

### Alumni in Song at Engineering Homecoming Dinner

The School of Engineering's first homecoming dinner in October hit a high note with gathering of over 400 alumni who took the opportunity to catch up with friends, faculty and university officials, reminisce and take a fresh look at the future.

In his welcoming remarks, Dean of Engineering Prof Kang L Wang acknowledged each department's many achievements and looked forward to even greater success in the University's second decade. "We are committed to excellence in engineering education and research and to providing the talent and knowledge to serve our society," he said.

Speaking at the event, HKUST President Paul Chu recognized the importance of the School's alumni in helping Hong Kong's transition to a knowledge-based society: "I'm sure the engineering graduates from this university will have a major role to play."

He also called on alumni to join with current students, faculty and staff to help raise funds and to build a unique HKUST culture recognized around the world. This would ensure that HKUST would continue to attract top people, the key factor in a great university, he said.

Photo-taking, food and renewing of friendships followed. Judy Tong (BEng IEEM 1997, MPhil IEEM 1999), who hosted the memorable occasion with Jack Lau (PhD ELEC 1994, also Associate Professor of Electrical and Electronic Engineering), said: "In meeting so many old friends, people had a good chance to review what they had done in the years since graduation and think again about their path in life. I felt really happy to be there."

Another highlight was the sing-along session of "Soaring" ("飛翔"), an HKUST "alumni song" dedicated to the University as a gift on its 10th anniversary. Showcasing the School's artistic side, this special song was created primarily by Engineering graduates, with composer Eric Yung (BEng ELEC 1997, MPhil ELEC 2000) and lyricists Terry Leung (BEng COMP 1995) and Mavis Lee (BBA ACCT 1999).

The dinner was organized as part of HKUST's 10th anniversary celebrations.



(From left:) Prof Paul Chu, President, Prof Kang L Wang, Dean of Engineering, and Prof Yuk Shee Chan, Vice-President for Academic Affairs, toasting the recognition gained in the past decade and the bright future ahead.

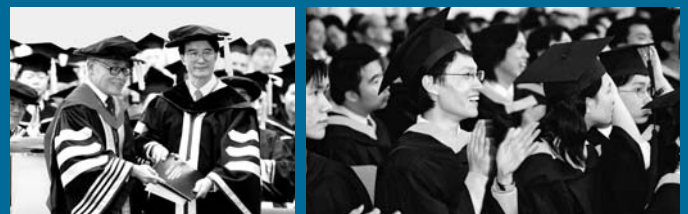
Alumni playing exciting games at the homecoming dinner!



A memorable night for all of us.



### A Thousand Graduates Rejoice in the Ninth Congregation



There was much to celebrate at HKUST's ninth congregation in November with degrees awarded to 683 undergraduates and 280 postgraduates from the School of Engineering. The inspiring occasion also saw the installation of HKUST's second president, Prof Paul Chu. The eminent physicist arrived last July to lead the University to new heights in its second decade. Associate Professor Andrew Horner from the Department of Computer Science was presented with the Michael G Gale Medal for Distinguished Teaching, the University's top award in this area. Prof Horner attributed his success to a simple philosophy: putting students first.

## WHAT'S INSIDE

- 2 *Impact Dynamics Expert Heads Mechanical Engineering*
- 3 *Cutting-edge Techniques to Detect Early Cancer*
- 4 *Creative Ways to Clean Up Waste Water*
- 5 *Outstanding Alumni Ready to Take On the Business World*
- 6 *Young Inventors Make It to the Final*
- 7 *MTM Tour Prepares Global Technology Management Leaders*
- 8 *International Hub of Engineering Expertise*

# Message from the Dean



Our first Engineering homecoming dinner in October was a great success. The occasion enabled us to reflect on the School's remarkable first decade and to look ahead to the next 10 years.

The road forward will be both exciting and challenging.

The economic downturn has resulted in less enthusiasm for hi-tech investment recently. However, we are confident that innovation in the technology sector holds the key to future growth, and the School of Engineering is committed to providing Hong Kong with the knowledge and talent to forge ahead.

To achieve this, we stress to our students the importance of farsighted vision and creativity in today's highly competitive global society, and we make available plentiful overseas exchange and visit opportunities. At home, our faculty members dedicate themselves

to developing innovative teaching methods to instill a joy for learning and to activate minds.

The results are significant, not only for HKUST but the community at large, as shown by our story on postgraduate entrepreneur James She and the School's growing number of start-up high-flyers.

At the same time, the research reputation of our School continues to grow, with breakthroughs that can make a real difference to people's lives, such as the early cancer detection technology featured in this issue. Our faculty's working relationship with Hong Kong industry is the source for many success stories to boost the community with solutions for environmental problems and hi-tech innovations.

A future that's exciting and challenging? Our students, faculty and alumni are ready for it.

With warmest regards,

Kang L Wang  
Dean of Engineering

## 2001 CASA/SME University LEAD Award\*



(From left:) Mr Douglas C Genord, 2002 CASA/SME Chairman, Prof Mitchell Tseng, Director of HKUST's Advanced Manufacturing Institute, and Mr Peter Z Bulkeley, 2001 SME President at the annual awards dinner held in November 2001. (SME: Society of Manufacturing Engineers, CASA/SME: Computer and Automated Systems Association of SME)

\*See Fall 2001 *In Focus* for complete story

## Impact Dynamics Expert Heads Mechanical Engineering

Prof Tongxi Yu, who specializes in plasticity and impact dynamics, has become the new Head of the Department of Mechanical Engineering. Prof Yu, who assumed his duties on January 15, earned his PhD in engineering plasticity from the University of Cambridge. Last year he was honored with the China Higher Education Science and Technology Award (First Class). Prof Yu is a Fellow of the Hong Kong Institution of Engineers and President of the Hong Kong Society of Theoretical and Applied Mechanics.



Prof Tongxi Yu

## International Honors and Awards

- Prof Ping K Ko (Electrical and Electronic Engineering) and his research partner were honored the 2002 IEEE Solid-State Circuits Award for their development of device models used for IC design. The award citation is "for BSIM3 modeling and development work".
- Prof Khaled Ben Letaief (Electrical and Electronic Engineering), Director of the Center for Wireless Information Technology, was appointed the founding Editor-in-Chief of the *IEEE Transactions on Wireless Communications*.
- In 2001, Prof Ricky S W Lee (Mechanical Engineering) was bestowed for the second time the Best Paper Award by the American Society of Mechanical Engineers (ASME) Transactions: *Journal of Electronic Packaging*. Prof Lee and his PhD student, Xingjia Huang, also won the Excellent Paper Award in the 2001 International Symposium on Electronic Packaging Technology.
- The Institution of Civil Engineers has awarded the T K Hsieh Award 2001 to Prof Wilson Tang (Civil Engineering) and his collaborators for their paper on CPT-based liquefaction analysis published in *Geotechnique*.
- The paper "Sketched Based Mesh Extrusion with Remeshing Techniques" by Prof Matthew Yuen (Mechanical Engineering) and his PhD student, Charlie Wang, won the Best Paper Award in Computational Methods in the 21st Computer and Information in Engineering Conference organized by ASME International.
- Prof Hong Kam Lo (Civil Engineering) and his graduate student, W Y Szeto, received the Best Paper Award for their paper "A Cell-based Dynamic Traffic Assignment Model" at the 9th triennial World Conference on Transportation Research.
- The paper "Numerical Analysis of Soil Nails in Loose Fill Slopes" of Prof Charles Ng (Civil Engineering) and his co-workers was awarded the Tan Swan Beng Best Paper Award by the Southeast Asian Geotechnical Society.
- Prof Lambros S Katfygiotis (Civil Engineering) has been awarded a Junior Research Prize in System Identification by the International Association for Structural Safety and Reliability.

## Logistics and Supply Chain Management Institute Puts Hong Kong into Top Gear

HKUST will establish a Logistics and Supply Chain Management Institute by building on the strength of its prominent faculty and world-class research facilities.

In parallel with the HKSAR's logistics strategy, the Institute is aimed at strengthening Hong Kong's position as an international logistics hub and to contribute to the economic development of Hong Kong and the region.

The Department of Industrial Engineering and Engineering Management is devoted to driving Hong Kong forward in this area. Among state-of-the-art transportation and logistics systems developed by researchers in the Department's Transportation Logistics Laboratory, the Vehicle Routing Scheduler (VRS) is a major boost for local enterprises.

Already successfully deployed by Johnson Electric, VRS provides a powerful street-level scheduling and routing software that can streamline fleet operations by providing decision support to managers and related personnel. Easy to customize, the scheduler is

suitable for companies of all sizes.

Prof Raymond Cheung, Director of the Transportation Logistics Laboratory, said, "previously, companies needed to acquire software applications in fleet and scheduling management from outside Hong Kong, and such programs could not be modified to fit specific industry needs and the transportation environment in Hong Kong."

The laboratory is currently working on an information management system that makes use of VRS for the Hong Kong Society of Rehabilitation. The software system will improve scheduling of bus services for the elderly and the disabled.



*Street-level route specification is one of many powerful features of VRS.*

## Cutting-edge Techniques to Detect Early Cancer

The quest for accurate identification of early cancer at a specific organ site has received a boost with the development of fresh detection methods by researchers in HKUST's Center for Medical Diagnostic Technology (CMDT).

The Center's biomedical photonics group has created new imaging techniques for non-invasive diagnosis of early cancerous lesions using laser-induced natural fluorescence from tissue. The technology has been awarded a US patent.

"It is vitally important to localize the early lesion and apply appropriate treatment. However, existing diagnostic techniques,

such as white-light endoscopy, CT, MRI and ultrasonic imaging, cannot accurately detect cancer in its early stages," said Prof Jianan Qu (Electrical and Electronic Engineering), co-director of CMDT.

Results from trials conducted with the clinical research groups of the Chinese University of Hong Kong at Prince of Wales Hospital and the University of Hong Kong at Queen Mary Hospital look promising. They show that the CMDT's diagnostic technology appears able to detect early cancerous lesions non-invasively with a high degree of accuracy.

## Laboratory Accredited for Energy Efficiency Tests

A facility at the Center for Energy and Thermal Systems (CETS) has become the first to gain accreditation for certified energy efficiency tests under the Hong Kong Laboratory Accreditation Scheme (HOKLAS).

The test facility was made possible through a generous donation of HK\$3.3 million from the Hong Kong Jockey Club Charities Trust and with partial funding from HKUST.

Accreditation enables the Center's Jockey Club Controlled-Environment Test Facility to perform and certify tests such as ISO:5151 for air-conditioners.

"The facility can provide manufacturers and vendors of air-conditioners with certified test results, which will greatly assist the Energy Efficiency Labeling Scheme promoted by the HKSAR," said Prof Ping Cheng, Director of CETS.

The accreditation program was funded from an Innovation and Technology Fund grant of HK\$1.95 million to Prof Ping Cheng (PI) and Prof C T Hsu (CI).

## Engineering Innovations Showcased at China Hi-Tech Fair

China Hi-Tech Fair 2001, the mainland's largest international technology fair, provided a wide-reaching showcase for two exciting innovations from the School of Engineering. The Center for Display Research's silicon microdisplay and the Automation Technology Center's force control platform were exhibited at the six-day event held in Shenzhen in October. Leading mainland universities, including Peking University and Tsinghua University, also participated in the event. The fair was reported to have generated more than US\$10 billion in business agreements and to have attracted more than 300,000 people.



*Air-conditioner testing in the Jockey Club Controlled-Environment Test Facility.*



*Mechanical Engineering Professors Ping Cheng (left) and C T Hsu lead the accreditation program.*

## The Largest Grant Ever to Brighten the Wireless World

HKUST has been awarded HK\$29.5 million for a technology project that will upgrade the design and manufacturing capability of wireless communication applications in the local electronics industry.

The "Embedded Passives on Flexible Substrates Program" is the largest project yet sponsored by the Government's Innovation and Technology Fund. The total project cost will be shared equally by the Innovation and Technology Commission and Compass Technology Co. Ltd.

"We have formed a strong alliance with HKUST because it possesses the technical know-how to develop innovative embedded passive technology," said Mr Chee Cheung, General Manager of Compass Technology.

"The project is the largest active R&D project at HKUST. It will greatly upgrade the technological sophistication and the end-use value of products manufactured by the Hong Kong electronics industry. This

will help propel our electronic packaging industry to the forefront in the world market," said Prof Otto Lin, HKUST's Vice-President for Research and Development.

Currently, passive devices are soldered to the top layer of the circuit board. By embedding passives into multi-layer substrates, product density will be significantly increased and circuit boards can be smaller and cheaper, while performing better and faster.

In terms of applications, embedded passive technology will provide a platform for the design of 3G electronics, jewelry-tronics and wearable-tronics, which perform the functions of an ordinary PC but resemble a piece of clothing or jewelry.

The five-year research project is led by Prof David Lam (Program Manager) and Prof Pin Tong of Mechanical Engineering and Dr David Young of the Applied Technology Center.

## Novel Technique to Reduce Internet Response Time

Researchers in the Multimedia Technology Research Center (MTREC) have won the Best Paper Award at the prestigious 2001 International Conference on Parallel Processing (ICPP).

The awarded paper "Active Caching of On-Line-Analytical-Processing Queries in WWW Proxies" was the work of Prof Ishfaq Ahmad, Prof Dimitris Papadias and PhD candidates Thanasis Loukopoulos and Panos Kalnis of the Computer Science Department.

"Our proposed technique will provide decision-makers in global organizations with efficient responses to queries involving complex data transfer through the Internet," says Prof Ahmad, Director of MTREC.

The proposed technique involves an active caching policy under which the web page containing the answer to the query is constructed close to the decision-maker posing the query and network latencies are avoided.

MTREC also actively participated in the 2nd Workshop and Exhibition on MPEG-4. The Center received considerable

attention for its software-based MPEG-4 encoder and decoder and transcoding technologies.

Agreements have been signed with several companies for possible commercialization opportunities.

The exhibition was sponsored by the IEEE Circuits and Systems Society in cooperation with the MPEG-4 Industry Forum.



MTREC's Director Prof Ishfaq Ahmad (middle) and Senior Advisor Prof Ming Liou (second from left) with their team at the 2001 ICPP.

## Creative Ways to Clean Up Waste Water

The environment is a top concern these days. Prof Howard Huang, from the Civil Engineering Department, and Professors Po Lock Yue and Guohua Chen from the Chemical Engineering Department, are helping Hong Kong and the Chinese Mainland to find solutions to water pollution problems.

Prof Huang is working with the Hong Kong Productivity Council to generate biokinetic data on operations at the Taipo Sewage Treatment Works, which is due for expansion. The Drainage Services Department (DSD) will use Huang's data in computer simulations to predict future plant operations under different environmental conditions.

Prof Huang has developed a new primary waste treatment technology that can double the efficiency of the conventional method without applying chemical coagulants. A two-year pilot trial at the Stonecutters Island treatment plant is being conducted under a HK\$1.5 million contract acquired from DSD.

Prof Huang has also undertaken a project to optimise the performance of the treatment plant at China Dyeing Holdings Ltd, Hong Kong's largest printing and dyeing company.

"My recommendations have included segregating waste flows and pre-treatment operations, along with a major revamp of its anaerobic system and other changes to the plant's facilities," he said.

Professors Yue and Chen are working with Fong's Engineering Co. Ltd., a Hong Kong company with a manufacturing plant in Shenzhen, to develop a prototype treatment unit that can recycle effluents discharged during textile operations.

"Effluents from mainland textile plants is affecting the aquatic environment in Southern China and the water supply to Hong Kong," Prof Yue said.

Ultimate benefits include the elimination of polluted discharges into the water system and a substantial reduction in demand for water by the textile industry. The technology is being pilot tested in Shenzhen.

## Outstanding Alumni Ready to Take On the Business World

It started as a conversation in the HKUST coffee shop.

James She, an MPhil student in the Department of Electrical and Electronic Engineering, was keen to turn his research into a commercial reality. His supervisor, Associate Professor Danny Tsang, believed the idea for a technology that provided high-quality, cost-effective multimedia delivery over the Internet could work as a business.

The two men decided to turn words into action. In June 2000, life began for SinoCDN.

"We wanted to show that Hong Kong people have the ability to follow the Silicon Valley story and start a hi-tech business," said James She, now a HKUST PhD candidate, the Chief Technology Officer of his award-winning company, and still only 25 years old.

The founders of SinoCDN are two of the School of Engineering's growing number of adventurers who are translating their academic knowledge into business ventures. Some have been assisted by HKUST's Entrepreneurship Program, which since 1999 has helped members of the University community start up more than 20 technology-based companies. SinoCDN gained financing through the Hong Kong Government's Small Entrepreneur Research Assistance Program and a private investor, but turned to HKUST for the right talent to develop their idea.

With Prof Tsang as Chief Scientist and a core group of HKUST engineering graduates on board, SinoCDN started to develop its wares: scalable broadband infrastructure products for intelligent and wireless content delivery and reliable streaming media communication. PCCW-HKT became SinoCDN's first customer.

Further recognition swiftly followed. SinoCDN, which holds US and China patents for its innovative technologies, received the 2001 Machinery and Equipment Design Award from the Chinese Manufacturers Association of Hong Kong and the 2001 Certificate of Merit in Technological Achievement from the Hong Kong Science and Technology Park.

In December, James She became the youngest high achiever to be honored in the Ten Outstanding Young Digi Persons 2001, which honors IT contributions to society.



(From left:) Prof Danny Tsang, his wife Shirley Tsang and James She at the award ceremony of the 2001 Hong Kong Awards for Industry.

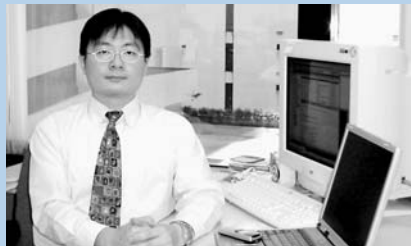
"Engineers need to be dynamic," he told *In Focus*. "We face a different world now. But we also need people in Hong Kong to support our work and to realize we can produce good hi-tech products. We have the ability here. All we need is the chance to show it."

## Other Alumni Entrepreneurs



**Jack Lau**

- PhD ELEC 1994, HKUST's first PhD graduate
- Chairman and CEO of Perception Digital Ltd, an Entrepreneurship Program start-up focusing on R&D for high-end digital audio applications, audio-visual consumer products and voice-based Internet applications.



**Wong Wing Kin**

- BEng COMP 1994, MPhil COMP 1996
- Co-founder with former Assistant Professor John C M Lee of Asia Vision Technology Ltd. The company promotes their Vehicle and Container Number Recognition System for recognizing car license plates at car-parks, tollbooths, border check-points and for locating shipping containers at terminals.



**Kevin Leung**

- BEng ELEC 1997
- Co-founders with Albert Lee (BEng ELEC 1997, MSc ELEC 1999), Andy Wong (BEng ELEC 1997), and Alfred Lee (BEng ELEC 1998) of Veridata Ltd. The business provides technology for automated transcription systems for court hearings and other official proceedings.

## Making Hi-Tech Connections Overseas

Five Engineering undergraduate students on the School's Hi-Tech Entrepreneur Program (HTEP, see Fall 2001 *In Focus*) were able to exchange notes with students from Stanford University and leading Asia-Pacific universities at a workshop in Korea last August.

The gathering, organized by the Asia-Pacific Student Entrepreneurship Society, Korea, focused on entrepreneurship, technology, infrastructure and international networking and cooperation.

## On Par with Top Researchers at the Chip Olympics

It was the fifth time and the fourth year running that HKUST postgraduate students have been invited to present papers at the prestigious IEEE International Solid-State Circuits Conference (ISSCC) - known as the "Chip Olympics".



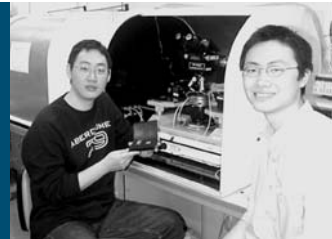
(From left:) Dongsheng Ma and Xu Chen, attended the Chip Olympics with their supervisors, Prof W H Ki, Prof Mansun Chan, and Prof C Y Tsui.

Xu Chen and Dongsheng Ma (PhD candidates, Electrical and Electronic Engineering), presented their papers "A 1.0V Vdd CMOS Active-Pixel Image Sensor with Complementary-Pixel Architecture Fabricated with a 0.25 $\mu$ m CMOS Process" and "A Pseudo-CCM / DCM SIMO Switching Converter with Freewheel Switching", respectively, at the February conference.

Xu Chen's work demonstrates an innovative technique for portable imaging systems, such as visual mobile phones and wireless digital cameras. His chip, in the state-of-the-art 0.25 micron technology,

enables the CMOS image sensor to achieve high performance under a very low supply voltage of 1.0V.

Dongsheng Ma's paper proposes a single-inductor multiple-output (SIMO) switching converter that can substantially save spaces for silicon components, and can achieve significant power-saving through dynamic voltage scheduling.



*While both papers have different orientations, the research work by Dongsheng Ma (left) and Xu Chen provide high-performance and power-saving designs for portable applications.*

Among top industry and academic researchers like Intel, Sony, MIT and Stanford, HKUST is the only university from Hong Kong and the Chinese Mainland to have had its research papers presented at the Conference. ISSCC provides the best available overview of new ICs that are destined to influence current and future markets.

## Young Inventors Make It to the Final

A student team from Electrical and Electronic Engineering made it to the final round of competition for the 2nd Young Inventors Awards organized by the Far Eastern Economic Review and Hewlett-Packard Asia Pacific.

"The competition is very keen. We were selected from more than 200 entries from universities and other institutes in Asia," said Fu Ming Sun, principal investigator of the project team.

The invention by Fu's team "Halftone-Image Watermarking Method" allows people to prove ownership by putting hidden information in printed material, such as newspapers or magazines, photos and books. HKUST is applying for three US patents on their work.

## Student Projects Shine in National Competition

HKUST won the second runner-up prize in the regional contest of the 7th Challenge Cup, a biennial national competition recognizing Mainland university students for academic, scientific and technological achievements.

Five engineering projects and a social science project were short-listed to represent HKUST in this important national event.

The HKUST delegation took off to Xian Jiaotong University in September to present their research results along with students from Tsinghua University, Fudan University and other top Mainland universities. The project "Library Gateway System" presented by Computer Science graduate Wong Wan Ching won the first-class award among 54 entries from Hong Kong and Macau universities.

## Highlights of Student Achievements

- The paper, "Approximation Algorithms for Common Due Date Assignment and Job Scheduling on Parallel Machines", by **Weng-Qiang Xiao** (PhD student, Industrial Engineering and Engineering Management) was awarded the 1st Prize in the Best Student Paper Competition at the 5th International Conference on Optimization: Techniques and Applications.
- **Zhao Ming** (PhD student, Civil Engineering) was the second runner-up in the prestigious John F Kennedy Student Paper Competition for his paper "Flow Decomposed Quasi-Two-Dimensional Model for Unsteady Pipe Flow Simulations".
- The project "Design and Fabrication of an Integrated Programmable Floating-Gate Microphone" by **Man Tsz Yin** (Electrical and Electronic Engineering) won the 1st Prize in the IEEE Hong Kong Section 2001 Undergraduate Student Paper Contest.
- **Li Chi Fai, Cheung Suet Fan, and Yeung Hang Tin** (Industrial Engineering and Engineering Management) won the Best Industrial Application Award for their project "3-Dimensional Tracking System for Moving Objects" in the Student Project Competition for 2000-01 organized by the Manufacturing and Industrial Engineering Division of the Hong Kong Institution of Engineers (HKIE).
- The paper "Interface Adhesion between Flip Chip Package Components" by **Mei Lam** (Mechanical Engineering) has been selected as the 2001 Best Student Paper on Materials (first runner-up) by the HKIE's Materials Division.
- **Wong Kam Sing and Cheng Kan Bun** won the 1st Prize of the Best Final Year Project Award and the first runner-up of the 2nd Engineering Student Essay Competition 2001 respectively. Both prizes were jointly awarded by HKIE and the American Society of Mechanical Engineers, Hong Kong Chapter.

## Creative Teaching by Faculty Brings Rewards

Two professors from the Computer Science Department have had their creative approaches to student learning recognized with top honors at HKUST's first Teaching Innovation Awards.

Prof T C Pong and Prof David Rossiter were among five faculty and their teaching teams to receive Excellence in Teaching Innovation Awards in December for developing new learning tools, methodologies and models.

Engineering was the only school in which two faculty members received the excellence awards.

Prof Pong's team was recognized for their Cyber University Program, which provides a web-based course delivery system to enable gifted secondary school students to enroll in university courses and earn credits before entering a university.

"We found students more willing to pose and answer each other's questions online than in a formal lecture setting," said Prof Pong.

*Prof David Rossiter's innovative approach: use technology to learn about technology.*



*Prof T C Pong pioneered the Cyber University program.*

In Prof Rossiter's "immersion" approach to teaching multimedia principles, students record their own voice, image, and video then build advanced projects to manipulate them. "In this way, students have to apply multimedia algorithms and techniques in a manner they find challenging and interesting," he said.

Prof Rudolf Fleischer from the Computer Science Department was one of seven received a Teaching Innovation Award for successfully implementing different ideas and practices in teaching.

## Continuing and Professional Education

### MTM Tour Prepares Global Technology Management Leaders

A trip to the United States just after the September 11 attacks would have daunted many. But for 20 Master of Technology Management (MTM) students, the program's optional overseas study tour to leading American companies and laboratories was too good an opportunity to miss, especially after University staff and students had spent six months planning the ambitious schedule.

Members of both the Information Technology (MTM-IT) and Global Logistics Management (MTM-GLM) programs joined the seven-day expedition at the end of September.

The group started on the West Coast, calling on WebEX, Intel Corporation and Cisco Systems Inc in California. Events then moved East with laboratory sessions at MIT and Boston's Brigham and Women's Hospital, visits to Sycamore Networks and Unisphere Networks in Massachusetts, and a short course on "Competitive Business Strategy" at the University of Pennsylvania given by faculty from the Wharton School.

Prof Helen Shen, MTM program director, said the tour sought to give students better understanding of companies and research outside of Hong Kong through first-hand experience and to establish closer ties between program participants.

MTM-IT student Chris Leung said: "It was a great chance to see the most advanced technology and the research behind it. This provided us with better ideas for managing technology for our companies and clients. You don't get to see the inside of MIT and Intel if you go on a US trip on your own.

"We were treated like guests. We were taken to executive boardrooms, given interesting and insightful presentations, and shown round company museums and demonstration rooms. I just wish we had had more time there."

An optional study trip to Europe is being planned for the program this year.

*MTM-IT (2000-02) students Chris Leung (left) and Benedict Lee at MIT.*



*A fruitful visit to Intel's headquarters in Santa Clara, CA.*



*Tour participants attending a lecture at the University of Pennsylvania given by Wharton faculty, Prof Teck Ho.*



### Building International Ties

HKUST's Engineering Continuing Education Program widened its reach last Fall when it teamed up with the National University of Singapore (NUS) to offer a joint professional short course in the Analysis and Design of Tall Building Structures.

The course, aimed at civil, structural and construction engineers, was conducted by professors from the Civil Engineering Departments at HKUST and NUS and offered in both Hong Kong and Singapore.

More joint courses on high performance concrete and structural degradation are under discussion.

## Campus News

### Cheering Heard at the Engineering Festival

Organized by the Engineering Students' Union, the annual Engineering Festival opened on February 8, followed by a series of exciting activities, including exhibitions by the Hong Kong Institution of Engineers, training courses on computer animation, a design competition for a journal cover and welfare activities. The festival's highlight was the inter-department tug-of-war competition. Chemical Engineering students, encouraged by waves of cheers from spectators, were overwhelmingly victorious.



### World Harmony in Water and Stone

The One-World-Fountain (天一泉), overlooking the sea from the LG7 lawn, was officially unveiled on October 3. The symbolic water sculpture was created by world-renowned water sculptor Prof Hans Muhr of Austria, with a generous donation by Dr Helmut Sohmen, University Court member and Chairman of World-Wide Shipping Agency Ltd.

Five massive stones comprise the sculpture, with a large onyx stone quarried in China as the centerpiece.

The center stone represents the pivotal place Asia holds in the world, and each of the four other stones arranged around it are from a different continent. Water shoots upwards from each stone, and the arcs formed by the streams of water criss-cross each other in different patterns, signifying the harmony between humans and the world.



### Don't be the Missing Link ...

Alumni relationships are invaluable assets to the School and alumni. To foster the growth of our alumni network, please keep us informed of your recent news and send us your updated contact information via email to [seng@ust.hk](mailto:seng@ust.hk).

Stay connected and keep in touch!

**In Focus** is published biannually by the HKUST School of Engineering. Its purpose is to communicate the School's developments and activities of interest to members and friends of the School. Comments, suggestions and contributions are welcomed.

Copyright © 2002 by the School of Engineering, the Hong Kong University of Science and Technology. All rights reserved. For reproduction of any part of this newsletter or for extra copies, please contact us.

Editor: Shirley Tang

Address: School of Engineering, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong

Phone: (852) 2358-6964 Fax: (852) 2358-1458

Email: [seng@ust.hk](mailto:seng@ust.hk) Website: <http://www.seng.ust.hk>

### International Hub of Engineering Expertise

Over 500 world-renowned engineering researchers gathered for international research symposia held on HKUST campus.

The HKUST Advanced Manufacturing Institute hosted the First World Congress on Mass Customization and Personalization with Technical University of Munich on October 1-2. Professionals from MIT, MSR Consulting, Fraunhofer IAO, Adidas Salomon AG were among leading academics and industrialists who gave keynote speeches in the conference.

Sharing of fruitful experience and intensive discussion were experienced throughout the International Symposium on Geotechnical Centrifuge Modeling and Network co-organized by the HKUST Geotechnical Centrifuge Facility and University of California, Davis on December 8-9.

The 5th Asian Symposium on Biomedical Materials attracted over 110 renowned scholars from Asia, the US, and Europe and featured presentation of 170 world-class research papers during December 9-12.



## Calendar of Events

### May

- 16-18 2002 International CIRP Design Seminar  
(CIRP: International Institution for Production Engineering Research)  
(Enquiry: [design@ust.hk](mailto:design@ust.hk), <http://ami.ust.hk/design2002/CIRP.htm>)
- 20 "Studies of Novel Photosensitive Materials" Seminar by Prof Charles Kotal, University of Georgia (Enquiry: 2358-7130)
- 28 Opening of Photonics Technology Center  
(Enquiry: 2358-7049, [eekmlau@ust.hk](mailto:eekmlau@ust.hk))

### July

- 17-21 Engineering Summer Camp for Honour Students 2002  
(Enquiry: 2358-6960)

### August

- 25-28 17th International Symposium on Chemical Reaction Engineering  
(Enquiry: [iscre17@ust.hk](mailto:iscre17@ust.hk), <http://www.ust.hk/iscre17/>)

### September

- 18-20 International Conference on "Development of Creative Water and Wastewater Treatment Technologies for Densely Populated Urban Areas"  
(Enquiry: [cechii@ust.hk](mailto:cechii@ust.hk))

All titles and dates are subject to revision.