

# Graduate Studies & Research Newsletter

研訊

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RESEARCH

KNOWLEDGE TRANSFER

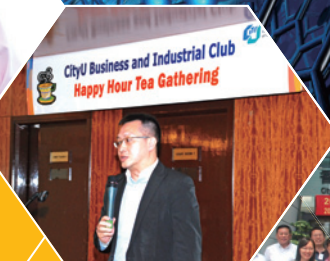
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## US\$ 1.3 million awarded to CityU's Korean philosophy project

The Academy of Korean Studies has awarded Professor Philip J. Ivanhoe and Dr Kim Sung-moon of the Department of Public and Social Administration of City University of Hong Kong (CityU) a US\$1.3 million grant for an unprecedented study on Korean philosophy.

The five-year project entitled "Korean Philosophy in Comparative Perspectives" will explore sophisticated theories about ethics, moral psychology, the self and political philosophy through a comparative study of Korean philosophy. Professor Ivanhoe is the study's principal investigator and Dr Kim is the principal collaborator.

The funding is courtesy of an Academy of Korean Studies programme called the "Laboratory for the Globalization of Korean Studies", which aims at fostering scholars in Korean Studies through research-oriented projects that can potentially lead to ground-breaking academic achievements. CityU joins three other universities from Canada, Germany and Japan that have successfully secured such grants this year.

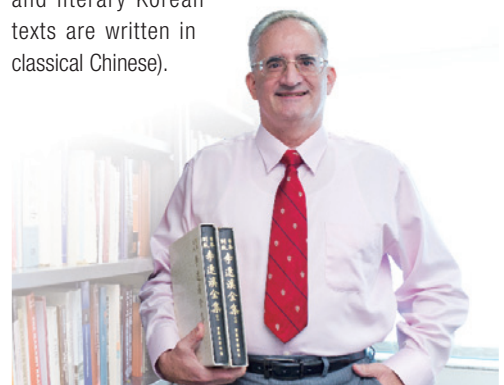
Professor Gregory Lee, then Dean of CityU's College of Liberal Arts and Social Sciences, congratulated the two CityU researchers, stating that this comparative study of classical Korean philosophy adds to the growing reputation of the College as a hub for cross-disciplinary intellectual debate, problem-driven research and in-depth exploration.

"Funding support from the South Korean government underscores our status in the eyes of the global academic community, and we hope very much that this project will lead to fertile cross-cultural collaborations that will in turn lead to greater insight into and understanding of the world around us", he said.

The main aim of the CityU research is to draw the study of Korean philosophy into the mainstream and expose more western philosophers to traditional Korean thought and intellectual debate.

"The way in which traditional philosophy is currently presented in Korea does not strongly attract, or is not portrayed by means that are accessible to, western analytical philosophers", said Professor Ivanhoe, who joined CityU in 2007 after holding senior positions at Boston University, the University of Michigan and Stanford University in the USA.

Professor Ivanhoe explained that one of the historic problems has been a lack of scholars trained in both fields. Academics trained in classical Korean philosophy, a discipline that requires an education in classical Chinese, tend not to be knowledgeable about western traditions, and, vice versa, few western philosophers are trained in classical Chinese (most philosophical and literary Korean texts are written in classical Chinese).



Professor Ivanhoe holds the complete works of Yi T'oebye (1501-70), the pre-eminent Korean philosopher.

"We wish to bridge this gap with a core team of people who know Korean traditions well and can write for a western audience, and, at the same time, we want to expose western philosophers to Korea so that they can interact with Korean scholars", said Professor Ivanhoe, who studied Chinese at Stanford University and was a Korean linguist with the United States Army in the 1980s.

"There is much interesting work being carried out in contemporary and traditional Korean philosophy of which western philosophers have no knowledge", he added.

"East Asian and Confucian philosophy through Korean philosophical traditions offers powerful insights into pressing issues of our times", Professor Ivanhoe explained, "especially in the realm of the nature of moral psychology in terms of caring, altruism, and the sense of belonging to other people and to a community".

Professor Ivanhoe will be assisted by Dr Kim, Assistant Professor in CityU's Department of Public and Social Administration. An expert in comparative political theory, Confucianism and Korean political thought, Dr Kim studied at the Yonsei University and The Academy of Korean Studies before taking a PhD in government and politics at the University of Maryland.

"We have collaborative researchers from Seoul National University and Korea University on the project, and the funding will support two workshops, two major international conferences, two senior visiting professors and a 5-year post-doctoral fellow", Dr Kim said.



The work Yi T'oebye (1501-70) will be a major focus of the 5-year project.

Intended outputs from the project will include five single-authored works, two anthologies and 16 articles, all on Korean and comparative philosophy. ●

*Adapted from CityU NewsCentre*

## New research centre at CityU to tackle urgent energy problems

A new centre dedicated to research on energy sciences and technologies has been established at City University of Hong Kong (CityU) with a \$10 million donation from Ability R&D Limited. The centre has been named after the company in appreciation of its generous support.

The Ability R&D Energy Research Centre, housed in the School of Energy and Environment (SEE), aims to develop innovative technologies that will increase energy efficiency and offer a clean, safe, cost-effective and sustainable energy supply to help combat impending energy problems. In addition, the fund will be used to set up scholarships and bursaries for students.

Officiating guests at the naming ceremony on 24 August 2011 included Mr Frank Leung Hin-ting, Managing Director of Ability R&D Limited, and his wife; the Hon Leung Chun-ying, then CityU Council Chairman; Professor Way Kuo, President of CityU; Professor Johnny Chan Chung-leung, Dean of the SEE at CityU; and Dr Michael Leung Kwok-hi, Director of the centre.

The Hon Leung Chun-ying thanked Mr and Mrs Frank Leung, on behalf of the University, for their enthusiastic support of CityU's development. Mr and Mrs Leung have made ongoing contributions to the education sector, encouraging students to engage in research and study and, at the same time, pay attention to the needs of society.



NAMING CEREMONY OF THE ABILITY R&D ENERGY RESEARCH CENTRE  
能研研發能源研究中心命名典禮

(From left) Dr Michael Leung, the Hon Leung Chun-ying, Mr and Mrs Frank Leung, Professor Way Kuo and Professor Johnny Chan.



Guests and CityU management toast for the establishment of the Ability R&D Energy Research Centre.

"Teaching and research are at the heart of CityU's mission. We strive to conduct research that can be used by the community, that promotes sustainable development and that brings industry, teaching and research together. The donation by Ability R&D Limited is a good example of this tripartite integration", the Hon Leung Chun-ying said.

Speaking on behalf of Mr Frank Leung Hin-ting, Mr Frankie Leung Kai-ha, Director of Ability R&D Limited, praised SEE for its commitment to nurturing talent and conducting research that tackles pressing issues of the day. He said Ability R&D Limited shares the same interests with SEE and the mutual support will benefit students and society as a whole.

Professor Kuo said that energy and the environment are two strategic areas of development at CityU, and a number of undergraduate programmes involving these two themes will be introduced next year. Thanking Mr and Mrs Frank Leung Hin-ting again for their support, Professor Kuo said that the University will put the funds to the best possible use in the areas of teaching, research and scholarships.

The centre will focus its research on five areas: energy efficiency, clean energy, renewable energy, low-carbon economy and sustainability. The aim is to accelerate the development of state-of-the-art energy-efficient and energy-saving technologies to help reduce fossil fuel consumption and develop clean and renewable energy technologies as cost-competitive alternatives in order to achieve a sustainable energy supply. ●

*Adapted from CityU NewsCentre*



# CityU secures HK\$ 7 million in research grants from a major mainland research fund

City University of Hong Kong (CityU) has achieved outstanding results in the National Natural Science Foundation of China (NSFC) Research Grants Competition 2011, with 13 projects being awarded more than RMB\$ 5.8 million (equivalent to HK\$ 7 million). Directly administered by the State Council, NSFC is a public institution set up to promote and finance research projects in China.

Thanks to the concerted efforts of our faculty and staff, CityU's success rate is 29%, which is significantly higher than the overall average success rate of 21%. CityU's participation in the competition is also substantially higher than last year, with the number of applications increasing by more than fourfold. Approved research projects cover business systems, energy management and sustainability, advanced materials, and life sciences, among others.

The projects that received funding include:

Principal Investigator (Department)	Project Title
Dr Zhang Wenjun (Department of Physics and Materials Science)	◆ Doping and High-temperature Semiconductor Characteristics of Heteroepitaxial Cubic Boron Nitride Films
Professor Liew Kim-meow (Department of Civil and Architectural Engineering)	◆ Mechanical Study of Microtubules in Cell Cytoskeleton
Dr Zhou Wen (School of Energy and Environment)	◆ The Decadal Variability of Persistent Drought over South China and its Association with Water Vapor Transport Anomalies
Professor Deng Xiaotie (Department of Computer Science)	◆ Sponsored Search Auction Market Equilibrium and Pricing Algorithms
Professor Li Ying (Department of Biology and Chemistry)	◆ Electrical Vagal Stimulation Modulate Visceral Pain
Dr John Lin Zhang (Division of Building Science and Technology)	◆ Analysis and Enhancement of Energy Performance of Stratum Ventilation
Dr Yang Zhilin (Department of Marketing)	◆ Antecedents and Consequences of Embedded Ties as a Governance Strategy in Marketing Channels: A Longitudinal and Dyadic Study
Professor Ma Jian (Department of Information Systems)	◆ Research on Personalised Recommendation Methods in Research Communities
Professor Ma Jian (Department of Information Systems)	◆ A Social Approach to Normalisation of Research Keywords
Dr Cheng Jinping (Department of Biology and Chemistry)	◆ Toxicity and Mechanisms of Silver Nanoparticles in Zebrafish and Embryos
Dr Li Jensen (Department of Physics and Materials Science)	◆ Transformation Optics with Surface-wave Structures and Photonic Crystals
Dr Wang Jianfeng (Department of Civil and Architectural Engineering)	◆ Development of a Micromechanics-based Predictive Model for Interphase Systems via a Critical State Soil Mechanics Approach
Dr Lu Ye (Department of Management Sciences)	◆ Optimal Policy for an Inventory System with Convex Ordering Cost and a Fixed Cost

Professor Gregory Raupp, CityU's Vice-President (Research and Technology) and Dean of Graduate Studies, said that the success in the bidding exercise exemplifies CityU's continuous efforts to seek funding for our research mission. "We have demonstrated once again our ability to compete at the highest levels in research. Our diverse portfolio of successful proposals shows that we are working hard to increase our established and emerging strengths for research that will benefit both Hong Kong and the mainland as a whole", Professor Raupp said. ◆

## Two CityU Honorary Doctorate recipients deliver distinguished lectures

Lectures by two honorary doctorate recipients in the fields of green technology and economic sciences enlightened CityU staff, students and the public in the CityU Distinguished Lecture Series on 7 November 2011.

### Advances in Science and Technology Boost Green Development

Professor Xu Kuangdi, Honorary Chairman of the Chinese Academy of Engineering, delivered a lecture titled "Advances in Science and Technology Boost Green Development" at Connie Fan Multi-media Conference Room on 7 November. Professor Xu's lecture summarized the current energy consumption situation in mainland China. With heavy reliance on coal as a major energy source, China has become the world's biggest CO<sub>2</sub> emitter, but is still far behind developed countries in per capita emissions. China has to make adjustments to its development mode, as "Saving energy, reducing consumption, lowering carbon emissions, and moving towards a cyclic economy are the first steps towards green development", Professor Xu said.

In the lecture, Professor Xu also cited Shougang Jingtang United Iron and Steel Co. Ltd as an example to demonstrate how electricity and desalinated seawater can be generated from manufacturing processes so as to promote sustainable development.



Professor Xu Kuangdi.

Professor Xu is a world-renowned engineer in metallurgy and has received numerous international awards for his achievements in electric steel-making, jet metallurgy, secondary refining of liquid steel and smelting reduction.

### Ideal Money and the Motivation of Savings and Thrift

After Professor Xu's lecture, Professor John Forbes Nash, Jr, delivered a lecture titled "Ideal Money and the Motivation of Savings and Thrift" for the CityU Distinguished Lecture Series on the same day.

Professor John Nash, 1994 Nobel Laureate in Economic Sciences, attracted over 800 people to CityU for his analysis of the field of game theory. The Wei Hing Theatre was filled to capacity that two extra live broadcast venues were arranged to accommodate the overflow audience.

In the lecture, Professor Nash touched on various issues such as analyzing the concept of ideal money, the 2008 financial crisis, global currencies and game theory. A distinguished scholar in the contemporary century, Professor Nash was awarded the 1994 Nobel Prize in Economic Sciences as a result of his work in game theory. He is now the Senior Research Mathematician in the Department of Mathematics at Princeton University.

The CityU Distinguished Lecture Series offers a platform for CityU staff and students to meet world-renowned scholars and to gain and exchange different ideas on contemporary disciplines and topics. ●



Professor Way Kuo (right) presents souvenir to Professor John Nash.





## CityU-HNA Group partnership boosts Hong Kong industries

A collaborative agreement on transport, trade and finance was signed on 17 August 2011 between City University of Hong Kong (CityU) and the HNA Group, an aviation company in mainland China.

The letter of intent for cooperation and the forum that was held after the signing ceremony make good use of the support stated in the 12<sup>th</sup> Five-Year Plan and are aimed at enhancing Hong Kong's position as an international centre for transport, trade and finance.

CityU is fully committed to the development of these three industries in Hong Kong. It has founded both the Hong Kong Centre for Maritime and Transportation Law and the Centre for Transport, Trade and Financial Studies (CTTFS) at the University in the past two years.

“Backed by mainland China, a robust legal system, bi-literacy and tri-lingualism, and international connections, Hong Kong has the potential for promoting its position as an international centre for transport, trade and finance. As long as the government, industry and universities work together on policy formulation, manpower training and research, Hong Kong should be able to develop this opportunity very well”, said the Hon Leung Chun-ying, then Council Chairman of CityU.

The letter of intent, signed by Professor Way Kuo, President of CityU, and Mr Zhang Shanghui, Vice Executive President of the HNA Group, signals the development of CTTFS as a leading industry-oriented research and education centre for transport, trade and logistics innovation in the Asia-Pacific region.

“The collaboration exemplifies today's advancement in science and demonstrates CityU's emphasis on professional education”, said Professor Kuo. “The essence of professional education is to teach and learn outside the classrooms and laboratories and study issues related to world problems. With this cooperative agreement, I expect the centre's research to contribute significantly to Hong Kong, Asia and the world.”

In addition, CityU and the HNA Group will establish the Laboratory of Sustainable Transport, Energy and Technology and collaborate on sustainable transport, trade and financial innovations; planning and policy assessment of transport logistics infrastructures; transport-trade financial service innovation; and professional education and training.



Mr Leung (left) has appointed Mr Tan (right) as the Advisory Co-Chairman of CTTFS.

To strengthen CityU's ties with the industry, Mr Leung has appointed Mr Adam Tan Xiangdong, Director of the Board of the HNA Group, on behalf of CityU as the Advisory Co-Chairman of CTTFS. The Chairman of CTTFS is Mr Alan Tung Lieh-sing, Executive Director of Orient Overseas (International) Limited.

Mr Tan said that the collaboration will be mutually beneficial because the College of Business, School of Law and other CityU colleges and departments with connections to transport are the best in Asia, and CityU's cross-disciplinary research related to maritime economy, especially transport, trade and finance services, planning of transport logistics and supply chain management, correlates well with that of the HNA Group.

As a follow-up to the agreement, Mr Leung, Professor Arthur Ellis, Provost of CityU, Professor Gregory Raupp, Vice-President (Research and Technology) of CityU and Professor John Liu Jianhua, Director of CTTFS, attended a work meeting.

In addition, CityU scholars gave talks entitled “Sustainable Innovation in Transport and Trade: Maritime and Aviation Sustainability Indexing and Exchange” and “Recent Advances in Financial Innovations and International Finance: Perspective of Hong Kong” at a forum entitled “Hong Kong's Future: Sustainable Innovation of Transport-Trade Finance”. Around 60 members of the HNA Group attended the forum.

The HNA Group has a business portfolio in transportation, tourism, logistics, and finance, and is the fourth largest aviation company in China. Having expanded to Hong Kong in recent years, it now owns two Hong Kong-based airline companies, Hong Kong Airlines and Hong Kong Express Airways. It has also acquired equity in a local travel agency, Hong Thai Travel Service Limited. ◆

*Adapted from CityU NewsCentre*



Professor Kuo (left, front row) and Mr Zhang (right, front row) signed the letter of intent for cooperation.



## Research Excellence Award 2011

The CityU Research Excellence Award 2011 was presented at the University Congregation on 10 November 2011. The Grand Award was conferred on Professor Andrey Rogach, Professor in the Department of Physics and Materials Science.

Professor Rogach is an expert in functional optical materials, and in particular in synthesis, optical spectroscopy and applications of semiconductor and metal nanocrystals in photovoltaics and biomedicine. He is now leading the Centre for Functional Photonics (CFP) at CityU.

Professor Rogach's research work on light emission and harvesting with semiconductor nanocrystals has earned him an *h*-index of 56. (The *h*-index is an index to measure the productivity and impact of a scientist or scholar's published work). According to the data provided by Thomson Reuters from its Essential Science Indicators for the 2000s, Professor Rogach is ranked 51st in a list of the top materials scientists of the past decade and also is the only scientist from Hong Kong to make the list.

Professor Rogach has authored more than 200 peer-reviewed papers and seven invited book chapters on the synthesis, characterization, spectroscopy and applications of



Professor Kuo (right) presents the Research Excellence Award to Professor Rogach (left) at the congregation.

semiconductor and metal nanocrystals. He plans to explore new photonic functions of artificially fabricated micro- and nano-structures, and focus on fundamental studies of light-matter interactions and their potential applications in photonics, electronics and biomedicine through research at the CFP.

The CityU Research Excellence Award aims to recognise and reward research excellence, emphasise the University's commitment to creating an environment conducive to high quality research at an internally competitive level, and enhance the University's role-related performance in the delivery of its research agenda.

The Award, which will be held every two years, replaced the previous Applied Research Excellence Awards, and extended to include academic and applied research projects, along with contract research projects, consultancies, or other applied work. One Grand Award is presented this year. ●

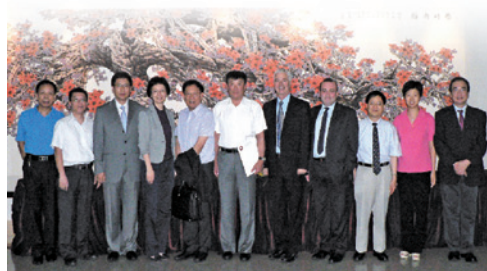
## CityU delegation visits SZSITIC

On 10 June 2011, a delegation led by Professor Gregory Raupp, Vice-President (Research and Technology), paid a return visit to the Science, Industry, Trade and Information Technology Commission of Shenzhen Municipality Government (SZSITIC) in response to their earlier visit to CityU in May 2011.

The meeting was chaired by Ms Qiu Xuan, Vice Director of SZSITIC, who delivered a presentation introducing Shenzhen's recent policy on science and technology development, followed by discussions on various strategic areas. Ms Qiu expressed the Commission's keen intention to cooperate with CityU on major support industries, such as new materials. Professor Raupp expressed strong interest in further enhancing collaboration between CityU and Shenzhen with regard to education, research development, and especially in cross-disciplinary research allied to various pillars of development in Shenzhen.

Professor C.T. Liu presented CityU's latest research development on new materials. He invited industrial partners Dr Jiang Huanwu and Dr Chen Zhengshi of the Shenzhen Foxconn Mechanical Procurement & Testing Centre to show support and engage in discussions at the meeting. Professor Liu's presentation on new materials was very timely because the Shenzhen government had recently finalised their strategic plans to invest heavily in new materials research and development over the next few years. The meeting demonstrated that CityU is in line with Shenzhen's new policy. SZSITIC and Foxconn expressed their support to CityU in setting up a key laboratory for new materials research in Shenzhen.

In the visit, Professor Gregory Lee highlighted the importance of cross-disciplinary research development which can add unique value to the overall strategy of long-term development in Shenzhen. Professor Hong Yan and Professor Christian Wagner introduced their respective areas of CityU's College of Science and Engineering and School of Creative Media to SZSITIC.



This visit provided an opportunity for CityU to understand Shenzhen's policy for science and technology development and the major fields that it supports. This visit also provided a good platform for CityU to introduce the University's key areas of research development to the Shenzhen government and related enterprises. The Shenzhen government will continue discussions with CityU on various areas of cooperation, such as new materials research, setting up a key laboratory in Shenzhen and cross-disciplinary studies.

The CityU delegation team consisted of Professor C.T. Liu, University Distinguished Professor of College of Science and Engineering, Professor Xue Quan, Associate Vice-President (Innovation Advancement and China Office), Professor Hong Yan, Associate Dean of College of Science and Engineering (Research and Development), Professor Gregory Lee, then Dean of College of Liberal Arts and Social Sciences and Director of Hong Kong Advanced Institute for Cross-Disciplinary Studies, Professor Christian Wagner, Associate Dean of School of Creative Media, Dr Daniel K Lau, Manager of Research Partnership Development (RPD), Office of the Vice-President (Research and Technology), Mr Tony Junduo Chen, Officer (Research Management and Partnership), and Joyce Yue Xiang, Senior Research Associate (RPD). ●

## External grants

Funding Body	Project Title	Principal Investigator	Amount
Caritas Hong Kong	Cognitive Behavioral Intervention for Parent Emotion Management for Parents with Adult Children with Special Needs	Professor Daniel Wong Fu Keung Department of Applied Social Studies	HK\$ 20,000
	Cognitive Behavioral Intervention for Parent Emotion Management for Parents with Pre-school Children with Special Needs	Professor Daniel Wong Fu Keung Department of Applied Social Studies	HK\$ 49,200
Chiang Ching-kuo Foundation for International Scholarly Exchange (CCKF) – Publication Subsidies	Publication of a Monograph Weed Dreams: Home and Hope in Modern Japan	Dr Dennitza Gabrakova Department of Chinese, Translation and Linguistics	US\$ 10,000
Children's Cancer Foundation	Hope-based Intervention Study for Childhood Cancer Children in Hong Kong	Professor Samuel Ho Mun-yin Department of Applied Social Studies	HK\$ 142,776
Chiang Ching-kuo Foundation for International Scholarly Exchange (CCKF) – Research	北宋校正醫書局新探	Dr Fan Ka-wai Chinese Civilisation Centre	US\$ 40,000
FNV Mondiaal	An Examination in the Role of Overseas Business and Chambers of Commerce in Shaping the Labour Regulations in China	Dr Chris Chan King-chi Department of Applied Social Studies	HK\$ 112,200
Hong Kong Applied Science and Technology Research Institute Company Limited (ASTRI)	Biometric and Smartcard Based Authentication Systems	Dr Duncan Wong Shek Department of Computer Science	HK\$ 220,000
Hong Kong Trade Development Council	An Evaluation Study on the Impact of Information Technology on Children's Reading and Learning	Mr Stephen Ma Kun Department of Applied Social Studies	HK\$ 50,000
Innovation and Technology Commission – Innovation and Technology Fund (ITF)	Self-assembly Nanoparticles for RFID Tag	Dr Arul Lenus Roy Vellaisamy Department of Physics and Materials Science	HK\$ 3,577,840
	Development of Optical Printed Circuit Boards	Professor Chiang Kin-seng Department of Electronic Engineering	HK\$ 1,799,382
	Application of Chemosensing in Food Safety Monitoring – A Chemodosimeter in Polymer Films for the Selective Detection of Biogenic Amine Odorants	Dr Michael Lam Hon-wah Department of Biology and Chemistry	HK\$ 999,810
	Development of an Enhanced Cell sorter	Professor Sun Dong Department of Mechanical and Biomedical Engineering	HK\$ 979,800

(continued on next page)



Funding Body	Project Title	Principal Investigator	Amount
International Labour Organization (ILO)	A Study on Trade Union Strategies on Minimum Wage Determination and Setting in Hong Kong	Dr Chris Chan King-chi Department of Applied Social Studies	US\$ 6,000
Macao Meteorological and Geophysical Bureau 澳門地球物理暨氣象局	利用統計降尺度方法研究澳門未來氣候變化	Dr Zhou Wen School of Energy and Environment	HK\$ 300,000
Methodist Epworth Village Community Centre Social Welfare	A Research Study on the Deprived Family Project in Hong Kong	Dr Ho Wing Chung Department of Applied Social Studies	HK\$ 145,000
One Country Two Systems Research Institute Limited	How to Position Hong Kong as a Maritime Centre for the Asia Pacific Region	Professor John Liu Jianhua Centre for Transport, Trade and Financial Studies (CTFS)	HK\$ 149,000
Social Welfare Bureau of Macau SAR Government	Youth Problems and Youth Service Blueprint in Macau: A Follow-up Study	Professor Lo Tit-wing Department of Applied Social Studies	HK\$ 396,000
Syncrude Canada Ltd	A Novel Prognosis System That Has Embedded with Effective and Intelligent Performance Indicators for Determining the Remnant Life of Slurry Pumps	Dr Peter Tse Wai-tat Department of Systems Engineering and Engineering Management	CAD 150,000
The Hong Kong Institute of Surveyors (HKIS)	An Investigation of the Independent Role of QS in Infrastructure Projects	Dr Ellen Lau Lee Hat-lan Division of Building Science and Technology	HK\$ 100,000
The Ocean Park Conservation Foundation (OPCF)	An Ecological Study of Horseshoe Crab Spawning and Nursery Beach for Conservation Purposes: Ha Pak Nai, Hong Kong	Dr Paul Shin Kam-shing Department Biology and Chemistry	HK\$ 252,904
WWF-Hong Kong	Analysis of Hong Kong Energy Intensity and Performance	Dr William Chung Siu-wai Department of Management Sciences	HK\$ 20,000
	Impact of Sea-Level Rise on Protection and Management of Coastal Mangrove Wetland	Professor Nora Tam Fung-yee Department Biology and Chemistry	HK\$ 200,115



## CUBIC interest group meetings

The CityU Business and Industrial Club (CUBIC) organised a tea gathering on 17 June 2011, with two seasoned industrialists, Dr Measure Hung and Mr Devin Siu, to talk about investing in South Africa and the impact of Apple products on the market. Dr Measure Hung, Chairman of Mobicon Group Limited, explained why his company invested in South Africa, although most companies would prefer to expand into mainland China. Dr Hung pointed out that low labour costs and exchange rates, and the absence of a limitation on fund transfers were among the advantages of investing in the nation. Mr Devin Siu, Marketing Director of Leisure Technology Limited, outlined the evolution of Hong Kong's consumer electronics industry over the past three decades, and using statistics to illustrate how trend setters such as smartphones and tablets were replacing or challenging other electronic devices.

At another meeting held on 22 July 2011, two veteran telecommunications professionals were invited to speak on network neutrality and the future development of innovation and technology in Hong Kong. Mr Au Man Ho, former Director-General of the Telecommunications Authority, discussed whether network neutrality constituted a cause for concern in Hong Kong or not. The subsequent presentation by Dr Samson Tam, Legislative Councillor (Information Technology), touched on the prospects and challenges faced by Hong Kong industry. Dr Tam pointed out that Hong Kong should take advantage of the business opportunities offered by the Internet, especially e-finance, e-logistics and e-marketplace. ●



## Forum on building and construction technologies

In the Technology Transfer Forum held on 28 September 2011, two CityU scientists were invited to present CityU's achievements in building and construction.

In the first presentation, Dr Wu Yufei of CityU's Department of Civil and Architectural Engineering introduced an innovative method to improve the ductility of fiber-reinforced polymer (FRP) concrete structures. The ductility of concrete structures is vital to structural safety, and Dr Wu pointed out that by inserting a ductile block in the compression zone of an FRP concrete structure, its ductility can be enhanced significantly. Dr Wu also developed a new technology

to avoid debonding between FRP sheets and concrete structures during structural rehabilitation. To rehabilitate existing structures, FRP sheets or bars are affixed to concrete structures using epoxy resin, but the bonding effect is far from satisfactory. To address this problem, Dr Wu has developed a special but simple mechanical fixative that can augment the bonding between FRP materials and concrete structures. Finally, he introduced a new development in the application of nanomaterials for structural rehabilitation. In a joint research project with Professor Jian Lu, CityU's Dean of College of Science and Engineering, the SMATed steel plate was used to strengthen concrete structures. This new technology can overcome the critical shortage of FRP materials for structural rehabilitation, as well as tackle the problems of brittleness and debonding. Two new US patents have been filed as a result of this joint project.

The subsequent presentation by Dr John Cheung of CityU's Department of Civil and Architectural Engineering focused on various special features and capabilities of CityU's wind tunnel facility for structural modeling and air ventilation assessment. In addition to facilitating fundamental wind engineering research and educational training, CityU's wind tunnel allows designers to test whether a building structure and its cladding can withstand strong or extreme winds or whether there is adequate ventilation in built-up areas. Using scaled boundary layer flows to simulate natural wind, the wind tunnel can help engineers evaluate wind loading and assess probable environmental wind conditions. The facility not only contributes to the design and operation of safe buildings, but also ensures an acceptable wind environment for the comfort of pedestrians and dispersion of airborne pollutants. The presentation concluded with a visit to the wind tunnel facility. ●



(From left to right) Dr Wu Yufei and Dr John Cheung.

## Forum on nanocomposite coating technologies

The Knowledge Transfer Office organised a Technology Transfer Forum on "Advances on Nanocomposite Coating Technologies" on 16 September 2011 at the CityU (Shenzhen) Research Institute Building. The forum attracted over 60 participants, most of which were industrialists and business executives stationed in the Pearl River Delta region. CityU scientists Dr Zhang Wenjun, Dr He Bin, Dr Zhou Zhifeng, and Dr Sam Shum were invited to speak at the forum.

Dr Zhang Wenjun, member of the Centre of Super Diamond and Advanced Films and Associate Professor of the Department of Physics and Materials Science together with Dr He Bin, Research Fellow of the Department of Physics and Materials Science, gave a thorough account of the synthesis and applications of cubic boron nitride (cBN) films. cBN is a structural analogue of diamonds, which are valued for their ability to withstand extreme temperatures, and their hardness and heat conductivity. Recent studies have suggested that cBN is potentially superior to diamonds as a semiconducting material. In their presentations, Dr Zhang and Dr He introduced new approaches to improve the thickness, crystallinity, and adhesion of



(From left to right) Dr He, Dr Zhou, and Dr Shum.

cBN films, as well as their applications in the mechanical, electronics and optoelectronics fields.

The second presentation by Dr Zhou Zhifeng, Senior Research Fellow of the Advanced Coatings Applied Research Laboratory (ACARL), centred on the engineering and mechanical applications of hard/superhard nanocomposite coating. Wear and tear through daily use not only shortens the lifespan of mechanical tools and parts but also increases energy consumption. To address this problem, ACARL has developed a multifunctional physical vapor deposition system for producing superhard nanocomposite coatings. Dr Zhou also gave an overview of the advanced coating developed by ACARL for industrial use. He was optimistic that new coatings would revolutionise the manufacturing industry in the next five to ten years.

Dr Sam Shum, Research Fellow of ACARL, talked about a novel laser patterning approach capable of increasing the hydrophobicity of diamond-like carbon (DLC) coatings, which are used to minimise sticking phenomena on the surface of surgical tools. The proposed approach is simple and effective, and will not alter the original properties of the coatings. The patterning of a steel surface, followed by deposition of a DLC coating, is a novel method to enhance the non-stick quality of surgical tools, and other medical devices. Dr Shum expounded on a laser patterning method to improve the wear performance of the DLC coatings. The results showed that DLC coatings with appropriate patterns clearly improve wear performance in terms of friction coefficient, wear rate and wear life, compared with untextured DLC coatings. These results may shed some light on new ways to reduce the friction and wear of a surface other than pure coatings. ◆



Professor Xue Quan, Associate Vice-President (Innovation Advancement and China Office), welcomes the audience.

## Granted patents

### Isolation enhancement technique for dual-polarized probe-fed patch antenna

**Professor Luk Kwai-man**  
US patent 7994985

The invention relates to an isolation enhancement technique that can be used in any type of dual-polarized patch antenna with feeding probes. Using this technique, the drawbacks of the probe-feeding method can be avoided without affecting its regular features. Another advantage of this invention is the reduction of the strong coupling between the feeding probes of different polarizations within each array element and between different array elements. As a result, high-input port isolation can be achieved over a wide range of frequencies. The implementation of this isolation-enhancement method only requires the mounting of thin and small vertical walls on the ground plane and does not need a feeding network. The method proposed is therefore easy to implement, low-cost, and effective.

### Apparatus and method for calibrating a variable phase shifter

**Professor Xue Quan**  
US patent 7915942

Phase shifters are widely used in wireless communications; however, errors in the signal phase may lead to reductions in maximum gain and power efficiency. This invention facilitates the automatic alignment of variable phase shifters so as to prevent accumulation of the signal-phase error. A phase shifter (either analog or digital) can be controlled electrically, magnetically, or mechanically. This apparatus can be installed with a controller to control the switch and calibrate one or both of the variable phase shifters so that they can be controlled on the basis of the output of the phase comparator. The invention can be used in devices such as antenna arrays, circularly polarized antennas, image rejecting mixers, and quadrature phase shift keying receivers to improve their performance. ◆





(From left) Professor Way Kuo, Dr John Chan, Mr Wong Cho-bau, Dr Norman Leung, Mr Wong Kam-po, Mr Nelson Yip, and The Hon Leung Chun-ying.

## Honorary Fellowships conferred

The University, on 22 September 2011, conferred Honorary Fellow of City University of Hong Kong on four distinguished persons in recognition of their remarkable contribution to the development of, and service to, the University and the community. They are Dr John Chan Chun-tung, Chairman of Chinaifa Holdings Ltd; Mr Wong Cho-bau, Chairman of East Pacific (Holdings) Ltd; Mr Wong Kam-po, Asian Games gold medalist and Mr Nelson Yip Siu-hong, Chief Executive of EP Power HK Co. Ltd, EP Venture Co. Ltd and Appetizup Co. Ltd. Dr Norman Leung Nai-pang, Pro-Chancellor; The Hon Leung Chun-ying, then Council Chairman and Professor Way Kuo, University President, officiated at the ceremony. ●

*Adapted from CityU NewsCentre*

## CityU distinguished lecture on deception detection

Professor Jay F. Nunamaker, Regents' and Soldwedel Professor of Management Information Systems, Computer Science and Communication, and Director of the National Center for Border Security and Immigration at the University of Arizona, delivered a vivid lecture titled "Going the Last Mile in Research and the Development of an AVATAR for Automated Screening for Truth or Deception" on 4 October 2011 with over 120 attendees at the Peter Ho Lecture Theatre at CityU.

"How many times a day on average does a person lie?" asked by Professor Nunamaker. After reviewing different answers from the audience, he said "The average person lies 15 times a day". Professor Nunamaker introduced his research development of deception detectors using automated technology, called AVATAR, which worth US\$16.5 million funded by the US Department of Homeland Security. The artificial agent embedded in an AVATAR within a kiosk conducts an interview with an individual detecting one's behavioural, linguistic and physiological responses. The device will automatically detect and analyze the data and summon law enforcement agents if individual is deemed as suspicious. This technology will be applied in locations such as border crossings and airports. ●



The kiosk used in automated deception detection.

## Distinguished lecture on human rights, assessment and outlook

Mr Jean-Paul Costa, former president of the European Court of Human Rights, delivered a lecture titled "The European Court of Human Rights, Assessment and Outlook" at CityU on 17 November 2011.

His lecture commenced with a short presentation of the European Court of Human Rights followed by an assessment of the Court's actions since its beginning and a general indication of the Court's outlook. The European Court of Human Rights was set up in 1959 and is now the most important Court in the world in the field of human rights.

Mr Costa is recently retired from the President of the European Court of Human Rights. His lecture attracted over 150 people which filled the Peter Ho Lecture Theatre to capacity. ●



Mr Jean-Paul Costa.



## Shenzhen Research Institute Orientation

Existing and prospective users of the CityU (Shenzhen) Research Institute Building (CityU SRIB) participated in an orientation programme held on 11 November 2011. Over 70 Hong Kong and mainland CityU staff members attended the orientation, among them senior administrators, researchers, and representatives from various Colleges and Schools. At the orientation, Professor Gregory Raupp, Vice-President (Research and Technology), Professor Xue Quan, Associate Vice-President (Innovation Advancement and China Office), and Mr Wong Hon-ye, Associate Vice-President (Knowledge Transfer) gave participants a quick overview of CityU Shenzhen Research Institute's (CityUSRI) mission and structure, research opportunities and grants available in mainland China, and the overall administration of the CityUSRI. The participants also visited various facilities at CityU SRIB which officially started operation in January 2011. ◆

## Honorary Doctorates conferred

CityU conferred honorary doctorates on four prominent individuals at the Honorary Awards Ceremony on 8 November 2011 in recognition of their significant achievements and contributions to the well-being of society.

The four outstanding persons were Dr Lien Chan, Honorary Chairman of the Kuomintang of China; Professor John Forbes Nash, Jr, 1994 Nobel Laureate in Economic Sciences; The Hon Jasper Tsang Yok-sing, President of the Legislative Council of the HKSAR, and Professor Xu Kuangdi, Honorary Chairman of the Chinese Academy of Engineering. ◆



(From left) Professor Way Kuo, The Hon Jasper Tsang Yok-sing, Dr Lien Chan, Dr Norman Leung Nai-pang, Professor Xu Kuangdi, Professor John Forbes Nash, Jr, Mr Raymond Or Ching-fai.

*Adapted from CityU NewsCentre*

## CityU's School of Law offers First JSD (Chinese Judges) Programme in China

CityU's School of Law has initiated the first Doctor of Juridical Science (Chinese judges) Programme in China in collaboration with the National Judges College and the Supreme People's Court of China from September 2011. A grand opening ceremony was held on 14 October 2011 at CityU to welcome the Chinese judges.

The 3-year JSD (Chinese judges) Programme is designed for 20 senior Chinese judges. The taught component is conducted at CityU and the National Judges College in Beijing. Completion of the required subjects and a doctoral thesis form the basis of the award after a successful oral defence. Adopting a comparative approach, the programme aims to equip the judges with solid knowledge in common law and international law and enhance their problem-analysing ability after a strict internationally standardised education. ◆



*Adapted from CityU NewsCentre*

## New Awards

Professor Andrew Lim Leong-chye, Professor of CityU's Department of Management Sciences, and his research team won the Most Innovative EPC/Rfid Products Gold Award and Guangdong-Hong Kong Rfid Award in the category of The Most Innovative Award for the project titled "Use-IT Easy: A Low Cost High Performance Mobile Rfid Platform". Let us congratulate Professor Lim and his team members for their achievements. ◆

## 2011 Taught Postgraduate Student Orientation

To introduce new taught postgraduate students to the CityU learning environment and the range of student support services offered by various units of the University, the Chow Yei Ching School of Graduate Studies (SGS) held a Taught Postgraduate Student Orientation on 27 August 2011. The event, which was attended by the Deans of the College/School, programme leaders and more than 700 students, received an enthusiastic response.

Professor Gregory Raupp, Vice-President (Research and Technology) and Dean of Graduate Studies, kicked off the programme by extending a warm welcome to the students on behalf of the University. Professor Hui Yer-van, Associate Dean of SGS, then gave a presentation highlighting a number of key issues related to taught postgraduate studies at CityU. Mrs Roslyn Li, Acting Director of Student Development Services (SDS), told students how they can benefit from the services offered by SDS, and Ms Chanel Yau, General Secretary of the CityU Postgraduate Association (CUPA), provided the audience with an introduction to her association. Lastly, Ms Pancy Lo of the Mainland and External Affairs Office (MEAO) presented non-local students with a tailor-made briefing.

In addition to these informative presentations, students also had an opportunity to mingle and meet the Deans and Programme Leaders during a tea reception. Representatives of CUPA, the CityU Library, MEAO, SDS and SGS also set up enquiry desks to provide additional information and assistance to students. ◆



Professor Raupp encourages new students to be more innovative and active in networking.

## Student Orientation at Shenzhen

On 8 September 2011, the Chow Yei Ching School of Graduate Studies (SGS) organised the 2011 Orientation Day for students under the joint collaboration scheme with mainland universities in Shenzhen at the CityU (Shenzhen) Research Institute Building. The orientation was attended by Professor Gregory Raupp, Vice-President (Research and Technology) and Dean of Graduate Studies; Professor Hui Yer-van, Associate Dean of SGS; CityU research supervisors and project team leaders, including Professor Wei Kwok-kee, Professor Lee Chin-chuan, Professor Pan Haihua and Professor Sun Dong, and more than 10 current and new students. A delegation of five representatives from Huazhong University of Science and Technology (HUST) also attended the orientation to welcome the first cohort of HUST students admitted to the joint PhD programme. Professor Raupp extended a warm welcome to the honorary guests from HUST and new students in the collaboration scheme. He stressed that joint collaboration schemes with mainland universities is one of CityU's strategic developments to provide research education and nurture research talents in mainland China. He also introduced an array of resources and opportunities available to students, such as the Peter Ho Conference Grant, which provides funding for students to attend overseas conferences. Dr Li Zhenbiao, Director of the Academic Office, Graduate School of HUST, said that the joint collaboration between CityU and HUST could capitalise on the research strengths of both universities.

Professor Pan Haihua, representing CityU research supervisors, encouraged students to be more proactive, curious and critical when undertaking research studies. He believed that the joint PhD programme will help broaden their academic exposure. Two current students in the collaboration schemes from Sun Yat-sen University and Wuhan University, Mr Hu Kun and Mr Tong Yan, were also invited to share their learning experiences. They indicated that CityU is a modern and advanced institution which provides students with a quality environment for research teaching and learning. ◆





# Outstanding Research Thesis Awards

**Name** : Ng Tsz Wai  
**Department:** Physics and Materials Science  
**Thesis title** : Studies of Organic Donor-Acceptor Interfaces and Their Importance in Organic Photovoltaic Cell  
**Supervisor** : Professor Lee Shuit-tong

“The honour of receiving this prestigious award is unimaginable. My research target is to study the interfacial electronic structures of organic photovoltaic devices and to investigate their importance in device performance. The findings of my work successfully shed light on the interfacial charge flow characteristics at the contact junction. This helps to gain a better understanding of the fundamental issues that influence solar cell performance, and can be used as a practical guide for device engineering in organic-based electronics in the future.

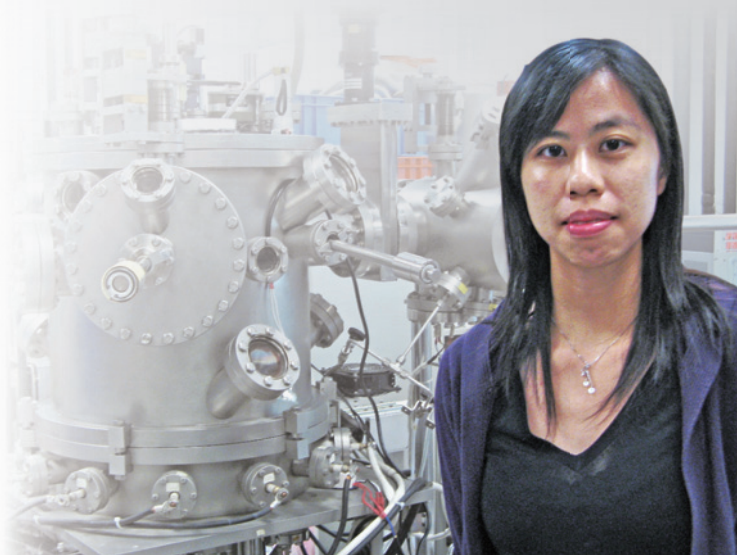
I would like to take this opportunity to express my deepest gratitude to my supervisor, Professor Lee Shuit-tong from the Department of Physics and Materials Science for his support and encouragement throughout my years of scientific research. It has been an honour to finish my graduate studies under his research team at the Centre of Super-Diamond and Advanced Films. My sincere gratitude also extends to Professor Lee Chun-sing and Professor Igor Bello for their intuitive comments and discussions. I would also like to acknowledge all my colleagues and friends for the friendships and the social environment they have formed during my studies, which made my study at CityU so rewarding and enjoyable. ”

**Name** : Wang Jin  
**Department:** Computer Science  
**Thesis title** : Design of Linear Network Coding for Secure Unicast against Passive Attacks  
**Supervisor** : Dr Wang Jianping

“My research focuses on the design of a linear network coding for secure data transmission in communications networks. I proposed algorithms that provide secure and effective data transmission using a linear network coding against different attack models. The research not only provides a theoretical basis for its design but also has important significance in practical secure network coding.

It is a great honour to receive this award. I express my deep gratitude to my supervisor, Dr Wang Jianping (City University of Hong Kong), and to Professor Gu Naijie (University of Science and Technology of China) for their patient guidance, constant support and continued encouragement during these years. Without their training and help, I could not have developed a solid background to carry out my research work and produce the research outcomes presented in this thesis. Their endless enthusiasm and deep insight on research influenced and will always influence me greatly.

I am also grateful to the USTC-CityU Joint Advanced Research Centre and the Department of Computer Science of CityU for their financial support, resources and inspirational environment for productive interaction and research. My current work is to develop a more general, efficient and effective approach to provide secure data communications with network coding. ”





## Orientation Ceremony at the USTC-CityU Joint Advanced Research Centre (Suzhou)

Professor Gregory Raupp, Vice-President (Research and Technology) and Dean of Graduate Studies, extended a warm welcome to students from the University of Science and Technology of China (USTC), who commenced their research studies under the joint PhD programme offered by USTC and CityU at the orientation ceremony held at the USTC-CityU Joint Advanced Research Centre (Suzhou) on 30 August 2011.

This year, a new study model was launched. Among 31 new students, 21 will commence their studies in Suzhou and will be able to make use of the sophisticated laboratory setting at the Suzhou Research Centre. The remaining 10 new students, under the non-laboratory-based project team, will continue their studies in USTC in Hefei and go to the Hong Kong main campus next year, and will thus have more direct contact with their supervisors stationed in Hefei and in Hong Kong.



Professor Raupp welcomes new students under the joint PhD programme offered by USTC and CityU in USTC-CityU Joint Advanced Research Centre (Suzhou).



Mr Lv Xianjin shares his study experience in Suzhou.

During the ceremony, Professor Raupp encouraged the new students to make new friends, study hard, develop social responsibilities and enhance their personal experience and professionalism. Afterwards, Mr Lv Xianjin, a student representative from the Department of Biology and Chemistry, shared his experience of living and studying in Suzhou. He also invited the new students to participate in the activities organised by the Student Association to establish life-long relationships with their classmates.

The ceremony was followed by a tea reception at which students and their supervisors mingled and discussed their study plan. ●

## Orientation for Research Degree Students 2011

On 4 November 2011, an orientation event was organised by the Chow Yei Ching School of Graduate Studies (SGS) to welcome and provide information to CityU's new research degree students on issues related to their studies.

Professor Gregory Raupp, Vice-President (Research and Technology) and Dean of Graduate Studies welcomed the new students and encouraged them to aim high, be humble and equip themselves well to accept new challenges. His welcome address was followed by a presentation from Professor Hui Yer-van, Associate Dean of SGS, introducing an overview of research studies at CityU.

The Outstanding Academic Performance Award (2010/11), the Outstanding Research Thesis Awards (2010/11) and the Chow Yei Ching School of Graduate Studies Entrance Scholarship (2011) were also presented at the Orientation, certificates and prize awards were conferred to students with outstanding academic performance. ●



An award recipient receives certificate from Professor Raupp (right).

## Dream, Discover and Innovate – the CUPA High Table Dinner

On 18 June 2011, CUPA organised a High Table Dinner at Top Deck at The Jumbo with the theme of “Dream, Discover and Innovate”. Guests at the event included the Hon Leung Chun-ying, then CityU Council Chairman; Professor Way Kuo, University President; Professor Arthur Ellis, Provost; Professor Gregory Raupp, Vice-President (Research and Technology); Professor Paul Lam Kwan-sing, Vice-President (Student Affairs); Dr Cheung Chor-yung, Dean of Students and Mr Joseph Chan, Director of Student Development Services. This event provided a good opportunity for CityU postgraduate students to interact with the distinguished guests, who shared their life experiences. Around 40 CUPA members joined the High Table Dinner, all participants enjoyed the delicious buffet, lucky draw, performance show and a relaxed environment. ◆



## Orientation Night 2011

Orientation Night 2011, one of CUPA's most exciting events, was held on 10 September 2011 at Multi-Function Hall B, Student Residence. The Orientation Night not only featured a delicious buffet, various entertaining shows and a lucky draw, but most importantly allowed new CUPA members to meet friends and familiarise themselves with CityU campus life. ◆

## “C9 League” Doctoral and Postgraduate Association Forum

The President and Secretary of CUPA attended the C9 Postgraduate Forum from 27 to 30 May 2011 organised by Zhejiang University. This was the first event staged by the C9 League, with representatives from more than twenty-five mainland universities in attendance. Postgraduate representatives from CityU, The Chinese University of Hong Kong and The University of Hong Kong were invited to attend the forum to exchange ideas on innovation and the role of postgraduate students. CUPA appreciates having gained this opportunity to build networks with the C9 League and foresees holding more events of this kind to connect with more universities in mainland China.

The C9 League is an association of nine Chinese universities, including Fudan University, the Harbin Institute of Technology, Nanjing University, Peking University, Shanghai Jiao Tong University, Tsinghua University, the University of Science and Technology of China, Xi'an Jiao Tong University and Zhejiang University. ◆



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### City University of Hong Kong

Tat Chee Avenue, Kowloon, Hong Kong  
Website: www.cityu.edu.hk