, on conflict and violence. But it may be missing the bigger picture, a study finds.

Many families in Hong Kong live with financial pressures, lack of space and a host of other social problems. But when these problems explode into conflict and violence, it's the act, not the underlying cause, that the media zoom in on.

And when the act involves spousal or elderly abuse, they almost ignore the story altogether.

CONTROL CHARCOAL SALES AND save lives

Suicide by charcoal burning is the major reason for fluctuations in Hong Kong's suicide rate and the leading cause of suicide in Taiwan. It needn't be so, according to a HKU study.

The findings of a pilot study on restricting of sales of charcoal in Hong Kong were everything Professor Paul Yip could hope for: they pointed to a way to reduce suicides, they were evidence-based, they received international recognition. The only problem is, the results have yet to be put into action to help Hong Kong people territory-wide.

Professor Yip and his team conducted a one-year study comparing suicides in Tuen Mun, where charcoal packs were removed from the open shelves of major retail outlets, to those in Yuen Long, where charcoal was sold openly as usual. Charcoal burning-related suicides fell sharply in Tuen Mun, by 31.8 per cent, but similar results were not seen in Yuen Long. Apparently, the lack of easy access to charcoal frustrated potential suicides or made them think twice, and they didn't follow through. The results compared to an overall drop in Hong Kong's suicide rate of 5.7 per cent during the same period.

Encouraging as the results were, though, they have not yet had much impact on charcoal access in Hong Kong. Wellcome Supermarket dropped the system of restricted access after the study period and Park 'N' Shop has yet to extend it to its other stores.

Professor Yip, who is Director of the Hong Kong Jockey Club Centre for Suicide Research and Prevention, has been negotiating with these two major supermarket chains and others for well over a year to lock up all of their charcoal.

"We are grateful for their participation in the study, however, we are frustrated that they don't want to continue. It is not that difficult for them and we are helping vulnerable members of the community," he says.

"People say, why control charcoal? They can still jump off buildings. Yes, they can do that, but the point is that those who attempt suicide are usually not good at problem solving. Their cognitive thinking is different from us. So if you take away a means of suicide that is very appealing to them, they will have problems finding another means.

"The whole rationale is to make it more difficult and buy time. Once we have bought time, we have an opportunity. Their family members and friends can intervene before they do anything, and they can also seek help."

Burning charcoal, which can lead to carbon monoxide poisoning, is appealing to potential suicides because it is considered easy and clean and it can be done at home. Eighty per cent of charcoal suicides are

committed at home, which adds to the imperative to control sales.

"Charcoal burning started with one person in Hong Kong in 1998 and by 2003, 320 people committed suicide this way. All other causes had very little change, only charcoal burning went up. By 2009 the number had come down to about 120. I would say 60-70 per cent of the rise and fall in Hong Kong's suicide rate has been exacerbated by charcoal burning. The situation is even worse in Taiwan," he says.

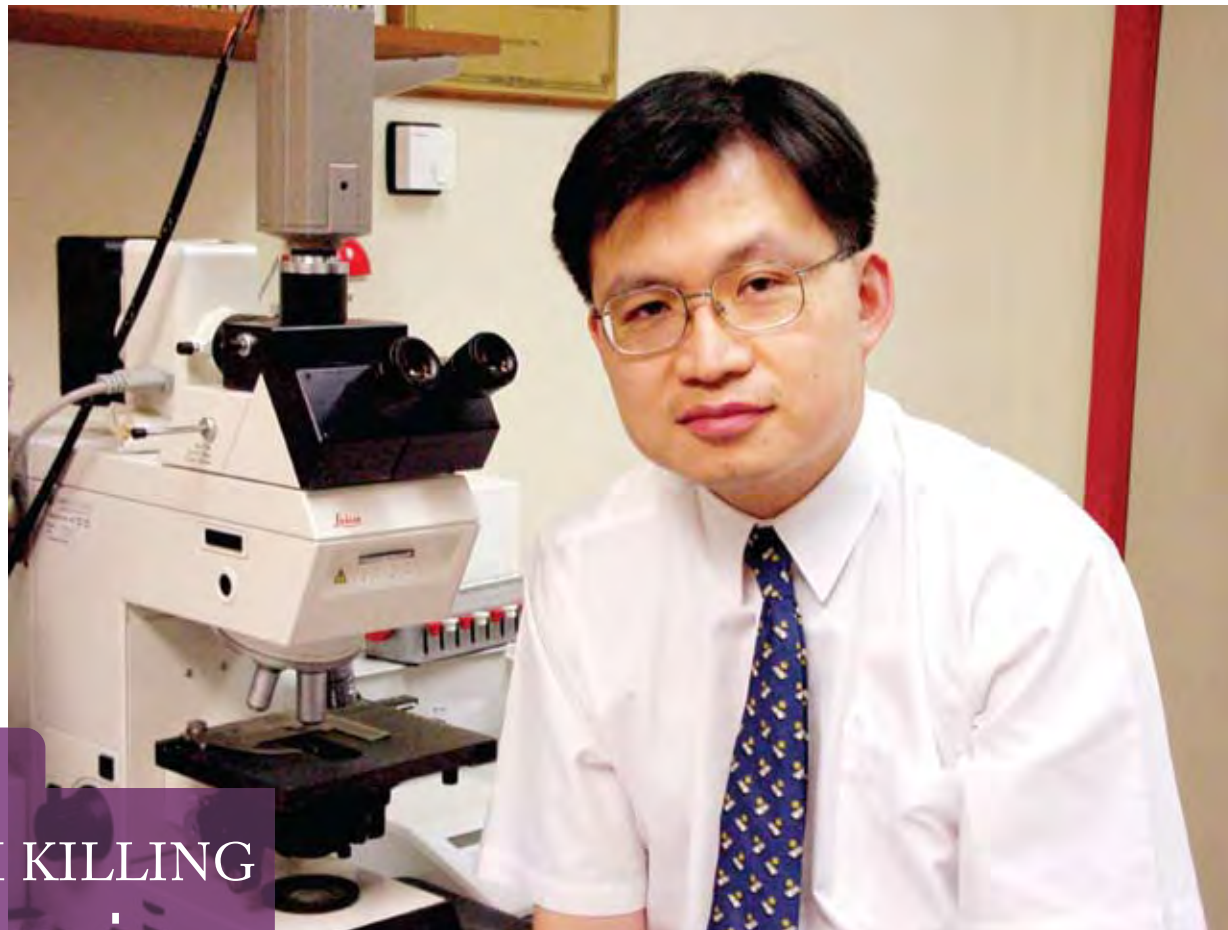
There is a precedent that product restriction can reduce suicides. Suicides in the UK fell after sales of paracetamol were limited to packets of at most 24 tablets in the late 1990s, making it difficult to overdose on the product without making multiple purchases.

"Evidence-based research has shown that restriction of means is one of the most effective measures to reduce suicides," Professor Yip says.

"We can't prevent all suicides but at least we can make a difference. We can help to reduce the number."

The results of Professor Yip's study have been published in the *British Journal of Psychiatry* and reported in the *British Medical Journal* and the publication of the International Association for Suicide Prevention. ■





Professor Kwong Yok-lam

FROM KILLING to curing

No longer the preserve of homicidal maniacs, the development of oral arsenic as Hong Kong's first ever patented drug reveals a story of ingenuity, innovation and perseverance.

Arsenic may have a reputation as the wronged wife's preferred poison but this ancient compound is proving a lifesaver for patients of acute promyelocytic leukaemia.

A decade in development the drug is the first, created entirely in Hong Kong, to secure a US patent and is poised to attain global status as a hospital prescription medication making it affordable and accessible to patients.

Created by a small team in the Department of Medicine, the ingenious development is based on meticulous and diligent research.

Professor Kwong Yok-lam, of the Division of Haematology/Oncology and Bone Marrow Transplantation, says he was inspired to continue the work, despite many setbacks, by his patients.

"Perhaps if I had been working in a lab I might have given up," he explains. "But I carried on for the sake of the patients, they needed a cure and that inspired me."



Working together with Professor Cyrus Kumana, Emeritus Professor and Chief of the Division of Clinical Pharmacology and Therapeutics, his persistence paid off with an almost 100 per cent cure rate.

So far, more than a hundred leukaemia patients in Hong Kong have been treated, the majority of whom have been cured. Professor Kwong places the success rate at 98.2 per cent.

Despite its reputation as a deadly poison the team has shown oral arsenic to be a safe and effective compound, far safer than the currently-used alternative, intravenous arsenic, the toxicity of which can cause abnormal heart rhythms and even death.

Indeed, oral arsenic is so effective that in Hong Kong it has replaced bone marrow transplantation as the standard treatment of patients suffering acute promyelocytic leukaemia, and is also being used in the treatment of other blood cancers, including lymphomas and myeloma.

Professor Kwong explains how he stumbled upon the cure. "It has been used for many hundreds of years in Traditional Chinese Medicine," he says. "There are many entries in medical texts about arsenic being used. Even western medicine started using it about 200 years ago, and we utilized it

at Queen Mary Hospital until the 1950s, when it fell out of favour as alternative drugs were developed. Doctors who have been educated in the last 20 years, or so, may have been completely unaware of its medical uses.

"Then, a team in Harbin, in China discovered that intravenous arsenic trioxide was very effective in the treatment of this type of leukaemia."

That set Dr Kwong off on his mission to develop an oral alternative, and he spent many hours ploughing through the archival records at the Hong Kong Medical Museum to determine a safe dosage. After two years of research – without any funding – the team successfully prepared an oral formulation that proved effective in clinical studies. All that remained was to secure the US patent, which took another seven years.

The reason? A US team had already developed its own version of the intravenous treatment. However, at a cost of around US\$2,000 a day, or US\$50,000 a month, the intravenous treatment is beyond the budget of most patients, particularly those in developing countries.

"Our treatment is a fraction of the cost, and has virtually no side effects." Which means that when it becomes widely available it is

likely to become the sole treatment for acute promyelocytic leukaemia.

The University is now investigating the feasibility of making oral arsenic available on compassionate grounds to patients in developing countries. As it is proven to be safe, and can be conveniently prescribed in an outpatient setting, such a programme would potentially save thousands of lives, particularly in Third World countries. In Hong Kong it is likely to be administered free of charge.

Professor Kwong says, "Hong Kong has never invented a drug before, this is the first time and we did it without a grant. I didn't even apply for a grant, because I didn't think I would be able to secure one. At the time I was only a young academic with little track record in research. Also, in applying for a grant I would have had to explain my methodology and I didn't want to risk doing that and losing the chance of securing a patent.

"But I want people to know that if you want to be innovative you do not necessarily need huge funding. We have made a contribution to medicine without funding and have come up with a drug that can be taken conveniently and economically." ■



Left : Intravenous arsenic trioxide used about 15 years ago.

Middle: Current oral arsenic trioxide used at Queen Mary Hospital.

Right : GMP standard oral arsenic trioxide produced by HKU.

TAKING the rap

Hip hoppers are taking China by storm.

In most people's minds rap music is associated with voices from the margins of society and with black ghetto angst in particular. So the notion of Chinese hip hoppers may seem rather absurd.

Yet, the rap music scene in China is thriving. Since its emergence in Beijing in the 1980s it has spread to all major cities including Shanghai, Kunming, Tsingdao, Shenzhen, and even far-flung Urumchi.

Of course, as with Communism, the Mainland's take on rap is uniquely Chinese. "It's fashionable because it's a western art music form," says Dr Lee Watkins, who studied rap in South Africa, before taking up his position as a Post-doctoral Fellow in the Department of Music, last year.

"Hip hop is a fashion, it's 'cool' to be a hip hopper and learn a few dance tricks. African American rap is quite in your face, it has a lot of anger, but the Chinese hip hoppers are saying they are not experiencing gangsterism, or drive-by's, so there's no need for them to sing about that."



Indeed, it seems rap is hot in China simply by dint of being a western art form. "If it's western it's considered fashionable" explains Professor Watkins. "Even western classical music is; there's a strong drive to play western instruments, partly because they appear to be new but also because they allow a certain freedom that is not experienced so much in Chinese education, for example. Chinese culture has so many restraints to work through."

"Rock music in China in the early 1980s was also embracing this newfound freedom in China after the Cultural Revolution, and allowing young people to express views that may not have been consonant with the interests of the rulers."

Today, the another youth-dominated music genre – punk – is still fashionable amongst Chinese high school students. "It's usually a teenage phase and a way of expressing their frustrations with entrance examinations."

Government censorship relieves Chinese rap of the sting of its western counterpart, so no railing against the state here. "There's a lot of censorship," says Dr Watkins. "So language is used to suggest things, because if they say things in an outright manner it could elicit censorship."

"Censorship means they won't make as much of an impact on the music scene or develop a fan base. Early on rappers had to use record producers approved by the state and of course they would not produce music with confrontational messages."

Having grown up in Cape Town, where South Africa's first rap music scene flourished, Dr Watkins developed a natural interest in hip hop. "As an area of research it appeals to me because these are voices

from the margins. It challenges one to think critically but also, musically, I find it fascinating the level of musical knowledge and creativity that these people have."

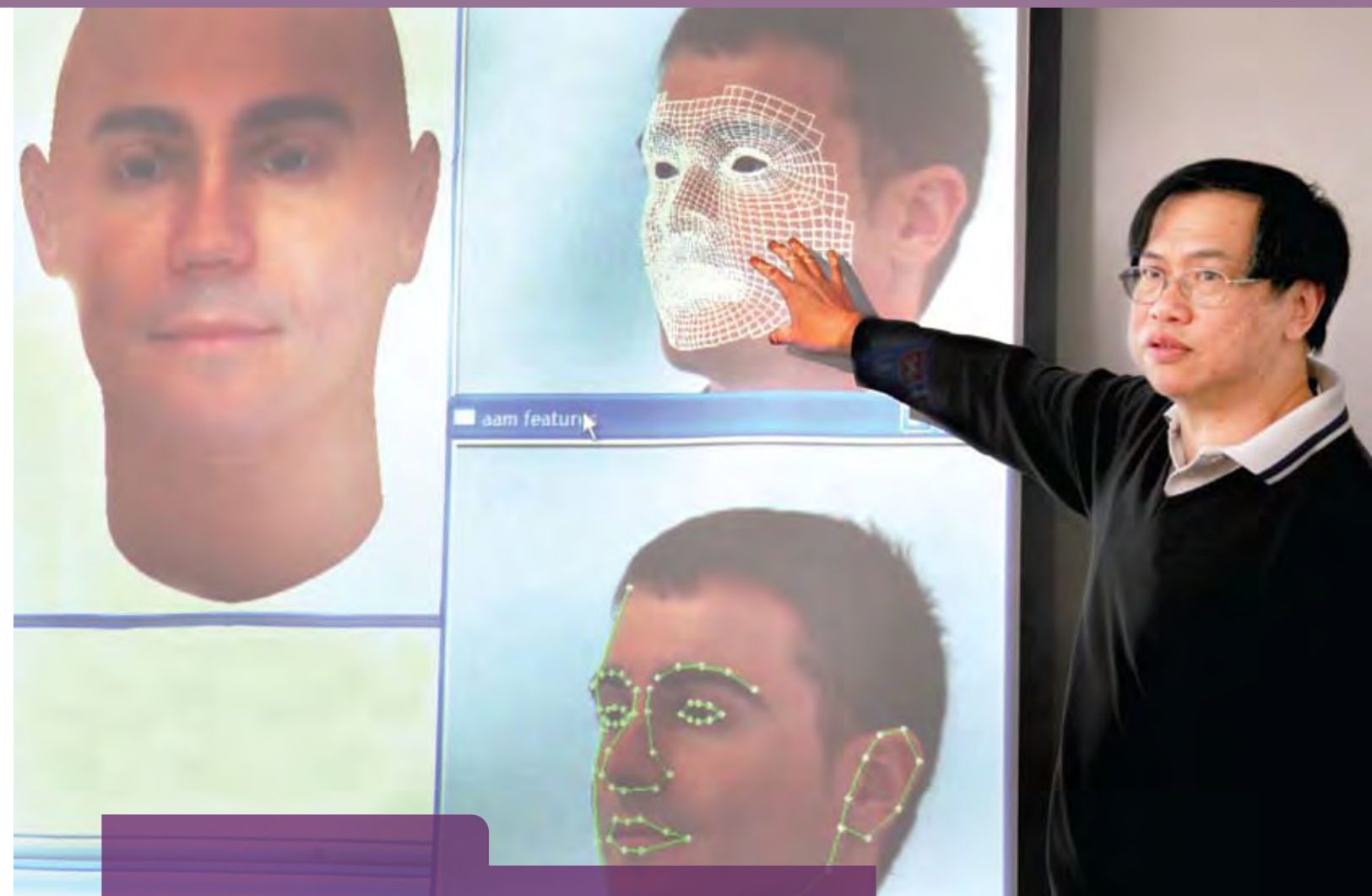
"Rap music actually brings together many different musical forms into a four minute piece of music. I find it fascinating how music from all these different locations work their way into one song. And I realized also that Chinese rap music is under-researched."

He's now combining anthropology with the musicological aspects of rap music. "A lot of aspects of hip hop are underground," he says, "and the opening up of the Internet has provided another avenue for expressing opinions."

"As far as the government in China is concerned as long as it stays underground, if it doesn't take to the street to mobilize the masses, then it's okay. At the moment it happens in nightclubs, it's seen as entertainment. In China, many of the symbolic associations of hip hop and rap music do not apply; they are only interested in one aspect of it, and turning it into a commodity."

"If they sing about political or social issues at all they tend to concentrate on the growing divide between rich and poor, the difficulty in finding employment for young people. They don't address state policies as such, there's no direct confrontation with the state, it's rather about issues affecting youth and so on."

"It's not like African American rap and French rap music where it's very direct. In South Africa and the United States people have realized the potential of rap as a money-making activity, with clothing lines and production companies. But the Chinese may not be looking towards making fortunes from it." ■



NEW TECHNOLOGY to help fight crime

A unique innovation from the Department of Computer Science is turning heads.

Crime conscious scholars have developed a state-of-the-art facial recognition system that could help law enforcement officers correctly identify suspects partially caught on surveillance video.

The technology, developed by a five-man team in the Centre for Information Security and Cryptography, can detect and extract the features of a partial face caught on video and reconstruct a three dimensional model of the face, eliminating hours of manual labour and potential human error.

Associate Director of the Centre, Dr Chow Kam-pui who led the team with funding of \$1 million from the Innovation and

Technology Fund, said, "In normal cases of facial recognition we usually have a frontal view of the face, like when you go through Immigration, but in this case the face has to be in the right position for the computer to recognize it. If not, it will tell you it does not correspond to the full frontal image on the database and therefore is not the same person. This is problematic."

"Again, many surveillance videos of people often do not capture full frontal images and, in terms of law enforcement, this means trawling through hours of footage manually, which is time consuming and the quality may not be good so the recognition rate is low.

What we are suggesting is automating the system so that if law enforcement officers have to go through surveillance video searching for a suspect they do not have to do it manually. It can be automated and thus save time and eliminate human error.

"The idea we are using is quite interesting. The basis is a generic three-dimensional image of the head which can be manipulated to produce a full-frontal 3D image from the available photograph, giving us a very good match. This is new to the commercial market. We can reconstruct the hidden part of the face to create a full face, and this gives a 90 per cent match."

At the current stage, the system is used on digital CCTV cameras, rather than the analogue ones which are still the norm. However, the team's demonstration prototype has attracted much attention, including a visit from a team of Hong Kong Immigration officers.

Dr Chow and his colleagues are now in talks with manufacturers to integrate the software into existing face-recognition systems. ■



LAUNCHING THE common core

A curriculum innovation at HKU will equip students with global perspectives and increase their understanding of their place and responsibilities in the world.



Professor Amy Tsui



Derek Kenneth Ko

The Common Core is an innovative new programme introduced from this September to achieve two aims: phase in changes in preparation for the launch of the four-year curriculum in 2012, and prepare students to deal with the complex issues faced by humanity in the 21st century.

All new undergraduate students will be required to take courses outside their major selected from four Areas of Inquiry: scientific and technological literacy, humanities, global issues, and China: culture, state and society. The Common Core is unusual in that it focuses on issues, rather than strictly knowledge, and aims to show the interconnectedness of human experiences.

"A university education today needs to equip students with the ability to cope with an increasingly complex world where there are fewer moral certainties and more moral dilemmas," says Professor Amy Tsui, the Pro-Vice-Chancellor overseeing the curriculum reform and a keen advocate of the Common Core.

Eight courses were tested out in 2009-10 and their subjects give a flavour of the issues being addressed. One course, for example,

was titled *Feeding the World* and looked at the economic, technological and political issues involved in getting food to tables. Another was *Sexuality and Gender Diversity: Diversity in Society*, which looked at the legal, social and identity implications of sexuality and gender. Student feedback on the courses was highly positive.

Derek Kenneth Ko, a third-year student doing a BSc in Exercise and Health, took the Sexual and Gender Diversity course.

"The things you learn in this course are applicable to your daily life and you see things in a new light. It's a knock on the door to stop judging people. Being homosexual or transgender or into BDSM [bondage-domination-sado-masochism] doesn't define who a person is, it's just part of who they are. You learn to look at the whole person rather than one aspect of them," he says.

The Common Core courses are to replace the more general broadening courses that have been offered to students to date.

They have a much higher intellectual and workload demand as reflected in the credits assigned – six for Common Core, three for broadening courses.

From this September, all new undergraduate students have to take two Common Core courses from a choice of 67, while current students can continue to take broadening courses or, if they wish, take Common Core courses in lieu to fulfil university requirements. When the four-year curriculum rolls out in September 2012, new students will take six Common Core courses from a choice of 150, with at least one from each of the four Areas of Inquiry. This is to ensure students get the broadest possible education beyond their subject majors.

"We want our students to be global citizens who are capable of dealing with ill-defined problems, and who are able to be leaders and advocates in improving the human condition," says Professor Tsui.

These are lofty goals indeed, but the expectation is that HKU will be a leader, globally, in establishing a modern curriculum to meet today's challenges. ■



THE HOLY GRAIL of teaching

Students participating in the Faculty of Social Sciences' Migrant Outreach Education Initiative (MOEI) teach English to people in need in Asia and invariably emerge inspired to do more. For the Faculty's Dean, that is proof that the lessons are being learned.

Professor Ian Holliday has long been enchanted by the Burmese people, both academically and personally. Now they are casting a similar spell over his students.

As Dean of Social Sciences, he set up the MOEI programme in 2008 to help Karen migrants on the Thai-Myanmar border and to provide students with a social innovation and global citizenship opportunity, as required for new graduates. The rewards have far exceeded expectations.

Students spend six to eight weeks teaching English to Karen adults and children, and many of them come back determined to see the programme help more people. The MOEI alumni have convinced the Faculty

to establish similar programmes in China, Cambodia and Hong Kong.

"When you have students coming back to you and saying, why don't we take it here, can we try this – that's the holy grail of teaching, really. That's exactly what you are looking for," Professor Holliday says.

"Institutions like HKU shouldn't be just an ivory tower. Even though we're research intensive, we have a responsibility to humanity. We need to reach out to communities in need of education, and I'm thrilled and delighted to extend the programme to new places. These programmes may not all take flight but we try our best to make them work."

The MOEI programme benefits not only the communities, but also the students. Vania Ho, a Year 2 Psychology student, never thought she could teach before signing up (training is provided). Nor was she much interested in learning about other countries. But during her time in Thailand, she gained confidence as a teacher and learned the

predicament of Karen families who had been separated. People yearned to return to Myanmar, but were unable to do so.

"These are the hardest-working and sweetest people I have ever met. They are very proud of their nation and their ethnic group, and they always talk about how beautiful their country is and how they miss their families," she says.

"After this trip I started looking more at problems that other countries are facing. I treasure my relationships with my family more and the education opportunities I have. I changed my mind on how I should treat my parents, and I value family life and my friends more."

Following the internship, Vania went on exchange to Singapore and told people in her church there about her experiences in Thailand. This prompted them to arrange a follow-up trip to the region this summer.

This desire to go back or extend the experience has also been seen in the

MOEI alumni who helped to set up programmes for disadvantaged people in China, Cambodia and Hong Kong. They do all the coordination and training of new participants, and help to sort out logistics such as accommodation.

Many of the participants are selected from overseas universities, adding to the international flavour of the programme.

"The aim is to make learning English as fun as possible," Professor Holliday says. "We train our students in interactive language teaching methods that build confidence and enthusiasm. They tend to come back much more worldly and committed and focused and interested. It lights a fire inside them and opens a passion that they then build on their own once they finish teaching."

Further information on the MOEI programme can be found at <http://www.hku.hk/socsc/moei/2010/>. ■

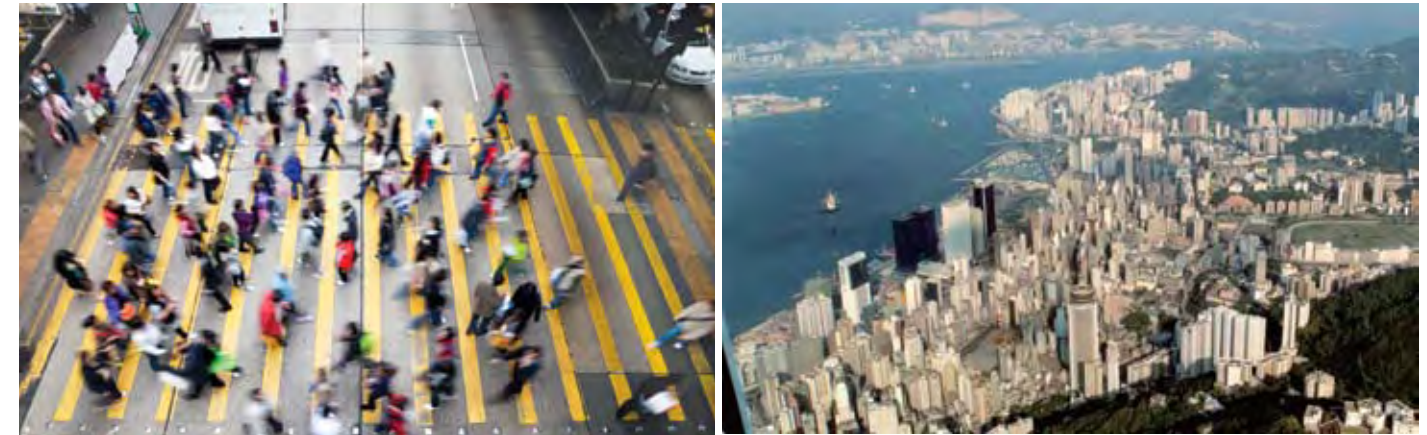


HONG KONG: centre of trade – and history?

Hong Kong has unique advantages for scholars of international history.



Professor Chen Jian



Hong Kong is a city that has been and continues to be shaped by international forces. Fittingly, the Department of History is drawing on this background to position itself as a global centre of international history, which is concerned with relations between nations and groups of nations.

“Hong Kong is distinctive not just because of its geographical position, but also because it is a mixture of all kinds of historical forces,” says Visiting Research Professor Chen Jian, a distinguished scholar in the field.

“Its position leading up to 1997 and after are closely related to the transformation of the field of international history. We saw the de-emphasising of the American-centric perspective and an understanding of internal factors in East Asia and China. Hong Kong today is a product of these international factors. It is a focal point of international, inter-societal and intercultural studies.”

And HKU has the potential to be the focal point in Hong Kong of these studies, he says. It has a strong group of scholars in the field and two relevant strategic research themes: China and the West, and Contemporary China.

“The great challenge facing the university is to make these two themes not just HKU’s themes, but to link them to the larger academic world. Hong Kong is located between the most rapidly emerging economy in the world and the larger world, and it is a window and a bridge for them. How can we develop the potential of Hong Kong into a reality? Through strengthening international study. We can’t make it a centre

of international history overnight but we can greatly enhance Hong Kong’s position.”

Professor Chen represents one of the efforts to enhance that position. He is one of the leading lights in international history and holds a chair professorship at Cornell University, as well as academic posts at East China Normal University in Shanghai and the Woodrow Wilson International Centre for Scholars. As a Visiting Research Professor, he is spending six to eight weeks here each year over four years meeting with students and researchers, making speeches and presentations, and helping to organize workshops. The Department is also developing academic exchanges in international history and organizing conferences on the subject.

Professor Chen’s area of specialty is Cold War-era international history, including China’s development and its relations with the world. He has a foot, and deep experience, in both places: apart from his academic ties, he is a former Red Guard who spent two short stints in prison, and he is based in the US and shared in a 2005 Emmy Award for the documentary *Declassified: Nixon in China*.

“People have two tendencies about China. One, they think its rise is irreversible, that we’ve already reached a stage where it’s an established fact, which I don’t think is the case. China’s age of revolution has created a huge legacy that still needs to be digested and understood. There are factors that could affect its position. Corruption and the one-party dictatorship are really big challenges for China.

“The other tendency is that people think China’s rise will present a huge threat to the rest of the world. But China’s challenge is not to challenge other parts of the world, its challenge is to meet its internal challenges.”

Professor Chen’s role is to bring a historian’s perspective to bear, so people can consider the forces that shape today’s world.

“I’m not a big theory person. I think our task is just to tell a good story and make sense of it. People who have lived through some interesting recent past are interested in knowing how and why things have happened. Mao, China and the Cold War books sell. It’s academically meaningful and sound, and it’s also interesting.”

The Visiting Research Professor Programme was started in 2009 to attract leading scholars from overseas whose areas of specialty can benefit research at HKU and who can nurture young scholars. Sixteen academics have been appointed so far and they will visit regularly over three to four years for six to eight weeks each time. “By bringing in senior, active and well-known researchers for substantial periods, it is hoped that a deep and lasting partnership could develop,” Professor Paul Tam, Pro-Vice-Chancellor for Research, said. ■

HONOURS FOR first-in-the-family education fund

A fund that helps students from low-income families to participate in exchanges and other learning activities outside the classroom has received international recognition.

The University's First-in-the-Family Education Fund (FIFE Fund) has won top honours in the Council for Advancement and Support of Education (CASE) Awards, an international competition that attracted more than 2,800 entries.

The FIFE Fund provides grants of up to \$10,000 to students who are in the first generation of their families to attend university and who come from low-income families (less than \$12,000 per month), so they can take part in enriched learning activities. It has benefited more than 450 students since its launch in 2008.

The fund received the Overall Grand Gold Medal and the Gold Medal in Fundraising

at the 2009 CASE awards, which were announced earlier this year.

One FIFE Fund beneficiary, electrical engineering student Cindy Cheung Tsz-kwai, has stretched her grant over four trips. She has gone to Sichuan to help re-build an earthquake-damaged school, to Japan to learn about new electronic technology, to Beijing to represent HKU in the National Challenge Cup for student projects, and to France to learn more about renewable energy.

Cindy's mother is the sole breadwinner in the family and works as a cleaner on construction sites.

"Without this fund, I wouldn't have been able to join these activities because I have to consider my family's financial situation," Cindy says. "My mother works hard to support me and my brother, who is also in university, and I don't want to increase the financial burden on my family."

She managed to get so much out of the grant by combining it with other funds where possible and watching her pennies.

For the Sichuan trip, for example, the flights and hotel were covered as part of the project but she needed money for food and local transportation. The trip brought together students from several faculties to re-build a primary school and equip it with advanced technologies, and her contribution was to help build a solar power system.

The success of that trip resulted in the Beijing competition, where her team won the Supreme Award. They presented a paper showing the technologies they installed in Sichuan could be used to bring Internet access to schools in remote regions.

FIFE Fund applicants have to provide detailed calculations of their expenses and show how they will use the money. They are also required to share their experiences with other recipients and provide them with leadership.

"The program is good for students because it also teaches us to pay forward. Hopefully some day we could also create opportunities for others," Cindy says. ■



Cindy Cheung (back fourth from right), together with other HKU students, helped to re-build an earthquake-damaged school in Sichuan.

STARDOM, chinese style

A new book from HKU Press investigates the Mainland's unique take on superstar culture.

Perhaps one of the most striking features of 20th century popular culture was the emergence of the global celebrity. The new mediums of television and film fuelled a hunger for glamour beyond the reaches of the ordinary citizen, and the emergence of the Internet has taken that preoccupation to a new level.

Celebrity culture, once restricted to royalty and biblical or mythical figures, is now a pervasive aspect of everyday life, and few countries have been left untouched. The People's Republic of China is no exception.

Surprisingly, however, although a substantial body of academic literature exists on celebrity culture in Australia, Europe and the Americas, in China the phenomenon has been largely overlooked. Or, at least it had been until earlier this year when the HKU Press published *Celebrity in China*, a collection of eleven essays exploring the various types of fame from popular culture – film, music, dance, literature, and the Internet – official culture – military, political, and moral exemplars – and business celebrities.

The book's co-editor Louise Edwards, of the School of Modern Languages and Cultures, explains: "One of the reasons we wrote the book was because we figured celebrity in China is not the same as it is in the west. It does operate with some of the same mechanisms, and some of the same patterns and, externally, it looks quite similar – people are marketed in a similar

way – but there are aspects that are quite unique to China, and that are a result of a socialist system and a one party state which tries to control popular culture products."

"The other thing that celebrities in China have to do, which is common in the west but not as prescriptive, is be a philanthropist. They are expected to give back. So you have Jet Li's One Foundation and the Jackie Chan Foundation."

The attitude, she says, reflects a mixture of Confucianism and Buddhism. "Because there's been a long tradition in China of the big people in town being asked for donations. There is a sense that if you have achieved great things then you do have a duty to look after the less fortunate. Your success is a community success, and you have a duty to put some of it back."



One other unique aspect is the extent to which the state tries to manufacture celebrities. "Since the 1930s, the Communist Party has been really enthusiastic about creating exemplars for people to live up to – model workers, peasants, soldiers. They are still doing this, but they are trying to adapt techniques from the celebrity sphere and put it into the political celebrity mould, like military celebrities, Glorious Mothers and chastity martyrs, who have become famous as a result of party organs like the All China

Women's Federation and the People's Liberation Army. To a certain degree this is successful and these are positive role models. In China, there is less of negative celebrities and the government is very keen to promote positive exemplars for the new market economy."

One chapter focuses on billionaires who are making money from sharing their knowledge on how they became rich through the sale of videos and television appearances. "This is the entrepreneur giving back by telling other people how they can become personally wealthy as well; rather ironic in a Communist state, but the government is right behind them."

In China, celebrities are also expected to be exemplars of good behaviour "and people get cross if they are not. This attitude is not just derived from the Soviet model, it comes from a combination of the interaction between a socialist system and a Confucian system which had many exemplars as well."

Celebrity, Professor Edwards explains, grew partly out of the need for heroes, for someone who could be something the ordinary person could not, someone to look up to. "But also an important sense of patriotism in contemporary Chinese concepts of celebrity. These heroes are globally circulating icons that represent China's international rise to many ordinary people. So, if you have an internationally famous pianist, like Lang Lang, then you celebrate his international fame, and you feel proud as a Chinese person because he's done well. Yao Ming is another example – one who's made it big in basketball in the place that matters – the USA – makes us all happy to be Chinese."

"These celebrities represent the hopes and dreams of the nation so the reaction to celebrity is somewhat more positive in China than it is in the west," she says.

As the first book on celebrity in China Professor Edwards and her co-editor, Elaine Jeffreys, Associate Professor at the University of Technology in Sydney, deliberately chose a spread of different types of celebrity. Now they're hoping their book will encourage further research in this fascinating area. ■

Celebrity in China edited by Louise Edwards and Elaine Jeffreys, published by Hong Kong University Press.



Macau: Channeling the god Jigong through spirit-writing, to commemorate his official canonization as 'Intangible Cultural Heritage' by the PRC Ministry of Culture.

Other groups have played down their religious status to secure official blessing. Communal folk religions, for example, increasingly are being revived and securing official designation and protection as 'intangible cultural heritage' from the Chinese government. "Very often what gets designated are the ritual traditions and even the local gods. It's a kind of canonization of the gods as intangible heritage," Dr Palmer says.

Behind this revival of religion is a change in the role of religion in Chinese society. Traditionally it provided social cohesion through such things as ritual and festivals. It straddled and connected the spiritual, moral and material in ways that were not familiar in the West. But that function began to change about 120 years ago, when China came under attack from the West.

"People were trying to figure out how Western countries had become so strong and they came up with two responses. One

was that it was because of their Christian religion, which has institutions, churches that are distinct from other aspects of society, and which makes quite a strong distinction between the religious and the secular. The other was secularism, that the reason why the West was strong was because it had done away with superstition and adopted science."

"These are two very opposite presentations of the West but the one thing they have in common is they posit this distinction between the religious and the secular," he says.

Attempts were made to apply these approaches within China. Some tried to re-invent Confucianism as a church, some to secularize it. Some created new religions and others, like Mao, sought to ban religion.

"Historically the three major religious traditions of Buddhism, Daoism and Confucianism were weak institutionally and the modern period further weakened them, but it did not destroy the religiosity of the people.

"Now it's a wide open field, everything is possible in China. Whereas in North America you have the dominance of the Christian churches, and in post-communist Russia

the Russian Orthodox church, in China there's no dominant religion and so anything goes. The only dominant thing is the state, but even the state is very confused about how to deal with religion. There are so many bureaucracies and agencies dealing with it. Consciously or not, it's a laboratory for religion."

The revival of religion has been uneven, though. In some places local religious traditions are thriving because they were handed down orally during the Mao era; in other places they have disappeared altogether. Most interestingly, the function of religion is changing.

"The global trend is a privatization of religion, where religion is no longer the centre of social organization, and in that sense China is secularized. Both through deliberate policy and general social changes, religion has moved into the private sphere. People living in the cities, for example, are no longer attached to a clan or lineage or community, and they seek to find their private self, who they are as an individual. That question of 'who am I' didn't really arise in traditional life where people's roles were defined for them from the moment they were born," Dr Palmer says.

"As China has more prosperity, a lot of people are also asking, what's the point of all this? They are looking for a moral foundation for life and for society that has been lost. The critical discourse on superstition and religion has faded and you have educated, urbanized people looking into more modern forms of religion."

That impulse for meaning may be finding an additional outlet. Dr Palmer has started investigating volunteerism, which is thriving in China in the wake of the 2008 Sichuan earthquake and the Olympic Games. The term 'doing good deeds', which is grounded in traditional Chinese religious culture, is now finding expression in modern forms of social service. The atheist Communist Youth League is actively promoting voluntarism – although when Dr Palmer recently went to interview volunteers providing social services at a temporary settlement for earthquake refugees in Sichuan, he found that *all* of the volunteer groups active in the camp were Christian and Buddhist.

Dr Palmer is co-author of The Religious Question in Modern China, which will be published in early 2011. He is also co-editor of a forthcoming textbook on Chinese religion and a volume on Daoism. ■

THE EFFERVESCENT STATE OF religion in china

Religion in almost every form imaginable is blossoming in China as practitioners find ingenious ways around restrictions, according to HKU anthropologist Dr David Palmer.

"China is a laboratory for religion" is not a statement you would imagine applying to a country where religion was banned under Mao Tse-tung and still operates on shaky legal ground. But Dr David Palmer, Assistant Professor of Sociology, who has a new book on religion in China coming out, contends that a remarkable transformation has taken place there over the past 30 years.

Buddhism, Daoism, Christianity, local religions, new religions and re-invented ones are all operating and thriving in China today, in some cases with official blessing.

"In China you now have every kind of religion you can imagine and all this growth and effervescence is occurring where, on the outside, it appears religion is highly controlled and restricted. That's not necessarily the case, and of course it's not necessarily not the case," he says. "Partly because of these limits, groups have been forced to find creative ways to do things."

The qigong movement, for example, started out as a form of exercise then took on religious overtones as seen in the forceful example of the Falun Gong.



Xi'an: Worshippers at the Baxian Daoist temple



Dr David Palmer



ADVENTURES in poetry

Best-selling author, Louis de Bernieres, spoke at the University recently as part of the Hong Kong Literary Festival.

The author of *Captain Corelli's Mandolin* spoke to a packed Convocation Room about his love of poetry and how it has influenced his writing.

"I think one's relationship with poetry is almost like a love affair," he confessed. "It is a passion, and poetry has been a part of my life since I was very young."

As his father too is a poet, de Bernieres said he had the good fortune of being raised in a house where an ambition to be a poet or a writer was not frowned upon.

"It was considered normal. Nobody told me that I should do something sensible. My mother, rather charmingly, advised me recently to get a PhD in case my career fails. I said 'Ma, I've got four and I didn't do any work for any of them.'"

Speaking of his evolution as a poet he said, "If you think back to the way people wrote poetry in the 19th century it was often quite stilted and full of archaic speech, such as 'thee's' and 'thou's' and you could still say things like 'Oh wild west wind', which you can't anymore."

"At around the turn of the 20th century a lot of the poets began to rebel against this old fashioned way of doing things and they started to write poetry in a much more natural English. I'm referring to people like Rupert Brooke, Wilfred Owen, Siegfried Sassoon.

"For a while these people became collectively known as the Georgian Poets because King George V had come to the throne. What's interesting about them is that they were writing in recognizably natural English without strange word orders, but they were still writing poetry which was recognizably continuous of what had been before. This is the kind of poetry I was initially brought up in."

He was lucky, he said, to have been taught by a teacher who was passionately in love with language. "He made us learn proverbs. We had to write story a week and a letter a week and, most importantly, we had to memorize a poem a week. I doubt this is done anymore anywhere."

And he joked, "When I grew older I realized it was a really good move to learn love poetry by heart. It's almost foolproof. But when I come across a poem that I really love I still, to this day, memorize it. The thing about the kind of poetry I was memorizing is that it was to do so because it was formal, it had rhyme schemes. It was also easy to recognize the distinction between prose and verse."

After the Georgians came the Modernists, amongst them, T.S. Eliot, who was literate at doing things in the old way "which made him that much better at doing it in a new way."

However, the drawback of abandoning the old way of doing things is a loss of confidence in the art of poetic writing. "You begin to wonder if you are really writing poetry at all. This happened to me. When T.S. Eliot took over from Walter de la Mare in my imagination I found myself trying to write like T.S. Eliot and failing completely, because I didn't know what the rules were.

"It was, as they say, prose cut up. And I found that this made me very uneasy about writing poetry at all. I had written a lot of poetry from about the age of 12 onwards but it was almost always about being in love with some unattainable girl.

"Then, in my 20s most of my poetic work went into writing song lyrics. I was in a punk band called Irreparable Brain Damage. Then I was in a band named Isis, after the Egyptian goddess. Of course everybody thought we were called 'Is is'.

"But I grew up thinking poetry was my vocation. One reason I, to my own surprise, turned into a novelist is that I found that just about everything you can do in poetry you can do prose as long as you avoid overt rhymes." ■

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