Forging a Clearer, Cleaner Future

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.
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.
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.

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 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.
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.

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.
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.”
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.”

---

科大 EMBA 課程 排名全球第六

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，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

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

《金融時報》指出，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，而在教學國際化一項則名列前茅。

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

| 1 | University of Pennsylvania Wharton (US 美國) |
| 2 | Northwestern University Kellogg (US 美國) |
| 3 | University of Chicago GSB (US 美國/Spain 西班牙/Singapore 新加坡) |
| 4 | New York University Stern (US 美國) |
| 5 | Duke University Fuqua (US 美國) |
| 6 | HKUST 香港科技大學（China 中國） |
| 7 | Columbia Business School (US 美國) |
| 8 | Instituto de Empresa (Spain 西班牙) |
| 9 | London Business School (UK 英國) |
| 10 | Imperial College London: Tanaka (UK 英國) |

Other Asia Pacific Universities/Schools in the Top 75

| 12 | The Chinese University of Hong Kong (China 中國) |
| 20 | CEIBS 中國國際工商學（China 中國） |
| 31 | Australian Graduate School of Management (Australia 澳洲) |
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.
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 P 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

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.
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.”
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.

Exploring the Challenges Facing China

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.

Exploring the Challenges Facing China

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.
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.”
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.
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 Qingping, 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.
Awards and Accolades

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.

Young scientist acknowledged for world-class breakthrough
青年科學家獲表彰

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 metallabenzenes. In an internationally recognized feat, Dr Wen isolated and characterized the first examples of stable metallabenzenes, 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."

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.

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

KU debate team retains crown

Debate team retains crown

Computer engineers take honors for streaming TV

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.

Computer engineers full of good Ideers

Civil engineers full of good Ideers

Irene Lo wins James Croes Medal

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.

Irene Lo wins James Croes Medal

Computer engineers take honors for streaming TV

Computer engineers take honors for streaming TV

Civil engineers full of good Ideers

Civil engineers full of good Ideers

Irene Lo wins James Croes Medal

Irene Lo wins James Croes Medal
Nanotechnology Lectures Launched

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.

Forum on Democracy and Nationalism

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.

International Digital IR Conference

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.

Construction of Enterprise Center Underway

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, 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.

Homecoming for First Graduates

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.

Forum on Democracy and Nationalism

民主國族文化論壇

政治理論家和政治人物參加了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政治理論家梁文道和陶傑、一個國際研究小組總裁兼祕書馬克·布克，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。

International Digital IR Conference

大學學術研究文獻庫國際會議

兩天的國際論壇在發展數字學術基礎設施：經驗與挑戰。論壇在12月9日至10日在科大舉行，旨在交流學術基礎設施數字文獻庫的最新資訊。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。

Construction of Enterprise Center Underway

創新科技中心動土

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。主禮嘉賓為賽馬會校長、校董會主席韋駿博士、香港賽馬會董事施文信先生，及其親屬集團主席暨董事總經理周亦卿博士。