

# INFOCUS



HKUST ENGINEERING

Newsletter No.17 Winter 2009

TEACHING



ALUMNI

RESEARCH



STUDENTS

INDUSTRY PARTNERSHIPS

INTERNATIONAL EXCHANGES

ACADEMIC COLLABORATION

FACULTY  
KNOWLEDGE TRANSFER

# BEACON OF EXCELLENCE

The months since September, when I took over the post of Dean of the School of Engineering, have been filled with activity as the School continues to prepare for the immense changes that the switch to a four-year degree in 2012 will bring.

This is a challenge that the School is ready to embrace as an unprecedented opportunity to revise our curriculum and methods of teaching in dynamic new ways. Thanks to the foresight and capable management of my predecessors, HKUST School of Engineering is already among the best in the world, as our rankings story in this issue of *In Focus* shows. We now seek to add to this achievement.

As I explain in the interview on P10-11, our goal is to become a "beacon of excellence". The world is changing and we need to be ready to train our students to be solution-finders for local problems and those that trouble the world at large. As engineers, we have a responsibility to find answers and to deliver the technology that can assist in improving lives. We have a responsibility to explain our ideas and to consider all the different aspects of living on which these innovations will touch.

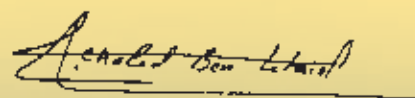
The environment, the needs of mega-cities, the divide between rich and poor are huge tasks that will require enormous effort by a wide range of people from different fields to address. Our students will need to receive an education that can produce the type of engineers that can usefully contribute to such 21st century needs through their

ability to handle advanced technologies, work on multidisciplinary projects, and see the global picture.

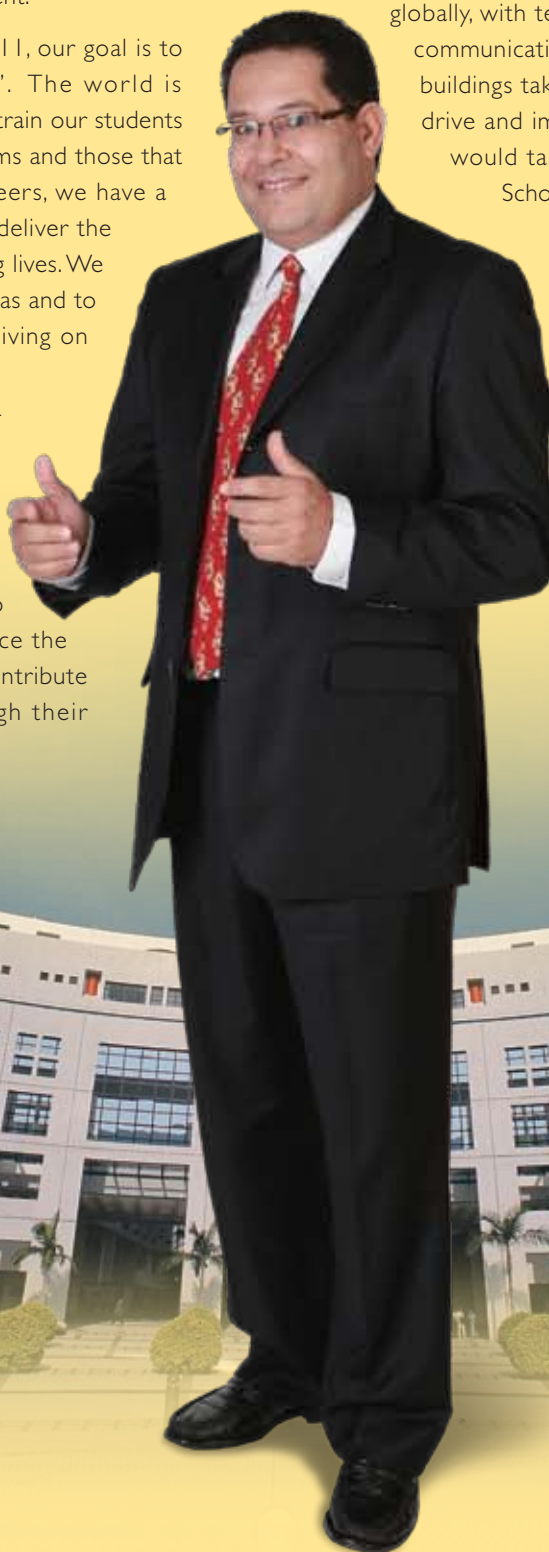
We are already on our way. The practical creativity of our students and alumni can be seen in the accolades they regularly receive. Under the guidance of our world-class and award-winning faculty, students are being exposed to new ways of learning and engaging in leading research. Students and academics are also finding different rewards in voluntarily setting their skills to work on behalf of others in China and beyond.

The role of engineers is one that today is often unsung globally, with technological achievements from wireless communication to medical technology and intelligent buildings taken for granted. Yet without engineers to drive and implement technology, little development would take place. As Dean of this front-running School of Engineering, I would like to alter this view. The changes that we will undergo in the next few years will propel forward our quest, giving us an unparalleled chance to become that "beacon" and bring engineering back into the spotlight.

Finally, I would like to convey again my heartfelt congratulation to 2009 graduates. Stay in touch!



Prof Khaled Ben Letaief  
Dean of Engineering





## Faculty Members

- **Prof Ho Yin Mak**  
*Assistant Professor, Industrial Engineering and Logistics Management*  
*PhD - University of California, Berkeley*
- **Prof Jiheng Zhang**  
*Assistant Professor, Industrial Engineering and Logistics Management*  
*PhD - Georgia Institute of Technology*

## Visiting Faculty

- **Prof Dunren Che**  
*Associate Professor, Computer Science and Engineering*  
*PhD - Beijing University of Aeronautics and Astronautics*
- **Prof Qi Fu**  
*Visiting Scholar, Industrial Engineering and Logistics Management*  
*PhD - Hong Kong University of Science and Technology*
- **Prof Tingting Ji**  
*Assistant Professor, Industrial Engineering and Logistics Management*  
*PhD - Hong Kong University of Science and Technology*
- **Prof Emma MacPherson**  
*Assistant Professor, Electronic and Computer Engineering*  
*PhD - University of Cambridge*

## Administrative

- **Prof Khaled Ben Letaief**  
*Appointed Dean of Engineering*
- **Prof Fugee Tsung**  
*Appointed Head of the Department of Industrial Engineering and Logistics Management*



## HKUST Unmanned Helicopter Takes Off for Mount Everest



History was made in the summer when researchers from the Department of Electronic and Computer Engineering successfully carried out a series of test flights with their unmanned helicopter, Zhufeng Explorer, including the world's first autonomous flight to Mount Everest.

The tests were carried out over 10 days in June by Prof Zexiang Li, his postgraduate student Frank Wang and their project team. The field trials covered a number of different locations in Tibet, enabling the collection of a large set of data for future research on unmanned aviation and the safeguarding of high-altitude environments. As well as Mount Everest, the helicopter flew over lakes, a glacier and a maiden forest.

Zhufeng Explorer can take photographs and videos during flight and send the signals simultaneously to a ground control station. The two-meter flying machine can also carry atmospheric data monitoring equipment.

The main challenge, according to Prof Li, was the climatic conditions at high altitudes, such as the thin air and very strong winds. "I was delighted with the outcome of the mission and foresee further use for unmanned helicopters in the surveying and protection of highland ecology in the future," he said.

The innovative independent helicopter is equipped with a global positioning system (GPS), on-board inertia measurement units and is capable of flying on a pre-programmed flight path. It weighs about 10kg. When powered by electric battery, Zhufeng Explorer can fly over a radius of 50km. If propelled by diesel, it can cover a radius of 200km. "The technology offers an exciting range of current and potential applications," Prof Li said.

The HKUST team is one of the top research groups on unmanned helicopters in China. It was also the first to use an unmanned helicopter to carry out surveillance and damage assessment after the Sichuan earthquake in May 2008.



## HKUST Helps to Activate Global Study on Urban Water

Prof GH Chen, Civil and Environmental Engineering, has been actively involved in establishing a multinational research project involving the vital environmental topic of water supplies for the world's fast-growing number of cities.

The study is being developed through UNESCO-IHE, which strengthens the efforts of other universities and research centers to build professional knowledge and skills in the water sector. Its Institute of Water Education is the largest facility devoted to this field in the world.

The project, "Salt and Brackish Water as Secondary Quality Water for Urban Environments", involves researchers from around the world including HKUST, UNESCO-IHE, Delft University of Technology, University of Cape Town, Kiwa Water Research in The Netherlands and institutions in Palestine and Cuba.

## Geotechnical Lecture Series Honors Professor Emeritus

The first Wilson Tang Lecture, a lecture series established as a tribute to Wilson H Tang, Professor Emeritus of the Department of Civil and Environmental Engineering, was given at the Second International Symposium on Geotechnical Safety and Risk (ISGSR) in Japan in June.

Prof Tang is a founding researcher in the area of geotechnical reliability and risk and his breakthroughs have led to many fresh insights in the field. The Wilson Tang Lecture will be the

highlight of future ISGSR symposiums and serve as a way to honor distinguished peers and their achievements. The first lecture was delivered by Prof TH Wu from Ohio State University.

The June symposium was organized by the Geotechnical Safety Network and TC23 and TC32 of the International Society for Soil Mechanics and Geotechnical Engineering.

## Regional Supply Chain Insights

The growing role of Greater China and Singapore in the global supply chain for services and manufacturing was the theme of a thought-provoking talk by Prof Fugee Tsung, Head of the Department of Industrial Engineering and Logistics Management, at the Institute of Industrial Engineers (Hong Kong)'s annual dinner earlier in the year.

Prof Tsung, IIE's Regional Vice President (Asia) and the event's Distinguished Speaker, shared his insights on "Recent Development of Industrial Engineering in Greater China". The talk included an overview of recent moves in industrial engineering in Mainland China, Hong Kong, Taiwan and Singapore.



## Teaching Excellence

### Accolades for SENG's Outstanding Teachers



Prof David Rossiter, Computer Science and Engineering, has been awarded the top accolade in the School of Engineering's 2008-09 Teaching Excellence

Appreciation Award honors list. The annual awards recognize dedication and outstanding performance in teaching undergraduate courses at the School. Prof Rossiter received the Distinguished Teaching Award, with Prof Amine Bermak, Electronic and Computer Engineering and Prof Yu-Hsing Wang, Civil and Environmental Engineering gaining Teaching Awards.

Prof Rossiter was recognized for the enthusiasm he inspires

among students, as shown through their quantitative and qualitative assessments of his teaching, and his ability to expand students' thinking and learning capabilities. He has actively participated in curriculum redesign and also fostered development of teaching technologies within and outside HKUST. His Gong and NanoGong web-based audio communication systems, for example, have assisted the teaching of languages skills at HKUST for over four years.



## SENG Excels Again in International Rankings

The School of Engineering (SENG) has again been ranked among the top engineering schools in the world, according to global rankings surveys conducted by organizations east and west.

In November, Shanghai Jiao Tong University's Academic Ranking of World Universities 2009 saw HKUST ranked number one among universities in Greater China (Mainland China, Hong Kong and Taiwan) in its list of the World's Top 100 Universities in Engineering/Technology and Computer Sciences. The University has held this position since the field rankings were first published in 2007. In the 2009 results, HKUST also ranked among the top five universities in Asia Pacific. It was placed 36 overall.

Earlier, SENG was once more ranked in the top 30 universities worldwide in Engineering and Information Technology by the 2009 Times Higher Education–QS World University Rankings. In these rankings, HKUST was placed at 26. The top three universities were all US institutions: MIT, UC Berkeley and Stanford respectively.

"SENG's success is a tribute to our world-class faculty and the endeavors of our students," said Dean Khaled Ben Letaief. "We are really pleased to see that we consistently rank among the leading universities in the world in engineering, technology and IT. We shall be continuing to work toward even greater impact in the future."

### Shanghai Jiao Tong University's Academic Ranking of World Universities in Engineering/Technology and Computer Sciences 2009

Institution	World Ranking
Massachusetts Institute of Technology (MIT)	1
Stanford University	2
University of Illinois at Urbana-Champaign	3
University of California, Berkeley	4
Carnegie Mellon University	5
Pennsylvania State University - University Park	10
Swiss Federal Institute of Technology of Lausanne	15
Northwestern University	22
Princeton University	26
<b>The Hong Kong University of Science and Technology</b>	<b>36</b>
Harvard University	38
Tsinghua University	44
University of Massachusetts Amherst	50

Rankings for field lists include every institution that has any Nobel Laureates, Fields Medalists and highly cited researchers. Major universities globally with significant numbers of articles indexed by Science Citation Index-Expanded and Social Science Citation Index are also included. More than 1,000 institutions are ranked in each broad subject field.

### Times Higher Education–QS World University Rankings in Engineering and IT 2009

Institution	World Ranking
Massachusetts Institute of Technology (MIT)	1
University of California, Berkeley	2
Stanford University	3
Harvard University	22
Princeton University	23
Cornell University	24
University of Illinois at Urbana-Champaign	25
<b>The Hong Kong University of Science and Technology</b>	<b>26</b>
Seoul National University	27
University of Waterloo	27

The QS World University Rankings were conceived to present a multi-faceted view of the relative strengths of the world's leading universities. The research yields results on over 600 "in the round" and 300 in each of five broad faculty areas. The overall rankings are compiled based in six distinct indicators including Academic Peer Review, Employer Review, Faculty Student Ratio, Citations per Faculty, International Faculty and International Students.





## Faculty Honors, Awards and Achievements

- Dean of the School of Engineering Prof Khaled Ben Letaief won the Best Paper Award at the IEEE International Communications Conference held in Dresden, Germany, in June. His paper, "Minimum Sum Expected Distortion in Cooperative Networks", was co-authored by MPhil graduate Shaolei Ren, Electronic and Computer Engineering. Prof Ben Letaief has also been elected Vice-President of the IEEE Communications Society. The Institute of Electrical and Electronic Engineers (IEEE) has 455,000 members and student members in more than 160 countries. The IEEE Communications Society is the second largest within IEEE and the world's leading organization for professionals in communications. Voting for the office of Vice-President is held every two years by members from all over the world.



■ Prof Mounir Hamdi, Computer Science and Engineering, won the Best Paper Award at the Communications Software and Services Symposium, IEEE International Conference on Communications 2009. The event was held in Dresden, Germany from June 14-18. The award-winning paper "Supporting VCR-like operations in derivative tree-based P2P streaming systems" was co-authored by Tianyin Xu, Jianzhong Chen, Wenzhong Li, Sanglu Lu and Yang Guo.


- Prof Chi Ming Chan, Chemical and Biomolecular Engineering, has been named one of Top 50 Authors (Most Cited, 2000-2008) in *Polymer*, which publishes original research on polymer science and technology. A paper by Prof Chan and his research team was also included in the Top 20 Cited Articles list (2000-2002). The paper, "Polypropylene/ calcium carbonate nanocomposites" appeared in Volume 43, Issue 10, published in March 2002.



■ The paper, "Electrochemical Techniques on Sequence-Specific PCR Amplicon Detection for Point-of-Care Applications, by Prof I-Ming Hsing, Chemical and Biomolecular Engineering, and his group was selected as a "Hot Article" in the *Analyst*. The journal, a RSC publication, publishes high-quality work in analytical, bioanalytical, and detection science.
- Prof GH Chen, Civil and Environmental Engineering, will be the plenary keynote speaker at the 7th IWA Leading-edge Technology in Water and Wastewater Conference held from June 2-4, 2010 in Arizona. The conference is the world's leading international forum focused on water science and technology.



■ Prof I-Ming Hsing has also been invited to become the first Chinese Regional Editor of the journal *Electroanalysis*. This new position, starting in 2010, reflects the increasing number of submissions originating from research institutions in mainland China, Hong Kong, Macau and Taiwan. Prof Hsing will be responsible for reviewing and decisions on all manuscripts from the Greater China region. *Electroanalysis* is a top international forum for fundamental and applied research in electroanalytical chemistry and one of the leading journals in electrochemistry.
- An article by Prof V Chigrinov, Electronic and Computer Engineering, was named one of the 10 most heavily cited and influential papers published in the *Japanese Journal of Applied Physics* since the publication's first volume in 1962. The article, "Surface-Induced Parallel Alignment of Liquid Crystals by Linearly Polymerized Photopolymers", was co-written with M Schadt, K Schmitt and V Kozinkov. Papers were selected from various fields of applied physics by the journal's editorial board.



■ Prof Ricky Lee, Mechanical Engineering, received the Significant Contribution Award for Electronic Packaging Technologies from the Chinese Institute of Electronics – Electronics Manufacturing & Packaging Technology Society. The award was presented at the International Conference on Electronic Packaging Technology & High Density Packaging, which celebrated its 10th anniversary in Beijing in August 2009.


- New HKUST professor Ho Yin Mak, Industrial Engineering and Logistics Management, received an Honorable Mention at the SOLA-AIR Products Bi-annual Dissertation Award. His dissertation examined "Integrated Supply Chain Design Under Uncertainty". The award is sponsored by INFORMS and Air Products and Chemicals, Inc, and focuses on location analysis.




- Prof Yongli Mi, Chemical and Biomolecular Engineering, and researchers from Arizona State University have, for the first time, constructed a DNA 3D object by a single strand DNA and successfully cloned the DNA 3D in vivo. The milestone research has been published in the *Journal of the American Chemical Society*.



- Prof Charles Ng, Civil and Environmental Engineering, has been appointed vice-chair of the newly established board-level Innovation Development Committee of the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE). The ISSMGE is a professional body representing the interests of engineers, academics and contractors that actively participate in geotechnical engineering. It has a worldwide membership of over 18,500.



- Prof Huamin Qu, Computer Science and Engineering, received a 2009 IBM Faculty Award, the only recipient from Hong Kong this year. The competitive, worldwide awards program fosters collaboration between researchers at leading universities and those in IBM research, development and services organizations. It also promotes courseware and curriculum innovation to stimulate growth in disciplines and geographies strategic to IBM.



- Prof Richard So, Industrial Engineering and Logistics Management, has been made a Fellow of the Hong Kong Ergonomics Society. He also delivered a keynote speech at the society's annual general meeting in June.



- Prof Fugee Tsung, Industrial Engineering and Logistics Management, has been elected a Fellow of the Hong Kong Institution of Engineers. In addition, Prof Tsung's paper on "Statistical Monitoring of Multi-stage Processes Based on Engineering Models" in *IIE Transactions* in 2008 was named among the most-cited articles from 2006-2008.



- Prof Jiang Xu, Electronic and Computer Engineering, and his team have been awarded the Best Paper – Honorable Mention Award at the IEEE Computer Society Annual Symposium on VLSI (ISVLSI) 2009 for their paper "A Low-power Low-cost Optical Router for Optical Networks-on-Chip in Multiprocessor Systems-on-Chip". The acceptance rate for this year's ISVLSI was 25%.



- Prof Matthew Yuen, Mechanical Engineering, won the IEEE Component Packaging and Manufacturing Technology Society and ASE Group Best Conference Paper Award. The award-winning paper, "Hydrophobic Self-assembly Monolayer Structure for Reduction of Interfacial Moisture Diffusion", was co-authored with Haibo Fan and Cell KY Wong. The paper was presented at the International Conference on Electronic Packaging Technology & High Density Packaging. Prof Yuen was also a keynote speaker at the AMD Technology Forum and Exhibition for multimedia and graphics platforms and hardware applications. The event took place in Taipei in October.

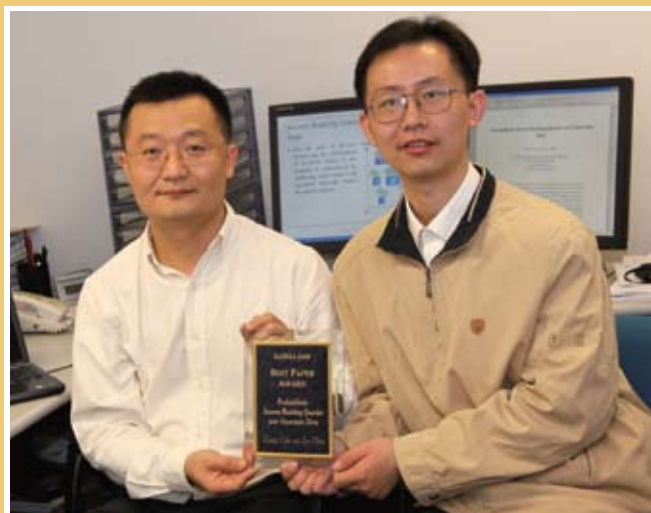


- New HKUST academic Prof Jiheng Zhang, Industrial Engineering and Logistics Management, was awarded an Honorable Mention at the annual George Nicholson Student Paper Competition for his report "Fluid Models of Many-server Queues with Abandonment". The contest honors outstanding papers in operations research and management sciences written by a student.



- Two papers by faculty and students from the Electronic and Computer Engineering department have been accepted for the 2010 International Solid-State Circuits Conference (ISSCC), also known as "the Chip Olympics", in San Francisco in February 2010. The ISSCC is the foremost forum for presentation of advances in solid-state circuits and systems-on-a-chip. The first HKUST paper, "EPC Gen-2 System-On-Chip Passive UHF RFID Tag with Embedded Temperature Sensor", is co-authored by Jun Yin, Jun Yi, M Law, M Ling, P Lee, B Ng, B Gao, HC Luong, A Bermak, M Chan, WH Ki, CY Tsui and M Yuen. The second paper, "A Two-Phase Switching Hybrid Supply Modulator for Polar Transmitters with 9% Efficiency Improvement", is co-authored by Y Wu and P Mok.

## Double Success for CSE Academics at Database Systems Conference



Demonstrating the high level of international achievement within the School of Engineering, Computer Science and Engineering research teams won two out of a total of three Best Paper Awards at the 14th International Conference on Database Systems for Advanced Applications (DASFAA) in Australia.

Prof Dik Lun Lee and his PhD student Budi Yuwono received the inaugural DASFAA 10+ Best Paper Award 2009 for their groundbreaking early study on how search engines should be developed and run. Their paper, "Server Ranking for Distributed Text Retrieval Systems on the Internet", first published in 1997, was selected from more than 320 papers presented over a period of 10 years (1989-1999) at six DASFAA international conferences.

Prof Lee's work represented an influential piece of research that was one of the earliest to focus on meta-search engines, according to the selection panel. The paper has continued to make an impact in the years following its publication and has been cited 120 times.

When Prof Lee began his research on search engines in 1994, in the early days of search engine technology, the major players were WebCrawler, InfoSeek and Lycos. Google had yet to emerge as the dominant force. However, Prof Lee's far-sighted observations have stood the test of time. He even cautioned about the risks involved in relying on one big search engine for web search work, including its negative impact on privacy, data screening, renewal and customization.

In his view, a large number of collaborative search engines offers a better mode of operation. "This helps to address the issue of privacy. It also gives collaborative search engine operators and content owners the autonomy or ability to track usage and add or remove contents from the search engine any time they want," said Prof Lee, who joined HKUST in 1994.

The pioneering academic is currently working on research involving a personalized search engine which tries to understand a user's viewing habits and ranks results according to the user's interests.

Prof Lei Chen and his doctorate student Xiang Lian collected the DASFAA Best Paper Award 2009 for their paper "Probabilistic Inverse Ranking Queries Over Uncertain Data". The research attempts to answer inverse ranking queries on imprecise data accurately and efficiently. The paper was selected from a total of 186 submissions.

"An inverse ranking query sets out to evaluate the ranking of an object compared with its peers," said Prof Chen. "Practical applications include judging the health of a newborn baby from his/her weight and height compared with other babies or helping a credit card company determine the credit limit of a new customer among other customers." Prof Chen joined the School of Engineering in 2005.





## Active Start for School-based Admission Students

With the introduction of School-based Admission Scheme (SBA), first-year undergraduates joining the School of Engineering (SENG) in 2009-10 have enjoyed a more flexible start to their studies, along with a series of fun activities to help them settle in to university life.

School-based Admission enables students to learn about different fields of engineering before deciding on their major as they are initially admitted to the School rather than individual programs. This is particularly useful for students interested in several engineering fields. Majors are only selected at the end of the first semester.

When applying to join SENB, students can choose either Engineering A, covering chemical, civil and mechanical engineering programs, or Engineering B, which embraces computing, electronic and engineering management programs. The two streams together encompass all of SENB's undergraduate programs.

In their first semester, students in both Engineering A and Engineering B take a series of introductory courses providing a broad foundation in engineering and knowledge



about different fields. Students should then have a better idea of their academic strengths and interests when choosing their major.

To ensure the first cohort of School-based Admission students have been able to adapt effectively, interviews were carried out in October to find out more about their experiences and to assist the School in answering any concerns. Each School-based Admission student has also been assigned an academic advisor who can be contacted for advice on subjects and study paths as well as personal issues.

In addition, a number of activities to help School-based Admission students get to know each other, within and across the two streams, have been organized, including a fancy dress Halloween Party and an entertaining dodgeball contest, which involved students from other departments.



# Beacon of Excellence to Shine Fresh Light on Engineering

*In September, Prof Khaled Ben Letaief, Chair Professor of Electronic and Computer Engineering at HKUST, became the new Dean of the School of Engineering following former Dean Prof Philip Chan's return to academic pursuits. Prof Ben Letaief was unanimously chosen by the Selection Committee after a competitive world-wide search and rigorous selection process. He tells In Focus about his vision for the School and the engineers of the 21st century*



## What are your major teaching and learning goals?

The School is at a crossroads given the major education reform taking place in Hong Kong, which will see the city's higher education system move to a four-year degree in 2012. As our students will go up by one-third, we will need more faculty members, laboratories, classes, and student halls. Accommodating these new needs is a challenge in itself. But we are looking at seizing this golden opportunity to do much more. We are setting out to completely re-invent our curriculum to produce the global engineers who will shape the technology and help to solve the major problems that humanity faces in the 21st century.

## Why do engineering students need a new type of curriculum?

The world is changing, bringing new and pressing challenges. Health, water, the environment, mega-city problems are only some of the huge issues we urgently need to tackle. As engineers, our major objective is to find solutions to solve such problems. To do so, engineers must not only be competent from a technical perspective but equipped with a range of communication skills and an international outlook to help them feel at home in multinational teams and in tackling global issues. They must take into consideration multidisciplinary perspectives in designing projects, including political and economic issues and the impact on people's lives.

## How will you achieve this?

Through instilling the ideas of enquiry-based learning. We don't want students to go into classrooms and be given a recipe for ABC. They need to ask questions, be able to undertake independent research, work in teams, and manage projects. We would like to provide further links between our excellence in research and undergraduate learning, and to put more emphasis on social science/humanities for engineers because it is important they understand what the world is all about. We are working with the University's English Center on ways of improving presentation skills. We also want all of our students

to have the chance to exchange to other universities to see at first-hand how others live and study.

## How else will 21st century engineers differ?

We must give our students the ability to learn "on the fly". The pace of technological change is so rapid now that our graduates must be able to update themselves and adapt to continuously evolving working environments. One of our key goals will be to instill a love of life-long learning along with all-round vision.

## What will HKUST School of Engineering's role be?

We are intent on leading the way worldwide in our approach to undergraduate engineering education. And Hong Kong's education reforms have given us the opening to do so. Not many universities have the luxury of completely changing their curriculum. There is always inertia. We have to change, which makes it much easier to motivate people. We have the opportunity to be a model for the world, to revolutionize the way we educate engineering students, and to become a beacon of excellence. This is what I hope we will achieve.

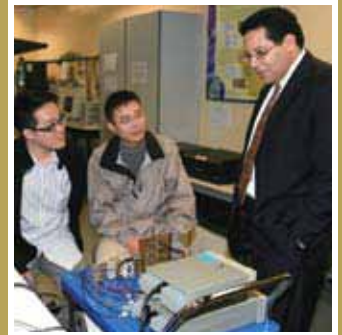
## What makes engineering a great career?

Engineering is exciting because of its ability to make a difference in people's lives. One of the problems, the engineering field faces today is that people no longer appreciate the role of the engineer. Technology has become so integrated into lifestyles, it is taken for granted. One of my daughters had to go to hospital recently. The doctor used many different tools – ultrasound, CT scan, even a hi-tech wireless camera in the form of pill – to try to discover what was wrong. The doctor may be interpreting the findings. Yet without engineers, these technologies would not have been available. Wireless communication, imaging, sensors, computers, think of the impact these developments have had. That's how important engineers are.

## How do you intend to increase students' awareness of engineering?

As one of the leading engineering schools in the world, we





already have tremendous interest from top students in Mainland China. We are also working hard locally to help secondary students make the connections between what they study at school and the world of engineering. Hong Kong is a business hub but, again, it is engineers that have created many of the systems that fuel the city's key business advantages, such as efficiency and hi-tech communications.

### What do you personally feel is rewarding about being an engineer?

You can solve real problems and come up with technology that can often have an important effect on companies and society. But, as an engineering professor, there are added rewards. Along with research and technological breakthroughs, you also have the ability to train the next generation of engineers. And without engineers, progress stops.

### Leading by Example

Just some of Prof Khaled Ben Letaief's many achievements:

#### Administration

- *Dean of the School of Engineering, 2009*
- *Elected Vice-President, IEEE Communications Society, 2009*
- *Director, Wireless IC System Design Center, HKUST Fok Ying Tung Graduate School, Nansha, since 2007*
- *Head of the Department of Electronic and Computer Engineering, 2003-09*
- *Director of Hong Kong Telecom Institute of Information Technology, since 2002*

#### Research

- *Best Paper Award, IEEE International Communications Conference, "Minimum Sum Expected Distortion in Cooperative Networks", co-authored by Shaolei Ren, 2009*
- *IEEE Marconi Prize Paper Award in Wireless Communications 2009, "A Unified Cross-Layer Framework for Resource Allocation in Cooperative Networks", co-authored by Wei Chen, Lin Dai, Zhigang Cao, IEEE Transactions on Wireless Communications, August issue, 2008*
- *IEEE Communications Society Publications Exemplary Award, 2007*
- *Founding Editor-in-Chief, IEEE Transactions on Wireless Communications*
- *Editor-in Chief, IEEE Journal on Selected Areas in Communications - Wireless series*
- *Fellow of IEEE since 2003*

#### Teaching

- *Michael G Gale Medalist for Distinguished Teacher, HKUST, 1998*
- *Four School of Engineering Teaching Excellence Appreciation Awards, 1995-1999*



## Building Up Earthquake Engineering Know-how

*A Civil and Environmental Engineering postgraduate team comprising MPhil students Changli Yu (team leader) and Qingxu Jin, and doctoral candidates Yiqiang Wang and Zhiyuan Zhao, won second place in the Introducing and Demonstrating Earthquake Engineering Research in Schools 2009 (IDEERS 2009) contest held in September in Taipei. Below, team members share what they learnt*



“IDEERS is held annually by Taiwan’s National Center for Research on Earthquake Engineering, the British Council in Taipei, and Bristol University. It is a

science-based project with a competition developed by Bristol University’s Earthquake Engineering Research Centre. The contest is divided into three categories: high school, college, and graduate school. This year over 400 people took part, including students from Taiwan, Hong Kong, UK, New Zealand, Singapore, Malaysia, among others.

“After the devastating Sichuan earthquake, the importance of developing safer buildings was painfully clear. As civil engineering students, we also have a natural interest in knowing more about earthquake engineering.

“At the competition in Taipei, it was exciting to see the model we had designed performing well on the shaking table. Everyone enjoyed the opportunity to participate and learned a lot from our fellow contestants. We were delighted to do so well, but it wasn’t easy as many teams had gone to great lengths over their models.

“We were also interested to see that some teams’ models failed unexpectedly due to a small but significant element being neglected. This really showed us the importance of paying attention to details. Just one can determine the outcome.

“All in all, the contest provided a great opportunity to learn more about earthquake engineering. Although none of us are focused on this subject at the moment, it is now quite possible we may do more in the field in the future.”

## T&M Students Gain Green Ideas at C40 Seoul Summit



Five final-year students from the Dual Degree Program in Technology and Management (T&M) gained fresh insights into sustainable development at the C40 Seoul Summit in May. The event gathered representatives from 80 leading cities from around the world to discuss environmental issues under the theme "Cities' Achievements and Challenges in the Fight against Climate Change".

The students attended the keynote address given by former US President Bill Clinton and panel discussions on tackling climate change in large cities. Hong Kong’s Secretary for the Environment Edward TW Yau, city mayors, policy-makers, experts and scholars were among the summit-goers. Discussions ranged from the wider use of green energy to sustainable transport and sustainable city development. The Seoul event was the third C40 Large Cities Climate Summit.

Dual Degree students Rex Kwan Ho Chan, Andy Lai Chun Chan, York Tik Pan Chan, Chris Kin Hang Tse (all Civil & Structural Engineering and General Business Management) and Stanley Pui Sum Kwok (Logistics Management and Engineering and General Business Management) also competed in the C40 Cities Technology and Management International Business Plan Competition. The HKUST students formed teams with US and Korean university students to work out business plans related to environmental sustainability. The teams then presented their ideas to a panel of professional judges from academia, government and industry.





## Smart Ideas for Future Home Bring Championship Success



School of Engineering students have shown their award-winning inventiveness by collecting two honors at the Jardine Engineering Corporation (JEC) Outstanding Engineering Project Award 2008-09, including the Championship.

Yik Hei Chan, Year 2, Electronic and Computer Engineering, MPhil students Chi Ho Yeung, Electronic and Computer Engineering, and Lap Fai Yu, Computer Science and Engineering, along with teammates from the Department of Finance and Department of Information Systems, Business Statistics and Operations Management secured the Championship for their project entitled "The Possible Life". The interdisciplinary team's idea centered on an intelligent home system that enhanced people's living standards in an affordable and convenient way.

Mingyu Wang, Year 3, Electronic and Computer Engineering, and Shucheng Zhu, Year 3, Computer Engineering Program, earned the Second Runner-up prize for their project "GPS Robotic Water Analyzer". The students focused on providing a cost-effective and efficient way of testing water quality. They achieved this by creating a robotic boat with chemical sensors that could automatically navigate using GPS, monitor water quality in target areas and transmit the data back to a control station.

The JEC project awards are open to full-time undergraduate and postgraduate students from local universities. The contest encourages future engineers to embrace innovation to advance the engineering industry. This year 32 teams from five universities took part.



## New Route to Cost-effective Pile Design



It was a clean sweep for the School of Engineering in HKUST's 2009 President's Cup, with five teams and individuals from the School gaining all the awards and two honorable mentions. The annual honors seek to recognize undergraduate research and innovation at the University as well as give students a chance to increase their communication skills through written and oral presentations.

Leading the way in this year's competition were Ghee Leng Ooi and Yun Man Lau, Year 3, Civil and Environmental Engineering, who received the President's Cup for their project "Examining the Mechanisms of Pile Set-up by the DEM Simulations and a Cost Reduction in the Pile Design". The students set out to investigate pile set-up behavior and find an economical way to improve pile design, successfully utilizing 3D simulation to study the pile set-up effect and resulting in breakthrough findings on soil creep.

Finding a novel way to test water quality has proved a voyage of discovery and great achievement for Shucheng Zhu, Year 3, Computer Engineering Program and Mingyu Wang, Year 3, Electronic and Computer Engineering, who won the President's Cup Gold Award for their "GPS Robotic Water Analyzer". They also collected an award for the project at the Jardine Engineering Corporation Outstanding Engineering Project Award (see also story on the same page).

The silver award was awarded to Howard Cheung, Year 4, Mechanical Engineering and General Business Management, for his project "Modeling Air Damping on a Microresonator Using MD Simulation", while honorable mentions went to two teams from the Department of Chemical and Biomolecular Engineering.

Entries for the President's Cup are judged on their objectives, innovativeness and originality. Finalists must provide a written report, display their project in poster form and give a 15-minute oral presentation.



## Student Honors, Awards and Achievements

- Safra Abdeen, Civil and Environmental Engineering, was awarded the American Society of Civil Engineers' Best Final Year Project Award 2009.

- Computer Engineering Program student Tak Lun Chan, Year 3, received the Outstanding Student Executive Award. The award is organized by the HKUST Alumni Association and supported by the University. Thirteen Student Executives were appointed to assist HKUST alumni programs with their performance evaluated by Executive Committee members.



- 2008 graduates Tik Pan Chan and Kwan Ho Chan, Civil and Structural Engineering and General Business Management, received the Institution of Highways & Transportation Hong Kong Branch Student Paper Award 2009. The paper, "Urban Development with Sustainable Public Transit Services", stemmed from their final year project.



- Industrial Engineering and Logistics Management graduates Yan Kit Chan, Calvin Ka Wan Wong, Shing Yin Wong and Tak Ming Yau received a Certificate of Merit at the Hong Kong RFID Awards U-21 RFID Awards 2009.

- Final-year student Ho Man Chong, Mechanical Engineering, won the BSOMES Research Prize 2009 for the project "An Integrated System on Air Cooling and Air Purifying (I-CAP)". The BSOMES Research Prize was first introduced in 2006 for promoting academic research on building services operation and maintenance in Hong Kong.

- Warner Wa Lun Hong, Computer Science and Engineering Final Year Student of Year 2008-09, won the 6th Final Year Project Competition organized by the IEEE (HK) Computational Intelligence Chapter. His thesis was entitled "Optimal Keypad for Small Devices".



- PhD student Derek Hao Hu, Computer Science and Engineering, has been awarded a Microsoft Research Asia Fellowship 2009. This year, 25 out of 98 nominated PhD candidates from universities/institutions in Asia received fellowships. Derek's research interests include machine learning, web mining, automated planning and bioinformatics.

- Zhendong Huang, doctoral candidate in Mechanical Engineering, received an award (三等獎) from the Joint Summer School on Electrochemistry, organized by the University of Southampton-Xiamen University in 2009.



- Computer Science and Engineering PhD student Juncheng Jia has gained an HKTIIT Post-Graduate Excellence Scholarship. Juncheng's research focuses on cognitive radio networks and wireless spectrum management. His major contributions related to spectrum market design and analysis, and MAC and routing protocols in cognitive radio networks.

- Chemical and Biomolecular Engineering PhD student Richard Lau won the SIMS SVII Student Award. His paper was entitled "Study of Polymer Chain Folding by Time-of-Flight Secondary Ion Mass Spectrometry". The award competition involved an independent review of 29 papers from nominees.

- PhD candidate Mo Li, Computer Science and Engineering, received the ACM-HK Prof Francis Chin Research Award at the ACM Hong Kong Research and Career Day 2009 for his paper "On the Applicability of Sensor Network Systems". Mo's research focuses on pervasive computing and wireless sensor networks, including localization, topology control, and sensor network applications.





- Computer Science and Engineering PhD student Xiang Lian received the HKIE Outstanding Paper Award for Young Engineers/Researchers 2009. Xiang's award-winning paper focused on "Efficient Pattern Matching over Uncertain Data Streams". His research interests include query processing over streaming time series and uncertain databases.

- Year 3 student Matthew Ho Ming Luk, Logistics Management and Engineering and General Business Management, was accepted by Harvard University as a visiting student for the 2009-10 academic year. He also won a HSBC Overseas Scholarship, which will partially cover his study and living expenses at Harvard.



- Electronic and Computer Engineering PhD student Xianshu Luo won the IEEE Photonics Society Best Student Paper Award at the 14th Optoelectronics and Communications Conference 2009. The winning paper, "Dual-Microring Resonator-Coupled Cross-Connect Switch Element for On-Chip Optical Interconnection", was co-authored by PhD student Shaoqi Feng and Prof Andrew Poon. The conference is a top international forum held annually in Asia Pacific.



- A research paper by PhD student Xiaopeng Qu, Mechanical Engineering, published in the *Journal of Micromechanics and Microengineering* (2009), has been selected by the Institute of Physics Publishing in the UK for inclusion in *IOP Select*, a collection of journal articles focused on innovative and significant research. The article, "Bubble Dynamics Under a Horizontal Micro Heater Array" was co-authored by Prof HH Qiu.

- Shaojie Shen, Electronic and Computer Engineering, won the Champion Award in the undergraduate section of the Institution of Engineering and Technology (IET) Younger Members Exhibition/Conference 2009. His final-year project was entitled "Navigation System for Autonomous Mobile Robot - A Simultaneous Localization and Mapping Approach".



- PhD student Patrick Ying Wu, Electronic and Computer Engineering, won the AMD/CICC Student Scholarship Award at the 2009 IEEE Custom Integrated Circuits Conference in the US. His paper, "An Area- and Power-efficient Monolithic Buck Converter with Fast Transient Response", was co-authored by Sam YS Tsui and Prof Philip KT Mok.

- PhD student Ruoyu Xu, Electronic and Computer Engineering, won the Third Prize in the IEEE Engineering in Medicine and Biology Society Hong Kong Chapter Student Paper Competition 2009. The paper focused on "High-speed Intra-body Communication" and was co-authored by Hongjie Zhu and Jie Yuan.

- Year 3 students Hengli Yin and He Liu, Computer Science and Engineering, won the Gold Prize at the Amway Pan-Pearl River Delta Region Universities IT Project Competition 2009, held in Yunnan. Their award-winning entry, a final-year project, provides a system for designing freeform models with 3D curves. The team ranked second out of 43 teams from 12 provinces, including Hong Kong, Taiwan and Macau.

- Electronic and Computer Engineering postgraduates Shi Yuan Zheng, Peng Chong Wang, and Huang Huang won the Gold Award in the GSI Hong Kong RFID Awards 2009. Their project, "A Single-Chip UHF RFID Reader in 0.18um CMOS Process", centers on an integrated UHF RFID reader for passive RFID systems that offers higher performance for lower cost and uses less power than similar readers in the market.

## Civil Engineering High Achiever Receives **HKUST Honorary Fellowship**



Mr. Peter Kwok-Keung Wong, a Civil and Environmental Engineering Advisory Board member, was one of five recipients of the 2009 Honorary Fellowships conferred by HKUST on distinguished leaders in recognition of their contributions. Mr. Kwok is Chairman and Chief Executive Officer of the Kum Shing Group, a major influence in civil engineering.

Under Mr. Kwok's leadership, Kum Shing has grown to encompass construction of roads, bridges, drains, power generation systems, public buildings and utility maintenance services. He is also a strong promoter of education, having built 108 schools for children in need in some of the remotest areas of China. Other projects he has supported include a hospital in his native Dongguan and the Hong Kong Baptist University Affiliated School Wong Kam Fai Primary and Secondary School.

HKUST also conferred Honorary Fellowships on Mr Paul Man-Yiu Chow, Mr Tim Tim-Leung Lui, Mr E Anthony Tan and Prof Andrew G Walder. HKUST Pro-Chancellor Dr the Honorable Sir Sze-Yuen Chung, Council Chairman Dr the Honorable Marvin Cheung, and then HKUST former President Paul Chu officiated at the conferment ceremony, held in July.

## Canadian Joint Workshop **Boosts International Communication**

A Quebec-HKUST Workshop on Communications, co-organized by the Electronic and Computer Engineering and a delegation from Canada in October, provided thought-provoking ideas and discussion on various aspects of communications, signal processing, and optical networking. The two-day event was held from 12-13 October on campus.



## Service Science Conference **Fosters Global Exchange**



Leading scholars, professionals, and executives from around the world gathered in Hong Kong during the summer for the successful 2009 INFORMS International Conference on Service Science, organized by the Department of Industrial Engineering and Logistics Management (IELM).

The event, held from August 6-8 on campus, provided a significant platform for exchange between a wide range of people from different fields, including educators, manufacturing specialists, business representatives, professional association members, government officials, and economists.

Proceedings got underway with a welcome speech by Prof Fugee Tsung, Professor and Head of IELM. This was followed by keynote speeches by Professor Way Kuo, President of City University of Hong Kong, and Professor Candace Yano, Professor of the University of California at Berkeley.

A panel discussion on "Research and Practice of Service Science" took place on the second day in which all distinguished speakers, including Dr Grace Lin, INFORMS Fellow and IBM Distinguished Engineer, shared their views and experiences in a lively, interactive session.

The IBM Best Student Paper Award was also presented at the conference, with IELM PhD student Yanfen Shang winning the First Prize. Hao Cao of Tongji University was awarded Second Prize, with Jun Shan of the IELM Department and Chenbo Zhu of Fudan University gaining Honorable Mentions.





## Undergraduate Programmers Race for Solutions

This year's Association for Computer Machinery (ACM) Collegiate Programming Contest (Hong Kong) proved an exciting day for undergraduate computer



hotshots from eight local tertiary institutions as they tested their skills against the clock, and each other, at the HKUST campus.

The annual local contest challenges teams of programmers to solve a number of programming problems within a set period of time. In the 2009 competition in June, 17 teams, comprising three students each, were given six programming conundrums to see how many they could solve within four hours. Ten teams of observers were also present.

After a nail-biting contest, the E++ team from the Chinese University of Hong Kong eventually took the Championship, with HKUST Team I gaining the First Runner-up Prize.

A key factor in Team I's success was collaboration, according to team member Zhepeng Yan, Year 3, Computer Science and Engineering. "Teamwork is highly important in the contest. As there was only one computer available for each team, we needed to plan well in light of the limited time given," he said. Fellow members of HKUST Team I were Qifeng Chen and Yuliang Li, Year 1, Computer Science and Engineering.

Zhepeng also thanked the team's coach Prof Ke Yi and postgraduate Ji Luo, both from Computer Science and Engineering, for organizing training and providing valuable advice.

After the competition, participants had a good opportunity to get to know their peers at other universities at the celebration dinner and award ceremony. The ACM Hong Kong Chapter has run a local contest since 1991.

## Get-To-Know-You BBQs for ECE Students



To help new students in the Department of Electronic and Computer Engineering (ECE) settle in, two BBQs were arranged in the first few weeks of the Fall semester.

The ECE Students' Society held a beachfront gathering during Orientation Week in September, while the ECE Department arranged a social get-together for its non-local undergraduates in October to introduce them to each other and their professors. Both events were greatly enjoyed by all who attended.

## Dual Degree Students Shine in Eco-property Business Plan Project



A proposal to fuse luxury living and green concepts and an innovative way to help government housing estates go green shared top honors in The Professional Property

Services Limited – HKUST Corporate Project Business and Technology for High Performance Buildings, a key enrichment activity for students enrolled on HKUST's elite Dual Degree Program in Technology and Management.

The project saw three groups of five Dual Degree students undertake three months' research and analysis to develop novel proposals for green living. Judging panel member Mr. Nicholas Brooke, JP, Chairman of Professional Property Services Ltd, said he had been impressed by the quality and feasibility of the final presentations. "The students packaged and promoted their products so we thought we were listening to developers."

## Lunch with the New President

In a boost for two-way University community communication, students from School of Engineering and Dual Degree Program in Technology and Management recently had the chance to chat and share their thoughts with HKUST President Tony Chan, who has started to hold monthly lunch gatherings with students from different disciplines to discuss life at HKUST.

"The informal meal meeting was very enjoyable," said Brian Ngai Hoi Cheung, Year 3, Computer Engineering and General Business Management. "Prof Chan was very friendly and keen to understand more about what students really think and how HKUST can be improved."

For the first lunch, held in November, undergraduate and postgraduate student guests were nominated by different Schools. Dr Grace Au, Director of the Student Affairs Office, Prof TC Pong, Vice President, and Prof Kar Yan Tam, Dean of Undergraduate Education, also attended.



"This was an opportunity I couldn't miss," said Steve Wing Hin Yeung, Year 3, Industrial Engineering and Logistics Management. "Prof Chan is very easy to talk to and it was great to be able to express my views about HKUST and the School to the person at the top. I think Prof Chan will think about what was said and use it to help him turn the University into the best in the region."

## Building Bridges and Establishing Links

In late September and early October, students from the HKUST Wu Zhi Qiao (Bridge to China/ 無止橋) Charitable Foundation and volunteers from the Department of Civil and Environmental Engineering joined a trip to Sichuan to build a 66-meter footbridge for an earthquake-damaged village.

The bridge-building project started a year ago when the HKUST Wu Zhi Qiao team, together with counterparts from Chongqing University, set out to design a bridge to help the people of Maan village. With an annual per capita income of RMB700 to RMB1,000, Maan is one of the poorest villages in the township of Xinan. It is also the only Dai minority county in Sichuan.

In Maan, a river separates over 100 households – more than 400 people - from other parts of the village. Around 60 students have to wade through the river to attend school. During floods, the journey becomes impossible, even for adults. After the Panzihua earthquake in August 2008, the situation got even worse, with villagers having to carry materials to rebuild their houses by hand across the river.

Being able to participate in changing this situation was a rewarding experience, said MPhil Civil Engineering student Yun Man Lau. "The project not only helped locals cross the river but 'built bridges' between different groups of people. In addition, I learnt more about design practice in the Mainland and Hong Kong."

Tak Ki Yiu, Year 2, Bachelor of Civil Engineering, added: "In designing this bridge, I started to realize the many uncertainties you need to take into consideration in actual construction work. The calculations you find in books are full of assumptions, which in reality may not be the case. My team members and I tried and failed with many designs, but finally we made it. It was great to see the bridge built and how our work could help people."

More than 40 professionals, Hong Kong Girl Guides and student volunteers, mainly from Hong Kong and Mainland universities, assisted in the bridge project this autumn.



## Many Lessons Learnt During Voluntary Teaching



Last winter proved an extraordinary one for Dr Vincent Li, Project Manager of the Design Manufacturing Services Facility, after he volunteered to teach in Mainland China and spent 50 days at Tarim University in Xinjiang.

During his visit in November and December 2008, Dr Li introduced HKUST to academics at the School of Mechanical and Electrical Engineering at Tarim, discussed research and development in engineering, and offered a different approach to teaching. He also gained insight into a different university world during his stay.

Dr Li's classes focused on electrical automation control principles, electrical theory, process control systems, and electrical and electronic technology. But it was not only knowledge he was sharing.

"Before I started lessons, I would explain I was not able to speak standard Putonghua but I welcomed students pointing out any incorrect pronunciation so I could improve," he said.

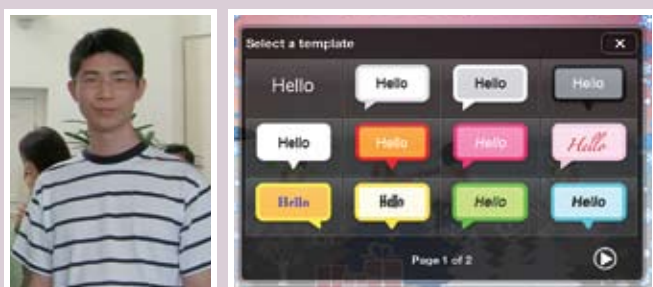
Initially, this type of interaction with a teacher was unfamiliar to students but within a week they had adapted to his more participatory style. Dr Li would teach concepts by raising questions for students to think about and answer. The approach went down well with students and academics alike.

Tarim University is situated in the city of Alar, which Dr Li first visited in 2005. During that trip, he undertook some voluntary English teaching at a secondary school. He went back in 2007 before returning again in 2008. "Tarim University covers a large area and has a beautiful campus. My 50 days flew past and I felt I learned so much," he said. "I also want to let others know about my experience. My time there was unforgettable. If I have the opportunity, I will go back to the city again."





## iPhone Photo Sticker Application Proves Huge Hit



Hundreds of thousands of people are now appreciating the innovative work of Martin Man Tong Kou, 2007 Computer Engineering Program graduate. The SENG alumnus, with the assistance of Secondary 7 student Tong, has developed a popular iPhone photo sticker application that has seen 580,000 iPhone users download the free trial version.

The application, Puri! Lite, sets out to add new meaning to people's pictures by providing a fun photo editor. The two creators took a month to complete the application and in March 2009, Puri! Lite hit the App Store. Interest soon grew and the application's popularity saw it hold the No.1 spot in the free photography category in many countries for two months during this summer, according to a Think Bulbs blog entry. Think Bulbs is the software design and development company established by Martin after graduation, along with two Stanford University students, who are studying a PhD in Computer Science and a Bachelor's degree in Management Science and Engineering, respectively.

The latest version of the application, Puri! 2.0, allows users to easily edit both portrait and landscape photographs and to save and resume editing after closing and reopening the application. An extended collection of artwork has also been made available for creating photo stickers.

Martin has been offered high-paying salaried jobs but is determined to follow his creative dream with his own technology company. "Nowadays, it is difficult for youngsters to engage in traditional industries such as property, wholesales, catering, etc as we don't have networks and capital. However we can explore opportunities in these new industries which people are not familiar with."

## Heading for UCLA and Hollywood



Work with animation professionals from the *Harry Potter* movies and research on the application of artificial intelligence to computer animation and graphics are just some of the fascinating opportunities now in front of Dual Degree in Technology and Management graduate Craig Lap Fai Yu, who has been accepted by the University of California, Los Angeles, for a PhD in Computer Science.

The high flyer, a graduate of the first Dual Degree cohort in 2007, has also been awarded a Sir Edward Youde Memorial Fellowship for Overseas Studies, which will cover his study and living expenses in the US.

At HKUST, Craig studied Computer Science and General Business Management as an undergraduate and subsequently enrolled in an MPhil in Computer Science at HKUST. He believes his PhD research will be of great practical use to the movie and digital entertainment industries and convertible into innovative products.

## Alumnus Awarded Fellowship to Study in Germany

Dr Pengcheng Ma, a 2008 Mechanical Engineering PhD graduate and currently a visiting scholar at Finetex-HKUST R & D Center, has been awarded a prestigious Alexander von Humboldt Foundation fellowship. He will start to work with Prof E Maeder at Dresden Polymer Research Laboratories from March 2010.



## Award-winning PhD Graduate Leads First HKUST Spin-off to List in Hong Kong



Prof Jack Lau, alumnus, academic and entrepreneur, has made a habit of standing out from the crowd. In 1994, he became HKUST's first PhD graduate when he gained his doctorate in Electrical and Electronic Engineering. Since then he has gone on to enjoy a successful dual career as a professor in the Electronic and Computer Engineering Department at the School of Engineering and an entrepreneur. Now he has received four key awards in a single month and led his innovative hi-tech company to become the first HKUST spin-off to list in Hong Kong.

In October, Prof Lau, who is also CEO and Chairman of Perception Digital, a state-of-the-art technology solutions company, won the Grand Prize (all categories) and Gold Award (Consumer Electronics) in the Hong Kong Electronic Industry Association Awards for Outstanding Innovation and Technology Products. He was named an Ernst & Young Entrepreneur of the Year. He also received the 2009 Excellence in Achievement of World Chinese Youth Entrepreneurs accolade.

Prof Lau is no stranger to award ceremonies, having also been named one of Hong Kong's Ten Outstanding Young Persons in 2000 and a Young Industrialist of Hong Kong in 2005. But despite his many accomplishments, he remains modest in his outlook. "I know I will not be the biggest, richest and best-known businessman. My goal is just to be as good as I can be. My rewards come when I do just that," he said recently in *HKUST Alumni News*.

Perception Digital was initially started under HKUST's Entrepreneurship Program in 1999 and has now evolved into the University's largest spin-off company, with a staff of more than 250. It has pioneered technology solutions in digital sequel processing and turn-key consumer electronics. In December, Perception Digital made another ground-breaking move by listing on Hong Kong's Growth Enterprise Market becoming the first HKUST-associated start-up to do so. The offer was over-subscribed.

Perseverance and the ability to meet and beat the unexpected are essential qualities in an entrepreneur, according to Prof Lau.

The dynamic trailblazer has also been keen to help others benefit from the opportunities that education can bring. He has set up the Dr. Jack Lau School of Engineering Scholarship for Mainland High School Students to enable talented youngsters from Mainland China to study at HKUST.

### Calendar of Events

#### February 1-5, 2010

**Civil Engineering and Development Department 5th Anniversary Roving Exhibition cum Presentation**

The HK Jockey Club Atrium, HKUST

#### February 6, 2010

**IBM Inter-University Programming Contest 2010**

HKUST Campus

#### February 10, 2010

**IT Career Talk**

Time: 6:30-8:00 p.m.

Venue: HKUST Campus

#### March 2010

**Fourth International Lean Six Sigma Conference (ILSSC)**

Organized by the Six Sigma Institute (SSI) and co-organized by the Department of Industrial Engineering and Logistics Management, held at HKUST

#### April 23-24, 2010

**RoboCupJunior Hong Kong 2010**

S.H. Ho Sports Hall, HKUST

<http://www.rcj-hk.org>

The above events are subject to change without prior notice

### 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!**

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