香港科技大學

THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

HKUST placed in the world's top 50 in the first global university rankings by *The Times* of London 5
倫敦《泰晤士報》首度進行全球大學排名榜，科大位居50所頂尖學府之一

The *Financial Times* ranks the Kellogg-HKUST EMBA the world's sixth best, up three places from the previous year 6
科大與Kellogg合辦的EMBA課程，獲《金融時報》評為全球第六，較去年躍升三級

Donations prompt the creation of new research centers in mathematics and China studies 12
社會人士慷慨捐助，促成科大建立兩所嶄新研究中心

TUST

NEWSLETTER 科大通訊

Forging a Clearer, Cleaner Future
環保研究 創造未來

As the world continues its headlong rush for development, the severe impact on the environment in which we live out our daily lives is reaching critical levels. Changes need to be made fast and HKUST is undertaking the research to help make them happen.

Through environmentally friendly solutions to improve the air we breathe, the water that surrounds us and the throwaway lifestyles we lead, HKUST researchers are utilizing the University's cutting-edge facilities to forge the way to a clearer, cleaner way of life, locally, regionally and globally.

This issue of our Newsletter provides a special focus on some of the exciting advances underway.

全球急速發展，我們每天生活的環境，備受破壞；保護環境，刻不容緩。科大的教授及研究人員，埋首環保研究，為改善環境出一分力。

科大的教授為空氣污染、海洋生物污損及循環再造三個課題，提供環保方案。他們利用科大先進的研究設備，創造一個更環保的明天。

本期通訊報道其中三項環保研究。

The Underwater Clean Team 水底清潔 取諸自然

It can be an expensive business when ships, drilling platforms, pipelines and underwater instrumentation come under siege from marine settlers such as barnacles, bryozoa and tubeworms. Indeed, such 'biofouling' costs the world more than US$1 billion annually. The situation is particularly severe in the Hong Kong coastal region.

Solutions to this global problem so far have relied mainly on antifouling paints based on organotin, copper and organonitrogen compounds. However, these biocides are highly toxic, causing stress to the marine environment and are now banned in an increasing number of countries. A total ban on the application of organotin as an antifoulant will be implemented by the International Maritime Organization in January 2008. This has forced the marine coating and shipping industry as well as navies to search for new antifouling agents that are either non-toxic or less toxic.

Among the scientists leading the way to more natural alternatives is Prof Peiyuan Qian, from the Department of Biology and Director of HKUST's ground-breaking Coastal Marine Laboratory.

Prof Qian's focus is on marine organisms found in Hong Kong waters or nearby regions and discovery of natural antifouling substances. His investigations also seek to understand the antifouling strategies employed by marine organisms such as sponges and corals to stop biofouling on their own body surfaces.

Over the past three years Prof Qian has led a Research Grants Council (RGC)-funded project examining bioactive compounds from marine bacteria. This group project, which ended in mid-2004, saw the establishment of the Center for Marine Bioactive Substances at the Coastal Marine Laboratory to centralize marine bacterial collection. The Center has developed the largest culture collection in the region with more than 5,000 bacterial isolates and a substantial database of marine bacteria.

During the research project, a number of non-toxic antifouling compounds were isolated, purified and fully characterized. Six new bacterial species and two new bacterial genera were discovered and described. The team also identified organic pollutants, novel bacterial strains for degrading dyes, and developed pure biotoxin production technology.

Far-reaching developments are continuing. One of Prof Qian's current RGC projects is investigating antifouling mechanisms of soft-bodied marine invertebrates, such as sponges and soft corals, in Hong Kong waters. Discoveries so far include the identification of several highly potent antifouling and antibiotic compounds from sponges, seaweeds, and the bacteria and fungi living on these organisms.

As a result of these projects and other studies, patent applications have been filed in the US and China for the bioactive metabolites produced by such bacteria and fungi. These types of products can be created biotechnologically on a large scale and much more cost-effectively than macro-organisms such as seaweed, according to Prof Qian. "More importantly, these metabolites prevent biofouling in a non-toxic and reversible fashion and thus represent an environmentally benign way to solve the problem," he said.

當船隻、鑽油台、渠道及水底設施受到藤壺、苔蘚蟲門類及多毛蟲類等海底棲生物侵襲時，水管或船底形成生物污損，清潔費用高昂。全球每年花在清除生物污損的費用高達10億美元。在香港海岸地區，生物污損情況尤為嚴重。

解決這個全球難題的方法現時主要倚賴防污損油漆，成份多為有機錫、銅及有機氮複合物。不過，這些有害物質毒性高，破壞海洋環境。2003 年 1 月，國際海事組織已全面禁止生產目前用途最廣也最有效的有機錫防污損油漆，至2008年1 月，將全面禁止使用有機錫為防污損塗料。海洋工程、船運業及海軍必須尋找無毒性或毒性相對較低的新穎防污損塗料物質。

科大生物學系及海岸海洋實驗室主任錢培元教授致力尋找天然防生物污損方案。

錢教授專注研究本港水域及附近地區的海洋生物，發掘自然防污損物質；探討海綿及珊瑚等海洋生物，如何防止污損生物在身體表層附著。

過去三年，錢教授領導一個研究資助局資助的項目，從海洋細菌中發掘生物活性物質，該合作項目於 2004 年中完成，錢教授在海岸海洋實驗室之下成立海洋活性物質中心，集中處理海洋細菌的數據。該中心已發展成一個區域最大的海洋細菌菌種庫和數據庫，儲存逾 5,000 個海洋細菌菌株及相關的詳細資料。

在研究過程中，他們分離、純化出逾十個無毒性的防污損物質，並進行了結構分析；已發現了六個新菌品種及兩個新菌屬。小組找出能分解色素、有機污染物的新穎菌種，並開發純生物毒素的生產技術。

錢教授防生物污損的研究不斷取得成果。他正在研究香港海域內海洋無脊椎生物，包括海綿及軟珊瑚的防生物污損機理。他從海綿、海藻，及寄生於這些生物身上的細菌及真菌中，發現了數種高效防污損及抗菌活性物質。

錢教授已為細菌及真菌產生的生物活性物質申請美國及中國專利。他認為，這些成份可以通過生物技術大量生產，較海藻等生物相比，用微生物生產這些活性物質更具成本效益。他說："更重要的是，這些生化代謝物沒有毒性，可迅速降解，對環境不會構成破壞，取諸自然，用諸自然，是防治生物污損的最佳辦法。"

Glassphalt Paves Way for Bottle Recycling

回用廢棄玻璃來鋪路

Think about this when you next throw away a bottle of soft drink, wine or soya sauce. Hong Kong produces more than 100,000 tons of waste glass annually and although over 50,000 tons are technically recoverable, only 1,500 tons are currently reused.

Out to change this situation are Dr Guohua Chen and Dr Zongjin Li, from the Departments of Chemical Engineering and Civil Engineering respectively, who will soon be finishing an environmentally friendly research project that could pave the way for used bottles to be reemployed in road surfacing.

The research team first reviewed global practices on waste glass reuse, recycling and treatment, taking in more than 200 publications. They then set out to create a 170m x 6m 'glassphalt' demonstration road on the HKUST campus using waste glass from bottles collected from Lan Kwai Fong and SoHo entertainment areas, hospitals and local suppliers.

Glassphalt is a type of asphalt that uses glass cullet as a replacement for some fine or coarse aggregates and is already in use in other parts of the world, including the US and Japan. It can easily be prepared and laid using the same equipment as conventional asphalt.

Dr Zongjin Li and Dr Guohua Chen
李宗津及陳國華博士

The two-year project, funded by the Environmental Protection Department and ending in February 2005, has enabled researchers to examine the properties of locally produced glassphalt and to make recommendations regarding its use in road construction in Hong Kong. "The results we obtained from the road tests, conducted with the help of the Highways Department, show the glassphalt road performs as well as an ordinary asphalt road," Dr Li said.

The main difficulties for the researchers stemmed from the lack of facilities available locally to treat the waste glass. Used bottles needed to be collected, cleaned, crushed and packed to produce glass cullet. "We also had to purchase a crusher and modify it for our particular purpose," Dr Chen said. About 37 tons of glass cullet in total were eventually produced, with various tests carried out to check particle distribution, water absorption, hardness and chemical content.

The next stage is to create a glassphalt road off the campus for further testing, preferably in an area with low or moderate traffic, Dr Chen said.

當你在丟掉汽水、酒或醬油的玻璃瓶子時，可曾想到香港每年有逾10萬噸廢棄玻璃。雖然其中超過一半技術上可循環處理，但現時只有1,500噸獲回收再用。

化學工程學系陳國華博士及土木工程學系李宗津博士正合力改變這種狀況。他們即將完成的環保研究項目，可為廢棄玻璃瓶鋪設公路打開局面。

研究小組首先細閱超過200篇文獻，分析全球廢棄玻璃的不同處理及循環再造的方法。他們在蘭桂坊及蘇豪等娛樂場所收集廢棄玻璃瓶子，再造成玻璃瀝青，並在科大海傍鋪設一條長170米，寬6米的示範路段。

玻璃瀝青混凝土是瀝青混凝土的一種，以碎玻璃取代部分沙骨料的建築材料。美國和日本等其他地方已採用玻璃瀝青混凝土。香港目前還沒有本地的使用範例。玻璃瀝青混凝土製造及鋪設過程簡便，所需設備與現時常用的瀝青混凝土無異。

這項為期兩年的研究由環保署資助，將於明年2月完成。研究人員探究本地玻璃瀝青混凝土的特質，為玻璃瀝青應用於興建香港公路提出建議及使用範例。李博士說："在路政署的協助下，我們進行了路面測試，結果顯示玻璃瀝青混凝土的功能與普通的瀝青混凝土並無二致。"

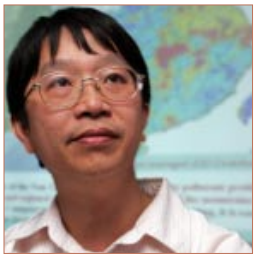
研究最大的困難是本地欠缺處理廢棄玻璃的設備，使用過的玻璃瓶子需要收集、清洗、破碎成碎玻璃。陳博士說："我們需要購置一台粉碎機，並且對其改造以切合需要。"經過不斷測試粒子分佈、吸水量、堅硬度及化學成份後，研究人員終於製造了37噸適用的碎玻璃。

使用玻璃瀝青混凝土必須經過適當的配合比設計、攪拌試產，並於正式鋪設前進行路基處理。研究人員採用了Marshall混合設計，目的是計算合乎經濟效益的骨料及瀝青配合比，以符合道路建造要求，並優化顆粒大小及碎玻璃的成份。

陳博士表示，下一步要在校園外找一段交通流量較低或一般的路面，鋪設玻璃瀝青混凝土，繼續測試。

Cutting-edge Monitoring System Seeks Clearer Picture on Air Quality

衛星智能系統 精確監測空氣污染



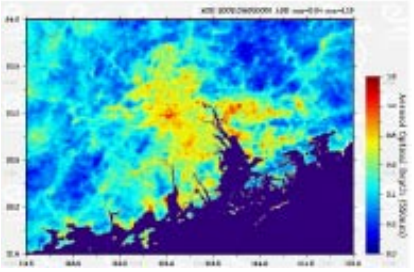
Whether it is choking traffic fumes or haze obscuring the harbor, it is clearly visible that Hong Kong's air quality has seriously deteriorated in recent years. Now, HKUST's Center for Coastal and Atmospheric Research (CCAR) is setting out to fuel long-lasting improvement by developing a sophisticated monitoring system using satellite technology, which can provide specific air quality information down to neighborhood level.

The cutting-edge system will not only help urban planners and environmental consultants, among others, to develop better air-quality assessments and management strategies, but can also give them a competitive edge. "The system enables these professionals to offer more specific assessments and recommendations to clients," explained project coordinator Dr Alexis Kai-Hon Lau, Acting Director of CCAR. Such detailed, localized information is unavailable in Hong Kong or elsewhere at present.

The Satellite Informatics System seeks to derive wide-area, high-resolution surface particulate matter (PM) distributions using satellite data with spatial resolution down to one kilometer.

The HK$4.65 million project, which began in May, is being funded by the Innovation and Technology Commission.

The project is a result of earlier CCAR studies utilizing HKUST's Internet2 connection and satellite analyses capabilities, and also a collaborative data agreement with the US National Aeronautics and Space Agency (NASA). In both local studies and cross-border air pollution projects working with Peking University, HKUST researchers have been able to use real-time satellite data to detail the scale and areas most affected by pollutants down to specific cities.



A satellite map showing the distribution of pollutants, with the most polluted areas in red
衛星圖顯示污染物的分佈情況，紅色部份為污染較嚴重的地方

Satellite mapping has also helped HKUST researchers refute the suggestion that Hong Kong and the Pearl River Delta's particulate pollutant problem is related to Mainland China as a whole (and thus too difficult to solve), as data has shown transport from north of the Nan Ling mountains along Guangdong's northern border to be much less important than local and regional sources.

Recent studies benefiting from such mapping include Civic Exchange's Hong Kong and Pearl River Delta Pilot Air Monitoring Project and a research project for the Environmental Protection Department on air quality in the western part of Hong Kong, concluding at the end of 2004. The latter is the first to give a clear indication of the reasons for the poorer air quality in the western part of Hong Kong, Dr Lau said. "The transport of local pollutants by the mean easterlies, and the urban land-sea breeze trapping of local and regional pollutants are both biased against the western side in terms of air quality," he said.

Faculty members working with Dr Lau include Dr Jimmy Fung, Department of Mathematics, Dr Jianzhen Yu, Department of Chemistry and Dr S C Kot, Department of Mechanical Engineering. Cross-border studies have involved collaborative work with Peking University and the Chinese Meteorological Administration.

不論是叫人呼吸困難的汽車廢氣，還是霧鎖海港，近年香港空氣質量急降，人所共知。科大海岸與大氣研究中心正研發一套精密的衛星智能監測資訊系統，可以提供精確的空氣質量資料，其精密度可分辨至不同居住屋苑或工作地點，對改善空氣質量有極大幫助。

這套先進的智能系統可以為城市規劃師及環保顧問等專業人士提供更精確的空氣質量評估及管理策略，加強其競爭優勢。研究中心署理主任及項目統籌劉啟漢博士說："這套系統為這些專業人士提供更具體的評估，可以向客戶作出建議。"現時，不論香港或海外皆未有提供這般詳細的空氣質量資料。

衛星智能資訊系統利用美國衛星數據，發展一套可推算大範圍高密度的地面懸浮粒子分佈的新程式，提供空間解析度精密度達一公里的環境資訊。

這項研究獲創新科技署資助，在5月展開，總研究經費為465萬港元。

這項目建基於海岸與大氣研究中心利用科大互聯網2網絡，及早前發展的衛星分析技術，也受惠於中心與美國太空總署的數據合作協議。科大研究員與北京大學進行本地及跨境空氣污染研究合作項目時，可運用實時衛星數據具體分析個別城市的情況，詳細列出各地區受空氣污染物影響的程度。

衛星圖也協助科大研究人員否定香港及珠江三角洲的空氣污染是全國性問題（因此極難解決）的說法。研究發現，從廣東省北面邊界南嶺以北吹來的污染物，其影響遠較本地及珠江三角洲內的污染源頭為輕。

利用衛星監測空氣污染的研究專案，包括思匯政策研究所的香港及珠江三角洲的空氣監測，及海岸與大氣研究中心為環保署進行香港西面空氣質量研究。後者首次清楚解釋為何香港西面的空氣質量較差。劉博士說："香港普遍吹東風，將本地污染物向西輸送，加上珠三角城市化及海陸風環流鎖住本地及區域的污染物，令其難於擴散，使本港西面的空氣質量相對較差。"

數學系馮志雄博士、化學系郁建珍博士及機械工程學系葛時俊博士與劉博士共同進行研究。科大又與北大及中國氣象局跨境合作研究。

Global Recognition

揚名國際

HKUST among World's Top 50 Universities, says London *Times*

科大獲倫敦《泰晤士報》評為全球50所頂尖大學之一

HKUST is among the very best universities in the world, according to new ranking figures published by the highly regarded London *Times* newspaper on 4 November.

The Times' league table of the world's top 200 universities places HKUST at number 42 globally, and number 12 in Asia. Other universities in the Top 50 include Harvard (1), Oxford (5) and Peking (17).

Top 50 for Science

In another *Times*' league table compiling the top 100 universities for science, released on 10 December, HKUST was ranked at number 50, the only Hong Kong representative to attain a top 50 place. Cambridge and Oxford head the table.

As *The Times* comments, the table indicates the growing importance of Asia, with seven Chinese universities in the top 100. The University of Hong Kong was ranked at number 72.

"In the face of such esteemed competition, we have achieved an outstanding feat, especially for such a young university," said President Paul Chu. "Many of the other universities in the top 50 league are centuries old, and this brings them an inherent head start. HKUST, on the other hand, was established a mere 13 years ago."

"I trust Hong Kong will be proud of this immense and rapid achievement by the University, and value the hard work of the whole HKUST community."

Peer-based assessment

The Times' rankings, new this year, are calculated on the basis of a survey of some 1,300 academics across 88 countries. They were asked to name the best institutions in their respective fields.

HKUST scored especially well in the peer review, which accounted for 50% of the total score. Four other criteria were used to assess the top 200 institutions' teaching, research and international reputation: number of citations per faculty member (20%); ratio of students to faculty (20%); and the number of international students and staff (5% each).

Pride of Hong Kong

"With HKUST's move towards becoming an international education hub, *The Times*' league table further signals to undergraduates and postgraduates from the four corners of the planet that Hong Kong is an exceptional city in which to gain a first class education," said Prof Chu.

"The smaller [territories] of East Asia, including Hong Kong," *The Times* concludes, "are being taken seriously around the world for their academic excellence."

科大獲廣受推崇的倫敦《泰晤士報》評為世界最佳學府之一。

《泰晤士報》在11 月4 日列出全球200 所學府的排名，科大榮登第42 位，也是亞洲區的第12位。其他首50名大學包括哈佛(1)、牛津(5)及北京大學(17)。

科學領先

12月10日，《泰晤士報》公佈全球100所大學在科學領域的排名，科大的成就再獲認同，位居全球第50位，是香港排名最高的大學。劍橋及牛津居全球第一及第二。

《泰晤士報》指出，排名榜顯示亞洲地位日益重要，中國有7所大學榜上有名。香港大學名列第72 位。

朱經武校長說："科大歷史尚淺，與全球著名學府競爭，獲此佳績，殊不簡單。不少前50 名的大學歷史悠久，佔一定的發展優勢，我們卻只有13 年歷史。"

"科大在短時間內創下驕人成果，我相信香港人必定以此為榮，並珍惜大學同仁不懈的努力。"

同儕評審

《泰晤士報》首度推出全球大學排名榜，排名結果歸納全球88 個國家1,300位學者的意見調查，請他們說出所屬領域最優秀大學的名稱。

科大廣受全球學者讚許，在同行評審(佔總分50%)一項表現出色。《泰晤士報》也採用了其他四項準則來衡量最佳200所大學的教學、研究和國際聲譽：每名教授著作被引用的次數(20%)；學生和教授比例(20%)，以及國際學生和職員數目(各佔5%)。

香港的驕傲

朱校長說："科大致力發展成國際教育樞紐，《泰晤士報》排名榜再次告訴海內外本科生和研究生，香港實在是一個一流的城市，提供一流的教育。"

《泰晤士報》指出，東亞較小地區的學術成就，包括香港，令世界刮目相看。

THE WORLD'S TOP 50 UNIVERSITIES 世界首50所大學	
1	Harvard University 哈佛大學（US 美國）
2	University of California, Berkeley 加州柏克萊大學（US 美國）
3	Massachusetts Institute of Technology 麻省理工學院（US 美國）
4	California Institute of Technology 加州理工學院（US 美國）
5	Oxford University 牛津大學（UK 英國）
6	Cambridge University 劍橋大學（UK 英國）
7	Stanford University 史丹福大學（US 美國）
8	Yale University 耶魯大學（US 美國）
9	Princeton University 普林斯頓大學（US 美國）
17	Peking University 北京大學（China 中國）
18	National University of Singapore 新加坡國立大學
39	The University of Hong Kong 香港大學（HK 香港）
42	**The Hong Kong University of Science and Technology 香港科技大學（HK 香港）**
46	University of British Columbia 英屬哥倫比亞大學（Canada 加拿大）
50	Nanyang University 南洋理工大學（Singapore 新加坡）
OTHER HK UNIVERSITIES IN TOP 200 其他首200名之內的香港高等院校	
84	The Chinese University of Hong Kong 香港中文大學
198	City University of Hong Kong 香港城市大學

Financial Times Ranks Kellogg-HKUST EMBA~ Six in the World

科大EMBA課程 排名全球第六

On November 1 the *Financial Times* (FT) published its 2004 EMBA league table, revealing that the Kellogg-HKUST Executive MBA is the sixth-highest ranked program of its kind in the world, up from ninth place in 2003.

Youth and Quality

Demonstrating the dramatic impact that the program has made on the region since it was introduced in 1998, the Kellogg-HKUST EMBA is the only EMBA in Asia-Pacific to have attained world top-10 status in this year's *FT* rankings.

Having reaffirmed its credentials with the quality of its EMBA, the Business School is described by the *FT* as one of Asia's youngest, but most respected.

In its report, the newspaper assesses a wide range of criteria that contribute to making a successful EMBA, with particular weighting given to the analysis of alumni, the quality of the school and program, and the research capabilities of faculty members.

Top Faculty, Top Students

Alumni are measured in terms of their career progress, work experience and salary accretion, and, most impressively, the *FT* reveals that Kellogg-HKUST EMBA alumni are the highest earning of any EMBA graduates anywhere in the world, with average remuneration standing at US$238,750 per-annum just three years after graduating from the program.

Highlighting the fact that students travel from all over the world to join the program, the *FT* also found that the Kellogg-HKUST EMBA ranks number one in the world for the international diversity of its students, as well as ranking number two for the diversity of its faculty.

Faculty also scored extremely well for their research productivity, ranking 11 in the world for the number of publications appearing in a range of 40 renowned international journals.

Program Lauded

In praise of the tremendous achievement, President Paul Chu said: "The latest *Financial Times* EMBA rankings provide yet more worldwide recognition of HKUST's remarkable ability to offer quality programs representative of the most successful dimensions of HKUST's internationalization."

倫敦《金融時報》於11月1日發表2004年行政人員工商管理碩士（EMBA）課程排行榜，Kellogg－科大EMBA課程獲得極高評價，從去年的第九位躍升至第六位。

年輕有為

Kellogg－科大EMBA課程自1998年推出以來，對亞太地區影響重大，今年更是區內唯一入選《金融時報》排名榜首10名之內的課程。

商學院獲《金融時報》評為"亞洲一家最年輕但最受推崇的商學院"，其EMBA課程備受讚譽。

《金融時報》按多項準則評核EMBA課程的水平，包括校友、學院及課程素質及教授的研究實力等。

一流的教授，一流的學生

校友素質主要根據事業發展、工作經驗及薪酬遞增而評定。按《金融時報》的調查，Kellogg－科大EMBA畢業生的收入高踞全球榜首，畢業後三年的平均年薪為238,750美元。

《金融時報》指出，Kellogg－科大EMBA學生來自世界各地，在學生國際化一項得分為各課程之冠，而在教授國際化一項則名列第二。

在研究方面，科大教授獲極高評價，他們的論文刊登於40本著名國際期刊，以數量計算排名全球第11位。

備受讚許

朱經武校長讚許商學院的成就："《金融時報》最新排名再次肯定了科大課程素質極高，彰顯了科大國際化的優點。"

FT EMBA Rankings - Top 10 《金融時報》2004年EMBA排名榜十大	
1	University of Pennsylvania賓夕凡尼亞大學: Wharton（US美國）
2	Northwestern University西北大學 : Kellogg（US美國）
3	University of Chicago芝加哥大學: GSB（US美國/Spain西班牙/Singapore新加坡）
4	New York University紐約大學: Stern（US美國）
5	Duke University杜克大學: Fuqua（US美國）
6	**HKUST香港科技大學（China中國）**
7	Columbia Business School哥倫比亞大學（US美國）
8	Instituto de Empresa（Spain西班牙）
8	London Business School倫敦商學院（UK英國）
10	Imperial College London: Tanaka（UK英國）
Other Asia Pacific Universities/Schools in the Top 75 其他上榜亞太區大學/商學院	
12	The Chinese University of Hong Kong香港中文大學（China中國）
20	CEIBS中歐國際工商學院（China中國）
31	Australian Graduate School of Management澳洲管理研究院（Australia澳洲）

President's Message

校長的話

Time to Radically Rethink Education

從學制改革徹底反思香港教育

朱經武教授 **Prof Paul Ching-Wu Chu**

The proposed education reforms, outlined in the consultation document "*Reforming the Academic Structure for Senior Secondary Education and Higher Education – Actions for Investing in the Future*", have provided the opportunity to radically rethink how Hong Kong should educate its next generation. Society has high expectations of its future graduates, not least because of the extra resources planned to implement the reforms.

All-round Education

HKUST has always supported a four-year undergraduate degree program. Indeed, since 1998, we have been experimenting with the implementation of such a program through the admission of mainland students.

The reforms should not just mean another year to add more courses. We have heard many opinions about the need to polish students' communication skills, language proficiency and a range of soft skills. An additional year will allow us more room to work on those areas. But we should also take this opportunity to revisit every aspect of educating our students.

I cannot emphasize enough that the graduates of tomorrow will need a truly all-round education to meet the challenges of the ever-changing environment.

General education has always been important in HKUST's curriculum and it will continue to be so in the future. But universities cannot possibly teach students all they need to know. The key to covering both the breadth and depth of knowledge required throughout one's working life is to learn how to learn. I hope universities will be able to do more in this aspect with the additional year.

School-based Admission

One possibility being discussed at HKUST is to admit students into a school rather than a specific program in the first year. This will help students to learn how to cross traditional subject borders and open up new learning dimensions on top of core studies.

Our Business School has largely been admitting students on a school basis, giving students a year to learn more about programs before deciding on their majors, and this has proved to be a successful model. If school-based admission is adopted across the board at HKUST, we will consider what students have studied at secondary level to work out the first-year curricula of our three schools that admit undergraduates. For this and many other matters, we will have to work closely with secondary schools.

Liberal Education

The secondary school curriculum will continue to provide the foundation for students to excel at university and in their future careers. A broader curriculum will no doubt better prepare students for all-round, inquiry-oriented and problem-based learning at the tertiary level. We support the goal of expanding liberal education in secondary schools.

How the actual subject of Liberal Studies should be taught and examined has engendered much discussion since this reform proposal was unveiled. But we should also remember general education is not just about Liberal Studies. Ideally, the spirit of liberal education and inquiry-based learning should permeate different areas of teaching in schools, while Liberal Studies itself provides some form of focus for teachers and students.

Preparing for Change

Although there has been great debate over details of the reforms, I am very glad to see there is a broad consensus that the 3+3+4 model is the way to go. I would like to urge all involved in education, including parents and the public, to take part in the discussion.

政府諮詢文件"改革高中學制——對未來的投資"提出的學制改革建議引發很多討論，可見社會對未來的畢業生充滿期許。諮詢文件提出進一步投放資源推動改革，社會的期望當然更高。學制改革建議為香港提供了一個難得的機會，徹底反思我們應如何教育下一代。

全人教育

科大一直支持實行大學四年制。自1998年，我們在錄取內地本科生方面已試行四年課程，以配合他們的需要。

大學四年制，並非只代表院校多了一年時間，可以加入更多課程。我們聽到社會上有不少意見，認為大學應加強培訓大學生的溝通技巧、語文水平及待人處事的素養。四年制讓大學有更大空間在這幾方面多做功夫，但更重要的，是我們應藉此機會重新檢視每一個教育環節。

未來的畢業生面對日新月異的挑戰，必須有全人教育的裝備，這一點我希望不厭其煩地再次強調。

一如以往，科大未來將繼續注重通識教育。然而，學生所應學的，不能單靠大學課程提供。學生要同時做到專精與廣博，關鍵是學會如何學習，並持之以恆、終身實踐。我希望大學在新增的一年可以在這方面有更多建樹。

學院收生

科大內部正討論的方案之一，包括以學院為收生單位，新生在一年級不用選定主修學科。此安排有助學生涉獵不同領域，跨越傳統學科的界限，並學會在一己專科之上，開拓廣闊的學習空間。

科大商學院一向以學院為主要收生單位，讓同學在選擇主修前對不同學科有更多認識，這是行之有效的模式，倘若科大未來全面推行學院收生，一年級課程將要重組，以配合中學課程的改革。在課程改革以及許多問題上，我們必須與中學緊密合作。

通才教育

中學教育將繼續擔負重要角色，為學生在大學期間的發揮以致未來事業打下基礎。大學教育著重培養全面探索、獨立思考、釋疑解難的能力。中學課程進一步擴闊，將有助學生掌握大學的學習方法。科大支持中學進一步推廣通才教育。

具體而言，新中學課程的"通識教育科"應如何設計，考試應怎樣安排等課題，已引起各界熱烈討論，但我們應緊記通才教育並不限於"通識教育科"。最理想的是將通才教育及探索求真的精神滲透學習的不同層面，而"通識教育科"則為這種全人教育提供其中一個焦點。

為改革作準備

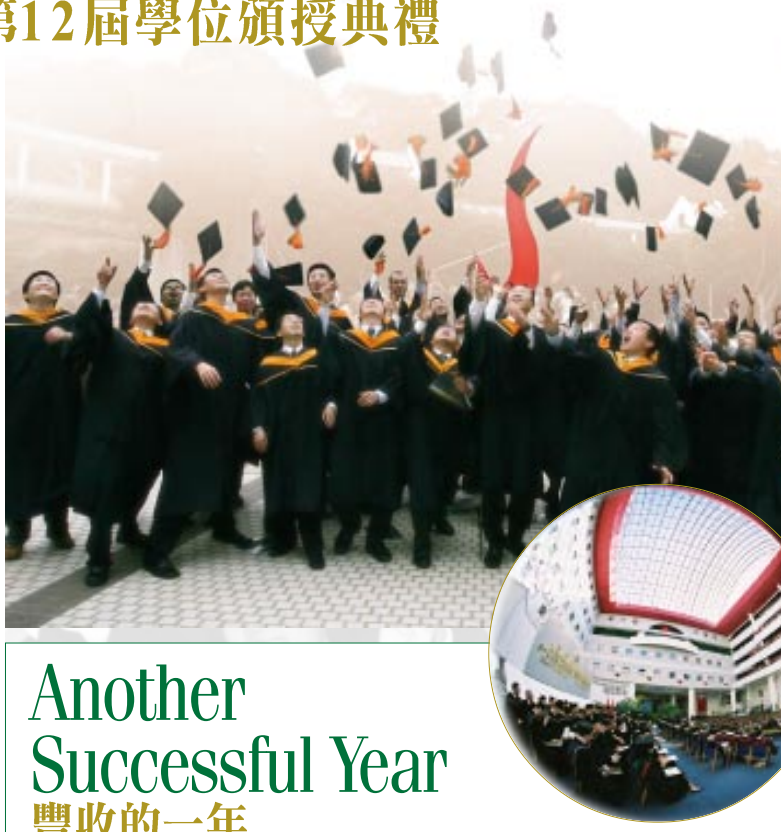
在學制改革雖然引起不少辯論之餘，欣見各方對3+3+4學制已有廣泛共識，認定為正確的發展方向。我懇請所有參與教育工作的人士，包括家長及公眾積極參與討論。

People Power

薈萃科大人

University Celebrates 12th Congregation

大學慶祝第12屆學位頒授典禮



HKUST held its 12th Congregation ceremony from 10 to 12 November 2004. The special occasion saw a range of degrees and awards presented to the deserving graduates and prize winners.

The Pro-Chancellor, Dr the Hon Sir Sze-Yuen Chung, presided over the third day of the ceremonies, and in total 1,818 Bachelor degrees, 870 Masters and 103 doctoral degrees were conferred on the Class of 2004.

The University also awarded Honorary Doctorates to five outstanding individuals, each of whom has made numerous exemplary contributions to society and academia. They were:

- Mr Ronnie Chan, business leader and Chairman of the Hang Lung Group
  Doctor of Social Sciences *honoris causa*
- Mr Philip N L Chen, Chief Operating Officer of Cathay Pacific Airways Ltd
  Doctor of Business Administration *honoris causa*
- Dr Lee Shau Kee, philanthropist and Chairman of Henderson Land Development Co Ltd
  Doctor of Business Administration *honoris causa*
- Prof Andrew Chi-Chih Yao, renowned computer scientist and only Chinese winner of the A M Turing Award
  Doctor of Engineering *honoris causa*
- Prof Yau Shing-Tung, celebrated mathematician and Fields Medal winner
  Doctor of Science *honoris causa*

科大於2004年11月10日至12日舉行第12屆學位頒授典禮。在學位頒授典禮上，畢業同學獲頒授學位，獲獎者被授予殊榮。

大學副監督鍾士元博士主持第三天的學位頒授典禮，一共有1,818名本科生、870名碩士生、103名博士生晉身2004級畢業班的行列。

大學也頒授榮譽博士學位予貢獻社會和學術界的五位傑出人士，他們是：

- 商界領袖及恒隆集團有限公司主席陳啓宗先生 — 社會科學榮譽博士
- 國泰航空公司常務總裁陳南祿先生 — 工商管理榮譽博士
- 慈善家及恒基兆業發展有限公司主席李兆基博士 — 工商管理榮譽博士
- 計算機科學家及計算機器學會圖靈獎唯一華裔得主姚期智教授 — 工程學榮譽博士
- 著名數學家及菲爾茲獎得主丘成桐教授 — 理學榮譽博士

Another Successful Year

豐收的一年

Delivering an address to Congregation on behalf of the Honorary Graduates, Dr Ronnie Chan spoke expansively about international affairs, the development of China as a global fulcrum, and reflected on the future for the Class of 2004 in a China that is the political and economic equal of the United States.

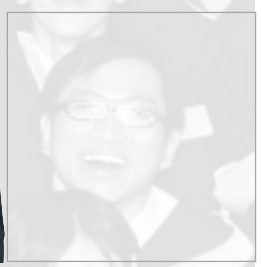
President Paul Chu, participating in his fourth congregation, congratulated not only the graduates but also their professors, families and the entire HKUST community for contributing towards another successful year at HKUST.

Detailing some of the University's many accomplishments during the preceding 12 months, the President cited faculty and students including Dr Hannah Xue whose discovery of the fifth gene linked to the causes of schizophrenia, reported in December 2003, will help develop drugs to treat a disease that affects almost one percent of the world's population.

陳啓宗博士代表榮譽博士致辭時詳論國際事務、中國在國際的崛興，也告訴2004級同學，如何在政經實力媲美美國的中國幹一番事業。

今年是朱經武校長上任以來第四次參加學位頒授典禮。他致辭時不但祝賀畢業同學，還向教授、家庭成員，以至整個科大社群致意，感謝他們促成科大得享過去一年的豐盛成果。

校長列舉大學上學年的驕人成就時，提到薛紅博士研究隊伍在2003年12月找到導致精神分裂症的第五個基因。這成果將有助研發新藥物，治療約佔全球人口1%的精神分裂症病人。



Award winning
載譽而歸

Dr Ben Young, Assistant Professor of Civil Engineering, was awarded HKUST's highest accolade for a faculty member, the Michael G Gale Medal for Distinguished Teaching.

Dr Young was recognized among a very strong list of contenders for his availability and willingness to help his students, and ability to make complex concepts easier for his classes to understand.

This year's Stephen Cheong Kam-chuen Medal for Distinguished Service to the Student Body was awarded to Raymond Chow Yuk Kei for his ceaseless and constructive contributions to student governance.

Valedictorian, Jeffrey Chi Wai Lee, spoke for the entire Class of 2004 when he said: "With our excellent training at HKUST and with the encouragement we have received here, as we go out into the world today we are as well equipped as we could possibly be to face the challenges of the future."

土木工程學系助理教授楊立偉博士，獲頒大學最高榮譽教學獎祁敖卓越教學服務獎。

楊博士能夠脫穎而出，全因他幫助學生的熱誠，以及化繁為簡的教學法。

周旭祺同學則獲頒張鑑泉卓越學生服務獎，以表揚他積極參與校政，服務同學，保障同學的權益和福利。

李子維同學代表理學院畢業生致辭時說：“我們這三年在科大接受了優良的教育和鼓勵，那正是我們應付未來挑戰的最佳裝備。”

Distinguished Lectures

傑出講座

Award-winning Scientists Inspire Pursuit of Knowledge 知名科學家科大演講

Full houses were the order of the day when distinguished scientists Prof Yau Shing-Tung and Prof Andrew Chi-Chih Yao shared their insights on effective learning and modern cryptography in two thought-provoking lectures delivered at HKUST in November.

The world-renowned professors, who received honorary doctorates at HKUST's 12th Congregation, drew large numbers of faculty and students to their talks. Prof Yau's accomplishments in partial differential equations and algebraic geometry have brought him the Fields Medal, regarded as the Nobel Prize of Mathematics, while Prof Yao's outstanding work in the theory of computation has seen him become the only Chinese recipient of the highly regarded Association for Computing Machinery's A M Turing Award.

Prof Yau, Chair Professor of Mathematics at Harvard and Director of the Institute of Mathematical Sciences at the Chinese University of Hong Kong, took as the theme of his lecture 'The Path to Learning'. He quoted extensively from the Chinese classics, including *The Analects* and *Records of the Grand Historian*, to show how people can draw inspiration from their cultural heritage. Prof Yau, who took his PhD at UC Berkeley, also acknowledged the importance of passion, curiosity, and perseverance in academic pursuits.

While Prof Yau examined the past, Prof Yao provided an update on the latest advances in cryptography technology. Prof Yao discussed the development of cryptography from the days of the Roman Empire, when secret codes were used in warfare, to the current information age where cryptography is much more widely applied in areas ranging from safeguarding privacy and electronic transactions to online voting and auctions. Prof Yao joined the Center for Advanced Study at Tsinghua University in September after more than 15 years as William and Edna Macaleer Professor of Engineering and Applied Science at Princeton.

科學界泰斗丘成桐和姚期智教授，在11月蒞臨科大，講授求學之道和現代密碼學，廣受師生歡迎。

兩位世界聞名的教授，在科大第12屆學位頒授典禮上獲頒榮譽博士學位。不少教授和學生慕名聽講，座無虛席。丘教授在偏微分方程和代數幾何的成就，為他贏得有數學諾貝爾獎稱譽的菲爾茲獎；姚期智教授則憑著他在計算理論的成果，成為計算機器學會圖靈獎唯一華裔得主。

丘教授現任哈佛數學系講座教授，以及中文大學數學科學研究所所長。他的演講題目是"為學之道"。丘教授引用《論語》和《史記》等中國古典文學巨著，說明文化傳統可以啟發人們的思維。鑽研古典文學以外，他也指出熱誠、好奇心、堅毅等美德，都是做學問的關鍵。丘教授在加州柏克萊大學獲博士學位。

"為學之道"講座借古籍論求學，而姚教授則討論最先進的密碼學技術。姚教授闡述密碼學的演變歷程：羅馬帝國時代的簡單密碼只應用於戰爭，二千年後，在資訊時代的今天，密碼學已成為保障私隱、電子貿易、網上投票及競投等活動不可或缺的一環。姚教授在普林斯頓大學擔任 William and Edna Macaleer 工程學及應用科學教授逾15年，於今年9月出任清華大學高等研究中心教授。

Exploring the Challenges Facing China 探討中國前景

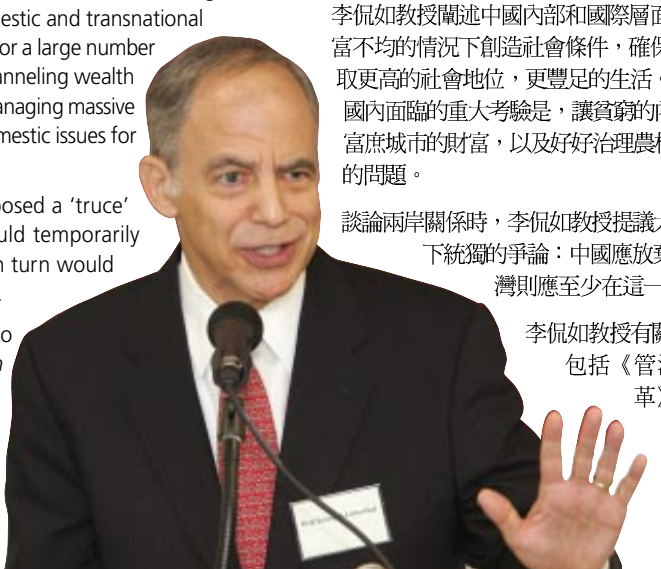
China's widening wealth gap, discontent arising from social injustice and corruption, and how to deal with Taiwan will be among the key issues facing President Hu Jintao and his administration in the years ahead, according to eminent China scholar Prof Kenneth Lieberthal.

Prof Lieberthal, Professor of Political Science at the University of Michigan, Visiting Fellow at The Brookings Institution and former Special Assistant to the President of the United States on National Security Affairs, provided his analysis in an insightful lecture at the inauguration of HKUST's Center on China's Transnational Relations on 30 November.

In his lecture entitled 'Hu in Command: Now Come the Political and Economic Challenges', Prof Lieberthal outlined China's future challenges at both the domestic and transnational levels. One daunting task is to maintain upward social mobility for a large number of citizens, given the disparity of wealth within the nation. Channeling wealth from the prosperous coastal cities to the deprived interior and managing massive population movements from rural to urban areas are major domestic issues for the Chinese Communist Party (CCP), he said.

In discussing relations across the Strait, Prof Lieberthal proposed a 'truce' between the Chinese mainland and Taiwan. The CCP should temporarily suspend its threat to exert military force on Taiwan, which in turn would relinquish its independence claim, at least for this generation.

Prof Lieberthal has written extensively on issues related to China and is author of *Governing China: From Revolution to Reform*, among other major publications.



著名中國研究學者李侃如教授表示，胡錦濤主席面對的難題，包括日趨嚴重的貧富懸殊，社會不公義和貪污激起的不滿情緒，以及緊張的台灣問題等。

李侃如教授應邀在科大中國跨國關係研究中心開幕典禮上發表題為"胡錦濤面臨的政治和經濟挑戰"的演說。他曾任美國總統國家安全事務特別助理，現任教於密西根大學政治學系，也是布魯金斯研究所訪問研究員。

李侃如教授闡述中國內部和國際層面種種難題，包括在財富不均的情況下創造社會條件，確保大多數人民有機會爭取更高的社會地位，更豐足的生活。他說，中國共產黨在國內面臨的重大考驗是，讓貧窮的內陸也可以分享到沿海富庶城市的財富，以及好好治理農村人口大量流動到城市的問題。

談論兩岸關係時，李侃如教授提議大陸及台灣可以暫時放下統獨的爭論：中國應放棄武力攻台的威嚇，台灣則應至少在這一代放棄獨立主張。

李侃如教授有關中國政治著述豐碩，包括《管治中國：從革命到改革》。

Universities Collaborate in Pioneering Joint Centre

三大加強教研合作

In a move towards deeper collaboration, Hong Kong's three leading universities — HKUST, the Chinese University of Hong Kong (CU) and the University of Hong Kong (HKU) — have announced the establishment of a Joint Centre for Advanced Study.

Outlining details of the Centre's role and function at a ceremony in September, the three heads of institution — Prof Chu, Prof Lawrence J Lau, Vice-Chancellor of CU, and Prof Lap-Chee Tsui, Vice-Chancellor of HKU — explained that the universities have decided to work together with the explicit intention of reinforcing Hong Kong's ability to provide the highest international levels of education.

Three-phase Strategy

The Centre offers joint courses to research postgraduate students of the three partner universities in its initial phase, which began this autumn semester.

Approximately 100 students from HKUST, CU and HKU are already benefiting from the five joint programs available, which include courses in experimental physics, algebra and statistical mechanics.

In its second phase of development, the Centre will progress to organize colloquia and workshops, and also invite distinguished visiting scholars to deliver lectures to students. Ultimately, by phase three, it is anticipated that the Centre will secure external support and locate in its own premises.

With phase one successfully underway, joint teaching at the Centre will be stepped up. Next semester the number of courses available will be doubled to 10, with HKUST faculty leading three of those.

Individual Strengths

"It is our strengths in research that make us natural partners, and the gains deriving from [the Joint Centre] will be tremendous," said Prof Chu, "especially for our students."

Prof Chu highlighted several areas where the Joint Centre will bring added value for students. He noted that not only would they have increased choice in terms of the courses available and benefit from interactions with students from the other universities, but their exposure to a diverse group of faculty would ensure they are taught by a wider variety of Hong Kong's finest experts in their respective fields.

Prof Allen Moy of HKUST's Mathematics Department, who teaches the inter-university course in advanced algebra, said: "Establishing the Joint Centre really does replicate some of the best practices currently being carried out by US universities. I believe that the Centre will bring many competitive advantages for Hong Kong. It will certainly facilitate a pooling of strengths, enabling all three institutions, and our students, to rise to higher levels of achievement."

UGC Points the Way

The seed of the idea for the Joint Centre came from the University Grants Committee's (UGC) report, *Hong Kong Higher Education — To Make a Difference — To Move with the Times*, published in January 2004.

> In the document, the UGC said that it valued a deeply collaborative system of higher education. Specifically, it envisaged each institution having "its own role and purpose, while at the same time being committed to extensive collaboration with other institutions in order that the system can sustain a greater variety of offerings at a high level of quality and with improving efficiency."

科大、中大及港大本港三所居領先地位的大學創辦一所嶄新的聯校教研中心，以貫徹深入合作的精神。

科大校長朱經武教授、中大校長劉遵義教授及港大校長徐立之教授出席了9月10日舉行的合作協議簽約儀式。三位校長表示，三大携手合作，冀能發揮香港的優勢，提供國際最高水平的教育。

三期發展計劃

聯校教研中心初期以虛擬中心的模式運作，為三大的研究生開辦聯合課程。

三所大學約100名學生已修讀五項聯合課程，包括實驗物理、代數及統計力學等。

在第二階段，三大計劃合辦討論會及工作坊，邀請傑出訪問學者講課；長遠來說，在第三階段，將考慮覓地為中心建設永久院址。

聯校教研中心積累第一階段的成功經驗，在下學期進一步加強合作，增辦10項聯合課程，科大教授將負責其中三項。

優勢互補

朱經武校長說："我們的研究優勢促成我們成為合作伙伴，我相信，中心將會取得很大的成功，同學更是受益匪淺。"

朱教授表示，中心為同學提供不少增值的機會，他們不單在課程上有更多選擇，也可以親炙不同教授，受教於不同領域的名師。

科大數學系Allen Moy教授為三大的研究生教授高級代數課程。他說："聯校教研中心實際上是仿照現時美國大學行之有效的做法。我相信中心將會為香港帶來更有利的競爭優勢，凝聚三所學府的力量，協助院校和學生取得更大成就。"

教資會支持

三大深入合作，源於大學教育資助委員會（教資會）於2004年1月發表了一份名為《香港高等教育—共展所長 與時俱進》的文件。教資會在文件中指出，將支持發展一個緊密合作的高等教育體系："每所院校都應該按照本身的優勢擔當獨特的角色。教資會將著重發展以角色主導而又重視緊密合作的高等教育體系，每所院校除了秉持本身的角色和宗旨以外，同時也須致力與其他院校廣泛合作，務求使這個體系可以持續提供更多元化、更具效益的優質教育。"

Community Support Advances Research

社會支持科大推進科研

Generous donations from the community have led to the setting up of two innovative research centers at HKUST. The Croucher Laboratory on Multiscale Modeling and Simulation and the Center on China's Transnational Relations have been supported by the Croucher Foundation and the Chan Tseng Hsi Foundation respectively, demonstrating the local support and recognition HKUST has earned as the leading research university in Hong Kong.

A long-standing supporter of HKUST, the Croucher Foundation has already donated about HK$37 million to the University. The HK$1 million donation for the Laboratory, which was formally instituted and named on 15 November, will help faculty conduct cutting-edge research and develop high-level computational methods.

Interdisciplinary Achievements

Multiscale phenomena occur in diverse scientific and engineering problems and are interdisciplinary in nature, involving fields such as computer science and nanoscience. Examples of such phenomena include the vortical structures on weather maps and the dynamics of microcrack in the fracture process.

Indeed, interdisciplinary research at HKUST has already brought remarkable achievements with a joint team from the Departments of Mathematics and Physics recently resolving the Moving-Contact-Line Problem, which has challenged analysts for decades.

Leading the Way

Meanwhile, the HK$1 million donation from the Chan Tseng Hsi Foundation has enabled the Division of Social Science to set up the Center on China's Transnational Relations (CCTR). China's emergence as a leading player in world politics and the global economy necessitates vigorous leadership in the field and CCTR has been designed to answer such a need. The Center was established in September and an inauguration ceremony held on 30 November.

With its focus on interaction between China and the world, CCTR will undertake a comprehensive range of research and education programs, including public lectures, research workshops, international conferences and a Summer Institute. The Center will also maintain a web-based library on transnational relations. Research grants will be awarded to research associates, post-doctoral fellows, and postgraduate students.

CCTR shows the University's commitment to all-round education and will build on HKUST's strengths in social sciences and China studies as well as Hong Kong's unique position in Greater China. Prof David Zweig, Division of Social Science, has been made Center Director.

The inauguration ceremony featured a lecture on the major political and economic issues ahead for the current Chinese administration by China expert Prof Kenneth Lieberthal, Professor of Political Science at the University of Michigan.

The setting up of the Laboratory and CCTR testify to the successful collaboration of academia, community, and the government, with both donations matched by government grants on a dollar-for-dollar basis.

Key Lab Secures Recognition for IT Research

科大、微軟創建教育部重點實驗室

社會人士慷慨捐助，促成科大建立兩所嶄新研究中心。裘槎多尺度模擬實驗室及中國跨國關係研究中心，分別由裘槎基金會和陳曾熙基金會資助創立，說明科大作為一所居領先地位的研究型大學，廣獲支持及認同。

裘槎基金會長期支持科大，至今已捐出約3,700萬港元予大學。實驗室獲基金會資助100萬港元，並於11月15日正式成立及命名。實驗室的目標，是探究最新科學知識，以及研發多尺度模擬的高層次計算方法。

跨學科成就

多尺度現象涉及不少科學和工程學問題，跟多個學科有相通之處，譬如計算機和納米科學。天氣圖旋渦結構及材料斷裂過程，即為多尺度現象的例子。

科大的跨學科研究，已取得不少成果。最近，科大數學系和物理學系的研究小組便破解了困惑科學家多年的流動接觸線問題。

出類拔萃

陳曾熙基金會則捐贈100萬港元，資助社會科學部創立中國跨國關係研究中心。中國在環球政治和經濟佔有舉足輕重的地位，故此這領域的研究必須與時俱進，而該中心正好符合這需要。中心於9月成立，並於11 月30日舉行成立典禮。

中國跨國關係研究中心的宗旨，是促進中國和跨國關係研究，舉辦研究及教育項目，包括公開講座、研究工作坊、國際會議，以及暑期學院。中心亦已推出跨國關係網上圖書館；此外，中心成員、博士後研究員、研究生等有機會獲研究資助。

中國跨國關係研究中心的成立，證明大學全力支持全人教育；科大在社會科學和中國研究方面實力雄厚，加上香港在大中華的獨特位置，為中心未來發展奠定良好基礎。社會科學部崔大偉教授為中心主任。

密西根大學政治學教授李侃如教授獲邀在開幕典禮上以中國政治和經濟挑戰為題演講。

裘槎多尺度模擬實驗室及中國跨國關係研究中心的建立，代表學術界、社會及政府三方鼎力合作。兩宗捐款皆獲發政府等額補助金。

HKUST's joint information technology research laboratory with Microsoft Research Asia (MSRA) has been upgraded into a key laboratory of the Ministry of Education (MOE) of China, the first to be established in Hong Kong.

The MOE/MSRA IT Key Laboratory opens the door to further advances in information technology and highlights the national support and recognition the University receives for its research. "The Key Lab represents an effective model for collaboration between university, industry, and government," said Prof Lionel Ni, Key Lab Director and Head of the Department of Computer Science. "Leveraging government support, the industrial strength of Microsoft, and the research expertise of HKUST, the Key Lab will be instrumental in enhancing research and nurturing IT professionals."

Research at the laboratory will focus on three areas: vision and graphics, systems and networking, and mass information management.

The University established the MSRA/HKUST IT Joint Research Laboratory in September 2000 to promote academic exchange and research collaboration. It is one of five existing university joint research laboratories being upgraded to MOE/MSRA Key Labs by MSRA. HKUST is the only Hong Kong university involved. The other four are Tsinghua University, Zhejiang University, the University of Science and Technology of China, and Harbin Institute of Technology.

A signing ceremony marking the establishment of the Key Labs was held in Beijing on 8 November 2004. Zhao Qinping, Vice-Minister of Education, Dr Richard F Rashid, Senior Vice-President of Microsoft Research, Prof Harry Shum, Managing Director of MSRA, and President Paul Chu officiated at the ceremony.

Since the MSRA/HKUST IT Joint Research Laboratory was initially set up, 11 PhD students have been awarded Microsoft Fellowships and two faculty members have spent a year at MSRA as visiting researchers.

Key Lab Director Prof Lionel Ni (front), Dr Chi Keung Tang, Department of Computer Science, and PhD graduate Dickson Tong Wai Shun, who spent six months in Beijing as an intern at MSRA
重點實驗室主任倪明選教授(前)、計算機科學系部智強博士及曾到北京微軟實習半年的博士畢業生湯維信

科大與微軟亞洲研究院合建的聯合研究實驗室，升格為"科大信息技術教育部—微軟重點實驗室"，成為香港第一所中國教育部重點實驗室。

重點實驗室標誌著科大的研究獲中國政府的支持和認可。實驗室主任、科大計算機科學系主任倪明選教授說："重點實驗室是大學、企業及政府合作的一個有效模式。依託政府的支持，微軟的實力，科大的科研力量，重點實驗室將提升科研水平，培養計算專才。"

重點實驗室將推進信息技術的研究，主要研究領域為視覺與圖形學、系統與網絡及海量資訊處理。

科大早於2000年9月成立微軟—科大信息技術研究實驗室，與微軟進行學術交流及研究合作。研究實驗室是微軟亞洲研究院五所升級為"教育部—微軟重點實驗室"的大學聯合實驗室之一。科大是唯一一所來自香港的大學，其他四所著名大學為清華大學、浙江大學、中國科技大學及哈爾濱工業大學。

微軟亞洲研究院於11月8日在北京舉行教育部—微軟重點實驗室合作協議簽署儀式，主禮嘉賓包括教育部副部長趙沁平、微軟公司高級副總裁里克・雷斯特博士、微軟亞洲研究院院長沈向洋教授及校長朱經武教授。

自科大與微軟成立聯合研究實驗室以來，11位科大博士生先後獲頒授"微軟學者"獎學金，兩位教授更進行長達一年的訪問。

Awards and Accolades

獎項

Civil engineer stands tall at Symposium

土木工程學生獲青年工程師獎

Chi Kin Wan, MPhil graduate in Civil Engineering, won the Young Engineer's Award at the third China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems, held between 30 October and 2 November in Kenazawa, Japan. His paper, *Optimal drift design of reinforced concrete buildings under seismic time history loading*, prevailed over 137 other submissions. Chi Kin, who is now working as a graduate engineer at Ove Arup & Partners, developed an automatic design tool to produce the most cost-effective building structures capable of withstanding earthquakes.

土木工程學系應屆哲學碩士畢業生溫志堅，在10月30日至11月2日於日本金澤舉行的第三屆中日韓結構及機械系統優化研討會中，獲頒青年工程師獎。志堅的論文從137位參賽者中脫穎而出。他研發自動設計工具，可設計最具成本效益的防避地震建築結構。志堅現為奧雅納工程顧問公司的工程師。

Chi Kin (left) and his MPhil supervisor, Dr Chun Man Chan
溫志堅(左)及論文導師陳俊文博士

Young scientist acknowledged for world-class breakthrough

青年科學家獲表揚

PhD chemistry graduate Dr Ting Bin Wen (middle) received the 2004 Young Scientist Award from the Hong Kong Institution of Science for his work on the synthesis and chemistry of metallabenzynes. In an internationally recognized feat, Dr Wen isolated and characterized the first examples of stable metallabenzynes, which represent a new class of organometallic compounds. His research has been cited in *Angewandte Chemie International Edition*, *Chemical & Engineering News* and *The Alchemist*, which comments: "[This achievement] could open up a whole new area of organometallic chemistry and provide new reagents for metal-catalysed organic synthesis."

化學系博士畢業生溫庭斌博士（中）獲香港科學會頒發2004年青年科學家獎。溫博士憑金屬苯炔合成和化學反應奪得物理／數學獎。他成功分離和確認第一個穩定的苯炔合成體，成為嶄新的有機金屬複合物。他的研究報告刊登於《Angewandte Chemie 國際版》、《化學及工程新聞》和《冶金師》，而《冶金師》更指出：「〔這成就〕將開啟有機金屬化學的新紀元，並為金屬催化有機合成提供新化合物。」

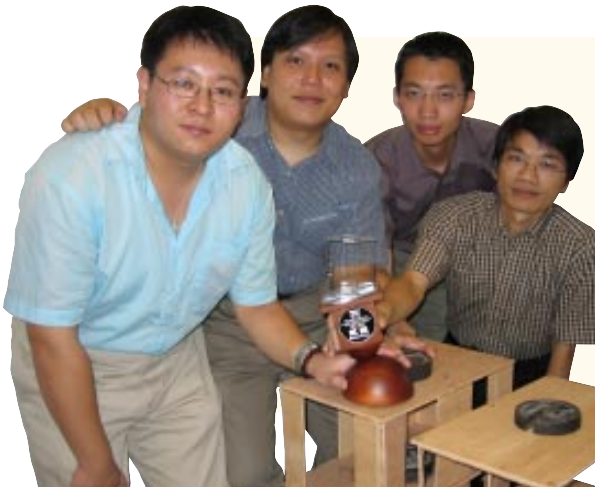
Charles Ng elected Cambridge Fellow

吳宏偉榮膺劍橋海外院士

Prof Charles Wang Wai Ng, Professor of Civil Engineering, has been elected an Overseas Fellow at Churchill College, Cambridge. Churchill College is renowned for its scientific excellence and its Overseas Fellowships are only offered to world-class academics from outside the UK. As well as jointly supervising research students, during his Fellowship Prof Ng will collaborate with various Cambridge academics in two major research areas — soil-structure interaction and bioengineering.

土木工程學系吳宏偉教授獲劍橋邱吉爾學院選為海外院士。邱吉爾學院以科學研究著稱，只有卓越的海外學者才獲此榮譽。吳教授擔任海外院士期間將共同指導研究生，並聯同其他劍橋科學家，進行土壤與結構的相互作用及生物工程等兩方面的研究。

Overseas Fellowships 海外院士：
www.chu.cam.ac.uk/admissions/fellows/Fellowships.shtml



From left: Yang Chengyu, Wong Ho-fai, Cheng Chin-pang and Su Dong
(左起) 楊澄宇、黃浩輝、鄭展鵬及蘇棟

Debate team retains crown
雄辯滔滔 蟬聯冠軍

The winning team: An Nan (ELEC), Sun Yue (COMP) and Ng Chi Ho (BIOL)
冠軍隊伍：安楠(電機及電子工程學)、孫越(計算機科學)及吳志昊(生物學)

The Putonghua Debating Team has won the RTHK Hong Kong Joint Tertiary Institutions Putonghua Debating Competition for the second consecutive year. HKUST beat CU in an evenly balanced final, discussing topics including development of the West Kowloon Cultural District. The team then traveled to Shanghai for the National Invitational Debating Competition, in which they were first runners up, with An Nan being named Best Debater in both events. Next stop is Singapore in 2005 for the blue-ribbon International Debating Conference of Tertiary Institutions. HKUST becomes only the third local university team ever to represent Hong Kong in this event.

科大普通話辯論隊連續第二年奪得大專普通話辯論賽冠軍。總決賽辯題為“由私人財團發展西九龍文娛藝術區利大於弊/弊大於利”，由科大迎戰中大。科大隊伍接著往上海參加中國名校大學生辯論邀請賽，榮獲亞軍，安楠更再度獲最優秀辯手榮譽。明年夏天，辯論隊將赴新加坡參加國際大專辯論賽，爭取中文辯論最高榮譽。科大是歷來第三支獲邀參賽的香港大專辯論隊伍。

Computer engineers take honors for streaming TV
計算機工程學生奪二等獎

Computer engineering students Cherie Chui Ying Cheung and King Zhiqin Liang took a second-class award at the prestigious National Undergraduate Electronic Design Contest held in Shanghai. Competing against elite teams from across China, the pair successfully implemented a portable network TV that could stream media either from a TV server or from a local file. Cherie is an Early Admissions Scheme (EAS) student and became involved with the competition as part of the EAS program. Last year King exchanged to the University of Michigan, while Cherie is currently on exchange at the University of California, San Diego.

計算機工程學生張翠瑩和梁致勤，於9月在上海舉行的全國大學生電子設計競賽奪得二等獎。參加這次比賽的隊伍都是國內頂尖兒。二人的任務是研製可從電視伺服器或檔案串流媒體的便攜式網絡電視。翠瑩循資優生優先錄取計劃入讀科大，而參加該比賽是拔尖計劃活動之一。二人成績優異，致勤去年前往密西根大學作交換生，而翠瑩現時則身處加州聖地牙哥大學當交換生。

Civil engineers full of good Ideers
土木工程學研究生獲抗震杯

An HKUST postgraduate civil engineering team won Second Prize at the Introducing Demonstrating Earthquake Engineering Research in Schools 2004 (IDEERS) competition, held in Taipei. Using a variety of ad hoc tools and equipment, the competitors designed and constructed an earthquake-resistant model building. The HKUST model withstood the same intensity earthquake as the winning Kyoto University team's, and was only 20 grams heavier. IDEERS is a worldwide competition organized by the National Center for Research on Earthquake Engineering of Taiwan, and the British Council, Taipei.

土木工程學系研究生隊贏取“2004抗震杯：地震工程模型製作校際競賽”的亞軍。他們採用不同材料，製造一個抗震建築工程模型，抗震能力與冠軍日本京都大學隊伍不分伯仲，僅因多用20克的材料屈居次席。該項國際比賽於9月在台北舉行，由台灣國家地震工程研究中心及台北英國文化協會主辦。

Irene Lo wins James Croes Medal
勞敏慈獲頒國際獎項

Dr Irene Man-Chi Lo, Associate Professor of Civil Engineering, was awarded the 2004 J James Croes Medal by the American Society of Civil Engineers (ASCE) in recognition of her work in the area of waste containment barriers for subsurface pollution control. The highly coveted Medal, established in 1912, is awarded for "notable contributions to engineering science". The medal and certificate were presented at ASCE's National Convention in Baltimore this October. Her research interests include the study of clay minerals for waste containment facilities and pollutant migration in soils.

土木工程學系副教授勞敏慈博士成功開發一種新的廢物限制屏障技術，為她贏得美國土木工程師學會2004年度 J James Croes 獎章。J James Croes 獎章於1912年成立，目的是表揚在土木工程學領域有傑出貢獻的科研人員。勞博士10月在該會於美國巴爾的摩舉行的全國會議中領受獎章及獎狀。她的研究領域包括廢物限制設施的黏土礦物應用，以及污染物在飽和土及非飽和土中的遷移。

In Action

校園內外

Forum on Democracy and Nationalism
民主國族文化論壇

Pundits and politicians attended the Democracy, Nationalism, and Culture Forum on 15 October to discuss the challenges and prospects of democratic development in China. Speakers included Leung Man-tao and Tao Jie, two of Hong Kong's most popular cultural critics; Shiu Sin Por, executive director of the One Country Two Systems Research Institute; and activist-turned legislator Leung Kwok-hung, also known as 'Long Hair'. The event was organized by the Center of Cultural Studies in the School of Humanities and Social Science.

政治評論員和政治人物參加了10月15日舉行的民主、國族、文化論壇，討論中國民主發展的困難和前景。講者包括廣受歡迎的文化評論員梁文道和陶傑、一國兩制研究中心總裁邵善波，以及積極參與社會運動的現任立法會議員、綽號"長毛"的梁國雄。論壇由人文社會科學學院文化研究中心舉辦。

Construction of Enterprise Center Underway
創新科技中心動土

A groundbreaking ceremony was held on 5 November for the Hong Kong Jockey Club Enterprise Center, which is being built with the support of a HK$100 million donation from The Hong Kong Jockey Club Charities Trust. Officiating at the ceremony were President Paul Chu, Dr John Chan, Council Chairman, Mr T Brian Stevenson, Steward of The Hong Kong Jockey Club, and Dr Y C Chow, Chairman and Managing Director of the Chevalier Group.

科大獲香港賽馬會慈善信託基金捐出1億港元，興建創新科技中心，其動土儀式於11月5日舉行。主禮嘉賓為朱經武校長、校董會主席陳祖澤博士、香港賽馬會董事施文信先生，以及其士集團主席暨董事總經理周亦卿博士。

Nanotechnology Lectures Launched
頂尖納米專家科大演講

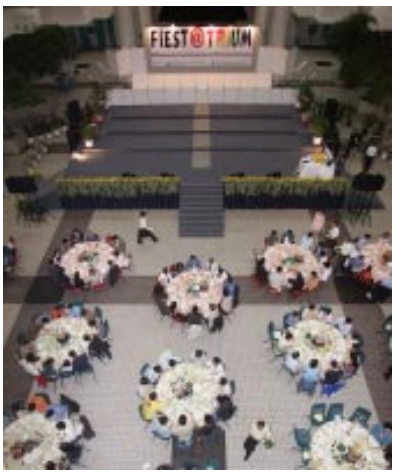
The Technical Advisory Committee Distinguished Lecture Series, organized by the Institute of NanoMaterials and NanoTechnology (INMT), was successfully launched on 3 December. Speakers included INMT technical advisors Prof Neal Lane of Rice University and former Science Advisor to the President of the United States; Prof Kikuo Okuyama of Hiroshima University; Prof Matthew Tirrell of UC Santa Barbara; and Prof Claude Weisbuch of Ecole Polytechnique. Their lectures tackled US policy on nanotechnology, the latest nano research developments in Europe and Asia, and industrial applications of nanotechnology.

納米材料技術研發所於12月3日舉辦技術顧問委員會傑出講座，邀請了環球知名納米專家主講。講者包括研發所技術顧問、Rice大學講座教授及前美國總統科技顧問藍尼爾教授；廣島大學奧山喜久夫教授；加州聖巴巴拉大學Matthew Tirrell教授，以及巴黎理工大學Claude Weisbuch教授。四位專家的演講涵蓋美國納米技術政策，歐洲和亞洲最新納米研究發展，以及納米技術的工業應用。

International Digital IR Conference
大學學術研究文獻庫國際會議

The two-day International Conference on Developing Digital Institutional Repositories: Experiences and Challenges was held at HKUST from 9-10 December. The event was co-organized by the University Library and California Institute of Technology Libraries in order to share the latest knowledge on digital repositories for academic institutions. The HKUST Library has been pioneering the way in this regard, developing the Institutional Repository – the first of its kind in Hong Kong and Asia – to collect and preserve the scholarly output of the university community.

科大圖書館和加州理工學院圖書館合辦"大學學術研究文獻庫國際會議：經驗與挑戰"。會議於12月9日至10日在科大舉行，旨在交流學術機構設立數碼文獻庫的最新資訊。科大圖書館率先於去年設立學術研究文獻庫，儲存科大博士生及教學人員的學術研究論著，為亞洲及香港首創。



Homecoming for First Graduates
第一屆本科畢業生回校慶祝

A celebration dinner was held on 13 November to commemorate the 10th anniversary of the graduation of HKUST's first undergraduates and the HKUST Alumni Association (HKUSTAA). The 'Fiest@trium' was co-organized by HKUSTAA and the Office of University Development and Public Affairs. It was the first alumni event held in The Hong Kong Jockey Club Atrium. Around 200 alumni and university members attended.

為慶祝科大第一批本科生畢業10週年及科大校友會成立10週年，科大校友會和大學發展與公共事務處於11月13日舉行盆菜宴。這是第一個在香港賽馬會大堂舉行的大型校友聯歡活動。約200名校友和大學成員參與晚宴。