

CHINESE UNIVERSITY BULLETIN

No. 1, 2016



What a University Can Do about
Climate Change



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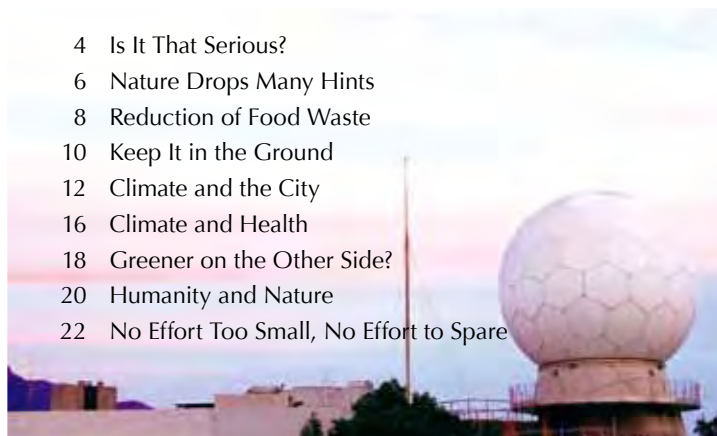
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What a University Can Do about Climate Change

Climate change has provided a stage for world political leaders to demonstrate their will in saving the planet. Last year in Paris, they were applauded for achieving one of the most significant international initiatives of the century at the 21st Conference of the Parties (COP21)—to limit the rise of global temperature within 2°C by 2100. Representatives from the governments came under the spotlight again as they gathered in New York and signed the Paris Agreement on 22 April this year.

The date '22 April' also reminds us of Gaylord Nelson, a member of the US Senate who called for a nationwide teach-in on the environment in 1970 and has since been regarded as the founder of Earth Day.

However, let us not forget that the main organizers and participants of the first Earth Day in 1970 actually came from the universities. Students played the role of event coordinators while professors and researchers gave speeches on environmental protection. During the period of 16–22 April, 1970

it was estimated that over 1,500 universities and colleges in the US had participated in the week-long activities.

The Chinese University had not moved into its unified campus in Shatin until 1972–73. But once it's settled on the new campus, it's as if its inhabitants—scholars, staff and students—immediately recognized their calling in the preservation of this naturally endowed campus. Every day since then has been Earth's Day, celebrated by successive generations of scholars and students who expend their energy and efforts, intellectual and otherwise, on making this part of the globe, and the rest, more habitable.

In this issue of the *Chinese University Bulletin*, we will look at the current crop of CUHK scholars and students of different disciplines and persuasions taking up one of the biggest challenges of our time—to mitigate the effects of climate change through research, education, technological innovations, and public consultancy and services.



photo by V'air

A man in a dark suit, white shirt, and red tie stands in a museum-like setting. He is wearing glasses and has a slight smile. In the foreground, a large circular display shows a map of China with a red outline of the country. The background features a large mural of a mountain landscape and a framed picture of a person climbing a rock.

Is It That Serious?

Views from One of the Lead Authors of IPCC AR5

The Intergovernmental Panel on Climate Change (IPCC) is the international body for assessing the science related to climate change. It regularly publishes reports which provide policymakers with assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.

Prof. **Gabriel Lau**, Director of CUHK's Institute of Environment, Energy and Sustainability and AXA Professor of Geography and Resource Management at CUHK, is one of the lead authors of IPCC's latest assessment report (AR5). He shared his views on some of the conventional understandings—as well as misunderstandings—of the climate change issue.



'Even if the planet's not inhabited by humans, its climate is still going to change.'

True.

But significant changes on the Earth's climate brought on by natural causes tend to have longer durations. For example, prolonged decrease in temperature during the Ice Age due to variations in the Earth's orbit can last for tens or hundreds of thousands of years.

However, the recent warming has occurred over a relatively short period of time, i.e., within 100–200 years since the Industrial Revolution, with a speed the planet has never seen. A continuous warming trend towards the end of the century can also be scientifically projected.

For those who think that the existing climate change is 'not so serious' and caused by factors other than human activities, I would encourage them to read the IPCC AR5. It is stated therein with the support of scientific evidence that it is '*extremely likely* that human influence has been the dominant cause of the observed warming since the mid-20th century'.

Would any of the AR5 projections be wrong?

Not likely, because...

the projected trend of climate change by IPCC has proven to be more and more accurate over the years. Though there are differences between the simulated and the observed trends over a short period of time—say 10 to 15 years, the long term trend on global mean surface temperature from 1951 to 2012 projected by the model simulation has to a very large extent agreed with that of the observed trend. In AR5, we have taken into account regional differences and a more comprehensive array of physical processes in the climate system to further enhance the accuracy of its projections.

Is the Paris Agreement on climate change going to work?

It might work...

because it has departed from the top-down approach of similar previous efforts. This time the individual governments came up with their own proposals on how to deal with climate change in the 'Intended Nationally Determined Contributions (INDCs)', submitted in advance for the 21st Conference of the Parties (COP21). There are good reasons to believe that these nations are sufficiently motivated and would be able to meet the commitments and targets they set for themselves. It's encouraging to know that more than 180 nations—developed and less developed alike—have already submitted their INDCs and among them, more than 170 parties have signed the Paris Agreement since 22 April this year.

'Climate change is a subject only for the science or geography students.'

Not at all.

Climate change concerns everyone and demands the attention of students from all disciplines. We have just started a General Education course on climate change in Spring 2016 with students coming from a variety of academic backgrounds. With knowledge gained from and awareness raised by the course, these students' commitment to a low carbon lifestyle has been reaffirmed and strengthened. They will hopefully be the ambassadors and keepers of our planet's sustainability in whatever they find themselves doing in future.

Nature Drops Many Hints

The most common hints include the melting of ice-sheets, retreating glaciers and low-lying islands buried under water due to increase in sea levels.

But other hints do not escape the attention of scholars from CUHK's Earth System Science Programme, whose efforts have covered the thawing of permafrost in the Arctic and Tibetan Plateau; the combined effects of air pollution and climate change on food production, as well as how intensified precipitation is affected by rapid urbanization in the Pearl River Delta.



+0.3^{°C}

projected global temperature increase

due to gradual top-down thawing of permafrost by 2100



3^{TIMES}

more likely for 70mm/hr rain rate

for AH=500W/m² compared to the case AH=0



-40%

wheat production (projected max. reduction)

in South Asia where ozone pollution is projected to worsen



-50%

maize production (projected max. reduction)

in US, Europe and South America due to extreme temperature



Prof. Lin Liu

on the
Thawing of Permafrost



'The Earth's polar regions have been undergoing intense warming in the past decades as a result of global climate change. Permafrost thaw causes ground subsidence, which disturbs the surface vegetation and increases the risks of damaging infrastructures such as buildings and roads. More importantly, scientists recently found that permafrost in fact stores a large amount of organic carbon (about twice of the carbon in the atmosphere). Upon thawing, permafrost carbon decays and is released into the atmosphere as carbon dioxide and methane. These strong greenhouse gases aggravate atmospheric warming and affect the global climate.

'However, many details about permafrost thaw remain unknown: Where and how fast is the thaw occurring? Where and how fast does ground surface subside as a consequence? How much permafrost carbon is being and will be released? In my research, I am trying to address some of these questions with a focus in the Arctic and the Tibetan Plateau.'

Prof. Francis Tam

on
Intensified Precipitation



'In collaboration with the Hong Kong Observatory, my team has investigated how heat released from human activities (Anthropogenic Heat, or AH) might affect the local rain rate, by carrying out a set of computer simulations for an extreme rainfall event.

'The extreme event took place in Hong Kong and the Pearl River Delta region in June 2008, when a record-breaking rain rate of over 140mm/hour was measured at the Hong Kong Observatory headquarter—the highest rain rate per hour ever recorded in the same location since 1885. We found a high correlation between precipitation rate and AH. The correlation, however, is less strong in non-urban areas. Results of our research have been published in an article entitled 'Sensitivity of urban rainfall to anthropogenic heat flux—a numerical experiment' in *Geophysical Research Letters* (March 2016).

Prof. Amos Tai

on
Air Pollution, Climate Change
and Food Security

Winner of United Nations' World Meteorological Organization (WMO) Research Award for Young Scientists 2015



'In our recent study entitled "Threat to future global food security from climate change and ozone air pollution", we found that global warming alone will reduce global crop production by more than 10% by the year 2050, but the combined effect of warming and intensified air pollution can be even more detrimental to agriculture. In the worst-case scenario, the undernourished population in developing countries can increase by 50% by 2050 due to global warming and air pollution.

'Our research shows that stringent control on air pollution, in addition to having tremendous health benefits, can partially offset the adverse impacts of climate change on agriculture. Our study also implies that strategies tackling air pollution, climate change and food insecurity should be more integrated and there should be greater collaboration among scientists and policymakers across disciplinary boundaries to help develop solutions for global health issues and food crisis.'

Reduction of Food Waste

The combined effects of climate change and air pollution on the reduction in agricultural products are not the only reasons contributing to famine or malnutrition. How food is distributed and priced and how much is consumed or wasted also play a major part in the world's hunger problem.

Among all the above-stated reasons, the problem of food waste has attracted much media attention, as a report by the Food and Agriculture Organization (FAO) of the United Nations reveals that if we are able to save one-fourth of the food currently lost or wasted, it would be enough to feed 870 million hungry people in the world.

Food lost or wasted also has negative impacts on the environment. It has been stated in the FAO report that if global food waste were a country, it would be the third largest greenhouse gas emitter after the US and China.

In Hong Kong, unconsumed food is the largest municipal solid waste category being landfilled. Discarded food produces methane, which becomes a primary source of greenhouse gas at the landfill sites. As a university committed to environmental

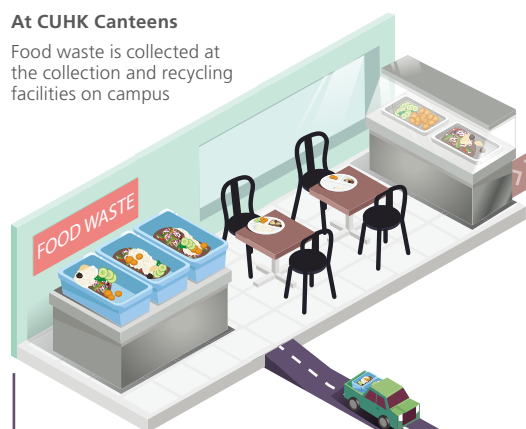
conservation, we have made the reduction and recycling of food waste one of our priorities.

Since 2013, a series of activities has been launched in CUHK under the 'Love Food Hate Waste' campaign to reduce food waste on campus (see illustration below). The quantity of food waste is estimated to have been dropped by 26% in the two-year period and the number of diners without leftover increased by nearly 20%.

Although the University and some NGOs are recycling unconsumed food products and turning them into useful compost in Hong Kong, there is still more food waste than we can handle. To save the city from expanding landfills and increasing emission of greenhouse gases, the long-term solution is to reduce waste at source—order and take only what you can finish, which has been promoted and practised at every eatery on CUHK campus.

At CUHK Canteens

Food waste is collected at the collection and recycling facilities on campus



Food Waste Composting Machines

Food waste is transported to 5 composting machines on campus

Capacity: ~200 kg food waste per day



Canteens are now offering option for 'less rice'



Students and staff are encouraged to order 'less rice' whenever necessary

83 CUHK students



volunteered as 'Save Food Ambassadors' to spread the 'Waste no Food' message

! Food Waste in Hong Kong

~36%

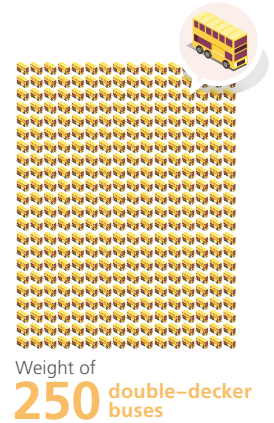
of total municipal solid waste is food waste



- Depletes limited landfill space
- Creates odour
- Releases greenhouse gas (methane)
- Leaching of waste water leads to the breeding of pests and spread of diseases

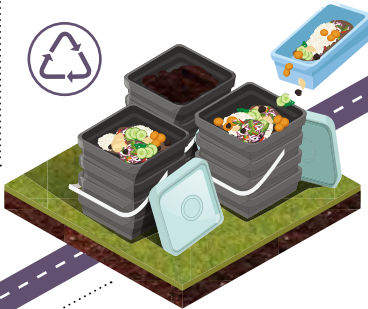
~3,600

tonnes of food waste collected everyday



○ Bokashi Composting*

- 1 Add Bokashi powder and seal the composting bin for 2 weeks
- 2 Transfer the food waste (in fermentation) to another large bin
- 3 Mix with soil, allow to decompose for another 4 weeks



Food Waste Collected at Staff Residence and Student Hostels

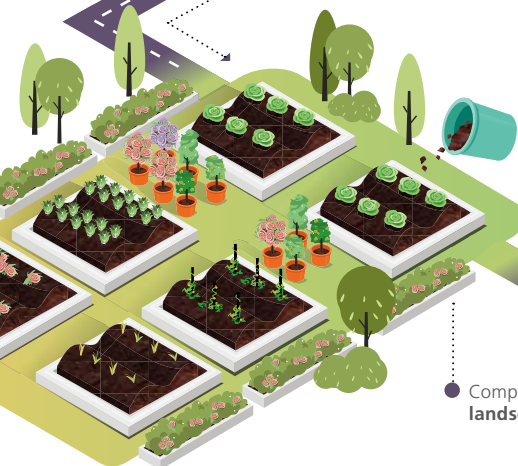


○ Tumbler Composting*

- 1 Place food waste into the tumbler
- 2 Mix with soil
- 3 Allow to decompose for 4–6 weeks, during which the barrel is rotated at least once a day

*Trial Projects

● Compost generated is used for landscaping and farming





Keep It in the Ground

Prof. **Wong Ching-ping**, Dean of CUHK's Faculty of Engineering, is leading a multi-disciplinary team of more than 30 experts and scholars from CUHK, The Hong Kong Polytechnic University, The Hong Kong University of Science and Technology and The University of Hong Kong for a research project on 'Smart Solar Energy Harvesting, Storage and Utilization'.
(Website: <https://sse.erg.cuhk.edu.hk/sse/>)



Prof. Wong Ching-ping

Keeping fossil fuel in the ground is a means of reducing greenhouse gas emissions and limiting global temperature increase by the end of the century. For this, scientists all over the world are racing against time to work on the development of cutting edge technology for a shift of power supply from the burning of fossil fuels to efficient utilization of emission-free and inexhaustible energy from nature.

CUHK's Faculty of Engineering has taken up this challenge by starting a project on clean energy. The five-year research, entitled 'Smart Solar Energy Harvesting, Storage and Utilization' has received a grant of HK\$60.33 million (US \$7.8 million), funded by the Research Grants Council of the Hong Kong Government. With Professor Wong as the leader, the project covers the development of thin film PV devices and modules to enhance the performance of solar harvesting, the design of smart electricity storage and the establishment of distributed grid systems to increase the penetration of solar energy utilization.



Prof. Zhao Ni

Supercapacitors with High Energy and Power Densities

Professor Wong has been working with Prof. **Zhao Ni** from the Department of Electronic Engineering, together with a team of post-doctoral researchers and

students, to develop nanostructured metal oxide-carbon composites for asymmetric supercapacitors.

One of the major problems for renewable energy is that power output is variable and therefore unable to provide sufficient energy when electricity demand peaks. 'Supercapacitors are important for the storage and transmission of green energy, especially when the power is needed in the evening,' said Professor Wong. For him, the development of clean energy technology is an exciting project as 'renewables are the way

forward—we can save the environment and breathe better.'

Batteries have high energy density but low power density—they can store large amount of power but take a long time to charge up. Capacitors charge almost instantly but only store a small amount of power. The CUHK team is working to combine the two. With energy density of 98.0 W h kg^{-1} and power density of $22,826 \text{ W kg}^{-1}$, the supercapacitors developed by Professor Wong's team have demonstrated the highest efficiency recorded to date.

High-Energy-Density Redox Flow Batteries

Another key breakthrough of the research project has been achieved by Prof. **Lu Yi-Chun**'s team from the Department of Mechanical and Automation Engineering. They have developed a technology for high-energy-density flow batteries by exploiting highly concentrated sulphur-impregnated carbon composite to achieve the highest catholyte volumetric capacity reported to date—294 ampere-hours per liter—which is five times that of vanadium catholyte.

Recently, their team further attained the highest catholyte capacity to date (550 ampere-hours per liter) by successfully combining liquid phase, lithium iodide and solid phase sulphur flow cathodes. 'The technology could be used for electrical cars. It is being patented and some of our industrial partners would also like to license it,' Professor Lu remarked.

The final stage of this research project features a field demonstration of microgrids at a student hostel at CUHK. This will be the first project focusing on rooftop solar panel and building-integrated-PV (BIPV) powered urban level microgrid systems. A full-scale solution of urban microgrids will also be provided, offering a significant reference for PV development in a modern metropolis like Hong Kong.



Prof. Lu Yi-Chun

Climate and the City

CUHK's School of Architecture and Institute of Future Cities have been helping Hong Kong and other major cities to achieve better ventilation and thermal comforts as urban areas become warmer.

The Here and Now

Warmer Hong Kong: Urban Heat Island + Climate Change

On a hot summer's day, when the temperature of a country park in Hong Kong is 27°C, that of the densely built districts, for example, Mong Kok, may be 2–4°C higher due to the Urban Heat Island (UHI) effect, as concrete structures absorb and trap more heat than areas covered extensively by vegetation. The situation will be worsened at night when the wind is weak and air ventilation is poor. Under the combined effects of global climate change and UHI,

the densely built areas in Hong Kong will become much warmer over the decades. 'We need to re-consider the way our city is planned and built, in order to ensure a comfortable and sustainable living environment in the future, especially during the hot seasons,' remarked Prof. **Edward Ng**, Yao Ling Sun Professor of Architecture and Director of the MSc Programme in Sustainable and Environmental Design at CUHK.

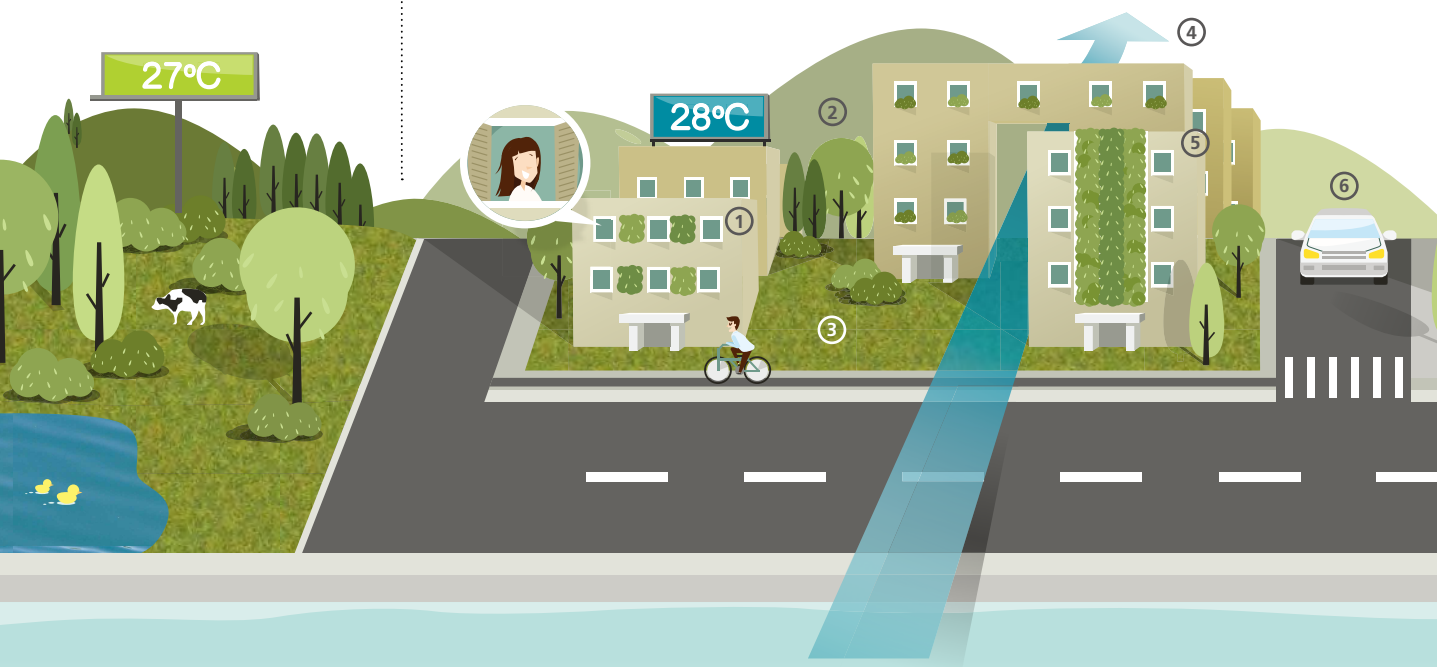
Rural Area

Less heat is generated and retained compared with the urban areas

Urban Area with Good Ventilation and Low UHI Effect

Prevailing winds and sea breezes carry heat away and lower urban temperature

- ① Maintain low-rise structures along prevailing wind direction
- ② Introduce non-building areas to create ventilation pathways
- ③ Increase green space
- ④ Create permeability in the housing blocks
- ⑤ Adopt green building design to reduce thermal load
- ⑥ Main streets to be aligned in parallel to the prevailing wind direction



Prevailing wind driven into the city centre via ventilation pathways

The 'Wake Up Call' and the Importance of Urban Ventilation

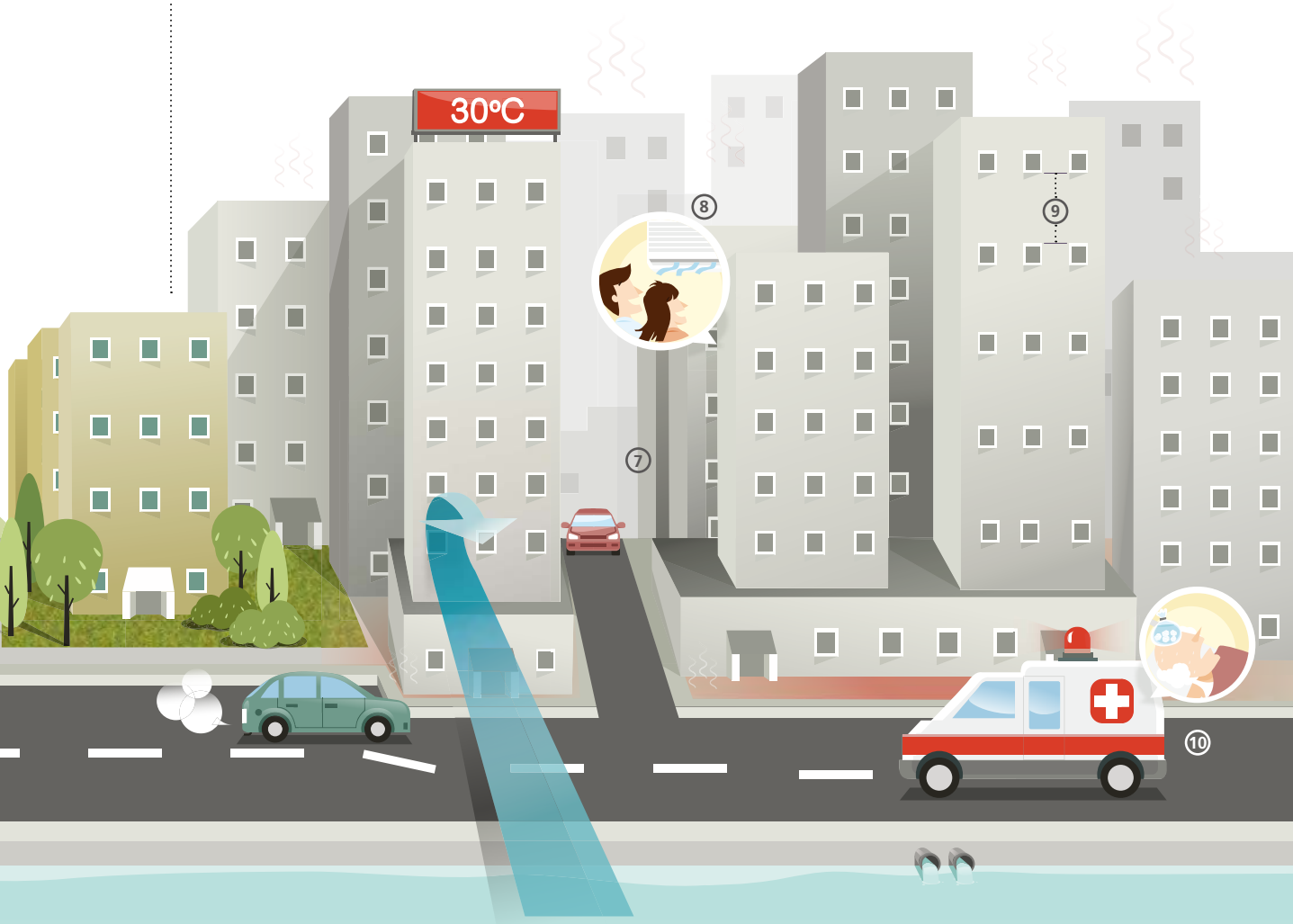
Ventilation within the urban area is crucial for mitigating UHI effects, enhancing thermal comfort and reducing the transmission of airborne infectious disease. According to Professor Ng, the wake-up call for both the government and the public to realize the impacts

of urban planning on the city's ventilation happened during SARS in 2003. That year, the Planning Department of the government initiated a research on air ventilation assessment (AVA) in Hong Kong with the CUHK team as the main consultant.

Urban Area with Poor Ventilation and High UHI Effect

More heat is retained in densely built areas with poor ventilation

- ⑦ Narrow gaps between buildings hinder air permeability
- ⑧ Energy consumption and CO₂ emission increase as temperature rises
- ⑨ Excessive floor to floor height increases thermal load
- ⑩ Increase in heat-related mortality and health issues



Prevailing wind blocked by tall buildings at waterfront sites



Prof. Edward Ng

Two years later, the AVA research was completed with a set of guidelines which were subsequently adopted by all major publicly funded development projects and urban renewal plans. In 2006, CUHK was

commissioned by the Planning Department to start the 'Urban Climatic Map (UCM) and Standards for Wind Environment—Feasibility Study'. Some of the proposed measures to mitigate UHI effects and enhance urban ventilation (see illustration on p.12) have been incorporated in the Town Planning Board Report and Sustainable Building Design Guidelines from 2012 onwards.

'Hong Kong is the first Chinese city to undertake urban climate studies, but what we have done is just the beginning,' explained Professor Ng. His team has been offering scientific mapping and comprehensive analysis to urban planners beyond the city of Hong Kong—in Kaohsiung, Wuhan and Singapore. They have also started a new project to map the climate zones of major cities in mainland China.

Challenges

With all the scientific data in hand, sometimes it is still difficult for the government to implement every proposal stated in the Sustainable Building Design Guidelines.

In Hong Kong, the demand for housing is real and pressing, with the unfortunate result that high-rise residential towers are often planted right in the heart of compact districts, thus worsening the

problem of poor air ventilation and intensifying the UHI effects in the city.

'Will attempts to solve short-term housing shortage end up creating more problems for the future?' pondered Professor Ng.

A Sense of Mission

'In order to raise public awareness on the importance of sustainable urban planning, the University has been initiating a series of public lectures and academic programmes to nurture a new generation of climate-conscious citizens and experts,' said Professor Ng. He has been running from school halls to lecture theatres, delivering climate change seminars to secondary school students and the general public.

At the same time, Professor Ng and his team are drafting an interdisciplinary academic framework on climate change to include topics such as climatic science, urban planning, energy and resource management and public health. 'One can only see the problem within a single discipline. But in order to solve the problem, we have to educate scholars with a multi-disciplinary perspective. That's our goal for the next 20 years.'

“
Will attempts to solve
short-term housing shortage
end up
**creating more problems
for the future?**
”

The Future



Prof. Ren Chao

The attempt to understand the inter-relationship between urban planning and regional climate goes beyond the city of Hong Kong. With more than 50% of the world's population living in cities, there is an urgent need to collect data on urban forms

and functions for climate change solutions and adaptation strategies. 'But we can't do this alone. When it comes to national and international data collection and analysis on urban climate and urban morphology, collaboration is crucial,' remarked Prof. **Ren Chao**, faculty member of the School of Architecture and a fellow of CUHK's Institute of Future Cities. She is currently leading a team from CUHK to cooperate with an international research group under the International Association for Urban Climate to undertake a global project—'World Urban Database and Access Portal Tools (WUDAPT)'. The team is working on the development of free-of-charge, open-to-public, and readily accessible urban morphology database of world cities using advanced remote sensing technology and Geographical Information System. It will serve as an information platform for climate and weather modelling, energy balance study and planning implementation.

To complete the WUDAPT database, basic information on land cover and building types of urban areas is captured from aerial and satellite images and classified using the Local Climate Zones (LCZs) system. The classified zones will be spatially mapped in different colours, which will then be used as a framework for the gathering of more detailed urban parameter information.

CUHK is the only research team achieving the **most advanced level of data-collection** so far.

'Most of the overseas research teams work on LCZ maps for one single city. But the CUHK team has completed LCZ maps of city-clusters, for example, a large-scale LCZ mapping of the entire Pearl River Delta region was introduced to investigate the unique trend of mega-region development in mainland China,' explained Professor Ren. 'CUHK is also the only research team achieving the most advanced level of data-collection so far. The team has recently received the Best Applied Urban Heat Island Research Award in the 4th International Conference on Countermeasure to Urban Heat Islands in Singapore'.

The research findings will provide technical information and support for the National New-type Urbanization Plan (2014–2020), China's first official plan to take lessons from home and abroad to hammer out guidelines for its urbanization and land-use planning. The CUHK team has also been actively sharing their experiences with other institutions in Hong Kong, mainland China and abroad, especially in the applications of WUDPAT data in weather modelling simulation, energy consumption, ecology, CO₂ emission, public health and air pollution.

45 cities
in mainland China have their **LCZ** maps
completed by the CUHK team

Climate and Health

‘For many people, problems brought on by global climate change may seem so distant,’ said Prof. **Emily Ying-yang Chan**, Director of the Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response (CCOUC), Professor and Associate Director at CUHK’s Jockey Club School of Public Health and Primary Care and Assistant Dean at CUHK’s Faculty of Medicine. ‘We know that glaciers are melting, sea-levels are rising and cities are getting warmer, but looking at its health impacts can really bring home the severity of the issue.’



Prof. Emily Chan

Education

can empower the public to **protect themselves** from heat-related illnesses and seek medical help at an early stage.

Rural Villages of China

Most of the urban dwellers have some means of protecting themselves from undesirable environmental impacts. However, without readily accessible technology and healthcare services, people in under-developed villages can be more vulnerable to climate change than those living in the cities.

Professor Chan has been leading the CCOUC team to remote villages in mainland China for health-related and disaster-relief services since the Centre’s establishment in 2011. They observed how climate change has affected the way of living there. ‘In the past, people in the villages could leave pieces of meat on the table for a few days as the weather was relatively cool and dry. But as it gets warmer in recent years, unrefrigerated food can be spoiled within a day. The warming weather has also made fermenting and pickling very difficult, if not impossible. Improper food processing and storage often lead to food poisoning and other health-related problems,’ Professor Chan said.

Public Awareness in Hong Kong

However, very few people in Hong Kong will relate distant environmental problems to how they live their daily lives. Results of a recent survey conducted by Professor Chan reveal a lower proportion of young people in Hong Kong (15–24 years old) frequently engage in carbon-reduction behaviours, such as using less electricity and air-conditioning, compared with the older age groups (45 years or above).

To raise public awareness, especially among the school-age, CCOUC has initiated a professional development programme for secondary school teachers on the impacts of globalization on climate change and human health. The Centre has also developed a climate change online course for researchers and professionals in healthcare, education and humanitarian sectors.

‘Education is important as changes brought about by each individual may eventually help reverse or alleviate the negative environmental consequences on a global scale. It can also



Climate Change
is **real**
and so is
every story told by its
victims.

empower the public, especially the vulnerable groups, to protect themselves from heat-related illnesses and seek medical help at an early stage.'

The Right Thing to Do

Her previous research on temperature-related mortality and hospital admission rates revealed how prolonged hot days during summer led to various kinds of health issues and the loss of human lives in Hong Kong. However, at the time when these research projects were conducted, climate change did not receive as much recognition as it does now. Professor Chan recalled the challenges when her team applied for research funds and had to wait for at least five years for their papers to be accepted and published by international academic journals.

But the difficulties did not stop her as she continued to research, teach and even conduct fieldwork in rural China— 'because that's the right thing to do', the forward-thinking scholar said, 'I always believe it's just a

matter of time for my ideas to be accepted by the academia and reach the general public.

Doing the right thing is easier said than done. For Professor Chan, the motivation comes from every single person she encountered in her research and humanitarian work. 'Climate change is real and so is every story told by its victims,' Professor Chan said, 'That's why researchers and public health specialists need to continue working on the prevention of deaths, illnesses and injuries caused by extreme weather conditions. Luckily, I am not working alone.'

Professor Chan is grateful for the opportunities offered by CUHK to examine this multi-disciplinary subject together with experts in CUHK's Institute of Environment, Energy and Sustainability and Institute of Future Cities. She concluded, 'It's rewarding to work with colleagues from other academic departments to save the planet, as well as to safeguard the health of everyone affected by climate change.'

During the summer in Hong Kong:

28.2°C
(daily mean temperature)
threshold for
temperature-related mortality

+4.1%
increase in natural mortality
for an increase in 1°C above 29°C
(daily mean temperature)
in areas with high UHI effects*

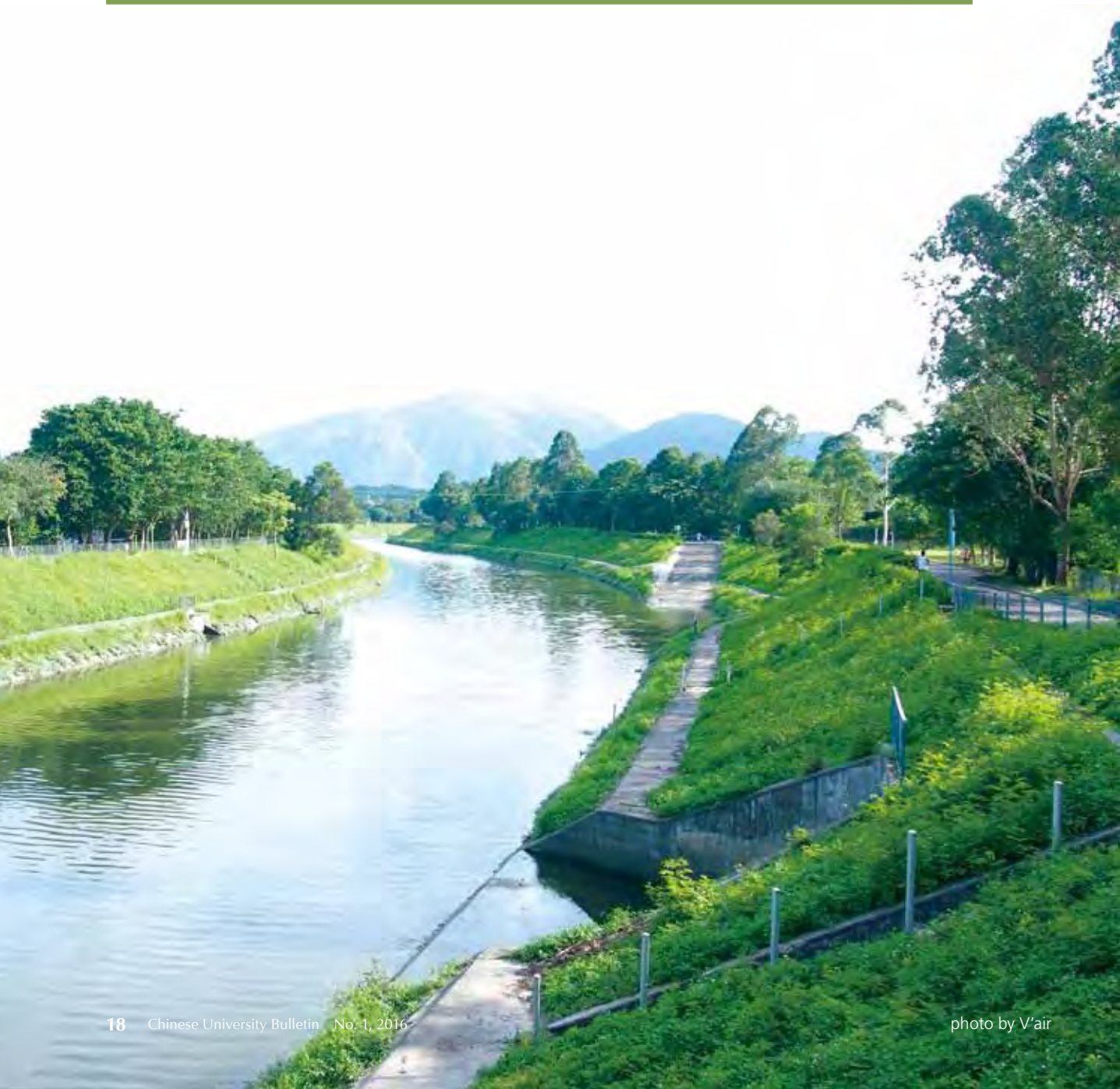
+5.7%
increase in natural mortality
in areas with high UHI effects
and lower mean wind speeds*

+4.5%
increase in hospital admissions
for every increase of 1°C above 29°C
(daily mean temperature)#

*Research conducted in collaboration with the School of Architecture, published in *PLoS ONE*
#Research published in *Bulletin of the World Health Organization*

Greener on the Other Side?

Wu Yee Sun College students are launching an online platform (www.vairhk.com) with a mission to show how travelling locally can help the planet and support the sustainable development of local communities.



We hope that our website will become a **popular and resourceful** online platform to facilitate **eco-travel** in Hong Kong.

Last year, two students of Wu Yee Sun College of CUHK, **Arthur Yeung** (below middle) and **Natalie Chung** (below left) teamed up with a student from another university and joined the Hong Kong Tertiary Schools COP21 Challenge. Competitors were requested to present a proposal with a solution to one of the environmental issues related to climate change. The team then came up with the idea of hosting an online platform to promote local travel.

‘The name of our online platform “V’air” suggests its objective—to promote a greener alternative for frequent air-travelers, as “V” stands for “vert”, which means “green” in French,’ said Arthur, a Geography and Resource Management (GRM) major. The ‘V’air’ website encourages everyone to post local tour itineraries and photos of hidden gems in Hong Kong. ‘Travel lovers may come to understand they could enjoy the best vacation experience without flying abroad’, Natalie, also a GRM major, remarked.

Their creative idea was awarded the first prize at the competition. But in what ways is travelling locally ‘greener’ than overseas trips? Here comes the data—The amount of CO₂ emission for a returned flight from Hong Kong to Japan is about 0.5 tonne, the same amount of emission for leaving a light bulb on for six months. Air travels can take up to more than half (55.4%) of the annual carbon emissions of an average Hong Kong resident, according to a survey of the World Wild Fund for Nature (WWF).

To make local travel more appealing, the V’air team has designed and posted many exciting eco-travel itineraries on their website for travelers of all ages. If you don’t want to spend hours sitting on the bus just to end up at one spot, try their one-day or overnight tour suggestions. ‘We’ll tell you where to stop by a local cafe or restaurant before reaching

your final destination. In doing so, you’d also be supporting the sustainable development of local communities’, said Arthur.

Their story has been widely covered by the media. **Lui Wai-shan** (below right), from the same College and a student of Chinese Language and Literature, decided to become part of this meaningful project after watching a TV programme about the team. She is now editor and travel writer for V’air, and at the same time, learning more about the eco-values of places she visits. The team has also been receiving phone-calls and e-mails from NGOs and individuals, eager to offer them more information on ecotourism. ‘We hope that in the future, our website will become a popular and resourceful online platform to facilitate eco-travel in Hong Kong’, said Arthur.

Perhaps it wouldn’t take too long for frequent flyers to realize that the grass is not necessarily greener on the other side—travelling green and locally may become the next ‘cool’ trend for all adventure-seeking inhabitants on our warming planet.



Humanity and Nature

Scholars from CUHK's Faculty of Arts offered us insights on how maintaining a harmonious relationship with Nature could be the first step towards adopting an eco-friendly lifestyle on a personal level and ensuring a sustainable economy in a larger global context.



Prof. Lai Pan-chiu

Prof. **Lai Pan-chiu** from the Department of Cultural and Religious Studies has started his research on environmental ethics since he was a postgraduate student of Theology at CUHK.

He talked to the *Bulletin* about his research on eco-ethics and inter-religious dialogues between Christianity and some of the major religious beliefs in China.

‘
The
**Confucian
concept of *ren***
could help Christians see
that humanity can be
manifested in
**looking after
nature.**
’

What motivated you to study inter-religious environmental ethics when you were in graduate school?

In the late 1960s, the historian of science Lynn White Jr. argued that Christianity, with its relatively ‘anthropocentric’ nature (compared to paganism and most of the Asian religions), insisted that God allows man ‘to exploit nature for his proper ends’. As a Christian theologian, it is important for me to reflect on the problems within my own religion and at the same time, consider the ecological values of other religious beliefs and see what we could learn from them.

Inter-religious dialogues between Christianity and Buddhism or Taoism on ecological ethics are relatively common. But you also looked at Confucianism ...

The Confucian concept of ‘*ren*’—generally translated as benevolence, humanity or love, is not limited to the relationship between human beings. According to the 16th century neo-Confucian philosopher Wang Yangming, *ren* should be extended to other animals, plants and non-living things in nature. The concept of *ren* could help Christians see that humanity can be manifested in looking after nature, instead of exploiting it.

Why do we need a pluralistic and contextual approach to environmental ethics?

It is unrealistic to wait until everyone agrees on one single approach to any global environmental issue, as any approach may suit a certain group of believers in a specific context, but not the others. It is advisable to adopt a pluralistic and bottom-up strategy because every religion has its own priorities and preferences.

What roles do religions play in advocating environmental ethics?

Religious groups are organized social institutions with the cultural and human resources to support various environmental campaigns. For example, the Buddhist organization, Tzu Chi, has been actively taking part in waste recycling projects throughout Asia.

Some modern interpretations of religious doctrines also offer insights on god’s intended relationship between humans and nature. If you have attended worship at the Chung Chi College Chapel, you’d notice the Prayer for Holy Communion reminds believers to commit themselves to the protection of God’s creation for our future generations.



Prof. Joseph Bosco

It has been argued that the root of climate change can be traced to human beings' unchecked desires, as many modern ways of life continue to exploit and pollute the environment to feed our continuous demand for economic prosperity and material possessions.

Prof. **Joseph Bosco**, Associate Professor of Anthropology, shared with us his research on the history of greed in China and his opinions on the possibility of re-shaping modern consumer culture.

The challenge is to take advantage of markets and global trade without being destroyed by **excessive consumption.**

Why did you decide to explore the concept of 'greed' in relation to present-day consumer culture?

Greed is an interesting concept because every religion or traditional value system recognizes greed as excessive grasping by some people. But by the logic of modern economics, there is no such thing as greed as everyone has the right to pursue their self-interest. And yet, in every culture of the world there are some behaviours that get labeled as 'greedy'. So my research looks at what social and cultural norms, values and rules kept consumption in check—especially the sumptuary laws of Imperial China and during the Maoist era, when there was social and political pressure against conspicuous consumption.

Do you think consumer culture can ever be re-shaped into a more environmentally friendly manner?

I do, because humans are moral animals, as well as *homo economicus*. I think we need to do more to promote the idea of a moral economy. The idea that the economy is a living organism which would wither upon the slightest tampering is a very dangerous one, because it leaves all human desires and

passions unchecked. Most religions preach moderation, and the idea that material possessions are transient and not the true source of happiness. It is relationship that matters. But our measures of the economy, like GDP, do not consider relationships and many other things that really affect human happiness and well-being. The challenge for us is to take advantage of markets and global trade without being destroyed by excessive consumption, inequality and pollution.

What do you think about the argument that it is 'unfair' to impose strong emission restrictions on developing countries?

Some people may think that it is unfair for developed countries to have polluted while developing countries are now prevented from doing so. At the same time, allowing the latter to pollute so they can 'catch up' with developed countries means the whole world will suffer, as climate change affects everyone. (In fact, it will hurt poor people in less-developed countries the most.) The key is to reduce carbon emissions worldwide, and to promote more environmentally sustainable development everywhere. A compromise between these two principles needs to be achieved.

No Effort Too Small, No Effort to Spare

We do not underestimate the enormity of the problem posed by climate change today. Neither do we overestimate what we will be able to do or achieve, individually or collectively, in the near or immediate future. But no effort is too small, and no effort, however small, will be spared. After all, the target of COP21 is two diminutive degrees on the Celsius scale but the estimated cost for achieving that is a staggering 12 trillion US dollars over the next 25 years.

What we have seen in the previous pages concerning the thawing of permafrost, food security and waste, renewable energy, urban temperature and ventilation, health and hygiene, etc., are by no means the only studies and actions undertaken by CUHK members. Many other faculty members, students, alumni, institutes, collaborations and initiatives have directly or indirectly devoted their lives or work to address climate change, the bane of 21st century existence.

With or without the accord reached in Paris and signed in New York, the Chinese University, as if ingrained in its mentality and identity, has and will always carry on its mission of sustaining and bettering the conditions of humanity. We just saw a glimpse of what a modern university can and should be doing about climate change. 🌱







Congregations for the Conferment of Degrees

The University held three congregations for the Conferment of Degrees in the year 2015–16 on 19 November and 3 December 2015, and 26 May 2016, respectively. Prof. **Joseph J.Y. Sung**, Vice-Chancellor of CUHK, presided over the congregations and conferred a total of 10,278 honorary, higher and first degrees.

CUHK conferred honorary doctorates on seven distinguished persons in recognition of their outstanding contributions to academic and cultural progress, the promotion of community welfare, and the development of CUHK.

Number of Degrees Conferred in the 78th, 79th and 80th Congregations

	Honorary doctorate	Doctoral degrees	Master's degrees	Bachelor's degrees
78th				
			6,167	3,732
79th	5	372		
80th	2			



78th



79th



Dr. **Leo Rafael Reif** is president of the Massachusetts Institute of Technology (MIT), co-chairman of the Steering Committee of the National Advanced Manufacturing Partnership in the US, and a fellow of the Institute of Electrical and Electronics Engineers. Dr. Reif has made important contributions to MIT and the education sector. He led the design and implementation of the strategy that allowed MIT to weather the global financial crisis, and promoted a major faculty-led effort to address challenges around race and diversity. Dr. Reif also spearheaded the formation of edX with Harvard University that brings free online learning resources to people around the world. Dr. Reif has received a number of honours in the US, including the Presidential Young Investigator Award, the Aristotle Award of Semiconductor Research Corporation, the Tribeca Disruptive Innovation Award, and the 2015 Frank E. Taplin, Jr. Public Intellectual Award. The University conferred upon Dr. Reif, *in absentia*, the degree of Doctor of Laws, *honoris causa*, for his remarkable contributions to higher education.



Eminent sculptor Prof. **Wu Weishan** is director of the National Art Museum of China, vice-president of the China Artists Association and president of the China Academy of Sculpture of the Chinese National Academy of Arts. Professor Wu pioneered a new style of Expressive Sculpture, which seeks to integrate traditional Chinese philosophy with aesthetics, blazing a new trail in contemporary Chinese sculpture. He is also committed to promoting Chinese art in the international arena and has won numerous awards overseas, including the Pangolin Award of the Society of Portrait Sculptors in the UK and gold medal of the Louvre International Art Exhibition in France. Professor Wu is an honorary fellow at CUHK and an adjunct professor of the Department of Fine Arts. The University conferred upon Professor Wu the degree of Doctor of Literature, *honoris causa*, for his contributions to Chinese art and culture.

Prof. **Bai Chunli**, a renowned expert in nanoscience, is president of the Chinese Academy of Sciences, The World Academy of Sciences, and the Board of China's National Center for Nanoscience and Technology. As the first Chinese scientist to actively engage in research in nanotechnology, he led his team to develop China's first ultrahigh vacuum scanning tunneling microscope and the first laser atomic force microscope. Professor Bai has been instrumental in furthering China's nanoscience and nanotechnology research. He has received the International Medal from the Society of Chemical Industry, the Medal for 'contributions to the development of nanoscience and nanotechnologies' from the United Nations Educational, Scientific and Cultural Organization. In recognition of his exemplary contributions to China's scientific and technological development, the University conferred upon Professor Bai the degree of Doctor of Science, *honoris causa*.



Prof. **Shinya Yamanaka** is director of the Center for iPS Cell Research and Application at Kyoto University. He also serves as a senior investigator at the Gladstone Institutes in San Francisco. One of the world's leading stem cell researchers, he pioneered the iPS (induced pluripotent stem) cell technology and received a Nobel Prize in Physiology or Medicine in 2012 with the British developmental biologist Sir John Bertrand Gurdon. Professor Yamanaka has also been active in promoting science among the general public. Professor Yamanaka has received the Shaw Prize and the Albert Lasker Basic Medical Research Award. The University conferred upon Professor Yamanaka the degree of Doctor of Science, *honoris causa*, for his phenomenal achievements in medical research.



Prof. **Liu Mingkang** is a financial expert and former chairman of the China Banking Regulatory Commission. He is currently honorary dean of Lingnan College at Sun Yat-sen University, senior fellow of the Hong Kong Institute of Bankers, BCT Distinguished Research Fellow of Lau Chor Tak Institute of Global Economics and Finance, and honorary professor of the Faculty of Business Administration at CUHK. In 2003, Professor Liu was appointed as the first chairman of the China Banking Regulatory Commission, to regulate China's troubled banking industry. The University conferred upon Professor Liu the degree of Doctor of Social Science, *honoris causa*, in recognition of his significant contributions to the banking industry.




Citations in full at www.cpr.cuhk.edu.hk/cong/honggrads/all

80th



Prof. **Randy W. Schekman** (left) is an investigator of the Howard Hughes Medical Institute as well as Professor of Molecular and Cell Biology at Berkeley. He has been a member of the National Academy of Sciences since 1992. Among many other prizes and awards, he won the Gairdner International Award in 1996 and the Albert Lasker Award for Basic Medical Research in 2002. In 2013, along with Prof. **Thomas C. Südhof** and Prof. **James E. Rothman**, he was awarded the Nobel Prize in Physiology or Medicine. He is also the chairman of the Selection Committee for Hong Kong's Shaw Prize in Life Science and Medicine, and is a collaborator with CUHK's Area of Excellence Centre for Organelle Biogenesis and Function. The University conferred upon Professor Schekman the degree of Doctor of Science, *honoris causa*, for his groundbreaking contributions to cell biology.

Prof. **Joseph E. Stiglitz** (right) held professorial positions at Yale, Stanford, Oxford, Princeton and Columbia Universities. In 1979 he had won the John Bates Clark Award given by the American Economic Association to an economist under 40 who has made the most significant contribution to the field. Professor Stiglitz joined the Clinton Administration, eventually becoming chairman of the Council of Economic Advisers and a member of the cabinet. He also served on the International Panel for Climate Change. In 1997 Professor Stiglitz was appointed chief economist and senior vice president at the World Bank. In 2001, he was awarded the Nobel Prize in Economic Sciences, along with **A. Michael Spence** and **George A. Akerlof**, for his analyses of markets with asymmetric information. The University conferred upon Professor Stiglitz the degree of Doctor of Social Science, *honoris causa*, for his unique and remarkable contributions to economic theory and to social change on a world scale. 

Fifteenth Honorary Fellowship Conferment Ceremony



**Ms. Chow Pei-fong
Therese**

Ms. Chow studied law in the UK and founded Therese P.F. Chow & Co., Solicitors and Notaries in 1971 after returning to Hong Kong. She is also a notary public and a China-appointed attesting officer. Ms. Chow has made a generous donation in support of the establishment of the Chow Yuk Ho Technology Centre for Innovative Medicine at CUHK in 2014, named after her late father. The centre focuses on three research areas in robotics, imaging and biosensing, so as to enable more effective treatment for patients in need. Ms. Chow has also supported CUHK to establish the Therese Pei Fong Chow Research Centre for Prevention of Dementia.



**Mr. Fan Shi-hoo
Hamen**

Mr. Fan is the founder, chairman and chief executive of Pac-Fung International Limited, a manufacturer of home textile furnishings. He has made significant contributions to social welfare and he cares about children from low-income families. In 1991, he founded the Children's Heart Fund and served as vice-chairman. Mr. Fan is also passionate about the growth and development of youngsters. Over the years, he has made generous donations to the Shaw College in support of its development, scholarships, internship programmes, amenities and facilities renovation. Mr. Fan has been a trustee of the College since 2003, and has served as vice-chairman of the Board of Trustees of the College and a member of the University Council since 2011.

CUHK held its Fifteenth Honorary Fellowship Conferment Ceremony on 16 May 2016. At the ceremony, Prof. Joseph J.Y. Sung, Vice-Chancellor, conferred honorary fellowships on five distinguished persons in recognition of their remarkable contributions to the University and the community.



Dr. Li Kwok-tung Donald

A specialist in family medicine, Dr. Li is currently president of the Hong Kong Academy of Medicine, honorary treasurer and member at large of the World Organization of Family Doctors World Executive Council, and censor of the Hong Kong College of Family Physicians. Dr. Li has devoted his professional career to promoting comprehensive primary and family health care in Hong Kong and internationally. He also dedicates much time to academia and teaching. He is a clinical professor (honorary) of the Jockey Club School of Public Health and Primary Care, and is very supportive of the development of the private teaching hospital of CUHK.




Prof. Liu Pak-wai

Professor Liu is Emeritus Professor of Economics, research professor of the Lau Chor Tak Institute of Global Economics and Finance, and co-director of the Economic Research Centre, Hong Kong Institute of Asia-Pacific Studies. He joined the Department of Economics in 1976 and has made significant contributions to the University in his capacities as chairman of the department, Registrar and Pro-Vice-Chancellor. Professor Liu served as Pro-Vice-Chancellor for 13 years with responsibilities relating to finance and resources, and central administrative functions. During his tenure, he enhanced the efficiency of resource utilization and assisted in the establishment of the teaching hotel and academic buildings, as well as the Faculty of Law. Professor Liu has also served in a number of important positions in various public services.

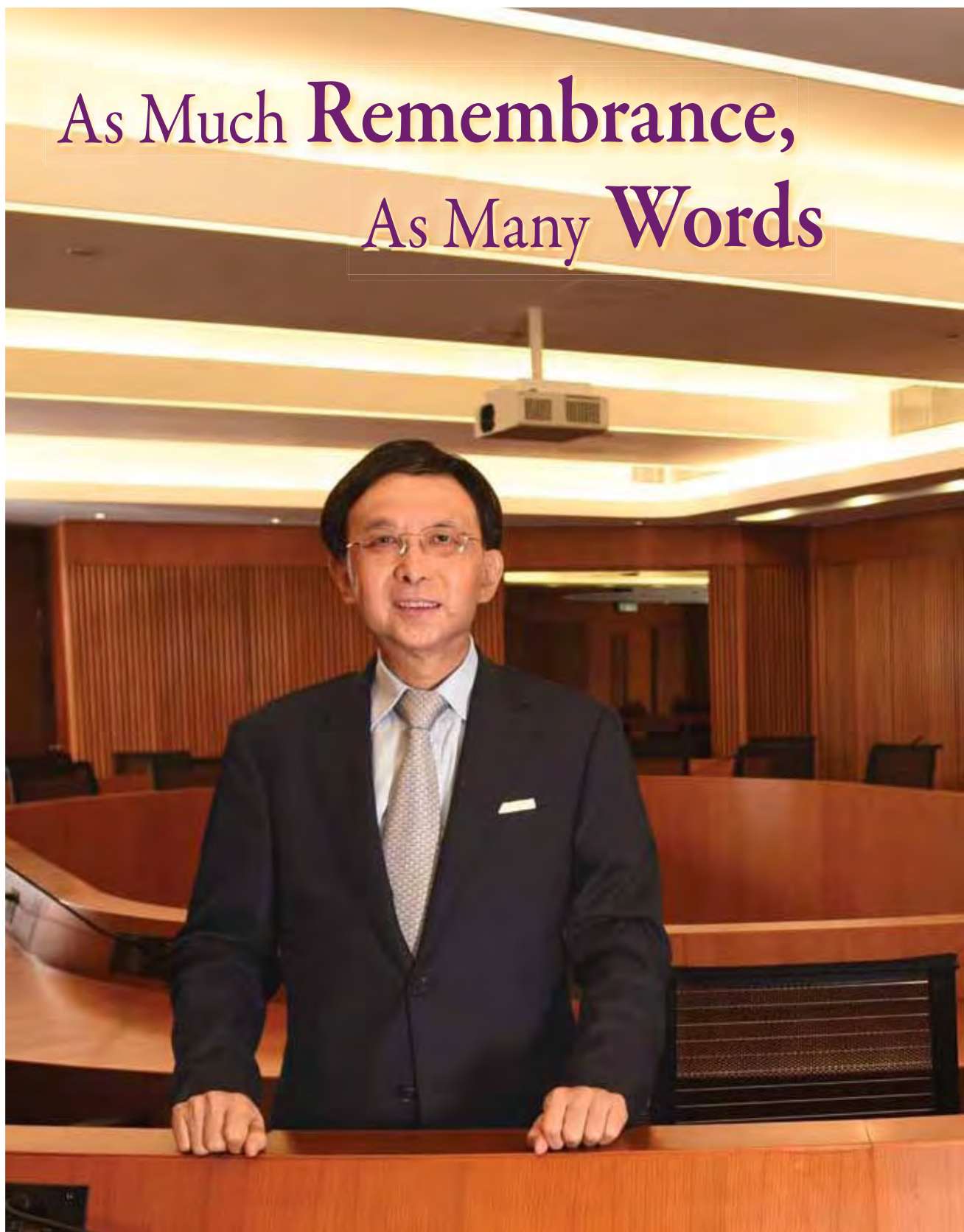


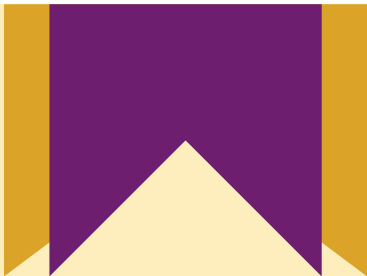
Dr. Akihiro Nagahara

Dr. Nagahara is director of JCG Finance Co. Ltd and United World Securities (HK) Ltd, and has been the chief executive officer and managing director of United Asia Finance Limited since he established the company in 1993. With over 30 years of experience, he is dedicated to facilitating the development of the financial industry and leading the loan industry to become more sophisticated. Dr. Nagahara has provided generous support to charitable and educational activities. He is a director of Hong Kong and Macau Taiwanese Charity Fund Limited, and is a staunch supporter of CUHK and especially the New Asia College. He currently serves as a member of the Board of Trustees and the Investment Sub-Committee of the College. 

Citations in full at www.cpr.cuhk.edu.hk/resources/press/pdf/573ab71f66c56.pdf

As Much Remembrance,
As Many Words



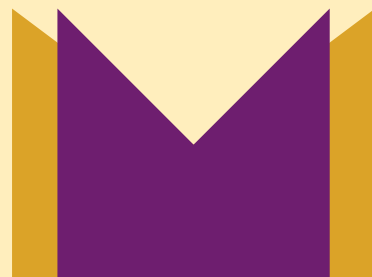


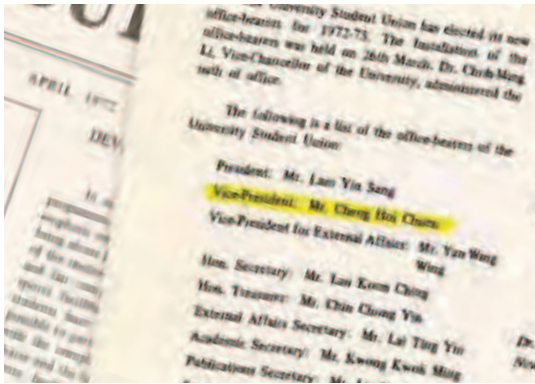
Dr. Vincent Cheng

CUHK Council Chairman 2009–2015

Dr. Vincent Cheng is best known as the first Chinese Executive Director of HSBC Holdings and the first Chinese Chairman of The Hongkong and Shanghai Banking Corporation Limited. At CUHK, he is widely known as the Vice-President of the second Student Union, a New Asia graduate in economics in 1973, and the first alumnus to become Council Chairman of the University.

On 23 October last year, Dr. Cheng bade farewell to his six-year chairmanship. *CUHK Bulletin* recently talked to him about his experience as Council Chairman, as well as his reminiscence about his alma mater.





An announcement on new office-bearers for the University Student Union (1972–73) was made in the April 1972 issue of *University Bulletin*



Conferred Honorary Fellowship by the University (6 May 2002)



Attending the opening ceremony of the CUHK 40th Anniversary Fair (20 September 2003)

You took up chairmanship of the University Council after you had stepped down at HSBC. You said your leaving HSBC was hardly a retirement at all. Are you finally retired now?

I still don't have a retirement, as my friends won't let me. A few of them invited me to be independent directors of their listed companies, which keeps me quite busy. I also participate in the preparation of the CUHK Medical Centre. The rest of my time is for my family, especially my three-year-old granddaughter, whom I spoil and my wife look after, respectively. My friends no longer complain they had to get in a long line to have dinner with me. I swim for 45 minutes daily. This is my routine, come rain or shine. I am occupied but not overwhelmed.

Did you encounter any difficulties while you were at the helm of the University Council?

Nothing special, I'd say. First, CUHK has a very good team. I enjoyed my collaboration with Prof. **Lawrence J. Lau** and Prof. **Joseph J.Y. Sung**, the past and current Vice-Chancellors respectively, and Prof. **Fok Tai-fai**, Pro-Vice Chancellor. Second, during my tenure there were a number of major projects underway, and of course their implementation wasn't smooth-sailing all the time. At the Council meetings, members put forward views which were as diverse as they were valuable, and in the end we always managed to come to a consensus. The support from all parties redoubled our resolve to succeed, bringing all these projects



Reunion of New Asia College '73 graduates (November 2003) (Second from right, second row)



Awarded Doctor of Social Science, *honoris causa*, at the University's 62nd Congregation (8 December 2005)



With former Vice-Chancellor Prof. Charles K. Kao after he received the Nobel Prize in Physics (5 February 2010)



Presenting the HSBC Scholarships to CUHK students as chairman of the Hongkong and Shanghai Banking Corporation (29 August 2008)



Presenting a replica of the CUHK emblem to Prof. Lawrence J. Lau, outgoing Vice-Chancellor at the farewell party (30 June 2010)



Presenting the seal of the Vice-Chancellor to Prof. Joseph J.Y. Sung at the 68th Congregation (16 December 2010)



Officiating at the opening ceremony of S.H. Ho College (October 2011), the inauguration of Morningside College and the foundation stone laying ceremony of C.W. Chu College (both in November 2011)



Officiating at the CUHK 50th anniversary kick-off ceremony (27 January 2013)



Toasting at the 50th anniversary banquet (8 December 2013)

to fruition. Third, I deeply believe that as Council Chairman, my major role was to map out the University's future development with the senior management. What remained to be done was supervision and support, and support should come before supervision. My experience over the past few years tells me I was right.

What tasks were most memorable to you?

There were quite a few, and the first one was the setting up of the five new Colleges. To cope with the increase in student intake in 2012 without compromising the ideal of our collegiate system, the University decided to build five new Colleges. CUHK is a public university, and government

funding only accounts for its basic expenditures. We need to raise funds to drive our infrastructural development. With the support of the Council and the community, we managed to set up all five Colleges, injecting even more variety into our collegiate system and further enriching students' learning opportunities.

The second one was the setting up of CUHK (Shenzhen). The new campus was the brainchild of Prof. Lawrence J. Lau, and the idea drew considerable skepticism at the beginning. We met with Mr. **Wang Yang**, then Secretary of the Guangdong Party Committee, who gave us much support. The plan also won the endorsement of the Shaw Foundation, which gave us a seed



Receiving, on behalf of the University, a mega donation from the Hong Kong Jockey Club for the CUHK Medical Centre (21 August 2014)

capital of over HK\$100 million. We admitted the first cohort in 2014. Professor Sung, a few Council members and I attended the inauguration ceremony, during which I had the opportunity to talk to the students. The encounter was a touching one. They were all top students, and scored in the 99th percentile in their respective provinces. Their English standards were very high and, most important of all, they all cherished the educational opportunity being offered. I could see these young people not only make a splash in their home country one day but also overseas. Some of them may become Nobel Prize laureates or well-known entrepreneurs.

The third was the CUHK Medical Centre, whose conceptualization, approval process, and initial planning had been quite smooth. The rapid population growth in Kowloon and the New Territories has generated a great demand for health care services. For this reason, the University Council approved the proposal of a new private hospital, which not only serves the community but can also provide for the further development of the Faculty of Medicine in terms of research and training. This is a new idea, and our challenges are many. The biggest challenge is the financing of its construction. Fortunately, we've got a pledge from the government to provide loans to us. We have also got a generous donation of HK\$1.3 billion from the Hong Kong Jockey Club. It is the biggest single donation ever made by the Jockey Club to the medical sector. We will be able to provide quality medical services to our citizens, secure

more space for medical training, and enjoy greater autonomy in our research activities.

The fourth was the 50th Anniversary celebrations of CUHK. The celebratory events lasted for months, culminating in a fantastic gala dinner. Alumni from different years gathered together to reminisce about the good old days or reunite with long-lost friends. The event was very touching indeed.

What words do you have for CUHK and its students?

A university's primary duty lies in research and education. CUHK has been doing very well in both regards, and its care for its students is felt by many. I hope this commitment can live on. At the 50th anniversary of CUHK, I quoted a saying by the Sung Dynasty Confucian philosopher Zhang Zai which translates roughly: 'to inspire people to be charitable; to show people the proper way to live; to pass on to posterity the great learning of the sages; to strive for the long-lasting peace of the world.' I think CUHK members should make this our guiding principle in life.

I love what Rancho, the protagonist in the Indian film *The Three Idiots*, said, 'Pursue excellence, and success will follow.' You don't have to hanker after success; you should instead find out what really interests you and apply yourself, then success will follow. Dr. Ch'ien Mu said that we should be after a career, not a job. A career is not understood solely in money terms; it pertains to personal success and one's commitment to family and society.

We should take pride in the tradition of civic responsibility espoused by so many generations of CUHK students. I think there is nothing wrong with the expression of one's views, but no matter how lofty your ideals, resorting to verbal violence will only undermine your moral authority. When I was a student leader, I had a cordial relationship with professors whose point of view differed from mine. Mutual respect is crucial.

What made you serve your alma mater so selflessly over the years?


I entered New Asia College in 1969, and became a trustee of the College in 1998. In 2008, I was



Presiding at the 77th Congregation—the last time during his term of council chairmanship (4 December 2014)

appointed by the government to serve as a member of the University Council. Afterwards, the then Council Chairman Dr. **Edgar Cheng** recommended me for the chairmanship, and my six-year service as Chairman ended last year. Now, I am still serving on a few committees relating to the CUHK Medical Centre. CUHK gave me a good education, and I feel obliged to reciprocate. I am glad to be of help, if it's within my capacity. My relationship with CUHK, which spans over five decades, makes caring and serving the University a natural thing to do. I will continue to offer my help to CUHK in future. That said, I hope the community will join me in supporting CUHK.

What should young alumni do to help the University?

If you run your own company, give more opportunities to CUHK graduates; be their mentors and guide them with your experience. Donate to CUHK, set up scholarships for the underprivileged students. The most important thing is to pay heed to the future development of the University and lend a hand when you are needed. This is a tradition we should cherish and nurture. 



Receiving a souvenir after attending the meeting of the Council for the last time as a member (14 April 2016)

Most unforgettable of all is of course the privilege of having worked alongside the staff and supporters of CUHK. The many changes on the CUHK campus represent the care and thoughts from the stakeholders of CUHK. I wish to send my regards to you all.

Familiarity Breeds Interest —A Month-long Discourse on Cantonese

Over 50 million of the world's population use Cantonese as their mother tongue. They include residents in Hong Kong, Macau, Guangdong and Guangxi, and many overseas Chinese in the UK, US, Canada and Australia. A series of activities was organized at The Chinese University of Hong Kong for the promotion of Cantonese. Lectures, talks, a workshop and a book exhibition spanned from late March to April, drawing the attention of the education sector and the public to the seemingly familiar language.



Prof. Tang Sze-wing

Director, T.T. Ng Chinese Language Research Centre, Institute of Chinese Studies, CUHK
Director, Research Centre for Cantonese, CUHK
Vice-chairman, Department of Chinese Language and Literature, CUHK

Why do we need to promote Cantonese—the first-language that we use daily?

More than six million people, i.e., close to 90% of the Hong Kong population, speak Cantonese, according to the Government's 2011 Population Census. But most Cantonese speakers do not know much about the language itself, e.g., in terms of phonetics, grammar, and history. We should know more about this daily communication tool of ours.

Why are we so ignorant about Cantonese?

Hong Kong claims to be a 'bilingual and trilingual' metropolis. While English and Mandarin (or Putonghua) are usually taught, the schools seldom teach the fundamentals of Cantonese. The basics of Cantonese are only acquired through listening and speaking. The lack of a systematic introduction to the Cantonese language gives

people a false impression that there is no grammar to it. The government should invest more resources and teachers more effort in teaching the pronunciation, grammar and basic knowledge of Cantonese.

In a gist, what are the special features of Cantonese?

Cantonese has six tones, more than 40 verbal suffixes, and a wide array of sentence-final particles which distinguish it from other languages. There is also a set of highly flexible functional morphemes which allow numerous forms of combination.

What approach shall we take in order to know Cantonese better?

Cantonese is the mother tongue of the vast majority of the Hong Kong people. We have a natural bond with it. We love it and treasure it without doubt. When we explore Cantonese more seriously from the linguistic perspective, we will discover the immense sophistication, inclusiveness and vibrancy of the language. This will serve as a rational base to support our passion for it and, in turn, motivate us to study it in depth, and ultimately find more fun in it.

Activities in a Glance

'Fun with Cantonese' Book Exhibition and Talk Series

Organizers: Research Centre for Cantonese, Department of Chinese Language and Literature
The Chinese University of Hong Kong Library

'When Non-native Speakers Meet Cantonese' (30 March)

The three speakers—Prof. **Stephen Matthews** (1st right), Department of Linguistics, the University of Hong Kong; Prof. **John Wakefield** (2nd right), Department of English Language and Literature, the Hong Kong Baptist University; and Prof. **Shin Kataoka** (1st left), Department of Linguistics and Modern Language Studies, the Education University of Hong Kong—are non-native speakers of Cantonese with research interests in Cantonese linguistics. They shared the joy and challenges of learning the language and envisioned its future development.

Professor Matthews observed that some Hong Kong children are already using Putonghua but not Cantonese at school and in daily life. Professor Wakefield said the future of Cantonese will depend on the attitude of Hong Kong people. Professor Kataoka suggested that non-Chinese residents in Hong Kong should also learn Cantonese.

'Begin with Grammar' (6 April)

Dr. **Au Yeung Wai-hoo Ben** and Prof. Tang Sze-wing of the Department of Chinese Language and Literature, CUHK, introduced the special features of Cantonese grammar, and shared their views on trendy expressions and adopting Putonghua as the medium of instruction.



Dr. Au Yeung suggested developing written Cantonese as an endorsed language in official documents in Hong Kong.

'Begin with Literature' (13 April)

Prof. **Fan Sin-piu**, Department of Chinese Language and Literature, CUHK, discussed issues of language and identity, literature appreciation and social transformation, using works in Hong Kong literature as illustrations. He also analyzed the external factors leading to the inferior status of written Cantonese to standard written Chinese.



Book Exhibition (30 March–31 May)

About 50 books on phonology, grammar, and linguistics of Cantonese, written in English and Chinese, were selected from the Library's collection for display at the lobby of the CUHK Library.

The 16th Workshop on Cantonese:

'Everything You Want to Know about Cantonese' (9 April)

Jointly organized by T.T. Ng Chinese Language Research Centre, Institute of Chinese Studies, CUHK; Linguistic Society of Hong Kong and Center for Chinese Linguistics, the Hong Kong University of Science and Technology, the workshop was participated by more than 10 linguists from local tertiary institutions who presented their papers on Cantonese functional morphemes, phonology and grammar of early Cantonese.



Photo courtesy of New Asia College

The 29th Ch'ien Mu Lecture in History and Culture

'Reconstructing Cantonese: Grammatical Changes as Recorded in Early Missionary Texts' (1 April)

Combing through language learning materials, e.g., *A Chinese and English Phrase Book* and *How to Speak Cantonese*, compiled by 19th-century missionaries who came to China, Professor **Cheung Hung-nin Samuel** examined the rules of phrase formation and syntax of early Cantonese. He also traced the grammatical transformation by comparing language materials of different ages, and tried to explain the reasons behind.

'What a Map Tells: Language of the 19th Century Hong Kong' (2 April)

The 'Map of the San-On District' produced by the Italian Fr. Simeone Volonteri in 1866 is the earliest bilingual map which includes Hong Kong. The transliteration of place names on it gave Professor Cheung hints to Cantonese pronunciation back then. By comparing these with their current counterparts, he also traced how the Cantonese phonological system has evolved over the past century.



Prof. Cheung Hung-nin Samuel

Professor Emeritus of University of California, Berkeley
Emeritus Professor of CUHK



Will students write better if they learn Chinese through Putonghua?

Not necessarily. It's true that there are considerable differences between spoken Cantonese and written Chinese, and not much between spoken Putonghua and written Chinese. You may say that one who knows Putonghua can skip the procedure of converting to the written language. But will that mean that all Putonghua-speakers can be writers? Writing is not simply transcribing the oral language, and can be enriched only by extensive reading of the classics. In the past, there were selected essays from classical and modern Chinese literature in the Chinese Language syllabuses of primary and secondary schools. Students left school with a good command of the language, though they might not speak fluent Putonghua.

What's your view on abandoning traditional Chinese characters for the simplified ones?

The launch of simplified Chinese characters and Romanization of Chinese were aimed at eradicating illiteracy. Is it still an urgent need in Hong Kong nowadays? If it is not, why don't we start by learning the traditional characters, which will enable us to read ancient literatures, contributing to the continuity of cultural legacies? On the other hand, since simplified characters are widely used in mainland China and its publications, knowledge of it is preferable from a pragmatic point of view.

How about adopting Putonghua as the medium of teaching Chinese language in schools?

Similar to the issue of traditional and simplified characters, if there are political considerations behind language policies, I won't be able to give you an answer. Otherwise it is better to look at the issues rationally. Let us first ask ourselves: why do we have to choose between Putonghua and Cantonese? We should all learn Putonghua since it is the national language. But it doesn't mean that we should substitute Cantonese with Putonghua. Since Cantonese is the mother tongue of the majority of the Hong Kong population, using it as a medium of instruction is undebatable.

Cantonese and Putonghua can co-exist. We love our own language, but there is no need to discriminate against other languages. Many young people today are anxious of the future of Cantonese because they feel that government policies are imposing restrictions and pressure on the language. They react by building up its supremacy and rejecting other languages. The issue will become more complicated if we fail to see the problem for what it is. 🇭🇰

The Best and the Brightest



Statistics Student Wins Best Student Research Paper Award at INFORMS

Pun Chi-seng, a PhD student in the statistics programme, won the 2015 Best Student Research Paper Award for a paper he presented at the 2015 Institute for Operations Research and the Management Sciences (INFORMS) Annual Meeting in Philadelphia—the first time ever a PhD student from the Asia-Pacific region won this international accolade. His award winning paper was entitled ‘Combined Estimation-Optimization (CEO) Approach for High Dimensional Portfolio Selection’.



First Prize in Hong Kong Tertiary Schools COP21 Challenge 2015

Yeung Tsz-chun Arthur (1st right) and Chung Sum-yue Natalie (1st left) of Wu Yee Sun College teamed up with another HKUST student to develop V’air—an online platform for individuals and groups to list tours available in Hong Kong, and offers incentives to attract people to spend their money and holidays locally, in order to reduce pollutions associated with overseas travel. The creative concept won the First Prize in the Hong Kong Tertiary Schools COP21 Challenge jointly organized by the Consulate General of France in Hong Kong and Macau and The Hong Kong Sustainable Campus Consortium last year.

Life Sciences/United College Student Named Rhodes Scholar

Dai Yichen Serena, a final-year student of the Molecular Biotechnology Programme of the School of Life Sciences and of United College, has won against a number of outstanding students from various institutions in the territory to become the Rhodes Scholar for Hong Kong 2016. She is eligible for a scholarship of more than a million Hong Kong dollars to pursue a PhD degree in Zoology at the University of Oxford. Her research will focus on the link between pancreas development and diabetes, and will explore various metabolic pathways related to diabetes from an evolutionary perspective.





Honours in National English Speaking Competition

Isaac Li, a final-year law student became the second runner-up of the '21st Century Coca-Cola Cup' National English Speaking Competition held by the *China Daily* in March this year at Beijing Foreign Studies University. He also won two other prizes at the competition: the Most Talented Speaker of the Test of English for International Communication and the Australia Plus Best Innovation Award. The contest was attended by over 12,800 students from 838 schools across China.



Business School Wins National Championship of Business Case Competition

A team of four undergraduate students of the CUHK Business School—Yiu Ho-kui Eric, Suen Lok-ho Howard, Wan Chun-yat Jansen and Chiu Man-kei Pinky—won the national champion at the 2016 KPMG Cup National Top Ten Invitational Business Case Competition concluded at Xiamen University in March. They excelled nine other teams from top universities and were given admission to the KPMG International Case Competition held later in Dubai, representing the Greater China region.

Champion of 2016 Vis East International Arbitration Moot

Students of the Faculty of Law won the championship at the 13th Willem C. Vis (East) International Commercial Arbitration Moot (Vis East Moot), in March. The competition was participated by 115 law schools in top institutions from Asia, Europe, Australia, North America and South America. 🇨🇰





NEWS in Brief

APPOINTMENTS

New Council Chairman

On the nomination of the University Council, the Chancellor of the University appointed Dr. Leung Nai-pang Norman as the Chairman of the University Council for a term of three years with effect from 1 May 2016.



New/Reappointed Council Members

- Dr. Maggie Koong May-kay (left) has been nominated by the Chancellor as a Member of the Council for a period of three years with effect from 27 November 2015.
- Mr. Vincent Marshall K.H. Lee (centre) has been nominated by the Chancellor as a Member of the Council for a period of three years from 1 June 2016.



- Prof. Shaw Pang-chui (right) has been elected by the Assembly of Fellows of Chung Chi College for the unexpired period of membership of Prof. Fong Wing-ping from 12 May 2016 to 22 April 2019.
- Dr. Vincent H.C. Cheng has been re-nominated by the Chancellor as a Member of the Council for a period of six months with effect from 24 October 2015.
- Mr. Chien Lee has been re-elected by the Council as a Member of the Council for a further period of three years from 16 December 2015.
- Dr. Ho Tzu-leung has been re-elected by the Council as a Member of the Council for a further period of three years from 21 January 2016.
- Dr. Anthony Neoh has been re-elected as a Member of the Council for a further period of three years from 29 May 2016 as recommended by the Vice-Chancellor.

Reappointed Pro-Vice-Chancellors

- Prof. Michael K.M. Hui has been reappointed as Pro-Vice-Chancellor of the University for a further period of three years with effect from 1 January 2016.
- Prof. Fok Tai-fai has been reappointed as Pro-Vice-Chancellor of the University for a further period of two years with effect from 1 August 2016.
- Prof. Fanny M.C. Cheung has been reappointed as Pro-Vice-Chancellor of the University for a further period of two years with effect from 1 August 2016.

New Associate Vice-President

Prof. Wong Suk-ying, Professor in the Department of Sociology and Director of Office of Admissions and Financial Aid, has been appointed by the Vice-Chancellor as Associate Vice-President on a concurrent basis for a period of two years with effect from 1 February 2016.



Reappointed College Masters

- Prof. Sun Sai-ming Samuel, Emeritus Professor of Biology, has been reappointed as Master of S.H. Ho College for a further period of one year from 1 August 2016.
- Prof. Rance P.L. Lee, Emeritus Professor of Sociology, has been reappointed as Master of Wu Yee Sun College for a further period of one year from 1 August 2016.

Reappointed Dean of Faculty of Education

Prof. Alvin S.M. Leung has been reappointed as Dean of the Faculty of Education for a further term of five years with effect from 1 March 2016.

Emeritus Professors



- Prof. Yuen Man-pan Patrick (1st left), formerly reader in the Department of Paediatrics and currently honorary clinical professor in the department, has been awarded the title of Emeritus Professor, with effect from 15 April 2016.
- Prof. Chan Kai-ming Cavor (2nd left), Professor of Orthopaedics and Traumatology in the Department of Orthopaedics and Traumatology, has been awarded the title of Emeritus Professor, with effect from 1 August 2016.
- Prof. Cho Chi-hin (3rd left), Research Professor in the School of Biomedical Sciences, has been awarded the title of Emeritus Professor, with effect from 1 August 2016.
- Prof. Fung Kwok-pui (3rd right), Professor of Biochemistry in the School of Biomedical Sciences, has been awarded the title of Emeritus Professor, with effect from 1 August 2016.
- Prof. Leung Kwok-sui (2nd right), Professor of Orthopaedics and Traumatology in the Department of Orthopaedics and Traumatology, has been awarded the title of Emeritus Professor, with effect from 1 August 2016.
- Prof. Kenneth Young (1st right), formerly Professor of Physics in the Department of Physics, has been awarded the title of Emeritus Professor, with effect from 1 August 2016.

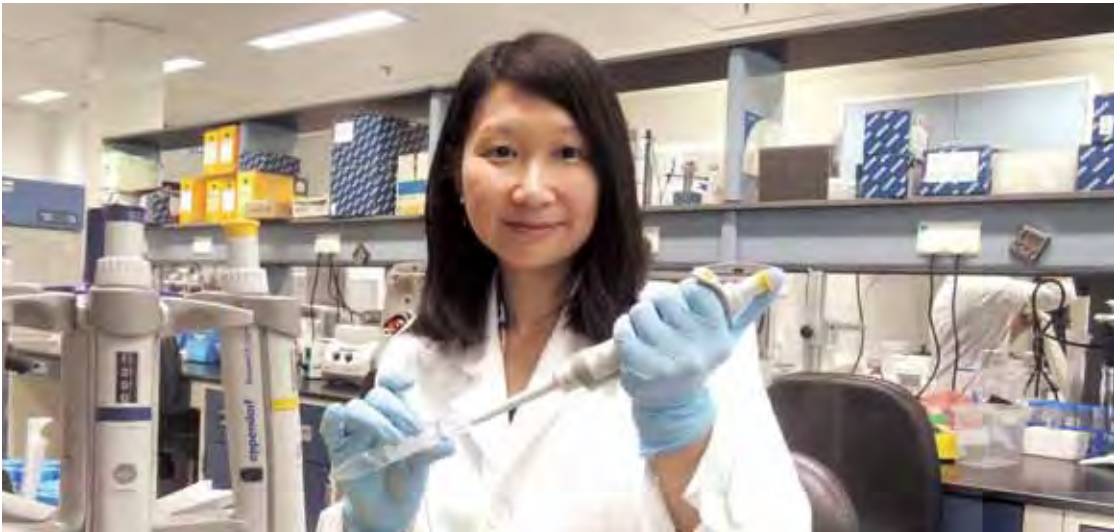
Distinguished CUHK Scholars Receive Recognitions from Croucher Foundation

Three research academics from the University were presented with the prestigious Senior Research Fellowships and Innovation Award 2016 of the Croucher Foundation on 13 April 2016 for their excellent scientific research achievements.



The three award recipients with Prof. Rosie Young (front), officiating guest of the award presentation ceremony; and Prof. Joseph J.Y. Sung, Vice-Chancellor (back)

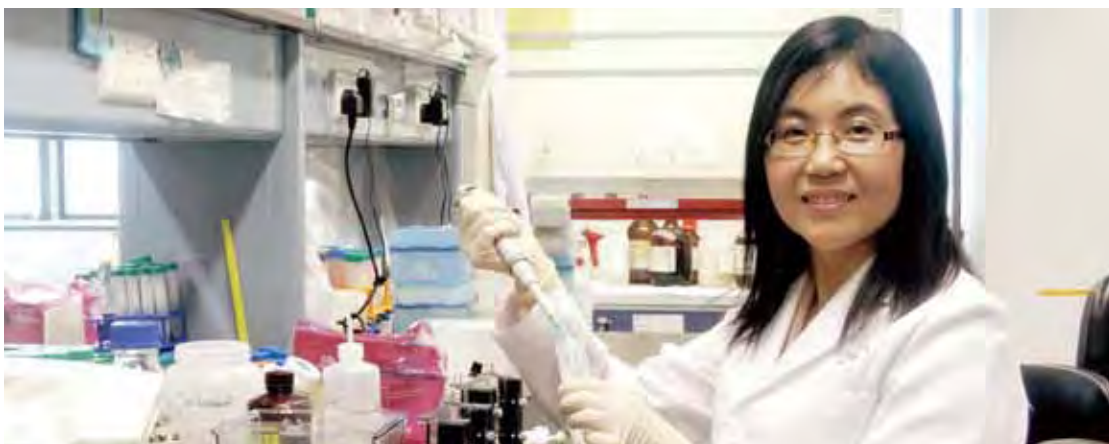
Prof. Rossa Chiu: Croucher Senior Medical Research Fellowship



Prof. Rossa Chiu, Choh Ming-Li Professor of Chemical Pathology and assistant dean (research) at the Faculty of Medicine, is known for her contributions in the successful development of non-invasive prenatal testing for fetal diseases by maternal blood analysis, the clinical use of which

for Down syndrome has since been implemented worldwide. Recently, she and her research team have developed a new technology for blood based cancer detection—plasma DNA tissue mapping, which is able to detect and locate abnormal DNA associated with cancer.

Prof. Jun Yu: Croucher Senior Research Fellowship



Prof. Jun Yu of the Department of Medicine and Therapeutics is director of the Research Laboratory of Institute of Digestive Disease, and associate director of the State Key Laboratory of Digestive Disease. Over the years, she has made new findings in the areas of gastrointestinal cancers. Her recent discoveries include genes that facilitate and suppress colon cancer, driver mutations for the

implementation of personalized cancer therapy, the biclonal origin of colon cancer and survival associated mutation signature in colon cancer. These findings pioneer the non-invasive diagnostic biomarkers for colon cancer and open up a new class of molecular mechanisms and diagnosis for colon cancer pathogenesis.

Prof. Jonathan Choi: Croucher Innovation Award



Prof. Choi Chung-hang Jonathan at the Department of Electronic Engineering (Biomedical Engineering) specializes in the interactions of nanoparticles with the body across the length scales of organ, tissue, cell, and organelle. His mechanistic research will inform useful 'design rules' for building more potent therapeutic nanoparticles. He previously reported novel 'bio-nano' interactions between

nanoparticles and the kidney, demonstrating that intravenously injected nanoparticles of around 75 nm in diameter can accumulate inside the kidney mesangium and enter mesangial cells at the highest amounts when compared to nanoparticles of other sizes. These data will aid the development of new delivery strategies to the kidney.



Prof. Lan Hui-yao's Research on Chronic Kidney Disease Awarded by CMA

The research project entitled 'Research into the Mechanism and Control of Clinical Progression of Chronic Kidney Diseases' by Prof. Lan Hui-yao, Choh-Ming Li Professor of Biomedical Sciences and assistant dean (research), Faculty of Medicine, has won the First Prize in the Chinese Medical Science and Technology Award 2015, presented by the Chinese Medical Association (CMA). The research, which sheds light on invention of novel anti-fibrotic therapy, was conducted in collaboration with experts from mainland institutes and universities.



Prof. Lyu Rung-tsong Michael Conferred ACM Fellowship 2015

Prof. Lyu Rung-tsong Michael, Professor of Computer Science and Engineering, has been elected as a Fellow of the Association for Computing Machinery (ACM) for his remarkable contributions to the theory and practice of software reliability engineering.



Prof. Huang Jianwei Elected IEEE Fellow 2016

Prof. Huang Jianwei from the Department of Information Engineering has been elected as a Fellow of the Institute of Electrical and Electronics Engineers (IEEE) in 2016 for his contributions to resource allocation in wireless systems.



Prof. Raymond Yeung Receives 2016 IEEE Eric E. Sumner Award

Prof. Yeung Wai-ho Raymond, Choh-Ming Li Professor of Information Engineering and co-director, Institute of Network Coding, and his collaborators were recently granted the 2016 IEEE Eric E. Sumner Award for their pioneering contributions to the field of network coding—the first time in two decades that a research team in the Asia-Pacific received this honour.



Prof. Ng Mee-kam Wins AESOP Best Published Paper Award 2015

Prof. Ng Mee-kam, vice-chairperson of the Department of Geography and Resource Management, won the AESOP Best Published Paper Award 2015 of the Association of European Schools of Planning (AESOP) for her paper 'Intellectuals and the Production of Space in the Urban Renewal Process in Hong Kong and Taipei'. The paper analyzed the possible roles and limitations of different intellectuals in urban renewal by comparing cases in Hong Kong and Taipei.

Global First Study Confirms New Colorectal Cancer High Risk Group

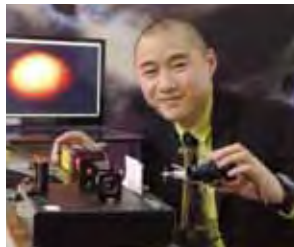
From 2010 to 2014, researchers of the Faculty of Medicine recruited 600 people aged 52 to 64 to participate in a prospective case-control study. Results showed that siblings of individuals with advanced adenomas had a six-fold increased odds of having advanced adenomas compared with subjects from the control group. It is worth for them to undergo colonoscopy in order to prevent colorectal cancer by early detection and removal of advanced adenomas. The study has been published in the leading medical journal *Gastroenterology* and recognized by world-renowned leaders in this field.



From left: Dr. Siew C. Ng, Prof. Justin Wu and Prof. Simon Ng

CUHK Researchers Take Part in LIGO's Detection of Gravitational Waves

The Laser Interferometer Gravitational-wave Observatory (LIGO) Scientific Collaboration and the Virgo Collaboration officially announced on 15 June that gravitational waves were detected by both of its twin detectors for the second time. CUHK has become a member of the LIGO Scientific Collaboration since March 2016. The only research team from a Hong Kong institution was led by Prof. Tjonnje G.F. Li of the Department of Physics. The first detection of gravitational waves, announced on



11 February 2016, confirmed a major prediction of Albert Einstein's 1915 general theory of relativity, and marked the beginning of the new field of gravitational-wave astronomy. The black holes found in the second discovery were much less massive than those observed in the first detection. Due to their lighter masses compared to the first detection, they spent more time—about one second—in the sensitive band of the detectors. This can help scientists to map the populations of black holes in the universe.

3D Printing Technology in Complex Cardiac Surgery Procedures



Researchers from the Division of Cardiology of the Department of Medicine and Therapeutics, Faculty of Medicine, CUHK, and the Department of Mechanical Engineering, Faculty of Engineering,

University of Hong Kong, collaborated to use echocardiographic data to create soft silicone-based models of complex cardiac structures using 3D printing. The models allow cardiologists to personalize planning for cardiovascular intervention for each patient. The practice, the first of its kind in Hong Kong, was applied to a complex case of Left Atrial Appendage occlusion last year and the patient is now in good condition. Dr. Alex Lee (centre), assistant professor, Division of Cardiology, Faculty of Medicine, CUHK stated that 3D patient-specific cardiac models help patients better understand the operation procedures and enhance training of cardiologists.

Structure and Functions of Rice YchF-type G Protein Uncovered



Prof. Lam Hon-ming (3rd left), director of the Centre for Soybean Research of the Partner State Key Laboratory of Agrobiotechnology and professor of the School of Life Sciences and his research team have uncovered the structure and functions of Rice YchF-type G-protein for the first time by employing X-ray crystallography and site-directed mutagenesis to dissect its structure. Rice YchF-type G Protein restrains plants' defense response and stress tolerance after binding to adenosine triphosphate (ATP) and guanosine triphosphate (GTP)—the two main triphosphates which help deliver energy and information. The findings were published in

Proceedings of the National Academy of Sciences of the USA in February 2016. Professor Lam's team discovered the OsGAP1 Protein in their research on rice a few years ago, which can enhance the hydrolytic activity of ATP and GTP in Rice YchF-type G Protein, thereby eliminating the negative functions in plants' defense response and stress tolerance. He will continue investigating this topic in order to strengthen plants' defense response and stress tolerance, and ultimately enhance agricultural production notwithstanding environmental stresses like diseases and salinization.

Novel Drug Candidate for Rare Neurological Diseases Found

Since 1998, Prof. Edwin H.Y. Chan (left) from the School of Life Sciences has studied a group of rare neurological disorders and developed therapeutic interventions against these diseases. Professor Chan's team has discovered a drug candidate P3, a 13-amino acid peptide, which can neutralize toxic RNA and rescue neurodegeneration. A patent application protecting this technology has been allowed by the US Patent and Trademark Office. P3 has the potential to be developed into therapeutic usage giving hope to individuals who suffer from rare neuronal diseases. The neurological disorders under study were collectively termed as polyglutamine (polyQ) diseases, which



include Huntington's Disease and several types of spinocerebellar ataxias (SCAs). After four years of vigorous testing, the research team successfully developed the peptidyl inhibitor P3. P3 is the first peptide-based inhibitor of its kind that is capable of neutralizing toxic RNA.

Detecting the Most Precise Measurement of Reactor Antineutrino Spectrum

The Daya Bay Collaboration now provides the most precise model-independent measurement of total antineutrino flux. The data were gathered by analyzing more than 300,000 reactor antineutrinos collected over the course of 217 days. The most challenging part of this work was to accurately calibrate the energy response of the detectors. Through dedicated calibration and analysis effort, Daya Bay was able to measure the neutrino energy to an unprecedented precision, better than 1%, over a broad energy range of the reactor antineutrinos. The Hong Kong team, with Prof. Chu Ming-chung (1st right), Department of Physics, as the principal investigator, has designed and built subsystems for detector monitoring, background measurement and data acquisition of the Experiment. Daya Bay's measurement of antineutrino flux—the total



number of antineutrinos emitted across the entire energy range—indicates that the reactors are producing 6% fewer antineutrinos overall when compared to some of the model-based predictions. This result is consistent with past measurements. This observed deficit has been named the 'Reactor Antineutrino Anomaly'.

Study Implicates a Gene in Alzheimer's Disease



A joint research conducted by Prof. Chan Man-lok Andrew at the Faculty of Medicine and an international team of researchers from Spain, Germany and the US has uncovered a link between the

tumour suppressor protein PTEN and Alzheimer's disease, potentially leading to a new treatment for this devastating neurodegenerative disease. The findings reveal that PTEN exacerbates the

pathological effects of beta-amyloid. The research was conducted using cultured neurons and particularly bred mice. The study has two main goals: to discover how PTEN is recruited to the synapses in Alzheimer's disease, and to propose a strategy for preventing it. Professor Chan generated a mouse strain carrying a modified PTEN that cannot be recruited to the synapses. Following this direction, he hopes to find the way to protect neurons from the toxic effects of beta-amyloid, and hence preserve memory.

Hidden Genetic Mechanism Discovered in Horseshoe Crabs

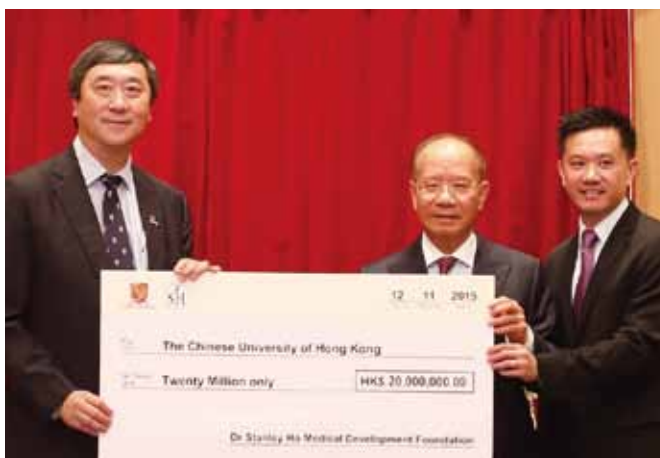
A team of researchers led by Prof. Jerome Hui (4th right) at the School of Life Sciences has recently investigated the three genomes out of the four extant horseshoe crabs, including the two of the four that can be found in Hong Kong. They discovered that 'Whole Genome Duplication' (WGD), a rare situation of evolution that was believed to happen only in the vertebrate ancestors, occurred in all three investigated horseshoe crabs. The research results suggest that



extant sexually reproducing invertebrates can also have WGD via unknown genetic regulation and mechanism, which contradicts the long held view that only vertebrates can do so. Professor Hui said, 'In terms of evolutionary biology, we can now prove that the differences between invertebrates and vertebrates are not solely due to WGD.'

Brain and Mind Institute Established

The Brain and Mind Institute, with an aim of facilitating the interdisciplinary research on the causes and therapeutic strategies for different developmental disorders, was established with a generous donation from the Dr. Stanley Ho Medical Development Foundation. The opening ceremony was held on 12 November 2015. The institute's research will address four strategic areas, namely optimizing language learning in early childhood; defining the broad autism phenotype in Chinese societies; enhancing treatments for dyslexia; and identifying molecular mechanisms of neurodevelopment and neurodegeneration.



Mr. Patrick W.M. Huen (centre), vice-chairman of the Board of Trustees and chairman of the Board of Directors of the Dr. Stanley Ho Medical Development Foundation; Mr. Ian Huen (right), member of the Board of Trustees of the Dr. Stanley Ho Medical Development Foundation; and Prof. Joseph J.Y. Sung, Vice-Chancellor

Scholarships for Young Talents Established with Donation from Dr. Li Dak-sum



The Chinese University, the University of Hong Kong and the Hong Kong University of Science and Technology received a total of HK\$300 million in donation from Dr Li Dak-sum (centre) for the establishment of scholarship schemes to nurture young talents. A donation agreement signing ceremony of Li Dak Sum Yip Yio Chin Kenneth Li Scholarship was held on 15 December 2015. Each

university will set up a HK\$100 million education fund to award scholarships to undergraduates who graduated from Ning Po College and Ning Po No.2 College and are outstanding in both academic performance and personal conduct, and with financial need. Each student will receive a total for HK\$200,000 over four years.

MOE Key Laboratory of Regenerative Medicine Established



With the approval of the Ministry of Education of the People's Republic of China (MOE), CUHK has joined hands with Jinan University to establish the MOE Key Laboratory of Regenerative Medicine (The Chinese University of Hong Kong—Jinan University) earlier this year. The joint laboratory aims to develop

various innovative techniques for regenerating tissues and organs. Its Hong Kong site is located at the School of Biomedical Sciences, CUHK, and its mainland sites at Jinan University and the CUHK Shenzhen Research Institute.

CUHK–BLCU Joint Research Centre for Chinese Linguistics and Applied Linguistics



The Chinese University of Hong Kong–Beijing Language and Culture University Joint Research Centre for Chinese Linguistics and Applied Linguistics was inaugurated in CUHK on 17 March as a research extension unit in humanities and

social sciences at national level. The joint centre will share research sources, utilize the expertise of both institutions and provide an exchange platform for researchers to strengthen the development of linguistics and other related disciplines.

Naming of Lau Chor Tak Institute of Global Economics and Finance

In appreciation of the generosity of Mr. Lau Chor-tak (2nd right), chairman of Lau Chor Tak Foundation Limited, for his long-term support towards the development of the Institute of Global Economics and Finance, the University renamed the institute as Lau Chor Tak Institute of Global Economics and Finance. The naming ceremony was held on 15 April.



Naming of CUHK T Stone Robotics Institute



From left: Institute director Prof. Liu Yunhui; Prof. Joseph J.Y. Sung, Vice-Chancellor, CUHK; Mr. Xiao Jianhua, chairman of Strategic Advisory Committee, T Stone Group; and Prof. Fanny M.C. Cheung, Pro-Vice-Chancellor, CUHK

The CUHK T Stone Robotics Institute, named in appreciation of the generous donation made by T Stone Group, was officially established on 21 April. The institute will focus on two major research areas:


medical robotics and service robotics. It will also encourage faculty members and students to establish robotics startups, and promote robotics innovation among undergraduate and secondary students.



CUHK–UT–UU Partnership

Three university presidents—Prof. Joseph J.Y. Sung (right) of CUHK, Prof. Meric Gertler (left) of the University of Toronto, and Mrs. Marjan Oudeman (centre) of the University of Utrecht (UU) signed a MOU on 11 April at UU to facilitate educational and research collaborations among the three institutions, initially in three areas of common interest, i.e., public health, cities and migration.

Lui Che Woo Distinguished Young Scholars Award Launched

With the generous donation of US\$2 million from Dr. Lui Che-woo (2nd left), founder and chairman of K. Wah Group through the Lui Che Woo Charity, CUHK has set up the Lui Che Woo Distinguished Young Scholars Award to support medical students who aspire to develop a career in medical research and to further their studies abroad. Awardees are expected to return to Hong Kong to contribute to the teaching, research or clinical work in the medical field. A donation ceremony to mark the launch of the award scheme was held on 12 May. 





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