The University is putting increasing emphasis on knowledge exchange (KE), which together with teaching and research, form the three pillars that underpin all our activities. The University defines knowledge exchange as engaging for mutual benefit, with business, government or the public to generate, acquire, apply and make accessible the knowledge needed to enhance material, human, social, cultural and environmental well-being.

The Faculty of Engineering has a long tradition of engaging in a wide range of KE activities with industries, professional bodies and the government, and we strive to establish links with the public and the community at large. To strengthen knowledge exchange with the community, the Faculty has set up a KE unit in 2011, with an aim to support and facilitate interaction between staff and the general public, and to promote media coverage of our KE activities and applied research in an accessible manner. Over the past year, we have created an Engineering KE Portal and produced a range of videos to promote the activities of engineering departments and staff targeted at the general public. We interact with the local community on many fronts, such as contributing to technology columns in local newspapers and delivering public lectures on topical issues related to daily life such as clean energy and power, wireless communications, etc. On top of this, a series of programmes have been organized in 2011-12 for alumni and friends to celebrate the 100th anniversary of HKU Engineering.

Our faculty members have made significant contributions to the development of local and international community projects through various kinds of KE activities. Some examples of engineering sustainability projects are described in this newsletter. Regarding KE, we aspire to becoming a centre of technological knowledge resources for the service of the society.

Professor Y S Hung
Associate Dean (Knowledge Exchange)
Faculty of Engineering
The University of Hong Kong
ENGINEERING SUSTAINABILITY PROJECTS

NOVEL MEMBRANES FOR WATER RECLAMATION TECHNOLOGY

Dr. K. Shih, Professor X.Y. Li and Dr. T. Zhang
Department of Civil Engineering

The needs of developing next generation water treatment technology and exploring new water resources are immeasurably crucial to support the sustainable development in Hong Kong and many fast growing cities in the world. The project “Novel Membranes for Water Reclamation Technology” conducted in the Faculty of Engineering directly addresses this timely and important issue by integrating HKU research outcomes on membrane technology to inspire the public awareness of pursuing a more sustainable water environment and to promote the technological growth of water membrane industry. Spearheaded by Dr. K. Shih, Professor X.Y. Li and Dr. T. Zhang in the Department of Civil Engineering, a novel anti-biofouling membrane was invented from an Innovation Technology Fund (ITF) project, partially sponsored by the holding company (Lam Environmental Services, Hong Kong) of the largest hollow fiber membrane manufacturer (MOTIMO) in China. The goal of this project is to facilitate the new application of membrane technology, such as membrane bioreactors (MBRs), to more reliably turn wastewater into reusable water resource and maintain our precious water resource. In addition to successful international patent applications and technology transfer to industrial partners, the project outcomes were also well-disseminated to the general public and stakeholders via exhibitions, news media, seminars, and training workshops. In July 2011, this project was demonstrated in the Centenary Exhibition of Faculty of Engineering at Times Square, and later also became one of the six projects representing the HKU technology innovation exhibited in 2011 InnoCarnival at Hong Kong Science Park from November 5-13. As reported by newspaper Metro Hong Kong on July 14, the success of this project provides an opportunity for the general public to further understand the engineering research at HKU, and also promotes water reclamation technology to contribute to more sustainable development in Hong Kong.

ESTABLISHING A CARBON LABELLING FRAMEWORK FOR CONSTRUCTION MATERIALS

Dr. Thomas T.S. Ng
Department of Civil Engineering

Greenhouse gas (GHG) emissions are the primary cause of climate change. The manufacturing of construction materials alone could contribute to as much as 70 percent of the GHG emissions in the construction stage, and 15 percent of a building’s lifetime energy consumption. The Construction Industry Council has, therefore, commissioned the Department of Civil Engineering of HKU to undertake a study which aims to establish a Hong Kong based carbon labelling framework for construction materials. The project led by Dr. Thomas Ng commenced in November 2010 and expected to complete by June 2012.

Through extensive desktop study and expert consultations (Figs. 1 & 2), the frameworks for accounting and reporting the carbon footprint of construction materials in general and the six selected materials namely cement; reinforcing bar; structural steel; glass; aluminium; and ceramic tiles in particular have been successfully established. The frameworks principally comply with the Publicly Available...
Specification (PAS) 2050 and relevant ISO standards (viz ISO 14020 on environmental labels and declarations, ISO 14040 on life cycle assessment, and ISO 14064 on GHG inventory). The frameworks adopted a ‘cradle to site’ assessment approach which includes all of the GHG emissions generated until the product has reached the point of use, i.e., construction site.

The developed carbon labelling frameworks embrace (i) predetermined system boundaries for carbon auditing (Fig. 3 depicts the system boundary for cement production); (ii) a set of carbon auditing tools to account and report the carbon footprint of the six selected construction materials (Fig. 4); (iii) a systematic benchmarking mechanism for labelling purpose (Fig. 5); and (iv) a proposed certification process (Fig. 6); and a list of strategies and measures to implement the proposed carbon labelling scheme (Fig. 7).

By tracing the GHG emissions of a construction material through the developed carbon footprint assessment frameworks, a “carbon label” as shown in Fig. 8 can be assigned to various construction materials and thus allows developers, designers and builders to source specific batch of construction material to meet their peculiar emission goals.

Acknowledgement: The Construction Industry Council should be gratefully acknowledged for funding this important industry-based research project.
ADAPTIVE FILTERS FOR CONTINUOUS QUERIES OVER CONSTANTLY-EVOLVING DATA STREAMS

Dr Reynold C.K. Cheng
Department of Computer Science

In this project, we study the efficiency of data stream management systems, including military applications, location services, sensor networks, and natural habitat monitoring. In these systems, it is often necessary to perform long-standing, or continuous, monitoring of interesting objects, which are equipped with GPS devices or sensors. Our goal is to develop new solutions that save precious battery resources and wireless bandwidth. These solutions also need to support a large number of moving objects. Our main idea is to allow query users to relax their correctness requirements, so that the performance of a data stream system can be significantly improved. Specifically, we exploit the maximum error (or tolerance) allowed in query answers, by developing adaptive filter algorithms, so that the use of system resources can be reduced. Adaptive filters allow updates to be dropped conditionally at the data stream sources, without affecting the overall query correctness. Extensive experimental results show that our algorithms reduce the use of network and energy resources significantly.

To support this project, we have obtained three GRF grants provided by the Hong Kong Research Grant Council, with a total of $1.8 million. We have also published 6 journal papers (including IEEE TMC, VLDBJ, and IS), 7 conference papers (including VLDB, cited 50 times and SIGMOD, cited 10 times), and 1 book chapter.

Illustrating query tolerances

Stream management system model

ECLASS: AN EXECUTION CLASSIFICATION APPROACH TO IMPROVING THE ENERGY-EFFICIENCY OF SOFTWARE VIA MACHINE LEARNING

Professor T.H. Tse
Department of Computer Science

Improving the energy efficiency of computer systems is a universal step to deal with global warming while supporting the digital society. Energy efficiency at the software level has gained much attention in the past decade. We present a performance-aware frequency assignment algorithm for reducing processor energy consumption using Dynamic Voltage and Frequency Scaling (DVFS). Existing energy-saving techniques often rely on simplified predictions or domain knowledge to extract energy savings for specialized software (such as multimedia or mobile applications) or hardware (such as NPU or sensor nodes). We propose an innovative framework, known as EClass, for general-purpose DVFS processors by recognizing short and repetitive utilization patterns efficiently using machine learning. Our algorithm is lightweight and can save up to 52.9% of the energy consumption compared with the classical PAST algorithm. It achieves an average savings of 9.1% when compared with an existing online learning algorithm that also utilizes the statistics from the current execution only. We have simulated the algorithms on a cycle-accurate power
HKU RESEARCH TEAM DEVELOPS NOVEL SUSTAINABLE LIGHTING TECHNOLOGY—ULTRA-LOW-LOSS MAGNETIC BALLASTS

Professor Ron Hui & Research Team
Department of Electrical & Electronic Engineering

A research team of HKU Department of Electrical & Electronic Engineering led by Professor Ron Hui, Chair of Power Electronics, has achieved a major breakthrough in lighting technology with the invention of the environmentally friendly “Ultra-low-loss magnetic ballasts” for use in fluorescent lamps.

The new ballasts are having higher energy efficiency, longer product lifetime and can be re-cycled compared to the electronic ones now commonly in use worldwide. The new energy saving magnetic device has been adopted by the lighting industry.

The invention will also help promote the new concept of “Sustainable Lighting” which measures sustainability according to three important criteria:
1. High energy efficiency
2. Long product lifetime (>10 years)
3. Recyclability (>80% materials recyclable)

The current Energy Labeling Scheme emphasizes only energy efficiency.

Fluorescent lamps have been used as a major light source worldwide since its invention at early 1940’s. Over the last 30 years, electronic ballasts have emerged as a more energy efficient solution to replace the old magnetic ballasts, a device to limit the current and power discharge of the lamps.

However, the electronic waste issue increases with the increasing popularity of electronic ballasts. According to market survey, over 200 million units of electronic ballasts were made in 2005. Electronic ballasts have typical lifetime of 3 to 5 years, cannot be recycled and therefore their disposal could lead to serious environmental problems.
In today's environmentally conscious society, environmental issues such as enterprise green image, product eco-design, are increasingly receiving attention. The conflict of environment and product manufacturing and consumption is fundamental. Activities in the product life, including manufacturing and logistics processes, consume energy and generate all kinds of wastes. With the growing awareness of environmental issues globally, governments and industry have recognized that they have vital roles in supporting and assuring sustainable development. For governments, laws and regulations have been issued to reduce and control greenhouse emissions, energy consumption, and environmental pollutions, etc. For industry, corporations are under tremendous pressure to comply with corporate social responsibility (CSR) requirements and to integrate environmental and social concerns in product design and manufacturing. In consideration of the environmental concerns, companies worldwide have begun to adopt green supply chain management (GSCM) practices. An important issue of GSCM is to involve the sustainability considerations into organizational purchasing decision and long term relationships with suppliers. That is, in the selection of suppliers and outsourcing partners, enterprises should not only consider the general criteria, but also should consider the environmental impacts of their partners. In general, the partner selection problem involves the application of optimization algorithms to deal with multiple criteria including attractive price, high quality, in time delivery, perfect post-sale service and so on. That is, it becomes a kind of multiple attribute decision making (MADM) problem that involves assessing trade-offs between conflicting criteria. However, the research that concerns environmental issues is still rather limited.

In the Department of Industrial and Manufacturing Systems Engineering at The University of Hong Kong, researchers have been working on the development of a new partner selection model for GSCM. The aim is to establish an integrated solution that can help to manage the sustainability concerns and the partner selection function of a green supply chain. The model aims to integrate environmental/sustainability concerns into the supply chain partner evaluation and selection process. In the proposed model, green supply chain partner selection is to be achieved through agent-based negotiations in a multi-agent system (MAS). It will consider inter-dependences between the various supply chain partner selection criteria, including the "green factors".
HIGH-PERFORMANCE SOLAR THERMOELECTRIC GENERATORS USING NANOSTRUCTURED MATERIALS

Dr. Tony Shien-Ping Feng
Department of Mechanical Engineering

Thermoelectric devices use thermoelectric semiconductor materials to convert heat into electricity and vice versa. A thermoelectric cooler creates a temperature difference when a voltage is applied to it. Conversely, a thermoelectric generator creates a voltage when a difference in temperature occurs. These devices are free of moving parts, acoustically silent, and can be used in solid-state cooling and power generation, such as CPU cooling, high-power laser cooling, waste-heat recovery and solar power conversion. Figure 1A shows a single-pair thermoelectric generator consisting of one p- and one n-type thermoelectric leg. Heating one side while the opposite side is cooled induces the heat flow. The electrons flow from the hot side to the cold side in the n-type, while the electron holes flow from the hot side to the cold side in the p-type. This mechanism will generate a current. For practical use, a module combines pairs of n- and p-type thermoelectric semiconductors, as shown in Figure 1B. The commercial application of thermoelectric generator for power generation is currently limited by its relatively low efficiency.

However, over the last few years, significant improvements have been made on nanostructured thermoelectric materials resulting from the increased phonon scattering by grain boundaries, particularly in nanostructured BiTe-based alloys, which are the most widely used thermoelectric materials near room temperature. Figure 2 illustrates the structure of flat-panel solar thermoelectric generator (STEG). With the optimization of the operating conditions, the highest STEG efficiency of ~5% can be demonstrated by using nanostructured BiTe alloys and a combination of thermal and optical concentration, which is 7–8 times higher than the previously reported best value for STEG. A highly cost-effective route for power generation is thus demonstrated, by transforming heat to electricity for a range of solar, automotive and industrial waste heat applications. In designing reliable high-performance thermoelectric devices, the variation in the contact resistances between nanostructured thermoelectric alloys and metallic electrodes is another key challenge. Dr. S. P. Feng will collaborate with MIT Prof. G. Chen, aiming to advance our understanding of this interfacial region and fabricate a reliable contact to lead to a progress of the thermoelectric generator using nanostructured thermoelectric materials.

Figure 1. (A) The scheme of thermoelectric generator with single pair of p- and n-type thermoelectric legs. $S$ is the Seebeck coefficient ($V/K$), $V$ is voltage, $T$ is absolute temperature. (B) The scheme of thermoelectric generator module consisting of pairs of n- and p-type thermoelectric legs.

Figure 2. The structure of the flat-panel STEG cell in the vacuum glass chamber
Faculty of Engineering Centenary Celebrations

The Faculty of Engineering has been organizing a series of activities to celebrate its Centenary year in 2011 and 2012.

ENGINEERING CENTENARY DISTINGUISHED LECTURE

Hong Kong’s Role in the Development of PRD in China’s 12th Five-Year Plan

By Dr Victor Fung, GBM, GBS, CBE, OBE
Sponsored by Paul Y. Engineering Group
May 2, 2012

Dr Fung was the honorable guest to deliver the inaugural Engineering Centenary Distinguished Lecture in Rayson Huang Theatre, HKU on May 2, 2012. He shared his thoughts and insights about the strengths and challenges of Hong Kong; positioning of Hong Kong in the economic development of GPRD; and measures to be adopted to reinforce Hong Kong’s positioning. The lecture was well-received and attracted a full house attendance.

HKU 100 GALA DINNER

December 18, 2011

The Class of 1955 graduates of Civil Engineering had a wonderful reunion at the HKU Gala Dinner held at the Hong Kong Convention and Exhibition Centre on December 18, 2011. Classmates who reside in different parts of the world came back to Hong Kong to celebrate this special occasion. Among them are Professor Albert King Kwong Ping, Mr Kenneth Kwok Wai Kai, Mr Lau To-hin, Professor Chow Che King, Mr Malcolm Zoe, and Professor Jeffrey Fong Tse-Wei.

CENTENARY EXHIBITION

November 7-9, 2011
Hong Kong Cultural Centre (Exhibition Gallery)

November 14-16, 2011
Shatin Town Hall (Exhibition Gallery)

The Centenary Exhibition showcased the major applied research projects of Departments to the public. The first exhibition was held at Times Square from July 1 - 3, 2011.

A NIGHT AT THE SCIENCE MUSEUM

November 11 & 18, 2011 (9pm, Friday - 9am, Saturday), Hong Kong Science Museum

Jointly organized by The University of Hong Kong, IBM, and Hong Kong Science Museum, it is a unique occasion where the three organizations will celebrate together with the community by developing an innovative programme that aims to encourage a spirit of exploration in science and engineering among students, to share the joy of scientific discoveries, and to inspire the young to explore new horizons. Prof Paul Cheung is the Chairman of the Organizing Committee of this event. Both Faculty of Engineering and Faculty of Science are involved in the planning and organization of the event.
HKU CENTENARY DISTINGUISHED LECTURE
The Future of Medicine: Connecting Patients to Promising Research
By Professor Elizabeth H. Blackburn, Recipient of Nobel Prize in Physiology or Medicine in 2009, and Professor Susan Desmond-Hellmann, Chancellor of the University of California, San Francisco
December 2, 2011
This lecture is organised by the Technology Transfer Office, in association with the Li Ka Shing Faculty of Medicine and the Faculty of Engineering.

ENGINEERING CENTENARY LECTURE SERIES
From Bridges to Brain Injury – An Engineering Transformation
By Prof Albert King,
Distinguished Professor and Chair,
Department of Biomedical Engineering,
Wayne State University, USA
December 15, 2011

Fluid Mechanics and Public Policy including Natural Disasters and Climate Change
By Professor Lord Julian Hunt,
Emeritus Professor of Climate Modelling and Honorary Professor of Mathematics, Department of Earth Sciences, University College London, UK
October 14, 2011

WORKSHOP ON FRONTIERS OF BIOMEDICAL IMAGING AND MODELING
May 3, 2012
The Workshop on Frontiers of Biomedical Imaging and Modeling was held on May 3, 2012. Professor Peter C.M. van Zijl of Johns Hopkins University School of Medicine, Professor Chandrakant Bajaj of University of Texas at Austin, and Professor King C. Li of University of Houston delivered lectures entitled "MRI in the 21st Century: Functional, Physiological and Molecular Imaging of the Human Brain at 3 Tesla and 7 Tesla", "Computational Modeling and Visualization in the Biological Sciences", and "Molecular Theranostics - An Imager's Viewpoint" respectively at the Workshop.
GRADUATION CEREMONY

January 9, 2012, 10:00am, Hong Kong Cultural Centre

Prof Roland T Chin, Deputy Vice-Chancellor and Provost, officiated at the Ceremony and Ir Dr Joseph Chow was the Guest-of-Honour at the Ceremony. About 1,900 graduands and their parents/guests attended the ceremony.

PRIZE PRESENTATION CEREMONY

November 19, 2011, 2:00pm, Loke Yew Hall

Ir Dr Chan Fuk Cheung, President of The Hong Kong Institution of Engineers, will be the Guest of Honour at the ceremony. Prof Lap-Chee Tsui, Vice-Chancellor, will also be the officiating guest to present prizes.

INFORMATION DAY

October 29 & 30, 2011

The Faculty of Engineering and Departments participated at the HKU Information Day. Visitors gained a basic understanding of various engineering disciplines through admission and career talks, lab tours, demonstrations, and hand-on projects. The Information Day 2011 attracted more than 15,000 visitors.
WILLIAM MONG DISTINGUISHED LECTURE

Exploring Reinforcements of Different Scales in Polymer Composites

By Professor Yiu-Wing Mai, University Chair & Professor of Mechanical Engineering Centre for Advanced Materials Technology (CAMT), School of Aerospace, Mechanical and Mechatronic Engineering, The University of Sydney, Australia

April 19, 2012

ENGINEERING DISTINGUISHED LECTURE

Towards a low carbon transition for the energy system: a UK perspective

By Prof Geoffrey P Hammond, Professor of Mechanical Engineering and Founder Director of the institute for Sustainable Energy and the Environment (I-SEE) University of Bath, UK

February 23, 2012

FACULTY SEMINAR

Teaching in Engineering - Σ (the right elements) towards a scholarly approach

By Dr Cecilia Chan, Centre of Enhancement of Teaching, HKU

April 16, 2012

“Wireless Power Transfer: Historical Development and Modern Applications”

By Prof Ron Hui, Department of Electrical and Electronic Engineering

November 25, 2011

Engineering Talk: Outcomes Based Accreditation and Innovation in Engineering Education

By Professor David Holger, Associate Provost for Academic Programs and Dean of the Graduate College, Iowa State University, USA.

November 10, 2011
THE FOURTH Y.K. CHEUNG LECTURE

Mr. Tristram Carfrae, Member of the global Arup Group Board and Chair of the Global Buildings Practice, delivered the Fourth Y.K. Cheung Lecture on November 1, 2011 at the Rayson Huang Theatre, HKU. The title of the Lecture was "Delightful Efficiency in Structural Design" and Mr. Carfrae illustrated his approach to delightful efficiency with some of the projects he has recently helped design: AAMI Stadium, Melbourne; Helix Bridge, Singapore and Watercube, Beijing. The event was well attended by about 200 engineers, academics and students.

The Y.K. Cheung Lecture was established in 2004 to recognise Professor Y.K. Cheung’s contributions to the engineering profession and education and the Lecture is jointly organised by the Department of Civil Engineering, The University of Hong Kong and the Structural Division of the Hong Kong Institution of Engineers biennially.

THE 16TH INTERNATIONAL CONFERENCE OF HONG KONG SOCIETY FOR TRANSPORTATION STUDIES

The 16th International Conference of Hong Kong Society for Transportation Studies (HKSTS) was successfully held from December 17-20, 2011 at InterContinental Grand Stanford Hong Kong. The Conference was jointly organised by HKSTS and the Department of Civil Engineering and Institute of Transport Studies of The University of Hong Kong, with generous financial sponsorship from the Mass Transit Railway (MTR) Corporation Limited. The Chartered Institute of Logistics and Transport in Hong Kong (CILTHK), The Hong Kong Institution of Engineers (HKIE) – Civil Division and the Eastern Asia Society for Transport Studies (EASTS) were the non-financial sponsors of the Conference. This year, we are honored to have Ir. Ka Keung Lau, JP, Director of Highways, Highways Department, The Government of the Hong Kong Special Administrative Region, with us delivering a Keynote Address, and have seven internationally renowned scholars delivering plenary speeches. The Conference was a great success. It has drawn over 300 submissions from researchers from all over the world. More than 140 papers were presented at this conference covering the full spectrum of topics related to Transportation and logistics. It attracted over 220 participants from about 40 countries around the world.

STAFF NEWS

Dr. A.T. Yeung made an invited presentation on “Snapshots and trends of PPP in Hong Kong” in the International Roundtable Meeting on “PPP Policy, Guidelines, and Project Implementation” held on September 7, 2011 at the Johoku Campus of Ehime University, Matsuyama City, Shikoku, Japan. Other invited speakers at the meeting included Professor Luh-Maan Chang of Taiwan, Professor Jae-Woo Park of Korea, and Professor Shigeru Morichi of Japan. He also made an invited presentation on “Sustainability of Civil Engineering Human Resources Development” at the International Seminar on “Approach to Sustainable Futuristic Infrastructure” organised by the Institution of Civil Engineers (India) on the occasion of Engineers’ Day Celebrations in New Delhi, India, September 15, 2011 and a presentation on “Hong Kong: A Smart City?” at the International Roundtable Discussion Forum of the Centennial Meeting of the Chinese Institute of Civil and Hydraulic Engineering held in Chungli, Taiwan on November 18, 2011.

Dr. A.T. Yeung attended the 2011 Japan Society of Civil Engineers (JSCE) Annual Meeting on behalf of the President of the American Society of Civil Engineers (ASCE), Ms. Kathy J. Caldwell, at the Johoku Campus of Ehime University, Matsuyama City, Shikoku, Japan, from September 7-9, 2011. He also attended the 10th Technical Coordinating Committee Meeting, made an invited presentation on “Vision 2025 - Engineering leadership for sustainability” at the 15th Planning Committee Meeting and elected to the chair of the Membership Subcommittee at the 21st Executive Committee Meeting of the Asian Civil Engineering Coordinating Council in New Delhi, India on September 16-17, 2011.

Dr. J. Yang delivered an invited seminar on seismic codes and geotechnical engineering perspectives on September 27, 2011. The seminar was jointly organised by ICE Hong Kong and ASCE Hong Kong, and received over 150 registrations from practicing engineers and researchers.

Dr. S.T. Smith delivered a keynote address at the 7th National Conference on Infrastructure Applications of FRP Composites which was held in Hangzhou, China from October 15-16, 2011. In addition, while on sabbatical leave Dr. S.T. Smith delivered invited lectures at (i) Columbia University, USA, on "FRP Composites in Construction" on November 15, 2011, and (ii) Massachusetts Institute of Technology (MIT) on “Sustainable Civil Infrastructure in Hong Kong” on December 13, 2011.

Dr. Z.Q. Yue was appointed as member of the IAA Study Group 4.11 on Coordination and Cooperation for Global Environment Impact by the International Academy of Astronautics (IAA) on September 2, 2011.

Professor B. Young has been appointed as guest Professor by Tongji University in October 2011.

Professor B. Young and Dr. S.T. Smith have both been appointed to the Editorial Advisory Panel of the journal entitled Proceedings of the Institution of Civil Engineering: Structures and Buildings, for 2011-2014.

Dr. J. Chen has been appointed as an Associate Editor of Water Resources Research, a top international journal in the fields of water resources, limnology and environmental sciences, from October 2011 to December 31, 2013 by AGU (American Geophysical Union).

Professor S.C. Wong was appointed as a member of the Civil Discipline Advisory Panel, Logistics and Transportation Discipline Advisory Panel, and Education and Examinations Committee of the Hong Kong Institution of Engineers for the term 2011-2012.
Dr. G.C.K. Wong (pictured) joined the Department of Civil Engineering as Teaching Consultant in February 2012. Dr. Wong received his BEng, MPhil and PhD in Civil and Structural Engineering from The University of Hong Kong. His MPhil focused on the analysis of large space structures using group theory and he worked at the dynamic macroscopic modeling of highway traffic flow during doctoral studies. He has a broad range of research interests that include the analysis of large space structures with symmetry, the numerical analysis of hyperbolic conservation law, traffic flow theory and inter-modal logistics.

In 2003, Dr. G.C.K. Wong started to pursue his structural engineering career in a local engineering consultancy. Afterwards he joined several renowned companies such as Scott Wilson (HK) and ARUP, where he acquired knowledge of structural engineering design, and experiences in site supervision and project management. He took part in various projects from large-scale hotel development like the Venetian Macao Hotel to the 3-storey dormitory project in rural area of Yunnan. After nine years as a practicing engineer, he is specializes in tall-building design, steel structure as well as precast concrete design and construction.

Dr. G.C.K. Wong is a Chartered Structural Engineer. With his professional experience in and connection with the industry and his knowledge in diversified research areas, he can contribute substantially to the teaching, industrial training and research in the department.

**VISIT BY MR. CHEN FEI, PRESIDENT OF THE CHINA THREE GORGES CORPORATION**

Mr. Chen Fei, President of the China Three Gorges Corporation and a delegation of 10 members have visited our Department on November 15, 2011. Mr. Chen first met with Vice-Chancellor (Research) Professor Paul Tam for a courtesy visit. The delegation then met with teachers of our Department to discuss research collaboration.

Mr. Chen Fei has been awarded the title of “Honorary Professor” by our Department and we took the opportunity to present the certificates to him. In the evening, Mr. Chen also delivered a public lecture at the University, which was well attended by academics and students.

**COMPLETION CEREMONY OF ZHENGDONG KINDERGARTEN**

The third project of our Mingde Projects for reconstruction of Zhengdong Kindergarten at Chongzhou has been successfully completed and handed over to the end-user in November 2011. A group of the project team members, together with professors, Amy Tsui, L.G. Tham and P.K.K. Lee, and alumni, P.C. Leung, C.K. Mak, Nicolas Yeung, and partners and friends, attended the completion ceremony at the brand new campus of the kindergarten on December 17, 2011. This project is one of the 187 projects funded under the HKSAR Trust Fund for helping Sichuan’s reconstruction after the massive earthquake, and deemed as one rare case that the reconstruction is designed and managed by Hong Kong people.

Our Mingde Projects played a key role of the project manager, responsible for the whole processing of the reconstruction. Owing to the great effort and contribution of about 200 volunteers coming from professionals, alumni, graduates and majorly undergraduates of the Department, the project is finished splendidly within the budget. At sharing of the joyousness of completion, Mingde Projects expressed hearty gratitude to all team members and friends for their enthusiastic engagement. We thank the Charity of Operation Concern for offering us the great opportunity. We thank our voluntary advisors, namely Vinco Mung, Alex Lui, Tom Ho, Daniel Chan, Andy Lee, Peter Ng, Mandy Ng, Chan Shing and so on, for their helpful guidance and assistance. We thank Lee Hysan Foundation for their generous financial support which enables us to carry out frequent site visits of over 1250 man-days in 31 trips between Hong Kong and Chongzhou. All these made the success possible.
WONG TAI SIN DISTRICT COUNCIL PLAQUE PRESENTATION

The Wong Tai Sin District Council has presented a plaque to the Department of Civil Engineering to recognise our contribution made to the social services of their District. The presentation was held at the Spring reception of the Wong Tai Sin District Council on February 2, 2012. Mr. Li Tak Hong, MH, JP, the Chairman of Wong Tai Sin District Council and Miss Florence Hui, JP, the Secretary for Home Affairs were the Guests of Honour.

Two student representatives, Mr. Suen Ka Ho and Miss Wang Shen Zi, attended the reception to receive the plaque on behalf of the Department.

NEWS FROM CICID – ‘CENTRE FOR INFRASTRUCTURE AND CONSTRUCTION INDUSTRY DEVELOPMENT’

Construction Industry Development Comparison and Acceleration’ (CIDCA) project – Focus Group Meeting II: Validation of Research Findings

October 14, 2011

This was the closing event on the RGC funded research project ‘Construction Industry Development Comparison and Acceleration (CIDCA)’. Consolidated findings of the project were presented, and feedback and comments were elicited, to refine and validate the final results. In addition, research findings from a connected research project on ‘Management of Infrastructure Rehabilitation, Redevelopment or Revitalisation (MIRROR)’ were also presented and validated at this forum.

NEC Workshop 1 - Experience Sharing on Improvement of Fuk Man Road Nullah in Sai Kung jointly organized by HKIE CV Division, BD Division and HKU CICID

January 4, 2012

This Workshop on the NEC (New Engineering Contract) helped disseminate experiences in the HKSAR Government’s first NEC pilot project under the management of Drainage Services Department (DSD). The project team shared experiences on the establishment of partnering and collaborative working attitudes, the management of risks and compensation events, and financial management of this target cost contract, using ‘Option C’ of NEC.

NEC Workshop 2 - Experience Sharing on HKSAR Government’s 1st NEC Project: Improvement of Fuk Man Road Nullah

February 2, 2012

This workshop was jointly organized by HKIE Civil Division, Building Division, ADR Committee, and HKU CICID. It was a follow-up to the NEC (New Engineering Contract) Workshop 1 of 04/01/ 2012. The Opening Address was by Ir T.C. Chew of our CICID Management Committee who is also Chairman, NEC Users’ Group (Asia-Pacific).

Consultation Forum - Carbon Labelling Scheme for Construction Materials

February 24, 2012 at the Jockey Club Environmental Building, Kowloon Tong

The purpose of this consultation forum was to supplement, validate and consolidate a proposed carbon labelling scheme for construction materials, together with the proposed implementation strategies. Three prominent speakers shared recent development on carbon footprinting in construction: (i) Professor Geoffrey Hammond from University of Bath, UK; (ii) Dr. Y.M. Gao, Managing Director of British Standards Institution (BSI), China; and (iii) Ir Dr. William Sin Tong LAU, Technical Director of SGS Hong Kong, Ltd., HK. About 80 experienced industry practitioners from government, developers, architects, builders, professional institutes, material suppliers and academia also provided valuable comments at a panel discussion session.

Note: For information about Forthcoming and Previous CICID events/ activities, and also more information on the above 4 events, please visit http://www.civil.hku.hk/cicid/3_events.htm
Earthquake engineering research conducted by Dr. Tsang and Professor S.H. Lo has been selected as one of the top 12 technology innovations for the Asian Innovation Awards 2011 by The Wall Street Journal, Dow Jones & Company. The Awards, which attracted over 250 entries from 18 countries in Asia and Australasian, are committed to finding the next big technological ideas in the region. Notable listed companies, including Hutchison, IBM and Toshiba, are amongst the top 12. Sir John Major, former Prime Minister of the U.K., was the Guest of Honour in the Gala Dinner at Four Seasons Hotel, Hong Kong, on November 3, 2011.

Reunion Dinner of Year 2001-Graduates

On August 26, 2011, the 2001-Graduates from the Department of Civil Engineering held its reunion dinner for their tenth-year anniversary since graduation at Palace Restaurant at The ONE, Tsim Sha Tsui. The attendees were honored by the presence of special guests, namely (2nd row 6th from left) Professor F.T.K. Au, Mr. P.K.K. Lee, Professor A.K.H. Kwan and Dr. K.K.L. Su.

At the banquet, more than 60 graduates of the Year 2001 gathered together for reunion with old friends and to meet teachers. The former Department Head Professor Kwan talked about the latest development of the Department and the civil engineering industry. A video with past photos of our university life was played during the dinner, followed by a quiz on some past history of the university activities. The highlight of the evening was a singing performance by Ricky Ng and Alan Tsang.

Participants were very pleased to see the unity of the Year 2001-Graduation Class and the support from its teachers. In fact, many at the reunion met each other in all walks of life in the engineering industry. The group does hope more frequent reunion dinners will be held with participation from our family members.

It was a memorable evening!

Civil Engineering Class of 1981 - 30th Anniversary

A reunion dinner of the Civil Engineering Class of 1981 was held on November 26, 2011. Previous teachers and demonstrators, including (2nd row from left) Professor A.K.H. Kwan, Mr. Y.C. Mok, Dr. Robert Lam, Professor J.H.W. Lee, Professor T.C. Liau, Professor Y.K. Cheung, Professor H.C. Chan, Professor A.Y.T. Leung, Mr. P.K.K. Lee, Dr. C.O. Tong and Mr. P.H. Lui, were invited to join 46 old boys to recapture the memories of their days at the University.
We are pleased to announce that the Hong Kong Institution of Engineers (HKIE) has granted full accreditation for our Bachelor of Engineering (Computer Science) [BEng (CompSc)] programme for a period of five years for all intake classes up to and including the year 2014. In the letter from HKIE to our Vice-Chancellor and President, it is stated that "The Visiting Team believed that the programmes evaluated provided students with a high quality education. The academic staff is qualified and enthusiastic and the students are well supportive of the programmes. The facilities and resources are good." This is a recognition of the excellence of the programme.

Professor Wenping Wang succeeds Professor David Cheung as the Head of the Department of Computer Science from January 1, 2012. Professor Wang joined the Department in 1993. He is an established researcher and has published extensively in the fields of computer graphics, visualization, and geometric computing. He is an associate editor of Computer-Aided Geometric Design and IEEE Transactions on Visualization and Computer Graphics, and has been the conference chair of PacificVis 2011 and program chair of ISVD 2011, SMI 2009, SPM 2006, Pacific Graphics 2003, VRST 2001, and GMP 2000. He was selected for a National Science and Technology Progress Award in 2010.

Professor Nikos Mamoulis was recently promoted to full professor in the Department of Computer Science. He joined the Department as assistant professor in September 2001 and was promoted to associate professor in June 2007. Professor Mamoulis is a regular reviewer for journals and has been a program committee member of over 80 international conferences and workshops. He is a very productive researcher with publications appearing regularly in various reputable journals and conferences. Recently, he published a book titled "Spatial Data Management" for Morgan & Claypool Publishers. Professor Mamoulis received numerous grants from the Hong Kong Research Grants Council, and was selected for the HKU Outstanding Young Researcher Award in 2008-2009.

Congratulations to Dr. Reynold Cheng for his promotion to Associate Professor with tenure from March 1, 2012. Dr. Cheng is a HKU alumnus and received his MPhil degree from the Department of Computer Science. He re-joined our Department as Assistant Professor in 2008 after obtaining his PhD from Purdue University and teaching for several years in the Hong Kong Polytechnic University. Dr. Cheng received the 2010 Research Output Prize in the Department, and was awarded the Universitas 21 Fellowship in 2011. The offer of Associate Professorship with tenure signifies the University’s recognition of Dr. Cheng’s meritorious performance and accomplishments in his academic work.

Dr. Yizhou Yu has been promoted to full Professor with tenure, as approved by the University Selection and Promotion Committee. Professor Roland Chin, Deputy Vice-Chancellor and Provost, wrote in his letter to Professor Yu that "The offer of tenure and the Professorship signifies the University’s recognition of your meritorious performance and accomplishments. You have worked very hard to earn this well-deserved recognition. We are all very impressed with your achievements and have high hopes that you will escalate to new heights in your academic work." Professor Yu received his PhD in Computer Science from University of California, Berkeley in 2000. He also holds an MS degree in applied mathematics and a BS in Computer Science from Zhejiang University. He has conducted outstanding research in computer graphics, vision, and image processing, including data-driven computer animation, digital geometry processing, image enhancement and segmentation, image-based modeling and rendering, medical image classification, physically based simulation, and texture analysis and synthesis. Professor Yu serves as an associate editor of The Visual Computer and International Journal of Software and Informatics. He was a program co-chair of Pacific Graphics 2009. He was a recipient of 2011 and 2005 ACM SCA Best Paper Awards, a 2002 National Science Foundation CAREER Award, a 1998 Microsoft Graduate Fellowship, and a 1992 Computerworld Scholarship.

The Center for Information Security and Cryptography (CISC) of the Department of Computer Science organized the “2011 CISC Workshop on Internet Security and Digital Forensics” on August 26, 2011 in HKU Main Campus. More than 140 participants from different organizations in the industry attended. With an increasing concern about the security and privacy issues in the distribution of videos, photographs, and computer files, new technologies are being developed in CISC to address different security problems. Popular topics presented at the workshop include “Cloud: Making Forensics and Security Harder?”, “Mobile Forensics: Extracting Useful Evidence from a Damaged Phone”, “Human Face Tracking System”, and “Cyber Identity Profiling and Tracking”.

Professor Kai Hwang presented a talk on "Research Challenges in Cloud Computing, Many-Core and The Internet of Things" at the Department of Computer Science on September 27, 2011. All seats in the seminar room were taken up with plenty of staff and research students sitting on the floor and standing at the door. Prof Hwang is a Professor of EE/CS at the University of Southern California and an IV-endowed Visiting Chair Professor of the National Laboratory for Information Science and Engineering at Tsinghua University. Professor Hwang was the visiting Chair Professor of Computer Engineering at the University of Hong Kong in 1996-1999.

Thousands of high school students, some accompanied by their parents, visited the booth of the Department of Computer Science to find out more information on the BEng(Computer Science) curriculum on the HKU Information Days on October 29 and 30, 2011. Our admission tutors and teachers were at the booth to answer questions from students and parents, and current CS undergraduates were around to share with the visitors their learning experience at HKU. Visitors were also invited to visit the computer science laboratories for hands-on experience with the latest technologies.

The Center for Information Security and Cryptography (CISC) introduced its ITC project “Using Face Recognition Result as Cue for Human Tracking System with Multiple Uncalibrated Cameras” (ITS/497/09), and project “Lineament Monitoring System II” at InnoCarnival of InnoTech Month 2011, which was held at Hong Kong Science Park on November 5 to 13, 2011.

InnoCarnival was one of the major events of ITM 2011, which was launched by Innovation and Technology Commission (ITC). The event aims to present a variety of spectacular programmes on innovation and technology for public participation with free admission. Over 2,500 people visited the project booth of CISC during the nine days. The exhibit of project ITS/497/09 showcased the face reconstruction technology and how to track human across multiple cameras in a wide area. Meanwhile, the exhibit of project “Lineament Monitoring System II” demonstrated its architecture as well as its impact and contributions to the Customs and Excise Department (C&ED) on the investigation of counterfeit goods selling online.
On January 13, 2012, the first international chapter of IEEE-Eta Kappa Nu at HKU has been formed! Eta Kappa Nu (HKN) is the honour society for the electrical & electronic engineering in the US.

Members are admitted to HKN based on their scholarship (at least top third) and other qualities in characters and societal contributions. The chapter installed at the University of Hong Kong (based in the Department of EEE) is the first international chapter of Eta Kappa Nu. The installation of the Chapter and the induction of the first batch of members was successfully held on January 13 at the Kowloon Shangri-la Hotel with the President of HKN and were attended by the President of IEEE with most of the members of the Board of Directors.

Dr. Nelson. H. C. Yung from Department of Electrical and Electronic Engineering accepted an interview on February 1st, 2012 from an Indian media, to talk about the latest red light camera system deployed in Hong Kong.

In Hong Kong, many road junctions are huge and complex and the misuse of which will lead to serious incidents and fatality. Since 2004, the Hong Kong government has been deploying digital red light camera systems to help with the monitoring of red light runners. In 2008, Serco of Hong Kong was awarded the Red Light Camera System Phase III contract by the HKSAR government and Dr. Yung was appointed Independent Expert by the government to advice on the development. The new system uses cutting edge imaging and video technologies to take high resolution still photos as well as video of a red light running incident, and the system can transfer the video and still photos together with all the other evidential data directly into DVD in real time.

The project also involved different government departments including Transport Department and Hong Kong Police Force apart from the Electrical & Mechanical Services Department. The video interview will later be presented to the Indian government as an example of transportation management and law enforcement in Hong Kong.

Dr. S.C.M. Hui was invited to give a talk entitled “Design of high performance green buildings: opportunities and challenges” at the ASHRAE-HKC / MARC Joint Technical Seminar held on December 5, 2011 in Macao Science Center. The seminar is organized by ASHRAE Hong Kong Chapter and Macau Air-Conditioning & Refrigeration Chamber of Commerce (MARC). He was also invited to make a presentation entitled “The role of green roofs in sustainable development of urban cities” at the CIBSE Hong Kong Branch Seminar on Achieving Green Performance Development held on November 24, 2011.

Dr. S.C.M. Hui presented a paper at the Joint Symposium 2011: Integrated Building Design in the New Era of Sustainability held on November 22, 2011 in Hong Kong. He was also invited to present a paper at the 9th Guangdong-Hong Kong-Macau-Taiwan (GHMT) Engineers Forum held from November 17 to 19, 2011 in Guangzhou, China.

Prof. J. Lam is appointed Editor-in-Chief of IET Control Theory and Applications.


Prof. D.Y.C. Leung presented an invited speech in Workshop on biodiesel application, China from February 29 to March 2, 2012.

Dr. W.D. Li gave a talk at the SPIE Advanced Lithography 2012, USA, about 4-nm half-pitch patterning using helium ion beam lithography and nanoimprint lithography on February 16, 2012.

Prof. Y.G. Li attended the ASHRAE 2012 Winter Conference in Chicago, USA from January 21 to 25, 2012. He also visited the Environmental Protection Agency, University of North Carolina and Duke University to explore collaboration opportunities.

Prof. A. H. W. Ngan presented a Popular Science Lecture entitled “Nanomechanical Behaviour of Materials and Biological Tissues” in the Hong Kong Science Museum on November 26, 2011.

Prof. M. Wang accepted Elsevier’s invitation to serve as an Editor of the long-established journal Materials Letters from 2012.

Prof. M. Wang was invited to serve from 2012 as a council member of the Chinese Committee for Biomaterials, which is mainland China’s national professional society.
**Honours & Awards**

Staff Awards

**Professor S.C. Wong**, Head of Department, has been conferred the title of Chair Professor with effect from July 1, 2011. This achievement is recognition of Professor Wong’s outstanding accomplishments and contributions over the years.

**Dr. Z. Q. Yue** was presented an “Outstanding Award” by the journal of Rock Mechanics and Geotechnical Engineering at the 3rd Meeting of the 1st session of JRMEG Enlarged Editorial Board, held in Beijing in October 2011.

**Dr. Z. Q. Yue** has received an excellent paper award in November 2011 from the Geological Society of China for an invited-authored paper entitled “Innovation and Geoscience Significance of Natural Hazards in Indonesia”, presented at the 2011 Annual Congress of the Society.

**Dr. T. Zhang** has been promoted to “Associate Professor” on tenure terms effective from November 1, 2011. The promotion is recognition of Dr. Zhang’s accomplishments and hard work over the years.

Ir P.K.K. Lee has been conferred the Hong Kong Institution of Engineers (HKIE) President’s Award 2011 for his immense contributions and remarkable achievements at HKIE 36th Annual Dinner. The Award is given in recognition of the dedicated and valuable service on a task force by any class who has served the Institution with distinctive achievements. Ir Lee is a dedicated Fellow who has been strongly committed to the development of the qualifying areas of HKIE. For more than 13 years he has served a total of seven boards and committees of the Institution, including the Council, Accreditation Board, Structural Discipline Advisory Panel, Education and Examinations Committee and Fellowship Committee.

**Dr. S. T. Smith** has been awarded the 2011 Warren Medal from the Civil College of Engineers Australia. The Warren Medal was named after Professor W.H. Warren who was the first President of the Institution of Engineers Australia. The award was established in 1929 and is given annually for the best paper in the discipline of civil engineering published by Engineers Australia for that year.

**Student Awards**

**Mr. Chen Wen** (2011 graduate) received the Best Final-Year Project Award from ASCC Hong Kong Section for his project “Permanent deformation of sand under cyclic loading” (supervisor: Dr. J. Yang). He also received the Civil Engineering Project Prize from the Department of Civil Engineering.

**Mr. Cheng Wan Kien Keith, Miss Choi Tsze Wing, Mr. Hui Kin Long, Mr. Kan Chi Cheung** (Year 1 BEng students) were awarded the HKU Foundation Scholarships for Outstanding Students 2011-12.

**Mr. Huen Ka Yu** (Year 2 BEng student) was awarded the YS and Christabel Lung Undergraduate Scholarship for Engineering Students 2010-11.

**Mr. Li Chaoyi** (2011 graduate) had his Final Year Project (supervised by Dr. K. Shi) won the Waste Management & Environmental Sustainability Project Competition 2010-11, organised by Hong Kong Waste Management Association (HKWMA). This competition aims at attracting the year of students who will be the future pillars of the society in waste management and environmental sustainability and encourage innovative ideas to develop such practice. Mr. Li’s project title was “Stabilizing Nickel in Simulated Solid Waste by Spinel Formation” and the awarding ceremony was held during the HKWMA Annual General Meeting at Hong Kong Club on September 14, 2011. After the award ceremony, Mr. Li was invited to give a presentation on his project findings, and his work will be also published in the HKWMA newsletter, WASTELINE.

**Mr. Wong Cheuk Lun** (Year 2 BEng student) was awarded:

- The HKU Foundation Scholarship 2010-11
-蔡陳寶瓊獎學金2011-12

**Mr. Yuan Ye On** (Year 3 BEng student) was awarded the Young Yuan Dart Scholarship 2010-11.

**Student Awards**

Four BEng(CompS) students/graduates, Law Chi Lok (CS3), Tse Shing Chi (CS3), Wan Ho Lun (CS graduate), and Wong Shing Kiu (CS graduate) developed a Java game titled “Basic Law Game ABC” and won the first runner-up, four places in the basic Law Digital Games Development Contest 2011. This contest was co-organized by the Committee on the Promotion of Civic Education and the Home Affairs Bureau, and supported by the Constitutional and Mainland Affairs Bureau, the Education Bureau, the Department of Justice, and the Hong Kong Digital Game-based Learning Association.

All students/graduates took the “Computer Game Design and Programming” course of the BEng(CompS) programme. The instructor of this course is Dr. Vincent Lau, with Mr. Chin Tat Wing (CS PhD candidate) as the teaching assistant.

**Mr. Patrick P.F. Chan, Dr. S. M. Yi, and Dr. Lucas Hui** were selected for best paper awards for their article entitled “A Privilege Escalation Vulnerability Checking System for Android Applications” by the 13th IEEE International Conference on Communication Technology (ICCT 2011), which was held in Jinan, China in September 2011. They are one of the eight awardees out of 278 accepted papers in the conference. Mr. Patrick P.F. Chan is a PhD student under the supervision of Dr. Hui and Dr. Yiu.

IEEE ICCT is now one of the most famous international conferences in the field of communication technology in China.

Two PhD candidates in Computer Science, Mr. Shuang Feng and Mr. Jinghao Shi, were selected for the University Postgraduate Fellowships for 2011/12. This fellowship scheme, supported by the HKU Foundation, Dr. Lee Shue Kee, and Philip K.H. Wong Foundation, is awarded to highly selected full-time PhD candidates who have excellent academic records.

Mr. Feng is working in the research area of Computer Vision and Computer Graphics under the supervision of Dr. Yizhou Yu whereas Mr. Shi is doing research in the area of Cluster and Grid Computing under the supervision of Dr. Cho-Li Wang. Both candidates commenced their research postgraduate study in September 2011.

**Dr. K.P. Chau** has been appointed as Honorary Visiting Professor by Liaoning Police Academy at Dalian owing to his expertise in cybercrime investigation and digital forensics. The appointment is for a period of 3 years starting from the 1st March 2012 in the Information Security and Cryptography (ISC) in December 2011 to further discuss research collaborations and academic exchange.

Smartphones have become extremely popular, but their power does not only benefit general users. Smartphones can also be a great tool to assist the users with visual impairment to participate equally in the community. If users with visual impairment can operate smartphones freely, their quality of life will take a giant leap forward because the smartphones can help compensate part of their inability to sense the surroundings.

**Professor David Cheung** and his R&D team at the Center for E-Commerce Infrastructure Development (CECID) will research and develop these assistive technologies, which include a smartphone assistant and a portable NFC (near field communication) wallet, which will be useful with visual impairment using Bluetooth Low-Energy technology. With these novel technologies, the users with visual impairment can operate their smartphones with hard-button-based devices, and use them to obtain information about their locations without the need to “touch” any tags in their surroundings. It can potentially let users receive bus information at bus stops, identify exits in MTR stations, find shops in shopping malls, and so on.

Commenced in December 2011, this 18-month project has received HK$5.49 million funding from the Innovation and Technology Commission and sponsorship from industry partners. It is supported by many government departments, NGOs, and commercial partners, including Netgeni Solutions Limited, ITO Limited, MPRHK Limited, The Link Management Limited, Shenzhen CanYou Software Company Limited, the Commissioner for Rehabilitation, Architectural Services Department, Transport Department, Housing Authority, the Office of the Government Chief Information Officer, The Hong Kong Society for the Blind, and the Hong Kong Federation of the Blind.

**Dr. Cho-Li Wang** and his students were recently awarded two Best Paper Awards at the 4th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2011) and the 2011 IEEE International Conference on Cloud and Service Computing (CSC 2011).

Mr. Luwei Cheng’s paper (co-authored with Mr. Sheng Di, PhD student in Computer Science) entitled “Defeating Network Jitter for Virtual Machines” was selected as the Best Student Paper Award at the UCC 2011 held in Melbourne, Australia on December 8, 2011. UCC 2011 received 127 submissions from 32 countries with an acceptance rate of about 26%. The award was given to the highest rated paper with a student as the first author. Another paper, entitled “exCloud: Translucent Runtime Support for Scaling Mobile Applications in Cloud” (coauthored with Mr. Ricky K.K. Ma and Mr. King Tin Lam, PhD students in Computer Science) won the Best Paper Award in CSC 2011 held in Hong Kong on December 12 to 14, 2011. CSC 2011 only gave two Best Paper Awards this year.

**Mr. Patrick Au and Mr. Fok Kin Ming**, members of the technical staff in the Department of Computer Science, received Long Service Awards for their service to the University for over 15 and 35 years respectively. Mr. Au joined the Department in 1996 as a Computer Technician and was promoted to Senior IT Technician in 2008. Mr. Fok, warmly greeted as “Brother Fok” by colleagues, joined HKU in 1975. He had worked for the Departments of Microbiology and Pathology before joining the Department of Computer Science in 1992 as a Laboratory Assistant, and was promoted to Senior Laboratory Assistant in 1999. His wife Irene and two daughters are both working at the University, shared his happiness in receiving the award from the Vice-Chancellor at the presentation ceremony held on February 1, 2012.

**Professor Francis Chin**, Chair Professor of Computer Science and Taiko Professor of Engineering, received the Outstanding Researcher Award from the Vice-Chancellor at the Award Presentation Ceremony for Excellence in Teaching and Research on February 9, 2012.

This award is granted by the University Research Committee to academic staff in recognition of their extremely outstanding achievements in research. The award is accompanied by a citation based on documented evidence of international recognition of research accomplishments, the quality and quantity of research publications, the ability to attract research grants, and high-impact applied research work.

Staff Awards

Outstanding Young Researcher Award (OYRA) 2011

Our associate professor, Dr Anthony H W Choi has been selected to be one of the recipients of the HKU Outstanding Young Researcher Award for the year 2010-11. Dr. Choi leads a team of researchers investigating frontier research topics including solid-state lighting, GaN micro-cavities, fiber-coupled micro-displays and 3D laser micromachining at the Semiconductor Lighting
and Display Laboratory. His major contributions include using fluorescent microscopes for white light LEDs, design and implementation of a stacked polychromatic LED structure, emissive nitride microdisplays and pivoted GaN-on-Si microcavities amongst others.

The Outstanding Young Researcher Award (OYRA) is one of the eminent awards under the Outstanding Researcher Awards scheme and is one of the major internal awards in HKU. The Award is made by the University Research Committee to give recognition to young researchers for their extremely outstanding accomplishments in research. The aim of which is to recognize HKU academics who excel in research. All recipients of the Award will be honoured at the Award Presentation Ceremony for Excellence in Teaching and Research on February 9, 2012 at Rayson Huang Theatre.

Best Teacher Award 2010-2011

Our EEE teachers, Dr. Edmund Lam and Dr. Vincent Tam have been selected by the Faculty Teaching and Learning Quality Committee as the recipients of the Best Teacher Award in the academic year 2010-11 for their excellence in teaching Best Teacher Award is an award to honour and reward the teaching staff, and to promote excellence in teaching and learning in the Faculty of Engineering. Each year the committee will select some recipients in recognition of their excellence in teaching and their contribution and devotion in promoting good teaching and learning within the Faculty.

Student Awards

12th National Challenge Cup 2011
Two teams of EEE students won two First Prizes in the 12th National Challenge Cup in Dalian from Oct 15th to 20th, 2011. The Challenge Cup is known as a national academic and technology Olympic event of college students in China (http://www.xiaohanzhai.net/).

One team was awarded the 1st Prize in the Technology Innovation Category B. The team members are the E-ComE graduates Mr. Au Yeung Hang Eric and Mr. Law Kam Yuen Ken. The project titled was “iClass—A Mobile Learning Platform” (iClass互動教學系統), which uses smartphone as an effective way to enhance the interaction between students and teachers in class. Another team was also awarded the 1st Prize in the Category of Philosophy and Social Sciences Study. The team members include Tu Yiheng (EEE M.Phil) and Mr. Wu Xiaoxi (CS Ph.D.). The project title was “Economical Analysis — The Relationship between Income Distribution and Consumption of Chinese Residents” (中國居民“收入 — 消費”差距的經濟學分析與政策建議), and the students use both Mathematics and Engineering knowledge to analyze the income and consumer policy in China.

There were 1402 projects from 31 provinces in China, among which, 4852 projects were selected in the final competition. In the Hong Kong, Macau and Taiwan region, there were 81 students with 51 projects participated in the competition, and four teams from HKU won 2 1st Prize, one 2nd Prize and one 3rd Prize.

Best Student Paper Award 2011
Our PhD student, Mr. Xu Xing attended the 16th Optoelectronics and Communications Conference (OEC) 2011) in July 2011 in Kaohsiung, Taiwan. His paper, titled ‘‘A Comprehensive Experimental Investigation on Wavelength Exchange Type II’’ was awarded the Best Student Paper of the session in the conference.

Prof. A.H.W. Ngan has been conferred the title of Chair Professor with effect from July 1, 2011.

Prof. M. Wang has been elected as Fellow of the American Institute for Medical and Biological Engineering (AIMBE). The AIMBE College of Fellows is comprised of the top two percent of medical and biological engineers in USA. Prof. Wang has also been elected as Fellow of Biomaterials Science and Engineering (FBSE), a member of the International College of Fellows of the International Union of Societies for Biomaterials Science and Engineering.

Prof Min Wang’s paper “Selective Laser Sintered Ca/Pi/PVB Nanocomposite Scaffolds with Sustained Release of hBMNP-2 for Bone Tissue Engineering” (by B Duan, W W Lu and M Wang) presented at AICerS’ 35th International Conference and Exhibition on Advanced Ceramics and Composites (Jan. 2011, Daytona Beach, FL, USA) was chosen for Best Paper Award by the American Ceramic Society (ACerS). Another paper “PIIII-shaped (Ti, O)/Ti, (Ti, N)/Ti and (Ti, O, N)/Ti Coatings on NiTi Shape Memory Alloy for Medical Applications” by Y Sun, L-P Wang, M Wang, H-W Tong and W W Lu won Best Paper Award at the 2nd Advanced Welding & Joining Technology Conference (Jan. 2011, Harbin, China).

Student Awards

Mr. C. Wang (PhD student) won the Best Student Paper Award (Bronze) with the paper and presentation of “Conventional Electrospinning vs. Emulsion Electrospinning: A Comparative Study on the Development of Nanofibrous Drug/Biomolecule Delivery Vehicles” at the 26th International Symposium on Processing and Fabrication of Advanced Materials (PFAM00), which was held in Hong Kong from December 15 to 17, 2011.

Miss S.Y. Li (PhD student) gave an oral presentation of the paper “Multifunctional Nanodevices Based on Polymer-Metal Hybrid Nanoparticles for Cancer Detection and Treatment” and won the Best Presentation Award at the 9th China-Korea Symposium on Biomaterials and Nano-Biotechnology which was held in Sanya, China, from December 18 to 20, 2011.

Analogue Engineering Group Scholarship in Mechanical Engineering 2010-2011
Lau Yi Sen (ME-BSE Year 3)
Centenary Prize
Fang Tianhong (ME Year 2)
Wong Man Long (ME Year 3)
Chan Kai Ming Prize in Engineering 2010-2011
Fang Tianhong (ME Year 2)
Chiang Chen Industrial Charity Foundation Scholarship 2010-2011
Chan Chi Fung (ME Year 2)
Chiap Hua Cheng’s Foundation Scholarships 2010-2010
Fang Tianhong (ME Year 2)
Wong Man Long (ME Year 3)
Zhang Zeyi (ME Year 1)
CMA and Donors Scholarship 2011-2012
Fang Tianhong (ME Year 3)
CO2nnultzing Ltd. Scholarship
Chi Ka Wai (ME Year 1)
CPDC SUM MSDI Scholarship 2010-2011
Wong Chi Chung (ME-BSE Year 3)
Wong Kam Wai Kelvin (ME Year 4)
Daikin Scholarship 2010-2011 (Level I Award)
Chang Ruohan (ME-BSE Year 1)
Daikin Scholarship 2010-2011 (Level II Award)
Ho Sze Wing (ME-BSE Year 2)
Daikin Scholarship 2010-2011 (Level III Award)
Chan So Chun Sue (ME-BSE Year 3)
Daikin Scholarship 2010-2011 (Design Awards)
Tang Wai Ping (ME-BSE Year 3)
Tung Wun Chung (ME-BSE Year 3)
Wan Ching Kit (ME-BSE Year 3)
Daikin Scholarship 2010-2011 (Research Awards)
Chan So Chun Sue (ME-BSE Year 3)
Wong Shiu Lun Roy (ME-BSE Year 3)
Wong Yin Ka Hei (ME-BSE Year 3)
Engineering Outstanding Students Scholarship 2011-2012
Cheung Chung Wa (ME Year 1)
Wong Yu Hong (ME Year 1)
Tai Chun Pan (ME Year 1)
Fong’s Project Prize in Mechanical Engineering 2010-2011
Chen Shanie (ME Year 4)
Leung So Sum (ME Year 3)
Wong Man Long (ME Year 3)
Hong Kong Government Industry Department Prize in CAD/CAM Technology 2010-2011
Wong Man Long (ME Year 3)
HKSAR Government Scholarship Fund 2011-2012
HKU Foundation Scholarships for Outstanding International Students 2011-2012
Munir Asfandyar (ME Year 1)
Hong Kong Joint Board of the Royal Institute of Naval Architects and the Institute of Marine Engineers Prize 2010-2011
Fang Tianhong (ME Year 2)
Lu Xue (ME Year 2)
Wong Yonji (ME Year 2)
Ma Tze Sau Prize in Mechanical Engineering 2010-2011
Wong Man Long (ME Year 3)
Simatelex Charitable Foundation Scholarships 2010-2011
Ho Kwun Yin (ME Year 1)
Hugentobler Charles Peter (ME Year 2)
Chung Wai Choi (ME Year 3)
The Chartered Institution of Building Services Engineers Book Prize 2010-2011
Ho Sze Wing (ME-BSE Year 2)
The Chartered Institution of Building Services Engineering Prize 2010-2011
Kwok Yu Ho (ME-BSE Year 2)
The Chartered Institution of Building Services Engineers Student Project Prize 2010-2011
Tang Wai Ping (ME-BSE Year 3)
The Hong Kong Electric Co. Ltd. Energy Systems Prizes 2010-2011
Tse Chi Hang (ME Year 3)
The Hong Kong Electric Co. Ltd. Energy Systems Prizes 2010-2011
Ho Kwun Yin (ME Year 1)
Fang Tianhong (ME Year 2)
The HKIE Building Services Division Scholarship 2011-2012
Kwok Yu Ho (ME-BSE Year 3)
The HKIE Building Services Division Scholarship to HKU Student for 2010-2011
Wong Chi Chung (ME-BSE Year 3)
The HKIE (Fire Division) Scholarship 2010-2011
Li Shuk Wan (ME-BSE Year 3)
Walter Brown Memorial Prizes in Mathematics 2010-2011
Ho Kwun Yin (ME Year 1)
Young Tsun Dart Scholarships 2010-2011
Zhang Zeyi (ME Year 1)
Y S and Christabel Lung Undergraduate Scholarship for Engineering Students 2010-2011
Ho Kwun Yin (ME Year 1)
Pang Hong Lun (ME Year 1)
Smit Matthew Koon Yip (ME Year 1)
Y.W. Kwok Scholarships 2010-2011
Wong Man Long (ME Year 3)
Young Members’ Programme (YMP)

Developed from Sustainable Development Project, Young Members’ Programme (YMP) is new to HKUEAA. To arouse the interest of engineering in current students, YMP collaborated with the HKIE and the Engineering Society (HKU) and organized two Success Sharing Seminars “I’m a/an ___ Engineer” in November 2011. During the seminars, 12 engineers enlightened students how to become prominent engineers by sharing their successful stories, and encouraged students to equip themselves with both hard and soft skills and to participate in professional associations. The engineers included Civil Engineers: Ir. Victor Lo and Ir. Eva Kong; Manufacturing & Industrial Engineers: Ir. Queenie Chan and Ir. Dr. Frankie Law; Biomedical Engineer Mr. Tommy Lam; Information Technology Engineers Ir. Edward Leung, Ir. Michael Leung and Mr. Benjamin Lam; Electrical Engineer Ir. P.K. Chan, Electronics Engineer Ir. Victor Ng; Mechanical Engineer Ir. Steven Lai Kam Hung and Ir. Wilson Chan Hau Wing.

In January 2012, YMP invited Professor Philip J. Chmielewski from Loyola Marymount University (Los Angeles, USA) to share his insights of engineering ethics in terms of obligation to the public. Engineering students and graduates gained skills in ethical analysis through case study, and formation of professional selves by way of an attention directed toward heroism.

HKUEA 36th Annual Ball

| Moments to Remember | Moments to Give Thanks |

The HKUEAA 36th Annual Ball, sponsored by Excel Engineering Company Ltd, was successfully held on December 31, 2011. It was well attended by over 150 alumni and friends. We enjoyed a lot in the music and dances. Several spontaneous performances and a record-breaking donation were strong evidences to the loyalty to our alma mater and support to outstanding undergraduate students in HKU Faculty of Engineering.

Thanks again and we wish that you can join us in the 37th Annual Ball on December 31, 2012!

Apart from above, YMP also aims at developing engineering students and graduates in thinking, communicating, and acting effectively. To serve these needs, YMP organised a professional ‘Mind Map Training’ taught by Dr. Gerald P. Sellinger (HKU teaching consultant) on 2 March 2012, a sharing ‘7-Habits of Highly Effective People’ by Mr. Charles L.C. HO (HKU engineering alumni; HR Training & Development professional of MTR Cooperation Limited) on 3 April 2012, and a Life Adventure Camp by Panda Y.F. Lee on 21-22 April 2012. Through these social skills trainings, students and graduates have learnt a more efficient approach for their study and career development.

Graduate Mentor Scheme (GMS) 2011-12

H.K.U. Engineering Alumni Association - 38th Annual General Meeting

HKUEAA has long been actively pursuing our aim of promoting friendship amongst HKU Engineering graduates through organizing recreational, social and cultural activities. To show our heartfelt thanks to our supportive members and to share our effort and joyful results with you, we cordially invite you to our 38th Annual General Meeting (AGM):

Date: Late July 2012
Venue: The Chinese Club (中華商會), Central, Hong Kong

This is an important event of our Association and a valuable occasion for our members to meet one another. We look forward to seeing you in the AGM. With your support, we will continue pursuing higher objectives.