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靈感之泉 學術之韻

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From Good to Great
IAS Enters a Brand New Phase of Development
by May Cheung

The Institute for Advanced Study at HKUST (IAS at HKUST) began the new year with a bang, by launching a series of activities in January 2009 to usher in a new stage of development.

On 5 January 2009 HKSAR’s Chief Executive Donald Tsang and some of the world’s top scientists descended on HKUST to launch its inaugural symposium “Mapping Frontiers of Science” and a tree-planting ceremony at its future site.

At the tree planting ceremony Mr Tsang was accompanied by Prof C N Yang, winner of the Nobel Prize in Physics in 1957 and currently Chair of the IAS International Advisory Board, and HKUST President Paul Chu.

The Inaugural Symposium ran for two full days on 5 and 6 January 2009, with over 21 distinguished lectures under five categories, followed by a roundtable discussion on future directions.

A major inaugural activity was the signing of a Memorandum of Understanding (MOU) by HKUST President Paul Chu representing HKUST and Prof Peter Goddard representing the Institute for Advanced Study in Princeton. HKUST is one of only three universities in China with which the Institute for Advanced Study in Princeton has entered into a partnership—the other two being Peking University and Tsinghua University.

As one of the world’s leading centers for theoretical research, the Institute for Advanced Study in Princeton serves as a model for its younger cousin at HKUST.

The Institute for Advanced Study at HKUST now has a sterling International Advisory Board whose membership includes 18 of the world’s most eminent scientists. To date, the Institute has run more than 64 talks and seminars by Nobel laureates and top scholars. A joint R & D laboratory of the Institute, a collaborative project of United States’ Scripps Research Institute and HKUST, is up and running.

Up to now, it has attracted 9 visiting faculty, all of whom pioneers in their own fields, including Aaron Ciechanover, Nobel laureate in Chemistry; Shuji Nakamura, the inventor of blue laser; Michael Atiyah, Fields Medalist and Abel Prizewinner, and Patrick Lee, winner of Dirac Prize in Physics.

The IAS is working to realize its goal of building, by 2016, a team of 130 members, including 10 permanent faculty, 20 visiting members, 40 affiliate members and 60 postdoctoral fellows.

With the Institute for Advanced Study in Princeton and the Kavli Institute for Theoretical Physics, University of California, Santa Barbara (KITP) as models, the IAS of HKUST will keep a core faculty with eminent academics who will serve as a magnet attracting scholars of the highest caliber to the Institute while running thematic programs.

The unique environment in Hong Kong warrants some adaptations to the Princeton or KITP model. Unlike the IAS in Princeton which embraces only theoretical research, the IAS at HKUST in President Paul Chu’s view would support both theoretical and applied research.

“We believe applied research will benefit the Hong Kong community. Also, putting theorists and experimentalists in one setting might create the chemical reactions or exchanges conducive to innovation or discoveries. On the other hand, instead of having set fields of studies and looking to fill up faculty positions with the right...
candidates, President Chu’s strategy is to build a small temple around scholars of star quality who find here the right soil and climate for scholastic work,” said Executive Director of IAS at HKUST Prof Angelina Yee.

“Reflecting our own strengths in Physics, Mathematics and Life Sciences we have attracted some scholars in these areas and we shall start off in that direction;” she added.

While the economic tsunami has dealt a great blow to most universities in the States, it may have a silver lining for the IAS at HKUST. Due to the hiring freeze in the West, a lot of top scholars in the States are looking to the East for opportunities. Prof Yee anticipated that Hong Kong’s flexible and open academic environment and its proximity to Mainland China provide ideal conditions for ambitious scholars to contribute to the continued development of this fast-growing area.

Prof Yee confirmed that a number of up-and-coming scholars will soon join IAS at HKUST as visiting members. A worldwide search for a world-class scholar as the Director of the Institute is underway. The Director is expected to assume office by September 2009 when the construction work of IAS’ Academic Building is scheduled to start.

At a developmental cost of $185.3 million, IAS’ Academic Building will consist of a built area of 4,600 square meters, providing office accommodation, meeting rooms, conference facilities, teaching space, staff amenities and support space for its faculty and staff members.

Determined to create an academic utopia in the fashion of IAS in Princeton, HKUST IAS will be built on top of a knoll adjacent to the southern side of the HKUST campus overlooking the secluded bay.

“At IAS there will be ample individual space to ensure the pursuit of undisturbed intellectual inquiry as well as plenty of common space for vibrant interaction. There will be lounging areas on each floor for members, visitors and students to relax, have fun, and share with each other the most ludicrous or outrageous jokes or ideas—so much an integral part of the dream life of an academic community,” said a proud Prof Yee.

香港科技大學高等研究院(科大高研院)來說，2009年是極具意義的一年。科大高研院國際顧問委員會主席、1957年諾貝爾物理獎得主楊振寧教授，與科大校長兼高研院創院院長朱經武教授及其他嘉賓，一起為高研院種下八棵風鈴木，並將之命名為「靈韻」，意即「靈感之泉、學術之韻」。

靈韻這名字，是由高研院行政總裁余珍珠教授所創作。其後舉行的科大高研院創院研討會共有21場專題講座，涵蓋五個範疇，並以一個探討未來科學發展方向的圓桌會議作結。

科大校長朱經武教授及普林斯頓高等研究院院長彼得.戈達德教授亦於1月5日簽署合作協議。普林斯頓高等研究院為現今世界上首屈一指的高等研究院，以理論研究著稱於世，足以為世界各地高等研究院的典範。
科大高研院的國際顧問委員會共有 18 名成員，包括 6 名諾貝爾獎得主及 12 名全球頂尖科學家。時至今日，科大高研院已舉辦了 64 場由諾貝爾得獎人及國際知名學者主持的研討會或講座，而由科大高研院及美國史拔思科研院合作成立的科研發展實驗室，亦已啟用。高研院現時已獲 11 名國際學者加盟為訪問教授，他們都是極有分量，其研究領域各領風騷的頂尖人物，包括中村修二、阿龍.西查諾瓦、菲爾茲獎得主邁克.阿蒂亞及狄拉克物理學獎得主李雅達等。

科大高研院的院址位於科大校園南面的山頭，一片清幽、臨海景緻、盡收眼底。科大在此選址，是希望能夠像普林斯頓高等研究院一樣，為研究院團隊建立一個獨立而不遺世的學術桃源。

 excess of the speaker at one of IAS Inaugural Conferences (From left) The Institute for Advanced Study in Princeton Prof Peter Goddard; Prof C N Yang and President Paul Chu at a ceremony to formalize the ties between the two institutes (From left) Prof Henry Tye [Cornell University], Prof Eli Yablonovitch [UC Berkeley], Prof H S Kwok [HKUST] The audience is enraptured by the humor and wisdom of the speaker at one of IAS Inaugural Conferences (From left) Prof George Papanicolaou [Stanford University], Prof Angelina Yee [HKUST], Prof Roland Glowinski [University of Houston], Mrs Angela Glowinski, Prof Mounir Hamdi [HKUST]
President Chu Awarded  
“Science for Peace Prize”

Receiving accolades, national or international, may not be novel to President Paul Chu. But for the first time, he is reaping a prestigious international award with a slight twist—the “Ettore Majorana - Erice Science for Peace Prize”.

Few scientists are ever honored for contributions to peace, but this time President Chu is being honored for his significant achievements in using scientific research to contribute to world peace.

President Chu now joins the ranks of global leaders who have been awarded the Science for Peace Prize. This illustrious company includes Prof Tsung-Dao Lee, the first Chinese co-winner of the Nobel Prize in Physics back in 1957, Prof Chien-Shiung Wu, distinguished physicist, better known as the “First Lady of Physics,” and the late Pope John Paul II.

The Science for Peace Prize was created by the Sicilian Government, under the auspices of the Ettore Majorana Centre for Scientific Culture, which was founded in Erice in Italy in 1962. The town of Erice is a hub of scientific research, with as many as 114 university schools in all fields of research related to modern science.

Each year, members of the World Federation of Scientists select a handful of candidates, whose scientific contributions play a part in promoting world peace. This year the list happily includes our President.
1. What are the major administrative and financial issues arising from 3-3-4? (A staff member)

A: This is a big issue. We are talking about a one-third increase in student population, a consequential increase in faculty members, a new system for student admission, course registration, and placement, a new 3-3-4 curriculum, the further complications due to the “double cohort” of having two intake classes in 2012 - the last intake to a 3-year program and the first intake to the 4-year program, and the consequential co-existence of two curricula for at least three years. All this would have profound resource and administrative implications.

2. How is the University going to deal with such a range of administrative challenges? (A staff member)

A: One of our key strategic responses to these challenges is the new Enterprise Resource Planning Project, which is a new and fully web-enabled information system to improve services for students, alumni, faculty and staff. The project is much more than a software upgrade exercise. Rather, the project would enable all functional units of the University to critically rethink the current way of doing things and to take advantage of the best-practice workflow capabilities to streamline interactions and improve the services to our students, faculty, and staff. On the hardware side, we need to expand the space and facilities on campus to make sure that we have the physical capacity to accommodate the additional students and to provide a suitable teaching and learning environment in support of the new academic structure.

3. Why don’t we organize associate degree courses which can provide education opportunities to more youngsters and at the same time generate revenue for the University? (Student K K Cheung)

A: HKUST was established with a clear mission to be a research-intensive university. Our University’s philosophy is academic excellence. The University Grants Committee (UGC) emphasizes role differentiation among institutions, and that is also the role that differentiates us from other local institutions, some of which are doing very well in associate degree and sub-degree courses.

4. Our University suffers a major handicap for not having a proper auditorium / formal hall for holding major events such as congregation or concert. Should this not be part of our campus development plan? (Andrew Lau, Physics Year 3)

A: Unfortunately UGC does not provide funding for an auditorium. Even if we do have an auditorium — an average auditorium normally accommodates about 1,000-plus people - we still would have to run seven or eight separate sessions for our Congregation which is attended by 9,000 students, parents, and guests each year. I am aware that an auditorium on campus is on the wish list of many, but I have also heard from many others who like our Congregation conducted at the Atrium which provides a grand and open-air ambience that is cherished by students and colleagues as something unique to UST. Of course it would be nice if we could raise donations in future to build an auditorium for cultural and academic activities.

5. Some sports facilities will be impacted by campus development project without re-provisioning. Will new facilities be built? (From a student)

A: By UGC standard, our existing sports facilities are adequate even with the increase in student population post-334. This means that it would be extremely difficult to obtain Government funding to build more sports facilities. However, we think that additional sports facilities would benefit our students immensely, and therefore have kicked off a consultancy study to see whether the roof top of the sea water pump house adjacent to the swimming pool can be developed into facilities for sports and student activities. This would have to be done by private funding as well.
6. Can the University find ways to save students from having to empty their hall rooms in summer, or provide storage space for them? (Student Yan Qin)

A: During the summer break, most students check out of the halls and remove their belongings. This arrangement allows the University to schedule renovation and maintenance of the halls with minimal inconvenience caused to students, and it also makes rooms available for other education-related and academic exchange activities such as summer programs, conferences, and other activities requiring on-campus accommodation. That is why students cannot leave their belongings in their rooms. Instead, we have been helping students to arrange commercial storage in nearby areas. Some provide very convenient services including pick up and return services, and the cost is quite reasonable.

7. Would the University consider providing campus apartments for student couples when both husband and wife are current postgraduate students? (From a student couple)

A: The University is not able to provide special on-campus accommodation for married student couples for the time being due to shortage of student housing. We will review the situation when our three new on-campus student residence blocks and the two off-campus joint student dormitories are completed in a few years’ time.

8. Many fast food stores have their staff wearing face masks to ensure hygiene. Will our canteen do the same? (From a student)

A: This is a good suggestion and we would talk to the caterers although the wearing of masks by food handlers is not a licensing requirement. To some students and colleagues, mask wearing may look unfriendly, but certainly there are circumstances when the wearing of mask is necessary, such as during a flu outbreak.

9. Given your broad portfolio, do you still have any time left for scientific research? (From a faculty member)

A: VP-AB is a very demanding full time job and it leaves me with little time for research. As a professor, I take this with some “regret”. Having said that, I still conduct ongoing joint-research projects on environmental biotechnology with my collaborators, and have been co-authoring a few scientific papers in journals on my research work every year up till now.

10. What do you do during your leisure time? (From a staff member)

A: I usually go hiking in the countryside on Sunday mornings during autumn and winter. I enjoy reading and listening to music during leisure time, but this has become a luxury now.
黃玉山副校長答師生十問

1. 四年制大學引發出什麼行政和財政挑戰？
   (一職員)
   這是個重大問題。由於學生人數增加三分一，教研人員亦須相應增加。此外，我們亦須準備一個處理收生、課程登記及分配的系統、以及一套配合三三四制的全新課程。另外，在2012年我們須要同時應付兩批新生——最後一批大學三年制的學生，以及首批大學四年制的學生。而其後至少三年內，我們也要同時提供兩套大學課程，這一切都大大影響我們的資源和行政負擔。

2. 科大如何處理這些挑戰？(一職員)
   我們迎接這些挑戰的具體策略之一是推行新的企業資源策劃(ERP)。企業資源策劃(ERP)是一個可以全面在網上運作的新資訊系統，旨在全盤改善我們對學生、舊生及教職員的服務。這計劃不僅是個軟件提昇行動，而且它使科大所有功能單位可以重新思考我們目前的辦事方式，並有效利用全球最佳工作程序，去簡化互動流程，並改善對學生及教職員的服務。
   在硬件方面，我們須要擴展校園空間和設施，以確保可以容納新增的學生，並提供一個合適的教育環境，以支持新的學術架構。

3. 我們為什麼不推出副學士課程，為更多青年人提供教育機會，同時亦為大學帶來收入？(學生KK Cheung)
   科大的宗旨很清晰，就是成為一所研究型大學。我們的目標是達到卓越的科研及學術水平。大學教育資助委員會強調大專府各有不同的角色，按照科大角色定位，我們不會開辦副學位課程。事實上，有些其他大學正在提供副學位或非學位課程，它們都辦得很成功。

4. 科大缺少一個正規的會堂以舉行畢業禮及音樂會等大型活動。我們的校園發展計劃會不會在這方面作出改善？(物理學系三年級學生Andrew Lau)
   大學教育資助委員會並無資助科大興建會堂。就算我們真有一個會堂(會堂平均可容納一千多人)，我們仍須要舉行七至八次畢業禮，因為每年參加我們畢業禮的學生、家長和嘉賓多達九千人。我知道不少師生均希望科大校園內有個會堂，但也有不少同學和同事喜歡在我們現有的大堂舉行畢業禮，因為它不單宏偉，亦有戶外氣氛，是科大的獨有特色。
   當然，如果我們將來能夠籌得經費，就可以興建一個會堂，以供文化和藝術用途。
5 校園發展計劃刪減了一些體育設施。這計劃會不會包括興建新的體育設施？（一學生）

以大學教育援助委員會的標準來看，我們現有的體育設施足夠迎合三三四制下學生增長的需要。換言之，我們很難獲得政府額外資助興建更多體育設施。不過，我們亦覺有更多的體育設施會為學生帶來很多裨益，因此我們開始進行一個顧問研究，看看可否在游泳池旁的海水泵房頂部發展更多體育設施。不過，這也需要籌集資金。

6 科大可否研究如何使學生不用在暑假期間騰出宿位，或為他們提供儲物空間？（學生Yan Qin）

在暑假期間，大部分學生都要騰出宿舍並將房內物品，以進行宿舍的翻新和維修。同時，騰出的房間可作其他教學及學術交流用途，例如暑期活動、會議及其他需要校內住宿的活動。因此，在暑假期間，學生不可將私人物品留在房內。不過，我們一直都盡量協助學生在附近安排儲物間。有些公司提供很方便的服務，包括運送服務，而且價錢也很相宜。

7 科大會否考慮為夫婦研究生提供家庭居住單位？（一對學生夫婦）

由於學生宿位有限，我們未能在校園內特別為夫婦學生提供家庭單位。不過，未來兩年內我們在斜坡並發行大樓以及兩座校外聯合學生宿舍會陸續落成，屆時我們會有空間檢討情況。

8 很多快餐店的員工都配戴口罩以確保衛生。科大的飯堂會不會對員工有同樣要求？（一學生）

這是一個好建議。雖然佩戴口罩並非發牌條件之一，但我們仍會與膳食供應商討論。對某些同事來說，佩戴口罩的員工在外貌上不夠親善，但在有需要時（例如在流感爆發期間），我們會要求處理食物的員工配戴口罩。

9 副校長的工作範圍這麼繁重，有沒有時間進行科研？（一位教授）

副校長（行政）是一份要求很高的工作，因此我實在沒有時間進行研究。對一個教授來說，這可說是一個遺憾。雖然如此，我仍在環境生物技術方面與其他科研人員進行合作研究，並且每年都在我的研究範圍內與其他學者合作，在學術期刊中發表科研文章。

10 你有什麼公餘活動？

在秋冬時節我通常在星期日早上到郊外遠足，閒時我喜歡閱讀和聽音樂，但现在這些都已成為「奢侈活動」了！
HKUST Leaps in World University Rankings

In one of the world's most influential university rankings, The Times Higher Education - Quacquarelli Symonds (THE - QS) World University Rankings, the Hong Kong University of Science and Technology ranks 39, a great leap from 2007’s 53 and 2006’s 58.

Other Asian universities making the top 50 in this year’s rankings include:
- University of Tokyo (19th)
- Kyoto University (25th)
- University of Hong Kong (26th)
- National University of Singapore (30th)
- The Chinese University of Hong Kong (42nd)
- Peking University (50th)
- Seoul National University (50th)

THE - QS World University Rankings were conceived to present a multi-faceted view of the relative strengths of the world's leading universities. The overall rankings are compiled based on six distinct indicators:

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<th>Indicator</th>
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<tr>
<td>Academic Peer Review</td>
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<tr>
<td>Employer Review</td>
<td>10%</td>
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<tr>
<td>Faculty Student Ratio</td>
<td>20%</td>
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<td>Citations per Faculty</td>
<td>20%</td>
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<td>International Faculty</td>
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<td>International Students</td>
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Commenting on this achievement in world rankings, President Paul Chu said, “We are very proud with what we have achieved in world rankings. Years ago when people talked about the best universities in Hong Kong, they only mentioned the University of Hong Kong and the Chinese University of Hong Kong, now they would also include the Hong Kong University of Science and Technology into their list. This ranking achievement is an extra impetus for us to move ahead and strive for excellence.”

EMBA Program Ranks Second in Financial Times’ EMBA Global Rankings

The University’s Executive MBA Program, jointly offered with the Kellogg School of Management, Northwestern University, maintains its leading position in the world in this year’s Financial Times EMBA global rankings. It ranks No 2 overall. This follows its historic ranking as the world’s No 1 last year.

The program has been in the world's top 10 since it first took part in the ranking in 2003. For four consecutive years since 2005, it has been in the world's top 3.

The program is listed No 1 for “salary today” of its participants and No 1 in “international students”, No 2 in “work experience” and No 3 in “international faculty”. The Kellogg-HKUST EMBA program also comes first in “top salary in finance”, “top salaries in industry” and “top salaries in consulting”.

By nationality, 88% of the current class of the Kellogg-HKUST EMBA program is international. Some 40% of the students are based outside of Hong Kong. On average they have 14 years of full-time working experience.

MBA Program Ranks 11 in EIU World Ranking and 16 in Financial Times Ranking

HKUST’s MBA program has again been ranked by the Economist Intelligence Unit (EIU), for the third year in a row, as No 1 in Asia and Australia. Overall, it ranks No 11 in the world.

Of the 100 MBA programs that made the EIU annual list this year, 50 are from North America, 39 from Europe and 11 from Asia and Australia. The EIU ranking places HKUST MBA program ahead of Harvard Business School (12), Wharton (17) and MIT (18).

Describing HKUST as a top-ranked Asian school, the EIU said the School’s full-time faculty teaching on the MBA program are all PhD qualified. It also described the School as having excellent facilities, with easy access to markets such as China and turns out graduates who are much coveted by employers across the world.

EIU’s ranking criteria include four main areas, namely, “open new career opportunities”, “personal development and educational experience”, “increase salary” and “potential to network”. The HKUST MBA program ranks No 3 in the world in “open new career opportunities” which is measured by diversity of recruiters, assessment of career services, jobs found through the career service and student assessment, and No 6 in “personal development and educational experience” measured by faculty quality, student quality, student diversity and education experience.

In the Financial Times Ranking, HKUST’s MBA program advanced one place to achieve 16th ranking. It ranks No 2 in the world for “international faculty” and “international board”, No 3 for “international experience” provided to students, No 9 in “international students” and No 17 in “international mobility”, which is measured by the employment movements of alumni between graduation and three years on.
MBA students cheer the success of the program with Prof Leonard Cheng, Dean of HKUST Business School and Prof Steve DeKrey, Senior Associate Dean and MBA Program Director.

Dean Emeritus
Donald Jacobs flies to Hong Kong every year to teach Kellogg-HKUST EMBA class.

Students at "Individual & Group Behavior in the Organization" class.

EMBA 課程在《金融時報》的 EMBA 全球排行榜名列第二

科大和西北大學凱洛格管理學院合辦的行政人員工商管理碩士課程，今年仍高踞《金融時報》的 EMBA 全球排行榜第二位，僅比去年下跌一位。2003 年，課程首次榮登十甲，2005 年起，更連續四年位列三甲。

課程在多項評分排序高位：修讀者的「現有薪酬」位列第一；「國際學生數目」排行第一；「工作經驗」排行第二；「國際學院」排行第三。凱洛格-科大行政人員工商管理課程在「金融界頂級薪酬」、「企業界頂級薪酬」及「諮詢界頂級薪酬」位列第一。

工商管理碩士課程在《經濟學人信息部》及《金融時報》全球排行榜分別名列 11 和 16

科大工商管理碩士課程連續第三年獲得《經濟學人信息部》亞洲及澳洲地區的首位，而在全球排名則是 11。

《經濟學人信息部》今年的 100 大排行榜裡，50 間大學屬於北美洲，39 間屬歐洲，11 間屬亞洲和澳洲。科大的排名比許多著名學府還要高，如哈佛商學院（12 位）、華頓商學院（17 位）和麻省理工學院（18 位）。

能被冠以亞洲第一學府的榮譽，因工商管理碩士課程的全職教學人員均持有博士學位，《經濟學人信息部》也認為科大有一流的設施，較容易進入中國市場，使世界各地的商家僱主垂涎聘用能貫通兩地的畢業生。

《經濟學人信息部》排行榜評分準則分四大範疇：「發展事業的機遇」、「個人發展及教育經驗」、「薪酬加幅」及「建立人際網絡潛力」。

科大工商管理碩士課程在「發展事業的機遇」一項排行第三；評估準則包括招聘者多元性、專業服務評估、職業轉介和學生評估。在「個人發展及教育經驗」則排行第六，由教學人員素質、學生素質、學生的多樣性和教育經驗綜合評分。

在《金融時報》全球排行榜上，科大的工商管理碩士課程於「教授國際化背景」及「顧問國際化背景」兩個分項上均排名全球第二位，在「為學生提供國際經驗」方面位列全球第三，「學員國際化背景」排名第九，「學生國際就業流動性」（衡量學生畢業後三年內的就業流動性）則位列 17。
The Red Sea is not only famous for the biblical story of Moses, who parted its waters to save the Israelites from the Egyptian army, then drowned the soldiers who were on their tail. It is also well known for the wealth of marine microbes inhabiting the Sea’s coral reefs.

In fact, the year-round warm climate of Saudi Arabia and the Red Sea’s geographic isolation are two factors that might have caused a host of unique marine microbial species to breed there. These marine life forms could not be found elsewhere in the world.

This has prompted King Abdullah University of Science and Technology (KAUST) to fund a massive collaborative marine research program and to commission HKUST to build a microbial culture collection and to database the local marine environment for KAUST.

With a funding of US $ 4.5 million (about HK$35 million) from KAUST, former Director of the Coastal Marine Laboratory at HKUST and the Director of the Center for Marine Bioactive Substance, Prof Qian Peiyuan, will take charge of this exciting research as the Project Director.

He would set up and supervise the operation of two laboratories in Hong Kong and Saudi Arabia—the KAUST-HKUST Marine Microbial Genomics Lab at HKUST and the KAUST Marine Microbial Genomics Lab and marine bioactive substances laboratory at Saudi Arabia. The collection and study of the microbial genomics and bioactive compounds of the Red Sea will take place at these two laboratories.

“By applying the most advanced sequencing technology and molecular techniques to study microbial community structures in extreme marine environments, we wish to unlock some of the greatest mysteries of marine ecology: what kind of marine microbes and microbial genetic materials are there? What function do these organisms play in the ecosystem? How do they adapt to such a hostile environment?”

“Addressing these questions may help us understand how life has evolved in such an extreme environment,” Prof Qian said.

“We are also interested in exploring the kind of sustainable biological resources that can be developed from the Red Sea’s marine microbes for human application, such as antibiotics and antifoulants. We will isolate and identify bioactive compounds produced by microbes in culture collection and examine how the bioactive compounds affect gene expression (comparative genomics) and protein expression (marine proteomics) in target model organisms,” Prof Qian added.

HKUST will work with the Woods Hole Oceanographic Institution (the world’s largest nonprofit ocean research, engineering and education organization, which is based in Massachusetts, USA), KAUST and the America University in Cairo, and take advantage of their field cruises to collect seawater, sediments, and marine organisms in the Red Sea.

The project is expected to complete in 2012.
HKUST a Winner at MIT’s Synthetic Biology Competition

In its maiden attempt, an 11-member team from HKUST snatched a bronze medal from among 84 teams worldwide at the International Genetically Engineered Machine Competition 2008 (iGEM), a premiere Synthetic Biology Competition held at the Massachusetts Institute of Technology (MIT).

Made up of seven undergraduates, three high school students from HKUST’s Talented Youth Summer Program and Prof King Chow as faculty advisor, the team produced and presented a project about a biological circuit which can generate randomized signals and memorize them exactly like an actual biological cell.

Team members rated their participation at iGEM highly. “iGEM is a unique learning experience for me. It’s the perfect blend of team-building, self-initiated learning, research and fun,” remarked one participant.

“The jamboree at MIT was really eye-opening. We met so many undergraduate students from all over the world channeling their ingenuity and passion into biological sciences,” another participant echoed.

“I was amazed at the creative yet analytical minds of people from teams around the world, and dazzled by the wonderful applications of science and synthetic biology,” a high school student from HKUST’s Talented Youth Summer Program said.

iGEM is an undergraduate Synthetic Biology Competition. Originally a month-long course in 2003 during MIT’s independent activities period, it soon grew into a summer competition. This year the competition attracted over 1,000 participants from all over the world.

HKUST’s participation at iGEM 2008 was made possible by a generous donation from the Lee Hysan Foundation.
HKUST Makes a **Big Splash in Shenzhen**

As 2008 drew to a close, HKUST made further inroads in Shenzhen. The PKU-HKUST Shenzhen-Hong Kong Institution became the only institution of its kind in Guangdong this year to gain recognition by the Ministry of Science and Technology as a National High-tech Innovation Service Center. At the same time, construction of our own building for “industry, education and research” (IER) has commenced.

**Rare Distinction - Shenzhen IER Base**

The PKU-HKUST Shenzhen-Hong Kong Institution, otherwise called “Shenzhen IER Base”, was jointly formed by HKUST, Peking University and the Shenzhen Municipal Government in August 1999. In late December 2008, the Ministry of Science and Technology announced the latest selection results for National High-tech Innovation Service Centers. Of the 31 institutions chosen nationwide, the Shenzhen IER Base was the only from all of Guangdong Province to be recognized as a technology incubator.

After nearly a decade, the Shenzhen IER Base has gone a long way towards becoming a high-level, integrated and open-style entity embracing government regulation, industrial production, education, research and financial activities. It is a base for the incubation of scientific inventions, management of financial risks, as well as for the development of technological talent.

**Breaking Ground - HKUST Shenzhen IER Building**

HKUST is constructing a new building to accommodate the growing demand for office space by a number of companies awaiting incubation. Named HKUST Shenzhen IER Building and situated just a stone’s throw from the Shenzhen IER Base, the 7-storey edifice is scheduled for completion by the end of this year. A ground breaking ceremony was held on 17 December 2008 to mark this milestone in our enhanced presence in Shenzhen.
New Partner in the Search for New Neural Drugs

An agreement joining Jinan University in Guangzhou in partnership has been reached for collaboration in neuroscience and innovative drug research.

Under the Memorandum of Understanding signed in December 2008, the two universities will conduct regular academic exchanges as well as share facilities. It will also see the exchange of postgraduate students for joint research.

The agreement allows the two universities to join forces in the search for and research of neural drugs, by tapping into the wealth of Chinese herbal and natural drug resources.

The signing ceremony was jointly presided over by the heads of the two collaborating universities, Prof Paul Chu for HKUST and Prof Hu Jun for Jinan University. The project will be jointly managed by HKUST’s Head and Chair Professor of the Biochemistry Department Nancy Ip and Jinan University’s College of Pharmacy Associate Dean Prof Ye Wencai.

This article was published in the National Geographic magazine.
December 2008 marks the date of an important visit by the Minister of Science and Technology Mr Wan Gang who came to our campus to preside over the signing of a collaborative agreement and to visit the University’s research facilities.

The collaborative agreement was signed at HKUST between the Department for International Cooperation of the Ministry of Science and Technology and the Nansha IT Park, to step up collaborative research in Chinese medicine and other areas.

The agreement was signed by Mr Gan Xiaoming, Head of the Department for International Cooperation of the Ministry of Science and Technology, and Mr Ian Fok, Managing Director of Nansha IT Park Limited which is situated in Nansha, Guangzhou. The signing of the agreement was witnessed by Minister Wan Gang, Fok Ying Tung Foundation Chairman Mr Timothy Fok, and HKUST President Paul Chu.

Under the agreement, Nansha IT Park and the Department of International Cooperation of the Ministry of Science and Technology will enter into a partnership to support international scientific collaboration, with a special focus on the research and commercialization of Chinese Medicine, and other areas.

Direct Descendent of Qing Emperor Qianlong Demonstrates His Artistry at HKUST

Aisin Gioro Hengshao, the seventh generation grandson of Qing dynasty emperor Qianlong, visited Hong Kong University of Science and Technology in December 2008 to give a lecture on Pu Yi, the last emperor.

He also presented to HKUST a Chinese ink painting of his own creation. Measuring seven meters, the painting features the beauty of Qiangbeishan Mountain. He also demonstrated to the audience his own unique style of Chinese calligraphy. The calligraphy was awarded to a first year engineering student, winner of a simple quiz.

Aisin Gioro is now a mainland University professor, a calligrapher and art commentator.

Aisin Gioro presents his calligraphy to a lucky engineering student.
Showcasing Our Technology Achievements in China Hi-Tech Fair 2008

HKUST displayed its recent technological achievements at the 10th Annual China Hi-Tech Fair (CHTF) in Shenzhen, the most important exhibition on science and technology in China, from 11 to 17 October 2008.

Now in its 10th year, CHTF 2008 adopted the theme of “Technology for Better Livelihood and Innovation for a Better World” and highlighted the important scientific and technological innovations achieved in China in the past 30 years.

As the University’s coordinator of the event, Technology Transfer Center (TTC) took the occasion to showcase some of our latest inventions.

α Gate dynamic RFID Portal

The first of its kind, it is a device to measure, test and calibrate different tags and readers for specific RFID applications. Invented by CSE Department’s Prof Lionel Ni and Prof Shing-Chi Cheung, the device has won the Certificate of Merit of Hong Kong RFID Awards 2008.

MotiVision

An award winning device by two CSE and ECE students, the technology is a gestures recognition technology that controls computer interactivity.

Three hi-tech start-ups under the University’s Entrepreneurship Center also displayed their latest products including nanocatalytic filters, skincare products with hEGF as active ingredient, and DSP-based industrial electromechanical motion controllers.

HKUST was given multiple recognitions for its commitment to and support of the event, with the university winning “the Excellent Organizer” award, together with the Honor Certificate for TTC Director Dr Claudia Xu’s 10-year Contribution and Certificate of Outstanding Coordinator for TTC’s Ms Alice Yuen.
KUST basked in the afterglow of the Beijing Olympics when 11 of China’s gold medalists and two national coaches came calling at our campus—the only local university so honored.

Our students and staff plus invited representatives from sister institutions got a special treat—to see some of their favorite sports heroes up close, and most memorably, chatting with them.

The high point of their visit came when each of the 11 national heroes tossed an autographed golden ball at random to the audience, and the lucky ones who caught a golden ball would keep it as a memento and put a question to the ball-tossing medalist.

Record-breaking weight-lifter Ms Chen Xieixia was asked about what she thought would be an ideal boy friend. Ms Du Li, the record-breaking 10-meter air rifle winner, was ever mindful of the less fortunate, sharing with the audience how she set up a foundation to drive her philanthropic dreams.

Ms Zhang Yangyang, one of the fearsome foursome who powered China to its first ever victory over the much-favored British team in rowing, told the audience the secret of her success: sheer will power and sense of honor.

And who can forget Ms Liu Zige’s heart-stopping, record-shattering win in the 200-meter butterfly? She was here too, in her hallmark golden girl elegance, and so was Mr Long Qingquan, the teddy bear who stole the hearts of all the girls in the Atrium with his boyish charm.

The Olympians left something behind that will grow with the years: they planted trees in the specially created Olympic Garden, the garden of heroes.
People’s Liberation Army Meet with HKUST Staff and Students
解放軍駐港部隊與科大師生全方位交流

Over 80 members of the People’s Liberation Army (PLA) Hong Kong Garrison spent a full day at the University in October 2008 meeting and interacting with the staff and students in a diversified range of activities.

Led by Major General Dong Wenjiu, the PLA Hong Kong Garrison first attended a tree-planting and plaque-unveiling ceremony to mark this historical occasion, followed by visits to some of the research facilities on the campus, including the Biotechnology Research Institute, the Materials Characterization and Preparation Facilities, the Biological NMR Center, and the Coastal Marine Laboratory.

Lunch was hosted by HKUST Council Chairman Dr Marvin Cheung and President Paul Chu. About 100 staff and students took this golden opportunity to talk and make friends with the visiting PLA officers. The officers also toured the student hostel facilities.

Two lectures were arranged for the visitors and the HKUST community. Prof David Zweig, Director of HKUST’s Center for China’s Transnational Relations, outlined China’s resource diplomacy, while Prof Jin Canrong, Associate Dean of the School of International Relations of the Renmin University of China, discussed the current international political scene and China’s diplomatic strategies.

Before leaving the campus, the PLA officers enjoyed a light moment of sport activities with the HKUST staff and students. Major General Dong Wenjiu played a game of table tennis against Prof Edmond Ko of HKUST, while HKUST’s students battled against the PLA officers in the basketball court.

HKUST President Paul Chu said, “This visit by the PLA Hong Kong Garrison is a good starting point for a long-term relationship with us which, I am sure, will grow and prosper with time.”
President Chu in Popular Science TV Series

President Chu’s diary is always full but when it comes to promoting science to the younger generation he would always find time to do it — by skipping lunch and dinner and forgoing his meager leisure time on Sundays and public holidays.

This is exactly what he did for Radio Television’s popular science series on prime time TV to promote knowledge of science and technology in a way designed to interest and excite our youngsters.

In the Techno Frontier TV series jointly produced by Radio Television Hong Kong and the Government’s Innovation and Technology Commission, President Chu played the role of the commander of a team of protectors of science and technology in the fight against a monster who has the super-natural ability to turn back the clock of scientific advances.

Through this science-fiction drama, audience are reminded of how unimaginable modern day living would be without all the convenience brought about by advances in science and technology. They are also given a taste of how scientific achievements are made.

“I’m all for science,” President Chu said while filming in Science Park. The filming is done on Sundays and holidays during which he has also to skip lunch and dinner in order to fit his busy schedule.

“In addition to promoting science, the added bonus is that my wife almost re-discovers her teenage heart-throb in me when she saw me on TV wearing the Phantom-of-the-Opera-look-alike face mask and the long silver-color wig and clad in the Keanu Reeves-in-Matrix type of long gown,” President Chu said jokingly.

“一切为了科学。”朱经武校长在科学园进行拍摄时曾说，为配合他繁忙的日程，拍摄时间总是安排在星期日及公众假期，为使拍摄顺利进行，校长也甘愿放弃用餐时间。

朱经武校长又开玩笑说：“除了能弘扬科学精神外，意外的收获是，太太看到我在电视节目裡戴上「歌聲魅影」的臉具，頭顶银白色的假髪，穿上「廿二世紀殺人網絡」奇洛李維斯的長袍時，重新了發現我的「魅力」。”

With the help of make-up artists, President Chu’s charismatic image comes into being.
Volunteering took her into politics and into her career as a full-time politician. After winning a geographical constituency seat in Kowloon West in the Legislative Council elections in September 2008, she became the first HKUST alumna to win a seat in the legislature.

Soft-spoken and unfailingly polite, Starry has patience in surplus. She also has one attribute that distinguishes great politicians from the rest: her capacity to listen. By training she is an auditor, but by temperament she is a natural grassroots politician driven by a genuine care and concern for the lot of the people.

A graduate of the class of ‘96 in Accounting, Starry stumbled into politics as a volunteer in a local constituency office and shortly afterwards became the youngest female District Councillor for Kowloon City.

Passionate about serving the community and unrelenting in door-knocking, she entered the Legislative Council elections in 2008 not exactly a hot favorite. But again her dogged efforts and willingness to listen to the rumblings of the people paid off handsomely, topping the polls in a heated contest with 13 hard-charging candidates.

The word most often used about women in politics is “juggling.” For Starry, she has to juggle with the competing demands of motherhood with a 6-year old daughter, a busy constituency office, and the work of the Legislative Council. She was emphatic about one thing: she did not enter politics for fame or fortune. Compared to her lucrative career as a senior accountant, being a politician is an underpaid career in monetary terms.

But she is determined to make a difference to her community. She now sits on two Legislative Council Panels: one on education, the other on economic affairs, both are dear to her heart and vital to the interests of her constituents. Count on her to be an eloquent spokesperson on these and other hot-button issues.

“*You never know what volunteering can do for you.*”

*That is alumnus and Legislative Council Member Starry Lee Wai-king’s advice to HKUST students.*

「你永遠不知道義務工作會為你帶來甚麼。」

這是科大校友立法會議員李慧琼對科大學生的忠告。

李慧琼 1996 年畢業於會計系，政治之路始於參與工聯會義務工作。不久，憑藉其堅持不懈，她輕易叩門成功，成為九龍西選區最年輕的區議員。2008 年 9 月，她首次參選立法會。她並非大熱人選，但又一次，以其頑強的努力和樂於聆聽選民意見的態度，在 13 名候選人中高票當選，粉碎多位知名度甚高的候選者的希望。這次，她又再度締造歷史，成為最年輕的女性立法會議員。

女性政治家常被描繪成「變戲法」，李慧琼既是六歲女兒之母，要顧及家庭生活，亦要應付繁忙的區議會工作。她周旋於兩者之間，不斷演繹分身大法。她強調一點——從政不是為了金錢。作為資深會計師的可觀收入，政客的薪酬相對較低，但她決心改革社會。她現在參與立法會內教育和經濟兩個委員會的事務，兩者她同樣重視，並以選民的利益為依歸。她的雄辯詞令和對時事的熱衷，令她的選民衷心折服。

訪問當日，她因另一個超時訪問延誤了約定時間而深感抱歉。說話時，臉上一直掛著笑容，似是準備接受記者的任何發問。面對香港傳媒日益「八卦」的風氣，這作法似乎有點冒險。然而，李慧琼不畏挑戰，她希望永遠站在開放、透明的一面，持續發揮她的個人和政治魅力。
For Chair Professor in Biochemistry, Prof Nancy Ip, 2008 was a year to remember. She was showered with two high honors—The Asian Knowledge Leaders Award 2008, by the Asian Knowledge Management Association, and Ho Leung Ho Lee Foundation’s (HLHL) Prize for Scientific and Technological Progress 2008.

Prof Ip was one of only two scholars from Hong Kong selected for the prestigious HLHL awards.

The HLHL Foundation is set up by four local bankers and philanthropists—the late Mr Ho Sin Heng, the late Dr Liang Qiu Ju, Dr He Tian and Sir Q W Li to honor scientists and academics who have made significant breakthroughs in scientific and technological developments. Each year, the Foundation gives out three awards, of which the Prize for Scientific and Technological Progress awarded to Prof Ip is one.

In 2008, Professor Ip was awarded the Medal of Honour by the HKSAR Government for her valuable contribution to the promotion of industrial and technological development in Hong Kong, particularly in the biotechnology field.

A Young Scientist Award for a Young University

The achievements of scientists are often the work of a lifetime. But outstanding awards don’t always go to the venerable. HKUST is full of the young, bold-thinking and prolific scientists. One of them, Associate Professor in Biochemistry Xia Jun, has won a prestigious Young Scientist Award.

This award is presented by Elsevier, the world’s leading research publisher of scientific and medical literature and the Association of Southeast Asian Institutions of Higher Learning’s (ASAIHL). Prof Xia is the first runner-up in the Life Science category of the first annual ASAIHL - Scopus Young Scientist Awards 2008. The other three categories of awards are in Engineering and Technology, Medicine and Agricultural Sciences.

To receive this award, scientists and academics have to be under 40. Winners are evaluated on three key criteria: number of citations and h-index, number of publications and patents based on Scopus, as well as documented social impact. The h-index is a measure of both the actual scientific productivity and the apparent scientific impact of a scientist.

Prof Xia’s research focuses on the molecular mechanism of protein trafficking and its implication in learning and memory, diabetes and infertility. Over a period of 10 years Prof Xia has published 16 papers which were cited an average of 76 times each, giving Prof Xia an h-index of 11.

Prof Xia graduated from the Johns Hopkins University’s School of Medicine with a doctorate degree in Neuroscience in 2001. He joined the Hong Kong University of Science and Technology the following year.
HKUST Professor Appointed First Asian Chief of 50-year-old Air Pollution Journal
科大教授任權威環保學刊主編

KUST Professor and Associate Head of Chemical and Biomolecular Engineering Chak Keung Chan has become the first candidate outside Europe and US to be appointed Editor-in-Chief of Atmospheric Environment, an academic journal on air pollution celebrating its 50th anniversary this year.

In his new capacity as Editor-in-Chief of the journal, he will be in charge of the Journal's China Office in HKUST and join hands with two other editors in managing the manuscripts for the Journal.

Prof Chan joined HKUST in 1992 shortly after he earned his doctorate degree in Chemical Engineering from USA's California Institute of Technology, Pasadena. He received in 2005 the Asian Young Aerosol Scientist Award in recognition of the field and laboratory investigations of the thermodynamics and hygroscopic properties of atmospheric aerosols. He was also the winner of HKUST's Top Ten Lecturers Award in 1999.

Hailed as "an international academic journal that places air pollution in a regional context", Atmospheric Environment was established in 1959 as an Elsevier journal focusing on air pollution and its applications.

Some of the most respectable air-pollution experts have served the Journal as its Editor-in-chief, including "the father of air-pollution control", US National Medal of Science recipient and Prof Arie Jan Haagen-Smit. With three offices respectively in the States, UK and China, it publishes 40 issues per year. In 2008 it has published over 700 papers of more than 9,000 pages.

夏軍教授研究質量傑出獲亞太區獎項

港科技大學生物化學系副教授夏軍最近獲頒首屆「東南亞高等教育協會─史高柏年輕科學家」獎。獎項由全球最大的科技及醫藥學術期刊出版集團Elsevier及東南亞高等教育協會頒贈。

獎項共分生命科學、科技及工程、醫藥及農業科學四大類。夏教授獲生命科學類別中的銀獎。

這個獎項是為 40 歲以下的亞太區學者及研究員而設，並以下列三項標準作出選拔：根據文摘引文數據庫史高柏 (Scopus) 的數據，參評者的研究成果被引用的次數及 h-指數。論文的多寡及所獲專利權的數量，及其研究活動所帶來的社會影響和效益等。h-指數是學術界用於衡量學者的研究產量及其文章所產生社會影響的指數。

夏教授的研究範圍集中於蛋白質運輸的分子機理及其對學習、記憶、糖尿病及不育的影響。根據史高柏的數據，夏教授於短短 10 年間所發表的 16 篇論文，每篇平均被引用 76 次，其 h-指數為 11。

夏教授於 2001 年畢業於美國約翰斯霍普金斯大學 (The Johns Hopkins University)，獲神經科學博士學位。他於翌年加入科大。
HKUST Professor Contributes to South-to-North Water Transfer Project

The result of an HKUST geotechnical research project has been applied to China’s South-to-North Water Transfer Project (middle route) from the Yangtze River to Beijing, a mega infrastructure project comparable in scale to the Three Gorges Dam Project. This research paper has also won for the team an Honorable Mention in the R M Quigley Award.

The project was carried out by HKUST’s Associate Dean of Engineering and Director of the Geotechnical Centrifuge Facility Prof Charles W W Ng, his former doctorate student Mr Tong L T Zhan, and former Civil Engineering Department’s Adjunct Professor Dr Delwyn G Fredlund.

Hosted by the Canadian Geotechnical Journal, one of the world’s most authoritative geotechnical research publications, the R M Quigley Award is presented annually to an individual or individuals whose paper was judged to be the best paper published during the preceding year in the Canadian Geotechnical Journal.

Entitled “Field study of rainfall infiltration into a grassed unsaturated expansive soil slope,” the paper provides a pioneer study and insight into the behavior of expansive soil slopes in China. Funded by the Research Grants Council of the HKSAR, research results of the study have been used for the preliminary design of the middle-route of the 1,200 km long South-to-North Water Transfer Project in China. In collaboration with the Yangtze River Scientific Research Institute, Prof Ng is also actively involved at present in the detailed design of the slope stability for the water transfer canal using the state-of-the-art Geotechnical Centrifuge Facility at HKUST.

Very recently Professor Ng has been elected Fellow of the Institution of Civil Engineers, U.K. (FICE); Fellow of the American Society of Civil Engineers (FASCE) and Fellow of Hong Kong Academy of Engineering Sciences (HKAES).
Two experimental psychologists, Massimiliano Zampini, from Italy, and Charles Spence of Oxford University, walked away with the Ig Nobel Prize (a parody of the Nobel Prize for achievements that “first make people laugh, and then make them think”) this year, for showing how a food’s taste can be affected by the sound it makes when eaten.

They found that potato chips that sound crunchier taste better.

This astonishing discovery is exactly what HKUST Associate Professor of Biology Dr King Lau Chow and Adjunct Associate Professor of Chemistry Dr Yeung Lam Lung are demonstrating at a credit-bearing course “Gastronomy.” The course is the School of Science’s General Education Program for non-science students.

In one of their lessons, students were subject to different audio signals — the sound of people eating crispy potato chips or vegetables and horses chewing grass — while they tasted potato chips blind-folded. Unmistakenly, students found their chips most delicious when they heard the crunchy sound of crispy potato chips.

As a general education elective, the course adopts a multi-disciplinary approach and tries to help students understand the different scientific concepts at work when foods are consumed.

Today, eating has already evolved into a highly sophisticated art form in countries like China and Italy. Now comes the science of eating. While culinary cultures vary from country to country, there is always something in common in terms of how people evaluate a dish. “The better a dish can satisfy our multiple sensations, the more likely it will be termed ‘delicious’,” said Prof King Lau Chow who co-runs the course with Prof Yeung.

Prof Chow cited Peking duck as an example. In terms of color, the reddish duck skin contrasts beautifully with the white bun, green cucumber and leek. In terms of taste and texture, the supple bun, crispy duck skin and fleshy duck meat are perfect complements to the crunchy cucumber and leek, with the latter giving out a strong, “provocative” flavor. The final dab of sweet sauce is the crowning touch, providing an additional layer of sensation to the diner’s experience.

The art of food tasting is a highly sensual experience while food sciences encompass biology, chemistry, physics, psychology and even neuroscience.

First and foremost, food science is chemistry-biased. A good example is tea sampling. “Tea contains a chemical called tannin which is bitter and can only be dissipated by protein. As human beings cannot secrete enough saliva (which is protein-based) to drive away tannin’s bitterness, we use milk to serve the purpose. The milk being added into tea takes away the bitterness while giving tea a smooth and soothing texture,” said Prof Yeung.
Saliva actually serves a very important function in the eating process. The sensations derived from eating are elicited by our taste molecules, which dissolve in water - our saliva. “That’s why when we are sick, we will find food tasteless. When we are subject to viral attack, our body cannot secrete enough water or saliva to support its proper functioning. As a result, we find most food bland and tasteless,” said Prof Yeung.

Food is also heavily related to neuroscience. One of our most sought-after dream food—chocolate—contains a compound called Phenylethylamine (PEA). It releases feel-good chemicals called endorphins in the consumer’s brain. Miraculously, PEA is also released by the brain when people fall in love. “Chocolate contains more than 500 natural chemical compounds, some of which are mood-elevating and pleasure-inducing. That’s why chocolates and being in love make us feel good,” said Prof Chow.

Yet food tasting is as deeply embroiled in psychology as it is in neuroscience, biology or chemistry. Observe a child’s eating habit and you can more or less figure out his temperament or background. “If a child savors the dishes before rice, he would have come from a big and less affluent family where ample food supply is an issue,” said Prof Yeung.

Prof Chow expanded: “There’s a story of an American soldier who was held captive in China for years. During his stay, Chinese food became his regular cuisine. After he was released to his own country he felt nauseous whenever he caught sight of Chinese food. Chinese food invariably brought him back to his painful past when he was in captivity,” said Prof Chow.

As this liberal discourse on food went on, it was easy for one to mistake Professors Chow and Yeung for another Jamie Oliver or Anthony Bourdain—but no. Both of them confess they are not picky at all when it comes to food. To spare himself the vexation of having to choose, Prof Chow had stuck loyally to spaghetti with chicken drumsticks for more than a year during his post-doctoral years. As for Prof Yeung, even his daughter knows that his only choice at the University Canteen is No 4—rice with barbecued pork.

This General Education Course from the School of Science, started with a grant proposal from Physics Department’s Prof Michael Wong, has been very popular since its launch last spring. With the program’s enrolment capped at 60, it was always fully booked. Students were fascinated by its cross-disciplinary, interactive and experimental approach, not to mention the adventurous journeys of sensations that the course walks them through during classes.
飲食科學與教授科學的藝術

來 自意大利的 Massimiliano Zampini 和牛津大學的 Charles Spencer，兩位實驗心理學家，以食物被咀嚼時發出的聲音如何影響食物味道的理論，輕易取得今屆的搞笑諾貝爾獎（一個模仿諾貝爾獎，以讚揚一些先讓人發笑，後讓人深思）的理論。

他們發現，聽起來愈脆的薯片愈美味。

這個發現，正是科大生物學系副教授周敬流博士和化學系兼任副教授楊霖龍博士在學分課程「美食法」所範圍的概要。課程隸屬由理學院開辦的通識教育課程，為非理科生而設。

在其中一堂課，學生要蒙上眼睛，聆聽不同的音效，包括：人吃薯片、蔬菜和馬兒嚼草。同一時間，他們會吃同種試片，不約而同地，所有學生在聽到吃薯片時發出的脆卜卜聲響時，都會認為正試吃的那種薯片最美味。

作為通識選修科，課程採納了多元教學法，以協助同學明白在美食背後所蘊藏的各種科學概念。

時至今日，某些國家如中國和意大利，已經把飲食發展成一門高度精緻的藝術。烹調文化因「國」而異，但在鑑賞菜餚時，我們始終有一些共通的看法。 「愈能滿足人們感官的，愈有可能被稱讚『美味』，」周教授說。

周教授援引北京填鴨為例。論顏色，亮紅的鴨皮、雪白的餡餅皮、翠綠的青瓜和嫩黃的韭蔥，形成強烈的對比。論味道和食材配搭，軟綿綿的餡餅皮、酥脆的鴨皮、肉質鮮美的鴨肉，與爽脆的青瓜和韭蔥配合得天衣無縫。最後沾上的甜醬料有畫龍點睛的作用，為食客提供另一層次的味覺體驗。

在進食的過程中，唾液起了十分重要的作用。口感由味蕾而來，而味蕾必須要在水中（唾液）中，才能發生作用。 「因此，我們生病時，會覺得食而無味，我們被病毒入侵時，身體水分不足，不能製造足夠的唾液。於是，我們覺得所有食物都淡而無味，」楊教授說。

食物和神經科學有千絲萬縷的關係，其中一種我們夢寐以求的食物——巧克力，含有一種名苯乙胺的複合物。它在人們的腦中釋放出化學物質苯乙胺，令人覺得感良好，神奇地，人們在熱戀期，腦部也會釋出苯乙胺。「巧克力含有超過500種化學複合物，部分可提升情緒和令人感覺愉快。這正是吃巧克力和談戀愛都同樣讓人快樂的原因，」周教授說。

美食學不但與神經科學、生物學及化學層層相扣，它與心理學也有非常密切的關係。觀察一個兒童的飲食習慣，你或多或少可推敲出他的性格或成長背景。 「若小孩先吃菜餚後吃飯，代表他來自物質條件不佳的家庭，家人得不到充裕的食物，」楊教授說。周教授補充：「曾經有一個故事，說有一個美國被俘虜，留在中國多年。在這段期間，中式食品成為了他的日常飲食。後來他被釋放回美國，每次見到中國菜，他便會感到噁心，因為中國菜勾起他被俘的痛苦回憶。」

谈到欣賞美食，我們不其然會以為周教授和楊教授是歐美名廚 Jamie Oliver 或 Anthony Bourdain的中國版。但他們二人均坦承自己絕不挑食。周教授在博士後研究期間，有一整年的時間，為免除選擇食物的困惱，他都鍾情於雞腿意粉。至於楊教授，連他的女兒都知道，他最愛 LG7 第四號櫃位的叉燒飯。

這理學院通識課程，由物理學系的王國彝教授取得資助而得以設立，去年春季推出後，深受歡迎。 60 個名額經常額滿。同學們為這跨越訓練、互動和實驗性的上課模式深深著迷，更不必說課堂上經歷的感官冒險旅程了。
The site for the HKUST campus is an amazingly natural setting looking out over Port Shelter and the local islands. From the time of construction in the early 1990s, HKUST has valued this spectacular 'feng shui' setting and has considered environmental sustainability in its planning and development. Here are a few examples of HKUST's historical roots and on-going projects in the development of environmental sustainability, especially in the Facilities Management Office and the Health, Safety and Environment Office at HKUST:

- Using seawater for air conditioning cooling systems to save energy
- Minimizing paper waste by reducing, reusing, and recycling
- Recycling aluminum cans, batteries, styrofoam, printer cartridges, etc.
- Chemical exchange program for unwanted reagents
- Organic farming to utilize recycled food waste as fertilizer
- Garage sales and used book fairs to encourage reuse

During the last decade urgent environmental issues of global importance have emerged. Universities around the world are responding and providing some solutions to these problems of climate change, and the deterioration of our water and air.

Several years ago, HKUST selected the environment as one of its five strategic areas for future development. HKUST has an opportunity to take a local leadership role in education and projects on our campus that involves both faculty and students.

In 2007, an Ad Hoc Environmental Sustainability Committee began to plan for the next phase of environmental sustainability at HKUST by completing a ‘white paper’ called “HKUST’s Green Campus Initiative: A Sustainability Strategy.” In this paper, they reviewed what we are presently doing and outlined some of the practices that some other campuses in North America and Europe have incorporated into the operation of their universities.

We launched the next phase of environmental sustainability by holding “Environment Week” last June. During the week, we had speakers from HKUST, sister institutions, the Government, the Mainland and overseas. These experts review their projects, actions and plans for the future. The week ended with talks from two Sustainability Directors from Harvard and Colorado Universities telling us of their successes in working with students and staff and introducing sustainability practices on their campuses.

To sustain this momentum at HKUST, we have set up a UAC Environmental Sustainability Steering Committee that will work with students, faculty, staff and alumni at HKUST to make a positive contribution to environmental sustainability and review options for action to reduce HKUST’s own environmental impact. An inter-university sustainability committee has been set up to foster collaboration and exchange of ideas with our sister universities.

We are delighted to announce that HKUST has hired a Sustainability Officer, Calvin Kwan. He has just finished his PhD at UCLA and joined HKUST in January 2009. Calvin will work with faculty to facilitate the incorporation of sustainability issues into teaching and learning at HKUST. He will work with students to encourage them to apply their sustainability education to new innovations that help to green our campus and with staff to develop projects that improve our environmental performance on campus.

There are many exciting student led activities planned for 2008/09.

Launch of a new Student Sustainability Society – the HKUST Students’ Union strongly supports the formation of this Society which will work with faculty and staff on new projects, teaching, student activities and community outreach.

Student hall life – it can provide a unique learning environment through weekly sharing sessions, hall or floor environmental competitions, raising the awareness of energy consumption and demonstrating renewable energy alternatives such as solar energy and wind energy.

Hang Seng Bank Green Ambassador Program – This is designed to foster the personal growth and leadership skills of 20 students to help enhance sustainability awareness on campus and in the community. To earn the Green Ambassador Award, students need to attend training sessions/lectures, develop and lead a community-based Green Project, help organize environmental events on campus, enhance their knowledge in environmental sustainability issues, and share this knowledge with other students on campus and in the community.

Hang Seng Bank Green Challenge Student Project Competition – there will be another student environmental sustainability poster competition similar to last year, with three categories: 1) final year projects, 2) HKUST campus innovative sustainability projects/improvements, and 3) interdisciplinary team projects involving 2 or more schools. The posters will be displayed and judged in early May 2009.
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Workshop on Facilitating and Promoting Sustainability in Student Learning – the workshop will cover what faculty are doing about sustainability issues in their courses and programs, their successes, challenges, and HKUST’s future plans.

These activities, ranging from teaching and student-led projects to community outreach, demonstrate that HKUST is taking up the challenge of playing a leadership role in Hong Kong in promoting environmental sustainability. By working together we can make it happen!

Some of HKUST’s initiatives in environmental protection

- Recycle bins on the Campus
- University members are encouraged to run their own organic farms to utilize recycled food waste as fertilizer
- A team of HKUST divers help collect garbage from the sea.
Demystifying Islamic Finance

by Prof Rod Monger

Hong Kong recently announced its intention to become a regional centre for Islamic finance. Already, a handful of major transactions have been completed locally and another by the Hong Kong Airport Authority is being contemplated pending revisions to the local tax code.

Islamic finance is governed by the Shari’a, a component of religious law which binds Muslims. One tenet in Islamic finance is that risk and reward in commercial transactions must be shared, which means that a profit cannot be earned on lending money. So, for example, the Shari’a forbids the payment or earning of interest and financial instruments that depend on interest. This suggests that Islamic finance would not be able to participate in major components of conventional financial markets like fixed-income securities, or hedges and structured products.

However, Islamic finance has proved surprisingly adaptable, and in recent years many Shari’a-compliant transactions have been structured with the same or similar characteristics as those found in conventional products. Indeed, Islamic finance has found ways to participate in almost every nook and cranny of financial services.

Much of this innovation has been unleashed by sukuk which is often characterized as ‘Islamic bonds’ outside Islam. Sukuk is not debt but rather equal share ownership of assets with shared risk and reward, and is always paired with another Islamic transaction—typically, financing an asset purchase, leasing and certain investment partnerships (Murabaha, Ijarah, and Musharaka, respectively).

Sukuk brings two important advantages. First, it permits broader participation by investors since a major transaction can be divided into smaller shares. Second, sukuk can often be used, when combined with other Islamic transactions, to help create flexible financial structures that are acceptable under the Shari’a.

For example, Deutsche Bank created a Shari’a-compliant investment fund that allows investors to swap the total return on equities for a fixed return. A fixed return, especially if guaranteed as with interest on a conventional bond, would not ordinarily be Shari’a-compliant. Yet the Deutsche Bank transaction was structured so that the swap could occur, and the credit risk hedged.

Compliance is decided by Shari’a jurists who are qualified to give legal interpretations of Islamic law (fatwas). Not all Shari’a jurists agree on all issues, and in fact, some disagreement exists on certain points within the Deutsche Bank transaction.

In another case, Islamic finance was used by a Texas-based operator to finance production from leased oil reserves. The asset financed was production royalties, which under Islamic law would normally be inappropriate since they are a financial asset. But under Texas law royalties are regarded as real estate.

Estimates suggest that between HK$2.5 billion and $3 billion are currently invested in Islamic finance and are expanding at 15% per annum. Though this is only a small slice of global financial assets, many observers believe that the market could eventually be quite substantial especially considering that Muslims comprise one-fifth of the world’s population.

Only 20 million Muslims reside in Hong Kong and China (about 1.5% of those populations). So the logical questions are why Hong Kong is interested in being a regional centre for Islamic finance and what role Islamic finance could play in China.

Part of the answer is that the Islamic Arabian Gulf (Bahrain, Kuwait, Oman, Saudi Arabia and the United Arab Emirates) have amassed an estimated $1 trillion in petrodollars. Depending on the future price of oil, this amount could grow rapidly.

Not surprisingly, Arabs are interested in Mainland China because of the unparalleled opportunities to invest these funds. Many financial services professionals in these Arab nations believe that Asia—and China in particular—will account for the largest proportion.

Even with excess liquidity of its own, China is likely to be interested in investment opportunities in Islamic finance for reasons of diversification especially considering losses recently sustained on its US holdings. Islamic finance offers a powerful channel for foreign direct investment both ways—Islam to China, and China to Islam.

Hong Kong therefore has an impressive opportunity to position itself as the financial services platform for Islamic finance in Asia, basically brokering relationships between Muslim and Chinese investors. In the bargain, Hong Kong offers something that Islamic finance sorely needs—a deepening of markets and liquidity for Islamic products.
揭開伊斯蘭金融的神秘面紗

作者孟德教授(Prof Rod Monger)是科大會計學系兼任副教授，也是特許伊斯蘭專業會計師。在去年加入科大前，他在杜拜工作兩年。

近香港政府宣布有意將香港發展為區內的伊斯蘭金融中心。迄今為止，香港已完成了多宗有關的大交易，而香港機場管理局亦正等待本港修訂稅法，屆時可望促成另一宗大交易。

稱為沙裡阿(Shari’a)的伊斯蘭教教法是伊斯蘭法律的一部分，也是規管伊斯蘭金融的法典；其中一項信條是商業交易各方須分擔風險，共享回報，即不得放貸牟利。舉例說，沙裡阿禁止支付或賺取利息，亦不接受以衍生產品構建的金融工具。換言之，伊斯蘭金融不可買賣傳統金融市場上的大多數投資工具，包括固定收益證券。對沖基金及結構性產品。

然而，伊斯蘭金融其實適應力極強。出人意料，近年來，遵照沙裡阿締結的交易為數不少，其特徵與傳統產品頗為相似甚至相同。事實上，伊斯蘭金融現已能夠參與金融服務的許多環節。

這種創意主要是拜蘇庫克(sukuk)所賜，意即伊斯蘭以外的「伊斯蘭債券」。蘇庫克並非債務，而是根據分擔風險、共享回報的原則攤分資產的業權，通常伴隨另一項伊斯蘭交易進行——這些伴隨的交易通常指提供融資進行資產收購、租賃及若干投資合夥活動（分別稱為穆拉巴哈(Murabaha)、依加拉(Ijarah)及穆沙拉卡(Musharaka)）。

蘇庫克具有兩大優點：一是可讓投資者參與更廣泛的交易，因為在大宗交易可分割成多宗小交易；二是可與其他伊斯蘭交易結合使用，有助創建沙裡阿所不許的金融結構。

例如，德意志銀行創立了一項符合沙裡阿規則的投資基金，可讓投資者把股票投資回報轉換成固定回報。沙裡阿通常不允許有固定回報，特別是一如傳統債券利息的保證固定回報，更在被禁之列。然而德意志銀行的交易結構，卻已可進行前述掉換，又能對沖信貸風險。交易是否合規，要由合資格的沙裡阿法學家根據伊斯蘭法律作出法律詮釋（稱之為fatwas，意指「教令」）。沙裡阿法學家不會事事看法一致；事實上，他們對德意志銀行交易內的某些要點就存在分歧。

再看另一個案，美國德克薩斯州一家營運公司借助伊斯蘭資金開採其租賃回來的石油儲藏，獲融資的資產屬生產使用費；根據伊斯蘭法律，這種使用費一般並不恰當，原因是其性質為金融資產。然而，根據德克薩斯州法律，使用費被視為不動產。

根據估計，目前投資於伊斯蘭金融的資金約 25 億至 30 億港元，並以每年 15% 的速度增長。對比全球金融資產，僅管這個金額僅屬一小部分，但觀察家卻認為由於伊斯蘭信徒佔全球人口五分之一，伊斯蘭金融日後的市場規模不可小覷。

香港和中國內地合計只有2,000萬名穆斯林(約佔全球穆斯林1.5%)。試問香港為何一心想成為伊斯蘭金融的地區中心？伊斯蘭金融在中國能扮演甚麼角色？

其中一個答案是：信奉伊斯蘭教的阿拉伯國家（巴林、科威特、阿曼、沙特阿拉伯及阿聯酋）估計已累積了10,000億石油美元；若未來油價上升，上述金額可能會迅速增長。

毫無疑問，阿拉伯國家有興趣投資中國，因為內地擁著無比商機，是這些資金的絕佳出路。這些阿拉伯國家不少金融服務專家認為，亞洲特別是中國勢將成為他們最主要的投資對象。

而中國本身即使已流動資金過剩，也很可能因為要實現投資多元化而對伊斯蘭金融的投資機遇產生興趣。特別是近年中國所持美元資產蒙受虧損，伊斯蘭金融可說是一個強而有力的管道，方便伊斯蘭與中國彼此進行雙向的對外直接投資。

因此，香港實在可以把握良機，定位為伊斯蘭金融在亞洲的金融服務平台，擔任伊斯蘭國家與中國投資者之間的中介角色。再者，香港還擁有伊斯蘭金融最渴望得到的條件：一個運作成熟而且資金充裕的市場，供伊斯蘭產品大展拳腳。
What is Giftedness?

The applicants for HKUST’s Enrichment Program for Science Talents have to sit for a personality test with the following question:

“If you can change ONE thing about the world, what would you like to see being changed?”

One of the applicants answered: “I would like to demolish the entire world and have it started all over again.”

According to the brain behind School of Science’s offering of gifted programs and Head of Physics Department Prof Tai Kai Ng, outrageous as it may seem, such “outrageousness is exactly a personality feature that defines giftedness. Gifted youngsters always display unconventional, out-of-the-box thinking,” said Prof Ng.

Personality test aside, HKUST School of Science also uses a myriad of many other tools to assess applicants’ suitability for its gifted programs— including subject-specific written tests, IQ test results, evidence of students’ academic performance at school, and recommendations and references from principals, teachers and parents.

According to the existing British and American standard, children achieving an IQ test score of 130 or above are considered gifted. Based on this criterion, about 2-3 percent of all student population in Hong Kong is estimated to have achieved that score.

HKUST’s Gifted Programs

HKUST started its educational initiatives to help the gifted and talented in Hong Kong in 2001 when the Government’s Education and Manpower Bureau formalized its efforts in gifted education by launching “Support Measures for the Exceptionally Gifted Students Scheme”. In support of the Scheme, HKUST has been running a full array of gifted programs in collaboration with the Education and Manpower Bureau (currently known as Educaton Bureau), including:

Mathematics
Saturday School for Gifted Students in Mathematics (a credit-bearing course); Basic Mathematics Enrichment Course and Saturday School for Gifted Students in Mathematics - Student Tutors Training Workshops

In addition, the School will produce a one-and-a-half year online mathematics course for gifted students identified by the Education Bureau. Currently more than a thousand gifted students have enrolled for the course.

Physics
Hong Kong Physics Olympiad — Pre-Olympiad Workshops and Physics Enhancement Program and Hong Kong Physics Olympiad - Physics Enhancement Program.

Other subjects
General Education Course - Exploration of life (a credit-bearing course); a Credit-bearing Course on Marine Sciences; University-based Multi-disciplinary Study Projects and Cyber Learning and Mentoring Platform.

In 2005, HKUST School of Science’s Education Development Program Unit began to launch its own enrichment programs for gifted primary and secondary students:

<table>
<thead>
<tr>
<th>Primary</th>
<th>Kids@ust</th>
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<tr>
<td>Secondary</td>
<td>Just Science</td>
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<td></td>
<td>Walk into the Pearl River Delta</td>
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<td>Enrichment Program for Science Talents</td>
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<td>General Knowledge Lectures</td>
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One of the programs, the Enrichment Program for Science Talents, is aimed at providing comprehensive pre-university level Science and Mathematics training for gifted secondary school students aged 11 or above. Participants are arranged to take a series of basic core courses before being “promoted” to more advanced courses. They are also encouraged to take electives for stimulating their interests and broadening their knowledge base.

Outstanding students will be guided to work on investigative projects that last up to 6 months.

World Class Arena

Launched in 2001, World Class Arena is run under the aegis of the British Government’s Department for Education and Skills for nurturing and assessing gifted
Programs for Precocious Students

by May Cheung

talents. At its core are the international World Class Tests in Mathematics and Problem Solving for students aged between 8-11 (senior primary) and 12-14 (junior secondary). Comprising both paper and computer-based tests, they are conducted twice a year in April and November in more than 20 countries or regions.

The Tests were first introduced to Hong Kong in 2004. Starting in 2008, HKUST has become the Tests’ Asian Center for promoting and administering the tests in the Asian region.

In Hong Kong, the 2008 April and November tests have drawn close to 4,000 youngsters from around 400 primary and secondary schools. Most students were recommended by their schools to take the Tests on the basis of their outstanding performance in Mathematics and related subjects at school.

Out of the many achievers in the Tests, 9-year-old Yu Chun Lok from Tai Po was named recipient of the “Youngest Outstanding Candidate Award” in the WCT in April 2008.

As the youngest among all double distinction (in World Class Test’s Mathematics and Problem Solving) scorers, Chun Lok said he enjoyed doing the Problem Solving Test better than Mathematics because “it was fun”. His precocity in Mathematics was recognized very early by his father who observed that his son loved to engage in self-devised mathematical quizzes as young as 6. Now at 9, he is already challenging himself with mathematical problems at secondary school levels — including logarithm, geometry and algebra.

Mr Tony Lam, Director of the World Class Test Asia Center at HKUST, views the Tests as having an enormous potential for expansion in Asia. “Our outreach efforts in Asia are helping to build up WCT’s brand name in the region. More and more gifted students from the Mainland, including Beijing, Shenzhen and Foshan have access to the Tests, and schools in Macau, Taiwan, Korea, India, Malaysia, Singapore, and Vietnam are expressing great interest in recommending their students to take the Tests.

Talented Youth Summer Program

HKUST started to launch a summer program in 2005 - Summer @ UST - to attract top students of grade 10 to 12 (F4 to F6) from around the world to attend a credit-bearing program at HKUST.

Drawing on the success of this experience, the University has decided to upscale the offer of summer program to a more selected group of gifted high school students with a re-structured 3-week Talented Youth Summer Program launched in July 2008.

With a core program called “Accelerated Societal Development Through Science and Technology” and four electives - Critical Thinking, Global Climate Change and Energy Issues, Introductory Game Theory, and Frontier Techniques in Biotechnology, the program was attended by 60 grades 10-12 youngsters from 10 countries. They were taught by a 6-member teaching team from the University and a guest instructor from Stanford University.
At the signing ceremony between HKUST and Johns Hopkins University Center for Talented Youth: (from left) Director of HKUST’s Summer Youth Program Prof Nelson Cue; HKUST Vice-President for Academic Affairs Prof Roland Chin; Dr Charles Rowins; Ms Elizabeth Albert from Johns Hopkins University Center for Talented Youth

The program combines lectures, laboratory experiments and group projects. Research shows that gifted children can do better academically when they work with other gifted children. These programs help to bring like-minded gifted students together, foster emotional and intellectual exchanges and ease their sense of isolation, as some of the participants commented at the graduation ceremony of HKUST’s Talented Youth Summer Program 2008 (TYS@UST 2008).

Almost without exception the participants viewed “getting to know people from all parts of the world” as the best part about TYS@UST 2008.

“I enjoyed meeting people here — some of the friends I met here would be my friends for life,” a student from Thailand declared. He valued the exchanges he had with his peers in the Program. As a devout Buddhist he had been through some rigorous discussion with his Christian peers on their religious beliefs, which in turn has prompted him to reexamine his own religious convictions.

The participants also treasured the intellectual challenges posed by the program. As one of the participants said, “Here are some of the things that will define you as a true TYS@UST 2008 student - Every time you see your cat, or your friends’ cat fidget with a ball of yarn, you will be forever haunted by the theory that the world is really ten dimensional, or so says the mathematics of string theory.

And that the next time you see a pair of twins, you will be so excited to ask them, ’Who do you think will be younger if one of you flew to space?’”

Joint Summer Programs with Johns Hopkins University Center for Talented Youth

Encouraged by the success of the Talented Youth Summer Program, the University will run an additional junior program for the 12 to 14 age group in this summer through teaming up with Johns Hopkins University Center for Talented Youth (JHU CTY), one of the most respectable gifted program providers in the world.

Students will be admitted based on their SAT or World Class Tests scores. SAT candidates must be able to obtain SAT scores which satisfy CTY’s admission requirements for different grades of study, and World Class Tests candidates should have won at least one distinction to qualify for the 2009 summer program in Hong Kong.

SAT is now commonly used by Johns Hopkins and many gifted education centers as an effective tool in assessing giftedness. According to the late Dr Julian Stanley (1918 - 2005), a widely recognized expert on gifted education who established Johns Hopkins’ Center for Talented Youth in 1979, SAT was found “to have especially strong predictive value because they (students) did well on it only with great ‘brain power’, not by having been taught or coached at length.”

Set to kick off on July 12, 2009, this 3-week program provides opportunities for gifted youngsters to specialize in one of the subjects under three streams of studies - Mathematics and Computer Science, Science and Writing—allowing students to explore subjects they have little access to in their everyday classroom setting, including Cryptology, Mathematical Logic, Mathematical Modeling, Probability and Game Theory, Fundamentals of Computer Science, Astronomy, Faced-Paced Upper School Biology, Fast-Paced Upper School Chemistry, Electrical Engineering, Introduction to Biomedical Sciences, and Neuroscience.

As intellectual challenge and interests are the key components for quality gifted education programs - this joint undertaking between HKUST and JHU CTY guarantees an abundance of both.

Students for the writing course, for example, will explore the issues of self identity and one’s ties with humanity through traversing Elizabeth Bishop’s poem In the Waiting Room written in the eyes of a 7-year-old girl. Students who have opted for Neuroscience will be able to go into the worlds of people afflicted with Tourette’s syndrome, autism, parkinsonism, phantom limb syndrome, musical hallucination, retardation and Alzheimer’s disease—through Oliver Sacks’ brilliant yet human recast of some of the cases he handled as a neurologist in The Man Who Mistook His Wife for a Hat and Other Clinical Tales, a bestseller released in 1985.

As gifted students normally thrive in an experiential and interactive learning environment, the Program is expected to hold not more than 20 students in one class. With the help of teaching and residential assistants from HKUST, instructors with extensive experience in gifted education would be flown in by JHU CTY to provide the most intellectually stimulating learning experience to some of the ablest youngsters from Asia.
The program will also embrace a wide range of activities outside the classroom, such as sports, games, dances, movies and a talent show.

“By joining hands with Johns Hopkins University’s Talented Youth Center, we hope we could identify young prodigies in Asia and help them extend their talents to the full. It’s an enormous waste of human resources if our youngsters’ precocity remains unshovel,” said HKUST’s Deputy to the President Prof Roland Chin who has helped seal the bonding between HKUST and JHU CTY.

Spontaneous Efforts Growing into Massive Undertakings

The University’s offering for the gifted is a sound testimony of how spontaneous educational initiatives can gather momentum to develop into full-blown global ventures for target audience of diverse interests and levels.

“At the beginning we only expected to engage our colleagues in some meaningful endeavors to help the school kids in Hong Kong. Programs targeted at the average students were plentiful and so didn’t warrant our involvement. Running courses for the mentally challenged posed too huge a challenge to us as we knew pitifully little about this target group. What was left was the gifted and talented who could have been ignored and we feel more confident coping with this group of youngsters,” said Prof Cheng Shiu Yuen, Dean of the School of Science.

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Gifted students thrive on experiential learning, pictures show students from the “Walk into the Pearl River Delta Program” at field trips to South China
其中為中學生而設的《數理優才增益課程》旨在為十一歲或以上的中學生提供廣泛的數理訓練。學生必須在完成核心課程後，才可以晉級就讀進階課程。此外，學員亦可以依個人意願選擇合適的選修科就讀。

表現傑出的學員將有機會參與由科大導師領導，为期可達六個月的研究計劃。

表現傑出的學員將有機會參與由科大導師領導，为期可達六個月的研究計劃。世界數學測試

世界數學測試由英國教育與就業部於2001年推出，用以評核及培育資優學童的數學及解難能力。考試每年於4月及11月於世界逾20個國家或地區舉行，分數學及解難兩科，對象為8-11歲(高小)及12-14歲(初中)兩個組別的學生。

世界數學測試在2004年在香港首次舉行。自2008年開始，科大成為該試的亞洲中心，負責推廣及安排考試事宜。

去年有超過4,000名中小學學生參加世界數學測試。他們來自全港約400間學校，由於在學校的數理科的表現傑出，獲校長推薦參與考核。

在眾考生當中，來自大埔舊墟公立學校(寶湖道)，年僅九歲的姚俊樂在4月份考試的數學及解難兩科均取得優等成績，成為年紀最小的優秀生。在兩科中姚俊樂表示較喜歡解難一科，因為這科考試「有趣好玩」，其實姚俊樂在數學方面的天分，在六歲甚至更早時候，已經顯露。小俊樂經常沉醉於設計各式各樣的數學問題，自問自答，樂在其中。

在科大對資優生的關注，除了考核外，還有培育——我們透過測試，考核優才；透過資優課程，培育優才。

科大在2005年開始舉辦暑期學分課程，對象為來自世界各地，就讀第10至12年級(中四至中六)的中學生。這個課程除了必修科「科技與社會發展」外，還有批判性思考、全球氣候變化和能源問題、博弈理論導讀、及生物科技的技術前沿等四個必修科，吸引了來自10個國家共60位同學參加。負責教授工作的除了科大六名教授外，還有來自美國史丹福大學的學者。

除了課外，學員還可以透過實驗及小組習作，分析科技如何在歷史長河中推動社會發展。

研究顯示，假若把資優兒集中一起學習，其學習效果將會大大提高。他們需要與一班同調同氣的資優同類，聚在一起，共同學習，彼此激勵，以減輕自已的孤絕感。而科大2008年優才生暑期課程部份學員的感受，正好反映上列觀點。
大部份學員認為課程最優勝的地方，是讓他
們「認識來自世界各地的友人。」

「這個課程讓我交了不少可以維繫終生的摯
友。」一位來自泰國的參加者非常認真的表
示，他再次強調「終生
兩字，令人感動。
作為虔誠佛教徒的他，曾經就信仰問題與基
督教友伴多次激辯，並因此而反思自己的信
仰。

學員承認這個課程略為艱深，但享受課程帶
來的腦力震盪和挑戰。正說一名學員說：「假
如你符合下列的描述，那你就不折不扣是個
TYS@UST 2008人了 (TYS@UST 即優才生暑
期課程英文簡寫)﹗
─
每次你看到家裏或朋
友的貓把玩毛線球時，就不禁浮想連
翩─
想起數學弦論中世界原本是一個10面體的論
點；又或者你在碰見一對雙生兒時，你就會
情不自禁上跑上前痴痴地問，『假如你們兩
人中一人飛向太空，回到地球後，誰會是
較
年輕的那一個？』」

與約翰斯霍普金斯大學青少年優才中心合辦資優課程

在 2009年暑假，科大除了繼續舉辦優才生暑
期課程外，還首次與世界知名的資優青少年
培訓學院——約翰斯霍普金斯大學青少年優
才中心——合辦專為 12 至 14 歲青少年而設
的資優課程。

申請入讀的學生必須要在 SAT 取得符合中心
釐定的分數，又或者在世界數學測試取得最
少一科優等成績。

除了約翰斯霍普金斯大學的青少年優才中心
外，不少美國頂級大學的資優青少年訓練學
院，均以 SAT 成績為錄取學生的標準。為甚
麼？因為正如在 1979 年創辦約翰斯霍普金斯
大學青少年優才中心，並於後來屢獲資優教育
學者Jr. Dr. Julian Stanley (1918-2005) 所說：
「在
SAT 考試取得優異成績的學生，並非由於有
人從旁指導，而是靠學生異於常人的『腦力』，
所以 SAT 確可以為我們評核學生的潛力，對
學生未來的表現，有預知和啟發作用。」

課程將於 2009年 7 月開課。課程共分三大單
元——數學及電腦科學、科學及寫作等。學
員可以在三個學期中按自已喜好選科，並修
讀一些大學課程沒法提供的科目，包括密
碼學、數理邏輯、數理模型、概率及遊戲理
論、電腦科學基礎理論、天文學、快速高校
程度生物、快速高校程度化學、電子工程、
生物醫學初階、神經科學及寫作等。

為資優學生而設的課程，若要滿足學員的要
求，必須具備兩個條件——具備足夠的難度
而且有趣好玩——令人欣慰的是，JHU
CTY 課程兩者兼備。

參加《寫作》單元的學生將會透過伊利沙白
庇素的詩作《等候間》探索個人身份認同、
以及個人與人類的聯繫等問題。《等候間》
是作者以一名七歲小女孩的身份寫成的詩作。

而選擇《神經科學》單元的學生，將可以透
過解構奧利華‧索斯 (Oliver Sacks) 於1985
年出版的暢銷書《把妻子誤當帽子及其他醫
學個案》，探索他在各國領域所發生的內
心世界——包括自閉症、柏金遜症、杜萊德
氏綜合症、幻肢痛、音樂幻覺、老人癡呆症及
發展障礙等。奧利華‧索斯是一名神經病學
家，書中所收錄都是他處理過的醫療案例。

資優學生在學習時最愛親自探索及體驗，亦珍
惜與人討論和交流的機會。為此，課程以小班
教學為主，每班僅收 20 人，課程的導師由 JHU
CTY 招聘，資優教學經驗豐富。他們特別由美
國飛到科大任教，並在教學助理(由科大同事
擔任)協助下，帶領一班來自亞洲的學生進行
深入有趣、並極富挑戰性的學習體驗。

課程亦包括一系列課外活動，例如運動、遊
戲、舞劇、戲劇及天才表演。

無心插柳 柳成蔭

上列有關科大資優課程的描述，足以證明
─
原来無心插柳的好人好事，往往會發放
「正」能量，牽引其他「好人」加入，令雪球
愈滾愈大，使事情成為備受矚目、具國際水平
的教育項目，令來自世界各地、不同年齡、不
同級別的尖子受惠。

「其實我們最初的動機至為單純
─
我們只想
做一點有意義的教育工作，扶助本地的學生。

在市面上為一般學生而設的課程多不勝數，
不用我們費神。至於特殊學生，我們對這類
學生的認識幾近於零，要我們因材施教，實
在力有不逮。剩下來而我們尚可勝任的，就
只有資優兒一族。就是這樣，我們就踏上了
資優教育的不歸路
，」理學院院長鄭紹遠教授
笑說。
Elliott wakes up in the morning to get ready for work. After taking a shower, he examines his clean, clear face in the mirror, deciding that he can probably wait another month before re-applying the bio-spray that keeps his skin pores clean and renders shaving unnecessary. The spray contains skin surface bacteria engineered to eat dirt, oil, and dead skin, as well as dissolve the keratin in facial hair, while keeping the skin intact. They also prevent colonization by foreign bacteria that can cause infection of pores in skin, which creates acne.

Elliott walked downstairs to the table for breakfast. He had a bowl of cereal and milk, along with a spicy southwest omelette and some sausages. Eating was always an enjoyable experience. Elliott used to be wary of many foods, as he was prone to frequent indigestion, especially from spicy foods or dairy products. But since his visit to the dietician earlier this year, those problems have become a thing of the past. After analyzing his symptoms, the doctor selected a digestive commensal from the Biobricks 3000 catalog which had been modified to suit his dietary needs. Now, lactose and the irritating chemicals in most spicy foods are broken down with ease in his stomach, before they can cause any physical distress. An added benefit was that he no longer had to worry about food poisoning. The new commensals specifically targeted and killed any pathogens from a long list of possible food contaminants, and could even neutralize the toxins these bacteria produced. Elliott relished his new state of permanent gastrointestinal bliss.

Synthetic biology - A Life-tampering oxymoron

The above excerpt from www.syntheticbiology.org relates how advances in synthetic biology have helped erase petty inconveniences in our lives — from face-cleaning sprays that clear facial hair and acne, to chemicals that can help ease indigestions or food poisoning. Yet, despite the promises synthetic biology seems to hold for mankind, it is still a controversial subject eyed with disbelief by skeptics.

Some are concerned about this human attempt to tamper with life. Others feel that, without proper regulatory oversight, this immense power to “create” artificial life in the laboratory will invite disaster. Such fears have prompted the late Michael Crichton to depict in his thriller “Prey” how a bunch of nanobots created from bacteria swarmed and eventually went out of control.

Engineering lives through biological means

Since the term “synthetic biology” was first coined by Polish geneticist Waclaw Szybalski in 1974, who foresaw that molecular biology techniques would allow scientists to manipulate genomes, synthetic biology has become a subject that is increasingly mesmerising specialists and laymen.

Synthetic biology is about the redesign of existing biological systems or the design and construction of new biological parts that do not exist in the natural world. At the core of synthetic biology is the belief that all the constituent parts of life can be made synthetically, engineered and assembled to produce working organisms. In these synthetic biological processes, scientists can just add, subtract or alter the tiny units that make up DNA in a gene.

With just a laptop computer, published gene sequence information and mail-order synthetic DNA, scientists can start constructing genes or entire genomes from scratch. The Massachusetts Institute of Technology’s Registry of Standard Biological Parts, for example, has made free DNA sequences of many of the “parts” used to assemble their genetic circuit available to any interested parties. This registry is currently run by the MIT-led BioBricks Foundation.

Synthetic biology versus genetic engineering

We tend to mix up synthetic biology with genetic engineering. While synthetic biology as a research subject was born in the 80’s, genetic engineering was started 35 years ago. According to Rob Carlson, a synthetic biologist and senior scientist in electrical engineering at the University of Washington, “Genetic engineering techniques are abysmally primitive, akin to swapping random parts between random cars to produce a better car.”
Genetic engineering is about the manipulation of DNA with comparatively crude tools to construct relatively simple genetic programs. It involves introducing a gene here and there and does not result in any fundamental or massive changes to the DNA. With the technologies made possible by genetic engineering, scientists can enhance the resilience of a tomato plant to pesticides but they can never turn the plant into a fundamentally different product. Synthetic biology, on the other hand, is like having someone hack into a computer to reengineer a brand new program. It concerns the rearrangement of genes on a much wider scale, that of a genome, or an organism’s entire DNA program. Such genetic programming, once inserted into bacteria or yeast, will churn out the expected product.

Synthetic Biology 4.0 International Conference in Hong Kong

To raise awareness and stir interest among local and overseas scholars and officials in synthetic biology, researchers, both local and overseas, including HKUST’s Prof I-Ming Hsing from Chemical and Biomolecular Engineering Department and Prof King Lau Chow from Biology Department, joined hands with the MIT-based Biobricks Foundation in organizing Synthetic Biology 4.0 International Conference in Hong Kong. It took place on HKUST campus in October 2008.

The International Conference on Synthetic Biology is by far the most influential conference on the subject. This is the first time this reputable International Meeting was held in Asia, thanks to the support from the Croucher Foundation and Innovation and Technology Commission. The event attracted more than 500 participants from over 15 countries who converged on our campus to discuss and share their views on various aspects of synthetic biology, such as: research, education, investment, industrial applications in energy, green manufacturing, agriculture, drug production, and medicine. The event’s closing ceremony was presided over by Hong Kong SAR Government’s Financial Secretary Mr John Tsang.

Advances in Synthetic Biology

Synthetic biology is being touted by scientists and venture capitalists as “the next big thing”, which could hold the key to solving issues vital to our existence—advances in medicine, health care, energy and green production.

Medicine

Jay Keasling, a synthetic chemist from UC Berkeley, was at the Conference in Hong Kong. His team have engineered yeast cells to produce Artemisinin to treat malaria.

Artemisinin has been considered an effective cure for malaria. Extracted from a plant called sweet wormwood (Artemisia annua), laboratories have attempted to synthesize the compound chemically. But Artemisinin is costly and in short supply, and the endeavor has proved to be incredibly difficult.

Prof Kealing and his team are trying to introduce the plant enzymes of sweet wormwood into brewer’s yeast, as the end product has the same properties and effects as Artemisinin, but at only a fraction of the cost for its production.
Anti-pollutants
Some living species are very sensitive to pollutants. Taking advantage of the natural self-defense mechanism as a sensing system, some bacteria are embedded with DNA encoding light emitting proteins. When they come across heavy metals or toxin, the cells will emit fluorescence.

Engineered organisms and biological structures can be re-engineered to serve as sensors and detection systems. These detection capabilities might be further enhanced to degrade and destroy dangerous substances, such as contaminating petroleum and sewage sludge, and turn them into less harmful or even useful products.

Looking into the future
The strides synthetic biology has made in the recent years have been such that it would unquestionably have an enormous impact on our future. There is growing interest among the University's faculty members in conducting research on bioengineering or synthetic biology. Like other synthetic biologists worldwide, their primary concern is to harness the beauty and versatility of life through reengineered DNA programs, including tapping into new sources of energy and fuel, discovering a cure for deadly diseases and eliminating the environmental hazards that exist in our world.

Hong Kong SAR Government's Financial Secretary John Tsang enjoys a casual chat with Prof Roland Chin before he officiates at the closing ceremony of the Synthetic Biology 4.0 International Conference.
合成生物學與基因工程

基因工程是以相對原始的方法控制 DNA，藉以建構相對簡單的基因程式，當中涉及在不同地方添加基因，但目的不在於從根本上或大規模地改動。利用基因工程發展的技術，科學家可增強茄果抵抗殺蟲藥的能力，但絕對不會將番茄變成另一種截然不同的產品。合成生物學家兼華盛頓大學電子工程高級科學家 Rob Carlson 認為，基因工程技術非常原始，有如隨意取兩部汽車，然後隨意交換當中的零件，務求製造出性能較佳的汽車。

合成生物學的進展

合成生物學被眾多科學家及企業界資本家視為「下一個偉大技術」，有望透過合成生物學在醫療保健、能源及綠色製造範疇的進展，解決威脅人類生存的各項問題。

醫藥

美国加州大學柏克萊分校的合成化學家 Jay Keasling 教授及他領導的研究小組已利用酵母細胞製成青蒿素 (Artemisinin) 治療瘧疾。教授亦是第四屆國際合成生物學研討會講者之一。

青蒿素被視為治療瘧疾的有效藥物。它提取自一種名為香蒿的植物（黃花蒿），但價錢不菲，供應短缺，而且難以在實驗室中利用化學合成。Keasling 教授及他的研究小組成功將香蒿的植物酉每加添入啤酒酵母當中，得出的產品功能與青蒿素相若，但價錢卻比青蒿素便宜得多。

抗污染物

某些生物品種對污染物非常敏感，借助天生的自我防衛機制作為感應系統，某些細菌附帶有 DNA 編碼能力的發光蛋白，當遇到重金屬或毒素時，細胞便會發出熒光。有機體及生物結構經過重新工程改造後，便可發揮感應器及議測系統的功能，議測能力甚至可以進一步提升，藉以降解及消滅危險物質，例如會造成污染的石油及污水污泥，並將這些物質改造成危害較輕的產品，甚至是可用的產品。

展望未來

近年合成生物學取得迅速的實質進展，大多數人亦不會懷疑這門科學將會對我們的未來影響深遠。本校教學人員對生物工程或合成生物學研究的興趣亦與日俱增，正如全球其他合成生物學家一樣，大家的關注重點是透過重新設計的 DNA 程式，掌握生命的美妙多姿，包括開拓新能量及燃料資源，治療致命疾病及消除周遭的環境災害。
KUST is constantly striving to enhance the quality and effectiveness of teaching and learning. A good example is the successful implementation of Remote Video Capture (RVC) by the Publishing Technology Center (PTC) to support and promote e-Learning at the University.

Putting it simply, Remote Video Capture enables faculty members to videotape all their lectures in a semester, and students to review their lectures at any time and place convenient to them.

With RVC, video images of the teacher, whiteboard, computer screen, and the sound tracks are captured by devices pre-installed in the classroom. The captured audio-visual files are then transmitted to the PTC and synchronized to produce lecture videos which are then uploaded online within two days after the class.

Leveraging Teaching Efforts

There is no visible production crew in the classroom, and no equipment setup or pre-training is required. All a teacher needs to do is book one of the 30 RVC-equipped venues at the start of a semester — and teach. Teachers who use RVC have found the service to be:

- Highly useful for large and make-up classes;
- Suitable for recording guest lectures to share with other classes;
- Effective for developing teaching skills and for self-evaluation;
- An easy way to share ideas with a co-instructor or peer.

Extending Students’ Learning Options

RVC creates exciting new learning possibilities that enhance retention and comprehension by giving students the flexibility and freedom to review lectures at their own pace and discuss with other students during their review, and revise for examinations from the full lecture, not just notes.

RVC has become immensely popular as it fully resonates with today’s multimedia lifestyle and is particularly useful for students less at home with English.

What Has Been Done So Far?

The RVC was first launched in the Fall Semester 2007 with 15 classrooms and 33 teachers using the service.

By Fall 2008, 30 teaching venues, including all 10 lecture theaters, were already RVC-equipped, with 60 faculty members teaching more than 70 courses using RVC during the semester, and some 1,400 lecture videos and approximately 2,100 hours of learning content produced.
Evaluations on RVC’s effectiveness were conducted after each deployment. The latest surveys were conducted on 60 faculty members using RVC and 913 students who could access RVC produced videos during Fall 2008. The results were encouraging, with 87% of faculty considering RVC helpful, and 92% of students finding RVC videos useful. Complete results and details of services can be found in the RVC website http://ptc.ust.hk/remote-capture/findings.html

What Faculty Members Say

Opinions from the faculty were also positive. Prof Karl Tsim, Head of the Department of Biology, said, “In the past I have had to repeat things again and again. With this ‘self-service’ video technology, my students can access my lectures any time they need.”

Prof Emily Nason of the Department of Management of Organizations echoed, “RVC is very easy to use. You don’t even need to switch anything on! I originally wanted the videos for my own evaluation, but later I decided to release them to my students, who liked the idea a lot. A positive experience all round!”

“I like to podcast my lecture and after receiving the link from PTC, I put them online for my podcast subscribers. A great centralized service, especially for someone who is not comfortable with technology,” added Prof Jogesh Muppala, Department of Computer Science and Engineering.

What’s Next?

Dr David Mole, Associate Vice-President for Academic Affairs (Undergraduate), said, “The RVC service has already demonstrated its value to students at HKUST. For students, the opportunity to review lectures is invaluable. For teachers, there is less time lost going over the material already covered. I hope to see this service progressively rolled out to cover more courses.”

According to Thomas Ng, Director of the Publishing Technology Center, RVC will further expand its applications.

“Recently, we provided free videotaping service for all seminars held in lecture theaters with our RVC devices. We will also provide training on using simple video editing tools to add value to the RVC video content,” he said.

“We will collaborate with interested faculty members to integrate RVC with e-learning or mobile learning projects. We will even explore potential open learning technologies and channels to maximize the exposure and benefits of RVC content,” he added.

“Who knows—in the not-so-distant future, we may see students revising their lectures through RVC videos on their mobile phones or other smart devices!” he mused.
善用遙距錄像
教學事半功倍

教學人員只需作出簡單安排，就可以使用遙距錄像系統將整個學期的授課以數碼攝錄，讓學生可以隨時隨地重溫各課堂。

遙距錄像系統使用預先安裝在課室的器材，收錄教師、白板、投影幕和筆記板的視訊和音訊。這些影音檔案會透過校園網絡，傳送到出版技術中心，並進行影音同步處理。完成後的課堂錄像會於課堂後兩天之內，上載至資訊科技服務中心 (ITSC) 的串流伺服器。同學便可在網上重看課堂內容。

• 與教師互動，並於重溫之後以電郵表達意見
• 重溫課堂講授的內容和重點，而不再單靠筆記

遙距錄像服務已証實對教學有很大幫助。學生既可重溫課室，教授亦可省卻重覆已講授的課堂內容。教授對此服務有正面評價。計算機科學及工程學系的梅伯樂教授說：「我喜歡以 podcast 形式分享我的講授內容。 demolition 時，我就可以上載到網上，與 podcast 用戶分享。這是一個很好的一站式服務，對不習慣使用媒體技術的人來說特別有用。」

出版技術中心主任吳宏權表示：「中心會繼續擴展遙距錄像系統的應用範圍。例如，我們為所有在演講廳舉行的講座提供免費遙距錄像服務。又安排工作坊，介紹簡單的錄像剪輯工具，為課堂錄像增值。」

兩年來的進展
遙距錄像於 2007 年春季在 5 個課室開始試用，有 7 位教授參加。由於成效理想，服務於 2007 年秋季正式推出；當時有 15 個課程使用，參與教授有 33 位。

直至今年秋季，裝設有遙距錄像器材的教學地點已增至 30 個，包括现有 10 個演講廳，並有 60 位教授及 913 名學生。結果令人鼓舞：在回覆的問卷調查中，有 87% 教授及 93% 學生均認為遙距錄像具有相當成效。詳盡報告和數據可見於遙距錄像的網址 http://ptc.ust.hk/remote-capture/findings.html

教授的意見
參與教授都對此服務有正面評價。生物學系系主任以利教授說：「以往我要多次重複我的講課，但有了這個系統，我能更自由地安排。」

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他說：「我們會與有興趣的教研人員合作，將遙距錄像系統與網上學習及流動學習計劃整合起來，探討更多開放教學技術和途徑，令遙距錄像的內容發揮最大效益。」

「或許不久將來，我們的學生可在手機或其智能裝置，透過這些課堂錄像來溫習功課！」

http://ptc.ust.hk/remote-capture
Four Initiatives for a Fuller University Experience

University education is not just about lectures, libraries and laboratories. It is also about making friends, preparing for careers, as well as contributing to the community and the environment. To enable students to get the most out of their university life, the Student Affairs Office has introduced four new initiatives, each with a different set of benefits.

**REDbird Award Program**

The sundial that resembles a red bird has always been HKUST’s visual icon. But apart from borrowing its image in naming the program, we also allude to the bird’s ability to soar to great heights and explore new horizons.

In a nutshell, the REDbird Award Program is a holistic student development program where selected first-year students are given opportunities to take part in personal development training, community service, internship and exchange activities, thereby gaining the REDbird Award at the Bronze, Silver and Gold levels. As this Program progresses, outstanding participants will be selected, trained and appointed as REDbird Coaches, the highest honor within the Program. This year, 107 students and 22 coaches were selected to join the Program.
Under the auspices of the Committee on Student Affairs of the HKUST Senate, this Program aims to nurture exemplary student leaders.

With the support of the Drs Richard Charles and Esther Yewpick Lee Charitable Foundation to the tune of $2.35 million, needy students are given financial support to join activities such as overseas training, learning trips, conferences and internships.

Upon joining the REDbird Award Program, participants will set their goals and achieve them within the stipulated time, through completing a range of activities with guided support and feedback on their personal development pursuits.

To articulate the desirable qualities of HKUST graduates in general and REDbird participants in particular, we have turned the name REDbird into an acronym for these attributes: Respectful, Energetic, Diverse, Bright, Innovative, Responsive and Diligent & dependable.

**HKUST - Hang Seng Bank Green Ambassador Program**

Another initiative introduced this academic year is the HKUST - Hang Seng Bank Green Ambassador Program, which aims to nurture HKUST students to become environmental pioneers both within the HKUST campus and in the community.

Green Ambassadors will be provided training in environmental concepts and practical skills, and will visit environmental protection facilities to understand their operations. On the other hand, these Green Ambassadors will help in promoting green activities within HKUST and take part in environmental internship programs during the summer vacation.

This Program is sponsored by Hang Seng Bank with an aim to training up around 180 Green Ambassadors within four years. All applicants have to go through a stringent selection process involving HKUST faculty and staff from various departments. To start with, we have recruited 23 Green Ambassadors for a term of two years. These ambassadors are now equipping themselves in living out their mission in enhancing the environmental and sustainability awareness of their peers and the public as well as solving critical environmental issues facing our communities.

**Peer Counselor Training Program**

The widespread emotional problems faced by university students in Hong Kong have aroused great public concern. Dr Grace Au, Director of the Student Affairs Office, lamented that some of the recent tragedies have been due to students not knowing where to seek support, or their reluctance to use the services available to them.

To address this issue, the Students Affairs Office is stepping up its Peer Counselor Training Program this academic year, with an aim to training up 50 mentors every year among teaching assistants, hall wardens and second and third year students.
To become a qualified peer counselor, the participant must first complete the Mental Health First Aid course and regularly attend monthly case sharing sessions. These courses are taught by professional instructors outside HKUST as well as Student Counselors of the Student Affairs Office.

Dr Au added that peer counselors mainly comprise second and third year students, because on the one hand, they belong to the same age group as the new students; and on the other, they can share their insights into university life that they have gained at HKUST. Dr Au hopes that this spirit of sharing, caring and mutual support will spread on our campus and sustain through the years.

**Internship Learning Scheme**

The Internship Learning Scheme (ILS) is a new program launched by the Career Center of the Student Affairs Office. It provides both pre-internship training and actual internship experience to HKUST undergraduates of all disciplines (except exchange students), with priority given to students in their last but one year.

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<th>The ILS comprises four phases:</th>
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<td>1. Information session, application and interview</td>
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<td>2. Pre-internship training</td>
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<td>3. Internship</td>
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<td>4. Consolidation</td>
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Of particular note is that as part of the pre-internship training, participants are required to form small groups to explore a chosen profession by doing data research and interviewing current practitioners. At the moment, the careers being explored by the students include airlines, advertising, catering, hotel and tourism, media, NGOs, retail, public relations and theme parks, among others.

The participants who have completed their pre-internship training will be recommended to private and public organizations in Hong Kong, Mainland China and overseas, for an internship of at least six weeks, after which they will submit a report, a self-evaluation form and the employer’s appraisal form.

This year, the ILS received about 250 applications, from which 100 students were selected. Among them about half of them are from the School of Business and Management and the rest from Engineering and Science.
大學生不單是鑽研學問的場所，更為年輕人提供交友、就業準備、推行環保和貢獻社會的機會。有見及此，學生事務處在這個學年，策劃了四個取向和目標各異的計劃，務求啟發同學的潛能，使他們能融入校園生活，發展自我，繼續投身社會。

行動一
紅鳥計劃
形似紅鳥的日昝是科大的地標，計劃以紅鳥為名，取其外貌形態之外，還隱含紅鳥能展翅翱翔，探索新野的意思。

學生事務處今年首次舉辦的紅鳥計劃，以「開拓視野，長期學習，多元發展，服務社區」為宗旨。利銘澤黃瑶蕉慈善基金捐出235萬元，贊助貧困學生參加海外訓練、遊學團、交流會和實習。參加計劃者均需訂立目標，然後在指定時間內完成一系列活動。期間，導師會定期與參加者會面，了解進度和進行評估。

為明確表達科大畢業生和紅鳥計劃參加者所需的質量，計劃以紅鳥命名。每一個英文字母均有其含意：R是恭敬、E是精力充沛、D是多元性、B是光亮、I是創新、R是敏銳、D是勤奮可靠。

紅鳥計劃照顧學生全面發展，入選的一年級生會參加個人發展訓練、社區義工服務、實習及交流活動等各個範疇，按照成果以獲取金、銀、銅獎。當計劃不断发展，優秀傑出的參加者會被甄選為朋輩輔導員，亦即計劃中的最高榮譽。今年，入選計劃的同學有107位，朋輩輔導員則有22位。

計劃由科大教務委員會轄下的學生事務委員會主辦，以培養模範領袖為目標。計劃由科大教務委員會轄下的學生事務委員會主辦，以培養模範領袖為目標。有見及此，學生事務處今年特別加強陽光大使──朋輩輔導員的培訓，務求建立一個充滿關懷的校園網絡。此計劃的對象是教學助理、舍監和二、三年級的學生，名額50個。

行動二
恆生環保大使計劃
恆生環保大使計劃是這學年另一個值得推介的行動，目的是培育環保先鋒，以科大和社區為中心，向外界宣揚環保意識。

環保大使須參加訓練課程，學習基本環保概念和實用知識，也會參觀環保設施，了解其運作。此外，他們還要協助推動科大校內的綠色運動。計劃還包括暑期實習部分，讓參加者開以特用。

環保大使計劃由恆生銀行贊助，期望在四年內培訓180位環保大使。遴選過程尤其嚴謹，評審委員會由多個界別的人士組成。目前，已錄取了23名環保大使，為期兩年。他們要自我裝備，以身作則，弘揚環保精神，並關注及協助解決社會現今面對的環保問題。

行動三
陽光大使──朋輩輔導訓練計劃
近年來，香港各大學發生的學生情緒問題事件，引起了大眾和校方的關注。學生事務處長區嘉麗博士指出，有些學生不願意或不懂得尋求協助，以致釀成悲劇。

區博士表示，輔導員以二、三年級學生為主，因為年紀相若的朋輩，較容易和新生接觸和溝通，而部分新生必然遇到的問題，二、三年級的學生亦能以過來人身份分享心得。她期望這種朋輩互相扶持的精神，能夠一代一代傳承下去。
Prof Leonard Cheng has been appointed Dean of Business and Management, with effect from 1 March 2009.

Prof Cheng joined HKUST in 1992 as a Founding Professor of the Business School. Currently he is Chair Professor of Economics, and prior to his appointment as Dean, he had been heading the Business School in an acting capacity.

“I feel honored and humbled to head up what is widely recognized as one of the best business schools in this part of the world. As a leading research school, we are committed to offering nothing less than the very best for our students. This we will continue to do, and we will also reach out further to the business community,” said Prof Cheng.

郑國漢教授獲委任為商學院院長

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郑國漢教授獲委任為工商管理學院（商學院）院長，由2009年3月1日起生效。

郑教授於1992年加入科大，為商學院創校教授之一。他現為科大經濟系講座教授，並於2007年7月起出任商學院管理院長。

郑教授表示：「獲委任為科大商學院院長，我感到非常榮幸。科大商學院是被公認為區內最佳的商學院。作為一所領先的研究型商學院，我們致力為學生提供最優質的教育及學習經驗。我亦將進一步加強與商界的溝通，積極為社會及經濟發展作出貢獻。」
Look out, all HKUST members—be prepared to say goodbye to our comfort zone and get ready for some unprecedented changes. With the 3-3-4 curriculum changes just around the corner, the University will overhaul our information system and change the way we work. In the months ahead, change will be the order of the day.

To spearhead the changes, the University has recently kicked off the HKUST Enterprise Resources Planning (ERP) Implementation Project, code-named “Teamust.” Chaired by VP-AB Prof Yuk-Shan Wong, Teamust is to put in place a major information infrastructure to make the university 3-3-4 ready in terms of administration and financial management.

Presided over by Vice-President for Academic Affairs Prof Roland Chin and Vice-President for Administration and Business Prof Y S Wong, the project had a ceremonial kick-off on 18 December 2008. Being out-of-town on the day, President Paul Chu showed his strong backing for the project by delivering a video message at the ceremony calling on all members of the UST community to play their part in making the project a success.

The 3-3-4 system not only stands for significant curriculum changes, it also implies a tilt towards whole-person education; an additional 33% increase in student population; a corresponding increase in academic and research staff; a new admission system, a double cohort of student intake, plus a plethora of accompanying measures to ensure the smooth operation of the university administrative machinery.

More than a System Upgrade

The ERP project is much more than an information system upgrade. As Prof Roland Chin said, “The IS Project is one of the many initiatives that we must undertake in order to meet the enormous challenges ahead. We need an integrated administrative computing environment that is responsive to changes and blessed with an enhanced access to information.”

“This project gives us an excellent opportunity to review and streamline our work procedures. The project is not only about changes in our information system, it is a journey of transformation that allows us to align our business processes with best practices in higher education.”

The Core of the Changes

The University has recently acquired an Oracle PeopleSoft package comprising the Student, Finance and Human Resources modules which would replace the existing in-house systems for finance, personnel and student administrations.

Prof Y S Wong explained, “In the past, we developed our automation systems in-house because the functions and flexibilities of readily available system packages were limited.”

“But with the advent of information technology, it is now possible to shop for commercial system packages with multiple functions, features and capabilities. They have highly flexible workflow designs and are very user-friendly.”

Gearing up for

by May Cheung

The Steering Committee

Steering us towards this brave new world will be the following members from the Information System Project Steering Committee

**Sponsor:**
Prof Roland Chin, VP-AA (DP)

**Sponsor & Chairman:**
Prof Yuk-Shan Wong, VP-AB

**Deputy Chairman:**
Mr Philip Wong, AVP-AB and DF

**Members:**
Prof Kar Yan Tam, Dean of Undergraduate Education
Mr Bob Brashear, DARR
Ms Yvonne Ho, DHR
Mr Lawrence Law, DITSC
Mr Sammy Lo, DPur
Mr William Tung, DIS

Apart from the Steering Committee, the University has also set up an Information Systems Project Committee for planning and managing the day-to-day running of the ERP project. The Committee is chaired by Mr Philip Wong as the Project Director. Its constituent members include project managers for each major functional area.

Schedule and Contacts

Phase 1 of the implementation will only be the starting point. The University will continue to enhance and build on the platform e.g. in research administration and e-learning. So, stay tuned for ERP project updates in Genesis-HKUST newsletter or visit ERP project website at [https://w3.ab.ust.hk/ispj/](https://w3.ab.ust.hk/ispj/). Meanwhile, you can direct your views and concerns on the project to the Steering Committee or ERP Project Change Manager Ms Clara Kwan at erpclara@ust.hk or teamust@ust.hk.
科大全體師生注意了——請各位做好準備，向我們的安樂窩（也就是我們一貫感覺良好的工作習慣）告別，鼓足拼勁，迎接多項空前的變革！三三四課程改革如箭在弦，科大將更新資訊系統，改變我們的工作模式。在未來多個月裡，變革將成為科大的常規。

為引進這些變革，科大最近啟動了一項名為「Teamust」的ERP項目，由副校長（行政）黃玉山教授出任主席，目的是建立一套可過渡至2012年的資訊基礎設施，以配合三三四學制所帶來的轉變。

這個項目由資訊系統項目督導委員會的兩位發起人——首席副校長錢大康教授和副校長（行政）黃玉山教授親自主持。項目並於2008年12月18日舉行啟動儀式。當日，朱經武校長雖身處外地，仍透過電視影像，號召科大全體師生積極參與，為項目爭取成功。

變革的主要內容
科大最近購置了一套Oracle PeopleSoft軟件套裝，內含學生、財務及人力資源等單元組件，而現時內部開發的財務、人事及學生管理系統將逐步淘汰。

督導委員會主席副校長（行政）黃玉山教授表示：「過去，市場出售的現成軟件，在功能及靈活性上非常有限，我們不得不自行開發自動化系統。」

「但是，資訊科技日新月異，現在市面上已經買到配備多樣功能、特色及性能的商業系統軟件套裝，這些軟件的工作流程設計十分靈活，使用容易。」

督導委員會
資訊系統項目督導委員會由下列科大同事組成，帶領我們迎接可預見及不可預見的變革。

發起人：
首席副校長錢大康教授

發起人兼主席：
副校長（行政）黃玉山教授

副主席：
協理副校長（行政）兼財務處處長黃世邦先生

委員：
本科生教務長	譚嘉因教授
入學及註冊處處長	白士柏先生
人力資源處處長	何佩賢小姐
資訊科技服務中心主任	羅慶琰先生
採購處處長	羅錦添先生
信息系統處處長	董志雄先生

除督導委員會外，科大還成立了資訊系統項目委員會，負責企業資源計劃項目的規劃及日常管理事務，該委會由黃世邦先生領導，成員包括各主要職能範圍的項目經理。

時間表及聯絡人
第一期的實施工作只是起步點，科大將繼續努力拓展及構建整個平台，範圍包括：研究管理、電子學習等。因此，請密切留意科大通訊內有關ERP項目的最新消息，或瀏覽網站https://w3.ab.ust.hk/spj/。此外，歡迎電郵erpclara@ust.hk或teamust@ust.hk，向督導委員會或ERP項目變革經理關慕霞小姐表達對項目的意見及關注。

Goverance structure of the HKUST IS Project
科大資訊系統項目管理架構

我屏息，靜氣，向外踏步，把變革引進。
我以從未感到的力量，邁步向舊有的安樂窩吻別，然後把門關上，鎖好。

摘自佚名作品《我的安樂窩》

Change 鼓足拼勁 迎接變革

Our Green, Green Campus

-change-
“Follow your heart, find out what you truly love to do and, if possible, do that.”

This is the advice Nobel laureate Prof David Gross gave to graduates and students at HKUST’s Congregation held in November 2008.

“I do not think that you can truly succeed unless you are engaged in what you really love to do. If you are working in what you love to do, then you will be able to marshal the concentration, creativity and hard work that is necessary for success, and most important, you will enjoy the journey,” Prof Gross said.

Distilled from his scholarship and pursuits of scientific dreams spanning four decades, his address was charged with passion and insight, and utterly inspiring to the audience.

Another piece of advice Prof Gross gave the graduates was that they should always aim high and dare to take risks.

“The second bit of advice is to aim high and dare to fail, do not be afraid of taking a risk. If you never attempt goals that might seem to be impossible, you are guaranteed never to achieve these goals. If you try to achieve impossible goals you might very well fail, but so what? You might succeed, and in any case, you will know that you gave it your best shots and will have fun along the way — especially if you are engaged in what you love.”

And Prof Gross ended his address on an uplifting note, “So take a chance to make a difference in all aspects of life. Don’t sell your dream short. Don’t be afraid to follow your most ambitious plans and to pursue your most outlandish and crazy ideas. Dare to connect with other human beings. Dare to love deeply - and if you do, there will be many moments like this, moments of triumphs and moments of hopeful beginnings.”

The 16th Congregation, held on 12-14 November, 2008, was marked by degrees conferred to more than 3,400 HKUST graduates and honorary doctorates to the following academic and social leaders:

Prof David Gross, winner of Nobel Prize in Physics (2004) and Frederick W. Gluck Chair in Theoretical Physics, University of California at Santa Barbara (Doctor of Science honoris causa)

Dr Chan Sui-Kau, Chairman of Yangtze-Kiang Garment Ltd (Doctor of Social Sciences honoris causa)

Prof Aaron Ciechanover, winner of Nobel Prize in Chemistry (2004) and Distinguished Research Professor, Faculty of Medicine, Technion-Israel Institute of Technology (Doctor of Science honoris causa)

Prof Shuji Nakamura, Professor of Materials, University of California at Santa Barbara (Doctor of Engineering honoris causa)

Prof Chia-Wei Woo, President Emeritus and University Professor Emeritus of Hong Kong University of Science and Technology (Doctor of Business Administration honoris causa)
出你真正的興趣，然後從事有關的工作。」

這是科大榮譽理學博士、2004年諾貝爾物理學獎得主大衛・格羅斯教授（Prof David Gross）在香港科技大學第16屆學位頒授典禮上給予學生的第一項忠告。

他還說：「除非你愛你所做的工作，否則你很難取得甚麼具體成就。只有當你真正喜愛你的工作，你才可以全情投入、專心致志，把創意盡情發揮——不但讓自己樂在其中，還可能取得成就。」

格羅斯教授的發言，字字珠璣，由心而發，顯然是他40多年來對學術的不懈追求及在科學領域上不斷摘星的經驗之談。

格羅斯教授對畢業生的另一項忠告是「把目標訂得高，看得遠，並且勇於嘗試。為自己訂立看似遙不可及的目標，並且努力把目標實現。不敢嘗試，不敢走出第一步，那就永遠不可能達標。若然你勇於嘗試，你可能會失敗，也可能會成功，但無論如何，你已做了你喜愛做的工作，感到好玩有趣之餘，又可以把自己的才華盡情發揮——若果依然失敗，那就無話可說。」

出席典禮而除了3,000位畢業生外，還有下列五位獲頒榮譽博士學位的學者/社會傑出領袖：

大衛・格羅斯教授（Prof David J Gross）：榮譽理學博士
2004年諾貝爾物理學獎得主、現任加州大學聖達巴巴拉分校理論物理研究所所長兼 Frederick W Gluck 講座教授

陳瑞球博士：榮譽社會學博士
長江製衣有限公司主席
阿龍・西查諾瓦教授（Prof Aaron Ciechanover）：榮譽理學博士
2004年諾貝爾化學獎得主、現任以色列科技理工學院醫學院榮譽研究教授

中村修二教授：榮譽工程學博士
加州大學聖達巴巴拉分校工程學院材料學系教授

吳家瑋教授：榮譽工商管理學博士
香港科技大學榮休校長及榮休科大講座教授

格羅斯教授最後鼓勵在座的畢業生，「千萬不要把自己的夢想貶賣。抓緊機會，為自己帶來改變。勇於實現你的計劃和夢想——無論它們顯得如何荒誕不經，難以叛逆。勇於與人聯繫，敢於刻骨銘心地愛——也只有這樣，你才可以抓緊創始的光輝，凱旋的喜悅。」
Whenever the Chief Executive comes to visit a university, it always creates a stir. But when he comes calling to listen to students on their views about what is happening in society or how it is governed, it creates a definite buzz of excitement.

That is exactly what happened when Chief Executive Donald Tsang came for an open dialogue with students in September, as part of his preparation for his annual Policy Address.

Hundreds of students crammed into a cavernous lecture hall. Four of them were lucky enough to sit on a panel with Hong Kong’s top leader, each given time to briefly express his or her concerns and pose a burning question for the Chief Executive. For the lucky quartet, it was an experience of a lifetime.

The Chief Executive had no lack of student inquisitors. Most raised questions of larger social significance, such as what the government plans to do about introducing minimum wages laws to protect the rights of low-skilled workers to a decent livelihood, or about the need to diversify Hong Kong’s economy, and reduce our over-reliance on financial services as a pillar industry.

There was a sprinkling of questions of more immediate concerns to our students, such as job prospects of new graduates. Mostly, the questions were candidly asked and cogently answered. But as befitting an academically free community, there was one ticklish question from a brash youthful interlocutor who demanded to know why the CE dismissed popularity ratings as something light and fluffy as the passing clouds. He also wanted to know if the CE would follow the sorry footsteps of his predecessor and step down from office for his “poor” performance. These might be embarrassing questions, but Mr Tsang took them with good grace and responded with humorous seriousness.

Whatever the view, the important thing is that this forum exists and it is the platform for what after all was supposed to be a genuine dialogue and frank exchange between the CE and his younger audience. At the end, the Chief Executive received a standing ovation from those present who came to challenge as well as those who came to listen.
Another Art Form from Another Era

The HKUST Revival of Cantonese Opera

承傳粵劇神韻 連繫大專校園

HKUST is not only about science and technology. It is also about culture and heritage. In October, it became the first tertiary institution to officially launch Hong Kong’s first Cantonese Opera Promotion Project.

This one-year project aims to enrich the knowledge and appreciation of Cantonese Opera among students and staff of tertiary institutions. It also strives to serve the community by providing a venue for amateur groups to stage performances for the general public to enjoy.

The project’s launch ceremony in the HKUST Hong Kong Jockey Club Atrium was jointly officiated by the Chairman of the Cantonese Opera Development Fund Executive Committee and Advisory Committee Dr Stephen Chow; Chairman of the Hong Kong Bar Wo Organization Ms Lisa Wang; renowned Cantonese Opera artist Mr Law Ka-ying; and HKUST Vice-President for Academic Affairs Prof Roland Chin.

The launch included a short demonstration, given by master artist Mr Law Ka-Ying on the elements of Cantonese Opera acting, followed by a performance given by artists Ms Cheng Wing-mui, and actor Mr Hung Hai.

The project, organized by the HKUST Center for the Arts, received funding of $200,000 from the Cantonese Opera Development Fund operated by the Home Affairs Bureau. The Project encompasses four types of activities—demonstrations, workshops, Cantonese Opera performances and a photo contest. There was no lack of Cantonese Opera devotees. A total of 33 students and staff members from seven tertiary institutions have so far joined the workshop.
To Prof Irene Man-Chi Lo, HKUST’s Professor in Civil and Environmental Engineering, there is nothing more important than “finding your passion and following it.” Once found, this passion will drive you to success. Prof Lo herself is a living testimony of that statement.

Since making up her mind to become an engineering teacher at the not-so-tender age of 26, she has never wavered. It is a dream she still chases, even after she has landed a position in the University as a faculty member. After 17 years of teaching, and winning in 2006 the university’s much coveted Michael Gale Medal for Distinguished Teaching, she remains as passionate about teaching as she was 17 years ago, if not more. The fact that she is the only female faculty member amongst the department’s 24 academic staff has never distracted her from giving her best.

Gender issues do not concern her. “It’s not a matter of whether you are a man or a woman, it is a matter of whether you want to contribute in that position,” Prof Lo said. This declaration by Prof Lo at the EXITE (Exploring Interest in Technology and Engineering) Camp sums up its theme—to help young women realize their potential, and cultivate their interest in technology-related fields. This exciting camp is jointly organized by IBM China/Hong Kong Limited and HKUST.

The IBM EXITE Camp, now into its fourth consecutive year in Hong Kong, took place in August 2008 on HKUST campus and enjoyed the participation of 36 girls aged 11-13 from four secondary schools in Hong Kong—Belilios Public School, Maryknoll Convent School, St Paul’s Convent School and St Stephen’s Girls’ College.

The students learnt how science and technology can improve daily life through engaging in activities such as building an earthquake alarm, assembling a temperature sensor, and creating their own “3D glasses,” simulating the technology used in the Nintendo Wii remote.

At the Camp’s closing ceremony, HKUST Vice-President for Academic Affairs (Deputy to the President) Prof Roland Chin encouraged participants to engage in the study of life sciences, energy and the environment—crucial to the scientific developments of the 21st century.

“It is a pity that so few women scientists were involved in major research discovery and scientific breakthroughs that have drastically shaped and transformed our lives—electricity, air travel, penicillin and the Internet. This situation has to be changed and I’m glad that it is changing,” Prof Chin said. He hoped that in the years to come, more and more young women would be able to study science and technology subjects and contribute to scientific and technological advancement.

自從在 26 歲「高」齡找到了她的「一生熱愛」——要成為一位教授工程的「人之患」後，她 就坚定不移地向着她的目標邁進，並加入香港科技大學成為教授。

即使她的教學生涯已步入了第 17 個年頭，亦已擁有科大教學的最高榮譽——祁敖卓越教學服務獎章——她對教學的熱愛絲毫不減。身為系內 24 名教授中唯一女性，反倒加強了她要 事事做到最好的決心。性別，從來就不在她的 議題之內。「重要的並非你是巾幗抑或是鬚眉；重要的是你是否有決心在崗位上作出貢獻，」，勞教授表示。

勞教授的體驗，正好反映了於 2008 年 8 月在科 大舉行的「科技異彩夏令營」的目標。這項由 科大與國際商業機器中國香港有限公司 (IBM) 合辦的活動，旨在及早培養女生對科技的興趣 和啟發其潛能。

IBM「科技異彩夏令營」在香港已連續第四年 舉辦。今年有 36 位 11 歲至 13 歲的初中女生參 加，她們分別來自四家著名女校——庇理羅士 女子中學、瑪利諾修院學校、聖保祿學校及聖士 提反女子中學。

夏令營安排參加者分組合作，在充滿趣味和啟發性的活動中——例如製作地震警鐘、裝嵌配有數碼顯示屏的溫度感應器、模擬任天堂 Wii 遙控器所用的技術自製立體眼鏡等——領悟到 科技如何改善日常生活。女生們又出席了 IBM 和科大專家主持的講座，吸收資訊科技方面的 知識，以及了解在科技領域的事業發展機會。

在活動的閉幕儀式上，科大首席副校長錢大康 教授特別鼓勵在座參加者投身於生命科學、能 源及環境這三大科學領域。

他認為這三個科學領域掌握了人類未來科學發 展的關鍵，將會大放異彩。由於種種社會及政 治因素，女性在過去未能在科學領域內作出應 有的發揮和貢獻。「在過去百年來，世界有四 大發明，大大改善了人類的生活，這四大發明 是電力、飛機、盤尼西林及互聯網。很可惜這 些發明沒有女性的參與。這種現象必須改 變，」錢教授說。「他希望愈來愈多女生加入科 研的行列，為科研作出更大的貢獻。
From the Beijing Olympics to the InnoCarnival
HKUST Products Never Cease to Dazzle

For three days in October 2008, the InnoCarnival organized by the Government’s Innovation and Technology Department trotted out Hong Kong’s latest innovative products. Even against stiff competition, HKUST products still managed to dazzle the crowd.

One of the products, “Moxi” (meaning “drama of ink” in Chinese), was the brainchild of HKUST PhD graduate in computer science Mr Chu Siu-hang, who spent six years developing this digital ink painting software.

Capable of creating unprecedented visual effects, this technology recreates the virtual effects of distinctive characteristics of ink painting. In fact this technology stole the show at the spectacular opening ceremony of the Beijing 2008 Olympics.

Meanwhile, the Robotcop (a robot policeman) jointly developed by HKUST and the Hong Kong Police also managed to snare the attention of Financial Secretary John Tsang, who came over for a chat after officiating at the opening ceremony. When Robotcop asked the Financial Secretary if he knew what narcotics were, the Financial Secretary asked, "Will I get a prize for a correct answer?" This drew a round of applause and laughter from the real people around.

Braving the Deep

HKUST is blessed with a shoreline campus. The sea is never far from our mind or from our sight. Last autumn, the HKUST jetty was crowded with divers participating in “Dive Into Your Full Potential at HKUST”.

In keeping with HKUST’s community service spirit, a number of disabled persons as well as youngsters from underprivileged families were sponsored to join this year’s event, making it particularly meaningful and memorable.

The first to take the plunge was HKUST’s Acting President, Prof Roland Chin, launching the event with a big splash. He was followed by more than 80 HKUST alumni, students and staff who braved the deep off the shores of our beautiful campus.

HKUST alumni Choi Man-hin and his wife Au Suk-fun, who were among the participants said: "This event is an opportunity to show our love for both our community and our environment. It is so very moving to see disabled divers determined to overcome their handicaps in order to take part in the event,"

The event, jointly organized by HKUST, the Hong Kong Underwater Association and the Sai Kung District Council, was a splashing success.
A memorial service in honor of HKUST’s former Dean of Science and Vice President for Academic Affairs Prof Leroy Chang was held at the University on 10 September 2008. Prof Chang passed away in California in August 2008.

On that day, friends old and new gathered together to pay their last tributes to Prof Chang. They included Chairman of the University’s Court Sir S Y Chung, former Vice-President for Administration and Business Mr Ian MacPherson, former Dean of Business School Prof K C Chan, and some retired faculty, fully demonstrating the respect and love Prof Chang commanded from his peers.

Mourning the passing of one of HKUST’s favorite sons, President Paul Chu said that Prof Chang would always be remembered by colleagues, students and alumni who knew him for his inspired leadership, approachability and energy. During the seven years at this University, Prof Chang made numerous and significant contributions to this young institution.

“Anyone who has the privilege of working with him will remember vividly his unique ability to energize and inspire,” Prof Chu said.

Prof Chang was Dean of Science from 1993 to 1998, and Vice-President for Academic Affairs from 1998 until his retirement in 2000, when he was bestowed the title of University Professor Emeritus.

Prof Chang graduated from Stanford University with a PhD in Physics. In the course of his illustrious academic career, he enjoyed the rare privilege of being honored by five academies of science in the US and China, including Taiwan—Chinese Academy of Sciences, Academia Sinica, US National Academy of Sciences, US National Academy of Engineering, and Hong Kong Academy of Engineering Sciences.
The Death of an Angel

We have you in our hearts.

Members of the HKUST community crowded into the Tin Ka Ping Hall last October to mourn the sudden passing of Miss Xu Yan, a second year Social Science PhD student who was lost to acute leukemia.

News of Miss Xu’s sudden death shook and saddened those close to her—her family, friends, teachers and fellow students. It was only a matter of six days between her admission to the hospital and her untimely death.

Prof Y S Wong, our Vice-President for Administration and Business, led the memorial service. Those who were near and dear to Miss Xu, among them her friends from her alma mater the Huazhong University of Science and Technology, gathered to pay their respects and honor her memory. The University’s Mainland Student and Scholar Society also sent representatives. All were left pondering the unmeaning of the passing of one so young and so full of promise.

Ms Xu was the only child in the family. Her death has hollowed out the lives of her parents, both elderly and retired. For them, financially and existentially, the promise of tomorrow is no more. Members of the University were moved to launch a donation campaign to offer what comfort and relief they could to the bereaved.

HKUST Hosts International Finswim Relay

HKUST is the proud venue provider and co-organizer of the 12th Hong Kong International Long Distance Finswimming Competition held in the waters off our campus on 14 December 2008. Teams from Mainland China, Macao, South Korea and Hong Kong SAR took part in the 3,000-meter race. Director of Facilities Management Mr Mike Hudson presented the HKUST Cup to Mr Jian Ka from Mainland China (Men’s Champion), Mr Lee Hee Won from South Korea (first runner-up) and Mr Jiang Feng from Hong Kong SAR (second runner-up).
Winners of the Table Tennis Event: Zoe Chiu (center), Emma Fung (right) and Dena Chan

Who Says We are Nerds or Bookworms?
科大於工商機構運動會創佳績

**Table Tennis**

**Team Event**

3rd runner-up (Emma Fung, Dena Chan)

**Women’s Singles**

Champion (Zoe Chiu)

**Women’s Doubles**

3rd runner-up (Emma Fung, Dena Chan)

**All Group A Companies**

2nd runner-up (overall score)

**Distance Run**

**Men’s Open**

1st runner-up (Que Yin Tik)

**Men’s Master**

2nd runner-up (Bradley Foreman)

**Men’s Master Team Event**

2nd runner-up (Bradley Foreman, Bertram Shi, Jaepil Choi, Tongo Chan and David Cook)

**Women’s Open Team Event**

1st runner-up (Queenie Liu, Liming Zhai, Christine Chiu, Clara Kwan and Jaime Shing)

**All Group A companies**

2nd runner-up (overall score)

HKUST’s fervent supporters of distance run
這項驚喜度高達「五顆星」的警告，來自長跑書《Better Training for Distance Runners》。原來有數個案例，顯示馬拉松跑手跑完後，在終點時還可豪氣干雲地撐住，但一旦排尿時，駭然見血，使不少長跑鐵漢或鐵娘子嚇到腳軟，癱坐馬桶，威風盡失。

諸位跑者，當排尿時，若見尿中帶血，應速看《馬拉松書》。其中詳述血尿的產生原因，以及解決方法。甚至有著名跑手，於排血後，仍能以四小時完成賽事。這項驚喜度高達「五顆星」的警告，來源於嚴格的科學研究，而非傳奇的故事。讀完該書，雖未血尿，我已嚇得停跑兩週。

「跑步口者，駛唔駛咁摶呀?」然而腳癢難消，於是請教長跑名宿，恒生銀行的張樹槐兄。張兄回覆：「從未試過，亦無聽聞其他跑手試過。毋畏!」聽後我頓感釋然，於是再穿跑鞋，奔上長路。

好事，從來多磨。過去三年參加了三次十公里賽，愈跑愈快，老骨頭亦越來越輕。今年「樂」練二十週，超越半馬，直綫全馬，但竟然在跑前一週患了重傷風，咳到雙肋疼痛，頭脳脹。長跑名宿忠告：喉部不適尚可跑，胸肺不適者勿跑。醫生勸告：喉癢，可勉強跑；感冒，則忌跑。二月八日，東方欲曉，咳嗽鼻塞持續，但無發燒等感冒症狀。自信不會猝死路邊，於是從容出發。以逾半百之齡，帶病之身，去初試全馬。自我感覺當然良好，右邊嘴角不禁像已故貓王皮禮士利一樣，向上趨了起來。

冠軍級的馬拉松好手，多以約兩小時十多分鐘跑畢全程。美國男子組平均時間約為四小時三十分，而女子組則約為五小時。香港賽的時限為五小時三十分。慢過這時限，有免費巴士，車你回終點。當然跑得愈慢則愈傷。一位美國馬拉松冠軍曾說：他非常佩服以四小時或以上跑畢全程的跑手。他以兩個多小時完成賽事，已筋疲力盡，要跑四、五小時，他「頂唔順」。

小弟呑足全程 42 公里，可謂半里一痰、百步一咳。頭三里路，7,000 型男女老，擠爆馬路，展開衝突。我以 65 分鐘完成頭二十公里，略差於「目標價」的一小時。轉入 10-20 公里，人龍拉長，空間拉闊，大部分跑手已可按自己步伐去跑。這時，我鼻涕已乾，但咳嗽及痰沫居然供應不絕。以兩小時十五分完成頭二十公里。心想 OK 啦！

但 20 公里之後，平時 35 公里才出現的全身疲憊，竟突然來襲。雙腳愈感不聽指揮。到了 35 公里，不單給那位穿淺紫色緊身衣，秀髮輕飄，名叫「紫雁」的美少女拋離，還要蹲在路邊自我按摩雙腳，失禮街坊。「紫雁」這名字，是她在我前輕盈地跑，而我邏輯思維已盡失時，突然在我空白腦海裡浮出來的。紫雁飛走之後，我頓感失落之餘，唯有強提真氣，入西隧、上天橋、過金鐘。一轉入銅鑼灣，但見兩旁擠滿男女老幼，為每位跑經的健兒吶喊加油。我眾小民，從未試過在街頭有這麼多路人甲乙丙丁為自己打氣，場面溫罄。我不禁鼻子一酸，胸口一熱，一股暖流直奔丹田，而雙腿則直奔終點區。

很多長跑初哥，甚至老手，過終點時已筋疲力盡，通常以「死口下死口下」的面目見人。但在講求形象與包裝的社會，我心想：如果我輩也是這樣，那便白活了半世紀。跑步，也講求「市場策略」。於是在終點前一百米「死口下死口下」時已放慢腳步，暗自回氣，待跑近裝有大會照相機的終點區前，馬上挺胸縮肚，高舉雙手，睜大明亮的眼睛，擠出自以為陽光般的笑容，以百米短跑的步姿，光輝勝利的造型，完成 42 公里的長征。時間多花數秒，形象贏了十分，瞄一瞄終點的大鐘：四小時四十五分鐘。
Fok Ying Tung Immortalized in Sports Stadium

It is a statue that would have made the late Mr Fok Ying-Tung proud. Standing tall at the entrance to the Sports Center is a larger-than-life bronze statue of Hong Kong’s sports legend. Clad in a football jersey, and striking a typical footballer’s pose, the statue was unveiled on 12 December 2008 by members of the Fok family.

The statue is the work of the sculptor Mr Chu Tat-Shing, who worked hard to immortalize “a football enthusiast who drove the development of sports in Hong Kong and the Mainland.”

Alongside the unveiling of the statue, HKUST’s sports stadium was renamed to honor Mr Fok for his generous donation of $800 million to the University, making possible the setting up of our new graduate school in Nansha at the heart of the Pearl River Delta. The school is part of HKUST’s strategic development plan for 2005 to 2020.

The naming and unveiling ceremonies were followed by a friendly match between the Yau Wing Team founded by Mr Fok and the HKUST team at the Sports Center.

The ceremony was attended by Mr Fok’s sons Timothy, Ian, Benjamin, Manson and Michael, as well as his grandsons Kenneth, Eric and Jason. Eric even took to the field as a member of the Yau Wing Football Team.

In its heyday, Yau Wing was a formidable team boasting a number of legendary players—such as Yiu Cheuk-Yin (dubbed “Treasure of Hong Kong”), Wong Man-Wai (former coach of the South China Football Team), Chung Chor-Wai (another football great in the 60s and 70s), and Chu Pak-Wo, a renowned goalkeeper in the 60s.
立於學生體中心入口附近是一個雄姿英發的銅像。銅像
身高2米，重600公斤。銅像的主人翁身穿球衣，腳踏
足球，一手按腰，另一手挽著掛於背部的外衣，神情氣爽…

根據銅像創作者朱達誠的手稿，銅像主人翁「親身參與球賽，
對賽果及體壇的進步非常高興，笑容親切，肢體的節奏令動態
充滿朝氣。」銅像的主人翁是科大的摯友霍英東先生。

科大得以在珠江三角洲的南沙成立研究院，以及落實科大
2005至2020年的策略發展計劃項目，全賴霍先生慷慨捐贈8
億元。為了感謝霍英東先生對科技大學的慷慨支持，並紀念他
對本港和國家體育發展的貢獻，科大除了將體育中心以霍英
東先生命名外，亦在體育中心入口樹立一個青銅像。

科大於2008年12月12日舉行「霍英東體育中心命名
典禮暨霍英東先生銅像揭幕儀式」，典禮後在霍英
東體育中心舉行足球友誼賽，由霍英東先生創辦
的「有榮」足球隊對科大教職員隊。

出席當日儀式的除了霍家第二代的霍震霆、
霍震寰、霍震宇、霍文遜及霍啟強先生外，
還有第三代的霍啟剛、霍啟山和霍啟中先生，
霍啟山先生並披甲上陣，與有榮隊員並肩上陣作
賽。

不說不知，有榮隊星蓋雲集，成員中有綽號為「香港
之寶」的姚卓然、前南華教練黃文偉，六、七十年代
著名中鋒鍾楚雄及在60年代有「愉園鋼門」之稱的
朱柏和等。
Being a Chinese patriot has not always been easy. Patriotism at a time when China is strong and respected may have its rewards. But patriotism at a time when China was isolated and poor might carry with it hardships that are hardly conceivable in times of peace and prosperity.

The story of Prof Paul Lin Ta-Kuang, director of the Center of East Asian Studies at McGill University, and professor the University of British Columbia in Vancouver is a case of patriotic hardship.

His was a tale of heartbreak and eventual triumph. Prof Lin suffered enormous personal sacrifice in bringing his family back to China in the early days of the People’s Republic where he taught and lived in Spartan conditions for the next 15 years. During his protracted residence in China, he met its top leaders in whose circle he moved as their friend and advisor. These contacts and relationships were preciously and copiously documented in his personal papers, books and memorabilia.

Prof Lin parlayed these relationships into a platform for promoting peace and normalizing China’s relations with the West. When rapprochement finally came between the People’s Republic and the United States, Professor Lin had had a somewhat catalytic role to play. He first helped China to establish diplomatic relations with Canada, a prelude to the eventual thawing of the Sino-US relationship. Later, Professor Lin became a conduit of secret messages between former US Secretary of State Dr Henry Kissinger and Beijing leaders in American leaders’ reaching out to China, resulting in the historic visit by President Nixon to the Chinese capital in 1972. That was Prof Lin’s political contributions to the peaceful emergence of China into the international arena. But for years before this historic event took place, Prof Lin was treated with suspicion in official circles in the West as a China sympathizer.

The HKUST library is hugely blessed in acquiring the entire collection of Prof Lin’s documents, booklets and pamphlets from his widow Mrs Eileen Lin through the Lins’ friendship with Prof Yuk-Shan Wong, our Vice-President for Administration and Business, who knew them back in his days at McGill University.

Honors for Prof Lin came late in his life. He was named one of the 10 Canadians who have contributed most to Canada-Asia relations in the past century by the Asia Pacific Foundation of Canada. In 1998, he was named a member of the Order of Canada, the highest national honor, by the Governor-General of Canada in recognition of his lifelong commitment and contribution to fostering Canada-China relations.

Prof Lin’s life was a profile in courage. We at HKUST are lucky to inherit the records of his deeds of courage and acts of love for China. In these records inhabit the memories of a great Canadian and a great Chinese patriot.
科大獲贈

Acquisition

科大獲贈

愛國者珍貴文獻

熱愛中國，有時並不容易。在中國國勢富強並享有崇高國際地位時，愛國會獲獎勵；但在中國處於被孤立隔離和貧困的時代，愛國者背負的艱辛，是現今安穩富裕的一代所無法想像的。

加拿大麥基爾大學東亞研究所前所長及溫哥華哥倫比亞大學林達光教授，正是極具代表性的例子。

他的一生因愛國而充滿辛酸，但結局是光輝而凱旋。中華人民共和國成立之初，林教授放棄在美國的安穩生活，舉家回到祖國。往後15年，他們過著刻苦簡樸的生活。期間，他結識到中國最高領導層並成為他們的朋友和智囊。有關事蹟，全記錄在他的私人信函、藏書和有紀念價值的雜物裡。

林教授充分發揮這些人際關係，將之引伸為宣傳平台，與西方國家宣揚和平及促進與中國關係正常化。首先，他協助中國與加拿大建立外交關係，誘發中美兩國終止冷戰。終於，有賴林教授擔起催化的角色，中美恢復邦交。其後，在中美建交的過程中，林教授成為美國前國務卿基辛格博士和中國領導層的秘密通訊渠道，並在1972年，締造了美國總統尼克遜歷史性訪問中國。以上所述的是林教授政治上的貢獻，使中國的政治舞台能夠和平地與國際接軌。然而，在一切未發生之前，林教授一直因被西方的官方組織懷疑為親中份子，而飽受滋擾。

科大副校長（行政）黃玉山教授與林達光教授相識於麥基爾大學，兩人亦師亦友，情誼深厚。得黃教授的穿針引線，林達光夫人首允將林教授生前的大量珍貴藏書、手稿和文件，捐贈科大圖書館。對於獲贈極具歷史價值的藏書，科大深感榮幸。

林達光教授的成就和貢獻在晚年得到各界的肯定。他被加拿大亞太基金選為上一世紀的十大加拿大公民之一。1988年，他獲加國總督頒授加拿大最高榮譽勳章，以表揚他對東西文化交流及發展加中關係的功勳。林教授的一生是一本記錄勇敢事蹟的典籍。科大能夠保存所有關於他對祖國的熱愛和勇氣的記錄，實在是萬分榮幸。在這些寶貴的文獻裡，記載了一位偉大的加拿大和一位熱愛祖國的中國人的動人情操。
An Ancient Instrument
Comes to a Modern Campus
渾天儀傲立科大

This modern university has recently acquired an ancient icon of science. The HKUST has now not only the “red bird”, but also something else to explore the heavens with.

That something is the replica of the Armillary Sphere recently installed at the Fong Shu Chuen Promenade—thanks to the generous donation by the Fong Shu Fook Tong Foundation and the Fong’s Family Foundation.

The Armillary Sphere is an ancient Chinese invention, and one of the oldest astronomical instruments in the world for calculating the position of heavenly bodies.

A dedication ceremony for this Armillary Sphere replica was held in September 2008, at which the Chairman of the Fong Shu Fook Tong Foundation and the Fong’s Family Foundation, Dr Fong Yun Wah said, "I am pleased to play a part in adding meaning and life to the HKUST campus. The objective of installing this Armillary Sphere replica here is to remind the university community about China’s long and distinguished scientific heritage.”

According to historical records, the Armillary Sphere is an astronomical device dating back to the Western Han Dynasty. The design evolved through the centuries and one of the earliest originals of the instrument was made over 570 years ago in the Ming Dynasty, and is now housed at the Nanjing Purple Mountain Observatory—one of the five largest observatories in Mainland China.

The replica is a half-dimensional model of the original instrument, measuring 1.41 meters in length and width and 1.525 meters in height. Made of bronze, it weighs approximately one tonne.

This replica holds great cultural significance for the university. It is also sure to attract a hoard of visitors. When the news of the presence of an Armillary Sphere at HKUST reached the public, the university soon received a number of calls from local tour operators, asking if they could bring tourists to visit the university, and view this ancient astronomical device. Tourism Hong Kong, here we come!

The Armillary sphere replica, installed at the starting point of Fong Shu Chuen Promenade on the HKUST campus

Dr Fong Yun Wah (left) receives a souvenir from President Paul Chu at the Dedication Ceremony.
The University received a HK$1 million donation from Wing Lung Bank Foundation for setting up scholarships for outstanding students who have studied here for over a year.

At the cheque presentation ceremony Dr Michael Wu, Chairman of Wing Lung Bank Foundation Limited, said that Wing Lung Bank Foundation shared the same vision with HKUST to build a better Hong Kong by turning it into a knowledge powerhouse in Asia.

In our 2007/08 academic year, there were over 360 continuing students (Year 2 to Year 4) scoring a Cumulative Grade Average of A- or above, representing more than 9% of the continuing student population. With the donation from the Wing Lung Bank Foundation, we can now set up more scholarships to recognize students who have demonstrated remarkable progress in their studies.
Charity Begins At Home — HKUST Professor Donates HK$1.1 Million to Recognize Students

The University has received a HK$1.1 million donation from one of its own professors — Prof Larry Franklin of the Department of Finance — who made the donation through his family’s charitable foundation in the US. The donation will be used to establish a permanent endowment to fund tuition awards for students working for not-for-profit organizations who are admitted to the Kellogg-HKUST Executive MBA Program. The first award cheque was handed out in January 2009.

HKUST will match the donation with an equal amount of contribution from the HKUST Business School. The donor and the School intend to launch a fund-raising campaign to raise an additional HK$2 million to make up an endowment principal of around HK$4 million.

Prof Franklin, who has taught business law and international strategy courses in our EMBA Program for the last 10 years, said, “We wish to include more executives from non-business backgrounds to share their visions for a better world with the business executives in the classroom. I am glad to provide support and impetus to the Program in its pursuit of this meaningful cause,” he said.

Anyone wishing to emulate Prof Franklin’s example in generosity by giving a pledge or gift to this new Endowment at HKUST can contact Judy Au at 2358-4461 or email her at bmjudyau@ust.hk.
科大叢書系列

校友叢書系列
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