

Opening of Nansha IT Park Sparks Regional Opportunities

The first phase of the Nansha IT Park was launched on December 29, 2002. The launch marked the start of an exciting program to build cross-border ties in technology and industry between Hong Kong and the Pearl River Delta (PRD). This program was spearheaded by HKUST with active participation from the School of Engineering. The Grand Opening of the Nansha IT Park is scheduled for April or May of this year.

First conceived in 1998 and located at the center of the PRD, Nansha IT Park is the result of a dynamic collaboration between HKUST (concept, design, project management, training and development), the Fok Ying Tung Foundation (land, capital and community development facilitator) and the Guangzhou government (policy, transportation and infrastructure).

The Park intends to become a PRD platform for creative IT and technology industries, R&D, start-ups, and education and training, boosting regional competitiveness and building the area's global reputation as a hub of technological innovation.

"It is part of HKUST's mission to contribute to the development of Hong Kong and the region," said Prof Otto Lin, HKUST's Vice-President for Research and Development. "And the Park will help our graduates. Back in 1997, we could see that to protect Hong Kong's economic future, we should leverage on the strength of PRD. There would be growing job and career opportunities in PRD in the 21st century so we wanted to build a HKUST stronghold there for our students and faculty."



The model of the Nansha IT Park.

The Launching Ceremony was held at the Nansha IT Park.



School of Engineering faculty, with their expertise in technology and infrastructure development, have played a vital role in shaping the Park's concept and design. Members of the University's steering committee for the project included Prof Ping Ko, then Dean of Engineering, Prof Roland Chin, then Head of Computer Science, Prof T C Pong and Dr John Wong, both of the Sino Software Research Institute.

The Park will support technological development and professional training in fields such as electronic packaging, opto-electronics, microsystems, biomedical devices, logistics and supply chain management. "These are growing areas that will add value to the companies in the PRD, many of which are owned by Hong Kong people," said Prof Lin.

These fields recognize the strength of the academics, graduates and alumni in the School of Engineering. "In electronic packaging, for example, our faculty has the strongest academic record of research in Hong Kong," said Prof Lin. At least 14 academics from the Departments of Mechanical Engineering, Electrical and Electronic Engineering and the Applied Technology Center are conducting research on electronic packaging, including Profs Pin Tong, Ricky Lee, Steve Lee, Jang Kyo Kim, David Lam, Lilong Cai, Jingshen Wu, Matthew Yuan, Ping Cheng, Tongxi Yu (MECH), Philip Chan, Hoi-Sing Kwok, Zexiang Li (EEE), Dr David Young (ATC) and others.

The School is also leading the way in research on logistics, another vital component of the Hong Kong and PRD economy. "HKUST is fully committed to assisting this industry," said Prof Chung-ye Lee, Head of the Department of Industrial Engineering & Engineering Management.

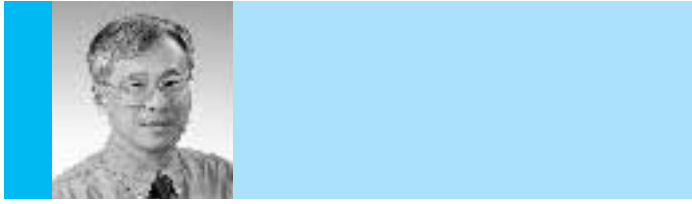
After full development, the Park will contain homes and facilities for a high-quality lifestyle as well as business accommodation. "The Park offers students and faculty a place to build careers and contribute to the social and economic development of the region," Prof Lin said.

WHAT'S

INSIDE

- 2 *New Academic Appointments*
- 3 *EEE Professors Gain International Honor*
- 4 *International Spotlight on Research on Crossbar Design*
- 5 *Exchanges Provide East-West Meeting Point*
- 6 *Engineering Alumni Fuel Hi-tech Industry*
- 7 *Cutting-edge Master's Programs Expand Knowledge and Networks*
- 8 *Teaching Excellence Honored*

Message from the Dean



The School of Engineering and the University community have recently spent much time and energy deliberating the proposed merger with the Chinese University of Hong Kong.

The University-appointed Task Force has made its recommendations. Personally, I agree that the government needs to articulate the objectives and parameters of the proposed merger before any meaningful discussion can proceed.

We must consider our need to uphold HKUST's founding vision 'to be a world-class university at the cutting edge internationally in all targeted fields of research' and whether or not Hong Kong would benefit from the merger.

Though we have had to think hard about this contentious issue, on the brighter side, two engineering Area-of-Excellence (AoE)

proposals, on the subjects of wireless communications and global logistics, were short-listed in the third-round of the AoE scheme. We are among the lead institutions on both proposals.

I am also delighted to share with you the very positive preliminary outcome of January's Teaching and Learning Quality Process Review (TLQPR). The panel was particularly impressed with the progress made since the last TLQPR visit.

I would like to thank all the School's faculty members, students and staff for their continuous efforts in developing our education quality framework and for their desire to uphold good teaching and learning standards. The results are clear to see, as this issue of *In Focus* shows.

With warmest regards,

Prof Philip Chan
Acting Dean of Engineering

Showing Quality Teaching Counts

The School of Engineering's drive for excellence has received a boost after an on-site visit carried out as part of the latest Teaching and Learning Quality Process Review (TLQPR).

Fourteen local and overseas TLQPR panel members visited the University on January 13 and 14, with the Departments of Chemical Engineering, Civil Engineering, Electrical and Electronic Engineering, and Industrial Engineering and Engineering Management among the academic and research education units selected for in-depth assessment.

The School of Engineering's Professional Program Office, which offers self-financed courses, was also reviewed.

During the team's visit, constructive discussions were held on quality education approaches developed by the University. These included curriculum design, teaching and learning processes, monitoring and evaluation of teaching and learning effectiveness, student assessment and use of assessment results, and commitment of resources.

The panel also met Senate committee members, the Deans, and HKUST's leadership group comprising the President, Vice-Presidents and Associate Vice-Presidents.

New Academic Appointments

Prof Philip Chan
Acting Dean of Engineering

Prof Philip Chan stepped down as the Head of the Electrical and Electronic Engineering Department and assumed duty as the acting Dean of Engineering on January 1, 2003. He was the Associate Dean of Engineering in 1994-95 and is currently the Director of the Microelectronics Fabrication Facility and the Center for Advanced Electronics System Packaging. Prof Chan received his PhD in Electrical Engineering from the University of Illinois at Urbana-Champaign. He specializes in VLSI devices, circuits and systems, microelectronics, electronic packaging, and integrated sensors.



Prof Zongjin Li
Associate Dean of Engineering

Prof Li, an Associate Professor of Civil Engineering, was appointed Associate Dean of Engineering in February 2003. He will oversee postgraduate matters, previously handled by former Associate Dean Prof Y K Tung. Prof Li received his PhD in Structural Engineering from Northwestern University in Evanston, Illinois. He specializes in fiber-reinforced cementitious composites, durability of concrete, non-destructive tests of infrastructure, using the extrusion technique to develop new building products, and functional materials development.



Prof Christopher Leung
Acting Head of Civil Engineering

Prof Leung is an expert in construction materials, micromechanics of fiber composites, fracture mechanics, optical fiber sensors and application of composites in civil engineering. He received his PhD from Massachusetts Institute of Technology, and was International Coordinator (Asia-Pacific Rim) of the *ASCE Journal of Engineering Mechanics*. Prof Leung has been Director of Advanced Engineering Materials Facility since 2000.



Prof Khaled Ben Letaief
Acting Head of Electrical and Electronic Engineering

Prof Ben Letaief, a renowned researcher in wireless and mobile communications systems, is currently the Director of the Center for Wireless Information Technology and Director of the Hong Kong Telecom Institute of Information Technology. He is a fellow of IEEE. He is the founding Editor-in-Chief of the *IEEE Transactions on Wireless Communications*, and is the Chair of the IEEE Technical Committee on Personal Communications as well as the IEEE COMSOC Asia Pacific Board. Prof Ben Letaief received his PhD from Purdue University.

EEE Professors Gain International Honor



Newly-elected IEEE Fellows Prof Khaled Ben Letaief (left) and Prof Hoi-Sing Kwok (right), with Acting Dean of Engineering, Prof Philip Chan.

Two more School of Engineering professors have been elected Fellows of the prestigious Institute of Electrical and Electronics Engineers (IEEE), bringing the HKUST total to nine, one of the highest numbers among tertiary institutions in Hong Kong.

Profs Khaled Ben Letaief and Hoi-Sing Kwok, from the Department of Electrical and Electronic Engineering, are the latest HKUST engineering academics to gain the highly regarded honor.

Prof Ben Letaief was cited for his contributions to the analysis, design and performance evaluation of high-speed wireless communication systems while Prof Kwok was elected for his research achievements in cutting-edge liquid display technology.

IEEE Fellows are internationally recognized as leading authorities in

their research areas. There are a total of 28 IEEE Fellows in Hong Kong and 23 in the Chinese mainland. Of HKUST's IEEE Fellows, eight come from the Department of Electrical and Electronic Engineering and one from the Department of Computer Science.

Prof Ben Letaief is Acting Head of the Department of Electrical and Electronic Engineering as well as Director of the Center for Wireless Information Technology and the Hong Kong Telecom Institute of Information Technology. His research interests span broadband wireless and mobile communications, space-time processing for wireless systems, and OFDM and CDMA technologies.

Prof Kwok, a HKUST School of Engineering faculty member for more than 10 years, holds 10 patents and has been a Fellow of the Optical Society of America since 1995. His research focuses on display technologies, microdisplays and organic light emitting diodes.

In the previous IEEE elections, Prof Xiren Cao, Prof Kei May Lau and Prof Bertram Shi of the Department of Electrical and Electronic Engineering were appointed Fellows.

Each year, less than one out of every 1,000 IEEE members is elected to be a Fellow, the Institute's highest grade of membership. The Institute has more than 377,000 members in 150 countries.

International Honors and Awards

- **Prof Wilson TANG** (Civil Engineering) was elected to the Offshore Energy Center's Hall of Fame as a Technology Pioneer in Reliability-Based Design of Marine Structures for his notable and meaningful accomplishments in the offshore oil and gas industry. Prof Tang's achievements will be included in the Ocean Star Offshore Drilling Rig and Museum on Galveston Island, Texas.
- **Prof Chun Man CHAN** (Civil Engineering) was honored with the Young Engineers' Award during the Second China-Japan-Korea Joint Symposium on Optimization of Structural and Mechanical Systems held on November 4-8, 2002 in Busan, Korea, in recognition of his outstanding presentation entitled 'Practical Tall Building Optimization in Hong Kong'.
- **Prof Christopher Y H CHAO** (Mechanical Engineering) received the Yaglou Award in July 2002 from the International Academy of Indoor Air Sciences for his significant research accomplishments through field studies in homes and offices on gaseous pollutants and particles. The award is made to a young scientist once every three years.
- **Prof Ricky LEE** (Mechanical Engineering) was awarded a CPMT President's Award in December 2002 for his outstanding contributions to the IEEE-CPMT (Components, Packaging, & Manufacturing Technologies) Society.



(Left) Prof Wilson Tang received the award at the presentation ceremony.

- **Prof Ka Ming NG** (Chemical Engineering) won the prestigious Excellence in Process Development Research Award of the American Institute of Chemical Engineers for his multi-scale objective-oriented approach to product design and the development of the relevant manufacturing process with reduced time, effort and investment, while maintaining the highest product quality.
- **Prof Tongxi YU** (Mechanical Engineering), together with Prof X M Tao of The Hong Kong Polytechnic University, was presented the IFAI (Industrial Fabric Association International) Technical Fabrics Excellence Award in the IFAI Expo 2002 Textile Technology Forum held in the USA in November 2002, for their research on cellular textile composites with applications to energy absorption.

Top Logistics & Supply Chain Education Provider in HK

HKUST was selected as one of the three finalists for the Best Education Course Provider of the Asian Freight and Supply Chain Awards, for its Master of Technology Management in Global Logistics Management and Executive Diploma in Transportation Logistics Management. Among the numerous logistics course-providing institutions in Hong Kong, only

HKUST was selected for this prestigious shortlist.

The other finalists are two renowned Singapore institutes, The Logistics & Supply Chain Management of Society and The Logistics Institute, National University of Singapore. The latter had formed an alliance with the Georgia Institute of Technology in the US.

International Spotlight on Research on Crossbar Switches

Network system research conducted by the Departments of Electrical and Electronic Engineering and Computer Science has been highlighted in a leading international industry publication, illustrating the global impact of R&D innovations at HKUST.

An article in the *EE Times*, the electronics industry's newspaper of record and a source of reference for engineers and technical managers worldwide, focused on a technical paper by School of Engineering postgraduate student Ting Wu (EEE), Prof Chi-Ying Tsui (EEE) and Prof Mounir Hamdi (CS).

The paper offered an alternative approach to crossbar design, a core component of switches and routers, the devices that ensure that computer networks transmit information effectively and efficiently. It was presented by the HKUST researchers at the Hot Chips conference in Palo Alto, California, in August 2002.

Prof Hamdi explained that the crossbar switch currently used is like a small-town taxi driver delivering passengers to their

destinations. The current switch can deal with less-complicated traffic set-ups, but it cannot support information management in large-scale and high-speed network systems.

To improve this situation, the research team decided to pipeline multiplexers, with one 256-bit multiplexer replaced by several cascaded narrower multiplexers separated by registers. In this way, a problem can be broken down into smaller pieces and dealt with by different modules at the same time. The output is then integrated and sent out as a final solution.

According to Prof Hamdi, this is the only crossbar design compatible with integrated circuits and applicable to advanced network systems. The team has now started to study other devices in switches and routers to further advance network systems.



Members of the crossbar design research team: (Bottom left to right) Prof CY Tsui, Prof Mounir Hamdi, and Dr Hu Qingsheng. (Top left to right), Mr Wu Ting and Mr H C Kit.

HKUST/WebEx Institute Leads the Way to IT Hub



Chief Executive Tung Chee Hwa congratulates HKUST President Prof Paul Chu and WebEx President and Chief Technical Officer Mr Min Zhu after the Signing Ceremony for the HKUST/WebEx Information Technology Institute.

HKUST and San Jose-based WebEx Communications, Incorporated have announced a plan to set up an advanced HKUST/WebEx Information Technology Institute, with the objective of helping Hong Kong develop into a web-service hub in the region.

The Institute will focus on the R&D of cutting-edge multimedia technologies at HKUST, such as wireless applications and on-line product design. WebEx, a leading provider of interactive Web communications services, will assist the Institute, including making WebEx services and technology available and helping to commercialize R&D results from the Institute.

Materials Experts Give Hong Kong the Edge

Researchers in the School of Engineering have been helping to improve Hong Kong's working conditions and economy in projects examining the reliability and competitiveness of materials used by local industries.

Building knowledge about bamboo scaffolding

In a two-year study on the safety and reliability of bamboo scaffolding, commissioned by the Occupational Safety and Health Council, HKUST civil engineering researchers found that the compressive strength of the commonly used bamboo varied greatly.

Prof Chih-chen Chang, a member of the study team, explained that frequent inspections are necessary as the strength of bamboo weakens due to high humidity and the passage of time.

Bamboo scaffolding intersections were found to be unsuitable anchors for workers' safety belts, which instead should be attached to a stronger or permanent structure. Prof Chang also suggested further



research was needed on the effect of strong wind on bamboo scaffolding.

Flying high with model aircraft decorative film

In December, the Advanced Engineering Materials Facility finished a project on advancing technologies in the manufacture of decorative film, a key material in model aircraft.

The film provides a decorative outer skin and enhances the overall structural strength of the model. Such material is usually acquired from overseas manufacturers. It is costly and can be of uneven quality. The study enabled the constituent materials of the top film, color and adhesive layers, as well as the production method, to be evaluated and improved.



The new technology that emerged as a result of the research saves up to 50% of the material cost and the performance of the new material meets all requirements. Radar Company Limited, a well-established local manufacturer, provided funds for the project. The developed product moves into production later this year.

SENG Exchanges Provide East-West Meeting Point

When Technical University of Denmark student Christina Fabritius learned of her university's exchange program with HKUST's School of Engineering (SENG), she knew it was a chance not to be missed.

For Christina would not only be able to take classes from SENG, she would also have the opportunity to engage in a research project on 3D garment manufacturing. Her exchange experience is one she highly recommends. "Not that many people look towards Asia when they want to study abroad. They should," Christina said.

SENG launched its exchange program in 1996-1997 with a handful of students both going abroad and coming in from overseas for one or two semesters. The program has grown steadily since then and now has arrangements with more than 30 top universities in North America, Europe and the Asia-Pacific for undergraduates and postgraduates.

Recently, students from SENG's first mainland exchange partner schools arrived on campus. Over 100 mainland undergraduates and over 60 from HKUST participated in the initial exchange.

Winter Tan Ying, third-year exchange student from Zhejiang University said, "I want to learn the most up-to-date knowledge, make friends with local students and gain a better understanding of Hong Kong."

Iris Ma Xiao Nan, third-year exchange student from Beijing University said, "People here are friendly and enthusiastic. This makes me feel at home."

All exchange participants benefit from SENG's top-class faculty, research and the special cultural experience that comes from HKUST's location. "Hong Kong is a unique city with 'westernized' Chinese culture," said Associate Dean of Engineering Prof Chi-Ming Chan, director of the School's exchange program.

Local students also see SENG's exchange program as an interesting way to gain more knowledge about different lifestyles, thinking, and ways of working.

Carman Li, a second-year chemical engineering student said, "Recently, I worked with an exchange student from the US. We used to have absolutely different ideas when discussing our projects. But these talks were good as they helped both of us understand what the other was thinking."

Winter and Iris have witnessed a new way of life at HKUST. Carman aims to keep in touch with her exchange friends while Christina will remain in contact with research project supervisor Prof Matthew Yuen and several students she met at HKUST. Christina will always remember the karaoke and university parties. "So different from Europe," she said.



Christina Fabritius, third-year engineering exchange student from the Technical University of Denmark (middle) said, "It has been GREAT. Everyone should take a semester away."



Winter Tan Ying from Zhejiang University and Iris Ma Xiao Nan from Beijing University wanted to try a different way of life. As the saying goes: 'Living in another culture, even for one day, doubles your experience.'



Carman Li, second-year chemical engineering student said, "Working with international people lets you know how they organize things. This is really beneficial for local students' future career development."

Community Projects Help Civil Engineering Students Figure out On-site Skills



The donation was presented to Oxfam representative Mr Chan Kamming at a ceremony at Christ College on October 26, 2002.

First-year civil engineering students successfully demonstrated their financial planning abilities as well as technical management skills during the 2002 summer industrial training program.

Students took part in one of five community projects, each lasting three months. Work included site project management, work planning, design, construction, programming, and quality

and quantity control of building materials.

Especially notable was the fact that projects involving slope maintenance for the Housing Authority and building and environmental improvements at Christ College were awarded by competitive tender. This entailed students to take on much greater financial responsibility and after careful budgeting resulted in a \$30,000 surplus, which the students chose to donate to the Oxfam Education Fund.

"We learn technical skills in the classroom but gained hands-on management experience during the project," said Barbara Siu, the student leader for the Christ College project.

IT FILE: How to Manage the Working World

School of Engineering students are getting down to business and keeping up to date with global job trends via an enterprising program focusing on management and communication skills.

The Business Skill Development Program, organized jointly by the School of Engineering, Student Affairs Office and Learning Matrix International, illustrates the School's commitment to building students' added-value skills.

Through the course, students have the opportunity to complement

their technical abilities by learning how to operate effectively in the world of work. The five modules cover business communication, influencing skills, meeting management, project management, and thinking skills.

The program is designed to equip students with knowledge that can be immediately applied in job interviews and once they take a job in a company. The first module on business communication finished in November and feedback from the 29 students enrolled was highly positive. The module on influencing skills ended in January.

Engineering Alumni Fuel Hi-tech Industry



From left to right:
Dickson Yeung,
ASAT's CTO Mr
Neil McLellan,
Geraldine Lin and
Angus Lam.

As Hong Kong moves towards a knowledge-based society, enterprising School of Engineering graduates are playing a key role in driving forward its hi-tech economy.

One company to benefit is Nasdaq-listed ASAT Holdings Ltd, a global provider of semiconductor package design, assembly and test services and employer of more than 10 engineering alumni.

"HKUST is a great asset to us," said Chief Technical Officer Mr Neil McLellan. "Its skilled alumni give the company world-class superiority compared to other advanced IC packaging companies. They are

intelligent, hard-working and able to think 'out of the box', a key asset in the innovation-intensive environment we work in."

Among the alumni at ASAT are Geraldine Lin (BEng MECH 1999), now a senior development engineer working on semiconductor package assembly; Dickson Yeung (PhD MECH 1997), a technical specialist in development engineering; and Angus Lam (BEng MECH 1998, MSc MECH 2001), senior engineer responsible for product development engineering.

When Geraldine first joined ASAT, she was one of only two female engineers in her department. But times are changing. Now there are seven. "Work should be assigned on the strength of capabilities not gender," she said.

And on that front she is highly confident, thanks to her School of Engineering studies. "The information and equipment provided at HKUST is up with the times. The knowledge I received was more than a foundation. It was ready to use."

Dickson and Angus added: "Technological know-how, project management skills and experience from professors are invaluable to our career development in the hi-tech industry."

Home-grown Researcher Received Global Recognition



(Left) Dr Vincent Cheung
and Prof Howard Luong at
'Chip Olympics' 2003.

Alumni success stories don't come much closer to home than Dr Vincent Cheung. A BEng, MPhil and PhD graduate from the School of Engineering, the locally inspired talent is now adding to HKUST's global recognition with his cutting-edge work in integrated circuits.

Dr Cheung, a post-doctoral Research Associate in the Electrical and Electronic Engineering Department, didn't always plan an academic career. But after completing his MPhil, he received a life-changing invitation.

"I was asleep on a bus going home to Taipo at around 11pm in mid-October, 1999, when my phone rang," he recalled. It was a delighted Prof Howard Luong, Dr Cheung's long-time mentor; with the news that the postgraduate had had a paper accepted for the renowned IEEE International Solid-State Circuits Conference in San Francisco, popularly known as the 'Chip Olympics' and the premier event in its field. Most only gain such recognition at the PhD level or beyond.

The work that paved the way for this achievement looked at low-voltage circuit solutions to reduce battery size and lengthen battery life, an increasingly important research area given the popularity of mobile phones and other portable applications and biomedical applications for devices such as pacemakers.

In February 2000, he presented his paper, 'A I-V CMOS Switched-Opamp Switched-Capacitor Pseudo-2-Path Filter', to a large audience of top industry professionals, academics and engineers. Based on a technique first published in the mid-1990s, Dr Cheung not only sorted out solutions to problems in the original research but extended it. He emerged with a significant advance of his own that earned a US patent.

"Afterwards, one American professor congratulated me and said: 'Even the inventor had given up, yet you managed to work on it.' That made a great impact and motivated me to push my technique even further so it would not fall by the wayside like the earlier one," he said.

Dr Cheung, still only 28, is now a familiar face at the 'Chip Olympics'. At the 2001 conference, he demonstrated an IC that performed 10 times faster than existing I-V designs and could significantly reduce the size, weight and power consumption of portable devices. This year, he took his ultra-low-power IC design. Once developed, this could give biomedical devices, such as low-battery implants, a life span five to ten years longer than currently available.

"You go for the edge - or at least the edge at that moment. Later, as technology advances and your skills improve, you find it is no longer the edge and you can go further. That's what makes research interesting," he said.

Dr Cheung acknowledges Prof Luong's role in first sparking his interest in ICs as a second-year undergraduate and continually encouraging his work. He also sees HKUST's stimulating environment as a key factor in generating ideas and believes the University and its global approach are helping to build up a culture of excellence in Hong Kong. "HKUST is very good at developing this. It is always competing at the international level and working on advanced knowledge."

Highlights of Student Achievements

- **Dr Yufei TAO** (recent PhD graduate, Computer Science) received the Hong Kong Young Scientists Awards at the 10th Annual Conference of the Hong Kong Institution of Science.
- **Dongsheng MA** (PhD, Electrical and Electronic Engineering) won the Schmidt Award of Excellence 2002, an annual award established five years ago by Schmidt & Co (Hong Kong) Ltd.
- **Dickson TONG** and **Jihui ZHANG** (PhD, Computer Science) were awarded the 2002 Microsoft Fellowship, presented by Microsoft Research Asia. Jihui and Dickson are the only two awardees from Hong Kong among the 18 students who received the award this year.
- **CHAN Yu Hin** (MPhil, Mechanical Engineering) won the Best Student Paper Award (First Runner-up) at the International Symposium on Electronic Materials and Packaging held in Taiwan for his paper 'Wire Bondability of Au/Ni Bond Pads: Effects of Metallisation Schemes and Processing Conditions', co-authored with other project team members from ASM Assembly Automation based on an Innovation & Technology Fund UIT project.

- **LI Si Wan** (MPhil, Chemical Engineering) won the Carl Klason Prize for the Best Student Presentation at the Polychar 11th World Forum on Advanced Materials, held in January 2003 in the USA. The Research Travel Grant of RGC sponsored her participation.
- **HUNG King Luk, KWAN Chen Ho, and YIP Lap Chi** (Industrial Engineering & Engineering Management) won the Occupational Safety & Health Best Project Award 2001/2002 organized by the Occupational Safety & Health Council, for their project 'Development of Slip Resistance Tester for Footwear and Floor Tiles'. **WONG Ping Yiu** (MPhil, Civil Engineering) also won the award for his project 'Safety and Reliability of Bamboo Scaffolding'.
- **MAN Wai Keung** (Civil Engineering) was honored with a Best Final Year Students of Higher Education Award 2002 by the China Civil Engineering Society.

Continuing and Professional Education

Cutting-edge Master's Programs Expand Knowledge and Networks



First graduates from the Master of Technology Management in Information Technology program.

Opportunities for professionals to build both knowledge and networks, locally and internationally, are being expanded through a series of innovative School of Engineering part-time Master's degree programs.

The popular 18-month Master of Technology Management (MTM) program, which presented its first graduates in November, enables senior and middle managers to build personal and business ties across a range of industries, cultures and countries.

"From the start, we wanted to emphasize three elements," said Prof Helen Shen, Associate Dean of Development. "We would be looking at the latest technology developments; cutting-edge business and management techniques; and providing networking opportunities for participants."

The program, which offers a specific focus on either IT or global logistics management, is one of the first in Hong Kong to use a live-in weekend study formula. This takes place at HKUST's Clear Water Bay campus. "It means students not only have class time together but can meet on Saturday evenings and attend talks together. Many become very good friends," Prof Shen said.

The international student body, including people from North America, Asia and Europe, adds to the mix of minds. Trips overseas to see top

companies and universities allow further expansion of international ties.

"Studying with participants from different backgrounds and cultures helped me to understand my situation at work," said Catty Ren, sales manager of Global Sources, Shenzhen, and one of the first MTM-IT graduates.

The University is now utilizing the strengths of the Departments of Electrical and Electronic Engineering and Computer Science to add more Master's degree programs in areas of high community demand. In February, Hong Kong's first part-time MSc in Telecommunications got underway, with 84 participants selected from more than 140 applications.

Tommy Wong Wai-leung, project executive at Hutchison Global Communications Ltd, said: "As a biochemistry graduate, I decided to take the course because I wanted to gain more technical knowledge and meet more people in the field."

For Carrie Hui Ka-yee, a test and type approval assistant engineer at Nokia (HK) Ltd, the course also provides a welcome way to learn and talk about the latest issues with other people in the industry, as much of her day-to-day work is confidential.

In March, the new and much sought-after MSc in Information Technology commenced. The School's MSc in IC Design Engineering is due to launch later in the year; with a MSc in Microelectronics planned for 2004. All are part-time and run over two years.



From left: Mr TY Wang (Director, Professional Program and External Development), Prof Ross Murch (Program Director), Prof Albert Wong (Visiting Associate Professor, Dept of ELEC), and Prof Yan Xu (Assistant Professor, Dept of ISMT) in the Information Session on the MSc in Telecommunication.

Campus News

Teaching Excellence Honored

Five faculty members were presented the School of Engineering Teaching Excellence Appreciation Award (Spring 2001-02) in October's Engineering School Board Meeting. The awardees were Prof Ben Young of Civil Engineering, Prof Michael Brown of Computer Science, Prof Albert Wong of Electrical and Electronic Engineering, fourth-time winner Prof Ravindra Goonetilleke of Industrial Engineering and Engineering Management, and Prof Ricky Lee of Mechanical Engineering.



Forum about Female Engineers in Hong Kong



The annual Engineering Festival opened on February 17, 2003, followed by a variety of programs including seminars, workshops, a pub night, games, etc. Organized by the Engineering Students'

Union, this year's Festival focused on the role of female engineers. A forum and an exhibition were dedicated to this theme.

Tenth Congregation

Nine hundred and eighty-four Engineering graduates received academic degrees, including 711 bachelor's degrees, 230 master's degrees and 43 PhDs, during HKUST's Tenth Congregation from November 6-8, 2003. Students' achievements in academic excellence were also honored at the ceremony. Thirteen Academic Achievement Awards were bestowed upon the top bachelor's degree graduates.



Logistics and Supply Chain Forum

Industrial Engineering and Engineering Management Department hosted the Logistics and Supply Chain Forum aimed to be a conduit for communications between industries, supply chain solution vendors, and academia. The Forum was held on January 17 and 24, 2003 on the topics 'Advanced Concepts and Practices in Logistics Management' and 'Real-Time Optimization for Real-World Problems', respectively.



Workshop on Growth of Nano-structures



Over 50 researchers from 6 countries and regions joined the Workshop on Selective, Patterned and Self-Assembled Growth of Nano-structures, which took place from January 6 to 8, 2003. The technical program organized by the Electrical and Electronic Engineering Department highlighted leading advances in the formation of nano-structures by chemical and self-assembled means.

International Symposium on Advances in Abrasive Technology

The Fifth International Symposium on Advances in Abrasive Technology, organized and sponsored by the Mechanical Engineering Department of HKUST and the Japan Society for Abrasive Technology, was successfully held at HKUST during November 15-17, 2002. In total, 79 delegates from 9 countries and regions attended the symposium, and 69 papers were presented for discussion. The international symposium series has been focusing on the abrasive technologies such as grinding, polishing, and micro machining, and has been held in Japan, Australia, USA, and Korea. During the event, an international committee for abrasive technology was established to promote the studies of abrasive technology.



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, alumni and friends of the School. Comments, suggestions and contributions are welcomed.

Copyright © 2003 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: Carmen Choy

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

Phone: (852) 2358-8788 Fax: (852) 2358-1458

Email: seng@ust.hk Website: <http://www.seng.ust.hk>

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.

Stay connected and keep in touch!

Calendar of Events

June 11-13 International Symposium on Macro-, Meso-, Micro- and Nano- Mechanics of Materials (MM2003)

(Enquiry: 2358-7184, <http://www.me.ust.hk/~mm2003>)

July 7-10 The 3rd Asia Aerosol Conference

(Enquiry: 2358-6943, <http://www.ust.hk/~3aachkl>)

16-18 International Database & Engineering Application Symposium

(Enquiry: 2358-6979, <http://www.cs.ust.hk/ideas03/>)

18-20 Engineering Summer Camp for Honour Students 2003

(Enquiry: 2358-6960)

All titles and dates are subject to revision.