

CHINESE UNIVERSITY BULLETIN

No. 2, 2016

From Cyber to Hyper
How learners learn their
lessons now and
in future

**The 81st and 82nd
Congregations**

Dr. Norman Leung:
Education is
Always on
My Mind





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A Cyber Campus Emerges

The advent of the Internet and mobile technology has brought about tremendous and far-reaching changes in all walks of life including the university campus. Classrooms are not necessarily physical spaces where the teachers ply their trade with the aid of boards, pen and paper. Lectures are no longer only delivered in a tête-à-tête way within the stipulated contact hours.

Amid the sea-change, CUHK has remained committed to its mission of providing world-class education by sparing no efforts or resources in formulating e-learning initiatives and strategies and modernizing pedagogies through developing Massive Open Online Courses (MOOCs), blended courses and Small Private Online Courses (SPOCs) in study programmes. It has guided and supported its teaching staff to use the new information technology to better address the learning needs of the digital-savvy generations. In the following pages, we will see how the collective efforts of the university management, its teaching staff and support units have marshalled education@CUHK into the cyber age.



Setting the Stage



CUHK has been unwavering in its academic outreach which values cultural inheritance, innovation and social impact.

Prof. Poon Wai-yin Isabella, Pro-Vice-Chancellor, CUHK

From iTunes U to MOOCs and more MOOCs

CUHK has been offering free educational programmes for public access by putting some of its most popular and relevant offerings on iTunes U since 2010. In 2013, CUHK joined the world of top-ranked MOOC providers in opening up its intellectual treasure haunts to learners from around the globe. So far, more than 124,900 online learners have benefited from the MOOCs offered by the University.

CUHK has spared no effort in widening its open-access education. In addition to our collaboration with Coursera, CUHK has recently partnered with CNMOOC, developed by Shanghai Jiao Tong

University, which has become one of the biggest MOOC platforms in China, and will soon offer a plethora of new MOOCs. Prof. **Poon Wai-yin Isabella**, Pro-Vice-Chancellor of CUHK, said, 'As a comprehensive research university, it is our mission to disseminate our research and pedagogical discoveries to the public for the betterment of society. Our teachers are often invited to give lectures in the mainland or overseas. If their lectures are pre-recorded and uploaded onto MOOC platforms, the teachers could have saved their travelling time and cease repeatedly lecturing

Some of the new MOOCs to be launched from 2017

- ‘Doing Business in China’ specialization: Selling to Chinese Consumers, China Strategy and Entrepreneurship (Coursera)
- Basic Modeling of Discrete Optimization (Coursera)
- ‘Becoming a Health Needs Assessment Specialist in Emergencies’ specialization: Public Health Management in Natural Disasters, Climate Change, Human Health and Sustainable Development, Infectious Diseases and Epidemiology, and Health Environmental Hazards and Public Health Responses (Coursera)
- Information Theory (CNMOOC)
- The Beauty of Kunqu Opera (CNMOOC)
- The Sphere Project and Sphere Standard—Minimum Standards in Humanitarian Response (CNMOOC)
- Training on Health and Disaster Preparedness in Rural China (CNMOOC)



The videos are better than live lectures as I can pause and rewind as many times as I need. The ‘Information Theory’ class is by far one of the most arduous and longest courses I have taken. I’m glad that I’ve made it!



a CUHK MOOC participant from San Francisco

on the same topics, and concentrate on addressing the learners’ challenges posted on online forums.’

Professor Poon believes that engaging contents, passionate teachers and good teamwork are essential ingredients for quality MOOCs to foster active participation and better completion rate online, and we are ready for newer and greater challenges. ‘Our teachers are gaining experience in delivering courses to culturally diverse learners, who might not have prior knowledge in the subject matter. With a better understanding of the nature of MOOCs, we could offer pedagogical advice to teachers from facilitating online discussions to designing a more feasible assessment mode suitable for MOOCs.’

Tilling the E-soil

The University has consistently built up its e-learning capability since the last decade. Efforts and resources are continuously dedicated to strengthening its technical and pedagogical support systems, quality assurance mechanisms, and offering grants to enable the academic staff to innovate their pedagogies by creating a host of micro-modules and exploring a wider adoption of flipped-classroom pedagogy.

Technological infrastructure is also strengthened, as in the chroma-key studio and learning technology studio conducive to scenario filming and courseware development for micro-module production. Full Wi-Fi accessibility has been extended to all classrooms on campus since 2016, offering teachers and students the convenience of access to e-learning materials and use of real-time classroom communication system such as uReply to exchange ideas.

The emphasis given by University management can be seen from the establishment of the eLearning Task Force, co-chaired by Prof. **Joseph J.Y. Sung**, Vice-Chancellor, and Prof. **Benjamin W. Wah**, Provost. The Task Force will steer the development of micro-modules for campus-wide use (MMCU) and MOOCs, organize e-learning training, and initiate pedagogical research. Different grant schemes such as the Micro-Module Courseware Development Grants (MMCDGS) are offered to encourage courseware production and e-learning pedagogy research.

Educators Flipped Learners

To familiarize faculty members with the adoption of technology-enabled resources for e-learning, the Information Technology Services Centre (ITSC) organizes technical and tailor-made training from time to time. ‘Before the semester begins, we will show the newly arrived teachers the basics of Blackboard Learn, a learning management system (LMS). We will also offer specific training to departments upon request,’ said Ms. **Carol Chiu**, head of the Academic Support Services of ITSC. ‘If the teachers hope to explore ideas or softwares for their e-learning initiatives, we’ll be pleased to give them advice and even prepare some mock-up models,’ added Ms. **Judy Lo**, team leader of

e-learning systems and MOOC manager, ITSC. The Centre for Learning Enhancement And Research (CLEAR) also offers research-based pedagogical advice to teachers from diverse disciplines with different requirements in e-learning materials.

Faculty-level e-learning workshops will be launched in 2017 by CLEAR in collaboration with the Faculty of Education to offer teachers a comprehensive perspective. 'The momentum of e-learning will continue to grow, as like-minded teachers gather and observe how their peers have implemented e-learning initiatives,' said Professor Poon. 'The University encourages faculty members to experiment with innovative pedagogies. We expect the ripple effect on staff engagement will cultivate an e-learning community on campus.'

A successful deployment of e-learning strategies and technology-enabled resources is incomplete without interpreting and analysing the learning data that cast light on the learners' behaviour and performance. Starting from 2017, the Centre for Learning Sciences and Technologies of the Faculty of Education will assist teachers who need to interpret the learning analytics gathered from the LMS.

Learning analytics in turn give rise to new research opportunities. 'Teachers who intend to conduct research on the correlation between students' online activities and their academic performance, for example, can submit their research proposals

to the eLearning Task Force to gain access to the data on the University's LMS,' said Ms. Lo. Some teachers even take a proactive role to examine the pedagogical effectiveness of MOOCs and the social dynamics of learners. For instance, Prof. **Rosanna Chan** of the Department of Information Engineering analysed learners' online discourses in the CUHK MOOC 'Information Theory' to learn about the learners' participation lifecycle.

Milestones of E-learning Development@CUHK

Year	Event
1999	Undergraduates were required to achieve Student IT Competence (SITC) before graduation
2000	CUHK's first e-learning platform WebCT launched
2001	First instalment of internal courseware development grants (CDGS)
2004	First institutional study of e-learning at CUHK
2005	Guidelines for e-learning formulated
2007	<ul style="list-style-type: none"> • Second instalment of CDGS • eLearning Liaison Persons (eLLPs) network established
2008	An eLearning Assistant (eLA) scheme established to train student assistants to offer technical support
2010	The Chinese University Student Information System (CUSIS) and MyCUHK went live
2012	<ul style="list-style-type: none"> • Student Development Portfolio System (SDP), an experiential learning portfolio, launched • A consolidated learning management system Blackboard Learn was adopted in the double cohort year
2013	Partnership with Coursera commenced to offer courses for global learners
2014	Micro-Module Courseware Development Grants (MMCDGS) launched in support of flipped classroom
2015	CUHK launched territory's first one-stop cloud-based Knowledge & Education Exchange Platform (KEEP) with partner institutions
2016	The Centre for eLearning Innovation and Technology (ELITE) inaugurated to provide facilities and technical support for courseware production



(From right) Ms. Judy Lo, Prof. Isabella Poon, Ms. Carol Chiu, and Ms. Daisy Chen, assistant computer officer of ITSC

KEEP Learning in the Clouds

Education has been revitalized by the ubiquitous use of the Internet and technological advancement. To keep abreast of the global learning trend, the University has initiated a cloud-based e-learning platform KEEP (Knowledge and Education Exchange Platform) with its partner institutions. The one-stop platform aims at furnishing its subscribers with open access to quality educational resources, courseware and personalized learning content and data analytics.



Prof. Irwin King,
project investigator
of KEEP

Prof. **Irwin King**, Associate Dean (Education) of CUHK's Faculty of Engineering and project investigator of KEEP, said, 'The trend of providing quality education nowadays is to disseminate e-learning content to better engage learners. As an engineer, I wish to leverage technology for the betterment of teaching and learning.' Teachers from Hong Kong institutions have created over 90 courses on the KEEP platform, while many more are in progress. Through collaborations with several global MOOC providers such as Coursera and cross-institutional projects like the BOLT (Blended & Online Learning & Teaching), KEEP has aggregated around 4,300 courses for global learners to access.

Analytics for Personalized Education

The widespread introduction of learning management systems (LMS) such as Blackboard Learn and Moodle has accumulated a vast amount of students' learning and interaction data. On KEEP Moodle and KEEP edX, learners' behaviours from video-watching, completion of quizzes and assignments to forum discussions can be tracked for purposes of understanding and optimizing teaching and learning. 'KEEP provides a finer-grained learning analytics. Teachers can identify when students are more active in the forum responding to posts and answering questions. We use a formula to calculate how active students are. With their online behaviours plotted on a graph, teachers can easily observe student engagement at a glance,' Professor King explained.

The intelligent software can spot if a student is continually making similar mistakes, for example, which gives teachers capability to address the needs of individuals in a personalized way. On the other hand, learners can create their personalized learning path utilizing the course recommender based on their learning preferences and goals. 'Learners taking MOOCs on the American War of Independence, for instance, can select the modules on economic consequences instead of the

whole historical development.' The content-based filtering system will recommend courses according to learners' preferences, which saves them from having to select among a myriad of choices.

Learning Community Reimagined

Many people fear that e-learning will lead to less contact between students and teachers. In fact, e-learning can do the opposite by promoting self-regulated and peer-learning, which in turn enhances teacher-student interaction. Other benefits include easily digestible content and learning at students' pace, which help learners create a sense of self-accomplishment.

To this end, KEEP has partnered with Edore, a local startup promoting micro-learning. On the micro-module platform edore@KEEP where small chunks of media-rich learning content are developed, online supplementary exercises are automatically graded to give learners immediate feedback on their progress. The micro-learning platform empowers learners as they are allowed to create quizzes to challenge their peers, which implies a paradigm shift from one-way lecturing to learning community co-creation.

Five Major Services of KEEP

KEEPSearch: an in-depth directory and search engine with dedicated educational resources from over three million education-related webpages being crawled and indexed;



KEEPCourse: a gateway for students to enroll courses on international MOOC platforms such as Coursera, edX, ewant, xuetangX, etc., and for teachers to design online courses on learning management systems;



KEEPCatalog: a showcase collection of the best-in-class software, hardware, and services for teaching and learning;



KEEPPoll: a real-time web and mobile polling service for interactive classroom communication;



KEEPAttendance: a tool for teachers to easily take attendance with a QR code for students to scan.



Wired to Habits of Net Generation

Large lecture classes in higher education settings pose many challenges to class interaction. KEEPoll is a polling facility that can be deployed for instant feedback, which addresses this issue. Students can scan the QR code with their networked portable devices and answer the questions, both multiple-choice and open-ended. Real-time results will be projected on the screen, giving the teachers an idea of whether students are able to grasp the class content. 'Answers to open-ended questions can somehow trigger further discussions and invite interesting responses, enhancing learning atmosphere in class,' said Professor King.

'Gamification is also central to e-learning,' he continued. KEEP is co-branding a game engine

(PaGamO) which models a world in which a user's territories will be expanded with points obtained from taking educational quizzes. Teachers can customize the game template by supplying questions from their own disciplines. The gamification approach encourages student engagement in-class and out-of-class, and results in a motivating blended learning environment. In future, KEEP will also develop social and collaborative enhancement tools to foster a more active and inquiring way of learning.

'Students' self-discovery process nowadays is different from 10 to 15 years ago. Inevitably, e-learning implies more work for teachers and learners. But teachers will find it worth pursuing as long as they see better student engagement enabled by shifting parts of lectures online and allowing more time for classroom interaction,' Professor King concluded.



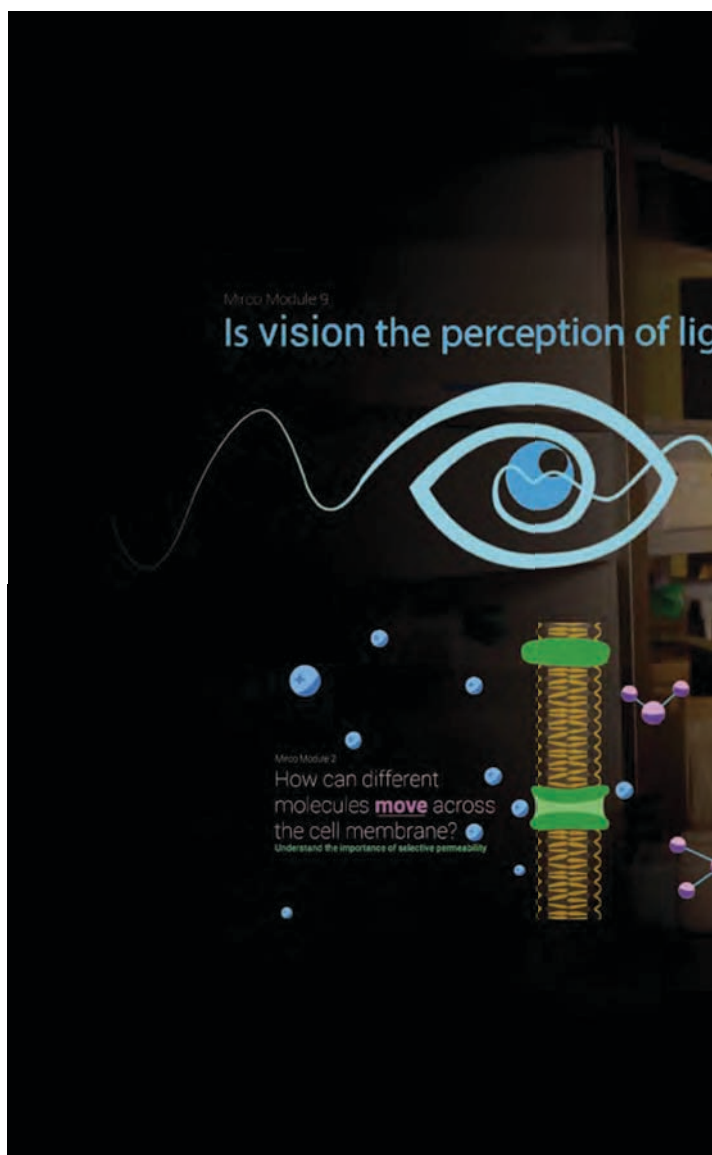
Assiduous Cultivators of the Digital Soil

The University has been gathering momentum in its e-learning expedition by continuously strengthening its technical and pedagogical support infrastructure, offering grants to teachers and encouraging staff to develop courseware and micro-modules in support of blended learning across disciplines. With concerted effort through the years, e-learning mushrooms on CUHK campus.

Animating Biomedical Concepts

Dr. **Isabel Hwang**, senior lecturer in the School of Biomedical Sciences, has since 2007 been developing courseware such as mobile applications, virtual reality and micro-modules in health sciences to make her large classes in heterogeneous disciplines, from Chinese medicine, nursing, pharmacy to public health, more interesting and interactive. In her self-learning micro-modules covering major topics in the health sciences, her students are able to visualize the conceptual physiological mechanisms.

Dr. Hwang said, 'I'm not denying the values of didactic lectures. But the use of 2D static images in lecture slides in some topics does have limitations. For instance, electrical impulses generated in the human neurons are not ordinary objects that students can reach.' She believes that her students' learning efficacy can be enhanced if they



can visualize the process by animated videos with narrations. When she completed her first courseware in 2008, she was excited to find that her students were already asking for more.

'I'm very grateful to have worked with a team of approachable and professional colleagues from ITSC and the Office of Medical Education. Without their technical support, I couldn't have created such quality animated videos.' Micro-modules are hosted on the learning management system Blackboard Learn for students to access for pre-lecture preparation. The learning analytics on the system also helps her review students' learning status at a glance. She has even uploaded all the modules on the KEEP platform for open access.

'Around 65–70% of students taking the courses have completed the micro-modules. As some in-class lecture materials have been shifted to pre-class micro-modules, students have more time to engage in in-depth discussions in class, which were not possible before.' Dr. Hwang believes that the secret of a successful e-learning pedagogical design lies in initial planning: Team up with relevant expertise when a topic is selected. Students are interested in real-life scenarios, particularly those that may relate to their own state of health. When developing an animated courseware which mimics a real-life scenario, however, be prepared to juggle between time, budget and the actual outcome.





Ancient Wisdom Goes Mobile

To broaden students' intellectual horizons and foster their critical thinking in a world that evolves at the speed of fibre-optics, the role of classics—from *The Analects* to *On Liberty*—has never been more important. But comprehending classic texts requires patience in close reading, a rewarding experience contradictory to the culture of instant gratification nowadays.

Dr. **Kevin Ip**, lecturer in the University General Education Foundation course 'In Dialogue with Humanity', which aims at fostering students' self-understanding and visions of good life and good society through intellectual encounters with significant works of literature, religion, moral philosophy and political philosophy, is aware that students tend to interpret the texts

based on their life experience, without carefully examining the logical coherence and historical background of the texts themselves.

'The new generation is used to browsing for solutions online, but they may not have the prudence in evaluating the credibility of the source. To assist students to understand the sociocultural contexts of the classic texts, we have lined up CUHK scholars to conduct mini-lectures hosted on the KEEP edX platform,' said Dr. Ip. The modules mainly serve the purpose of clarifying core concepts before in-depth discussion in weekly tutorials.



Five micro-modules including 'Social Contract and Freedom' and 'Arabic Peninsula at the Beginning of Islam' have been created, while more modules are in the pipeline. The production team attended a workshop at the Centre for eLearning Innovation and Technology (ELITE) to equip themselves with the knowhow of video editing and interactive exercise setting. According to Dr. Ip, each module requires one week of preparation and another week for multimedia content editing. 'The micro-modules' completion rate is now above 70%. I find them instrumental in clarifying the core concepts in tutorials, especially when the 45-minute lecture

with a class size of over 100 students may not afford a deeper exploration of classic texts'. The micro-modules are currently open to the CUHK community. Dr. Ip hopes to open them to a wider online community in future. 'After all, the mission of higher education is to pollinate knowledge for the betterment of society.'

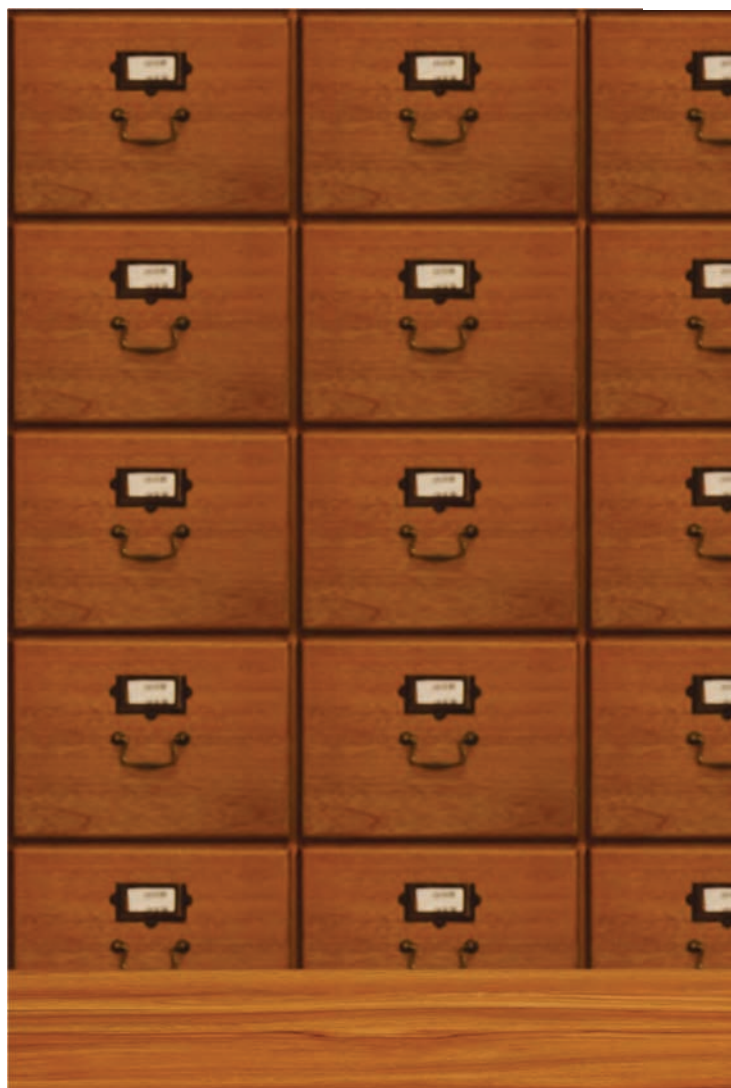
Alongside classroom interaction, autonomous learning is also conducted on the mobile app *DAIMON*, a reading companion developed by CUHK teachers for comprehending difficult texts such as the *Qu'ran*. The check-point questions of the app help students check their own reading progress and understanding.

Pocket-size Chinese Materia Medica Database

Mr. **Michael Chung**, lecturer in the School of Chinese Medicine, has been exploring ways to help students memorize and apply medical knowledge from ancient prescriptions to modern use. In the old days, revision of herbal knowledge involved preparing flash cards and flipping through medical dictionaries. For tech-savvy learners of the 21st century, absorbing information by swiping the screens of their portable smart gadgets is the way to go. He therefore thought of developing a mobile app to help students revise herbal knowledge on-the-go, so that students do not need to rely on stacks of lecture slides.

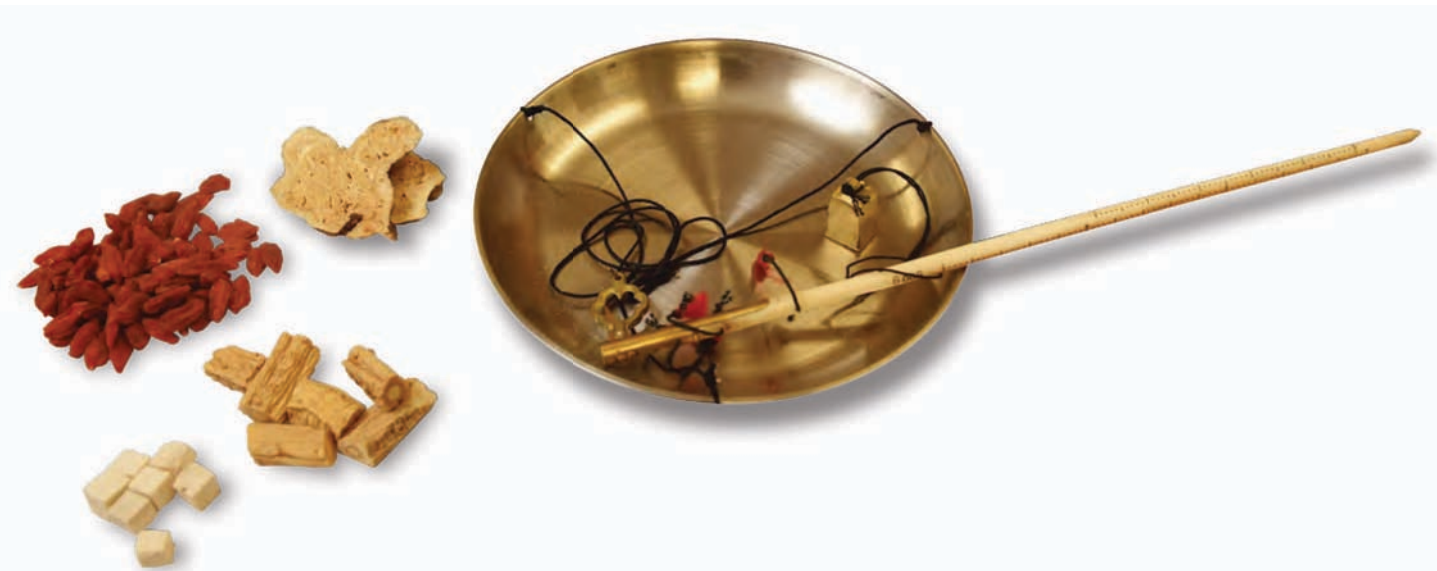
Mr. Chung worked with the ITSC Courseware Development team to develop the Chinese Materia Medica Memorizer app to help students learn the basics of Chinese herbal medicine, such as names and properties of herbs, in bite-size chunks. He incorporated an e-book, an e-flashcard and an 'edutaining' revision game into the mobile app. The e-book contains 100 types of materia medica illustrated with photos. Its search function helps students efficiently look up a particular herbal drug and compare those with similar properties. The content of the e-flashcard is customizable—category, flavour, functions and nature—for autonomous learning. The embedded tracking system helps learners understand their learning progress and review unfamiliar items.

'About half of the undergraduates have tried the mobile app and found it useful for revision,' Mr. Chung said. Gamification is particularly well-received among students. By matching the two key herbal properties (such as functions and flavours), the 'edutaining' game challenges students to apply their herbal knowledge within a restrained timeframe. 'Some students like the cartoon design of the game. I remember one student screen-capped his victory with his smartphone and shared



it on Facebook, which was contagious enough to attract his peers to play the game,' he added.

'The development of the courseware took 12 months in 2013 when smartphone technology was still young. We spent a long time to learn the technical limitations such as compatibility across different mobile operating systems, so as to explore the design solutions which fit our pedagogical objective.' To Mr. Chung, an effective e-learning platform should facilitate the active learning of students. When students become more confident of the knowledge they have acquired, they will engage more actively in the sharing of ideas and further elaborations in lectures.



Raising the Bar of Macroeconomics Education

The curriculum of macroeconomics has been evolving with global economic development. Faced with an expanding curriculum, Dr. **David Chow** (right), Dr. **Fred Ku** (centre) and Dr. **Andrew Yuen** (left), senior lecturers from the Department of Decision Sciences and Managerial Economic, determined to create animated micro-modules to engage students in the fast-paced society exploded with information. 'Students know that the US will increase the interest rate, but they might not know the whole picture. We envision using multimedia to arouse students' curiosity in exploring the current affairs and delve into the economic phenomenon,' said Dr. Ku. In this sense, animated real-life scenarios and graphical elaborations are the catalyst to knowledge acquisition, but not the endpoint per se.

Every topic in the micro-modules was carefully selected. Dr. Yuen said, 'The aggregate demand–aggregate supply (AD-AS)' model is often used to explain some macroeconomic events. We chose this topic for students' pre-lecture preparation due to its applicability and room for discussion.' In large classes, students are used to responding to questions via the classroom communication system uReply with their mobile devices. 'Students in my class are divided into 10 groups, with each containing around seven people. The leaders will input their collective wisdom on the system and the real-time answers will be displayed by groups,' said Dr. Ku. They



observed that atmosphere and interaction were thereby encouraged.

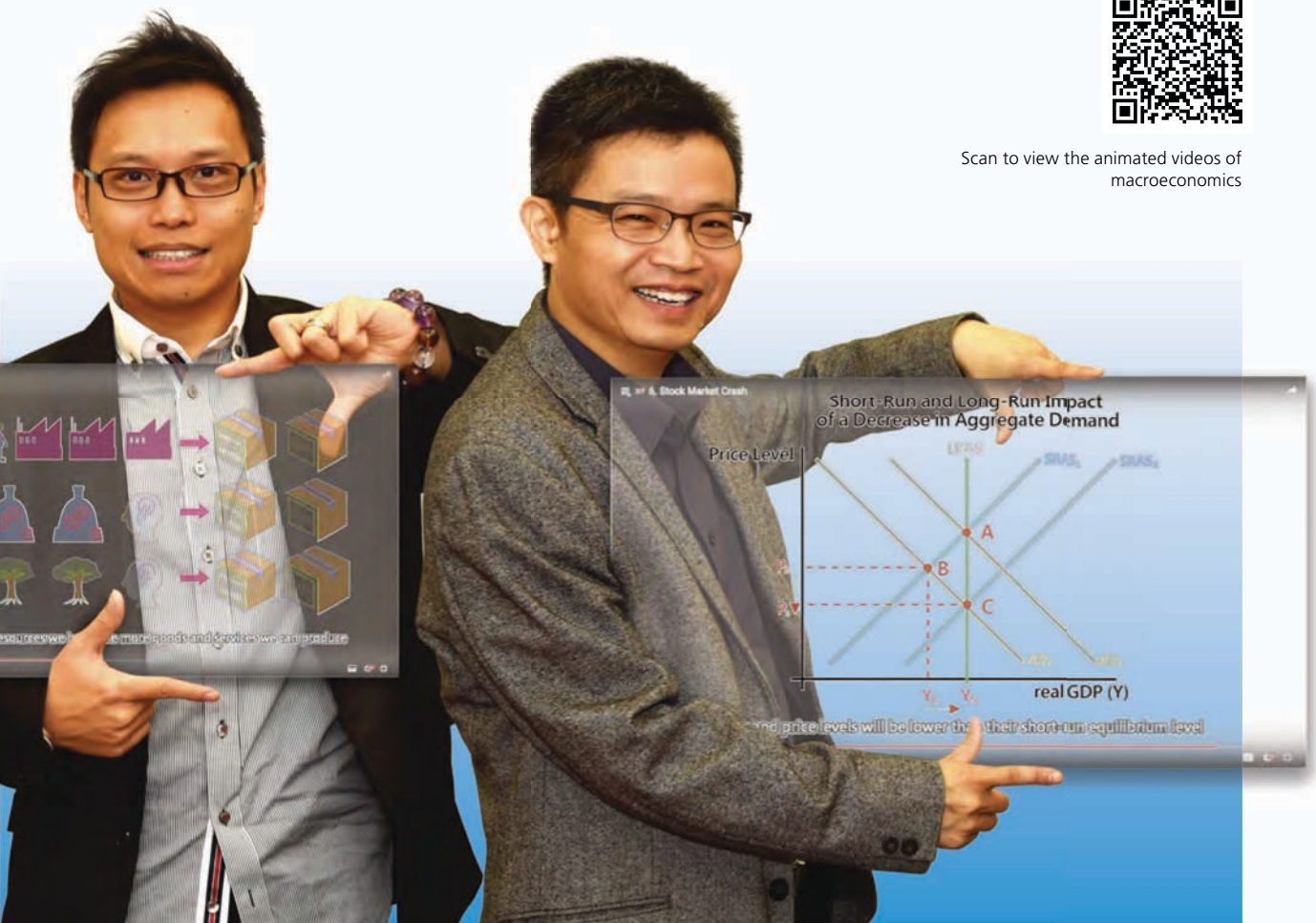
The 'Flipped Classroom with Micro-modules for Macroeconomics in Business', together with other e-learning projects run by the teachers, is supported by their department and the Micro-Module Courseware Development Grant. From topic selection, script writing and storyboard planning to the actual outcome, the production of the animated videos takes one year to complete. The micro-modules are hosted on the cloud-based KEEP platform, where teachers can create online quizzes and review individual students' performance from the analytics. Dr. Ku said, 'The majority of students find the modules

interesting. They facilitate class dynamics and enhance understanding.'

'We're trying different modes, such as lecture recording, animated videos and simulated gaming, to learn which works better for certain content delivery and teaching objectives. For instance, I'm experimenting on an online game in which students could forecast the trend of the US interest rate by capturing real-life data, doing investment and trading,' said Dr. Yuen. To the teachers, e-learning is not merely entertainment but a springboard to arouse students' learning motivation. Authentic and sustainable motivation lies in the pleasure of understanding the theories and their applications in life.



Scan to view the animated videos of macroeconomics



Creating a Digital-friendly Campus

Developing courseware and multimedia instructional content to engage the net generation outside the classroom is essential for flipped teaching and learning. Capturing videos, creating simulated animations and adding post-production elements, however, involve expensive equipment and professional support. To address rising pedagogical needs, the Centre for eLearning Innovation and Technology (ELITE) was established in January 2016 to provide support for courseware development and initiatives such as micro-modules and MOOCs.



ELITE offers technical support for developing teaching materials with the latest digital technology. According to Prof. **Cecilia Chun** (photo), Director of CLEAR, users can apply real-time multimedia sources to create special visual effects in a chroma-key studio, readily and easily. 'We also host workshops and seminars to initiate interdisciplinary collaborations,' she added.

Institutional Commitment to E-learning

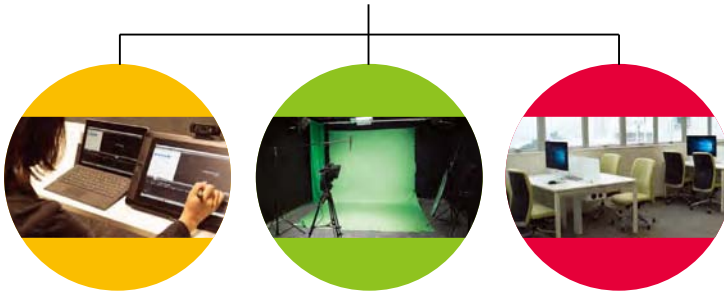
The University is committed to strengthening its infrastructure and support systems to advance e-learning, which includes increasing Wi-Fi capacity on campus, setting up grant schemes for multimedia content development, and founding ELITE managed by the Centre for Learning Enhancement And Research (CLEAR). 'We encourage, facilitate and support the use of innovative technology for teaching and learning at CUHK. To this end, ELITE has been established to provide space, facilities and teaching support for e-learning projects,' said Prof. **Benjamin W. Wah**, Provost of CUHK.

The media production specialists have been helpful in equipping our student helpers with the techniques to edit the video clips and create quizzes for the micro-modules designed for students' self-regulated learning.

a lecturer of the University General Education Foundation programme

Facilities Conducive to Materials Preparation

ELITE is equipped with two soundproofing studios and a multi-purpose workstation area, which are suitable for recording videos for online courses and tutorials, and for editing multimedia content for on-campus teaching.



Self-recording Studio

- a soundproofing environment and double-screen computer installed with Camtasia
- teachers can record their teaching (with or without camera) and present their teaching notes on the monitor simultaneously

Chroma-key Studio

- a chroma-key background for compositing different media files in real-time recording
- different filming scenarios for micro-module production

The Multi-purpose Open Area

- a space for teachers to work on courseware preparation and post-editing
- various items of software such as Articulate Storyline and GoAnimate available for course material design and production

Technology has allowed learning to be a more dynamic process, in which the interaction between teachers and students will no longer be the same. To keep abreast of the growing trends in e-learning in the global higher education sector, the University has been building capacity for the last decade by strengthening its technological infrastructure and introducing e-learning components in its teaching and learning pursuits. In the long run, ELITE will strive to assist teachers to apply multimedia courseware and micro-modules, MOOCs and other e-learning initiatives of CUHK.



Scan to view the ELITE Introductory Video

Integrated Services Offered by Specialists

Apart from choosing from the ocean of e-learning software and authoring tools, teachers can seek professional opinions from the workshops and consultations run by the media production team, and benefit from such services as:

Instructional Design



The instructional designer will discuss with teachers and formulate ways to put course content into multi-modal teaching materials



Pre-production meeting



The media production specialists will communicate with the teachers on shooting requirements and expectations



Studio filming and on-site shooting



Filming can be conducted inside the chroma-key studio or outdoors as required



Post-production



Clips will be edited in terms of audio and video formats. Other visual effects and animation can also be added onto the clips

Educating Generation Z

Support for Primary and Secondary Schools' E-learning Development

Since its establishment in 2005, The Centre for Learning Sciences and Technologies (CLST) has been working closely with the Faculty of Education to launch a series of e-learning projects for teachers and students in primary and secondary schools.

'Teachers participating in our earlier projects have reported that the various e-learning activities, such as pre-class readings, post-class revisions and quizzes, and online discussions with students from other cities, play a significant role in strengthening their students' research and communication skills, as well as enhancing their levels of in-class participation and overall academic

achievements,' remarked Prof. **Morris Jong**, Director of CLST.

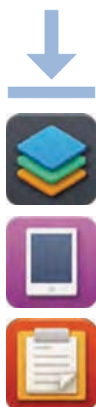
In order to make learning outside the classroom more convenient and effective, the CLST team has in recent years developed an integrated GPS-supported outdoor learning system, 'EduVenture®' (EV), to facilitate outdoor fieldtrips.



A group of primary school students using the EduVenture® learning system to complete their fieldtrip assignment in Tainan

EduVenture®

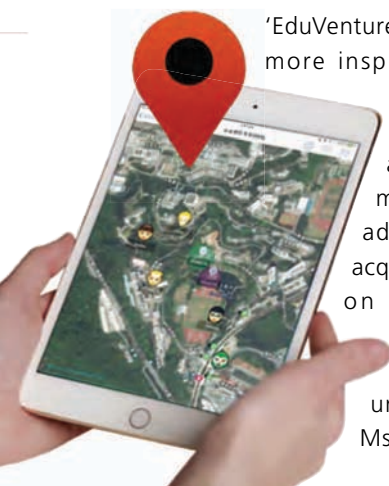
The mobile learning system consists of three platforms: a pre-trip EV-Composer platform which allows teachers to design tasks for their students to complete at various checkpoints, an EV-Explorer mobile app showing students' real-time positions and their task completion progress during the fieldtrip, and an EV-Retriever platform which enables the teachers to review and correct the students' answers after the trip.



Students, on the other hand, can select their own itinerary and document their fieldtrip observations by taking photos and videotaping their journeys, as well as inserting all forms of data by using the application system installed in their mobile devices. The EV-Retriever platform also allows retrieval of previously saved data to generate graphs and charts for in-class presentations.

Currently, more than 300 primary, secondary and special schools are using EduVenture®. Its user-friendly features and substantial technical support provided by CLST staff are among the many reasons for its increasing popularity. One of the winners at the EduVenture® Outdoor Teaching Material Design Competition, Ms. **Lam Mei-yi** from Sacred Heart Canossian College, is a first-time user of the system. She shared her experience of using EduVenture® to conduct a fieldtrip about the history of Aberdeen for a secondary school history class.

'EduVenture® has made outdoor learning more inspiring and enjoyable for my students. By exploring various historical sites in groups and completing a multimedia report about their own adventures, the students have acquired a deeper understanding on the history of Aberdeen and even came up with suggestions to preserve its unique cultural heritage,' said Ms. Lam.



EduVenture VR®

However, visiting remote areas can be extremely challenging for young primary school students and students with special needs. To overcome these obstacles, CLST launched the EduVenture VR® in November 2016, which allows students to virtually travel to the places they study without worrying about transportations and accessibility. With a mobile device and a Google Cardboard, the students can enter a fully immersive environment by viewing a 360° VR video with dialogues, sound effects, and questions prepared by their teachers.

Mr. **Ng Yu-kit**, an English teacher at Confucian Tai Shing Primary School, has created interactive teaching materials by using EduVenture VR®. After taking a virtual tour around a local supermarket and listening to the English dialogues of two grocery shoppers, the students are asked to report their observations in English and answer the multiple-choice questions shown on the screen of their mobile devices.

'The system allows me to review all of my students' answers at once and evaluate their individual learning progress almost instantly,' said Mr. Ng.

CLST has uploaded the above-mentioned teaching materials to their EduVenture® and EduVenture VR® online platforms, where teachers can share related resources and learn from each other's experiences. The Centre will also launch a professional training programme on EduVenture VR® early next year. It is hoped that CLST's latest innovation will allow multimedia teaching materials to be prepared in a more time-effective manner, and enable computer-assisted instructions to achieve higher educational impacts for the next generation of digital learners.



Prof. Morris Jong (right), Director of CLST; Mr. Eric Luk (left), Educational Development Officer (IT) and Mr. Jimmy Leung (centre), Software Developer presenting the EduVenture VR® learning system at the InnoCarnival 2016

E-learning Opens Up Experiential Learning

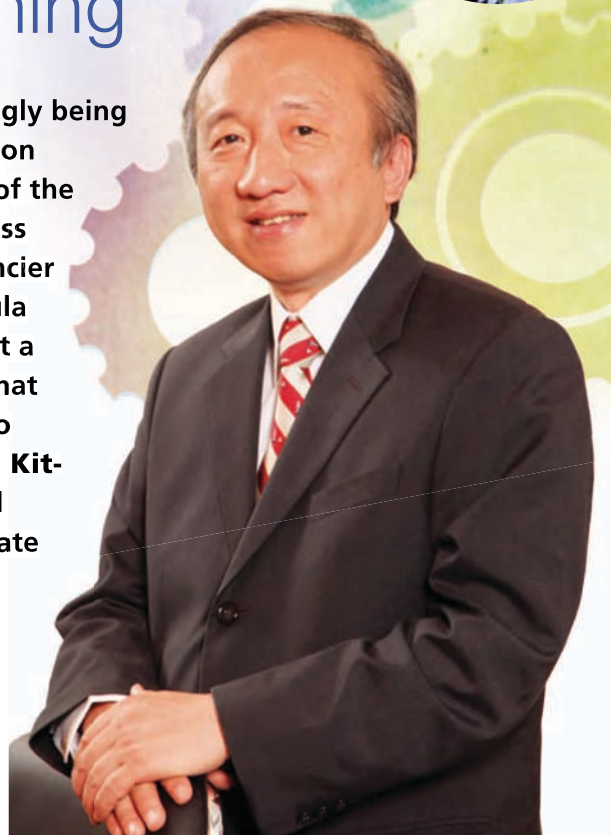


With computers and the Internet increasingly being part of our daily lives, schools and education systems can do nothing but keep abreast of the technological megatrend. Classrooms across the world are equipped with more and fancier computer resources, and university curricula offer various forms of online support, be it a forum or an online bulletin board. But is that the best we can make out of technology to facilitate teaching and learning? Prof. Hau Kit-tai, Choh-Ming Li Professor of Educational Psychology, invites us to rethink the ultimate purpose of flipping a classroom.

E-learning is Useless?

Quoting a PISA 2015 report on Students, Computers and Learning which involved some 80 countries, Professor Hau shed light on an inconvenient truth: the impact of greater computer use on student performance is mixed at best. In countries where it is less common for students to use the Internet at school, students' performance in reading improved more rapidly than in countries where such use is more common. Students who use computers moderately at school tend to have similar outcomes to students who do not use them at all. But those who use computers very frequently at school do a lot worse in most learning outcomes.

'The conventional approach to e-learning—an entire class of students reading online material



or browsing the Internet together—proves not as effective as we had envisioned. It is not that technology hampers learning, but that most of us have not yet become good enough at harnessing the true, liberating power of e-learning,' said Professor Hau.

Schools are Not for Lessons

To illustrate how technology can be used to liberate learners, Professor Hau gave the example



of an online university called Minerva. There are no lectures at the US-based college startup. Professors hold their seminar-style classes online, allowing Minerva students to rotate through seven cities during four years of study, from Berlin to Buenos Aires, Seoul to San Francisco.

‘Without being bound by physical class sessions, Minerva students are freed to explore the real world and be immersed in each of those cultures as residents. The ultimate purpose of e-learning is to make room for the kind of experiential learning and liberal arts education that students always dream of having,’ remarked Professor Hau.

New Function of Schools

Professor Hau pointed out that flipped learning, when used wisely, realizes an optimal division of labour between humans and the computer. ‘Most in-class lectures are a repetitive act in which the teacher imparts the same thing every year, whether to an audience of 10 or 10,000. Such lectures should be given once and for all by those who are the best in the field and get recorded and developed into open resources, so that students can watch and learn them anytime, anywhere.’

For example, when students in Sichuan Province set out to study the classic Chinese prose ‘Moonlight over the Lotus Pond’, they stay home and watch videos of an eminent Beijing scholar interpreting the text with a theatrical approach. When the students go to school, they are led

by their teachers to a real pond to feel what the author was trying to convey.

‘With the repetitive, robotic teaching removed from the classroom, a school can focus on the interactive and experiential part. When students get into a real school, we should offer them something virtual reality can never deliver,’ said Professor Hau.

To deliver on the promises technology holds, Professor Hau stressed that teachers will need to become active agents for change, not just in implementing technological innovations, but in devising experiential learning that fosters skill-building and a love of life. ‘E-learning has allowed anyone to learn anything from the best teachers in the world for free. Then what is the place of a physical school? Any visionary educator should start to think about putting 10% of his/her effort on the production of digital material, and the other 90% in designing interactive, life-changing experiential activities.’



Into a Hyper Learning Site

Starting from the first MOOC launched in Canada in 2008, the digital landscape of higher education has been redrawn on an unprecedented scale. The 'flipped classroom' is no longer a buzzword: students can prepare for lectures by accessing online materials at their convenience, and teachers can integrate face-to-face instruction with online micro-modules and interactive class-time enabled by real-time assessment functions with smart gadgets.

The MOOC platforms have presented the rich intellectual quarry at CUHK on literally the world stage. Enabled by policy guidelines and buttressed by infrastructural investments, teams of teachers and researchers from, among others, Medicine, Business, Education and General Education have pioneered substantial changes in the content and format of teaching and learning. The momentum has not paused or slowed but has accelerated to make ours one of the most hyperactive campuses in e-learning. CUHK is ready to ride the tide and continue to deliver top-quality education to its own students as well as many more in cyberspace. 📱

The 81st and 82nd Congregations



The 81st and 82nd Congregations for the Conferment of Degrees were held on 17 November and 1 December 2016, respectively. Dr. **Norman N.P. Leung**, Chairman of the Council, presided over the congregations and conferred 9,937 honorary, higher and first degrees.

CUHK conferred honorary doctorates on three distinguished persons in recognition of their outstanding contributions to their respective areas of achievement in social, educational, arts and cultural progress and the promotion of community welfare.

Number of Degrees Conferred in 81st and 82nd Congregations

Honorary Doctorate

3

Doctoral

422

Master's

5,530

Bachelor's

3,982





Chief Justice **Geoffrey Ma Tao-li** was educated from an early age in England where he obtained his Bachelor of Laws from Birmingham University. After his pupillage in London, Chief Justice Ma returned to Hong Kong and was called to the Bar here in 1980. He took silk as a Queen's Counsel in 1993. He was elevated to the Court of First Instance and the Court of Appeal in 2001 and 2002 respectively, and was appointed Chief Judge of the High Court in 2003. Chief Justice Ma was heavily engaged in the reform of the Civil Justice System in Hong Kong. His many non-legal contributions to Hong Kong society include roles as chairman of the Appeal Tribunal Panel for Buildings; the Environmental Impact Assessment Appeal Board Panel; deputy chairman of the Board of Review Panel (Inland Revenue) and the Securities and Futures Commission Appeals Panel; member of the Hong Kong Futures Exchange

Disciplinary Appeal Tribunal as well as the Criminal and Law Enforcement Injuries Compensation Boards, and president of the Scout Association of Hong Kong. In recognition of his unique contribution to sustaining and preserving the legal foundations of Hong Kong, the University conferred upon Chief Justice Ma the degree of Doctor of Laws, *honoris causa*.



Prof. **Au Ho-nien** is one of China's greatest art masters and stands at the forefront of the third generation of the Lingnan school of painting. His work, which incorporates myriad styles, has been exhibited in Hong Kong and on both sides of the Taiwan Strait, as well as Japan, across Europe and the US. He has been earning applause from all sectors, and has also received numerous prizes, including the Gold Dragon Award of Global Outstanding Scholar in 1999, the first Dragon



Culture Golden Award from the International Yanhuang Culture Research Association in 2000, and an award from the French National Society of Fine Arts Biennial Exhibition, Grand Palais Museum of Paris in France. Apart from painting, Professor Au held fine arts teaching posts in Hong Kong and Taiwan tertiary institutions. He spared no effort to foster talent and train the next generation. In order to expand and improve art education, Professor Au founded the Au Ho-nien Cultural Foundation in 2000, in which a great number of painting classes for children are offered and academic seminars on watercolour painting are held. The University conferred upon Professor Au the degree of Doctor of Literature, *honoris causa*, in recognition of his outstanding achievements in calligraphy and painting, his contributions to the promotion of Chinese cultural traditions and the advancement of art education, and his support and generosity to CUHK.

Venerable Master **Hsing Yun** is a world-renowned religious leader, humanitarian, author, educator and philanthropist. In 1967, he founded the Fo Guang Shan International Buddhist Order in Kaohsiung to promote Humanistic Buddhism, which has established itself as one of the most important Buddhist sects among mankind as a whole. Over the past decades, Master Hsing Yun has established nearly 300 temples across the globe and has founded a variety of Buddhist

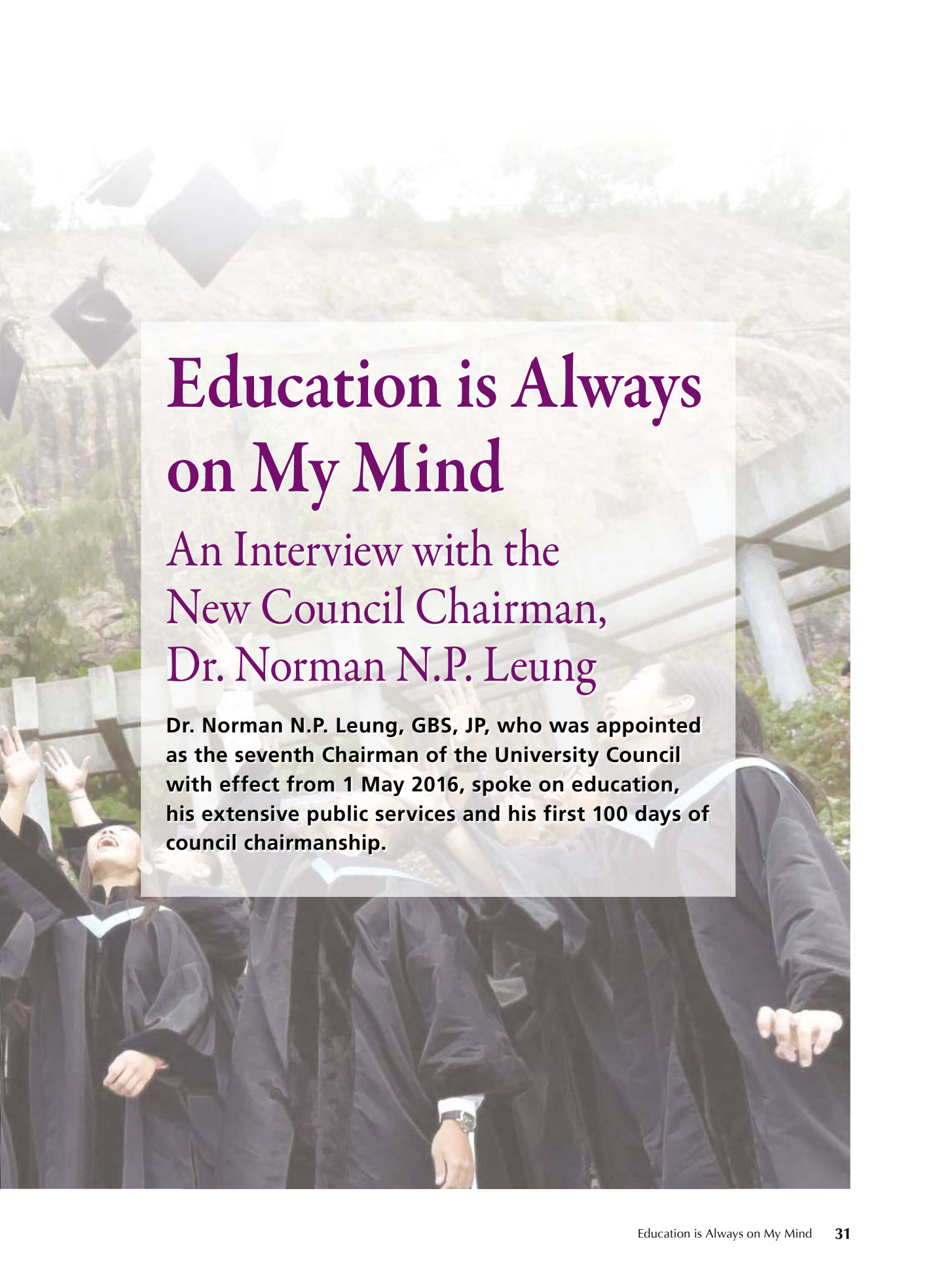


institutes, art galleries, libraries, mobile libraries, publishing houses, bookstores, hospitals, clinics, universities, secondary and primary schools, kindergartens, nursing and retirement homes. The Fo Guang Shan Foundation for Buddhist Culture and Education—set up by Master Hsing Yun—and CUHK co-founded the Centre for the Study of Humanistic Buddhism in 2005, which not only promotes research on Buddhism and nurtures young Buddhist scholars, but also sponsors related research projects by the Faculty of Arts of the University. In recognition of his contributions to cultural, educational and philanthropic causes, as well as his support for Hong Kong society in general, and CUHK in particular, the University conferred upon Master Hsing Yun the degree of Doctor of Social Science, *honoris causa*. 🏆

Citations in full at www.cpr.cuhk.edu.hk/resources/press/pdf/583faecc00646.pdf



Photo by Keith Hiro



Education is Always on My Mind

An Interview with the New Council Chairman, Dr. Norman N.P. Leung

Dr. Norman N.P. Leung, GBS, JP, who was appointed as the seventh Chairman of the University Council with effect from 1 May 2016, spoke on education, his extensive public services and his first 100 days of council chairmanship.

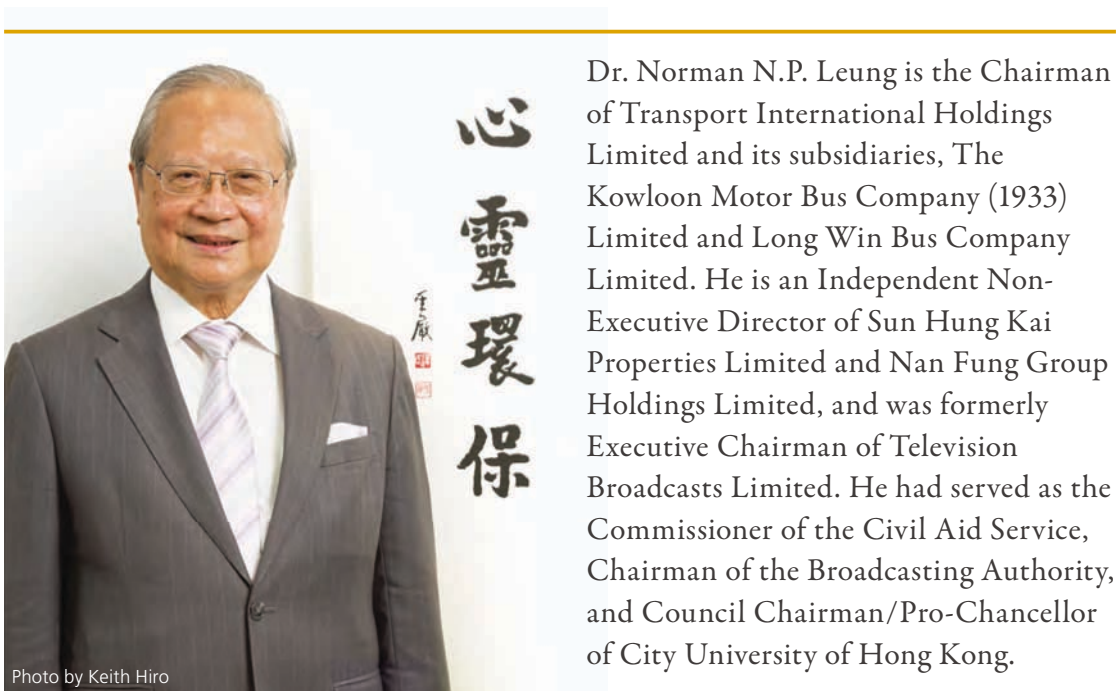


Photo by Keith Hiro

Dr. Norman N.P. Leung is the Chairman of Transport International Holdings Limited and its subsidiaries, The Kowloon Motor Bus Company (1933) Limited and Long Win Bus Company Limited. He is an Independent Non-Executive Director of Sun Hung Kai Properties Limited and Nan Fung Group Holdings Limited, and was formerly Executive Chairman of Television Broadcasts Limited. He had served as the Commissioner of the Civil Aid Service, Chairman of the Broadcasting Authority, and Council Chairman/Pro-Chancellor of City University of Hong Kong.

Education seems to hold a special place in your heart. Why's that?

My family moved from Dongguan to Hong Kong in 1949. As my family fortune had taken a drastic downturn soon afterwards I had to begin working at the age of 12. But I never accepted my lot and seized every opportunity to enhance myself by attending evening school and studying English through tutorials. Sometimes I had to juggle with my work schedule and change shifts with my co-workers in order to attend evening classes. But I persisted and eventually returned to full-time studies in Form 3 at the age of 20, then went on to the University of Hong Kong and later to read law in England.

Education therefore means a lot to me and to a society. Through education I was able to overcome a deprived adolescence to embark on a professional career of my choice. It is also my firm belief that a society will be on an upward trajectory of progress if its people are given the opportunity to receive good education.

Tell us what you have done for education on the mainland.

I went back to visit Dongguan in 1985, after an absence of 36 years, and I noticed that the city

was moving from an agricultural economy to urban development. I was a council member of the then City Polytechnic of Hong Kong. I wanted to do something for my place of origin and so in 1986 I volunteered my service as the vice-chairman of the planning committee for the Dongguan Polytechnic, leading to its establishment in 1989. I also helped sponsor a kindergarten and a primary school in my native village. My efforts have not since stopped as there are still many places in China so impoverished that education is not a given there. I helped rebuild two primary schools in Dingxi City of Gansu Province and named them after my parents. I have sponsored over 100 students from poor families in the rural areas to attend senior high school in Dingxi City. I have come to know each one of them well through correspondence. Some of them have graduated and even got into first-tier universities. It is gratifying to note their good academic results.

How do you see higher education in Hong Kong?

When compared to Singapore where university attendance rate is as high as 85%, Hong Kong (presently at 60%) has still some way to go. The Government can improve the situation by making

more university places available in the eight funded universities, and efforts should also be made to leverage on the degree and associate degree programmes offered by the non-funded colleges. This way the opportunity for tertiary education can be offered to a greater number of aspiring young adults who can realize their potentials to become useful members of society. This in turn will improve the quality of the citizenry and the human capital of Hong Kong.

When and how did you begin your public services?

Soon after I began practising as a solicitor I had begun to do some pro bono work. My legal training had instilled in me an objective and analytical mindset and a logical approach to problem-solving and I made good use of my legal experience in litigation and commercial law by helping people of small means to solve their legal problems. Long before the days of the legal aid scheme, I as a young solicitor was already providing free legal advice at the Hong Kong Council of Social Service in Wanchai to needy people. I had also worked with the late Brook

Bernacchi QC in fighting legal battles for the causes of the poor and underprivileged people on complimentary basis.

How are your first 100 days as CUHK Chairman?

My assumption of chairmanship couldn't have coincided with a more eventful time of the University. I was immediately thrust into the torrent of events which demanded my immediate attention, including the search for a new Vice-Chancellor and taking appropriate actions in response to the recommendations of the UGC (University Grants Committee) report on university governance. I made plans to reactivate and reconstitute the Executive Committee of the Council, draft a code of practice for Council members, and will lead the Council members in overseeing the execution of the University's strategic plan for the next five years. There is also the milestone project of the CUHK Medical Centre. Thanks to all the Council members, the Council committees and the university administration, all of the above are being well handled and making remarkably good progress. During this period I had also met



Officiating at the kick-off and toasting ceremony of Faculty of Medicine's 35th Anniversary Gala Dinner (25 September 2016)



Hosting a consultation forum in search for the next Vice-Chancellor in October 2016



Presiding at the 81st Congregation for the first time as Council Chairman (17 November 2016)

with various stakeholders including the university, college and faculty management, and staff and student associations. I believe I have gained a better understanding of their work and concerns. In sum, my first 100 days as Chairman can be described as eventful, challenging and gratifying.

What potentials do you see in The Chinese University of Hong Kong?

Just as Hong Kong's edge derives from its being a meeting place between the East and the West, CUHK, given its founding humanistic orientation and unswerving emphasis on bilingualism, is uniquely poised between traditional teaching and learning and modern educational paradigms to embrace the best of both worlds. Further, its unique collegiate system and emphasis on whole-person development combine to make its education the perfect answer to a fast-changing globalized world. CUHK already enjoys a good

reputation in the region and worldwide and is a leader in many areas of learning and research. As Chairman, I would ensure that our policies and resource allocation would sustain its strategic development for coming challenges and successes.

How do you like the CUHK campus?

I joined the CUHK Council in June of 2015 and took an immediate liking to its campus. Its expansiveness and natural setting are such a big contrast to the urban campuses I used to know. I have visited most of the landmarks on the CUHK campus and begin to understand where the University derives its distinctive character and humanistic orientation. I'll definitely spend more time on campus, not just in meetings but hopefully more leisurely moments when I can blend in with the environment, so to speak. 🇺🇸

This interview first appeared in *CUHK Newsletter* No. 483



The Best and the Brightest



Engineering Team Becomes Robocon 2016 Hong Kong Champion

Fourteen students from the Faculty of Engineering won the Championship, the Best Team Spirits Award, and the Best Engineering Award at the Robocon 2016 Hong Kong Contest in June this year. The competition was organized by the Hong Kong Science and Technology Park, Hong Kong Computing Society and the Hong Kong Institute of Engineers. The team represented Hong Kong to participate in the ABU Asia-Pacific Robot Contest 2016 in Bangkok.



15th Consecutive Victory of the Rowing Team

The CUHK Rowing Team took both the men and women's championship and the overall championship in the annual Hong Kong Universities Rowing Championships in August, making the team's 15th consecutive victory.

Gold Award in Engineering Medical Innovation Global Competition

CUHK launched the world's first Engineering Medical Innovation Global Competition, which attracted 40 student teams from five continents to design and develop clinically-driven and patient-centred technological innovations. A team formed by CUHK students from the Department of Mechanical and



Automated Engineering and the Department of Surgery at the Faculty of Medicine won the Gold Award, the Technical Challenge Award and the Best Hong Kong Team with their project 'Surgical Robotic System for Endoscopic Submucosal Dissection'.

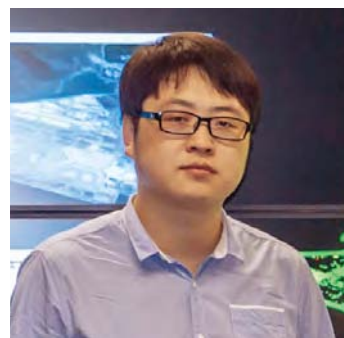
Top Prizes at ‘Challenge Cup’ National Competition Hong Kong Regional Final



Award-winning students with Prof. Wong Kam-fai (3rd right), Associate Dean (External Affairs), Faculty of Engineering

This summer, CUHK swept up the highest number of awards in the ‘Challenge Cup’ National Competition Hong Kong Regional Final—Hong Kong University Student Innovation and Entrepreneurship Competition 2016. Among the 14 winning projects are:

Project	Award	Participating Students
Development of a Vacuum Nanoimprinting System for Low-cost Parallel Nanomanufacturing	Grand Prize for Innovation First-Class Award of Mechanical and Control System	Chen Jianwei (2nd right), PhD student, Multiscale Precision Instrumentation Laboratory, Department of Mechanical and Automation Engineering
Continuous Blood Pressure Monitoring System from Face Recognition	First-Class Award of Innovation	Lo Po-wen (2nd left), MPhil student; Wang Chaoqun (1st left), PhD student; Department of Electronic Engineering
VibroSAC—A Smart Cushion with Intermittent Vibration for Lowering Buttock Pressure Ulcers Risk	First-Class Award of Innovation	Liu Shiyue, Yao Yifei, Jiang Baiyan, Biomedical Engineering Programme
R-Guardian-Smart Personal Belongings Solution	Grand Prize in Entrepreneurship First-Class Award of Newly Established Enterprise	Kuo Wai-keung (3rd left), Department of Information Engineering; Lau Pak-lam, Department of Finance



ISEIS PhD Graduate Wins AXA Research Fund Post-Doctoral Fellowship

Dr. Ma Peifeng, a PhD graduate of the Institute of Space and Earth Science (ISEIS) was awarded the 2016 AXA Research Fund Post-Doctoral Fellowship. Dr. Ma is the only recipient from the Greater China Region this year. His winning project was named ‘Remote Sensing of Infrastructural Dynamics and Early Warning of Risks for a Sustainable Built Environment’.



NEWS in Brief

APPOINTMENTS

New Council Members

- Dr. Anita F.Y. Leung has been nominated as a Member of the Council for a period of three years with effect from 1 November 2016, succeeding Dr. William K.L. Fung.
- The Honourable Cheung Yu-yan has been elected by the Members of the Legislative Council, as a Member of the Council for a period of three years with effect from 28 October 2016.
- The Honourable Ho Kai-ming has been elected by the Members of the Legislative Council, as a Member of the Council for a period of three years with effect from 28 October 2016.
- The Honourable Lau Kwok-fan has been elected by the Members of the Legislative Council, as a Member of the Council for a period of three years with effect from 28 October 2016.
- Prof. Chan Wai-ye has been nominated as a Member of the Council from 29 September 2016 to 31 July 2019, succeeding Prof. Jack C.Y. Cheng.
- Prof. Dennis Y.M. Lo has been nominated as a Member of the Council from 29 September 2016 to 31 July 2019, succeeding Prof. Diana T.F. Lee.



Dr. Anita F.Y. Leung



The Honourable
Cheung Yu-yan



The Honourable
Ho Kai-ming



The Honourable
Lau Kwok-fan



Prof. Chan Wai-ye



Prof. Dennis Y.M. Lo

New College Head and Master

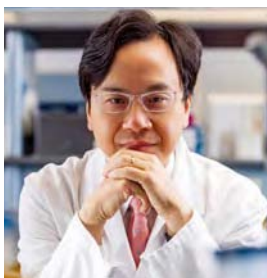


- Prof. Fong Wing-ping (left), Professor in the School of Life Sciences, has been appointed as Head of Chung Chi College for four years, with effect from 1 August 2016.
- Prof. Chan Wai-ye, Professor of Biomedical Sciences and Director of School of Biomedical Sciences, has been appointed as Master of C.W. Chu College for four years, with effect from 1 January 2017.

Reappointment of College Head

Prof. Jimmy C.M. Yu, Choh-Ming Li Professor of Chemistry, has been reappointed as Head of United College for a further period of three years from 1 August 2016.

HONOURS AND RECOGNITIONS



Prof. Dennis Y.M. Lo Receives Two Prestigious Awards

Prof. Dennis Y.M. Lo, Associate Dean (Research) of the Faculty of Medicine, Chairman of the Department of Chemical Pathology and Director of the Li Ka Shing Institute of Health Sciences, was awarded the Future Science Prize–Life Science Prize, and has been named this year’s Thomson Reuters Citation Laureate–Chemistry in September for his seminal contribution to the widely-used non-invasive prenatal test based on the original discovery of fetal DNA in maternal blood, which has benefited millions of pregnant women globally.

General Education Team Awarded 2016 UGC Teaching Award

Led by Prof. Leung Mei-yee (left), Director of University General Education, Dr. Wong Wing-hung (centre), Associate Director of University General Education and Dr. Julie Chiu (right), Deputy Programme Director of General Education Foundation (GEF) Programme, CUHK’s General Education team were awarded the 2016 University Grants Committee Teaching Award.

Over 24,000 students enrolled in the GEF programme since its launch in 2012. With small-class seminars as the major learning platform and an amount of 3,800 freshmen every year, GEF offers around 152 sections for each course with only 25 students from different disciplines in each class.



CUHK Young Scholars Win International Mathematics Awards

Prof. Lui Lok-ming: Morningside Silver Medal of Mathematics

Prof. Lui Lok-ming, Associate Professor of the Department of Mathematics, was awarded for his pioneering contributions on computational quasiconformal geometry and its application to medical imaging, computer visions and graphics. Computational quasiconformal geometry aims to accurately analyze the deformation patterns of geometric shapes, which can be applied to detect the abnormalities of human organs and help medical teams to analyse illnesses.



(From left) Prof. Fanny Cheung, Pro-Vice-Chancellor of CUHK, Prof. Lui Lok-ming, Ronald, Associate Professor of the Department of Mathematics and Prof. Xin Zhouping, William M.W. Mong Professor of Mathematics.



Prof. Qiu Yu: International Conference on Representations of Algebras (ICRA) Award

Prof. Qiu Yu, Research Assistant Professor of the Department of Mathematics, focuses on the stability conditions and braid groups actions in Calabi-Yau categories. His researches come from String Theory in Physics and Homological Mirror Symmetry in Mathematics. Prof. Qiu applies representations of algebras and topology to study spaces of Bridgeland's stability conditions.

Dr. Ma Ziming: New World Mathematics Awards (Doctor Thesis Award—Gold Prize)

Dr. Ma Ziming, a PhD graduate in Mathematics, extended Witten deformation to Morse category and added algebraic structure into the theory to explain Kontsevich-Soibelman's work on scattering diagram. Dr. Ma's theory is critical in resolving the Strominger-Yau-Zaslow conjecture of String Theory.



Playroom Model Shines in Venice Biennale

The Dou Pavilion by Prof. Zhu Jingxiang of the School of Architecture became a spotlight exhibit in the 2016 Venice Biennale. The pavilion is a one-storey wooden structure built on a 1:1 scale. It originates in one of Professor Zhu's Checkered Playrooms models built in Gansu Province in China a year ago. The unique box-like design invites children to sit or lie on them, and explore different ways to occupy the spaces.



CUHK Acknowledged as Family-Friendly Employer



CUHK received three awards in the 2015–16 Family-Friendly Employers Scheme organized by the Home Affairs Bureau and the Family Council. They are the 'Distinguished Family-Friendly Employers 2015–16', 'Family-Friendly Employers 2015–16' and 'Award for Breastfeeding Support 2015–16'.

CUHK shows its care for staff members and their families in both personnel policies and staff benefits. The University established various groups, such as the 'Committee on Positive Workplace and Staff Development' and the 'Task Force on Women and

Family-Friendly Policies', to implement a series of family-friendly policies. It makes special arrangements for the convenience of breastfeeding mothers, provides medical protection for staff and their families, and implements additional leaves, such as adoption and bereavement leaves, and leave on a no-paybasis.

Cerebrovascular Expert Honoured for Developing Therapy for Stroke Survivors

Prof. Wong Ka-sing Lawrence, Professor in Neurology of the Faculty of Medicine, received the WSO President's Award for Services to Stroke in October at the biennial World Stroke Congress, for the contribution of him and his team to stroke research.

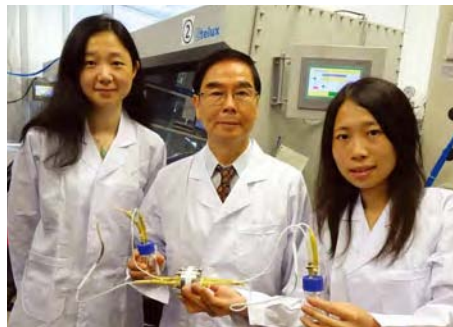
In 1998, Professor Wong first discovered that narrowing of the blood vessels in the brain (intracranial atherosclerosis) was the most common cause of stroke in the Chinese population. In 2002, his team delineated the mechanisms of stroke associated with intracranial atherosclerosis as tiny blood clots (microembolism) flowing in the artery. In recent years, the team has developed an innovative approach, namely 'Pulse-Magnetic-Stimulation (PMS)', the world's first attempt to combine external counterpulsation, intermittent theta burst magnetic stimulation to treat brain damage of stroke survivors. It is hoped that PMS alongside physiotherapy will help stroke patients to recover their upper limb mobility.



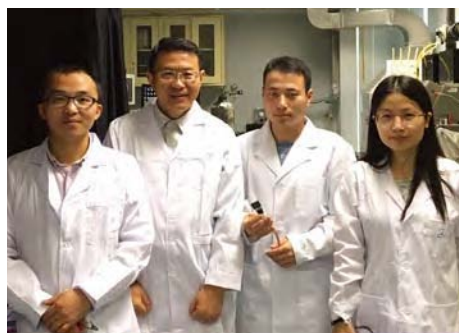
Breakthroughs in Smart Solar Energy Research

Under the leadership of Prof. Wong Ching-ping, Dean of Engineering, cross-institutional research team has been conducting a five-year research project entitled 'Smart Solar Energy Harvesting, Storage and Utilization' since 2014 and recorded a number of breakthroughs. The team developed the nanostructured metal oxide-carbon composites for asymmetric supercapacitors to increase its energy and power density to as high as 98.0 W h kg^{-1} and $22,826 \text{ W kg}^{-1}$, respectively, making them the best performing supercapacitors to date.

The research team led by Prof. Lu Yi-chun of the Department of Mechanical and Automation Engineering developed catholyte flow batteries with the highest volumetric capacity reported to date. By combining liquid phase, lithium iodide and solid phase sulphur flow cathodes, the volumetric capacity of flow batteries could reach 550 Ah L^{-1} . Professor Lu had obtained a patent on the technology and planned to apply it to electric cars.



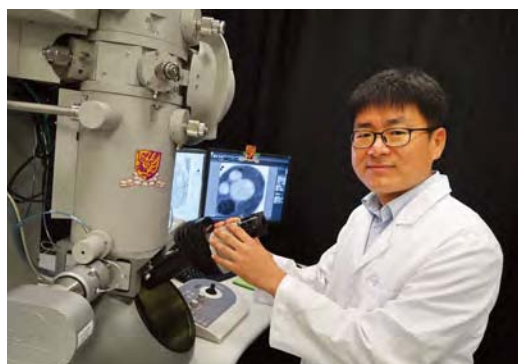
(From left) Prof. Zhao Ni, Assistant Professor of the Department of Electronic Engineering, Prof. Wong Ching-ping, Dean of Engineering and Prof. Lu Yi-chun, Assistant Professor of the Department of Mechanical and Automation Engineering



Another research team comprises Prof. Yan Keyou (1st left), Prof. Xu Jianbin (2nd left) and doctoral students discovered nonstoichiometric acid-base reaction (NABR) as reliable synthetic route to highly stable $\text{CH}_3\text{NH}_3\text{PbI}_3$ perovskite film for the production solar cells. The NABR perovskite film is stable for two months with negligible PbI_2 -impurity under 65% humidity, whereas other perovskites prepared by traditional methods degrade distinctly after two weeks. The result was published in the November issue of *Nature Communications*.

Revealing the Mystery of Maternal Inheritance of Mitochondrial DNA

Prof. Kang Byung-ho, Associate Professor of the School of Life Sciences, uncovered with researchers from the University of Colorado the mechanism explaining why fathers' mitochondrial DNA is not inherited to their offspring. DNA resides in both the nuclei and mitochondria of human cells. In most animal species, mitochondrial DNA is inherited solely from the mother, unlike the nuclear DNA that is inherited from both parents. The research team examined the roundworm *C. elegans* and found that the sperm mitochondrion starts to undergo self-degradation once it penetrates an egg. If this cleaning job becomes aberrant in human, one can suffer from neurodegenerative diseases and reduced rates of embryo survival. The discovery provides new insights into devising cures for diseases stemming from problems in autophagy and supports the improvement of vitro fertilization techniques.



World's Largest Study on Prevalence and Progression of Non-alcoholic Fatty Liver Disease in Diabetic Patients

Under the leadership of Prof. Chan Lik-yuen (right), Director of the Institute of Digestive Disease, Prof. Wong Wai-sun (centre) and Prof. Kong Pik-shan (left) from the Department of Medicine and Therapeutics, a research team screened 1,918 diabetic patients with the FibroScan machine to measure their liver fat and fibrosis in 2013 and 2014. Those with drinking habits, viral hepatitis B and C were excluded from the study. Among the screened patients, 73% were found to have fatty liver and nearly one out of five has severe liver fibrosis or cirrhosis. The research team recommends non-alcoholic fatty liver disease screening to all diabetic patients to identify the disease at an early stage and to prevent disease progression and liver complication.



Survey Reveals Association of Methamphetamine Abuse with Increased Risk of Developing Lower Urinary Tract Symptoms



Dr. Tam Yuk-him (left) and Prof. Ng Chi-fai of the Department of Surgery

The Department of Surgery conducted the world's first large-scale questionnaire survey on adolescents to investigate the prevalence of lower urinary tract symptoms (LUTS) and the effect of psychotropic substance abuse. The study, conducted between 2012 and 2014, investigated 11,938 secondary students from 45 schools. Participants who were non-substance abusers were regarded as control subjects and among them 18.5% had experienced at least one LUTS, such as urinary frequency, incontinence and voiding difficulties. For the 321 participants who abused methamphetamine, the figure increased to 47.8%. As for those who abused both ketamine and methamphetamine, their risks of developing LUTS are nine-times that of non-substance abusers

World's First System of Seamless Visual Sharing with Colour Blind People

Prof. Wong Tien-tsin (2nd right), Department of Computer Science and Engineering, designed the world's first system of 'Seamless Visual Sharing with Colour Blind People' with binocular vision technology. Through the standard stereoscopic display installed with this system, colour vision deficiency (CVD) users wearing stereoscopic glasses can share the same visual content simultaneously with normal vision audiences, without any impact on the latter. The system's computer-controlled binocular display systems could tailor the colour discrimination solution to each CVD individual, which propose a novel calibration method to measure the differences in severity between CVD affected individuals.



Joint Hands in Promoting Green Campus

Prof. Fok Tai-fai (3rd left), Pro-Vice-Chancellor of CUHK; Prof. Fung Tung, Associate Vice President of CUHK; Prof. Pan Yi (2nd left), Vice President of Nanjing University; Prof. Li Kwang-hwa (2nd right), Vice President of National Central University; Prof. Hao Fanghua (1st left), Vice President of Beijing Normal University; Prof. Chen Tung-yang (1st right), Vice President of National Cheng



Kung University; and Prof. Li Fengwang (3rd right), Associate Vice President of Zhejiang University signed a cooperative agreement on Cross Strait Green University Consortium on 30 September 2016 at CUHK. A jointly organized seminar on Green Campus Development followed, in which chief officers in campus planning, estate and facilities management and sustainability offices of member universities presented reports on the theme and exchanged ideas to promote green campus.

Analytic and Clinical Cooperative Laboratory for Integrative Medicine Established

CUHK and the University of Sydney jointly established the Analytic and Clinical Cooperative Laboratory for Integrative Medicine. The laboratory aims to serve as a platform for scientists and clinicians to share the best of information technology, data analysis, and clinical research for the advancement of evidence-based integrative medicine. The inaugural symposium held on 15 and 16 July 2016 brought together integrative medicine experts from Australia, UK, US, mainland China and Hong Kong to share knowledge, experience and insights on the application of big-data analysis in biomedical science, clinical diagnosis as well as medical and scientific research.



School of Life Sciences Signed Agreement with UC Berkeley

Prof. Wong Kam-bo (1st right, back row), Director of the School of Life Sciences, and Prof. Randy Wayne Schekman (2nd left, back row), Professor of Molecular and Cell Biology at University of California at Berkeley and 2013 Nobel laureate in Physiology or Medicine, visited CUHK to sign a five-year Memorandum



of Understanding. Starting from the academic year of 2016–17, up to five students from the School of Life Sciences will be sent to enroll in the Berkeley Biosciences Study Abroad Programme for a semester annually. The students may also get internship opportunities at the research laboratories of UC Berkeley.

Therese Pei Fong Chow Research Centre for Prevention of Dementia Established



The Faculty of Medicine established the Therese Pei Fong Chow Research Centre for Prevention of Dementia with the generous donation from Ms. Therese Pei Fong Chow (right). This is Hong Kong's first dementia prevention research centre, which aims to raise public awareness on the available treatments and preventive measures against dementia through innovative research and education. A one-stop online platform was also set up to provide information on the disease.

Launch of Digital Chinese Medicine Texts Collection

The School of Chinese Medicine and the University Library jointly launched in July 2016 the Chinese Medicine Texts Collection to store and digitize about 2,500 scrolls of ancient texts related to Chinese medicine. The collection includes part of the invaluable 'Professor Chong Siu Cheung Chinese Medicine Collection' generously donated by Prof. Kong Yun-cheung, the founding Director of the School of Chinese Medicine.



Shaw Laureates Shed Light on Rett Syndrome Therapy

Two 2016 Shaw laureates in Life Science and Medicine delivered lectures on 28 September at Shaw College to 430 staff and students from CUHK and local universities, professionals in the field, as well as secondary school teachers and students. Prof. Adrian Bird (2nd right), Buchanan Professor of Genetics, Wellcome Trust Centre for Cell Biology, University of Edinburgh lectured on ‘From DNA Methylation to Brain Function’, while Prof. Huda Zoghbi (2nd left), Professor of Pediatrics and Molecular and Human Genetics Baylor College of Medicine, talked about ‘Rett Syndrome: From the Clinic to Genomes, Epigenomes, and Neural Circuits’. They were awarded for their discovery of the genes and the encoded proteins that recognize one chemical modification of the DNA of chromosomes. The modification influences gene control as the basis of the developmental disorder Rett syndrome.

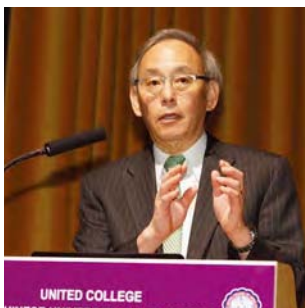


Principal of St. Hugh’s College, University of Oxford on Justice

The Rt. Hon Dame Elish Angiolini, DBE QC, Principal of St. Hugh’s College, University of Oxford, was invited to hold a public lecture under the Mok Hing Yiu Visiting Professorship Scheme on 29 September. As the former Lord Advocate, the head of Scotland’s prosecution service, and the first woman in the 500-year history of that post, Dame Elish was made a DBE in 2011. Talking on the theme ‘Justice and the Misunderstood’, she explored the extent to which knowledge of human behaviour influences the responses of systems of justice.

From Ebola Epidemic to Brutal Hospital Attacks

The University hosted the LUI Che Woo Prize—Prize for World Civilization Public Lecture on 5 October. Mr. Rémi Carrier (left) and Dr. Natasha Reyes (right), representatives of Médecins Sans Frontières and awardees of the prize in the welfare betterment category, spoke on ‘From the Worst Ebola Epidemic to the Brutal Hospital Attacks—the First-hand Experience and Perspective of Médecins Sans Frontières’.



Nobel Laureate on Scientific Research and Clean Energy

Prof. Steven Chu, William R. Kenan, Jr., Nobel laureate in Physics 1997, former US Secretary of Energy, Professor of Physics and Professor of Molecular and Cellular Physiology of Stanford University, was invited to visit United College in October as the College’s Distinguished Visiting Scholar in 2016–17. He delivered lectures on ‘A Random Walk in Science’ and ‘Energy, Climate Change and a Low Cost Path Forward’. Professor Chu was the first scientist to hold a cabinet position and the longest serving Energy Secretary.

Former US Treasury Secretary and Prof. Lawrence J. Lau on China

Former US Treasury Secretary and Goldman Sachs CEO, Mr. Henry M. Paulson, Jr. (left), was invited to hold a public talk on 'Dealing with China' in conversation with prestigious Hong Kong economist, former CUHK Vice-Chancellor and Ralph and Claire Landau Professor of Economics, Prof. Lawrence J. Lau (right) on 17 October. The talk was well received and attracted over 600 participants. The Chinese edition of Mr. Paulson's bestseller *Dealing with China: An Insider Unmasks the New Economic Superpower* (《與中國打交道：親歷一個新經濟大國的崛起》) was published by the Chinese University Press.



Centre for Bioethics Hosted Inaugural Lanson Lecture

The Centre for Bioethics invited Prof. Jonathan Glover, a leading philosopher who specializes in Practical Ethics and Professor of Ethics at King's College London, to deliver the Inaugural Lanson lecture in Bioethics on 19th November. Under the topic 'Two Concepts of Dignity: Decisions about Assisted Suicide, Genes and Embryos, Psychiatry', Professor Glover contrasted two version of respect for dignity—about not humiliating people and about showing respect for someone's moral standing, and considered some uses made of the 'moral status' version in bioethics. These

include claims that we should respect the dignity of the embryo, dignity arguments against assisted suicide, and dignity objections to various genetic choices, including 'enhancement'.

University Lectures on Civility

The University's I-CARE programme presented two University Lectures on Civility in September and November to nurture students' mind and spirit.

On 21 September, Yongey Mingyur Rinpoche, the world famous Tibetan Buddhist meditation master, shared with 1,300 students, staff, alumni of the University and members of the public at the University Mall 'The Journey to Joy'. Mingyur Rinpoche is extensively trained in the meditative and philosophical traditions of Tibetan Buddhism, and has had a lifelong interest in Western science and psychology. In his lecture, he pointed out that though we cannot reverse adverse situations, we can change our mind to respond to the problems encountered. The key point of feeling happier is to learn and care one's mind which can be achieved by meditation.

Mr. Chiang Hsun, a renowned Taiwanese writer, poet and painter, gave a lecture titled 'In Solitude I Learn...' on 24 November. He explored topics of lifelong goals and careers, success and adversity, with reference to Su Dongpo, a talented prose writer and poet, and a statesman in the Song Dynasty, who achieved great fame in literature but spent much of his life in demotion and banishment due to political feud.



Yongey Mingyur Rinpoche



Mr. Chiang Hsun

International Symposium on Nowcasting and Very-short-range Forecast

The 'WMO WWRP 4th International Symposium on Nowcasting and Very-short-range Forecast 2016' was held from 25 to 29 July at CUHK. It was jointly organized by the University's Institute of Environment, Energy and Sustainability (IEES), the World Weather Research Programme (WWRP) of




the World Meteorological Organization (WMO), the Hong Kong Observatory (HKO) and the Hong Kong Meteorological Society (HKMetS). The symposium, held in Asia for the first time, was participated by over 120 experts and academics from around the world, including Prof. Alexander Baklanov, WMO Secretariat, Atmospheric Research and Environment Branch, Research Department; Dr Jeanette Onvlee, Co-chair of the WMO WWRP, Nowcasting and Mesoscale Research Working Group (NMRWG); Mr. Shun Chi-ming, Director of the Hong Kong Observatory and President of WMO Commission for Aeronautical Meteorology; and Prof. Fung Tung, Associate Vice-President of CUHK and Associate Director of IEES.

CUHK Hosted Harvard University's Largest Conference in Asia Pacific

CUHK hosted the Harvard Project for Asian and International Relations (HPAIR) 2016 Asia Conference with the theme of 'EMPOWER' from 19 to 23 August 2016. HPAIR aims to provide a dynamic forum of exchange on international issues vital to Asia, foster long-term relationships among young



leaders from around the globe, and connect talented delegates with some of today's leaders in academia, business and government. The conference brought together over 500 delegates from the world's foremost universities and over 90 speakers including renowned academics, business professionals, and political leaders to Hong Kong to discuss about the many challenges and trends across the international landscape, including political, social, economic, cultural, and business features.

The bidding process for the HPAIR Asia Conference hosting began a year ago. Amid intense competition from top-class student teams such as Australia, India and Korea, CUHK won the bid on behalf of Hong Kong and successfully secured and offered over 50 scholarships to HPAIR delegates, which is a tremendous and unprecedented achievement. 



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The Chinese University of Hong Kong



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