

HKUST

NEWSLETTER - GENESIS

Issue 9 2011

同創 - 科大通訊



HKUST Ranks No. 1 in Asia

科大亞洲排名第一

**HKUST Celebrates
20 Years of Excellence**

科大20年 創·新傳奇



President's Message 校長的話

- 2** President's Message
校長的話

Teaching and Research 教研成果

- 4** Prof Mingjie Zhang Provides a Clearer Picture of What Causes Hereditary Deaf-and-Blindness
張明傑教授揭示先天性失聰失明的成因
- 6** Prof Nancy Ip Unravels Signaling Mechanisms in the Brain
葉玉如教授解開大腦信號傳導之謎
- 8** HKUST Develops World's Largest Digital Photo
科大創製全球最高像素照片

Raising the Bar 成就與獎項

- 10** HKUST: Top in Asia
香港科技大學：亞洲第一
- 12** MBA Ranking: The Sky is the Limit
MBA 排名節節上升
- 13** Prof David Banfield Awarded Croucher Senior Research Fellowship
彭大衛教授榮膺裘槎基金會優秀科研者
- 14** Vice-President Prof Joseph Lee Wins State Scientific and Technological Progress Award
李行偉副校長榮獲國家科學技術進步獎
- 16** HKUST Students Win Gold at Genetic Engineering Competition at MIT
科大在合成生物學國際比賽奪金

Our Miracle Continues 創•新傳奇

- 18** Long Service Award:
Profiles of Courage and Devotion —
Celebrating HKUST's Miracle Workers
科大長期服務獎嘉許竭誠服務的員工
- 21** Run for Vision
為光明 同舉步
- 22** Four Economics Guru Share Insights at China Economic Development Forum
四位經濟巨人在中國經濟發展論壇主講
- 24** Crescendo of Celebrations:
The Grand Reception
舉校同慶 高唱入雲
- 26** Einstein in Hong Kong:
Integrating Science and Arts Education
愛因斯坦在香港：科學與藝術的結合

Local Links 本地消息

- 28** Our Four-year Undergraduate Curriculum is Ready
科大四年制本科課程已準備就緒
- 32** HKUST Launches First Air Quality Research Supersite for Real-time Characterization
科大成立首個實時監測空氣質量研究超級站
- 34** HKUST Establishes Hangzhou IoT Intelligent Technology Center
科大與杭州組建物聯網智能技術中心
- Fujian Provincial Secretary Visits HKUST
福建省委書記孫春蘭訪問科大

Global Network 環球網絡

35 HKUST Joins Association of Sino-Russian Technical Universities
科大加入中俄工科大學聯盟

Nobel Laureate Speaks at UC RUSAL President's Forum
諾獎得主主講俄鋁校長論壇

36 An 800-year Young Intellectual: The Cambridge Challenge
劍橋校長細說優秀學府成長之路

37 Small is Beautiful: Caltech Weaves Its Magic
加州理工學院校長分享成功秘訣

38 President and Vice-President Visit Top US Universities
校長與副校長赴美訪問著名大學

In the HKUST Family 科大一家

39 VPRG Prof Joseph Lee Finds Solutions to Modern Problems in Research
李行偉副校長透過研究解決問題

42 VPIA Dr Eden Y Woon Helping to Promote the HKUST Brand
大學拓展副校長翁以登博士致力推廣科大品牌

45 IAS Welcomes New Visiting Members
高研院歡迎學院訪問教授

46 Prof Henry Tye Inaugurated as IAS Director
戴自海教授出任高等研究院院長

48 Prof Nancy Ip Appointed Dean of Science
葉玉如教授獲委任為理學院院長

49 Company Founded by First PhD Graduate Transferred Its Listing to HKEx Main Board
首位博士畢業生創辦公司轉往聯交所主板上市

50 Alumni Gives Back to Their Alma Mater
科大校友與母校心連心

51 Yet Another Son of the Stars at HKUST
科大第二位「星之子」

52 LOHAS Sai Kung Community Service Program
樂活西貢

HKUST Teams Up to Build Houses in Thailand for the Needy
科大義工為泰民興建居所

53 HKUST Fundraising Bicycle Trip to Qingyuan
科大學生參加清遠單車籌款

54 Chang'e Chief Scientist Crystal-gazes at China's Exploration of Moon and Mars
嫦娥計劃科學家暢談中國探測月球和火星的前景

Commissioner Lu Xinhua Shared Insights on China's Foreign Affairs
外交部特派員呂新華論中國外交

55 Dr Sun Yat-sen Statue Unveiled
孫中山先生銅像揭幕

HKUST Promotes Undergraduate Research Through Higher Education Symposium
科大「探索研究」研討會推動本科教育

Our Green Campus 綠色校園

56 HKUST Embraces Green Initiatives
科大擁抱綠色生活

President's Message

The year 2011 is a special year for us: HKUST is celebrating our 20 years of establishment. On top, we are most excited to celebrate 'double happiness' in early summer as HKUST was ranked Asia's top university by the Quacquarelli Symonds (QS) Asian University Rankings — for the first time in our history.

This honor, bestowed upon us only 20 years after our inception, has been particularly encouraging. We owe our success to our supporters. HKUST will continue to strive for the best as a focused elite research university to nurture generations of top-notch

talents and to serve as an international platform for knowledge creation.

Results of the QS Rankings demonstrate once again that higher education is the pride of Hong Kong, since three universities in Hong Kong have become the world's top 50 universities and Asia's top 5. Our strengths in teaching and research have been recognized.

Genesis belongs to every one of us in the HKUST family and it showcases 1-HKUST, our strong sense of community. In this current issue, we are featuring our 20th Anniversary activities to share with you the

precious moments which motivate us to march towards the future.

I encourage all members of our community to read *Genesis* for pleasure, share it with pride, and shape it with your creativity.

Our miracle continues — as we embark on the third decade, let us meet future challenges by further enhancing the quality of teaching and research, and by strengthening our Mainland and international connections. In this connection, *Genesis* provides an ideal platform on which we communicate with and encourage each other.

Tony F Chan



校長的話

2011 年對香港科技大學來說，別具意義。我們為創校 20 周年舉行慶祝活動，到了初夏更是「雙喜臨門」——科大首次在《QS 亞洲大學排名》高踞亞洲排名首位，令我們倍感欣慰。

科大成立僅僅 20 年，這項榮譽為我們帶來很大的鼓舞。我們特別感謝師生、校友及社會一直以來的支持，並與大家共同分享我們的喜悅。科大作為一

所傑出的研究型大學，將繼續培育優秀的人才、創造前沿的知識。

QS 排名再次顯示，本港的高等教育是香港人的驕傲。香港有三所大學打入全球 50 強及亞洲五強，證明本港大學的教研實力備受認同。

《同創》屬於科大的每一位成員，代表著這個大家庭的凝聚力，讓大家分享科大的消息，實踐「同一科大」的精神。今期《同創》更特別刊載 20 周年校慶的多項慶祝活動，讓各

位重溫這些珍貴的時刻，激勵我們積極迎接未來。我鼓勵科大每位成員閱讀《同創》，分享資訊、發揮創意，為科大更添姿采！

「創·新傳奇」是科大 20 周年校慶的口號；踏進第三個 10 年，科大將面對不同的挑戰，在完善學制、教學與科研、建立國際聯繫與內地關係上繼續努力，而《同創》就是加強我們彼此溝通、互勵互勉的最佳平台。

陳繁昌

Prof Mingjie Zhang Provides A Clearer Picture of What Causes Hereditary Deaf-and-Blindness

Chair Professor Mingjie Zhang and his team of researchers in the Division of Life Science have achieved significant breakthrough in explaining how genetic mutations of Motor Protein Myosin VIIa leads to hereditary deaf-and-blindness.

This is excellent news for the medical profession in developing preventive and remedial measures against hereditary deaf-and-blindness.

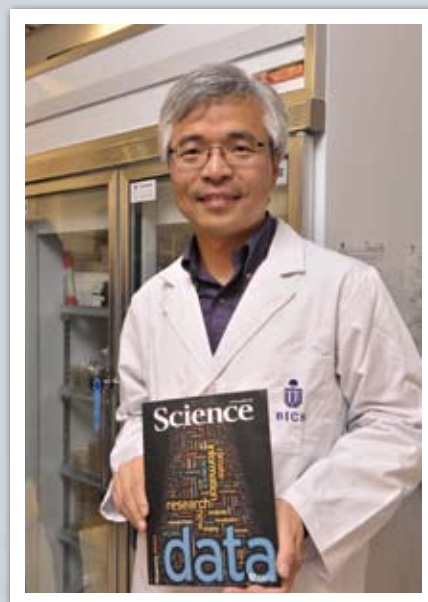
According to medical statistics, hearing deficit is a common occurrence among new born babies – for every 1,000 there are several born with this problem. Among those who are deaf or hearing-impaired, 3% to 6% suffer from the Usher syndrome – a genetic disorder which can cause different levels of hearing and vision loss or impairment at various stages of the patient's life.

The research paper on this breakthrough was published in top scientific journal *Science* in February.

Myosin VIIa is one of the mini-protein machines known as molecular motors that transport various cargoes in living cells. Myosin VIIa is particularly important for proper development and normal function of hair cells in human ears as well as human eyes. Mutations of myosin VIIa are known to be responsible for about 50% of human patients with impaired hearings and/or blindness (a common devastating human disease called Usher syndrome that mainly affects new born babies and young children).

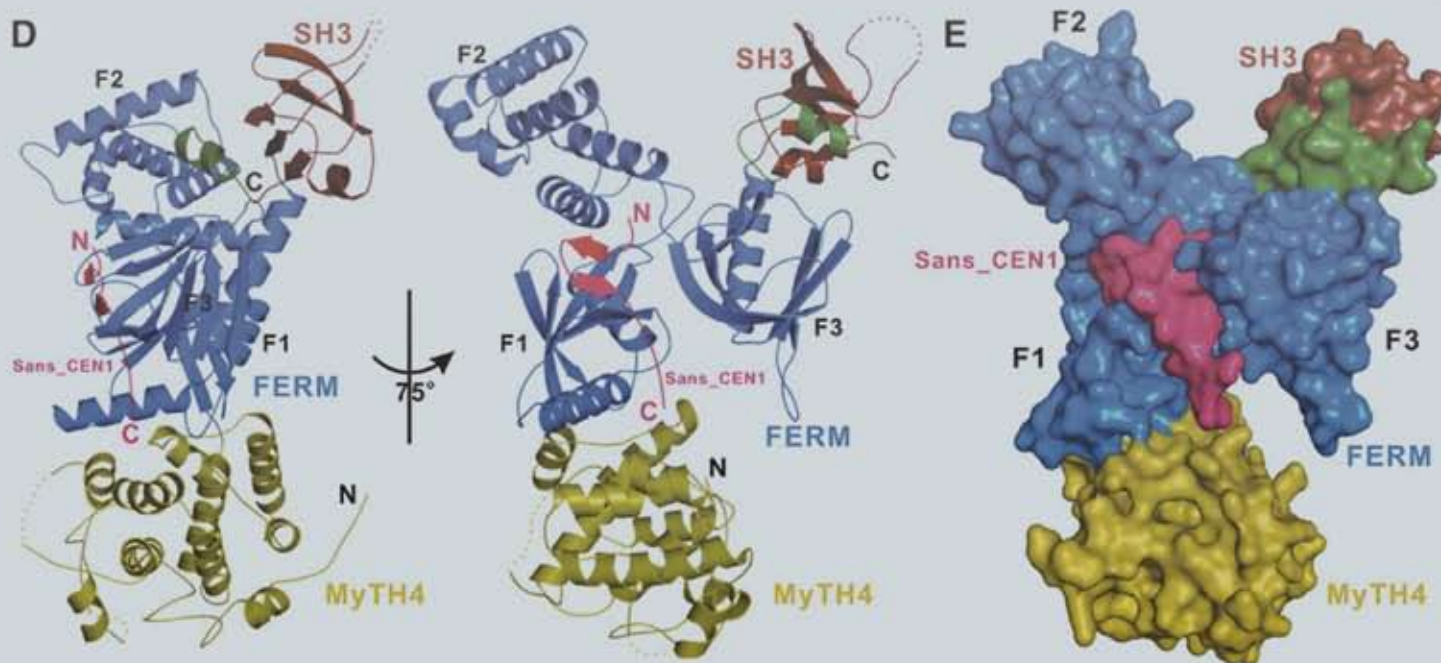
More than 160 different myosin VIIa human deafness-causing mutations are known through genetic screenings. Additionally, mutations of several myosin VIIa interacting proteins also cause human deaf-and-blindness. Until now, little is known about the how and why mutations in myosin VIIa and its binding proteins cause human deaf-and-blindness.

Prof Zhang's team, comprising graduate students Mr Lin Wu and Dr Lifeng Pan and postdoctoral fellow Dr Zhiyi Wei made a



ground-breaking discovery in elucidating the disease-causing mechanism of the devastating Usher syndrome.

Using a combination of nuclear magnetic resonance and X-ray crystallography



張明傑教授 揭示先天性失聰失明的成因

techniques, they determined the structure of myosin VIIa in complex with Sans, an adaptor protein linking the myosin motor with the rest of the Usher proteins. Their work explains how myosin VIIa transports various cargo proteins in various human cells as well as maintains stereocilia structures in hair cells of human ears.

Importantly, the structure of the myosin VIIa / Sans complex, together with a series of their related work, provides clear mechanistic explanations to many dozens of disease-causing mutations in the myosin cargo binding tail. Their discovery also provides clear explanations for many of the disease causing, missense mutations found in myosin 15, which is another myosin motor frequently mutated in non-syndromic deafness patients.

The myosin VIIa / Sans complex structure is expected to be highly valuable for interpreting previously unknown mutations of myosin VIIa and myosin 15 identified in patients with hearing impairments. Knowledge derived from these studies helps to improve genetic counseling for deaf-and-blindness patients and their family members.

Prof Zhang's discoveries on myosin VIIa and other Usher syndrome proteins provide a scientific foundation for future gene therapy of hereditary deafness caused by mutations in myosin VIIa, 15 and Sans.

生命科學部講座教授張明傑及他的研究團隊成功揭示了肌動蛋白 7a 的突變如何導致先天性失聰失明。

對醫學界來說，這是個莫大喜訊，了解突變的機理，有助預防和治療先天性失聰失明。

根據醫學統計數字，聽力障礙在新生嬰兒中相當普遍——每 1,000 個新生嬰兒中就有幾個病

例。在失聰或弱聽的兒童中，有 3% 至 6% 是 Usher 綜合症患者。Usher 綜合症是一種基因失調的病症，它會導致病人在生命不同階段蒙受不同程度的聽力或視力喪失。

張教授團隊的研究論文於今年二月刊載於世界頂尖學術期刊《科學》。

肌動蛋白 7a 是一類在細胞體內負責運輸的分子，它的功能對於人類聽力毛細胞和眼睛的發育尤為重要。肌動蛋白 7a 的基因變異可以導致嚴重的失聰和失明，這就是常見於新生嬰兒和兒童的 Usher 綜合症。在所有 Usher 綜合症患者中，約一半是由肌動蛋白 7a 變異所引起的。

經過大批遺傳學調查，已發現 160 餘種肌動蛋白 7a 基因變異會導致失聰。同時，一些能夠與肌動蛋白 7a 相互結合的蛋白的基因突變也會造成 Usher 綜合症。儘管有了這些資訊，但是肌動蛋白 7a 以及其運輸物體的變異為何會造成失聰失明，至今還是一個謎團。

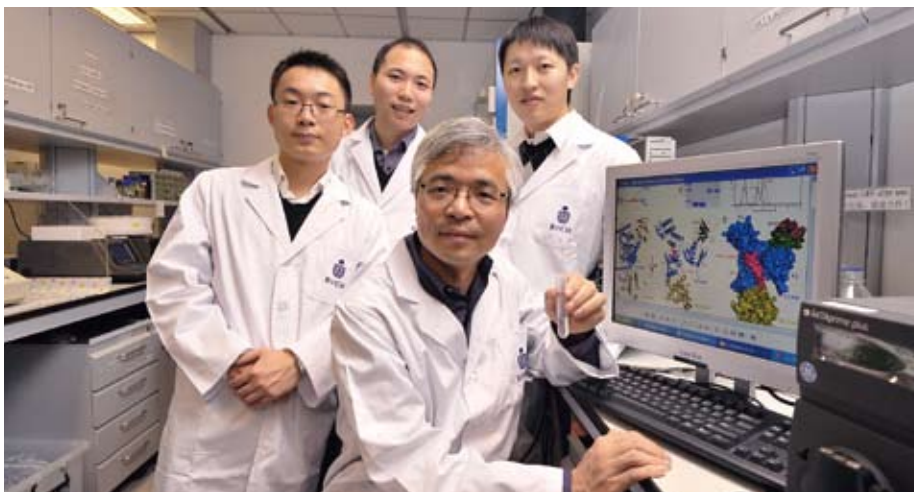
科大生命科學部張明傑教授所帶領的實驗小組——博士研究生武林和潘李鋒及博士後魏志毅博士——在闡釋肌動蛋白 7a 變異的致病機理上取得重大研究成果。

通過採用 X 射線晶體衍射和核磁共振技術，他們首次獲得了肌動蛋白 7a 與 Sans (Sans 是蛋白複合物的分子結構，另外一種可導致 Usher 綜合症的蛋白質，其功能主要是充當橋連蛋白，將肌動蛋白 7a 的運輸物體與其鍵結在一起)。這項工作解釋了肌動蛋白 7a 在不同細胞中是如何進行運輸，也解釋了其在內耳細胞中是如何維持耳毛細胞結構的。

張教授的研究發現帶來非常重要的啟示，肌動蛋白 7a 與 Sans 的分子結構，清楚解釋了在肌動蛋白 7a 的「裝貨區域」發現的大量致病突變是如何影響到其正常的運輸功能。同時，這項發現同樣可以用於解釋在肌動蛋白 15 上發現的許多致病突變而造成非綜合症型耳聾性遺傳病。

另外，肌動蛋白 7a 和 Sans 的分子結構在解釋以往未知由這兩種蛋白突變所致的耳聾病變上，有著非常重要的價值。更有助改善為失聰和失明病人及其家屬評估相關的疾病基因診斷。

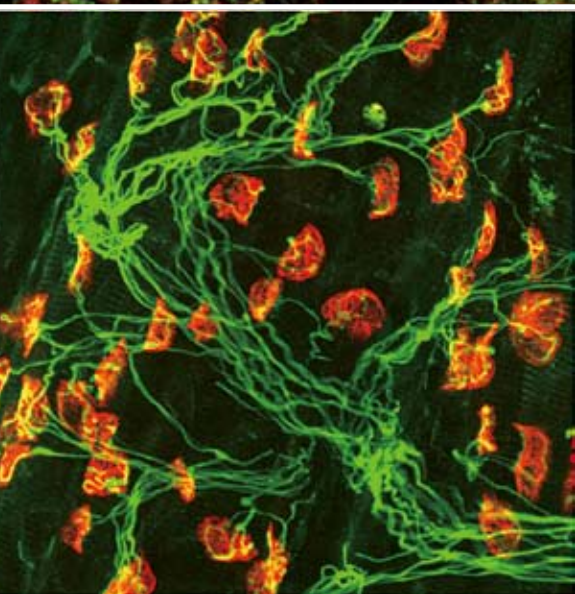
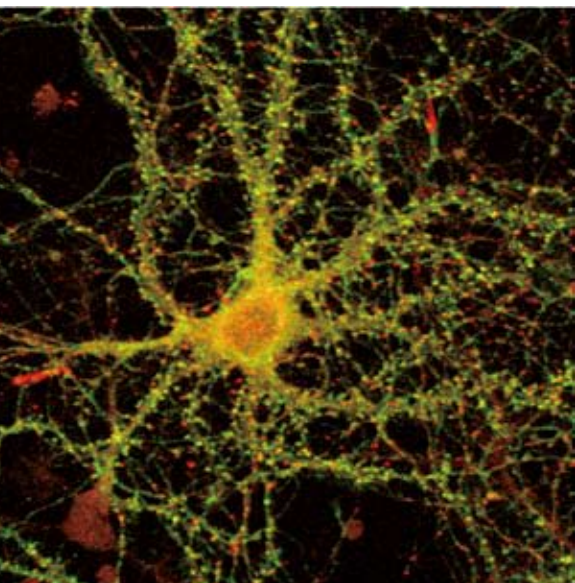
張明傑教授研究團隊組在肌動蛋白 7a 以及其他 Usher 致病基因方面的研究，為將來的基因治療 Usher 綜合症提供了非常重要科學理論基礎。



Prof Mingjie Zhang (front) and his research team - (from left) Dr Lifeng Pan, Dr Zhiyi Wei and Mr Lin Wu - in their laboratory.

張明傑教授（前）及他的研究團隊：（左起）潘李鋒博士、魏志毅博士及武林先生。

Prof Nancy Ip Unravels Signaling Mechanisms in the Brain



EphA4-mediated signaling is important for neural plasticity
EphA4 蛋白調節神經系統的可塑性

HKUST has achieved yet another milestone in molecular neuroscience research. Dean of Science Prof Nancy Ip, Chair Professor of the Division of Life Science and Director of the State Key Laboratory of Molecular Neuroscience, and her research team have made breakthrough discoveries in unraveling novel signaling mechanisms in the brain that have far-reaching implications in biomedicine.

Cognitive functions, such as the ability to form memories, are largely dependent on the 'plastic' nature of the brain. That is, nerve cells can adjust their functional efficacy based on experience. However, the molecular basis underpinning the ability of nerve cells to fine-tune neurotransmission in response to different levels of neural activity has remained elusive. Prof Ip and her team have successfully discovered a new role for a cell surface protein EphA4 in the regulation of brain plasticity. They found that EphA4-mediated signaling can effectively control unrestrained activity in the brain by regulating the level of neurotransmitter receptors. Since many neurodegenerative diseases are associated with impaired neurotransmission in the brain, the exciting findings by Prof Ip and her team now raises the intriguing possibility that EphA4 is a potential target for developing novel treatments to alleviate cognitive deficits in afflicted patients.

Neural plasticity is also important for maintaining proper neurotransmission between the motor neuron and muscle fiber. How the receptive sites of neurotransmitters are sculpted to allow for precise communication was not well understood. Prof Ip and her team have made the important discovery that a signaling protein downstream of EphA4 regulates the normal distribution of neurotransmitter receptors on muscle fiber and is essential for maintaining muscle strength and proper motor function. Their intriguing findings will shed new light on the treatment of neuromuscular disorders such as muscular dystrophy that involve impaired neurotransmission.

These groundbreaking discoveries by Prof Ip and her research team have been published in *Nature Neuroscience* and *Neuron*, the two most prestigious journals in neuroscience.

President Tony F Chan said, "We are most excited by the breakthrough research findings of Prof Nancy Ip and her team in molecular neuroscience, which have significant implications for the treatment of neurodegenerative diseases and neuromuscular disorders. With our top notch State Key Laboratory of Molecular Neuroscience, HKUST will continue to work on first-rate research to improve the well-being of humankind."

葉玉如教授解開大腦信號傳導之謎

科大在分子神經科學研究方面再次取得重大突破。理學院院長兼生命科學部講座教授及分子神經科學國家重點實驗室主任葉玉如教授與其研究隊伍成功解開腦部神經信號傳導之謎，對生物醫學的發展產生深遠的影響。

人類的認知功能，包括記憶形成的過程，很大程度上依賴於腦部的可塑性，即神經細胞跟據經驗而對其自身的功能進行調節的能力。然而神經細胞因應不同程度的神經活動而調節神經信號傳導的分子機理，對科學界而言仍然是未解之謎。葉教授與其研究團隊最近發現一種名為 EphA4 的細胞表面受體蛋白調控腦部可塑性的新作用機制。這種蛋白能夠透過控制神經

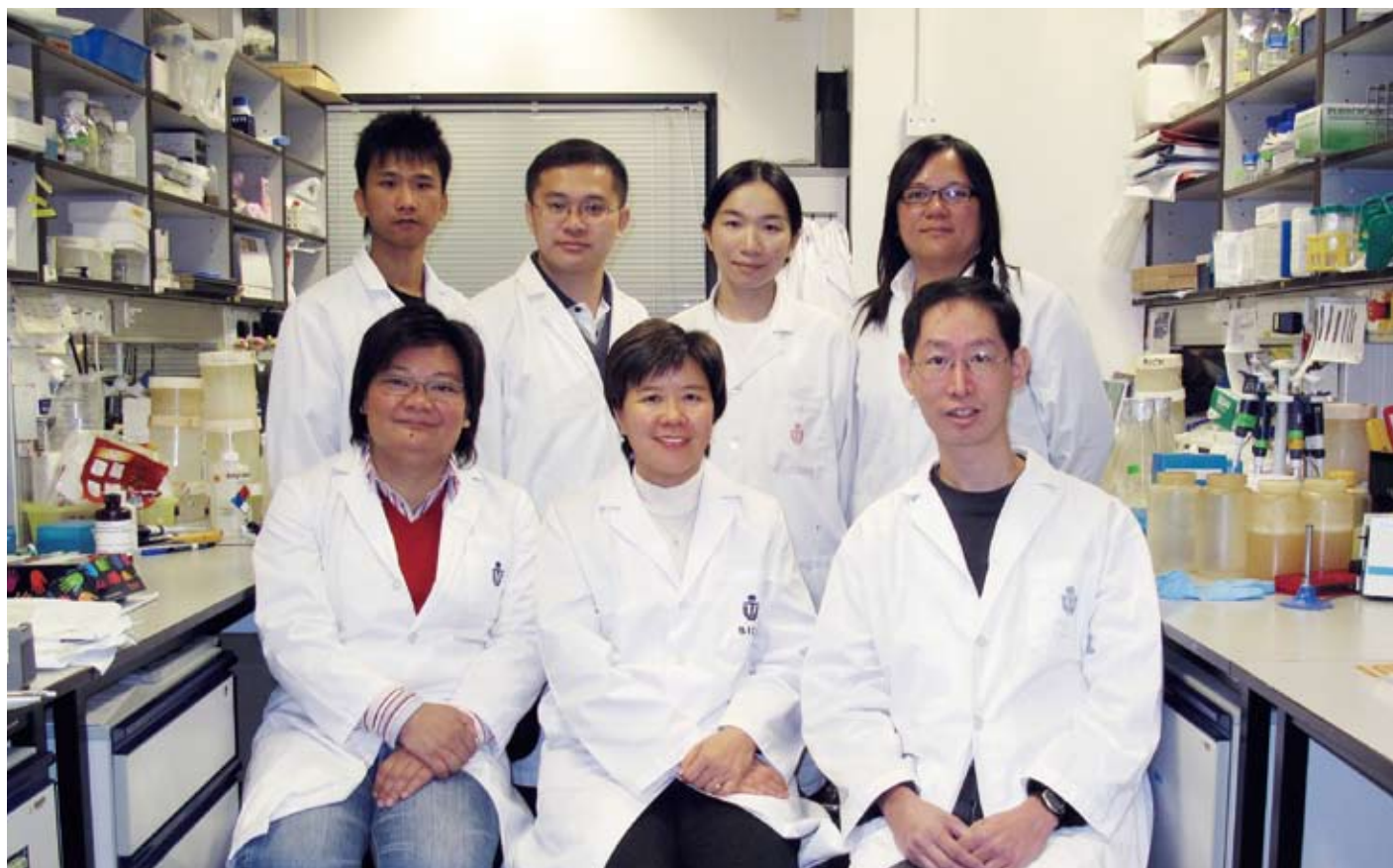
遞質受體的表達量來調節大腦信號傳導的活性。由於許多神經退化性疾病與腦部神經傳導功能的障礙有關，葉教授與其研究隊伍突破性的研究結果提出，EphA4 可以作為研發相關藥物的新靶點，對延緩患者認知能力的衰退有重要作用。

神經系統的可塑性在運動神經與肌肉的通訊過程中，亦扮演著重要角色。但是科學界對於調控神經肌肉接觸點的信號傳導機理還缺乏了解。葉教授及其研究隊伍發現，EphA4 下游的信號蛋白能夠調控神經傳導的效率，對維持肌肉力量和運動功能起著關鍵的作用。由於運動神經與肌肉之間通訊功能的缺陷是肌肉萎縮

症等神經肌肉疾病的重要致病因素之一，葉教授的重大發現為這些疾病的治療帶來希望。

葉教授及其研究隊伍上述的原創性科研成果，已分別刊載於《Nature Neuroscience》及《Neuron》兩份神經科學界最具權威性的學術期刊上。

陳繁昌校長說：「我們對於葉玉如教授及其研究隊伍的突破性研究感到十分振奮。這些科研成果對於治療神經退化性疾病與神經肌肉疾病有重大意義。科大將透過分子神經科學國家重點實驗室，進一步拓展尖端領域的研究，為提升人類生活質素作出貢獻。」



Prof Nancy Ip (front middle) and her research team
葉玉如教授（前排中）及她的研究團隊

HKUST Develops World's Largest Digital Photo

Researchers from HKUST's Department of Computer Science and Engineering and the Instituto Nacional de Matematica Pura e Aplicada (IMPA) in Rio de Janeiro, Brazil developed the world's largest digital photograph. This photograph, depicting the city of Rio de Janeiro, Brazil, has a resolution of 150 billion pixels.

The researchers used 500D and 800mm lens, together with a GigaPan robotic arm to position and take the photographs from The Sugar Loaf — a landmark in Rio de Janeiro — and the entire process took about four hours. After that, researchers used cutting-edge technology to stitch together 11,000 photographs each of 18 megapixels. The stitching process was challenging due to the large amount of data processing involved. Many stitching solutions were attempted in order to reduce the seam artifacts across images and the final process took several weeks. It took another full week just to upload the picture to the website over the Internet. The resultant picture, if printed in very high quality, would occupy the size of a football field. If printed in standard acceptable quality, it would have at least twice that size.

The project was led by Prof Sander and researchers Dr Diego Nehab and Dr Luiz Velho from the Instituto Nacional de Matematica Pura e Aplicada (IMPA), in Rio de Janeiro — a leading research institute promoting high-level scientific research in Mathematics and its applications. The stitching operation was managed by Mr Rodolfo Lima, a graduate student at IMPA.

Testing the Limits; Exciting Applications

Prof Sander said, "We are naturally very excited about setting a world record. In fact, this is the first step in our research on capturing and analyzing giant photographs. We were mainly testing the limits of the hardware and software, and the limits of resolution — to see how much actual detail can be captured from a single location. We were certainly impressed by the potential."

"There are numerous exciting applications in a wide range of fields, such as tourism, heritage preservation, scientific research, medicine and astronomy. For instance, an annotated image can be used for tourists to navigate through potential tourist destinations. Scientists have used these techniques to create highly detailed images of tiny insects and even detailed representations of the human body. On the opposite end of the spectrum, similar techniques

have been used to produce high resolution images of the universe using images taken from telescopes," he added.

Setting a World Record Twice

At HKUST, Prof Sander and his fellow researchers are also investigating how to map such gigantic images to 3D model representations of a landmark, such as the Big Buddha on Lantau Island and the Victoria Harbour. Using a few of these gigantic images, they hope to be able to make extremely accurate 3D representations of these objects. The digitalization of these landmarks is an important approach for the preservation of cultural heritage.

This was not the first time Prof Sander and his co-researchers broke a world record. In July 2010 they produced and uploaded a giant photo — also of Rio de Janeiro but taken from the famous statue of Christ the Redeemer — measuring 67 billion pixels. This was a new world record at that time.

Nurturing High School Students

To cultivate in high school students the interest in digital photo technology, HKUST's School of Engineering organized 'The Making of the World's Largest Digital Photo Workshop' participated by over 50



Photos developed by HKUST set the world record twice. Left: taken from the statue of Christ the Redeemer in Rio de Janeiro; Right: taken from the Sugar Loaf.

科大創製的巴西全景圖兩度打破世界紀錄，左圖攝自里約熱內盧耶穌像，右圖攝自Sugar Loaf



Prof Pedro Sander
辛達德教授

科大創製 全球最高像素照片

senior high school elite students from eight local and international schools. Demonstrating HKUST's commitment to 'Bring Technology to Society', the Workshop gave young students the opportunity to learn about the School's expertise and technologies with hands-on exercises in photography and image stitching. It adopted the 'train-the-trainer' principle participating students were encouraged to pass on the knowledge and techniques they acquired to their counterparts. The Workshop was one of the celebratory events for HKUST's 20th Anniversary.

Students were free to take their own set of photos on HKUST's Clear Water Bay campus. They then worked on their own photos by using software to stitch the images. Through the process, they acquired the technical knowledge of algorithms and concepts that the software used to stitch the images. Towards the end, they created their own multi-image panoramas of the HKUST campus.

At the workshop, Prof Sander shared with young minds his experience and demonstrated that working on engineering and computer technology was interesting, fun, useful, and also highly intertwined with daily lives.

科大計算機科學及工程學系與巴西里約熱內盧國立數學大學的研究人員合力創製了全球最高像素的數碼照片，照片顯示巴西里約熱內盧的全貌，以 1,500 億像素的解像度打破世界紀錄。

照片由研究人員在巴西里約熱內盧名勝 Sugar Loaf 拍製，運用 500D 配合 800mm 鏡頭，再透過機械臂拍攝；整個拍攝過程歷時約四小時。之後，研究人員再將 11,000 幅 1,800 萬像素的照片以尖端科技「縫合」起來。由於需要處理極大數量的數據，縫合的過程最具挑戰性。他們試驗了多個縫合方案，以求減低各幅組成照片之間的人工化元素。最後的縫合程序需時數個星期，而將整合的照片上載至網站亦耗時一整個星期。創成後的照片若以極高解像度列印，足以覆蓋一整個足球場；若以標準解像度列印，更可以覆蓋兩個足球場。

是項計劃由科大計算機科學及工程學系辛達德教授與團隊、巴西里約熱內盧國立數學大學的 Diego Nehab 博士和 Luiz Velho 博士領導；縫合過程由該大學研究生 Rodolfo Lima 主理。里約熱內盧國立數學大學是一所頂尖的研究院，以促進純數和應用數學的研究為宗旨。

應用多元化

辛達德教授說：「我們對於成功創造了一項世界紀錄，感到非常興奮。這是研究攝製及分析巨型照片的第一步；我們希望試驗硬件和軟件、以及解像度的極限，看看在一個單一地點可以拍攝到多少細節。對於這方面的潛力，我們感到非常鼓舞。」

辛達德教授又說：「我們的技術可應用於多個範圍，包括旅遊、文物保護、科研、醫學及天文學等。舉例說，遊客可以在附有文字介紹的圖片中選擇旅遊景點；科學家可以使用這種技術製作非常精細清晰的影像，讓我們看到小昆蟲甚至人體的細節。另外，這種技術亦可以用於製作天文望遠鏡的高清影像。」

兩度打破世界紀錄

辛達德教授及研究人員正在研究使用高解像照片製作著名景點的三維模型影像，譬如製作大嶼山天壇大佛和維港的三維影像。將這些景點數碼化，是文化保育的重要方式。

辛達德教授及研究人員已兩度打破世界紀錄。2011 年 7 月，他們拍製並上載了首幅打破紀錄的里約熱內盧照片。這幅照片由耶穌像的角度拍攝，解像度為 670 億像素，也是當時的世界紀錄。

高中生製作科大全景圖

為了培養新一代學生對數碼照片技術的興趣，科大工學院今年特地舉辦「模擬製作全球最高像素照片工作坊」，50 多位來自全港八家中學及國際學校的優秀高中生在科大聚首一堂。科大本著「以科技貢獻社會」的精神，讓同學從教授的世界級作品中得到啟發、增強攝影與縫合照片的知識。他們運用「培訓培訓師」(train-the-trainer) 的模式，鼓勵同學將所學到的知識和技巧再傳授給身邊的人，令更多人受惠之餘，更可寓教於學，讓同學在指導他人的過程中有所得益。科大今年慶祝創校 20 周年，工作坊亦是校慶活動之一。

在工作坊上，辛達德教授先行介紹製作高解像度照片的竅門。同學在環境優美的科大清水灣校園拍攝風景照片，之後利用軟件將照片縫合，更從中認識及運用演算法等技術知識，及以軟件縫合照片的方法。每位同學均製作一幅科大校園全景圖，全景圖由多張照片組合而成。

透過工作坊，科大教授和中學生分享製作高像素全景圖的經驗，期望同學能進一步體會到工程和電腦科技的趣味性與實用性，以及它們與日常生活的密切關係。



HKUST: Top in Asia

HKUST Ranks

HKUST celebrates double happiness this year as it becomes Asia's no. 1 university and commemorates its 20th Anniversary. For the first time since the University was established 20 years ago, it is rated the top university in Asia by the reputable Quacquarelli Symonds (QS) Asian University Rankings.

According to the QS Asian University Rankings released on 23 May 2011, HKUST's ranking in Asia has risen to first place in 2011 while the University ranked second last year.

An announcement from QS states that "The dynamism of the (Asian) region is confirmed by the fact that 20% of the top 50 universities are less than 50 years old, including HKUST which has just celebrated its twentieth anniversary."

Ben Sowter, Head of QS Intelligence Unit, says that HKUST is strong across most of the indicators, with its truly international character setting it apart. HKUST has the edge in research productivity, where the gap has widened in 2011.

HKUST President Tony F Chan attributes the University's rapid rise to our positioning as a focused elite research university, our emphasis on excellence in faculty and students as well as on scholarship, and our international outlook while remaining as a university in China.

"To ensure continued success, we will put in even greater effort in recruiting excellent faculty and students, and we encourage entrepreneurship," said President Chan. "HKUST will leverage on China's rapid economic growth and investment in science and technology. At the same time, we will maintain our international outlook and connections in all

areas: from our students to faculty to research, and to global cooperation. We will continue to provide quality higher education for our own young people to foster economic development and social advancement."

QS is the world's leading information specialist in the higher education sector with the mission of fostering educational achievement, international mobility and career development. Published for the first time in 2009, the QS Asian University Rankings is published annually and ranks Asia's top 200 universities based on relevant criteria including: academic peer review (30%), recruiter review (10%), student / faculty ratio (20%), papers per faculty (15%), citations per paper (15%), international faculty review (2.5%), international student review (2.5%), student exchange inbound (2.5%) and student exchange outbound (2.5%).

香港科技大學：亞洲第一



The good news has been widely covered by local, national and international media. For more information, please refer to http://www.ust.hk/eng/news/press_20110523-881.html

科大今年雙喜臨門，除慶祝成立二十周年外，更喜獲備受推崇的國際大學排名榜《QS 亞洲大學排名》列為亞洲排名第一的大學，是科大成立以來首次登上亞洲第一的寶座。

根據 2011 年 5 月 23 日發布的《QS 亞洲大學排名》，科大的排名由 2010 年的亞洲第二躍升至 2011 年亞洲第一。

QS 於發布中特別強調：「亞洲最頂尖的五十所大學中，約百分之二十成立不足 50 年，其中香港科技大學今年慶祝成立 20 周年，是亞洲大學迅速發展的又一印證。」

統領 QS 排名研究的 Ben Sowter 表示，科大在很多指標中都表現出色；科大國際化的特

質是其一大優勢。此外，科大的研究質量非常突出，於 2011 年更拋離其他大學，因而脫穎而出。

對於科大迅速躍升，陳繁昌校長認為科大成功的關鍵在於大學有清晰的定位，專注發展研究及成為傑出的研究型大學；教授與學生無論在教學還是研究方面，都力求卓越。另外，科大既立足中國，亦擁有國際視野。

陳校長說：「為精益求精，科大將進一步延攬最優秀的教研人員和學生，鼓勵創業。我們將充分利用內地的經濟發展、及對科技的大量投入，發揮科大的優勢。科大將進一步加強國際化，無論學生、教研人員、以至學術研究和交流合作，都將全方位保持緊密的國際聯繫，建立環球網絡。我們亦將繼續為本港學生提供高質素的高等教育，推動經濟發展和社會進步。」

Quacquarelli Symonds 是專門研究高等教育資訊的機構，旨在促進教育、國際交流和事業發展。該機構 2009 年首次公布每年一度的《QS 亞洲大學排名》，評審標準包括：同儕的學術

評審 (30%)、招聘機構的評審 (10%)、學生與教授比例 (20%)、每位教授發表學術論文的數目 (15%)、每份學術論文獲引述的次數 (15%)、國際教授的評審 (2.5%)、國際學生的評審 (2.5%)、海外學生前來交流 (2.5%) 及學生到海外交流 (2.5%)。

科大成為亞洲第一大學的好消息，得到本地、國內與國際傳媒的廣泛報導。欲知詳情，請參閱 http://www.ust.hk/chi/news/press_20110523-881.html。

MBA Ranking: The Sky is the Limit MBA 排名節節上升

Now in its 20th year, the HKUST miracle rolls on. A perennial source of its pride is our business education which has now climbed to stratospheric levels. As recently as 2009, our MBA program was still ranked no. 16 in the world. Last year, it shot up to global no. 9 for the first time. This year, we are up to no. 6, ahead of many prestigious and much older institutions.

This is a remarkable achievement when you consider that in the US alone, there are over 2,000 MBA programs. The global MBA scene is overcrowded and hyper-competitive. For us to crack the top ten is therefore no mean feat. In fact we remain the only Asian business school to break into this charmed circle. That's not all. There are other excellences embedded in the latest rankings. Our program was rated 1st in terms of salary percentage increase, with a three-year accumulative increase of 142% over their pre-MBA pay.

Another much-valued mark of excellence is that our MBA program was cited for the highest international diversity in both student body and world-class faculty, giving our students a truly global experience, with our students drawn from a rainbow of nationalities, industries and job categories. The hallmark of a global program is its ability to attract students from the four corners of the earth. A casual glance at the students' geographical mix says it all: 93% of students come from outside Hong Kong, almost evenly



(From left) Mr Eric Yung, Dr Eden Y Woon, Prof Steven DeKrey, Prof Leonard Cheng, President Tony F Chan, Prof KC Chan, Prof Chia-wei Woo, Prof Yuk-Shee Chan (President of Lingnan University), Mr Benno Jaeggi

(左起) 校友容志偉先生、翁以登副校長、戴啟思資深副院長、鄭國漢院長、陳繁昌校長、陳家強局長、吳家璋教授、嶺南大學陳玉樹校長、校友 Benno Jaeggi 先生

divided among North America, Mainland China, the rest of Asia and Europe. From far and wide, they are all global citizens with an average of six years of work experience under their belts.

The high-power faculty includes research stars and industry leaders, bringing a diversity of perspectives into the learning process.

This formidable coming together of international star students and faculty is the bedrock of the consistently high quality in our MBA program. Asia, with its tiger economies, now has a tiger MBA program worthy of its fearsome competitiveness and addiction to excellence.

科大歡慶創校 20 周年之際，繼續創造新傳奇。科大商學院的課程每年都為大學帶來榮譽。2009 年，我們的 MBA 課程全球排

名第 16；去年，已首次升至第 9 名。今年，我們繼續攀升至第 6 名，已超越了許多歷史更悠久的一流學府。

現時全球的 MBA 課程競爭激烈，單在美國就已經有 2,000 多個 MBA 課程，因此科大躋身全球十大絕不容易；科大亦是亞洲唯一能夠打入全球十大的商學院。科大 MBA 畢業生的加薪幅度亦高踞首位，三年內累積增加 142%。

此外，科大 MBA 課程無論在學生還是教授方面，都是最國際化的；我們的學生因此可以得到真正全球化的體驗。這個環球課程吸引來自全球每個角落的學生，無論國籍、行業及工作類別都十分多元化，其中 93% 來自香港以外的地區，包括北美、中國內地、亞洲其他地方、以及歐洲等，可謂是全球公民；學生平均有六年的工作經驗。MBA 的教授都是一流的研究人員以及業界領袖，他們是課程的基石，有助學生擴闊視野。

亞洲經濟蓬勃，更有高水平的 MBA 課程，相得益彰。



Prof David Banfield Awarded Croucher Senior Research Fellowship

彭大衛教授榮膺裘槎基金會優秀科研者

Prof David Karl Banfield, cell biologist in the Division of Life Science, was awarded the prestigious Senior Research Fellowship by the Croucher Foundation in recognition of his achievements in the field of cell biology.

Prof Banfield is primarily concerned with discovering novel and fundamental cellular mechanisms, and is a recognized authority on the structure and function of the Golgi apparatus.

Recent discoveries from Prof Banfield's laboratory, published in the prestigious journal *Science*, provides insight into the mechanism by which enzymes are organized within the Golgi. These findings will make it easier to produce recombinant protein therapeutics for the treatment of diseases such as diabetes, blood-clotting disorders and cancer. His research team is now working on the role of the Golgi in nutrient sensing and the development of cancers.

Prof Banfield received his BSc degree from Simon Fraser University, British Columbia in 1986 and his PhD in Biochemistry from the University of British Columbia in 1991. He then spent four years as a Human Frontier Science Program and Canadian Medical Research Council fellow at the Medical Research Council Laboratory of Molecular Biology in Cambridge, England. Prof Banfield joined HKUST as an Assistant Professor in 1995 and was promoted to Professor in 2010. In 2003, Prof Banfield was awarded the School of Science Award for Excellence in Teaching in recognition of his outstanding contributions to undergraduate and postgraduate teaching.

生命科學部細胞生物學家彭大衛教授因為在細胞生物學方面的傑出成就，獲頒「裘槎基金會優秀科研者獎」。他是高爾基體結構和功能研究領域的權威，主要的研究目標是探索新的基礎細胞活動機制，在科研方面表現卓越。

彭大衛教授於科大實驗室的研究結果，深入闡明了高爾基體內酶蛋白的分布調控機制；這項科研成果已發表於著名的權威學術期刊《Science》。這些研究發現將促進用於治療糖尿病、血凝固障礙和癌症的重組蛋白藥物的研發。他的科研小組目前正著力研究高爾基體在細胞營養狀態的感知以及癌症形成中的作用。

彭大衛教授 1986 年在加拿大英屬哥倫比亞省 Simon Fraser 大學取得學士學位，1991 年在加拿大英屬哥倫比亞大學取得生物化學博士學位。其後，他以人類前沿科學計劃和加拿大醫學研究委員會研究員的身分，在英國劍橋大學醫學研究委員會分子生物學實驗室從事了四年的科研工作。彭大衛教授於 1995 年成為香港科技大學助理教授，並於 2010 年晉升為教授。2003 年，他獲頒理學院優秀教學獎，在本科生和研究生教學上的傑出貢獻得到表彰。



Prof Banfield (left) receives the award from Secretary for Education Mr Michael Suen
彭大衛教授（左）接受教育局局長孫明揚先生頒發獎狀

Vice-President Prof Joseph Lee Wins State Scientific and Technological Progress Award

Prof Joseph Hun-wei Lee, Vice-President for Research and Graduate Studies and his research team were presented a State Scientific and Technological Progress Award (SSTPA) (Second Class) 2010 by the Chinese State Council. The project 'Buoyant jets in complex environments - theory, innovative technology and application' enables prediction on the mixing and dilution of wastewater in complex ocean currents. The team has developed VISJET, a software which has been used in various projects regarding wastewater effluent discharges on the marine environment.

Prof Lee worked with professors from the University of Hong Kong and the Hohai University in Nanjing. "Building on the jet theory, the research team designed rosette-shaped diffusers or risers each equipped with eight outlets to create swirls to dilute wastewater 50 to 500 times, such that waste water would not appear on sea surface or move towards the beaches. The system effectively uses space and reduces cost. Whereas systems in the past required hundreds of risers each costing millions of US dollars, the new system requires only 24 rosette-shaped risers and saves billions of dollars."

The jet theory has been effectively applied to projects in Hong Kong such as the multi-billion dollar Hong Kong Harbour Area Treatment Scheme. "Due to the presence of complex turbulent ocean currents and constantly changing environmental conditions, as well as the interaction of multiple discharges, the accurate prediction of pollutant concentration is a crucial design factor. The software successfully predicted the pollutant concentration changes during wastewater disposal, and enabled design optimization to strike a balance between environmental protection and social costs.

The jet theory research is also useful in preventing floods. It has been applied to the Yuen Long Bypass Floodway Project to protect the town of Yuen Long by designing river junctions to intercept and divert the fast upstream river flows. It is developed to solve flooding problems in urban areas where space is limited. The drainage system used to provide protection from the most severe floods in a decade, and now the system has been enhanced to combat the most severe floods in five decades.

During the SARS outbreak in 2003, the team conducted research on airborne transmissions in Amoy Gardens. It explained the role played by virus-laden plumes in the transmission of SARS and the epidemic outbreak in high-density estates. The buoyant jet theory was used to understand the dispersion of exhaled droplets, and the interaction between the human body thermal plumes, and supply air jets in hospital ventilation. The design principles for isolation room ventilation were also adopted in nine hospitals in Hong Kong with over 800 isolation wards built.

VISJET is an environmental software with a three-dimensional virtual reality computer modeling system. It is meant to predict and visualize the pollutant concentration and trajectory of wastewater released in any distributed manner from a submarine ocean outfalls and under all weather conditions. It has been widely used in various hydraulics projects in the United Kingdom, the United States, Australia, Hong Kong and the Mainland. "Two or three decades ago, the design of environment engineering systems in Hong Kong relied on hydraulics models developed by American and European engineers. Today, environment research and technology design in Hong Kong have entered the international arena," said Prof Lee.

"This ground-breaking technology enables accurate assessment of environmental and health risks. It also enables the interactive design of pollution discharge systems to utilize the natural purification capabilities of the environment."



Prof Joseph Lee
李行偉副校長

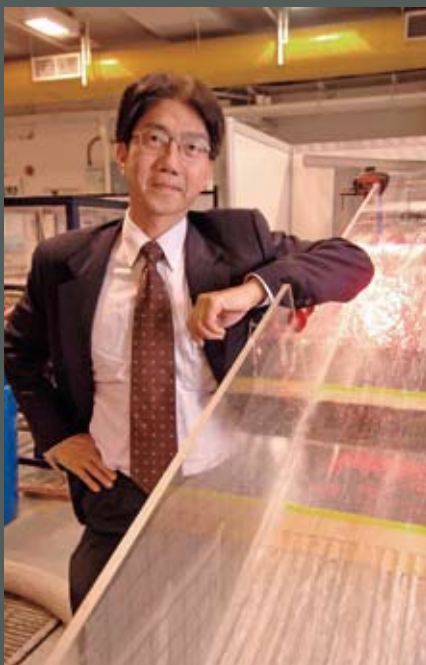
李行偉副校長 榮獲國家科學技術進步獎

科大研發及研究生教育副校長李行偉教授及其研究隊伍憑著「複雜環境下水力射流新理論、關鍵技術及應用」研究項目，獲國務院頒發 2010 年度「國家科學技術進步獎」二等獎。他們能夠在複雜的海流環境下，預測污染物混合和稀釋的狀況。團隊並成功研發 VISJET 模型軟件，為多個污水排放到海洋環境的項目作出貢獻。

李教授與香港大學及南京河海大學的教授與科研團隊一同進行研究。「我們將水力射流理論應用於海洋下的污水排放系統，利用有八個排放口的玫瑰型射流排污管產生一對對旋渦，令污水能盡快在海洋裏自然稀釋 50 至 500 倍，避免浮到海面或漂向沙灘。它更能充分利用空間和減低成本；舊有系統需要最少幾百個排污管，每個施工費達數百萬元美金；現在我們只需 24 個玫瑰型射流排污管就可以達到稀釋的效果，節省的金錢數以億計。」

另外，團隊根據模擬技術研發環境影響評估軟件 VISJET，以三維虛擬的計算機模型預測和顯示在任何環境下，海洋底部污染物的流向和濃度；軟件獲英國、美國、澳洲、香港及內地等多地的水利項目採用。「二、三十年前，本港的環境工程與設計多使用英美的水力模型；現在，本港的環境水利研究與技術設計已能晉身國際舞台，」李副校長稱。

「這項突破性的科技幫助我們準確評估工程對環境和健康構成的風險。它亦令排污系統的設計更為互動，並充分利用了環境的自淨能力。」



水力射流理論的研究成果並已應用於本港多個項目，包括成本達數十億元的香港海港淨化計劃環境影響評估。「由於香港海域水流條件十分複雜、污水排放工程較多，稀釋度的預測是整個計劃的關鍵之一。團隊的科研成果提高水力工程規劃和設計的成效，在環境效益和社會代價之間取得平衡。」

此外，水力射流研究亦有助防洪。它應用於「元朗洪水繞道」設計，令元朗郊區免遭洪水侵襲，在非常有限的空間內解決城市防洪水利問題，同時令防洪標準從原來抗禦 10 年一遇的洪水，提升至抗禦 50 年一遇的大洪水。

2003 年非典肆虐期間，團隊並進行淘大花園空氣傳播的研究。他們成功解釋在高密度大廈內沙士病毒傳播與沙士爆發的情況。團隊並利用理論研究病人呼出的射流、醫院通風口射流、及射流與人體熱羽流的相互作用。研究的目的是，改進病房通風的設計原理，於本港九間醫院 800 多個隔離病房中帶來成效。

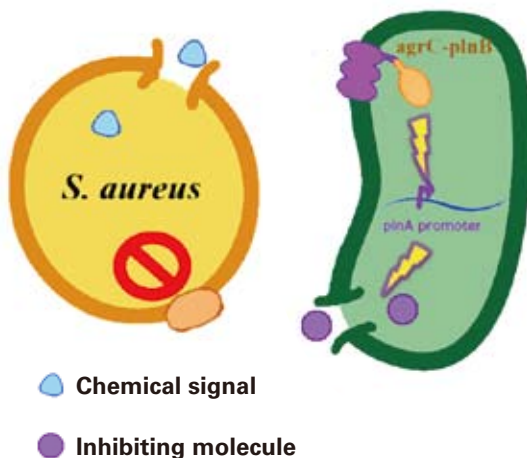
Rosette-shaped diffusers
海洋玫瑰型射流排污管

HKUST Students Win Gold at Genetic Engineering Competition at MIT

HKUST students won gold at the 2010 International Genetically Engineered Machine Competition (iGEM) held at the Massachusetts Institute of Technology (MIT), with scientific breakthrough made.

As many as 130 teams and about 2,000 participants from universities all over the world took part in the iGEM Competition, which is the world's largest-scale international student competition in the field of synthetic biology.

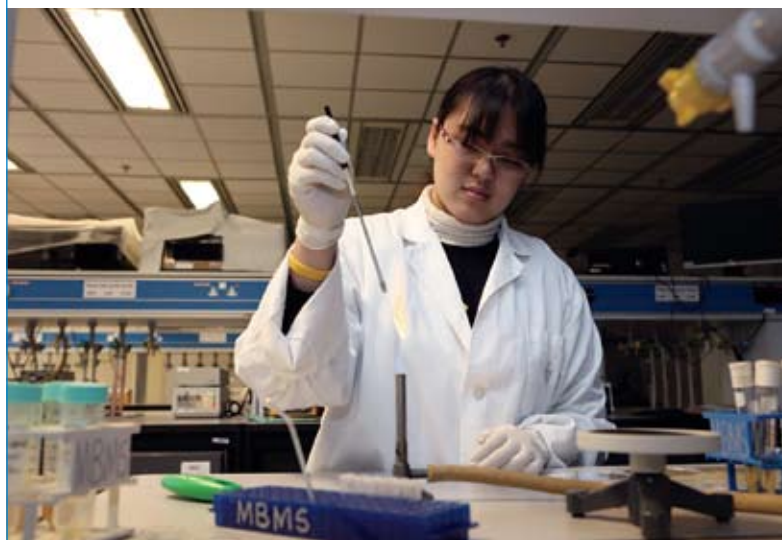
HKUST first took part in this Competition in 2008, when we won bronze. In 2009 our team came back with a silver. The HKUST Team did even better in 2010. Most of the 14 team members were Year 1



an interspecies quorum-quenching system in which non-pathogenic Lactobacillus could sense and reduce the virulence of Staphylococcus aureus. As this model system is not expected to yield a strong selective pressure for the development of resistance, it would therefore be an attractive concept for preventive medicine.

Prof Chow said that these students from different academic departments have made remarkable achievement – they started with no similar experience, and within just eight to nine months, they have selected their topic, carried out abundant research, and achieved superb results. He said that this is a good example of integrating learning, research and extracurricular activities into a single pursuit, and the students have demonstrated an exemplary level of cooperation and team spirit.

Synthetic biology is a new way of applying biological sciences in our daily life. It merges knowledge and tools in various disciplines such as systems biology, genetic engineering, mechanical engineering, electrical engineering, information theories, physics, nanotechnology and computer simulation. At present, synthetic biology has applications in a variety of industries, including agriculture, energy, manufacturing and medicine.



A student doing an experiment for the iGEM project
同學就合成生物學大賽參賽計劃進行實驗

previous iGEM Competition acted as advisors.

Under the supervision of Prof King Chow of the Division of Life Science – the students spent months conducting research, and came up with

科大在合成生物學國際比賽奪金

科大學生遠赴美國麻省理工學院參加 International Genetically Engineered Machine (iGEM) 的合成生物學比賽，並憑科研突破奪金。

這項比賽於去年年底舉行，是全球規模最大的合成生物學比賽；共 130 支來自世界各地的大學隊伍參賽，參加人數達 2,000 人。

科大學生連續三年參加比賽；2008 年獲得銅獎，2009 年獲得銀獎，去年則獲金獎。

14 位同學大部分為一年級學生，各來自不同的學系，包括生物、化學、生物化學、物理、分子生物醫學，以及化學及生物產品工程等，由五位高年級的同學擔任顧問，在生命科學部周敬流教授的指導下進行研究。

經過大半年的努力，同學們發現當金黃葡萄球菌分裂到某個程度，會發出一種信號分子相互通知以協調攻擊人體組織。隊員參考了有關乳酸桿菌和金黃葡萄球菌的文獻，發現兩者在同類間互通信號的傳導途徑非常相似。因此，他們想到把葡萄球菌細胞受體（即信號接受器）外接部份和桿菌的受體嵌合成一個混合細胞受體。若然把該受體的轉基因放到桿菌內，便可讓桿菌得以接收球菌的攻擊信號。接收到信號的桿菌會繼而自發把信息下達，調控另一個轉基因製造釋放一種科大隊員預先轉移到菌體內可抑制球菌的短鏈蛋白肽。該短鏈蛋白肽已在多本生命醫學的權威雜誌上刊載過，能有效阻擋球菌間相互通信，從而抑制由球菌繁殖帶來對人體的損害。

周敬流教授表示，這一群剛進大學不久及來自不同學系的學生，在短短八、九個月內從全無實驗經驗到訂立嶄新的課題並取得卓越的成績，至為難得，足以表現科大學生將學習、科研和課外活動融為一體的理念。同學表現出高度的團隊精神，互相合作。

合成生物學是將生物科學應用到日常生活中的一種嶄新方式。它結合了其他領域的知識與工具，涉及的領域包括系統生物學、基因工程、機械工程、機電工程、資訊理論、物理學、納米技術及電腦模擬等。目前，合成生物學已在多個行業落實應用，例如農業、能源、製造業及醫學。

HKUST's iGEM team members with Prof King Chow (4th from left)
國際合成生物學大賽科大隊伍成員與周敬流教授（左四）





How do we begin to celebrate the founding of a university at the age of 20? HKUST decides, as it begins a new chapter and its third decade, that the best way to begin its celebrations is by celebrating over 250 of its pioneering members.

Watched by hundreds of family members and colleagues, the award ceremony took place in the SH Ho Sports Hall. There was an air of conviviality and festivity, as befitting the first major event in our 20th anniversary celebrations.

President Tony F Chan set the tone by calling these pioneers “miracle workers”

who have achieved what was thought unachievable by such a dynamic university. For their labor of love they were called on stage, one by one, presented with a certificate and a souvenir—mere tokens of appreciation from a grateful university for giving 20 years of their productive lives in its service.

The President spoke movingly of the university’s debt to its trail-blazing people, declaring that “Without you, without people like you, we wouldn’t be where we are today.” He called on all of us to “chase a bigger dream”, to “sail strong and free, conquering and crossing new frontiers, with our magic spirit.” This day, he said,

belonged to the loyal and long-serving members of the university.

Then, rightfully, came the stars of the show. The academic staff was rhetorically represented by Prof Michael Altman of the Department of Physics. The administrative staff found its spokesperson in Mrs Pandora Yuen, Deputy Director of the Student Affairs Office, both recipients of the award.

Prof Altman dipped into his heart and pulled out three words to describe his feelings for having invested two decades of his life in HKUST: gratitude, relief and pleasure, in equal measure.

Long Service Award: Profiles of Courage and Devotion — Celebrating HKUST's Miracle Workers



Mrs Yuen, too, spoke without notes. From day one, she was caught up in the magic spirit of HKUST, the same spirit the President referred to in his speech.

These then are the brave soldiers of the University, fearless, loving, unretreating. The University has blossomed into an academic miracle, conquering all, missing nothing, on her journey into its next phase and higher plateau.



Fan-lee Cheung, Senior Attendant, Student Affairs Office 'Sister Lee' used to be a primary school teacher on the Mainland after graduation from a normal university. She had not worked as a full-time teacher since immigrating to Hong Kong. She had nevertheless been volunteering to teach immigrant children at community centers. She said, "I am only a junior staff at the University. Nevertheless, HKUST gives me a platform in the education sector so that I can befriend with students, listen to their views about studies, research and relationships, and give them encouragement. Members of the first class of alumni regularly return to the campus to visit us years after their graduation. Working at HKUST gives me great satisfaction. The University enables my dream as a teacher to come true in an alternative way."



Prof Francis Lui, Head of Department of Economics Prof Lui is most appreciative of the generosity and helpfulness demonstrated by members of the HKUST community. He recalls an incident which happened when the University was established. As a rather junior faculty member at the time, he was moving on his own into the campus with his many belongings. The Vice-President, knowing that Prof Lui needed help, immediately lent his helping hands with the heavy chores. It was this spirit of equality and open-mindedness which made him give up his tenured position in the US to serve in HKUST. When HKUST recruited its first class of students, the President and members from all departments worked hand in hand to successfully attract top A-level students to the University.

What Prof Lui finds most impressive is the strong teacher-student relationships, demonstrated by members of the alumni who regularly visit their professors on campus and easily chat for a few hours during gatherings. Some have been given the Ten Outstanding Young Persons award and others have become professors in reputable universities overseas. They are most thankful to HKUST which has prepared them for exceptional achievement.



Prof Joseph Kwan, Director of Health, Safety and Environment Prof Kwan says, "HKUST is the University with the most human touch. No one had ever been laid off, not even during the financial crises and the SARS epidemic. It's only with the collaborative efforts of all members of the University that the University can make such significant achievements today." His son, Dr Calvin Kwan, grew up on campus. Calvin is now working at the University's Institute for the Environment after finishing his doctoral studies in the US. The two are joining hands to demonstrate the HKUST spirit.

科大長期服務獎 嘉許竭誠服務的員工



大學創校 20 周年，最好的慶祝方法是甚麼？當然是邀請創校成員一同接受榮譽。在踏進第三個 10 年的時刻，科大向 250 多位由創校至今一直在大學服務的教職員頒發長期服務獎，為 20 周年校慶揭開序幕。

長期服務獎得主在數百名同事與家人的見證下獲得嘉許，舉行慶典的科大何善衡體育館氣氛熱鬧而溫馨，最能體現科大 20 周年校慶的精神。

陳繁昌校長說，這些默默耕耘的同事是為科大第一個 20 年編寫成功故事的幕後功臣。校長一一朗讀他們的名字，得獎同事逐一上台領取獎狀與紀念品。這些小小的心意，印證著科大對教職員過去 20 年來竭誠服務的感激之情。

「如果沒有你們，科大絕對沒有今天的成績，」陳校長說。「現在，科大正迎向第三個 10 年，追求更遠大的理想、創造更精彩的傳奇。讓我們一起勇敢地揚帆出海。今天，屬於各位盡忠職守的同事。」

代表教員在台上致辭的，是物理系的歐德孟教授；一眾職員則由學生事務處的阮溫曼紅女士代表致辭，兩人同為長期服務獎的得主。

歐德孟教授將人生最重要的 20 年獻給科大，他用三個詞語來形容自己的感受：感激、安慰與榮幸；三者同樣重要。

阮女士輕鬆道出於科大工作的體驗，她從第一天上班開始已經被科大全人的幹勁深深吸引著，而她本人的工作態度甚或在台上分享感受時，都充滿朝氣、幹勁十足。

他們就是為科大的先鋒，讓科大從學步開始，到今天昂首闊步邁向未來。單從教職員的質素與態度，就可以知道科大締造奇蹟並非意外；科大將不斷進步，迎向未來。



Mrs Pandora Yuen (right) 阮溫曼紅女士 (右)



Prof Michael Altman (left) receives award from the Provost Prof Wei Shyy
歐德孟教授 (左) 接受首席副校長史維教授嘉許

張凡利女士（學生事務處高級雜務員）「利姐」於內地師範畢業，本為內地小學中文教師；來港後雖然沒有繼續正式執教鞭，卻仍然在社區中心為新移民的子女義務教學及為科大教職員的子女教授中文。她說：「雖然我在大學做基層工作，科大卻給我一個教育的平台，與學生接觸，聆聽他們學業、科研或者感情方面的心聲，給他們鼓勵。第一屆的學生雖然畢業多年，仍常回來探望我們，令我感到極大的喜悅，圓了我另類教育之夢。」

雷鼎鳴教授（經濟系系主任）雷教授最欣賞科大同事與師生無分彼此、守望相助的精神。科大剛成立之初，他獨自將細軟搬進清水灣校園，副校長見狀立刻上前親自幫忙搬運工作，令當時僅為年輕教授的他深受感動；雷教授深受科大開明、平等的氣氛吸引，最後放棄美國的終身教職，加入科大。科大首次招生時，校長與各科同事同心協力，成功吸引高考尖子入讀科大。他最難忘科大深厚的師生情誼，學生畢業後多年仍然經常回到校園與老師聚舊，往往一聊就是大半天。現在不少校友已經成為獨當一面的人才，校友中不乏十大傑青、和海外著名大學的教授，他們對母校的恩情仍然念念不忘。

關繼祖教授（健康、安全及環境處處長）關教授說：「科大是香港最有人情味的大學，即使面對金融風暴或者非典，都從來沒有裁員。科大正是憑著上下一心，才有今天的成績。」關教授的兒子關凱臨博士也在科大長大，在美國修畢博士課程後在科大環境研究所工作，兩父子將科大精神代代相傳。

Run for Vision 為光明 同舉步

A community is a community because of what it shares: its values and its activities. On 17 February which fell on Chinese Valentine's Day, our faculty, staff and students in sneakers and track suits and led by President Tony F Chan, came together for 'Run for Vision', a common act of charity for the less fortunate. Over 350 runners, representing different departments and student organizations took part in a run between the East and West Gates, terminating at the Piazza. Together, they raised around \$28,000 in support of ORBIS to fund its drive against preventable blindness. This was the money the President took with him when he joined the Leaders' Cup at the Standard Chartered Marathon later in the month.

Some were carried along on legs that have seldom seen the sun, others tanned to perfection. But they were empowered by the same HKUST spirit that embraces the community and its concern for its disadvantaged members.

科大師生向來熱心參與社會事務，今年農曆元宵節，師生在陳繁昌校長的領導下共襄善舉，參加「齊展步創·新視野」慈善慶祝活動，為預防盲疾籌款。350多位來自不同部門的同事與同學一身運動服裝，於科大北閘與南閘之間緩跑，直奔入口廣場完成創舉。

不少同事訓練有素、狀態甚勇，亦有同事志在參與；彼此激勵、同心同德，竭力為有需要的人盡一分力，發揮科大關心社會的精神。

透過是項活動，科大師生為奧比斯籌得約港幣 28,000 元，作預防失明工作之用。陳校長隨後參加渣打香港馬拉松領袖杯，捐出這筆由師生共同籌得的善款，表達科大的心意。

(From left) Vice-President Prof Yuk-shan Wong and President Prof Tony F Chan making heart-shaped dumplings for the runners
(左起) 黃玉山副校長與陳繁昌校長炮製心形湯丸慰勞同事



Warming up...
熱身 ...



Four Economics Guru Share Insights at China Economic Development Forum

The China Economic Development Forum hosted by our Business School on 23 March was a glittering affair. And what glitters in this case is pure gold. Some 400 people, many movers and shakers of our community, jammed into the hall at the Four Seasons Hotel to hear a quartet of economic decision-makers and newsmakers speak.

What brought these financial foursome together is the 20th Anniversary of HKUST. Each of them, Prof Justin Lin, Senior Vice President and Chief Economist of the World Bank, Prof David Daokui Li, Director of the Center for China in the World Economy at Tsinghua University, Prof Yi Gang, Deputy Governor of the People's Bank of China and Administrator of the State Administration of Foreign Exchange, and Prof KC Chan, Secretary for Financial Services and the Treasury of Hong Kong, is either a former or current professor of HKUST. As old friends and colleagues, they enjoyed their reunion and 'homecoming', by freely debating with

each other over the future of the 'Leading Dragon' as China's economy is sometimes called.

President Tony F Chan welcomed the speakers and their 'homecoming'. This economic 'Gang of Four' has helped HKUST earn its epithet as a 'Miracle University'.

China, for its part, is called a 'miracle economy'. No country in history has experienced such breakneck economic growth for over 30 years. There were people who doubted if China's growth would last, but China has defied all these predictions and has gone on to greater prosperity. This led Prof Justin Lin to question the adequacy of current economic thinking and wonder if we need a new economic theory to explain the China miracle.

China has leapfrogged from a low-income country to a middle-income one within just 20 years. Before long, she may join the US as a high-income country. But this

requires China to take a new direction, from dependence on manufacturing to being a leader in technological and industrial innovation.

But the longest, unbroken stretch of rapid growth also poses challenges for Chinese leaders. In the past, GDP growth was China's number one priority. The thinking may now be shifting to the Happiness Index as the measure for rewarding good performance. Social tensions are bubbling up, and Prof David Li sees the need to balance varying interests in the society.

Prof Yi Gang, the man who controls China's foreign currencies, offered a 'herbal remedy' for China's current issues, a brew with several ingredients. Given her spectacular success, there are strident calls for China to reduce the trade imbalance and appreciate its currency. China will do so, Prof Yi says, not by reducing exports but by increasing imports. His recipe includes stimulating domestic consumption, increasing income, and reducing growth rate while raising quality.



四位經濟巨人在中國經濟發展論壇主講

The final speaker was Prof K C Chan who took the audience through the process and progress of the development of the RMB market in Hong Kong. This is an area that demonstrates Hong Kong's uniqueness under One Country Two Systems. He saw the rapid growth in trade settlements by RMB and foresaw the tremendous potential, although it must be managed in an orderly and organic manner.

The forum was divided into three parts. In the first, following two keynote speeches, there was a dialogue between the two speakers, moderated by Prof Leonard Cheng, Dean of the Business School. In part one alone, there were more than 100 written questions from the audience. The second session similarly followed, moderated this time by Prof Francis Lui. Finally, there was a concluding Panel Discussion in which all four speakers appeared together. There, certain questions previously unanswered were selectively and strategically addressed.

There was much to take away. For one thing, commonly accepted economic theories cannot always be relied upon to explain the China phenomenon. For example, the Gini Co-efficient as an indicator of the wealth gap needs to be China-adjusted, because it fails to take into account the rural-urban disparities in purchasing power. Then, there is the wisdom of doing things decisively yet gradually, which is the clue to China's economic success.

So, here is big-picture thinking at its best, intellectually and practically. It was HKUST's finest hour, making us proud and determined to see that our miracle continues.



(From left) Prof Francis Lui, Prof David Li, Prof Justin Lin, Prof Tony F Chan, Prof Yi Gang, Prof KC Chan and Prof Leonard Cheng

(左起) 雷鼎鳴教授、李稻葵教授、林毅夫教授、陳繁昌教授、易綱教授、陳家強教授及鄭國漢教授

商學院 3 月 23 日主辦的中國經濟發展論壇，是城中盛事。400 多位舉足輕重的社會領袖雲集中環四季酒店，聆聽四位經濟「掌舵人」的真知灼見。

四位「巨人」難得聚首一堂，同慶香港科技大學創校 20 周年。他們都與科大深厚的淵源，並且先後在科大任教。他們是世界銀行高級副行長兼首席經濟學家林毅夫教授、清華大學中國與世界經濟研究中心主任李稻葵教授、中國人民銀行副行長及國家外匯管理局局長易綱教授、香港特別行政區財經事務及庫務局局長陳家強教授。他們暢談甚歡，大家就中國這條巨龍的經濟前景交換意見。

科大校長陳繁昌教授在致歡迎辭時表示，四位經濟巨匠難得在論壇上重聚，他們的成就更令科大贏得「奇蹟大學」的美譽。

中國本身就是一個「經濟奇蹟」。過去 30 多年，中國的經濟進程可以說是史無前例。雖然曾有人認為內地的蓬勃經濟只會曇花一現，事實卻是中國的經濟持續強勁。林毅夫教授更質疑現時的經濟理論並不能解釋中國的經濟現象，提出可能需要新的理論去闡述中國的經濟奇蹟。

中國在短短 20 年內已經從低收入社會走向小康，很快就可能像美國一樣成為經濟強國；然而中國需要減低對製造業的依賴，致力演變成為領導科技創新的大國。

這條漫長的發展道路，為國家的領導人帶來挑戰。以往國家最重視國內生產總值的增長，李

稻葵教授則提出以人民的「開心指數」為依歸，化解社會矛盾，平衡社會上不同的利益。

易綱教授掌管國家外匯，為中國「處方」。國家在經濟上的成功亦引來不少壓力，包括對中國減少貿易失衡及讓人民幣升值等要求。易教授卻提出增加進口而非減少出口；他的「藥方」還包括擴大內需、增加收入、調低增長速度及提升增長質量等等。

最後一位講者陳家強教授分享香港作為人民幣離岸市場的發展——在一國二制下，香港扮演著重要的角色。他指出人民幣結算迅速增長，預期人民幣業務有巨大的發展潛力，同時發展必須循序漸進、按步就班。

論壇的形式亦顯示科大創新的特色：論壇一共分三個部份，兩位講者主講後，隨即由商學院院長鄭國漢教授主持首輪答問。台下反應熱烈，共收到超過 100 個提問，鄭院長運用其經驗歸納問題內容。第二輪討論則由雷鼎鳴教授主持，四位主講者同台作總結，再次就參加者的提問分享見解。

透過參加論壇，與會者上了極寶貴的一課，譬如認識一般的經濟理論未必能盡述中國蓬勃發展的現象；又例如由於中國城鄉差距甚大，堅尼系數需要按中國的實況作出相應調節。另一個錦囊，就是做事循序漸進、堅定不移；這是智慧所在，大概亦是中國締造經濟奇蹟的秘訣之一。

中國經濟發展論壇的參加者滿載而歸；這是科大校慶活動美好的一刻，我們都引以為傲，並且決心延續科大的傳奇。

Crescendo of Celebrations: The Grand Reception

Without doubt, the crescendo of celebrations for HKUST's 20th Anniversary is the Grand Reception on 8 April at the Hong Kong Convention and Exhibition Centre. It was indeed a glamorous and memorable event: hundreds of celebrities, community leaders, government officials, diplomats, HKUST friends, academic partners, faculty, alumni and students celebrated over the changing times and envisioned the bright future of this young university. It brought together three past and current Council Chairmen — Dr Vincent Lo, Dr John Chan and the current Chairman, Dr the Hon Marvin Cheung and three presidents, the President Emeritus Prof Chia Wei Woo, President Emeritus Prof Paul Chu, and of course our sitting president Prof Tony F Chan. Pro-Chancellor Dr the Hon Sir Sze-Yuen Chung, as head of the founding team, was among the podium guests who presided over the proceedings.

Substantively, the event was anchored by speeches from state, local and institutional leaders. Prof Han Qide, Vice Chairman of the Standing Committee of the National People's Congress, who is knowledgeable about HKUST, was lavish in his praise of this miracle university, believing that it has a bigger role to play now that Hong Kong has been included in the nation's technological development blueprint. The Chief Executive the Hon Donald Tsang endorsed the university's unrelenting effort to recruit the best brains, echoing the founding President Prof Woo who has

famously said that "First class people attract first class people, and second class people attract third class people."

Among the officiating guests were Mr Peng Qinghua, Director of the Liaison Office of the Central People's Government in the HKSAR, Mr Lu Xinhua, Commissioner of the Ministry of Foreign Affairs of the PRC in the HKSAR, and Ms Yin Xiaojing, Deputy Director of the Liaison Office of the Central People's Government in the HKSAR. A number of senior government officials, including Secretary for Education the Hon Michael Suen and Secretary for Financial Services and the Treasury Prof KC Chan, also attended.

President Chan declared that HKUST could be a trusted custodian of the Chief Executive's legacy that Hong Kong needs: a future in technology. He called on the government to increase funding for science and technology. He also announced the launch of the HKUST President's 20th Anniversary Challenge donation matching program for Endowed Professorships to attract top names in the highly competitive global academic arena. The program calls for a donation of HK\$10 million for each Endowed Professorship, which will be matched dollar-for-dollar by the University to form a permanent endowment of HK\$20 million.

Endowed Professorships will be named in honor of the donor.

Fittingly, technology was prominently featured in the ceremony. The traditional lion dance, traditional in every other aspect, was powered and performed by a pair of robots. Even the calligraphy for slogan unfurled by the lion's tongue, 'Our Miracle Continues' was enabled by MoXi, our breakthrough digital paint system that had brought the animation of the Great Wall to tens of millions of viewers around the world at the Beijing Olympics.

To mark HKUST's contribution, a minor planet No.202784 was named 'Gangkeda' (the Chinese abbreviation of HKUST) by the Chinese Academy of Sciences Purple Mountain Observatory in Nanjing, China. The formal announcement was made by Mr Chunlin Lu, the Observatory's Party Secretary and Deputy Director, who also presented a plaque and a certificate to HKUST.

Council Chairman Dr Marvin Cheung brought the proceedings to a bubbly conclusion by proposing a toast to HKUST's next 20 years. The event is emblematic of HKUST's habit of excellence, delivering nothing but the best in all that it undertakes.



舉校同慶 高唱入雲

科大 20 周年校慶的熱鬧氣氛，在校慶慶祝大會推上高潮。慶祝大會於 4 月 8 日在香港會議展覽中心舉行，當日冠蓋雲集，數百位名人、社會領袖、政府官員、外交使節、學術界同儕、科大友好、教職員、校友與學生一同為這家朝氣勃勃的大學與我們美好的前景而慶賀。三位校長——創校校長吳家瑋教授、第二任校長朱經武教授、以及現任校長陳繁昌教授難得聚首一堂。此外，三任校董會主席亦聯袂光臨——羅康瑞博士、陳祖澤博士及現任的張建東博士。當然少不了的，是我們創校團隊的領導人及科大副監督鍾士元爵士，在科大慶典上更見精神奕奕。

慶典由多位領袖的講辭揭開序幕，人大常務委員會副委員長韓啟德教授專程蒞臨主持慶典，他對科大的發展瞭如指掌，並且讚不絕口。他認為，香港既已納入全國科技發展的藍圖，科大將會扮演更重要的角色。

行政長官曾蔭權先生盛讚科大招攬優秀人才的決心，並說這個方針與創校校長吳家瑋教授的名言互相呼應；吳校長曾說：「頂級人才吸引頂級人才；次級人才則只會吸引三流人才。」

主禮嘉賓還包括中央人民政府駐香港特別行政區聯絡辦公室主任彭清華先生；中華人民共和國外交部駐香港特別行政區特派員呂新華先生，以及中聯辦副主任殷曉靜女士。香港特別行政區政府多位官員，包括教育局局長孫明揚先生與財經事務及庫務局局長陳家強先生，均應邀出席。

陳繁昌校長宣布，科大正大力推動科技發展，以響應特區政府的呼籲：香港的未來需要科技；他希望政府增加科研經費。陳校長同時宣布開展科大 20 周年校長挑戰計劃，利用講座教授捐款吸引學術界最頂尖的人才加盟科大。每個講座教授席需 2,000 萬港元基金；若捐助人捐獻 1,000 萬元，科大就配對 1,000 萬元；教授席可用捐贈者或捐贈機構的名義命名。

科技大學的慶典，當然少不了科技的元素。我們一改舞獅的傳統，由機械人擔起舞獅的重任。舞獅口中吐出來的口號「創·新傳奇」，也是以科大校友開發的「墨戲」毛筆書法數碼軟件書寫出來。「墨戲」是一個突破性的數碼軟件系統，於北京奧運期間將萬里長城的氣派在數以千萬計觀眾面前展示出來。

為了表揚科大的貢獻，中國科學院南京紫金山天文台特別將一顆編號 202784 的小行星命名為「港科大星」。黨委書記兼副台長魯春林先生在慶祝科大 20 周年的儀式上，正式作出宣布，同時頒發紀念牌及証書給科大。

典禮結束前，校董會主席張建東博士帶領大家舉杯慶祝，祝願科大在未來 20 年繼續作育英才，貢獻社會。

這個盛會得以圓滿舉行，有賴科大同事的心血，亦再一次展示科大追求卓越的精神。



Naming of 'Gangkeda'
「港科大星」命名



International students in
traditional costumes
國際學生穿著民族服裝



Lion dance by robots
機械人舞獅



Einstein in Hong Kong: Integrating Science and Arts Education

Albert Einstein once remarked: "The important thing is not to stop questioning. Curiosity has its own reason for existing." While not everyone might fully comprehend what the famous equation $E=Mc^2$ means, the series *Einstein in Hong Kong* successfully brought the legendary figure out of the lecture hall by offering an array of scientific and artistic events centered on the life and works of Einstein. As suggested by the campaign's title, Einstein was in Hong Kong twice in his life, just before and after he was awarded the Nobel Prize in Physics in 1922 and 1923 respectively.

Partnering with the Consulate General of Switzerland in Hong Kong, swissnex China, Hong Kong Science Museum and the Education Bureau of HKSAR, HKUST is presenting *Einstein in Hong Kong* from April to August 2011 as one of HKUST's 20th Anniversary programs.

Reflecting the unifying concept of 1-HKUST, the Einstein-themed events held on campus were joint efforts of the Institute for Advanced Study, the School of Science and the School of Humanities and Social Science. The broad spectrum of events is intended to promote popular science and to nurture a culture of science.

As part of the all-embracing campaign, HKUST's Institute for Advanced Study (IAS) hosted a conference on *Cosmology since Einstein*. 24 world-renowned cosmologists and relativists from around the globe joined hands to deliver the latest scientific development which had been influenced by the work of Einstein and the expanding Universe in particular.

To further engage the community, the School of Science partnered with the Education Bureau to host a science essay competition named *Letters to Einstein* to invite high school students and the wider community to express their thoughts on modern science.

Einstein's intellectual legacy is phenomenal. During *Einstein@HKUST* which was organized by HKUST's School of Science, Prof Gary Shiu, a Fellow of HKUST's IAS, explained how important technologies such as laser, global positioning system and solar energy etc would not have existed without Einstein's theories, thus reinforcing the notion that science and technology contributed to the advancement of the society.

So, how can Einstein inspire students today? During the *Einstein in Hong Kong*

series, HKUST's Dean of Science Prof Nancy Ip repeatedly stressed the importance of intellectual independence and critical thinking which would help people meet future challenges. In HKUST's seminar *Quoting Einstein* featuring our alumnus and Director Mr Alfred Kin-ting Cheung and Prof Che-ting Chan, the former shared that curiosity had always laid the ground for new knowledge. This echoed what Mr Dennis Overbye, author of *Einstein in Love: A Scientific Romance*, shared in another seminar that the founding of the *Olympia Academy* by Einstein was of paramount importance to his publications on photo-electric effect, Brownian motion, and relativity theories. For Einstein, exchange of ideas, an inquiring mind for life and a daringness to dream were inseparable factors for his pursuit of knowledge.



Prof Bright Sheng (1st from right) refined music composition with young emerging composers
盛宗亮教授(右一)與年輕作曲家



Souvenir presentation at Einstein@HKUST: (from left) Prof TK Ng, Director Kin-ting Cheung, Prof Nancy Ip and Prof CT Chan
(左起) 吳大琪教授、張堅庭導演、葉玉如教授及陳子亭教授

愛因斯坦在香港： 科學與藝術的結合

As a keen and talented violinist, music was one of Einstein's lifelong passions. HKUST's School of Humanities and Social Science conducted music workshops and staged concerts on the theme of 'Arts and Science'. Entitled *The Intimacy of Creativity — the Bright Sheng Partnership: Composers Meet Performers in Hong Kong*, this innovative endeavor was held under the stewardship of YK Pao Distinguished Visiting Professor Bright Sheng, an internationally acclaimed composer, pianist and conductor.

In line with HKUST's commitment to nurturing all-rounded global leaders, this event is part of this year's music and humanities education research project. Through encouraging dialogues between composers and performers, *The Intimacy of Creativity* showcased a creative process of new music. It gathered international music masterminds and emerging talents, including Grammy® Award-Winning clarinet soloist, Richard Stoltzman; Pulitzer Prize-winning composer and pianist, Yehudi Wyner; 2005-2007 Lincoln Center Chamber Music Society Two Ensemble, the Daedalus Quartet; and six young composers who were chosen out of 250 submissions across countries.

In 1999, Time Magazine nominated Einstein as the 'Person of the Century'. To date, Einstein is admired and revered as a genius in physics as well as an influential humanist. *Einstein in Hong Kong* was a golden opportunity for the public to gain comprehensive understanding of this iconic figure whose scientific findings and inventions have had a profound impact on the society today.

Einstein paper-doll welcomes participants to 'Eat Like Einstein'
趣緻愛因斯坦模型歡迎來賓

天才科學家愛因斯坦曾經說過：「不要停止發問；好奇心的存在，自有它的道理」。雖然並不是每個人都能理解著名方程式 $E=Mc^2$ 的意思，「愛因斯坦在香港」系列成功讓這偉大的殿堂級科學家走出課室，透過一系列的科學及藝術活動，全面地展現愛因斯坦傳奇的一生與傑出的成就。愛因斯坦曾於 1922 及 1923 年兩度踏足香江，就是他獲得諾貝爾物理學獎的一年。

科大與瑞士駐港總領事館、瑞士聯邦政府科技文化中心、香港科學館與特區教育局攜手合作，於 2011 年 4 月至 8 月期間舉辦「愛因斯坦在香港」系列活動；此活動亦是科大慶祝創校 20 周年的活動之一。

科大校園內舉辦的愛因斯坦主題活動由高等研究院、理學院及人文社會科學學院聯合主辦，體現「同一科大」的精神，旨在促進普及科學及孕育科技文化，讓公眾從多方面理解愛因斯坦的生平與偉大理念。

科大高等研究院舉辦的「宇宙學學術會議」研討會是其中一項重點活動，邀請 24 位來自世界各地的著名宇宙學家和相對論學者出席及發表演講，探討愛因斯坦的影響與最前沿的宇宙學說。

為進一步提高大眾對愛因斯坦的認識，科大理學院與教育局協作，舉辦「給愛因斯坦教授的信」科學徵文比賽，邀請全港中學生及公眾表達他們對現代科學的看法。

愛因斯坦的理論在當今社會中得到廣泛應用，例子比比皆是。在科大理學院舉辦的「愛因斯坦在科大」活動上，科大高研院研究員蕭文禮



教授解釋現今社會的主要科技，包括激光器、全球定位系統、太陽能等等，全源自愛因斯坦的理論，其貢獻證明了科技發展對促進社會的重要性。

那麼，愛因斯坦為今天的學生帶來甚麼啟發？科大理學院院長葉玉如教授多次在「愛因斯坦在香港」活動上表示，學生及早培養獨立思考的能力，有助提高解決問題的能力。科大舉辦的「愛因斯坦多面睇」論壇邀請科大校友張堅庭導演與陳子亭教授演講，張導演亦表示好奇心是促進新知識發展的原動力。《戀愛中的愛因斯坦：科學羅曼史》一書的作者 Dennis Overbye 曾在另一講座上提到，愛因斯坦當年深受「奧林匹亞科學院」學術聚會的影響，繼而連續發表了光子理論、分子運動論和狹義相對論。由此可見，思想交流、探究精神以及對夢想的渴求，都是愛因斯坦創造知識的重要條件，亦是他能啟發學生的地方之一。

由於愛因斯坦是一位音樂愛好者，小提琴總是形影不離地伴隨著他，科大人文社會科學學院特別舉辦名為「創意間的親暱：盛宗亮與國際作曲家 / 演奏家聚會香港」的音樂工作坊及音樂會，以探討「藝術與科學」的主題。系列活動由香港科技大學包玉剛傑出任客座教授、世界著名作曲家、鋼琴家及指揮家盛宗亮教授主理。學院配合科大發展全人教育的宗旨舉辦是次活動，作為音樂及人文教育與研究項目的一部份。「創意間的親暱」系列鼓勵作曲家與演奏家對樂曲的討論，以展示新音樂的創作過程。音樂盛會雲集多位國際音樂人才。獲邀的音樂家包括【格林美獎】得主單簧管獨奏家 Richard Stoltzman、【普立茲獎】得主作曲家及鋼琴家 Yehudi Wyner、獲選為 2005-2007 年林肯中心室內樂協會 II 室內樂團的 Daedalus 四重奏、以及六位脫穎而出的年青作曲家。

1999 年，愛因斯坦獲《時代雜誌》選為「二十世紀風雲人物」。時至今日，天才物理學家愛因斯坦仍然深受世人的尊敬，他亦是一位具有影響力的人文主義者。「愛因斯坦在香港」系列活動讓各界人士深入認識這位天才對當前社會的深遠影響、其科學發現與貢獻。

Our Four-year Undergraduate Curriculum is Ready

As HKUST marches towards 2012, we are ready for the launch of the four-year undergraduate curriculum.

Provost Prof Wei Shyy spoke highly of the advantages of the four-year programs, "Students will enjoy one more year of university life which enables them to develop critical thinking skills and to receive broader, well-rounded and whole-person education."

To enhance broad-based education, over 180 University Common Core courses will be offered for students across the board. These courses are offered by the four Schools, the Interdisciplinary Programs Office, as well as individual professors whose course proposals have been accepted. Prof Shyy himself, an aerospace engineer who is an expert in bird watching and bird photography, will be delivering a course entitled 'From Bird Flight to Airplane'.

"We will continue to widen students' international perspectives through exchange programs. Through internship, mentorship, integration of academic disciplines with social services and other co-curricular activities, we will encourage students to interact with people from different walks of life, go out of the campus and learn to become responsible citizens."

HKUST started preparing for the new curriculum about five years ago. "With the concerted efforts and strong commitment of faculty members and staff at all levels, we stand ready to meet the challenges of 334," said Prof Shyy.

Prof Nancy Ip, the Dean of Science, considers 334 a golden opportunity for enhancing science education. "With the

implementation of the four-year system, HKUST will focus on striking the right balance between specialization and generalization in education. We plan to adopt a holistic education system that offers a flexible curriculum with an interdisciplinary approach. As educators and scientists, we not only aim for our students to acquire professional knowledge, but more importantly, we aspire to nurture their spirit of science: a strong sense of curiosity, independent and critical thinking, and pragmatic problem-solving abilities. These intellectual qualities will equip students with the essential skills to meet future challenges."

The School of Engineering will take advantage of this precious opportunity to design an innovative new curriculum to nurture competent 21st century engineers. "The reform, School-based admission and postponed declaration of majors give Engineering students one more year to learn about the exciting and complex Engineering discipline and to make sound choices. Our Center for Engineering Education Innovation has been established to help students under the School-based admission system to adapt to academic life and to choose their majors via a Major Selection Exercise. Senior students serve as mentors under the newly established Peer Mentoring Program. Workshops, ongoing assessment and support will be given to enhance students' learning experience and holistic development," said Prof Khaled Ben Letaief, Dean of Engineering.

The Business School on the other hand, will enhance undergraduate experience to nurture business talents for the 21st century. "We help to unlock student potentials through a balanced curriculum that emphasizes student-centered and

inquiry-based learning and extra-curricular activities. We have developed student exchange programs, internships and company projects with an emphasis on responsible leadership. Our newly-introduced student-led Business Cohort Community for our undergraduates aims at building unity and enhancing personal development through interesting social activities," said Prof Leonard Cheng, Dean of Business and Management.

The School of Humanities and Social Science has launched a wide range of programs in view of the reform. "A series of art and music courses, including music appreciation and music composition, has been organized by Prof Bright Sheng - YK Pao Distinguished Visiting Professor, to broaden students' perspectives. The School has designed a Common Core and Signature Course education in Humanities and Social Analysis to stimulate students' critical thinking. Together with the Language Center, we offer Chinese and English courses. We will also launch a BSc in Global China Studies in 2011, our first undergraduate program, which has already become one of HKUST's most popular programs among university applicants. By 2012, all our major students will have the opportunity to study abroad for one year," says Prof James Lee, Dean of Humanities and Social Science.

Prof Chi-ming Chan, Director of the Interdisciplinary Programs Office says, "We believe that the interdisciplinary nature of our programs can equip our students with skills and know-hows to deal with the most challenging problems we are facing today. In addition, we focus on character development of our students, which is one of the most important elements of university education. In addition, the new dual degree program in



(From left) Prof Chi-ming Chan, Prof Nancy Ip, Prof Leonard Cheng, Prof James Lee, Prof Wei Shyy, Prof Khaled Ben Letaief and Prof Kar Yan Tam
(左起) 陳志明教授、葉玉如教授、鄭國漢教授、李中清教授、史維教授、李德富教授及譚嘉因教授

technology and management is a five-year program that replaces the current four-year program. This will give us more time to provide better training of our students about the integration of technology and business.”

HKUST’s exchange programs will be enhanced along with the reform. “Currently, one-third of HKUST undergraduates take part in exchange programs to study outside of Hong Kong for one or two semesters. This does not include the numerous study tours and field trips overseas. At the School of Business and Management, more than 50% of students participate in exchanges and the University is setting a similar target for all students in the future. In addition to exchange programs, HKUST is also a pioneer in promoting research at the undergraduate level. The Undergraduate Research Opportunities Program (UROP) is emerging as a signature program at HKUST with close to 100 professors supervising over 250 students in research projects last year,” said Prof Kar Yan Tam, Associate Provost and Dean of Students.

HKUST has put tremendous efforts into curriculum design. Prof King L Chow, Associate Dean of Students and Director of Undergraduate Core Education Office, said “The University has overcome major challenges during the preparation process. Such includes a carefully designed and structured Common Core Program with courses with clear objectives to ensure that outcome-based education elements are embedded, and a change of the graduation credit requirements for majors to enable flexible majors and minors. To broaden students’ learning experience, we have made major efforts in the development of co-curriculum. Via Common Core Program, we are offering newly developed interdisciplinary courses, signature courses as well as courses which involve practicum components, such as dancing, photography, media art and Cantonese opera – which is most innovative and unique for a university of science and technology. Ultimately, we aim to nurture our students to become not only technology competent professionals but intellectuals or compassionate individuals who can help advance knowledge creation and serve the public well.”

Prof Shyy said, “We have extensive consultations with secondary schools and we maintain close interaction with secondary school students. While some students and parents may worry that there might be differential treatment or inefficiencies during the double cohort, they can be rest assured that those worries will not come true. At HKUST, both the three-year and the four-year programs will be given equal emphasis; neither one will compromise its quality.”

“334 is a huge and complex exercise which calls for meticulous planning and a high level of collaboration and persistence of our faculty. I would like to take this opportunity to thank many colleagues who have worked very hard for championing this cause in the past years,” said Prof Shyy.

Key features of our four-year curriculum

The four-year degree will be launched in September 2012. These plans were presented to the University Grants Committee (UGC) this February as part of the HKUST Academic Development Proposal (ADP) for the upcoming



2012-2015 triennium. The ADP sets out an academic program with three main features:

1. School-based admission and deferred declaration of majors

- All students will be admitted to one of the four Schools, not to a program. They will make a final choice of their major program only after their first year of study, or even in second year;
- All Schools have worked hard to create foundation programs as a basis for majors in-School, and even for students who would like to cross Schools for their studies;
- Schools are already stepping their efforts to strengthen the student advising system which will equip students with the necessary academic advice and support as they select their majors and choose their Year 1 courses.

2. University Common Core

- It will provide students with an intellectually exciting range of studies in key disciplines – Social Analysis, Arts and Humanities, Science and Technology, a foundation in English language, Chinese and Quantitative Reasoning;
- It will comprise 36 credits, i.e. one-quarter of students' studies;
- The six-credit foundation in English language provided as part of the Common Core in Year 1 will only be the first step in students' studies in English communications. All students will be taking at least six additional credits in English linked to their own disciplines.

3. Flexible majors and minors

- It will enable students to create their own paths to graduation as specialists heading for further studies or professionals looking at employment;
- Program designers have worked very hard to ensure that graduation credit requirements for majors are limited to allow students more choices of electives and greater chance to engage in out-of-class learning;
- A solid core of disciplinary studies has been brought forward from HKUST's successful three-year degree programs, building a platform for innovation in the post-2012 years. The ADP establishes a clear trend toward more interdisciplinary majors and identifies seven additional minors for development in the 2012-2015 period.

科 大正向 2012 年邁進，我們的四年制本科課程已準備就緒，將為學生帶來全新的學習體驗。

科大首席副校長史維教授認為，四年制課程有許多好處：「學生將有多一年的時間享受大學教育，學習獨立思考及接受更廣、更全面的成人教育。」

科大除注重課程的深度外，亦著重其廣度。科大將為各學院的學生開辦 180 多個大學核心課程，課程由四個學院及跨學科課程事務處開辦，亦有教授自薦遞交課程建議並獲得接納。譬如史教授將開辦名為「從飛鳥到飛機」的有趣科目，將自己航天工程的專業與觀鳥及鳥類攝影的興趣結合，讓學生學習有關知識。

「另外，我們將繼續透過交換生計劃擴闊學生的國際視野，同時加強實習與輔導計劃，及在課程中加入社會服務的環節，以共同課程與活動鼓勵學生多作交流互動，衝出校園、認識社會及培養公民責任。」

About double cohort 雙學制

2012-2013		2013-2014		2014-2015	
Three-year 三年制	Four-year 四年制	Three-year 三年制	Four-year 四年制	Three-year 三年制	Four-year 四年制
Y3		Y3		Y3	
Y2		Y2			Y3
Y1			Y2		Y2
	Y1		Y1		Y1

- 2012-2015 are the years of the 'double-cohort', with the last cohort of three-year degree students completing their degrees by 2015;
- Until 2015 the HKUST curriculum must work well for both groups of students;
- Important changes have been introduced to improve the three-year degree curriculum and to make the 334 transition as smooth as possible. The existing General Education requirement has been migrated to University Common Core requirements, and students' English language requirements have been adjusted to build in courses to be offered in the four-year degree.
- 2012 年至 2015 年間，大學同時開辦三年制與四年制課程；最後一屆的三年制學生將於 2015 年畢業。
- 換句話說，科大將同時容納兩個學制的學生，直至 2015 年為止。
- 過去 20 年間，科大致力提供卓越的三年制課程。現在，我們正為順利過渡至四年制而努力。現時的通識教育將成為將來的大學核心課程，而現時大學對學生的英語要求，亦成為四年制英語課程的基礎。

科大四年制本科課程已準備就緒

科大約五年前已開始籌備新課程。史教授稱：「科大所有教職員均積極參與課程的籌備工作，全賴大家同心協力，我們已經準備就緒。」

理學院院長葉玉如教授認為，三三四是提升科學教育素質的最佳契機：「科大推出四年制課程後，可以兼顧通識教育與專業培訓，加強課程彈性，優化跨學科課程設計。作為教育工作者和科學家，我們希望在傳授知識的同時，亦能培養學生的科學精神，包括強烈的好奇心、獨立而具批判的思考、和踏實解決問題的能力。這些求知的素質能幫助學生迎接未來的各種挑戰。」

工學院亦將把握寶貴機會，透過創新課程培育 21 世紀的工程師。院長李德富教授說：「課程改革、學院為本的錄取制度與延遲申報主修等措施，讓工學院學生有多一年時間吸收工程學複雜而豐富的知識與技能。我們的工程教育創新中心幫助新制學生適應學習生活及選擇主修課程。學院透過朋輩輔導計劃鼓勵高年級的學生輔導新生，同時透過工作坊與其他支援服務為學生提供更佳的學習體驗。」

科大商學院亦將加強培育 21 世紀的商界人才。商學院院長鄭國漢教授稱：「我們透過以學生學習探索為本的均衡課程，以及各類課外活動，協助同學發揮潛能。商學院設有學生交換計劃、工作實習和企業專題研究，培育學生成為有強烈責任感的領袖。最近，我們更為本科生推出由學生主導的『商學學生社群』，目的是以富趣味性的社交活動促進學生的個人發展及團隊精神。」

人文社會科學學院院長李中清教授表示，學院已開設一系列課程以配合教育改革：「我們的一系列藝術與音樂課程，當中包括由包玉剛傑出客座教授盛宗亮教授開設的音樂理論與欣賞課程，以擴闊學生的眼界為宗旨。本院亦開設藝術、人文及社會科學的核心與品牌課程，藉此培養學生的批判思維。此外，學院與語言中心合辦中英文核心課程；2011 學年推出首個本科課程環球中國研究理學士，已成為科大最多中學生報讀的課程之一。由 2012 年起，學院內所有主修生都可參加為期一年的交流計劃。」

跨學科課程事務處處長陳志明教授說：「我們認為品格的發展是大學教育非常重要的一環，因此我們以培養才德兼備的畢業生為宗旨。我們透過跨學科課程與活動提高學生的學養及豐富其知識與技能，讓他們處理現今世界最富挑戰性的問題能夠得心應手。此外，科技及管理學雙學位課程經全新設計後，將由四年制改為五年制課程，讓學生有更多時間接受科技與商業訓練。」

科大趁此機會加強交換生計劃。協理副校長及學務長譚嘉因教授解釋：「現時，科大三分之一學生可到海外著名大學交流一個學期或以上；這尚未包括無數參加遊學團與海外田野研究的學生。商學院參加海外交流的學生已超過五成。我們期望，未來科大過半學生可以參加交流、擴闊國際視野。科大率先鼓勵本科生參與研究，去年 100 多位教授及 250 多位學生參與本科生研究計劃。」

科大多年來一直積極籌備四年制課程。副學務長兼本科生核心課程辦公室主任周敬流教授表示：「科大迎接各項有關籌備課程的挑戰。我們精心策劃核心課程，確保它有清晰的架構與標準以達致成果導向的教育目標，並更新主修課程對畢業的學分要求，讓主副修有更大彈性。為了豐富學生的學習體驗，我們致力發展輔助課程。我們的核心課程除包含藝術文化課程以外，部分更包括排練環節，譬如舞蹈、攝影、媒體藝術及由名伶教授的粵劇課程等；對於一所著重科技的大學而言，這些發展很具突破性。我們希望大學不單是培養有技術專業知識的人士，更能培育有熱誠、有承擔的知識份子，能創造知識及貢獻社會。」

史教授說：「科大一直向中學徵詢意見，並與中學生緊密接觸。有些學生與家長也許會擔心，當三年制與四年制同時出現的時候，兩個制度的學生會否受到不同對待？大學的行政效率會否降低？我可以向大家保證，這些憂慮是沒有必要的。科大對兩個制度同樣受到重視，不會厚此薄彼；兩個制度的課程質素亦只會提升，不會下降」。

「三三四改革規模龐大、過程複雜，需要周詳的籌劃。我衷心感激科大所有教授，他們過去數年為四年制課程盡心盡力、衷誠合作，讓我們的課程改革奠定了堅實的基礎，」史教授說。

四年制課程概要

科大將於 2012 年 9 月開辦四年制課程，課程計劃已於今年 2 月呈交大學資助委員會，是科大 2012-2015 年度學術發展建議書的一部分。建議書主要包括三項內容：

1. 學院為本的人學制度及延遲申報主修

- 學生將獲科大四間學院的其中之一錄取，而非由個別課程錄取。學生於完成一年級課程後、甚至就讀二年級課程時，方決定主修學科；
- 各學院已訂定基礎課程作為學院主修科，亦為有意跨學院修讀課程的學生提供合適的科目；
- 學院已加強學生輔導計劃及為學生提供意見，方便他們選擇主修學科、以及一年級的課程。

2. 大學核心課程

- 大學為學生提供一系列實用及有趣味性的課程，分別屬於社會分析、藝術及人文科學、科學與科技、英語基礎、中文傳意及量度推理多個範疇。
- 學生需修讀 36 個學分的大學核心課程，佔全部學分的四分之一。
- 大學將為一年級學生提供英語基礎課程；所有學生在畢業前將再額外修讀六個與主修學科有關的英語傳意課程。

3. 富彈性的主副修

- 學生將可修讀主修及副修科目，根據個人的專修範圍、升學意向與志願建立自己的學習路向；
- 在課程設計方面，我們特別強調彈性，學生在滿足主修課程對畢業的學分要求下，可以盡量修讀選修科及爭取課堂以外的學習機會；
- 在三年制課程的成功基礎上，科大將繼續於 2012 年及以後繼續創新。2012-2015 學術發展建議書更明確指出，大學將配合跨學科教學研究的趨勢，並於 2012 年至 2015 年期間額外發展七個副修學科。

HKUST Launches First Air Quality Research Supersite for Real-time Characterization

HKUST launches the first Air Quality Research Supersite to enhance air quality research and to tackle air pollution problems in Hong Kong and the Pearl River Delta. 'Supersite', a term used globally to represent highly specialized well-equipped air monitoring facilities, aims at making integrated and comprehensive air quality measurements with state-of-the-art instruments and offers continuous measurements with time resolutions in order of seconds.

With a HK\$9 million Special Equipment Grant from the University Grants Committee and a HK\$6 million grant from the Environmental Conservation Fund, HKUST's Supersite enables real-time characterization of ambient particulate matter (PM) in the air to strengthen understanding of the nature and sources of fine particles.

Now used for the first Hong Kong Air Quality Supersite Study, a 42-month study which started last year, HKUST's Supersite aims to answer four key questions for effective management of PM exposure in Hong Kong, namely: sources of PM in Hong Kong; factors controlling the formation and abundance of PM spatially and temporally; levels of exposure of the public to traffic-related PM; and effect of PM on visibility over the South China Region. Its findings will contribute to the formulation of an effective control strategy. Aiming at tackling particulate and photochemical smog problems — the two dominating air pollution issues in the Pearl River Delta region — the Supersite will pave the way for similar efforts in Hong Kong and the region in future.

Owing to its strategic location, the Supersite facility boasts the advantage of being at the upwind position of Hong Kong most of the time during the year, making it an ideal place to study background air quality and transportation of pollutants into Hong Kong. With a total floor area more than 1,000 m², the Supersite features a suite of equipment which includes an automatic weather station tower and outdoor plinths for samplers and equipment, and a 72m² weather-proof air-conditioned modular house with multiple sample inlets and a sky-window for instrumentation. It houses a variety of state-of-the-art real-time instruments for physical and chemical characterization of gases, volatile organic compounds (VOC) and particulate matter (PM), many of them being exclusive and the most advanced in the region.

HKUST President Prof Tony F Chan said, "It is the great honor of HKUST to collaborate with the HKSAR government to bring air quality research to the next level. Environmental research has been a major emphasis of HKUST. We build on our strengths in interdisciplinary research and leverage the collaborative efforts of our faculty members and researchers from various disciplines to tackle environmental problems. We are

committed to enhancing public health and the environment in Hong Kong and the Pearl River Delta region."

The Hon Mr Edward Yau, Secretary for the Environment and an officiating guest at the inauguration ceremony, said, "To formulate effective control strategy to tackle the regional smog issue, we need to conduct more in-depth studies to better understand the nature and characteristics of the photochemical air pollution and fine particulates in the region and their formation mechanisms. The Supersite established by HKUST is another showcase for the partnership between the academia and government on combating air pollution. I look forward to the findings from this Supersite study and more such collaborative efforts for the betterment of our air quality."

Prof Chak K Chan, HKUST's Head of the Division of Environment explained that HKUST's Air Quality Research Supersite, with its focus on air quality research, would also serve as an education platform for the public and a training facility for students and researchers to help develop local expertise and provide career opportunities in the area. It would promote collaborations among stakeholders in Hong Kong and the Pearl River Delta region including regulatory agencies, industries, other institutions and HKUST.



科大成立首個實時監測 空氣質量研究超級站

科大成立首個空氣質量研究超級站，進一步提升空氣質量的研究水平，致力處理本港及珠三角的空氣污染問題。「超級站」是國際通用的詞彙，指高度專業化、設備完善的空氣環境監測設施，利用先進的儀器綜合而且全面地量度空氣質素，能以細緻至用秒計算的時間分辨率進行持續性的量度。

科大的超級站獲大學教育資助委員會給予港幣 900 萬特別設備補助金，並獲環境保護及自然保育基金資助港幣 600 萬。超級站收集有關大氣中顆粒物的實時數據，從而分析其特性與源頭。超級站現正進行本港首項空氣質素超級站研究，研究自去年開始，為期 42 個月，其目標是探究顆粒物的有效管理方法，為四個核心問題尋找答案：本港顆粒物的源頭；從時間與空間方面探討控制顆粒物形成與其數量的因素；公眾暴露於因交通引致的顆粒物的程度；及顆粒物對華南地區能見度的影響。研究旨在處理珠三角兩個主要的空氣污染問題：顆粒

物、與光化學煙霧問題，有助訂定政策及幫助本港與珠三角日後進行類似項目。

由於科大的超級站處於有利位置，全年大部分時間內均處於本港的上風方位，因此是研究空氣質素、與空氣污染物進入香港之路徑的最佳地點。超級站的總面積超過 1,000 平方米，完善的設施包括：全自動氣象站及戶外取樣器及裝備基座；一間面積達 72 平方米、耐風雨、具備空氣調節能力及配置多個採樣進口和天窗的組合屋。它並設有多項先進的實時設備檢測空氣中的各種氣體、揮發性有機物及顆粒物。其中的高分辨飛行時間氣溶膠質譜儀、微脈衝偏振激光雷達和實時揮發性有機物分析儀是區內獨有及最為先進的儀器。

陳繁昌校長稱：「科大能與香港政府攜手合作，將空氣質素的研究提升至更高層次，令我們深感榮幸。空氣質素是科大的重點研究範圍之一，我們來自不同學術範疇的教授與研究人

員合作尋求處理環境問題的方案，發揮科大跨學科研究的優勢。科大對於改善香港與珠三角地區的公共衛生與環境，一向不遺餘力。」

環境局局長邱騰華先生擔任啟動典禮的主禮嘉賓，他表示：「為制訂有效控制策略以處理區域煙霧問題，我們需要進行更多深入研究去加強了解區域的光化學空氣污染和微細粒子的性質和特徵，以及其產生過程。由香港科技大學建立的超級監測站是學術界與政府聯手對付空氣污染的一個好例子。盼望能取得超級站研究的結果，並期望日後會有更多這方面的合作，以改善我們的空氣。」

科大環境學部主任陳澤強教授解釋，科大的空氣質量研究超級站除執行空氣質量研究外，還用作公眾教育的平台以及培訓學生與研究人員的設施，有助培養本地專業人才及提供就業機會。它的成立同時鼓勵各持份者，包括科大、監管機構、業界及其他機構加強合作。

(From left) Prof Chak K Chan introduces Supersite facilities to the Hon Mr Edward Yau, Prof Joseph Lee, President Tony F Chan and Dr Eden Y'Woon (左起) 陳澤強教授向邱騰華局長、李行偉副校長、陳繁昌校長及翁以登副校長講解



HKUST Establishes Hangzhou IoT Intelligent Technology Center 科大與杭州組建物聯網智能技術中心



HKUST Provost Prof Wei Shyy, Vice-President for Institutional Advancement Dr Eden Y Woon and Associate Vice-President for Research and Innovation Prof Mitchell Tseng signed an agreement with the government of Yuhang, Hangzhou to jointly establish the Hangzhou IoT Intelligent Technology

Center of HKUST to upgrade innovation capability of the manufacturing sector according to China's 12th Five-Year Plan. The vice presidents visited the Zhejiang Advanced Manufacturing Institute of HKUST (ZAMI) which was co-established by HKUST, Zhejiang Department of Science and Technology and Yuhang District People's Government of Hangzhou City. It focuses on mass customization, network based design and manufacturing, software development

service, enterprise information integration, industrial product design and development, technological information data development, science and technology consulting service etc.

科大首席副校長史維教授、副校長翁以登博士及協理副校長曾明哲教授與杭州余杭區人民政府簽署區校合作協議，共同組建香港科技大學杭州物聯網智能技術中心，以響應十二五規劃中提升製造業自主創新的目標。

各人並參觀浙江香港科技大學先進製造研究所，該研究所由香港科技大學、浙江省科學技術廳和杭州市余杭區政府聯合共建，重點研發領域包括：大規模定制、網絡化設計與製造技術的研究、服務與軟件開發；企業信息系統集成；產品工業設計、開發；技術信息數據庫開發；科技諮詢服務等。

Fujian Provincial Secretary Visits HKUST 福建省委書記孫春蘭訪問科大

HKUST received a trade delegation from Fujian led by Ms Chun-lan Sun, Secretary of the Provincial Committee in Fujian Province. The delegation was made up of representatives from the business sector and three universities in the province, namely Xiamen University, Fuzhou University and Huaqiao University. During the visit, HKUST and the Fujian delegates explored collaborative opportunities in the areas of teaching resources, talent development, partnerships in science and technology, and university management.

HKUST signed collaborative agreements with the three universities to enhance collaboration in the areas of teaching and learning and scientific research. HKUST

signed an agreement with Huaqiao University, and our Chemistry Department collaborated with Fuzhou University's Chemistry and Chemical Engineering faculty. HKUST signed an agreement with the Chemical Engineering and Chemistry Departments of Xiamen University to nurture post-doctoral research professionals.

Secretary Sun had meetings with HKUST's President and vice-presidents. Escorted by Prof Ning Wang of HKUST's Materials Characterization and Preparations Facility, Secretary Sun visited the Facility and the University Library. She expressed her wishes that HKUST and the Fujian province would step up collaborative efforts to foster talent development and scientific research in the region.

科大早前接待福建省委書記孫春蘭率領的福建經貿代表團及閩省三所大學代表。三所大學分別為廈門大學、福州大學、及華僑大學，共 50 名代表訪問科大，在師資、人才培養、科研合作以及大學管理四個方面開展全方位的合作。

科大除了與華僑大學簽訂合作協議外，科大化學系與福州大學化學化工學院將加強合作，而廈門大學化工學院與化學系則與科大簽訂有關培養博士後研究人員的協議。

孫書記跟科大校長與副校長會面，並參觀科大圖書館及材料測制實驗室，由王寧教授講解實驗室的細節。孫書記期望科大與福建加強合作，幫助福建引進人才和取得科研成果。

(From left) Vice-President for Institutional Advancement Dr Eden Y Woon, Provost Prof Wei Shyy, Secretary of Fujian Provincial Committee Ms Chun-lan Sun, President Tony F Chan, and Vice-President for Administration and Business Prof Yuk-shan Wong

(左起) 大學拓展副校長翁以登博士、首席副校長史維教授、福建省委書記孫春蘭女士、校長陳繁昌教授與行政副校長黃玉山教授





HKUST Joins Association of Sino-Russian Technical Universities 科大加入中俄工科大学聯盟

HKUST joined the Association of Sino-Russian Technical Universities to contribute to technological advancement in the region. Dr Eden Y Woon, HKUST Vice-President for Institutional Advancement attended the Inauguration Ceremony of the Association. The Ceremony was co-organized by Harbin Institute of Technology and Bauman Moscow State Technical University with contributions from the Harbin Institute of Technology

Shenzhen Graduate School. Guests who attended the ceremony comprised presidents of over 30 universities in China and Russia, and their representatives.

The Association of Sino-Russian Technical Universities was established to enhance collaboration in terms of talent development and scientific research between the two nations. It aims at fostering technological and economic advancement, technical education and nurturing of scientific talents in China and Russia.

科技大學獲邀成為中俄工科大学聯盟的成員，為創新科技作出貢獻。科大大學拓展副校長翁以登博士應邀出席聯盟成立大會，該大會由哈爾濱工業大學、俄羅斯鮑曼莫斯科國立技術大學主辦、哈爾濱工業大學深圳研究生院協辦，與會者是來自中國及俄羅斯共 30 間大學的校長及代表。

中俄工科大学聯盟成立的宗旨是彙集中俄工科精英大學，推進中俄人才交流與科研合作，促進中俄兩國的共同發展，服務世界创新型經濟的構建。聯盟將致力促進兩國國家技術進步和經濟增長，為國家提供創新建議，加強發展兩國的高等工科教育、培養人才和提高科學研究水平。

Nobel Laureate Speaks at UC RUSAL President's Forum 諾獎得主主講俄鋁校長論壇

The 2010 Nobel Laureate in Economic Sciences, Prof Christopher Pissarides, shared his wisdom on labor market equilibrium at the UC RUSAL President's Forum organized by the Institute for Advanced Study.

Prof Pissarides spoke on 'Equilibrium in the Labour Market with Search Frictions' – discussing the research that won him the 2010 Nobel Prize with two other scholars. He then had a dialogue with President Tony F Chan on his personal approach to academic research and world affairs, sharing insights with a general audience comprising mainly faculty and students.

Prof Pissarides is a Norman Sosnow Chair in Economics at the London School of Economics and Political Science, and the Marfin-Laiki Chair in European Studies at the University of Cyprus. He specializes in the economics of unemployment, labor market theory, labor market policy, as well as growth and structural change. He has written extensively in professional journals,



and his book *Equilibrium Unemployment Theory* is standard reference in the economics of unemployment.

2010 年度諾貝爾經濟學獎得主 Christopher Pissarides 教授蒞臨科大，主講俄鋁校長論壇，分享他在均衡勞工市場方面的研究心得；論壇由科大高等研究院主辦。

Pissarides 教授的講題為 'Equilibrium in the Labour Market with Search Frictions'；他憑這

(From left) President Chan and Prof Pissarides
(左起) 陳校長與 Pissarides 教授

項研究取得諾貝爾獎。演講後，Pissarides 教授與陳繁昌校長對談，暢論研究心得及世界大事，在座師生亦熱烈發問。

Pissarides 教授是倫敦政治經濟學院經濟學系的 Norman Sosnow 講座教授以及塞浦路斯大學歐洲研究的 Marfin-Laiki 講座教授，專長研究失業經濟學、勞動市場理論、勞動市場政策及經濟增長與結構性變化，並於專業期刊撰寫文章。其著作《均衡失業理論》(Equilibrium Unemployment Theory) 成為失業經濟學的標準參考書。

An 800-year Young Intellectual: The Cambridge Challenge 劍橋校長細說優秀學府成長之路

Barely a week separated the visit of the President of Caltech and of the Vice-Chancellor of the University of Cambridge. The second Presidents Dialogue featured Sir Leszek Borysiewicz of Cambridge in conversation with President Tony F Chan of HKUST. They were revisiting and mining the same rich theme: the Change and Challenge of Global Education. Once again, this presidential conversation forms part of our 20th Anniversary celebration.

Cambridge and HKUST present a stark contrast in age: Cambridge is 800 years old, HKUST has just turned 20, and the preponderance of academic achievements is naturally in favor of the former — Cambridge having produced 89 Nobel laureates while HKUST has yet to record its first. In fact, in Sir Leszek's words, Cambridge has "ticked every box" in all Nobel categories.

Many pin the Cambridge super-success on its tutorial system, with the intensity of learning experience that comes from an uncommonly favorable student-faculty ratio. The Vice-Chancellor said that Cambridge owes part of its phenomenal success to its constant competitions with the University of Oxford. China needs to foster something similar to this dynamic duo to encourage unrelenting academic



(From left) Sir Leszek and President Chan
(左起) Sir Leszek 與陳校長

competition. For Hong Kong, Sir Leszek Borysiewicz believes that the eight publicly-funded universities should each develop its own special strengths and not try to outmatch each other in the same disciplines.

He then turned his attention to the root of innovation, which is the essence of higher education. To the Vice Chancellor, true innovation is a paradigm shift. Cambridge values inspirational thinking and puts its weight behind individuals with great ideas, who are capable of building a team around them. For any university that aspires to academic greatness, he offered this advice: Be clear on what you want to achieve, and commit adequate resources to it. Further, for greatness to thrive, you need to grow a culture that nurtures this spirit. In the final analysis, you can't veer away from having good faculty.

It sounds like HKUST has all bases covered in its newly minted Strategic Plan for its next five years. This conversation is a case of great minds think alike. All this elite university needs is more time, perhaps not another 800 years. Cambridge is great precisely because, like us, it is furiously marching forward.

加州理工學院校長訪問科大後不到一個星期，科大再次接待來自遠方的朋友——劍橋大學校長 Sir Leszek Borysiewicz。在科大 20 周年校慶重頭活動之一 校長論壇上，Sir Leszek 與科大校長陳繁昌教授就環球教育的轉變與挑戰展開對談。

劍橋大學與科大的歷史看似有天壤之別：劍橋有 800 年歷史，科大則剛慶祝創校 20 周年。論學術成就，科大自然難以與劍橋相題並論。劍橋培育了 89 位諾貝爾獎得主，科大則希望出現第一位諾獎得主。正如 Sir Leszek 所說，劍橋在諾貝爾獎所有獎項領域都榜上有名。百年樹人，科大要培育人才及見證他們取得更偉大的成就，需要更多時間。

許多人認為，劍橋卓越的成就源自其導修課程，劍大學生少、教授多，以極佳的師生比例為同學帶來難能可貴的學習體驗。Sir Leszek 同時認為劍橋大學能夠取得偉大的成就，與劍橋牛津之間互相砥礪有關。同樣，中國內地學府亦需要這種互動的氛圍，方能激發學術上的良性競爭。

對於香港八家由政府資助的大學，Sir Leszek 指出應選擇性支持各家大學最強的學術領域，互相補足，避免重疊與不必要的競爭。

Sir Leszek 並特別強調創意的根源，認為創意是高等教育的精髓；而真正的創意，將帶來學術規範的轉移。劍橋著重啟發性思考，凝聚富創意思維的領袖人物。對於以達致高學術水平為目標的大學，Sir Leszek 有以下寄語：要有清晰的藍圖，投入足夠的資源，同時孕育精益求精的文化。而成為優秀學府的關鍵，是延攬優秀的科研人員。

科大未來五年的策略性發展計劃，與 Sir Leszek 的見解不謀而合，正是英雄所見。科大需要時間，或許不需要 800 年，將成功的經驗累積與沉澱。最重要的是，科大像劍橋一樣，自強不息，追求卓越。



Small is Beautiful: Caltech Weaves Its Magic 加州理工學院校長分享成功秘訣

The President of the California Institute of Technology (Caltech) Prof Jean-Lou Chameau came to our campus to join our President Tony F Chan in a Presidents Dialogue on the Change and Challenge of Global Education, as part of HKUST's 20th Anniversary celebrations.

For universities craving superb academic quality, Caltech offers some valuable clues. Caltech is surprisingly small for the big scientific punch that it packs, with just under 1,000 undergraduates plus another 1,200 doctoral students. Caltech has the highest percentage in American universities of their undergraduates going on to a doctoral degree. It was also the first to go interdisciplinary in its approach to education and research. Much like HKUST in its 334 planning, Caltech undergraduates share a common core for as long as five terms, giving them a good grounding in key disciplines. The student to faculty ratio is an enviable 3:1.

The point President Chameau kept coming back to is that being small does not prevent it from doing big things. Caltech is able to do what it does by faithfully following a proven formula, that is recruiting extraordinary people and providing sufficient resources to let them

think and do freely, and then, tellingly, staying out of their way. When extraordinary people are left to themselves with the means to pursue their passion, extraordinary things will happen. He summed up Caltech as "a special place where researchers are only limited by their imagination." He cited the example of a scientist whose passion is jellyfish. But from his unusual pursuit and passion, he has shed light on improving the mechanical functioning of windmills and submarines.

During the dialogue, President Chan did much to draw out the intricacies of the Caltech magic. Our President is himself an alumnus of Caltech, having obtained his Bachelor and Master's degrees there. On this occasion, you could feel a special chemistry between President Chameau and President Chan whose special affection for his alma mater is evident and understandable.

Both presidents commented on the fact that in the past 20 years, the US has faced little competition from other countries in higher education. But this is now changing, with the rise of Asian universities and the Asian economy. The quality of our universities, especially universities of science and technology such as HKUST, will depend on sustained and sufficient funding, as science and engineering are expensive disciplines. Often the key issue in attracting tip-top scientists is not pay per se, but a vibrant research culture and the existence of first-rate labs and facilities that enable research.

President Chan's one fond wish is that one day, HKUST will be one of the most difficult universities to get into. When our gatekeeper is excellence, greatness is sure to take up residence here.

Prof Jean-Lou Chameau
Chameau 校長



科大今年慶祝 20 周年校慶，加州理工學院校長 Prof Jean-Lou Chameau 親臨科大，與科大校長陳繁昌教授在科大 20 周年校慶校長論壇上分享真知灼見。

加州理工學院以頂級學術水平及創新理念聞名於世，學院規模不大卻有卓越的成就，全校本科生不足 1,000 人，博士生約 1,200 人。該校是美國眾多大學之中最多本科畢業生升讀博士課程的大學，亦是首家在教學與研究方面均重視跨學科發展的大學。不同學科的學者專家緊密互動；本科生修讀的通識核心課程長達五個學期，讓他們對各個範疇都有所涉獵，與科大的核心課程有異曲同工之妙。另外，教授與學生的人數為三比一，令人欣羨。

Chameau 校長經常掛在口邊的，是加州理工學院規模雖小，卻能成就大事。其成功秘訣是吸納最優秀的教授與學生，提供充裕的資源，讓師生在自由的氣氛下思考與工作。學院堅信：讓人才追求內心最熱切的夢想，就能創造出類拔萃的成果。他說：「加州理工學院是一間很特別的學府，研究人才可以盡情發揮；他們唯一可能受到的限制，是受自己的想像力所限。」他舉例說，曾經有一位科學家對研究水母有無比的熱情，最後他的研究為風車與潛水艇的機械原理帶來啟發。

科大陳繁昌校長亦道出學院的成功之道，他本身亦是於該學院取得學士和碩士學位。今天兩所一流學府的校長聚首一堂，陳校長與 Chameau 校長分享發展教育與學術的經驗與理念，至為難得。

兩位校長並指出，過去 20 年間美國高校鮮有受到其他國家的挑戰，然而形勢正在改變。亞洲大學正迅速發展，亞洲經濟更加蓬勃。亞洲大學、特別是科大等注重科技的學府，極需要持續及充足的資源以提升質素，應付理學及工程學科較高的成本。吸引頂級科學家的因素往往不是薪酬，而是深厚的研究文化、頂級實驗室和其他研究設施。

陳校長以科大的願景作為總結：他希望有一天，科大將成為優秀學生爭相入讀、又最難入讀的大學。科大以追求卓越的成就為目標，成為偉大學府的關鍵就在於此。



President and Vice-President Visit Top US Universities 校長與副校長赴美訪問著名大學

HKUST strives to cultivate international strategic partnerships as part of our global initiatives. President Tony F Chan and Vice-President for Institutional Advancement Dr Eden Y Woon made a fruitful trip to the East Coast in the US in May this year to enhance the University's international profile.

President Chan and Dr Woon visited top-notch institutions in Boston, Washington DC and New York including many Ivy League institutions. They were the Massachusetts Institute of Technology, Harvard University, The Fletcher School at Tufts University, The George Washington University, The Catholic University of America, The University of Maryland, The Brookings Institution, John Hopkins School of Advanced International Studies, New York University and Columbia University.

Fruitful discussions and intellectual exchanges were made with senior administrators at respective institutions. President Chan elaborated on HKUST's recent developments and its collaborations with Mainland and overseas institutions. The top scholars and administrators exchanged ideas on future

collaborations. In light of the 4-year undergraduate reform in Hong Kong, their meaningful discussions would contribute to HKUST's efforts to meet future challenges and to recruit first-rate faculty members.

President Chan and Dr Woon also took this opportunity to meet with students at the top US universities. They gave them an overview about pursuing further studies and assuming academic positions in Hong Kong and on the Mainland, and solicited valuable feedback from the students.

The HKUST alumni network has been extending to every corner of the world, and particularly the US which is a popular destination for further studies or work among our alumni. President Chan and Dr Woon hosted reunions with our alumni in Boston and New York and updated them with the latest development of their alma mater.

HKUST will continue to seize every emerging opportunity that takes the University to the next level of development in the global education arena.

科大十分重視與世界各地的重要夥伴建立緊密關係，今年五月陳繁昌校長與副校長（大學拓展）翁以登博士特地前往著名大學林立的美國東部，到多間大學訪問。

陳校長與翁副校長拜訪著名大學的校長與管理人員，包括多間位於波士頓、首都華盛頓及紐約的長春藤聯盟大學。他們先後拜訪麻省理工學院、哈佛大學、塔夫斯大學弗萊徹學院、喬治華盛頓大學、美國天主教大學、馬里蘭大學、布魯金斯研究院、美國約翰霍普金斯大學高級國際問題研究院、紐約大學及哥倫比亞大學。

陳校長向美國學府的高層管理人員講解科大近年的發展概況，以及近年與內地和海外學府的合作關係，彼此交流切磋，探索加強合作的機會。這些討論有助科大訂定增聘教授的策略，及其他為四年制本科課程而作出的改革；此行可謂滿載而歸。

陳校長與翁副校長更藉此機會與美國頂尖大學的學生見面，向他們介紹在香港與國內升學和就業的情況，並聽取學生的寶貴意見。

科大的校友網絡遍及世界各地，美國更是校友升學與就業的熱門國家。陳校長與翁副校長跟波士頓及紐約的科大校友共聚，向他們講述母校近年的發展概況。

科大將繼續把握每個機會，進一步鞏固大學於國際大學教育界的地位。



(From left) President Chan visited Provost L Rafael Reif at MIT
(左起) 陳校長探訪麻省理工學院教務長 L Rafael Reif 教授



Speaking to students and faculty members at Columbia University
到哥倫比亞大學向師生演講



Meeting with Prof Jorge Dominguez, Vice Provost for International Affairs and Ms Jacqueline O'Neill, University Marshal at Harvard University
訪問哈佛大學國際事務副校長 Jorge Dominguez 教授及大學長官 Jacqueline O'Neill 女士

VPRG Prof Joseph Lee Finds Solutions to Modern Problems in Research

Prof Joseph Hun-wei Lee, HKUST's Vice-President for Research and Graduate Studies (VPRG), has achieved many firsts in his career. As a renowned scholar in water environment engineering, he has been a pioneer in advocating pollution control with the government when environmental protection was new to Hong Kong. A returnee from the US in 1980, he started collaborating with Mainland scholars and industry experts almost immediately after returning to Hong Kong. And before the research culture was ripe locally, he joined government bodies with the mission of fostering research and development.

Born in Shanghai and brought up in Hong Kong, Prof Lee completed his PhD studies in Civil Engineering at MIT at the age of 25. After three years at the University of Delaware as a faculty member, he became the youngest lecturer at the Department of Civil Engineering at the University of Hong Kong in 1980 when he was 28. "I was one of the few US-educated faculty members in the British university system," said Prof Lee. He rose through the ranks to become Pro-Vice-Chancellor and Vice-President in 2004 before joining HKUST.

During mid-summer in 1981, a year after his return to Hong Kong, the young and determined lecturer went to East China College of Hydraulic Engineering (now Hohai University) in Nanjing to teach engineers and scholars on the Mainland the latest know-how in environmental hydraulics from the US. "I was in my late twenties whereas my Mainland students, with decades of experience in the area, were much older. I only had a few months' training in Putonghua at that time but I tried my best and brought with me self-made index cards of about a hundred



Prof Lee and Chief Secretary for Administration Mr Henry Tang
李副校長與唐英年司長

words with Putonghua pronunciations," said Prof Lee. The experience of teaching six hours per day for 20 days under the mid-day sun in Nanjing, one of China's three 'furnaces', had been remarkable. He earned the precious opportunity to visit major hydraulics infrastructure including the Grand Canal and other hydroelectric projects in Eastern China.

"Hydraulics has always been important to China, and I am glad to be able to participate in delivering solutions. I belong to the generation which helped to fill the gap in China's academia after the Cultural Revolution. In the early 1980s I took my Hong Kong research students to the Mainland for research and collaboration. This was how I trained my students, and they found the experience most useful. The students were inspired by the exposure to complex scientific problems and the challenge to provide solutions using advanced research tools," said Prof Lee. Many of his local and Mainland students have since played important roles in the nation's hydraulics development. Such includes the

mastermind behind the Wetland at the Beijing Olympics Park and the helmsmen at universities and research institutes.

In Hong Kong, Prof Lee has participated in many government projects. He has given the Secretary for Development timely assistance concerning a severe flood in Sha Po Tsai Village in Tai Po and led a team to work intensively for two months to find out the cause before the release of an investigative report by the government to the media in late October 2010, shortly before joining HKUST. He has also provided consultancy service to the government on various issues including the Hong Kong Harbour Area Treatment Scheme and the situation of the inflicted Amoy Gardens during the SARS epidemic.

Prof Lee is no ivory-tower researcher. He has a sound philosophy and hands-on experience about how research and real life intersect. "Engineers want to make a difference and improve people's lives. Real-life problems such as environmental disasters stimulate basic research which deals with fundamental research issues



Prof Lee has received many awards in table tennis
李副校長曾贏得多項乒乓球獎項

from the highest level. Basic research can in turn become applied research which leads to solutions of real problems in other scenarios."

"Real-life problems require interdisciplinary collaboration which is the most challenging and which is a humbling experience for researchers. Building trust among collaborators is crucial and sincerity is the clue," said Prof Lee.

Prof Lee has a map in mind as he drives HKUST's research and postgraduate education further. "HKUST is a dynamic university with elite scholars. From nanotechnology to wireless communications, we have achieved excellence in various areas. Riding on the University's bottom-up culture, I will listen to faculty and staff and engage scholars to formulate our future plans. We owe our founding fathers for our success, but with new challenges and scenarios ahead we have to revamp our research infrastructure to realize our potentials. It takes time, and it cannot be rushed."

Such includes attracting best talents through PhD fellowships, inculcating international perspectives among students, encouraging collaborations and interdisciplinary studies.

Using his expertise as an example, Prof Lee reiterates the essence of research. "Water and environment problems present grand engineering challenges. This year, the State Council of the Central Government first identified water problem as the most crucial problem in need of solutions in its 2011 No. 1 Document. Modern engineers are needed. They need to be well-trained in the fundamentals, have open minds to interact with others in interdisciplinary teams and the curiosity and ability to understand problems in their socio-economic contexts." It often is a combination of science and art to provide an optimal solution to an engineering problem. At HKUST, well-rounded education is our mission.



Prof Lee (7th from right, 1st row) conducted a course in East China College of Hydraulic Engineering in 1981

李副校長（前排右七）1981年往華東水利學院講學

Prof Lee served on the Engineering Panel of the Hong Kong Research Grants Council from 1993 to 1999. He was the Chairman of the University Grants Committee Research Assessment Exercise - Built Environment Panel in 1999. He is the first Asia-based academic to receive the Hunter Rouse Hydraulic Engineering Award from the American Society of Civil Engineers. He is also a Fellow of the Royal Academy of Engineering (UK) and the Hong Kong Academy of Engineering Sciences. His research team which worked on the theories, technologies and applications of buoyant jets has recently been awarded a State Scientific and Technological Progress Award (SSTPA) (Second Class) by the Chinese State Council.

李行偉副校長透過研究解決問題

科大副校長（研發及研究生教育）李行偉教授在其學術生涯中取得多個第一。當香港社會開始對環境保護感興趣的時候，身為環境水力學以及水質模擬專家的李教授已經向當局提出污染管制方案。八十年代初剛從美國回港後，李教授已經常與內地學者與業界專家合作。當香港的研究文化尚在萌芽，他已加入政府轄下的委員會，以促進研究與發展為己任。

李教授生於上海、在香港長大，25 歲於美國麻省理工學院取得土木工程博士。於德拉威大學執教三年後，他於 1980 年到香港大學任教，以 28 歲之齡成為當時土木工程系最年青的講師，亦是英式大學制度中罕有的留美學者。2004 年加入科大之前，他是港大副校長。

回港後一年、即 1981 年的暑假，這位年青講師一股勁兒前往河海大學（原南京華東水利學院），運用自己在美國學到最新的環境水力知識訓練一班經驗豐富的內地工程師與學者。「當時我才二十多歲，內地學員則是有數十年經驗的專家，比我年長一大截。由於我之前只學過數個月普通話，備課時就拿著自製辭彙卡、寫上一百多個有普通話拼音的科技名詞，全力以赴。」在中國三大火爐之一——南京正午的豔陽下，李教授連續 20 天每天講課六個小時，並有機會參觀大運河及華東多項主要水電工程，取得難得的經驗。

「水利向來對內地十分重要，我很高興能夠參與研究解決環境水利問題。我們這一代人，剛好填補了內地學術界在文革之後的真空。八十年代初，我已經常帶領本港的研究生前往內地進行考察、研習與合作；這是我教導學生的方法，學生亦因有機會接觸複雜的科學難題及交流切磋而受到啟發。」今日，李教授許多內地與香港學生已經成材，成為國家水利發展的重要人物，當中不乏水利界的掌舵人，包括統領北京奧運公園龍形水系濕地的水務局長。

李教授亦參加了本港與外國政府多個項目。去年大埔沙埔仔村嚴重泛濫後，李教授即時為發展局提供協助，在短短兩個月內用最新科技展開獨立調研，找出成因，並在 2010 年 10 月在



政府的傳媒發佈會上，解釋調查報告的內容。他並多次為政府獻計，包括淨化海港計劃及於非典期間為淘大花園的情況提供專業意見。

李教授絕對不是躲在象牙塔裡的研究人員。對於研究與生活的關係，他有一番看法：「工程師以改善人類生活為目標。現實生活中有關環境災難等問題刺激基本研究；基本研究從最高的層次去鑽研學問，並能轉化為應用研究，為實際問題尋求解決方法。」

「解決實際問題的方法往往涉及跨學科合作，跨學科研究富有挑戰性，讓各傳統領域的學者了解自己的不足。隊員之間必須建立互信，最重要的是誠意。」

他對如何帶領科大發展研發與研究生教育，有清晰的藍圖：「科大是一所充滿幹勁的大學，我們的優秀教授在各個範圍都已有一定成就，從納米科技到無線通訊都有突破。科大具有開明、從下而上的文化，我會積極聽取同事的意見，主動與同事聯繫，策劃未來的藍圖。創校的功臣固然功不可沒，然而在面對新的挑戰與情況時，我們亦需要重新構建研究基礎，才能發揮所長。這些計劃需要時間，不能操之過急。」

李教授口中的計劃，包括透過博士獎學金吸引最優秀的人才、在學生之間孕育國際化的文化、鼓勵合作與跨學科的研究等。

最後，李教授再次以自己的研究範圍解釋研究的核心：「以水利與環境問題為例，它們為工程界帶來嚴峻的挑戰；2011 年中央第一號文件，首先把水利問題放在首要地位。我們需要現代的工程師，他們不但要有紮實的基礎，更要持開放的態度與跨學科的團隊成員合作，並有足夠的能力與好奇心去了解問題的經濟與社會背景及他國的文化。」一個工程問題，往往需要科學及其他知識的配合，並需要團隊合作與溝通才能解決——全人教育正是科大精神的核心。

李教授是國際知名的學者，研究範圍為水力學以及水質模擬。1993 至 1999 年間，他出任香港研究資助局工程委員會成員；1999 年則獲委任為大學教育資助委員會研究評估—建設環境委員會主席。他是亞洲區首位獲得美國土木工程師學會 Hunter Rouse 水力工程獎的學者，亦是英國皇家工程院及香港工程科學院院士。李教授帶領研發的水力射流新理論及其應用軟件最近獲國務院頒發國家科學技術獎二等獎。

VPIA Dr Eden Y Woon

“Opportunities are everywhere in Mainland China today. It is similar to Hong Kong in the 1970s or the American West in the 19th Century. With such a vast Mainland market located next to us, why not give it a try?” said Dr Eden Y Woon, HKUST’s Vice-President for Institutional Advancement (VPIA) at a career seminar for students.

Dr Woon walks the talk and demonstrates the adventurism and determination which he preaches. He has been somewhat of a ‘pioneer’ throughout his career. He was the first US Assistant Air Attaché in China. He was the first Managing Director of Li & Fung Group’s China Corporate Office and the first Managing Director – China of Toys R Us on the Mainland in two years. As a Vice-President of Starbucks Coffee China, he was in the first group to help open the Greater China office of the international brand in 2006. He was the first Chinese CEO of the Hong Kong General Chamber of Commerce since its inception in 1861. And since November 2010, he has become HKUST’s first VPIA with important tasks to accomplish as the University’s chief relations and development officer.

“I started my career in academia, so it isn’t totally surprising for me to rejoin academia at HKUST,” said Dr Woon who was formerly a Mathematics associate professor at the US Air Force Academy. Dr Woon certainly should feel at home in academia — his father was a professor of Chinese Literature in the US (and even taught part-time in the 1950s at New Asia College — now part of The Chinese University of Hong Kong), and Dr Woon himself was brought up



alongside children of other professors in a university-affiliated high school, before he went on to college and eventually obtained a PhD in Mathematics from the University of Washington. What Dr Woon did not mention in the interview however, was the fact that his ancestor was a ‘Zhuang Yuan’ of China and a teacher of Emperor Guangxu and a top court official in the late Qing Dynasty.

“Returning to Hong Kong where I spent my childhood and where I spent nine years in the business world is most appealing. I find HKUST particularly attractive due to its dynamism and youthful exuberance. With just 20 years of history, we were just rated as Asia’s no. 1 university. Every day I am amazed at the contributions of the founding fathers of the University. Its success is impressive, and the current President with his new team is committed to continuing to lead the University on this same road. I can

honestly tell you that I would not have left my job in Shanghai to come back to Hong Kong for any other university here,” said Dr Woon who has a keen interest in science and technology and in education.

What are his visions for HKUST? “My job at the University is basically external. I feel strongly that ‘HKUST has a good story to tell’ — but how do we tell it in a focused and impactful way to reach a wide audience?” Dr Woon elaborated on his comprehensive approach to branding. “First you have to have a good product. And HKUST does have one — at HKUST that means students, faculty, research, teaching, and a dedicated team of supporting staff. Working together in a spectacular environment, they help transform HKUST into a top academic institution in the world. Then marketing, event management, media relations, alumni relations, Mainland and international relations come into play. These all contribute to defining and promoting the brand of HKUST. With successful brand positioning and recognition, other things fall into place. Top-notch students and faculty members continue to come to join us and funds may be raised. It won’t be easy but when we do the branding exercise well, then we have a chance. These are all interrelated.”

“HKUST is now 20 years old — it’s young but it isn’t that young anymore. We have achieved success in research which has triggered research success among other local universities. But now Mainland universities are making significant improvements with strong government support. All these are challenges as well as opportunities. Thus rather than dwelling on our past successes or being worried about the competition, we need to find ways to take advantage of opportunities

Helping to Promote the HKUST Brand

and articulate how we differentiate ourselves from others.” Dr Woon recently made a fruitful trip with President Chan to first-rate universities in the US to tell HKUST’s story to their senior management, faculty and students.

“The four-year undergraduate reform presents a terrific opportunity for HKUST. We will have diverse CORE programs to provide a comprehensive education for young people. Most importantly, we are strong in synthesizing the seemingly unrelated disciplines. In an ever-changing world, problems are in fact solved by interdisciplinary findings. The environmental problems, for instance, need solutions from a combination of life science, energy, mathematics, social science and other disciplines.”

Dr Woon then reiterated to the writer part of HKUST’s positioning and definitions as described in the just-approved Five-Year Strategic Plan: “We are a world class research university that is dedicated to the provision of an all-rounded education, creation of knowledge and innovative technologies. We are a leading university that excels in science, engineering and business management. As an

international university with strong ties to Mainland China and global thought leaders, we are dedicated to educating students and graduates and equipping them with the entrepreneurial spirit and innovative thinking needed to thrive in today’s knowledge economy.”

Talking about his expectations of HKUST students, Dr Woon said, “Our students should be able to establish themselves on the Mainland and around the world – they are from everywhere and they should be willing to go everywhere. For the local students, I cannot stress enough how important English and Putonghua are in their future careers.”

So how does his education in Science equip him for his other endeavors during his career? “My Mathematics training helps me think more logically and systematically. My career as a professor enhances my ability to articulate, give presentations and think on my feet. Military training raises one’s ability to make decisions, to work as a team and to follow through with decisions.” It is no secret that Dr Woon brings with him a

*Dr Woon at the US Air Force
翁副校長曾擔任美國空軍*



wide range of experience and an interesting portfolio which encompasses all aspects of institutional advancement — and more. Formerly a professor, a Colonel in the US Air Force and a China advisor to the US Secretary of Defense, Dr Woon then spent years in the business arena, and this helped him in his externally-oriented job at HKUST. The fact that he can speak with substance, wit, and humor makes him a popular figure among the students who have heard him speak at HKUST.

“I always like working with young people,” said Dr Woon. “I tell them to enjoy what they do and not to be too ‘purposeful’ at their young age. But I tell them that everyone has something they can learn from. They should study hard, be open-minded, learn from different occasions, and not confine themselves. Go on exchange programs to unusual places. Go work in China upon graduation and see what happens across the border. Get as much exposure as they can. And remember, the best preparation for a future job is to do well in their present job.” Dr Woon, with his substantial experience in the academic, government, and corporate worlds, is himself a role model of being versatile and global.



*Dr Woon with HKUST alumni at his house in Shanghai
翁副校長在上海的家與上海的科大校友聚會*

大學拓展副校長翁以登博士 致力推廣科大品牌

「今日的內地就像 70 年代的香港、或 19 世紀拓展中的美國西部，充滿機會。祖國就在你面前，何不一試？」香港科技大學副校長（大學拓展）翁以登博士在科大就業講座上，向學生分享在內地工作的經驗。

翁博士個人的經驗的確反映出這種不怕困難、勇於冒險與創新的精神。翁博士經常扮演先鋒的角色；他是首位美國駐中國的助理空軍武官、利豐集團中國辦公室首位董事總經理及 Toys LiFung 有限公司首任中國董事總經理，於短短兩年內為 Toys R Us 玩具王國開設內地 18 家分店。他曾擔任星巴克咖啡公司中國副總裁一職，屬於率先為國際咖啡品牌開設大中華業務的團隊。他是香港總商會自 1861 年創立以來首位華裔總裁。而自 2010 年 11 月開始，翁博士成為香港科大首位大學拓展副校長；他獲委以重任，為科大拓展和鞏固對外關係。

「由於我最早於學術界開始建立事業，因此重回學術界對我來說並不是一個突然的決定。」翁博士曾於美國空軍學院擔任數學副教授；其父是中國文學教授，50 年代曾於香港新亞書院（現已成為香港中文大學的一部分）任教。他少年時代與其他教授的女兒於美國的大學附中同窗共學，其後升讀大學，於華盛頓大學取得數學博士學位。雖然翁博士於訪問中未有透露，他的先祖原來是有卓越成就的狀元、清朝光緒皇帝的老師、晚清朝廷的重臣。

「回到香港這個家，令我感最欣慰；我在這裡度過童年，並曾在本港商界工作九年。香港科大年輕而充滿幹勁，這是最吸引我的地方。科

大只有 20 年歷史，最近成為亞洲排名第一的大學。每天，我都為科大創校功臣的貢獻感到深深佩服。科大能在短時間內取得成功，實在難得。現任校長與管理團隊正致力帶領大學繼續邁向成功。我可以誠實地告訴你：只有香港科技大學能令我放棄在上海的工作、而重投本港大學教育界。」對科技有濃厚興趣、熱心教育的翁博士表示。

翁博士作為科大副校長，對大學有何願景？「我主要負責科大的對外工作，科大有一個動人的故事，要向大家講述。我們如何更有效地將訊息傳遞給更廣大的觀眾？」翁博士認為，秘訣是全面的品牌策略。「首先，我們需要一個優質的產品。科大已經擁有這個最重要的條件——我們有優秀的學生、教授、教研人才與職員，大家一同在環境優美的校園工作，將科大發展成為世界頂尖學府。在這樣的前提下，我深信市場推廣、項目活動管理、傳媒關係、校友關係、內地與國際關係就能發揮作用，共同建立及推廣科大的品牌。有了信譽良好的品牌與外界的認同，自然事半功倍。我們自能吸引最優秀的學生與教職員、和充足的資源；籌募捐款並不容易，但我們做好建立品牌的工作後，就更能把握機會。以上各項工作，都是息息相關的。」翁博士最近與陳校長到美國著名大學跟大學校長、教授與學生會面，將科大的信息傳揚開去。

「科大創校 20 年，我們的確年青，卻也不能說是年紀很小了。我們在研究方面固然取得成就，我們的成就亦帶動本港其他大學更注重研究。可是，現時內地的大學正不斷進步，更有國家的鼎力支持；這些既是挑戰、亦是機會。因此，科大不能只著眼於過往的成功例子或越來越激烈的競爭；我們必須把握每個機遇，發揮所長。」

「四年制本科課程改革是一個難得的機遇，科大正好好把握。我們有多元化的核心課程，為年青人提供全面的教育。最重要的，是我們能將各個學術領域結合起來、融會貫通，進行跨學科研究。事實上，現代社會的議題需要以跨學科的研究去解決；譬如大家關注的環保問題，就需要生命科學、

能源、數學、社會科學與其他學科的專家共同尋找解決方案。」

翁博士稱，科大最近通過五年策略性計劃，重申大學的定位：「科大是一所世界級的研究型大學，我們將繼續發展全人教育，促進知識與創新科技的發展。我們並推動理、工、商業管理，配合現代社會的需要。作為一所國際化的大學，我們與本地、內地及國際科技學術界的領袖有很強的聯繫。科大將繼續提高學生與畢業生的創業與創新精神，幫助他們於知識型經濟中立足。」

翁博士期望科大學生能向多方面發展，多了解內地與海外的情況：「學生要有足夠的能力在內地以至全球任何地方立足、盡展潛能。我們的學生來自多個國家與地區，亦將到世界各地探索與交流。我亦經常向本地學生說，英語及普通話對他們的事業非常重要。」

那麼翁博士早年接受的科學教育，如何幫助他在事業上向多方面發展？「數學訓練讓我能更有邏輯地作系統性思考，教授的工作提高溝通表達與敏捷思考的能力。加入軍隊的經驗則訓練我的決斷力與團隊合作性。」事實上，翁博士在組織拓展方面有豐富經驗，於其他範疇亦獨當一面。他曾擔任的要職包括教授、美國空軍上校、美國國防部長中國事務顧問等。他在商界有豐富經驗，為大學發展對外關係更駕輕就熟。翁博士經常作公開演講，反應熱烈；他的演講不但有深度，更充滿睿智與幽默感、及盡顯急才，吸引眾多人士專程到科大。

翁博士說：「我一向喜歡與年青人共事，並經常與他們分享人生道理。我認為，他們應該盡量享受自己正在做的事，不要有太強的『目的性』。同時，他們必須知道每個人都有值得別人學習的地方。」他並寄語年青人：「努力學習、抱持開放的態度，不要自我設限。同學可多到不平凡的地方進行交流，畢業後可考慮到國內工作，認識一境之隔的內地，看看那裡到底有甚麼事情發生，擴闊眼界。請緊記：能做好眼前的工作，將來才會找到更好的工作。」翁博士縱橫商界、政界與學術界多年，在大中華地區與海外都有豐富的經驗，在各種環境下都能發揮所長。



Senior executives at Starbucks experiencing front-line work on a special day
星巴克高層一嚐前線工作的喜與樂

IAS Welcomes New Visiting Members

高研院歡迎學院訪問教授

The HKUST Institute for Advanced Study rapidly expands as it welcomes new visiting members. They are:
科大高等研究院繼續發展，同時歡迎多位學院訪問教授。他們分別是：

**Prof Roger Howe**

William R. Kenan Jr. Professor of Mathematics,
Yale University

羅傑·豪爾教授

耶魯大學 William R. Kenan Jr. 數學教授

**Sir John Pendry**

Chair Professor in Theoretical Solid State
Physics, Imperial College, London

約翰·彭德瑞爵士

倫敦帝國學院理論固態物理講座教授

**Prof Thomas Kuech**

Milton J. and A. Maude Shoemaker Professor
of Chemical Engineering, University of
Wisconsin – Madison

托馬斯·基治教授

威斯康辛大學麥迪遜分校 Milton J. and A. Maude
Shoemaker 化學工程教授

**Prof Ching W Tang**

Doris Johns Cherry Professor of Chemical
Engineering, University of Rochester

鄧青雲教授

羅切斯特大學 Doris Johns Cherry 化學工程教授

**Prof Hau L Lee**

Thoma Professor of Operations, Information
and Technology
Stanford University

李效良教授

史丹福大學 Thoma 運作、資訊與科技教授

**Prof Shou-Wu Zhang**

Professor of Mathematics, Columbia University

張壽武教授

哥倫比亞大學數學教授

**Prof Steven Louie**

Professor of Physics, University of California at
Berkeley

雷干城教授

加州大學柏克萊分校物理教授

**Dr Ya-Qin Zhang**

Corporate Vice President, Microsoft
Corporation

張亞勤博士

微軟公司全球資深副總裁

**Prof Stanley Osher**

Professor of Mathematics, University of
California at Los Angeles

史丹利·奧舍教授

加州大學洛杉磯分校數學教授

Prof Henry Tye Inaugurated as IAS Director

Prof Henry Tye, Director of the Institute for Advanced Study, has a lot to say about the beginning of the universe. A distinguished theoretical physicist and cosmologist, he has made significant contributions to two developments about our understanding of the universe, first about the generally accepted inflationary universe scenario during his early career and more recently on how inflation happens in the new 'brane world' scenario.



Brane
膜

"I fell in love with Physics since secondary school. In Physics, there are always new problems and puzzles in need of answers. This is the most intriguing field to me personally. And about my research area, the basic structure of all matters and the origin of the universe, men have been pondering about these questions for millennia. In the ancient times people only looked at the sky and their surroundings and wondered about the universe in which they lived. Now we have a pretty good basic understanding about the universe and the structure of matters. Today we know that the universe started with a big bang. Since about thirty years ago, scientists have generally believed in the inflationary universe, which

explains how the big bang started, and supportive measurements became available two decades ago. This is also where Physics meets with Mathematics. If we continue to dig deeper, the question about the universe's beginning will become more like a philosophical than a scientific question. If we push even further into the uncharted territories, this may become a religious question; the boundaries among disciplines may change," said Prof Tye.

"Whereas the inflationary universe scenario and the big bang have been generally accepted, the superstring theory is a new paradigm which may replace Einstein's relativity theory in the future. Superstring theory is likely to be the final theory which explains everything."

Particle physics considers all matters to be made of point like particles with no dimensions. According to the superstring theory on the other hand, matters are made of tiny strings which are one dimensional. And building on the superstring theory, which a few thousand smart scientists around the world are working on, string theorists realized that higher dimensional objects, namely branes, also exist in the superstring theory. In this language, a string is like a 1-brane and a membrane is a 2-brane.

Prof Tye and others suggested that we, that is our universe, live inside a giant 3-brane. This is the brane world scenario. The term 'brane world', suggested by Prof Tye and his student in 1999, has actually made its way to the Oxford Dictionary.

"This is why we can only see three dimensions, even though there are the fourth to the ninth dimensions in string theory." Prof Tye said that it's now the job of physicists to work with mathematicians to make predictions and to collect and analyze complicated data to verify the theory.

The world of Physics seems rather difficult for most laymen to comprehend. So what does Prof Tye consider to be the benefits of studying physics, and science and technology in general?

"Scientific education is about logical thinking and reasoning. For many cases in Physics, it's not difficult to find solutions but it's the most challenging to identify the problem in the first place. This training benefits students the most. Many investment bankers are in fact Physics and Mathematics graduates — their logical minds help them identify new scenarios and their analytical skills help them find solutions in areas where things



Prof Henry Tye and his wife Prof Bik Tye have two daughters who both are neuroscientists
戴自海教授與太太戴碧瓏教授育有兩名女兒，兩人遺傳了父母的天資，成為腦神經科學家



Both Prof Tye and his wife obtained their PhD degrees from MIT
戴自海教授與太太同於麻省理工學院取得博士學位

Born and raised in Hong Kong, Prof Henry Tye received his BS degree from Caltech and his PhD in Physics from MIT. He did research at Stanford University, Fermi National Accelerator Laboratory, and Cornell University before spending twenty-three years teaching at Cornell University where he was Horace White Professor of Physics. He is a Fellow of the American Physical Society. He served as Chair of the National Advisory Board of the Kavli Institute for Theoretical Physics China, and he is a Member of the International Advisory Committee for the Institute of Theoretical Physics of the Chinese Academy of Sciences.



戴自海教授出任高等研究院院長

are constantly in flux and becoming more complicated.”

Prof Tye has a few words for students. “It is important to be interest- and curiosity-driven when choosing your area of study and career, since you’d probably be doing it for many hours every week for many years. The fields which are in demand in the job market will see over-supply very soon, but if you follow your interest you will enjoy working hard on it and be able to give your best performance.”

Speaking about the role of the Institute for Advanced Study, Prof Tye said, “HKUST has become one of the world’s top universities in merely twenty years. IAS can ride on the momentum and make even greater achievements. We can be an intellectual hub for Greater China and Asia. Provided with sufficient resources, IAS can take on a pioneer’s role to prove that Hong Kong can achieve very high standing in science and technology.”

IAS benefits students as well. “Look at Harvard. Top students go there because there are top professors, and these students interact and influence one another. At Cornell, top professors including Nobel laureates take up courses

for freshmen. At HKUST, IAS professors take part in training postgraduate students and post-doctoral fellows. We are planning to involve undergraduates in an IAS academy to encourage them to conduct research with HKUST professors. We hope that in the future, students come to HKUST when they hear about the names of the professors and IAS professors.”

科大高等研究院院長戴自海教授就宇宙的起源娓娓道來。這位傑出的理論物理學家及宇宙學家對人類就宇宙的理解的兩種發展有重大貢獻——在其學術生涯早期，他主要研究已獲普遍接受的暴脹宇宙論；近年則轉而研究最新「膜世界」學說中有關暴脹如何發生的理論。

戴教授說：「我自中學時代開始，已經愛上物理。在物理世界裡，我們經常遇上極需解決的新問題；物理是我認為最引人入勝的領域。而我研究的題目是所有物質的基本結構、與宇宙的起源，這都是人類數千年來不斷思索的課題。古時的人只能仰望星空，環視四周，空想宇宙的奧秘。現在，人類對宇宙和物質的結構已經有基本的理解；今日，我們知道宇宙由大爆炸開始。約 30 年前起，科學家普遍相信暴脹宇宙論，它解釋了大爆炸怎樣開始；而科學界亦自 20 多年前開始，掌握能夠支持這些論點的量度數據；此時物理和數學交上了。如果我們更深入思考，有關宇宙起源的問題就會更類近一個哲學問題、而不光是一個科學問題。若我們再向未知的領域推進，它甚至會成為一個宗教題目，學科之間的界線也會有所改變。」

「暴脹宇宙論與大爆炸理論是已獲普遍接受的理論；超弦論則是有關宇宙起源的新描述與規範，或會取代愛因斯坦的相對論。超弦論有可能成為最終的理論，解釋一切。」

根據基本粒子理論，所有物質都由類似點的粒子組成，而粒子是沒有維度的。超弦論則指出物質由一維的、微小的弦組成。現時全球有數千名頂尖的科學家研究超弦論；弦論學家發覺更高維度的物件（即「膜」brane）亦同時於超弦論中體現。利用這一套語言來解釋，一條弦就像一膜，而一塊薄膜就像二膜。戴教授與其他科學家提出我們、即我們的宇宙，活在一

個巨型的三膜之內。這就是膜世界 (brane world scenario)。戴教授和他的學生於 1999 年提出「膜」(brane) 一辭，已被納入牛津字典。

「因為我們活在三膜之內，因此我們肉眼只能看到三個維度，然而根據弦論世界上卻存在第四至第九個維度。」戴教授指出，物理學家提出這些預測後，需要與數學家合作進行預測，蒐集與分析複雜的數據，從而驗證理論。

物理學的世界，對於一般人來說並不容易理解。那麼，戴教授認為學習物理學以及科技有甚麼得着？

「科學教育訓練邏輯思維；以物理學為例，許多時候要找到答案不難，但起首要找出問題則最具挑戰性；這種思維訓練對學生最具裨益。許多投資銀行家其實都是物理學與數學系畢業生，他們思路清晰，能夠在千變萬化及越見複雜的情景裡運用分析能力、認定最新的情況及尋找解決方案。」

戴教授寄語學生：「大部分人用多年時間、每周花上許多個小時來發展自己的事業，因此同學在選擇主修學科與職業時，應以興趣及好奇心為依歸。就業市場上最求才若渴的行業，很快就會求過於供；然而學生如能選擇自己感興趣的去做，就自然能盡心盡力並且找到滿足感、以及爭取最出色的表現。」

就高研院的角色，戴教授說：「科大在短短二十年間成為全球頂尖學府之一，高研院可以更上一层楼，取得更大成就。高研院可望成為大中華與亞洲地區的知識樞紐，若資源充裕，將可帶動香港的科技發展，顯示本港有能力取得卓越的科技成就。」

高研院亦惠及學生：「看看哈佛大學——她有頂尖的教授，最傑出的學生都爭取入讀，師生透過交流互相影響。在康奈爾大學，頂尖教授、包括諾貝爾獎得主曾任教大一課程。在科大高研院，教授亦參與指導研究生及博士後，我們計劃透過高研院學堂鼓勵本科生與科大教授共同研究。我們希望將來學生聽到科大與高研院教授的名字，就會慕名而來，」戴教授表示。

戴自海教授在香港出生與接受教育，先後於美國加州理工學院取得理學士學位、及在麻省理工學院取得物理學博士學位，曾於史丹福大學、費米國家實驗室及康奈爾大學進行研究。他出任康奈爾大學物理學教授達 23 年，為康奈爾大學 Horace White 物理學講座教授。戴教授是美國物理學會院士，曾出任中國科學院卡弗里理論物理研究所國家顧問委員會主席，亦是中國科學院理論物理研究所國際顧問委員會委員。

Prof Nancy Ip Appointed Dean of Science 葉玉如教授獲委任為理學院院長

Prof Nancy Ip, HKUST Chair Professor and a renowned neuroscientist, was appointed Dean of Science with effect from 1 February 2011.

Prof Ip is also Chair Professor in the Division of Life Science and Director of the State Key Laboratory of Molecular Neuroscience.

Prof Ip spent the early part of her scientific career in the USA. She joined HKUST in 1993 and rose through the ranks to become Chair Professor in 2005. She was Director of the Biotechnology Research Institute (BRI) from 1996 to 2008, Founding Director of the Molecular Neuroscience Center (MNC) since 1999, Associate Dean of Science from 1998 to 2005 and Head of the Department of Biochemistry from 2000 to 2009. Under her leadership, the State Key Laboratory of Molecular Neuroscience became the first national-level laboratory established on campus with the approval of the Ministry of Science and Technology of China.

Prof Ip received her PhD degree in Pharmacology from Harvard University. As an internationally renowned researcher in the field of neuroscience, Prof Ip has a stellar record of scientific accomplishments winning her wide national and international recognition. She is internationally recognized for her discoveries in neurotrophic factors and their potential in the treatment of neurodegenerative diseases. She has published over 200 scientific papers, with more than 13,500 SCI citations and holds 20 patents in her areas of research. She is the Reviewing Editor of the *Journal of Neuroscience* and the Founding



Editor-in-Chief of *NeuroSignals*. Last year, she was elected as Councilor for two leading organizations for neuroscience and psychopharmacology: Society of Neuroscience and CINP (Colloquium Internationale Neuro-Psychopharmacologicum).

Prof Ip's outstanding scientific accomplishments have won her numerous awards and honors including the Croucher Foundation Senior Research Fellowship in 1998, the National Natural Science Award in 2003, and the L'OREAL-UNESCO 'For Women in Science' Award in 2004 and the Scientific and Technological Progress Prize of Ho Leung Ho Lee Foundation in 2008. She is an Academician of the Chinese Academy of Sciences and a Fellow of the Academy of Sciences for the Developing World.

著名神經生物學家、科大講座教授葉玉如教授獲委任為理學院院長，任期於 2011 年 2 月 1 日開始。

葉玉如教授亦為科大生命科學學部講座教授及分子神經科學國家重點實驗室主任。

葉教授於哈佛大學獲得藥理學博士學位。她早年在美國開展其科研事業，1993 年回港受聘於香港科技大學，擔任教學與研究工作，至 2005 年成為講座教授。1996 年至 2008 年間，她出任科大生物技術研究所所長，於 1999 年創立分子神經科學中心，並一直擔任主任至今。1998 年至 2005 年間，她擔任理學院副院長，而 2000 年至 2009 年間，她亦擔任生物化學系系主任。葉教授領導的科大分子神經科學國家重點實驗室是科大首家獲中國科學技術部核准的國家級實驗室。

葉教授是一名卓越的神經生物學家，在國際學術界享有極高聲譽。她對神經營養因子的功能及其應用於治療神經退行性病變（如腦退化症）的研究，獲得舉世矚目的成就。她共發表超過 200 份學術論文，文獻獲引總次數超過 13,500 次，並擁有 20 項國際科技發明專利權。她擔任多份國際科學刊物的編委會成員，如《神經科學雜誌》(*Journal of Neuroscience*)的檢評編輯及《神經信號》(*NeuroSignals*)的創刊主編，更當選成為國際知名的美國神經科學學會和國際神經精神藥理學協會理事會成員。

葉教授憑著卓越的科研成就獲得多項獎譽，包括 1998 年榮膺裘槎基金會優秀學者獎，2003 年獲頒國家自然科學獎，2004 年獲頒歐萊雅聯合國教科文組織世界傑出女科學家成就獎，2008 年獲頒何梁何利基金科學與技術進步獎等等。葉教授更獲選為中國科學院院士及發展中世界科學院院士。

Company Founded by First PhD Graduate Transferred Its Listing to HKEx Main Board

首位博士畢業生創辦公司轉往聯交所主板上市

HKUST's first PhD graduate Dr Jack Lau's founding company Perception Digital Holdings Limited transferred its listing from the GEM Board of the Hong Kong Stock Exchange to the Main Board and started trading. Perception Digital is a specialist in technological solutions for consumer electronics and technology commercialization.

HKUST President Tony F Chan said, "We are most delighted that the achievement of Perception Digital, our first and largest listed company set up under the HKUST Entrepreneurship Program, is well recognized. Dr Jack Lau is a home-grown entrepreneur. It is his passion in research and innovation, as well as his perseverance that has turned his dream of running his own business into reality. Many young people in Hong Kong have their own aspiration and potential. It is my hope that HKUST will foster their spirit of entrepreneurship to make use of technology to start their own business so as to promote the economic and social development."

The HKUST Entrepreneurship Program hosted by HKUST's Entrepreneurship Center provides assistance to faculty, staff, students and alumni to establish technology-based start-up companies with offerings ranging from space and office services, business and investor's network to funding. More than 40 companies have been founded under this Entrepreneurship Program, and Perception Digital is the largest company in terms of the number of employees and revenue under this Program.



HKUST President Tony F Chan (right) and Dr Jack Lau at the listing ceremony
科大校長陳繁昌教授（右）與廖家俊博士在儀式活動上合照

Dr Jack Lau has won an accolade of awards including the Ten Outstanding Young Persons Award, the Young Industrialist Award and the Ernst & Young 2009 Entrepreneur of the Year award etc. Perception Digital aims to become a leading consumer electronics solution provider specializing in multimedia and internet connectivity and well-being technologies. Major customers of the company include leading international brand name vendors and group companies which are either on the Fortune Global 500 or Fortune 500 lists.

科大首位博士畢業生廖家俊博士創立的幻音數碼控股有限公司股份由香港聯合交易所創業板轉往主板正式掛牌買賣。幻音數碼為消費電子產品商業化及技術解決方案專家。

科大校長陳繁昌教授表示：「幻音數碼是科大創業計劃下首家及最大的上市公司，顯示公司

成績得到認同，實在令我們感到興奮；而廖博士是土生土長的香港人，憑著他對科研的熱誠和創意、不斷追求理想、堅持不懈，終能成功創業。香港年青人很多都有抱負和潛能，我希望科大能夠培育這些年青人，發揮他們的創業精神，透過科技創出自己的事業，促進社會經濟發展。」

科大的創業中心特設創業計劃，為有志創業的師生與校友提供創業支援服務，包括提供辦公設備、介紹商界與投資者網絡以至資金籌組等。至今，在科大創業計劃下成立的公司已有40多家。幻音數碼是該計劃下僱員人數及收益計最大的公司。

廖家俊博士曾獲得十大傑青、香港青年工業家獎及安永企業家獎中國2009榮譽等多項殊榮。幻音數碼專門提供消費電子產品的技術解決方案，目標是發展為多媒體及互聯網連接和保健科技的主要消費電子解決方案供應商。公司的主要客戶包括國際頂級品牌集團和《財富》雜誌世界500強。

Alumni Gives Back to Their Alma Mater 科大校友與母校心連心

20th Anniversary is a time for alumni to embrace their collective memory and reflect upon its impact to the world today.

As one of the miracle makers, each member of the alumni holds a piece of the University's history and its future. The day to day accomplishment of alumni as revealed in the Alumni Faces website – <http://alumfaces.ust.hk> vividly showcases the story of HKUST.

Your HKUST Moments Photos Bazaar – <http://www.ust.hk/alumni/about/PhotoBazaar/> takes you on a trip down memory lane in the company of many alumni. The joyous moments they share and the enduring friendships they make are all the fond memories held close to their hearts.

The Anniversary celebratory festivities go beyond borders. Alumni from different parts of the world were heartened by the visits of President Tony F Chan and Vice-President Dr Eden Y Woon. Over the past 6 months, alumni gatherings have been held in Beijing, Shanghai, San Francisco, Los Angeles, New York, Boston, Singapore and Switzerland.

April 2011 also saw the establishment of HKUST Convocation which serves to



Alumni Faces website 「校友見面」網站

contribute to the betterment of the University in future by pulling together the concerted efforts of alumni.

Coming soon on the campus will be the exhibit of the largest business card collage. To mark the joyous 20th birthday of HKUST, alumni are contributing their name cards to create a commemorative *Birthday Gift to their Alma Mater*. Don't miss the chance to submit your entry via <http://www.alumni.ust.hk/collage2011/>.

「共證科大光輝廿載情」回憶分享集 – <http://www.ust.hk/alumni/about/PhotoBazaar/> 娓娓道出在校友們在科大的足跡，記錄著珍藏在他們心中的一段段真摯友誼，一頁頁難忘回憶。

校慶的歡樂蔓延至世界各角落，令身處海外的校友倍感高興的是陳繁昌校長以及翁以登副校長的到訪。過去半年，校友聚會遍及北京、上海、三藩市、洛杉磯、紐約、波士頓、星加坡以及瑞士。

大學評議會已於 2011 年 4 月成立，評議會將發揮校友的力量，群策群力，共建大學更美好將來。

緊接一浪浪慶祝活動，科大的校園將會展出一份特別的生日禮物，這個別具意義的禮物由校友的名片拼砌而成，象徵著各行各業校友團結一致的科大心。校友們萬勿錯過登入 <http://www.alumni.ust.hk/collage2011/> 參與其中。



HKUST Convocation
大學評議會

踏入科大 20 周年，一眾校友藉此回憶昔日校園的光輝歲月，而每位校友的成就正訴說出科大的傳奇故事。

透過「校友見面」的網站 – <http://alumfaces.ust.hk>，您會發現一張張親切的面孔、一個個奮鬥的故事，而他們的故事正好標誌著大學的過去與未來。

Yet Another Son of the Stars at HKUST

科大第二位「星之子」

The International Astronomical Union has named an asteroid after Chun-hei Lam, a student of Mechanical Engineering at HKUST. Lam developed a self-reinforced polymer composite from postconsumer site when he was only a secondary school student. He had won awards including the Hong Kong Youth Science and Technology Invention Competition (2nd Class Award and Grand Creativity Award), the National Youth Science and Innovation Award (2nd Class Award and Project Award), the Scientist for Tomorrow Award (3rd Class Award) in Beijing organized by the Ministry of Education, and the National Taiwan Science Education Center Award (2nd Class Award). He had also won the Project Award at the Intel International Science and Engineering Fair and had represented Hong Kong to take part in the competition.

Now a first-year student, Lam first got involved in research and experiments when he was studying at Shun Tak Fraternal Association Yung Yau College. In view of severe plastic wastes in Hong

Kong, he developed a low-cost system for recycling of plastics. "The two most commonly used plastic bottles locally are PET and PP. They are usually recycled together. PET has a boiling point of 250°C and PP 173°C. By controlling their boiling points, we can melt some bottles and retain others to facilitate recycling and reuse. Besides, I have developed a durable polymer which can be used to make containers. Its strength and tension enables it to be made into plastic bags and chairs."

Lam started winning awards with this invention when he was in secondary Form 4. With continuous enhancement, strength of the composite material has increased from 20% to 80% and its integration ability has improved.

Lam had been the Head of the Science Club, a committee member of the Student Union and a member of the volley ball team at his secondary school. With a keen interest in automobile and aerospace engineering, he reads extensively about flying and shows great enthusiasm in the

subject. And he keeps his feet on the ground by focusing on his university studies. "I would like to seek employment in Engineering upon graduation and would consider further studies later." Being curious but down-to-earth, Lam is a well-deserved Son of the Stars.

機械工程學系本科生林俊禧獲 IAU 國際天文聯會以其名字命名小行星（林俊禧星 Lamchunhei），成為科大第二位「星之子」。林同學早於中學期間研發塑料再造新方案，贏得多個獎項，包括香港青少年科技創新大賽（二等獎及個人創作大獎）、全國青少年科技創新大賽（二等獎及專項獎）、國家教育部舉辦的明天小小科學家（三等獎）（北京）、台灣國際科學展覽會獎（二等獎）。他並獲得英特爾科學與工程大賽（專項獎）及獲選拔代表香港到美國參賽。

林俊禧現為科大一年級的學生，他在水圍順德聯誼總會翁祐中學就讀期間，在老師帶領下進行研究與實驗。他有感於香港塑膠廢料問題嚴重，於是研究出一種低成本的塑料循環再用方法。「香港常用膠樽的用料包括 PET 與 PP 兩種，兩者通常一同回收。PET 的溶點為攝氏 250 度，PP 則為 173 度。透過控制膠樽的溶點，就可以溶化部份回收膠樽及保留另一些膠樽，方便循環再用。我同時研製出更堅韌的複合材料，可用以製造容器；其強度與拉力足以製作膠袋與膠椅子。」

憑著這項發明，他早於中四已在比賽中贏取獎項，之後不斷改善複合材料的質素，將初時僅 20% 的強度提升至 80%，改善融合性等功能。於三年間，他先後贏得中港台多個獎項，更代表香港參加國際賽事。

俊禧中學時代是科學學會主席、學生會幹事、及排球校隊隊員。他對汽車與飛機工程最感興趣，課餘閱讀有關飛行的書籍，談起飛機時興奮之情逸於言表。他亦能踏實苦幹，現階段先以學業為重：「畢業之後，希望先吸收工程界的工作經驗，然後才繼續進修。」既有夢想和好奇心，亦能保持平常心，這位外表平凡的「星之子」，實在一點也不平凡！

(From left) Chun-hei Lam and President Tony F Chan
(左起) 林俊禧同學與陳繁昌校長





Students acting as escorts at Hong Kong Geopark
學生參與生態保育地質公園導賞及遊客服務

LOHAS Sai Kung Community Service Program 樂活西貢



What is 'LOHAS'? It is a new attitude about health and fitness, sustainable living and 'green' ecological initiatives. To encourage students to experience the 'LOHAS' lifestyle, the HKUST School of Science, the Home Affairs Department - Sai Kung District Office and the Sai Kung District Community Centre jointly organized a community service program — 'LOHAS Sai Kung'.

HKUST students responded enthusiastically to the program. It had four main themes: Cultural Heritage, Ecosystem Conservation, Healthy City and Harmony and Integration. Contrary to generic community services, 'LOHAS Sai Kung' allowed participants to arrange a flexible schedule according to their personal needs. Students acquired a better understanding of the Sai Kung District and contributed to the local community by helping the underprivileged groups.

「樂活」是一種新興的生活態度，代表以健康、環保及可持續的方式生活。為了讓同學們體驗「樂活」的精神，科大理學院聯同西貢民政事務處及西貢區社區中心合辦「樂活西貢」社區服務計劃，讓參加者透過計劃將「樂活」的精神傳揚開去。

科大同學對「樂活西貢」反應熱烈，計劃共分為四大主題：文化承傳、生態保育、健康城市及共融參與。計劃特設「彈性義工服務組合」，參加者可因應個人興趣及時間自由選擇服務項目。

同學們透過參與「樂活西貢」，既加深對西貢區的認識，更能回饋社會、幫助弱勢社群。

HKUST Teams Up to Build Houses in Thailand for the Needy 科大義工為泰民興建居所

An HKUST volunteer team, made up of 18 HKUST students, staff and alumni, went to Nakhon Ratchasima, Thailand to build a house for a local couple in need.

Joining 'Habitat for Humanity', a program which offered volunteers a chance to build houses in partnership with local villagers, the HKUST team had the mission to build a house within five days. Through teamwork and collaboration, the team finished building the house a day ahead of schedule. Team members passed a symbolic key to the couple at the dedication ceremony and celebrated the completion of the new home.

After the hard work, the team had a well-deserved three-day cultural exploration tour in Bangkok and acquired greater understanding of the Thai culture. Participants found the experience worthwhile and the activities helped raise their concerns for the needy.

科大學生、教職員及校友組織了一隊 18 人的義工隊前往泰國 Nakhon Ratchasima 參與泰國「仁人家園」建屋計劃，為一對有需要的夫婦興建永久住所。

科大同學的任務是要在五天之內完成建屋計劃，他們和當地居民發揮團隊精神，比預期提早了一天完成任務。仁人家園還舉行了一個房屋移



交儀式，由義工代表將一根象徵「我的家園」的鑰匙交給屋主夫婦以作慶祝。

歡送會之後，科大義工隊在泰國曼谷進行了為期三天的文化探索之旅，增進對泰國文化的認識。他們認為能為有需要的人士伸出援手，更令他們對「家」有更深的體會。

HKUST Fundraising Bicycle Trip to Qingyuan

科大學生參加清遠單車籌款

In collaboration with The Chinese YMCA of Hong Kong, 12 HKUST students participated in a joint university Fundraising Bicycle Trip to Qingyuan, China. The trip enriched the students' knowledge of the Qingyuan culture and enhanced their awareness of the needs of children in the poverty-stricken mountainous areas and their education.

Frankie Cheung, a Year 2 student from Computer Engineering, was a member of the executive committee of the Student Social Service Society and had organized a service learning trip to Qingyuan before. "This time however, it's different," said Frankie. "It was the first time I participated in fundraising. And biking 40km each day for four consecutive days was a real challenge."

Before participants embarked on the journey, each of them had to raise at least \$2,000 as subsidies of the children's school fees. "I was the first in HKUST to reach our fundraising goal," said Frankie.

During the trip, the cyclists visited local school children and underprivileged villagers who were receiving social

welfare from the government. "We visited a 90 year-old senior. Although he owned little in the material sense, he showed contentment from the bottom of his heart," said Frankie. "He meant inspiration to all of us."

Looking back on those four days, Frankie considered it a bonus to have built strong friendships with his teammates. "We have become really close friends. We supported each other throughout the journey and developed a very special bond. The physical challenge was daunting, but together we developed perseverance under unusual circumstances. After completing the journey, I had a great sense of achievement – I did it!"



科大12名學生參加香港中華基督教青年會及房角石協會合辦的「青暉遠眺赤子情」單車籌款活動，同學不僅加深了對清遠的認識，亦更關注內地窮困山區學童的教育問題。

科大計算機工程學二年級的張健恩同學是其中一名參加者。對義工活動並不陌生的他，去年是科大學生會社會服務團內閣成員之一，亦曾協助統籌清遠的義工活動。「今次的活動帶來截然不同的體驗，這是我第一次參與籌款。連續四天每天踏單車 40 公里，對於我來說亦極具挑戰性。」

每一位參加者必須於出發前籌得最少港幣 \$2,000，作為貧困學童助學經費之用；張同學是科大第一位達到籌款目標的參賽者。

參加者除了每日參加單車行程外，還會服務當地小學、探訪學童和貧困戶，了解內地農村的生活狀況。「我們探訪了一名 90 歲的老人，雖然他的物質條件不佳，卻非常滿足，為我們帶來許多啟發與反省的機會，」張同學說。

回顧四天的旅程，張同學認為最大的得著是認識了新的朋友。「我們成為好朋友，在旅途中互相鼓勵、合作無間。雖然這次單車之旅是一項非常艱鉅的體能挑戰，我們憑著堅毅不屈的精神克服了種種難關。在抵達終點衝線那一刻，我心中充滿了成功感——我做到了！」



Chang'e Chief Scientist Crystal-gazes at China's Exploration of Moon and Mars 嫦娥計劃科學家暢談 中國探測月球和火星的前景

HKUST invited Prof Ouyang Ziyuan, Chief Scientist of China's Moon Exploration Project Chang'e and Fellow of the Chinese Academy of Sciences, to give a lecture on China's exploration of the Moon and Mars.



Prof Ouyang said the next step in China's moon exploration plan was to develop the landing gear, surveillance devices and sample collection equipment for the lunar vehicle.

Further on the horizon, Prof Ouyang said that in the next few years, China will explore Mars, Venus and minor planets. He added that China's first autonomous Mars exploration may take place in 2013, and the first autonomous probing of Venus may start two years later, alongside the multi-target investigation of minor planets.

科大早前邀請了嫦娥探月計劃首席科學家——中國科學院院士歐陽自遠教授以「中國探月工程與火星探測」為題在科大主講，對中國的探月計劃作前瞻，並介紹中國在火星探測方面的前景。

歐陽教授表示，中國探月計劃的下一步將會是發展月球著陸器、巡視器及採樣返回的技術。

就中國深空探測的發展，歐陽教授表示中國計劃在未來幾年，對火星、金星和小行星進行深空探測。首次自主火星探測可能於 2013 年進行，其後兩年內可自主探測金星；而由 2015 年起，可進行行星於小行星多目標探測。

Commissioner Lu Xinhua Shared Insights on China's Foreign Affairs 外交部特派員呂新華論中國外交

Commissioner Lu Xinhua of the Commissioner's Office of China's Foreign Ministry in the HKSAR spoke at a Distinguished Lecture 'Foreign Affairs and China's Foreign Affairs Policy' at HKUST. The lecture, in which he shared his insights, invited enthusiastic response.

According to Commissioner Lu, the financial crisis had a significant impact on the relative strengths among nations and the global arena experienced vast changes since then. "In the second and third quarters of 2010, China's total economic volume achieved world's second for the first time. Its foreign reserves continue to be the strongest around the world. Despite these positive factors, the nation sees great disparity between rich and poor, new and old. In terms of foreign affairs, China is more than willing to take on global responsibilities. At the same time, we have to consider factors such as national power and interests of the people."

Commissioner Lu spoke on how China handled its new global relationships ranging from Sino-US relations to China's policies in East Asia and Korea. As a seasoned diplomat who had worked in Finland and other countries, he became a commissioner in Hong Kong since 2006. At the HKUST lecture, he introduced the mission of China's Foreign Ministry and the Commissioner's Office in the HKSAR.

科大邀得中華人民共和國外交部駐香港特別行政區特派員呂新華主持科大傑出講座，以「當前國際形勢與中國外交政策」為題發表灼見，吸引數百名師生參加，反應熱烈。

呂特派員指出金融海嘯之後，國際形勢發生深刻而複雜的變化，國際力量此消彼長：「2010 年中國第二、三季的經濟總量首次成為全球第二強，外匯儲備則繼續高踞世界第一。雖然如



此，內地先進與落後並存、新舊交織，急需解決貧富懸殊的問題。外交方面，中國絕對願意承擔國際責任，但也要考慮中國的國力和人民的利益。」

呂特派員更闡述中國如何處理新的國際關係，包括中美關係、中國在東亞及朝鮮半島問題上的立場等。身為資深外交家的他曾派駐芬蘭等地，自 2006 年起在香港出任特派員。他特別在科大的講座上，介紹中國外交部以及駐香港特派員公署的工作。

President Tony F Chan (left) and Dr Lily Sun Sui-fong at the ceremony
陳繁昌校長(左)與孫穗芳博士主持揭幕儀式

Dr Sun Yat-sen Statue Unveiled 孫中山先生銅像揭幕

A bronze statue of Dr Sun Yat-sen was unveiled by Dr Lily Sun Sui-fong, granddaughter of the late Dr Sun Yat-sen and President of the Dr Sun Yat-sen Foundation for Peace and Education, and President Tony F Chan.

President Chan said, "Dr Sun Yat-sen is one of the most influential and respected figures in modern times, especially in the global Chinese community. He brought China from the era of emperors to the contemporary age."

Situated at the lawn next to HKUST's One-World-Fountain, the Dr Sun Yat-sen statue commands a central location that touches various aspects of campus life. The statue shows Dr Sun holding a book depicting the Three People's Principles. It is 1.93 meters tall – slightly larger than life – and weighs 250 kg.

國父孫中山先生的銅像在科大校園揭幕，揭幕儀式由孫中山先生孫女、孫逸仙和平教育基金會主席孫穗芳博士及科大校長陳繁昌教授主持。



陳繁昌校長說：「孫中山先生是現代世界最有影響力和最受尊崇愛戴的偉人之一，他令中國從帝王時代發展至現今世界，對全球華人世界的影響尤其深遠。」

孫中山先生銅像位於科大校園的中央位置、天一泉旁邊，是很多師生上課的必經之路。銅像高 1.93 米，比他實際高度略高，而重量則為 250 公斤。

HKUST Promotes Undergraduate Research through Higher Education Symposium 科大「探索研究」研討會推動本科教育

In view of the 334 education reform in Hong Kong, HKUST's Center for Enhanced Learning and Teaching and the Hong Kong branch of the Higher Education Research and Development Society in Australasia (HERDSA) co-organized the first local symposium on 'Engaging Undergraduates in Research and Inquiry: A Scholarly Dialogue' to promote the creation of knowledge in undergraduate education.

Over 70 teaching staff from nine local post-secondary institutions gathered together at HKUST. Prof Mick Healey, a well-known higher education consultant and researcher from the UK, gave an introductory address on 'The Nature and Development of Undergraduate Research and Inquiry: Mapping the Territory' to share his insights on advancing undergraduate research and inquiry to promote student learning.

HKUST President Tony F Chan said, "As we approach 2012, a new stage in undergraduate education, we have all been deeply engaged in redesigning the undergraduate experience we provide for our students to meet the demands of the 21st century. These developments will define the success of our tertiary education reform in Hong Kong. At such a key juncture, it is appropriate that academic colleagues come together to share their wisdom and insight on how to enhance undergraduate education."

The symposium generated a lot of interest in undergraduate research among educators in the local higher education sector.

因應「三三四」改革的需要，科大教學促進中心聯同澳大利西亞高等教育研究與發展學會香港分會合辦第四屆香港科技大學教學與學研討會，主題為「推動本科生參與探索研究及問題為本學習：學術對話」。

研討會吸引來自本港九所專上學府共 70 多位學者參加，特別邀請來自英國的高等教育顧問學者、英國斯特郡大學榮譽教授麥希理教授以「本科生探索研究與問題為本學習的性質與發展」為題，分享推動本科生探索研究與問題為本學習的經驗。他表示，本科生參與探索研究是國際趨勢。

陳繁昌校長為是次研討會主持開幕儀式，在探討如何推動本科生參與探索研究、創造知識時稱：「邁向 2012 年本科教育的新里程，我們都埋首於重新設計本科課程以迎合 21 世紀的需求，這些發展將奠定未來香港高等教育成功的基礎。在這關鍵時刻，高等教育界能聚首一堂分享其真知灼見，以提升本科教育的成效，確是難能可貴的。」

是次研討會成果豐碩，從事高等教育的本地學者反應熱烈，並期待更多交流合作的機會。

Prof Mick Healey, Higher Education Consultant and Researcher from the UK
麥希理教授為高等教育顧問學者、英國斯特郡大學榮譽教授



HKUST Embraces Green Initiatives

“We are tasked with the responsibility to educate the next generation. I am glad to know that some students, after participating in our activities and seminars, actually adopt and implement environmental practices at home and in the community. It’s not ‘business as usual’ for them anymore. It’s about well-rounded education and it’s important that the next generation change their lifestyle, help shape and contribute to the world’s future,” said Prof Joseph Kwan, Director of the Health, Safety and Environment Office.

“HKUST has always been conscientious about protecting our environment. Back in 1997, our colleagues in the Facilities Management Office contracted an energy consulting firm to reduce our energy

usage. HKUST was the first institution in Hong Kong to engage in what is called ‘energy performance contracting’ — we do not need to pay for the set up costs upfront; we only need to pay when energy reduction has been successfully achieved. In that case, we pay the bank using money saved from energy reduction. The bank was the institution which initially funded the consulting firm to engage in the project with us. With this tripartite arrangement, we can develop environment initiatives without paying upfront. From 1997 to now, we have reduced energy consumption by more than 20%.”

Advocating green concepts on campus is another important mission. “Organizing stakeholders to participate in green initiatives is both meaningful and pragmatic. It can also help students get ‘green jobs’

as sustainability officers in large corporations in the future,” said Prof Kwan.

“Students have been proactively participating in our programs. I came across a pastor for the first time one day and he told me that his son, a student at HKUST, had been initiating environmental practices at home after participating in sustainability programs at HKUST. I feel most encouraged that the University has made a difference — after all, HKUST has the mission to educate the next generation in an all-rounded manner. We are not a training institute that imparts academic knowledge alone. Among other aspects, we educate students such that they understand and appreciate the importance of living green, embracing a sustainable lifestyle and taking on the responsibility to conserve energy and

Prof Joseph Kwan
關繼祖教授

科大擁抱綠色生活

reduce wastes. A successful education should emphasize academic performance, conduct and virtues.”

“We don’t organize activities just for the sake of doing them. There’s follow up. For instance, during last year’s Environment Week we invited President Tony F Chan and former Police Commissioner Mr Dick Lee Ming-kwai to participate in low-carbon food cooking demonstration together. After the event, the students involved continued to drive other projects and worked with university caterers to ensure low-carbon meal options are available in our cafeterias on a daily basis.”

The University has implemented a food waste composter program in which food wastes are decomposed and turned into fertilizers. The fertilizers are in turn used at the University’s organic farm located at the lawn areas on floor LG7, where interested staff members and students can grow vegetables and other plants.

“Looking towards the future, the University is advocating sustainability practices systematically across HKUST. In addition, all units will implement green plans according to their specific needs and core functions. For instance, the Purchasing Office may initiate green purchasing and the Publishing Technology Center may aim to become a carbon-neutral print shop. Chemists may use fewer agents in micro-experiments and biologists may use non-toxic reagents such as non-mutagenic DNA dyes to minimize toxic exposure and hazardous wastes. It is envisaged that sustainability initiatives will be implemented throughout our university including teaching and learning, research, administration, and various operations on campus. We hope to build a sustainable culture to help make an impact.”

「作為教育工作者，我們的責任是教育下一代。我很高興知道不少同學們參加我們的活動與講座後，無論在家中還是在社群裡，都努力實踐環保理念。他們從此對生活有新的體會；這就是全人教育的精神。下一代願意改變生活習慣，從而創造及貢獻未來，這是非常重要的，」科技大學健康、安全及環境處處長關繼祖教授稱。

「一直以來，科大十分注重保護環境。1997年，科大校園設施管理處的同事透過契約邀請能源顧問公司協助我們減低能源消耗。我們是本港首家參與『能源表現合約計劃』的機構，即我們不用負擔節能系統的起始費用，只有在顧問公司成功幫助我們達致節能目標時，我們才需要付費。這是我們與顧問公司和銀行三方達成的協議：先由銀行資助顧問公司，由顧問公司負責我們的節能計劃，我們日後用節能省回來的錢付費。這樣，我們起初就可以在無需預繳的情況下開展環保計劃。從1997年至今，我們共節能超過兩成。」

在校園推廣綠色概念，亦是環境處的重要任務。關教授說：「組織師生等持份者參與綠色活動，既有意義又有實際用途。學生在大學參與組織工作，將來更有可能加入大型機構擔任可持續發展主任或其他與環保有關的職位。」

「我之前首次遇上一位牧師，他告訴我在科大唸書的兒子參加大學的可持續發展計劃後，在家裡積極實踐。我當然感到十分快慰，畢竟大

學的宗旨就是以全人教育的方針培育下一代。科大不是只灌輸知識的職業訓練機構。我們多方面培育人才，並教導他們了解及欣賞環保的重要性，擁抱可持續的生活模式，承擔對環境的責任，節省能源及減少廢物。成功的教育，應該學養與德行兼備。」

「我們舉辦環保活動之後會進行跟進，這也是教育的一部分。譬如我們去年與學生共同舉辦環保周，由陳繁昌校長與前警務處處長李明達先生親自示範低碳煮食；及後學生繼續跟進校內實行低碳煮食的情況，現在校內的餐廳每天都提供有低碳選擇的餐單。」

科大並設廚餘堆肥計劃，廚餘被分解後化成堆肥，用於大學的有機農場。有機農場是大學在校園 LG7 樓層戶外草地特別開闢的園地，為有興趣的教職員與學生提供耕種蔬菜與其他植物的機會。

「科大將有系統地在整所大學內推動環保，而所有部門亦將根據其特定需要與職能，製訂部門的綠色計劃。比如說，採購處可提出綠色採購計劃，出版技術中心以成為碳中和的印刷中心為目標；化學家進行微實驗時可減少使用化學品，而生物學家則可使用無毒性的試劑，譬如無致突變性的脫氧核糖核酸染料，盡量避免與有毒物質接觸，並將有毒棄置物減至最少。大學發展這些計劃，可望在教學、研究、行政、校園多項運作上實踐可持續計劃，孕育綠色文化，帶來綠色改革。」



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For enquiries, please contact Ms Kit Yip, Chief Editor:
Tel: 2358 6313; Email: kityip@ust.hk

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如有查詢，請聯繫總編輯葉潔明女士：
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