

建設與環境



THE HONG KONG  
POLYTECHNIC UNIVERSITY  
香港理工大學

FACULTY OF CONSTRUCTION AND ENVIRONMENT  
建設及環境學院

# CONSTRUCTION & ENVIRONMENT

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Opening Minds • Shaping the Future

啟迪思維 • 成就未來

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# Dean's Message

## 院長的話



### Dean's Message

It's hard to believe that a year has passed since I took over as Dean of the Faculty of Construction and Environment. I am pleased to note the first half of 2015 has been nothing short of productive for our Faculty. It has been a privilege to witness some major achievements made by our colleagues. Chief among

these are our success in climbing up a few notches in the Quacquarelli Symonds (QS) World University Rankings by subject and in securing two competitive grants for group research from the Collaborative Research Fund of the Hong Kong Research Grants Council. Both these accomplishments are immensely gratifying. The ranking of PolyU for the subjects of Architecture/ Built Environment as well as Civil and Structural Engineering in effect makes us the top-ranking institution for higher education in those fields. Our strengths as a Faculty are also reflected in the ability of our academics to attract substantial funding for collaborative research, which has the potential for long-lasting impact on our society.

### 院長的話

時光飛逝！不經不覺，接任建設及環境學院院長已有一年。回顧2015上半年，學院在各方面均成績斐然，使人欣慰。能以院長身份見證各位同事的出色表現，更使我深感榮耀。我們這半年來最重要的兩項成就，就是在QS世界大學分科排名榜的名次上升，並在眾多申請者中脫穎而出，獲香港研究資助局「協作研究金」計劃批出兩筆撥款。理大在「建築/建築環境」及「土木及結構工程」兩大學科的排名躍升，實質上確立了我們作為上述領域一流高等教育學院的地位；而本院學者有力就可能帶來深遠社會意義的協作研究爭取可觀經費，同樣彰顯了我們的優勢。

To consolidate our expertise in environmental science and engineering, the University Research Facility in Chemical and Environmental Analysis will be established soon. This will not only enhance our research capacity but also reinforce our bonds with industry, which has provided invaluable guidance to all our undertakings, most notably in the accreditation of our 4-year undergraduate curricula by the Hong Kong Institution of Engineers. Besides the recognition we get from industry, our status as a leading university is further enhanced by a series of international conferences that we organized and hosted in the past six months. These included the Second International Conference on Sustainable Urbanization and the ASCE Engineering Mechanics Institute International Conference, which you will certainly read more about in this issue.

As you can see, the “software and hardware” that constitutes our Faculty is constantly improving. Looking ahead, we plan to facilitate more collaborative research and recruit more academic talents to our ranks. A series of forums for different levels of academic staff has already been held to explore possibilities for future collaboration. I am confident that frequent and open communication across the four departments of the Faculty will engender a culture of research excellence that will become a hallmark for us for many years to come.

Thank you for all your hard work.

**Prof. You-Lin Xu**  
**Dean of Faculty of Construction and Environment**  
**The Hong Kong Polytechnic University**

為加強和整固在環境科學及工程領域的實力，大學將成立化學及環境分析中心實驗室。此舉不僅會提升學院的科研能力，亦可鞏固與業界的連繫。長久以來，業界對本院所有工作和活動均大力支持，又提供寶貴意見；當中最突出的例子，莫過於我們的四年制學士學位課程內容獲香港工程師學會認可。此外，最近半年籌備或主辦的一系列國際會議，亦進一步確立我們身居一流大學的地位。這些重要會議包括第二屆可持續城市化國際會議，以及ASCE美國工程力學學會國際會議。今期院刊將為大家詳細報導。

由此可見，本院的「軟件和硬件」皆不斷進步。展望將來，我們計劃加強科研協作，並羅致更多學術專才；為了達致目標，一系列聚集不同級別教研人員探討日後協作機會的論壇已陸續舉行。我深信透過緊密和坦誠的溝通，四大學系必然可建立追求卓越的科研文化，指引我們未來應走的方向。

謹此感謝各位同事的努力。

**徐幼麟教授**  
**建設及環境學院院長**  
**香港理工大學**



研究薈萃

# Research Activities

## FCE Academics' Research Supported by RGC Collaborative Research Fund Scheme 2014/15

The Faculty of Construction and Environment is pleased that two of its leading academics have recently been approved for funding from RGC's Collaborative Research Fund Scheme 2014/15.

Ir Professor Cheuk-ming MAK of the Department of Building Services Engineering (BSE) was awarded a funding of HK\$4,368,468 for the development of design methodologies for the improvement of wind and thermal comfort in the urban environment. Led by Prof. Mak, the group project is for 36 months. Co-Principal Investigators (Co-PIs) are Prof. Jian-lei NIU, Associate Head of BSE; Prof. Kenny KWOK of the Institute for Infrastructure Engineering at the University of Western Sydney; Dr John Zhang LIN, Associate Prof. in the Division of Building Science and Technology at the City University of Hong Kong; Dr Kam-Tim TSE of the Department of Civil and Environmental Engineering at the Hong Kong University of Science and Technology; Prof. Bosin TANG of the Department of Urban Planning and Design at the University of Hong Kong; and Dr Tsz Cheung LEE of the Hong Kong Observatory.

Prof. Tao WANG of the Department of Civil and Environmental Engineering (CEE) received \$4,925,180 for his proposal entitled "Heterogeneous Chemistry of Atmospheric Reactive Nitrogen Oxides: An Integrative Programme for Cutting-edge Science." Co-PIs for this 3-year project are Dr George Christian of IRCELYON/CNRS; Dr Hai GUO, Associate Prof. of CEE; Dr Kin-fai HO, Research Assistant Prof. of the Jockey Club School of Public Health and Primary Care of the Chinese University of Hong Kong; Prof. Alexis Kai Hon LAU of the Department of Civil and Environmental Engineering at the Hong Kong University of Science and Technology; Prof. Shuncheng LEE of PolyU's CEE; Dr Peter LOUIE of the Hong Kong Environmental Protection Department; and Dr Zhe WANG, Research Assistant Prof. of CEE.

## 本院學者科研項目獲研資局 2014/15 年度協作研究金計劃資助

本院兩位頂尖學者最近同時獲香港研究資助局 2014/15 年度協作研究金計劃資助。

屋宇設備工程學系的麥卓明教授工程師獲撥款四百三十六萬八千四百六十八港元，進行一項有關於城市小區風環境和熱舒適的設計方法研究。項目預計歷時三年，除麥教授外，其他首席研究員還包括該系副主任牛建磊教授、西悉尼大學建設工程學院的郭中秀教授、香港城市大學建築科技學部副教授林章博士、香港科技大學土木及環境工程學系的謝錦添博士、香港大學城市規劃及設計系的鄧寶善教授，以及香港天文台的李子祥博士。

土木及環境工程學系的王韜教授是另一位獲資助的學者。其研究名為「大氣活性氮氧化物的多相化學：尖端科學綜合計劃」，同樣為期三年，獲研資局撥款四百九十二萬五千一百八十港元。與王教授聯袂擔任首席研究員的學者，包括法國IRCELYON/CNRS研究所的George CHRISTIAN博士、香港中文大學賽馬會公共衛生及基層醫療學院的何建輝教授、香港科技大學土木及環境工程學系的劉啟漢教授、香港特區政府環境保護署的雷國強博士，以及土木及環境工程學系的副教授郭海博士、李順誠教授和助理教授(研究)王哲博士。



## First In-building Hydro Power System Developed in Collaboration with Industry

Prof. Hongxing Yang of the Department of Building Services Engineering has developed the first ever in-building hydro power system in collaboration with Sino Group and Arup. His research to generate electricity from water pipelines makes use of a novel vertical-axis turbine. Installed at Olympian City 2, the prototype is the second phase of research and the generator has an output of 100W, representing a six-fold leap from the first phase. The resulting power system will provide a green and cost-effective approach to generate electricity, which can then be used to power the lighting system of a typical lift lobby. Assuming there are 15 LED lights in a typical lift lobby, each with a consumption of 6.5W, this can translate into a saving of more than HK\$1,200 per year for one floor. About 700 kg of carbon dioxide emission can be saved each year, which is equivalent to about 30 trees. Clearly, the environmental benefits of an in-building hydro power system are far-reaching.

## 產學合作成功開發首套大廈水力發電系統



屋宇設備工程學系的楊洪興教授利用新式的垂直軸渦輪機，聯同信和集團及奧雅納工程顧問公司成功研發出全球首套利用城市建築內供水管道剩餘水頭發電的大廈水力發電系統。這套系統現時裝設在奧海城二期用於資料獲取試驗，屬於系統的第二代，額定產電兩為一百瓦時。水力發電系統具備環保和低成本的好處，產生的電力足以應付一般升降機大堂照明系統的需要。假設大堂內用上了十五個發光二極管(LED) 燈泡，每個耗電量為6.5瓦，每層樓每年便可節省超過一千二百港元電費，並減少排放約七百公斤二氧化碳，約相等於種植三十棵樹的效果。由此可見，大廈水力發電系統可帶來長遠的環保效益。

## CEE Scholars Engaged in Collaborative Research with Sinopec

On 18 December 2014, a ceremony to mark the collaboration in a research project between Sinopec and two scholars of the Department of Civil and Environmental Engineering, Dr Shao-Yuan (Ben) Leu and Dr Shu-Chien (Mark) Hsu, was held. As one of the largest integrated energy and chemical companies in China, Sinopec is committed to sustainable development as part of its corporate social responsibility and is sponsoring the research with HK\$1.25 million in funding. The goal of this project is to develop innovative techniques to convert lignocellulosic biomass (i.e., timber wastes or recycled woody/herbal materials) into biofuels and other value-added products. It is expected that the research outcomes will benefit society by promoting sustainable fuels for environmental protection and encouraging scientific development.

## 土木及環境工程學系學者與業界攜手研發新能源技術

中石化化工銷售(香港)有限公司近日撥出一百二十五萬港元，資助土木及環境工程學系的呂紹元博士及徐書謙博士進行一項有關生物質能源的研究；雙方於2014年十二月十八日出席了為此舉行的合作儀式，標誌項目正式啟動。中石化是中國規模最大的綜合能源及化工企業之一，一向致力推動可持續發展，履行企業的社會責任。今次的研究目標在於開發嶄新技術，將木質纖維素(如廢棄木材或回收木/草本廢棄物等)轉化為生物能源及其他有價副產品；研究成果除可促進科研發展，相信亦有助推動社會使用可持續能源，保護環境。



## Anti-Heat Stress Construction Uniform Adopted by Industry

In a press conference cum signing ceremony on 1 April 2015, Prof. Albert Chan, Head of the Department of Building and Real Estate, introduced the anti-heat stress construction uniform developed by his research team to the local media and the Construction Industry Council (CIC), which will promote its adoption by industry during its Construction Safety Week at the end of May 2015. A product of three years of research, the uniform which includes a T-shirt and trousers is made from a new generation of moisture-absorbent textiles that contain nano-materials. According to Prof. Chan, his team of researchers conducted on-site trial tests of the uniform in July and August 2014 with 184 construction workers, 87% of whom agreed that wearing the uniform made them feel cooler and drier. Previous testing conducted in a laboratory between February and May 2014 revealed an effective reduction of participants' physiological strain by 16.7% and body heat storage by 28.8%.

The technology of the anti-heat stress uniform has now been licensed to the Construction Industry Council, which will authorize other manufacturers to produce the uniform according to PolyU's specifications. To ensure standards are met, its quality during the manufacturing process will be monitored by PolyU's Institute of Textiles and Clothing. Witnesses to the signing ceremony included Prof. Jan-Ming Ko, Interim Vice President (Campus Development and Facilities) of PolyU and Mr Hau-wai Cheung, Chairman of the Committee on Construction Safety of the CIC.

## 建築及房地產學系研發的抗熱服獲建造業採用

在2015年四月一日的記者招待會暨簽約儀式上，建築及房地產學系系主任陳炳泉教授向媒體介紹了其團隊研發的建造業工人抗熱服。香港建造業議會於今年五月底舉行的「建造業安全周」中，正式向業界推廣這項新發明。此套抗熱服包括一件有領汗衫及一條長褲，採用新一代「吸濕排汗」的納米物料而製，歷時三年研發而成。陳教授表示，其研究團隊於2014年七月至八月在建築地盤對一百八十四名工人進行了試穿測試，其中87%的工人認為抗熱服使他們較為涼快和乾爽；早前於2014年二月至五月對抗熱服進行了實驗室測試，發現抗熱服能有效降低人體生理熱應力指數16.7%，減少身體儲熱28.8%。

理大已與建造業議會簽訂協議，將上述技術的使用權授予議會，議會將授權其他生產商根據理大的標準製造抗熱服。為確保產品品質，生產過程將由理大紡織及製衣學系監督。理大暫任副校長(校園發展及設施管理)高贊明教授、建造業議會建造安全專責委員會主席張孝威先生出席了此項簽約儀式。



## LSGI Scientists Shine Spotlight on a Long Neglected GPS Anomaly

A recent paper in *GPS Solutions*, a top journal dedicated to research on Global Navigation Satellite Systems (GNSS), has revealed a two-decade-long anomaly associated with the GPS satellites broadcast ionospheric model. Dr George Liu of the Department of Land Surveying and Geo-Informatics (LSGI) and his PhD student, Miss Zhe Yang, coauthored the paper and analyzed all the GPS data collected from 1992 to 2013 by the International GNSS Service, the agency with the most complete GNSS archival data. They found that GPS devices manufactured by different companies and sometimes even the same company outputted different sets of satellite coefficients to their users. Apparently, there is a serious deviation from the intended performance of the GPS system. These satellite coefficients are meant to correct the largest error in GPS, the so-called ionospheric range delay error, which is a retardation of GPS satellite signals when they propagate through the ionosphere 60 to 2000 km above the Earth's surface. The anomaly in the satellite coefficients could have an impact of over 50 meters on GPS positioning accuracy.

The identification of this anomaly will help GPS manufacturers to build more reliable devices for more accurate GPS positioning, navigation, and timing. Meanwhile, GPS users are reminded to use GPS data with discretion.

## 土地測量及地理資訊學系科研人員指出長期被忽視的GPS異常現象



專門報導全球衛星導航系統 (GNSS) 科研進展的業內頂級刊物《GPS 方案》最近刊載了一篇論文，揭露一項長達二十年、關係到全球定位系統 (GPS) 衛星廣播電離層模型的異常現象。論文作者是土地測量及地理資訊學系的劉志趙博士及其博士生楊哲小姐，文中分析了「國際 GNSS 服務聯盟」(擁有最完整 GPS 檔案數據的機構) 在 1992 至 2013 年間收集的所有

GPS 數據，發現由不同公司、有時甚至是同一公司生產的 GPS 設備顯示的衛星系數均有所出入，與 GPS 系統的預想表現有明顯差距。這些衛星系數本來是用作修正 GPS 的最大誤差「電離層延遲誤差」，亦即 GPS 衛星訊號穿越地球表面六十至二千里上空電離層時所出現的距離延遲。衛星系數出現異常，對 GPS 定位精確度的影響可超過五十公尺。

上述發現不僅有助生產商製造更可靠的 GPS 設備，提升 GPS 定位、導航及授時的精確度，也提醒 GPS 使用者使用有關數據時必須酌情判斷。



## CEE Scholar Leads Research Project Funded by KAIA

An international greening project involving two universities in Korea, Kongju National University (KNU) and Dongguk University (DGU), as well as PolyU has received funding support of HK\$1.11 million from the Korea Agency for Infrastructure Technology Advancement (KAIA). Led by Dr Shao-Yuan (Ben) Leu of the Department of Civil and Environmental Engineering, the project is entitled "Planting Techniques for Enhancing CO2 Absorption for Urban Rain Gardens." The aim of the mutually beneficial study is to increase understanding of the relationship between carbon sequestration potential and different plant species in Seoul and Hong Kong, which are both highly populated and have been facing similar challenges in urban planning and development, i.e., lack of vegetation and high carbon emission per capita. While sharing similar social and economic backgrounds, the two large cities differ in their geographical locations and the amount/ type of vegetation. Compositions of some plant species from the two cities could also be different, but other species may share the same characteristics in carbon sequestration. It is thus of great research value to establish a comprehensive database to support the development of new stormwater control systems. With the experience and research tools developed in this study, it is hoped that a more systematic picture can be created to support the development of similar facilities.

## 土木及環境工程學系學者的科研項目獲韓國國土交通科學技術振興院資助



由韓國國立公州大學校(KNU)及東國大學校(DGU)與理大攜手進行的一項國際性綠化研究，已獲韓國國土交通科學技術振興院(KAIA)撥款一百一十一萬港元。這項惠及港、韓兩地的計劃由土木及環境工程學系的呂紹元博士領導，名為「提高城市雨水花園碳吸存能力的種植技術研究」，旨在加深了解首爾及香港各類植物與其碳吸存潛力的關係。此二城市人煙稠密，植被不足，人均碳排放量皆處於高位，在城市規劃和發展時面對的挑戰甚為相似。儘管社會與經濟背景接近，但兩個城市的地理位置和植被數量/種類卻大不相同；另外，兩地部分植物物種的構成不同，但不同物種或會具備同樣的吸碳特性，極具研究價值。如能建立資料全面的數據庫，便可支援開發新式的暴雨雨水控制系統，而今次所得的經驗和研發的研究工具，相信會增進我們對情況的了解，有助研發類似設施。

## BSE Scholar's Research Supported by PPR Funding

A feasibility study of implementing indoor air quality index in Hong Kong is the only project from PolyU that has recently received funding support of HK\$365,700 from the government's Public Policy Research (PPR) Scheme. Led by Ir Dr Horace Mui of the Department of Building Services Engineering, the project will last 24 months.

## 屋宇設備工程學系學者獲「公共政策研究資助計劃」資助



屋宇設備工程學系一項為期兩年的研究，獲特區政府「公共政策研究資助計劃」撥款三十六萬五千七百港元，成為理大最近唯一入選該資助計劃的項目。該研究由梅國威博士工程師領導，旨在探討在香港推行室內空氣質素指標的可行性。

## BSE Scholar's Research Supported by Environment and Conservation Fund (ECF)

Ir Professor Cheuk-ming MAK of the Department of Building Services Engineering has recently received funding support of HK\$441,240 from the Environment and Conservation Fund (ECF) for his research project. Entitled "Envelope design to improve ventilation performance of residential buildings in dense urban environments," the project is expected to last for 24 months. This is the third time that Prof. Mak has received funding support from ECF.

## 屋宇設備工程學系學者科研項目獲環境及自然保育基金資助



屋宇設備工程學系的麥卓明教授工程師，最近獲環境及自然保育基金撥款四十四萬一千二百四十港元，進行一項名為「密集住宅樓宇中提高室內通風之圍護結構設計」的研究。該項目預計需時兩年。這是麥教授第三度獲上述基金資助，實在可喜可賀！

## Funding for Project of Strategic Importance

A multi-disciplinary project of strategic importance on the dynamic characterization of a smart city has recently been approved for funding support by the University. Led by Prof. Wenzhong Shi, Head of the Department of Land Surveying and Geo-Informatics, the 3-year project will cost more than 4 million HKD, and has 12 members in its research team, including Prof. Xiaoli Ding, Prof. Mei-Po Kwan, Prof. Wu Chen, Dr Lilian Pun, Dr Bo Wu, Dr George Liu, Dr Wallace Lai, Dr Charles Wong, as well as professors from other departments and local universities. As one of the initiatives of the Funding Scheme for Projects of Strategic Importance, the project is jointly funded by the University, the Faculty of Construction and Environment, the Department of Land Surveying and Geo-Informatics, and the Department of Computing.

The project has the following objectives: 1) observe, monitor, and simulate dynamics for a smart city; 2) analyze urban dynamics spatio-temporally; 3) develop solutions for smart city applications. Research findings from this project will be of interest to government departments such as the Planning Department, the Environmental Protection Department, and the Lands Department, as well as inform proposals for other research funding.

## 智慧城市動態特性研究獲「重點研究項目資助計劃」支持

一項由土地測量及地理資訊學系系主任史文中教授領導、關於智慧城市動態特性的跨學科重點研究計劃，最近喜獲理大「重點研究項目資助計劃」批出撥款。研究團隊共有十二位成員，包括丁曉利教授、關美寶教授、陳武教授、潘鄭淑貞博士、吳波博士、劉志趙博士、賴緯樂博士、黃文聲博士，以及來自理大其他學系及本地大學的學者。項目預計歷時三年，耗資超過四百萬港元，將由理大、建設及環境學院、土地測量及地理資訊學系，以及電子計算學系共同資助。

這個項目已定下三項目標：1)觀察、監測及模擬智慧城市的各種動態特徵；2)運用時空分析城市動態；3)研發可應用於智慧城市的解決方案。有關研究結果除會引起規劃署、環境保護署、地政總署等政府部門的興趣，亦會有利相關其他研究資金提案之申請。

## ITF Funding for Projects led by FCE Academics

The Innovation and Technology Fund (ITF) has recently supported the following projects that are led by academics of the Faculty of Construction and Environment:

## 創新及科技基金資助由本院學者領導的科研項目

創新及科技基金最近核准向以下由本院學者領導的科研項目批出資助：

| Project Title 項目名稱  | Project Leader 項目領導人               | Funding Amount 資助額                        |
|---|------------------------------------|---|
| Development of a Hong Kong Indoor Positioning Infrastructure based on GPS Technologies<br>基於GPS技術的香港室內定位基礎設施的研發                               | Prof. Xiao-li DING (LSGI)<br>丁曉利教授 | HK\$5,063,290                             |
| Location-based Technologies for Asset Tracking and Risk Management<br>基於定位技術的資產追蹤及風險管理  | Prof. Heng LI (BRE)<br>李恆教授        | HK\$8,659,385 (including support in kind) |
| Location-based Technologies for Asset Tracking and Risk Management<br>基於定位技術的資產追蹤及風險管理  | Prof. Heng LI (BRE)<br>李恆教授        | HK\$4,909,500                             |
| Development of Novel High Dispersed Transparent Heat Insulation Paints for Glass<br>新型玻璃幕牆用高分散透明隔熱塗料的研發                                       | Dr Lin LU (BSE)<br>呂琳博士            | HK\$3,953,700                             |
| Development of Rail Crack Monitoring System Using Fibre Optic Based Ultrasonic Guided Wave Detection Technology<br>基於光纖超聲導波檢測技術的火車鐵軌裂紋監測系統的研發 | Prof. Yi-qing NI (CEE)<br>倪一清教授    | HK\$1,399,895                             |

## Research of LSGI Scholar Mitigates Urban Heat Islands

Urban environmental quality is never far from the mind of Dr Charles Wong of the Department of Land Surveying and Geo-Informatics, who has long addressed the effects of urban heat islands (UHI) and how to mitigate them. Densely populated areas with high rises form UHI, which have major impacts on the wellbeing of urban dwellers. Not only do they exacerbate heat waves, they also increase the risks of heat stroke and heat exhaustion. He advocates the importance of reducing UHI by vegetation cover, using building materials with high thermal emittance, and better town planning based on data from remote sensing technologies and geographic information systems (GIS).

Since temperature is affected by wind direction and speed, it could be kept down by means of ventilation pathways, which can now be derived using data from GIS. He elaborates on the Frontal Area Index, which measures how a building blocks off the wind, and ventilation corridors. According to him, "Ventilation can be maintained and UHI mitigated by simply altering the locations of buildings or even their orientation."

Dr Wong and his team have also been developing a portable device to monitor the environment. He envisions a smart city for the future where everyone can contribute to the real-time report of various environmental attributes from anywhere in Hong Kong.

## 土地測量及地理資訊學系學者研究成果紓緩城市熱島效應

土地測量及地理資訊學系的黃文聲博士非常關注市區環境質素，長期致力研究紓緩城市熱島效應的方法。人煙稠密，加上高樓大廈林立，導致城市熱島現象，對居民健康構成莫大威脅，加劇熱浪之餘，還會提高中暑和熱衰竭的風險。因此，黃博士積極傳遞減輕城市熱島效應的重要性，提倡綠化，使用釋熱功能良好的建材，利用遙感技術及地理信息系統所採集的數據，更有效地進行城市規劃。

溫度受風速和風向影響，若能開闊通風路徑，便可降溫，而辨識通風路徑所需的數據，現時已可利用地理信息系統收集。黃博士闡述了「迎風面積指數」的概念（衡量建築物阻擋風吹過的指標），以及怎樣利用指數推斷通風走廊的走向。他說：「只要改變建築物的位置或座向，已可保持通風，減輕熱島效應。」

黃博士及其團隊還研發出嶄新的便攜式環境監測器。他預期無論身處何方，未來大家都可以實時監測及發佈所在當區的環境數據，從而達致「智慧城市」的實現。

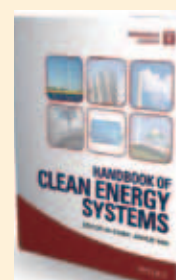


## New Publications by BSE Scholars

The work of Prof. Hongxing Yang, Dr Lin Lu and their colleagues from the Renewable Energy Research Group of the Research Institute for Sustainable Urban Development and the Department of Building Services Engineering is featured in two recently published books. The books in Chinese present their research on hybrid solar-wind power generation for applications in remote areas. As the editor of a volume of *The Handbook of Clean Energy Systems*, Prof. Yang has consolidated a wealth of information from this interdisciplinary field in a single reference work. *The Handbook* provides a timely comprehensive overview of the latest developments and practical applications in clean energy research across six themed volumes.

## 屋宇設備工程學系學者的新書面世

楊洪興教授、呂琳博士，以及可持續城市發展研究院轄下「可再生能源研究小組」和屋宇設備工程學系學者的研究成果，獲收錄在最近出版的兩本新書。以中文撰寫的一本著作，講述了他們在太陽能及風能互補發電技術方面的研究及應用成果。另一本英文新書則名為《清潔能源系統手冊》，全套六冊，全面檢視了清潔能源的最新發展及應用。身為其中一冊的編輯之一，楊洪興教授整合了這門跨學科研究的大量資訊，使讀者一目了然。







## BRE Academic Led CIOB Safety Seminar

On 13 January 2015, Prof. Albert Chan of the Department of Building and Real Estate gave a seminar on the safety management of ethnic minority (EM) workers in the Hong Kong construction industry. Organized by the Health and Safety Advisory sub-group of the Chartered Institute of Building (CIOB), the seminar attracted around 50 delegates from the construction industry and academia. Prof. Chan shared his research findings of 23 semi-structured interviews with construction safety professionals, highlighting the safety management problems faced by ethnic minority construction workers and measures for improvements. Those in attendance had a chance to rank the relative degree of problems and effectiveness of measures to improve the safety performance of EM workers. At the end of the seminar, Mr Lam Wai Choi, Vice President of CIOB Hong Kong Chapter, facilitated the Q&A session.

## 建築及房地產學系學者擔任英國特許建造學會工地安全研討會主講

2015年一月十三日，建築及房地產學系的陳炳泉教授應英國特許建造學會（香港）屬下的健康及安全諮詢小組邀請，為對方主辦的研討會擔任主講，闡釋香港建造業少數族裔工人的安全管理事宜，參與的業界及學術界代表接近五十位。陳教授曾與建造業負責工地安全的專業人員進行了二十三個「半結構式」訪談。他在會上分享了當中的發現，並重點講述少數族裔工人面對的安全管理問題及改善措施。另外，出席者還有機會把各類問題及改善少數族裔工人安全表現的措施，分別按其嚴重性及效果評級；研討會的最後一個項目，就是由該會副主席藍偉才先生主持答問環節。



## BSE Academics Led Seminars on Green Building Design

Prof. Cheuk-ming Mak and Dr Hiu-dan Cheung from the Department of Building Services Engineering as well as their PhD student, Mr Peng Xue, presented two seminars on 12 August 2014 and 7 January 2015 on the design of green features of buildings. Supported by the Environment and Conservation Fund, the seminars explored residents' luminous comfort in residential buildings and provided a benchmark of when to use green features respectively. Attracting over a hundred students and professionals from the construction industry each time, the seminars promoted a deeper understanding of sustainable daylighting design in buildings.

## 屋宇設備工程學系學者主持綠色建築設計研討會

屋宇設備工程學系的麥卓明教授、張曉丹博士及由兩人共同指導的博士生薛鵬先生，分別於2014年八月十二日及2015年一月七日主持了兩個研討會，講述建築物的環保設計。兩次活動均獲環境及自然保育基金資助，前者探討住宅大廈居民對光照舒適度的要求，後者則就何時使用綠色設計提供基準，每次均吸引逾百名學生及建造業專業人士出席。與會者可藉此加深對樓宇可持續採光設計的認識。

# Awards & Achievements

優秀學者 成績斐然

## QS World University Rankings

In the latest Quacquarelli Symonds (QS) World University Rankings by subject, PolyU ranked 12th for the subject area of Architecture/ Built Environment. In Hong Kong alone, PolyU is in the lead in this field of study. For the subject area of Civil and Structural Engineering, PolyU ranked 11th globally, and 2nd locally. These two subject areas cover most of the disciplines offered by Faculty of Construction and Environment (FCE).

The annual QS World University Rankings by subject is a comprehensive guide to the world's top universities in a range of subject areas. Using data on reputation and research citations, the rankings list the top 200 universities in the world for 36 individual subjects.

## QS 世界大學排名榜

在最新公佈的QS世界大學排名榜上，理大在「建築/建築環境」學科全球排名第十二位，於香港則高踞榜首；「土木及結構工程學」方面，理大在全球及本地亦分別位居第十一及第二。這兩大領域所包含的專科，大部分均屬建設及環境學院的學術範疇。

QS世界大學分科排名榜每年公佈一次。它涵蓋三十六門獨立學科，按校譽及研究論文獲引述的數據，定出全球首二百強大學的名次，全面反映了世界一流學府在不同學科的表現。



## CEE Scholar Elected to RSE

Prof. Teng Jin-guang, Chair Professor of Structural Engineering in the Department of Civil and Environmental Engineering and Director of the Research Institute for Sustainable Urban Development, has recently been elected a Corresponding Fellow of the Royal Society of Edinburgh (RSE), Scotland's national academy of science and letters. Corresponding Fellows of the Society are persons who are not normally resident in the UK and have attained high international standing. Prof. Teng was elected a Corresponding Fellow in recognition of his pioneering and outstanding research in the areas of Structural Use of Fibre-Reinforced Polymer Composites and Thin-walled Structures.

The Royal Society of Edinburgh, established in 1783, elects Fellows from a wide range of disciplines: science & technology, arts, humanities, social science, business and public service. It currently has around 1600 Fellows, including around 120 Fellows in the field of engineering. It has 70 Honorary Fellows and 73 Corresponding Fellows.

## 結構工程專家獲頒院士榮銜



最近，結構工程講座教授兼可持續城市發展研究院院長滕錦光教授當選愛丁堡皇家學會(蘇格蘭的國家科學與文學院)通訊院士。通訊院士是授予居住在英國以外而享譽國際的傑出人士。滕教授因其在纖維增強複合材料結構工程應用及薄壁結構領域的傑出研究工作而獲此殊榮。

愛丁堡皇家學會創立於1783年，其院士來自科學與技術、藝術、人文學、社會科學、商業管理及公共服務等領域。學會目前約有一千六百位院士，七十位是榮譽院士，七十三位是通訊院士，工程學科的院士約有一百二十位。

## Awards for FCE Scholars

At the President's Awards Presentation Ceremony on 25 March 2015, three scholars from PolyU's Faculty of Construction and Environment (FCE) were honoured for their outstanding achievements in 2013/14. Ir Prof. Jin-Guang Teng of the Department of Civil and Environmental Engineering (CEE), who also serves as the Director of the Research Institute for Sustainable Urban Development, received the only President's Award for Excellent Achievement in Research and Scholarly Activities among the individual awards, the highest accolade for academic staff in research performance, while his colleague from the same department, Prof. Xiangdong Li, received a Faculty Award in the same category. A Faculty Award for Outstanding Performance in Teaching was given to Dr Hiu-dan Cheung of the Department of Building Services Engineering. The name of Prof. Jin-Guang Teng has been engraved on a plaque for display on campus for a period of one year.

## 建設及環境學院學者獲獎

在2015年三月二十五日舉行的「校長特設卓越表現/成就獎」頒獎禮上，本院三位同事憑其在2013/14年度的突出成就獲嘉許。來自土木及環境工程學系、現任可持續城市發展研究院院長的滕錦光教授工程師，是唯一一位學者取得「校長特設卓越表現/成就獎—研究及學術活動」個人獎，亦即表彰教學人員科研成就的最高榮譽。同系的李向東教授，亦在同一範疇獲學院頒發「卓越表現/成就獎—研究及學術活動」。另一位獲學院表揚的學者是張曉丹博士。她來自屋宇設備工程學系，憑優秀的教學表現而得獎。滕教授的名字已刻入牌匾，掛於理大校園，為期一年，以表揚其傑出成就。



Dr Cheung (in middle) receiving her award



Prof. Teng (second from right) receiving his award



## Outstanding Professional Services Awards 2014

A ceremony for the Outstanding Professional Services Awards 2014 was held on 6 March 2015. Organized by PolyU's Technology and Consultancy (PTeC) Co. Ltd., the awards honour departments and staff in consultancy and licensing activities. The winner of the Maximum Staff Participation Award was the Department of Land Surveying and Geo-Informatics. A Merit Award in this category was given to the Department of Civil and Environmental Engineering, which also received a Merit Award for being the most active department in aggregating the second highest invoiced value (HK\$19,449,000) during the financial year for consultancy projects undertaken via PTeC. The Most Active Consultant Award went to Prof. Shengwei Wang of the Department of Building Services Engineering, while a Merit Award for the Highest International Consultancy was given to Dr Yung Ming Cheng of the Department of Civil and Environmental Engineering.

## 傑出專業服務獎 2014

理大科技及顧問有限公司於2015年三月六日舉行「2014傑出專業服務獎」頒獎典禮，嘉許在提供顧問及技術授權服務方面有卓越表現的學系與同事。本院除有土地測量及地理資訊學系勇奪「最高參與率獎」，土木及環境工程學系亦在這個組別榮獲優異獎。在透過理大科技及顧問有限公司承接顧問項目方面，該系亦以一千九百四十四萬九千港元的第二高全年累計合約總值摘下最活躍學系優異獎。至於個人獎項，本院今屆有兩位學者傳來喜訊，分別是贏得「最活躍顧問獎」的屋宇設備工程學系王盛衛教授，以及取得「國際顧問服務」優異獎的土木及環境工程學系鄭裕明博士。



Dr Cheng (right) receiving his award



Prof. Shi (right) receiving an award on behalf of LSGI Department



Prof. Chung (right) receiving two awards on behalf of CEE Department



Prof. Wang (right) receiving his award

## BSE Scholar Appointed Co-Editor-in-Chief of Prestigious Journal

Professor Jianlei NIU, Associate Head of the Department of Building Services Engineering, has been appointed to serve as co-Editor-in-Chief of *Energy and Buildings (E&B)* from 1 January 2015. Launched in 1978, *E&B* is an international journal devoted to publishing research results in energy use and efficiency in buildings. In the Thomson and Reuters JCR database, it is ranked 5/58 in the subject category of construction and building technology and 5/119 in the subject category of civil engineering. Seminal works by the late Professor FANGER in the 1980s were originally published in the journal, including studies of air turbulence and sensation of draught, identification of indoor air pollution sources in offices and public buildings and comfort limits for asymmetric thermal radiation. The other co-Editor-in-Chief is Professor Mat SANTAMOURIS, Professor of Energy Physics at the University of Athens in Greece.

For more information on the journal, please refer to the website:  
<http://www.journals.elsevier.com/energy-and-buildings>.

## 屋宇設備工程學系學者出任著名期刊聯席主編



屋宇設備工程學系副系主任牛建磊教授最近獲國際期刊《能源與建築》委任為聯席主編，2015年一月一日起生效。該刊創辦於1978年，專門發表有關建築物使用能源情況及效益的研究結果，在「湯森路透期刊引證報告」數據庫內，分別於「建設及建築科技」及「土木工程」分類中排名5/58及5/119。已故FANGER教授在上世紀八十年代的開創性研究結果，最先就是於該刊刊登，當中包括空氣湍流及吹風感的研究、辦公室及公眾建築物內空氣污染源頭的辨識，以及不對稱熱幅射的舒適溫度極限。該刊另一位主編是希臘雅典大學能源物理學教授Mat SANTAMOURIS教授。

查閱該刊的進一步資料，可瀏覽<http://www.journals.elsevier.com/energy-and-buildings>。

## Research of LSGI Scholar Noted for its Quality

A global indicator of high-quality research, Nature Index, has referred to the work of Dr Bo Wu of the Department of Land Surveying and Geo-Informatics in a recent analysis of the research produced by the universities in Hong Kong. His landmark paper on lunar topographic models in *Earth Planetary Science Letters* was one of five articles published in the field of geo-sciences that accounted for 9% of the weighted fractional count (WFC) for PolyU, whose output focused mostly on geo-sciences in 2013. The WFC is a weighted measure of author contributions to articles for an institution, a city, or a country. PolyU was also noted for having the highest rate of collaboration by Nature Index.

Dr Bo Wu has been working on lunar topographic mapping and analysis for several years. He developed innovative lunar mapping techniques and contributed to the Chinese Chang'E-3 lunar exploration mission by providing precision lunar topographic models for the selection of the landing site. From 2013 to 2014, Dr Bo Wu published three articles in *Earth Planetary Science Letters*, a prestigious international journal in geosciences and a core journal in the Nature Index database.

## 土地測量及地理資訊學系學者研究質素備受肯定



《自然指數》有關本地大學科研水平的最新分析中，提到了由土地測量及地理資訊學系吳波博士所發表的論文。該指數是全球公認的優質科研指標，在自然指數的統計中，理大在2013年的論文在地學領域表現卓越，而吳博士在《地球與行星科學》期刊就月球地形模型發表的重要論文，就是佔理大加權「分數式計量值」(WFC) 高達9%的五篇地學領域論文的其中一篇。WFC是一個衡量研究機構、城市或國家中論文作者貢獻的加權指標；另外，《自然指數》亦顯示理大在科研合作率方面在香港的各所大學中取得最高評分。

吳博士多年來從事月球地形的測繪及分析工作，並成功研發出創新的月球測繪技術，為嫦娥三號登月項目提供精確的月面地形模型，對選取適當著陸地點做出貢獻。從2013至2014年，他已在《地球與行星科學》發表了三篇論文。該期刊在地學領域地位崇高，也是《自然指數》資料庫的核心期刊之一。

## 2015/16 HK PhD Fellowship Winners

Established in 2009 by the Hong Kong Research Grants Council, the Hong Kong PhD Fellowship Scheme attracts the best and brightest students around the world to pursue their PhD studies in Hong Kong. It provides an annual stipend of HK\$240,000 and a conference/ research-related travel allowance of HK\$10,000 per year to each awardee for three years. The Faculty of Construction and Environment is pleased to have the following winners of the HK PhD Fellowship for 2015/16:

## 2015/16 年度香港博士研究生獎學金計劃得主

為鼓勵全球的尖子學生來港修讀博士學位，香港研究資助局於2009年設立「香港博士研究生獎學金計劃」，為每位獎學金得主提供每年二十四萬港元津貼，以及連續三年、每年一萬港元的會議及研究活動交通津貼。獲資助於2015/16年度入讀建設及環境學院的博士生包括：

| Dept.<br>學系         | Awardee<br>獎學金得主   | Nationality<br>國籍          | Supervisor 導師                |
|---------------------|--|----------------------------|------------------------------|
| BRE<br>建築及房地產學系     | Irfan Zafar<br>           | Pakistani<br>巴基斯坦          | Prof. Geoffrey Shen<br>沈岐平教授 |
| CEE<br>土木及環境工程學系    | Matthew John Bugden<br>   | Australian<br>澳洲           | Prof. J.G. Teng<br>滕錦光教授     |
| CEE<br>土木及環境工程學系    | Shengxin Fan<br>范聖新<br>  | Chinese/Mainland<br>中國(內地) | Dr J.G. Dai<br>戴建國博士         |
| CEE<br>土木及環境工程學系    | Yee Ting Lau<br>劉綺婷<br> | Chinese/HKSAR<br>中國(香港)    | Dr Daniel Tsang<br>曾超華博士     |
| CEE<br>土木及環境工程學系    | Lingfang Li<br>李玲芳<br>  | Chinese/Mainland<br>中國(內地) | Dr Yong Xia<br>夏勇博士          |
| LSGI<br>土地測量及地理資訊學系 | Shamsa Kanwal<br>       | Pakistani<br>巴基斯坦          | Prof. X.L. Ding<br>丁曉利教授     |

The 6 awardees represent 18.75% of the 32 HK PhD Fellowships offered to PolyU this year. There are currently 26 PhD students studying in FCE who are supported by the HK PhD Fellowships.

今年，共有三十二位獎學金得主選擇理大，上述六位博士生佔了總人數的百分之十八點七五；現時仍在本院深造的獎學金得主則共有二十六人。



## BRE PhD Graduate's Research Wins Award

A recent PhD graduate from the Department of Building and Real Estate, Dr Jodith Leung, has been chosen by the editorial team of *Journal of Knowledge Management* as the winner of the 2014 Emerald/EFMD (European Foundation for Management Development) Outstanding Doctoral Research Award in the Knowledge Management category, for her project entitled "The Use of Storytelling as Transfer of Knowledge." The award includes a cash prize, a certificate, and the prospect of publishing the research work in the *Journal of Knowledge Management*. Dr Leung did her PhD under the supervision of Dr Patrick Fong, Associate Professor and Associate Head of BRE.

## 建築及房地產學系博士畢業生研究項目獲獎

建築及房地產學系哲學博士畢業生梁家琳，最近獲《知識管理期刊》的編輯團隊選為2014年愛墨瑞得/歐洲管理發展基金「傑出博士研究獎」知識管理組別的得獎者，得獎項目名為「運用講故事模式進行知識轉移」。梁博士的論文導師是建築及房地產學系副教授兼副系主任方識華博士；除獎金外，她還可獲得獎狀及在《知識管理期刊》發表研究論文的機會。



Dr Leung (left) with Dr Fong

## HKIE Young Engineer of the Year Award 2015

At the Hong Kong Institution of Engineers (HKIE) 40th Annual Dinner on 17 March 2015, Ir Ken Chan, a senior engineer of CLP Power Hong Kong Ltd and PhD student in the Department of Building and Real Estate supported by the Teaching Company Scheme, was honoured with the Young Engineer of the Year Award. Organized by HKIE in recognition of local outstanding young engineers who have made commendable engineering achievements and valuable contributions to the continuous development of Hong Kong, the award is a prestigious honour for young engineers of the local engineering profession. Ir Chan began his engineering career as a graduate trainee at CLP in 2003, where he was exposed to various aspects of the electricity supply business, including transmission substation design, procurement, public affairs and distribution network construction. As an Engineer I at CLP, Ir Chan leads a team of engineers to implement distribution network projects in Lantau, Peng Chau and Cheung Chau, providing reliable and timely electricity supply to major infrastructure and residential developments in these areas. He has been active in promoting engineering to the younger generation and the general public. To encourage youths to face adversity positively, he likes to use the light bulb as a metaphor for life: only by overcoming obstacles can light be generated. He is currently conducting research on the implementation of partnering in project management, under the supervision of Prof. Albert Chan.

## 本院博士生榮膺香港傑出青年工程師

透過「廠校合作研究計劃」於建築及房地產學系修讀博士課程的中華電力有限公司（中電）高級工程師陳子健，在2015年三月十七日舉行的香港工程師學會四十周年晚宴上獲頒「香港傑出青年工程師獎」。學會頒發這項榮譽，是為了肯定本地優秀年輕工程師對促進香港發展的寶貴貢獻和卓越成就，是極高的專業榮譽。

陳工程師於2003年加入中電，從見習工程師起步，學習電力業務的不同環節，如設計輸電站、採購、公共事務及建設配電網絡，擔任一級工程師時，曾率領同事在大嶼山、坪洲及長洲開展配電網絡工程，為興建大型基建及住宅提供穩定電力。他熱心向年輕人和公眾推廣工程專業，又喜歡以燈泡比喻人生，鼓勵新一代積極面對逆境——人生就像燈泡，必須突破阻礙才可發光發熱！他現由陳炳泉教授指導，進行在項目管理推行合夥制度的研究。



Ir Chan (right) receiving his award

## FCE Postdoctoral Fellowship Scheme

The following applications for the FCE Postdoctoral Fellowship (PDF) Scheme were approved by the Faculty Research Committee Working Group between October 2014 and May 2015:

| PDF candidate<br>博士後申請人   | Principal Investigator<br>(Dept)<br>首席研究員(學系)      | Project Title<br>研究專題  | Decision and Source<br>of Funding<br>資助安排及來源   |
|---|--|--|--|
| Dr Yimo LUO<br>羅伊默博士<br> | Prof. Hongxing YANG (BSE)<br>楊洪興教授<br>(屋宇設備工程學系)   | Study on the Flow, Heat and Mass Transfer Processes to Improve the Performance of the Indirect Evaporative Cooling Unit<br>藉分析流動、傳熱及傳質過程提升間接蒸發冷卻器性能的研究 | Supported<br>BSE: \$157,500<br>FCE: \$157,500  |
| Dr Mi JIANG<br>蔣彌博士<br>  | Prof. Xiaoli DING (LSGI)<br>丁曉利教授<br>(土地測量及地理資訊學系) | Mountain Glacier Mass Balance Around the Qinghai-Tibetan Plateau from SAR Interferometry<br>以SAR干涉測量偵測青藏高原地區山地冰川物料平衡的研究                                | Supported<br>LSGI: \$131,670<br>FCE: \$131,670 |

## Former CEE Student Wins Accolades for FYP

A 2014 graduate of the Department of Civil and Environmental Engineering (CEE), Mr Franklin To, has won several awards for his final-year project (FYP) entitled "Discrete element modelling on bearing capacity problem," including a First Prize from the Association of Geotechnical & Geoenvironmental Specialists (AGS) in May 2014, a Third Prize from the Hong Kong Institution of Engineers (HKIE) in March 2015, and a First Prize from the Institution of Civil Engineers (ICE) on 22 May 2015. Mr To was supervised by Dr Yung-Ming Cheng, and currently works in the Geotechnical unit of AECOM, a global provider of architecture, design, engineering, and construction services.

## 土木及環境工程學系畢業生畢業專題研究接連獲獎

2014年從土木及環境工程學系畢業的杜國良先生，憑題為「承載力問題離散元建模」的畢業專題研究接連奪獎，包括於2014年五月獲香港岩土及岩土環境工程專業協會一等獎、2015年三月獲香港工程師學會三等獎，以及於2015年五月二十二日獲土木工程師學會頒發一等獎。他是鄭榕明博士的學生，現於AECOM集團的大地工程部門工作。AECOM是跨國的专业機構，業務涵蓋建築、設計、工程及建造服務。



Mr To (left) with Dr Cheng



# Staff News

## 教職員消息

### FCE Forums for Planning Ahead

The Faculty of Construction and Environment (FCE) has just completed a series of forums for its academic staff, to solicit inputs and comments from the staff on its proposed strategic plans for the next triennium starting from 2015 and to discuss ways for further enhancing its research strengths. A separate forum was first organized for each level of the academic staff, i.e., Assistant Professors, Associate Professors, Professors, and Chair Professors, where each staff had a chance to talk about his/her research interests, existing and potential future research collaborations, and views on enhancing the research strengths of the Faculty.

The final forum was held on 19 May 2015 for all the staff. The forum was highlighted by a presentation given by Prof. Peter Waldron, Emeritus Professor of The University of Sheffield and Convener of the Built Environment Panel in the 2014 HK Research Assessment Exercise (RAE). Prof. Waldron provided an overview of the assessment processes of the RAE and the last UK's Research Excellence Framework (REF), the new system for assessing the quality of research in UK's institutions of higher education.

Prof. Waldron's presentation was followed by a talk by Prof. You-Lin Xu, Dean of FCE, on the proposed strategic plans. He also highlighted FCE's academic strengths and achievements in student development, knowledge transfer, management, partnership and internationalization. The Heads of FCE's four departments also shared their vision for their respective departments briefly.

### 建設及環境學院舉辦論壇助規劃未來



為徵求同事對2015年起的三年策略性計劃擬稿的意見，討論如何進一步加強學院的科研優勢，建設及環境學院舉辦了一共五場的論壇。在首四場分別為助理教授、副教授、教授及講座教授而設的論壇裡，每位同事除了有機會講述其研究興趣，以及現時/未來可能開展的科研協作項目，還可就如何提升學院的科研能力一抒己見。

最後一場會集全體同事的論壇剛於五月十九日舉行，當中的亮點是由英國謝菲爾德大學榮休教授兼2014年香港「研究評審工作」(RAE)建造環境評審小組召集人Prof. Peter Waldron 講解RAE的評審程序，以及英國用以評核國內高等學府科研質素的新制度 — 卓越研究架構 (REF)。

Prof. Peter Waldron 發言後，本院院長徐幼麟教授隨即向在座同事講解策略性計劃擬稿的內容，並重點闡述本院在培育學生、知識轉移、管理、夥伴合作及國際化方面的專長及成就。本院四大學系的系主任亦藉著這個機會逐一簡介所屬學系的願景。



## Staff Promotions

Five leading academics of the Faculty of Construction and Environment have been promoted with effect from 1 July 2015. Following are their details:

### **Prof. Albert Chan, Chair Professor of Construction Engineering and Management (BRE)**

Ir Prof. Chan holds an MSc in Construction Management and Economics from the University of Aston in Birmingham, and a PhD in Project Management from the University of South Australia. He joined the Department of Building and Real Estate of PolyU in 1996 and was its Associate Head (Teaching) from 2005 to 2011; Associate Dean and Interim Dean of the Faculty of Construction and Environment from 2011 to 2013, and from 2013 to 2014 respectively. He has been Head of the Department of Building and Real Estate (BRE) since March 2015. Ir Prof. Chan's research and teaching interests include project management and project success, construction procurement and relational contracting, construction management and economics, construction health and safety, and construction industry development. His recommendations have been incorporated in the Construction Industry Council Guidelines on "Site Safety Measures for Working in Hot Weather" in April 2013. He has produced over 700 research papers in refereed journals, internationally refereed conference papers, consultancy reports, and other articles. He has also won a number of prestigious research paper and innovation awards since 1995.

### **Prof. Jianlei Niu, Chair Professor of Building Environment and Energy (BSE)**

Prof. Niu received his BSc in HVAC Engineering and MSc in Thermal Engineering from Tsinghua University, and PhD in Mechanical Engineering from Delft University of Technology, in the Netherlands. He started his academic career at Tsinghua University, and also had industrial R&D exposure in China and UK in the 1980s. His research interests are computational fluid dynamics and thermal simulation, aiming at solving real-world problems in indoor air quality, infection control in built environments, building energy use, and more recently in urban thermal comfort.

Prof. Niu is the Chair of the Departmental Research Committee. Over the years, he has won an impressive number of external research grants from a range of funding bodies, including the Research Grants Council (RGC), the Innovation Technology Fund and the Research Fund for Control of Infectious Diseases. He has produced more than 200 publications, receiving nearly 4000 citations as reported in the Google scholar website. He has successfully supervised nearly 20 PhD students and post-doctoral fellows. He is a recipient of numerous awards in technical publications and technology innovations, and has been conferred fellowships from the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), the Chartered Institution of Building Services Engineers (CIBSE), the Hong Kong Institution of Engineers (HKIE), the International Building Performance Simulation Association (IBPSA) and the International Society of Indoor Air Quality and Climate (ISIAQ). He serves as an RGC Engineering Panel member, and is a co-Editor-in-Chief of the journal *Energy and Buildings*.

## 晉升之喜

本院五位極具份量的學者於2015年七月一日起分別晉升為講座教授及副教授，以下是他們的簡歷：



### **陳炳泉教授晉升為建築工程及管理講座教授 (建築及房地產學系)**

陳炳泉教授持有英國雅斯頓大學建築管理及經濟學理學碩士學位和南澳洲大學項目管理學哲學博士學位。他於1996年加入理大建築及房地產學系，2005至2011年出任該系副系主任（教務），並先後擔任建設及環境學院副院長（2011至2013年）及暫任院長（2013至2014年）。2015年三月，陳教授出任建築及房地產學系系主任。陳教授的研究教學領域包括項目管理、建築工程採購與承包關係、建設管理及經濟、建造業安全及健康、以及建造業發展。陳教授的學術成果獲行業好評與認可，其建議更獲建造業議會採納，於2013年四月納入《在酷熱天氣下工作的工地安全指引》予業界參考。陳教授已發表超過700篇學術期刊論文、國際學術會議論文、顧問報告等；自1995年起，他的研究成果多次榮獲國際重要獎項。



### **牛建磊教授晉升為建築環境及能源學講座教授 (屋宇設備工程學系)**

牛建磊教授是清華大學暖通空調工程理學士及熱能工程理學碩士，並持有荷蘭代爾夫特科技大學機械工程學哲學博士學位。他在學術界的發展始於母校清華大學，早在上世紀八十年代，已於中、英兩地從事工業研究。他精於計算流體力學及熱模擬技術，研究目標是解決現今社會的常見難題，如改善室內空氣質素、控制傳染病在室內擴散，促使建築物善用能源，以及近期市區面對的熱舒適問題。

牛教授現任屋宇設備工程學系研究委員會主席，歷年取得的校外科研撥款不計其數，資助機構包括香港研究資助局、創新及科技基金，以及控制傳染病研究基金。他發表了逾二百份論文/著作，根據「谷歌學者網站」的統計，獲引述次數接近四千次，由其指導的博士生及博士後研究員更多達約二十人。他多次贏得論文及科技發明獎，也是美國暖通製冷空調工程師學會、英國特許屋宇設備工程學會、香港工程師學會、國際建築物性能模擬協會，以及國際室內空氣質素及氣候學會的會士或資深會員，現為香港研究資助局工程學學科小組成員及《能源與建築》學報聯席總編輯。

**Prof. Chi-Sun Poon, Chair Professor of Sustainable Construction Materials (CEE)**

Prof. Poon obtained his PhD from Imperial College, London with a thesis on cement based hazardous waste stabilisation/solidification process. He then spent two years as a Research Fellow at Oxford University specialising in cement and concrete research. After working three years with an environmental consultant and the Environmental Protection Department of the HK Government, he joined PolyU in 1992 specialising in the teaching and research of construction materials and waste management. He pioneered the development of the Eco-block technology for turning wastes into construction materials. He has published over 300 papers in international journals and conferences. A Fellow of the Hong Kong Institution of Engineers (HKIE) and the Hong Kong Concrete Institute (HKCI), Prof. Poon has been Chairman of the HKIE Environmental Division as well as the Hong Kong Waste Management Association, and the representative of the HKIE Environmental Discipline. He is currently the President of the HKCI. He is on the Green Building Faculty of the Hong Kong Green Building Council and has been serving the Technical Review Committee of the BEAM PLUS assessment scheme as its Materials Aspect Panel Chair. Prof. Poon was appointed by the Hong Kong SAR Government to serve on the Advisory Council on the Environment and the Council for Sustainable Development. He has served as a Justice of the Peace since 2013. He is also an Editor of *Construction and Building Materials* and an Associate Editor of *Waste Management*.

**Dr George Liu, Associate Professor (LSGI)**

Dr Liu is an internationally recognized specialist in the Global Positioning System (GPS)/Global Navigation Satellite System (GNSS) community. His MicroLARGE Lab mainly focuses on pioneering work in the areas of GPS/GNSS innovative algorithm development, lower atmosphere water vapor modeling, upper atmosphere ionosphere and space weather studies, which has impacted the international GPS/GNSS community and beyond. His innovative algorithm of GPS/GNSS cycle slip detection and repairing, fundamental for all the GPS/GNSS precise applications, is used by research groups worldwide. His work on ionosphere has revealed a two-decade-long anomaly associated with the GPS satellites broadcast ionospheric model and has a worldwide impact on the GPS/GNSS product manufacturing and user applications.

As a Principal Investigator (PI), he secured RGC funding for three projects consecutively and one NSFC grant, in addition to many other projects as Co-PI. He is the founder of the New GNSS Algorithms and Techniques for Earth Observations (nGATEo) biennial International Summer Course Series, which is funded by the Croucher Foundation during 2014-2018. The Managing Editor of the *Journal of Global Positioning Systems*, Dr Liu is an invited reviewer for many journals/grants. He was also the President of the International Association of Chinese Professionals in Global Positioning Systems in 2013, and the international advisor to the US Institute of Navigation's (ION) Pacific PNT conference in 2015.



**潘智生教授晉升為環保建材講座教授 (土木及環境工程學系)**

潘教授為英國倫敦帝國理工學院哲學博士，畢業論文的題目是「建基於水泥的有害廢物穩定/固化技術」，其後兩年於牛津大學擔任博士後研究員，專注水泥及混凝土研究，1992年加入理大前，曾在環境顧問公司及香港政府環境保護署工作三年。他在理大的教研工作主要涉及建材及廢物管理，首創環保磚技術，把廢料循環再造成有用的建築材料，在國際學術期刊和會議發表的文章累計超過三百篇。潘教授是香港工程師學會及香港混凝土學會資深會員，曾任工程師學會轄下環境分部主席及環境專業界別代表、香港廢物管理學會主席，現為香港混凝土學會會長，也是香港綠色建築議會的「綠色建築專家」成員、「綠建環評」系統技術覆檢委員會轄下建材專家小組主席，以及特區政府環境諮詢委員會和可持續發展委員會前委員。他於2013年起獲委任為太平紳士，現為《Construction and Building Materials》編輯及《Waste Management》副編輯。



**劉志趙博士晉升為副教授 (土地測量及地理資訊學系)**

劉博士是國際知名的全球定位系統 (GPS)/全球導航衛星系統 (GNSS) 專家，其「大氣研究及工程微實驗室」主要圍繞GPS/GNSS的創新演算法、低層大氣水汽含量建模，以及高層大氣電離層與太空天氣研究等方面從事開創性的工作，影響力遠至全球GPS/GNSS科研圈子。他提出實時探測及修復GPS/GNSS中周跳的新方法，獲國際上GNSS科研人員廣泛採用，使根據GPS/GNSS數據計算出來的結果更精確可靠。其針對電離層的研究，揭示了GPS衛星廣播電離層模型長達二十多年的異常現象，對全球GPS/GNSS產品生產商及用戶皆有深遠影響。

他以項目主持人身份連續三年獲香港研資局資助，並取得一筆來自國家自然科學基金的撥款，另外還有很多以項目合作人身份獲資助的項目。劉博士創辦了每兩年一度的「地球觀測GNSS新算法及技術(nGATEo)國際暑期課程系列」(2014至2018年間獲裘槎基金會資助)。他是《全球定位系統學報》執行編輯，並應邀出任不少學術期刊及科研撥款計劃的評審人。他於2013年擔任全球華人導航定位協會會長。他也是美國導航學會 (ION) 太平洋定位、導航及授時 (PNT) 學術會議 (2015年) 的國際顧問。

### Dr Bo Wu, Associate Professor (LSGI)

After obtaining his PhD in Photogrammetry and Remote Sensing from Wuhan University in 2006, Dr Wu did post-doctoral research at Ohio State University in the US from 2006 to 2009, where he worked on NASA-funded projects for Mars and lunar exploration missions, and developed novel photogrammetric techniques for Mars rover localization and topographic mapping. Since joining PolyU in 2009, Dr Wu has developed innovative Lunar mapping approaches. Invited by the China Academy of Space Technology (CAST), Dr Wu worked on the landing site characterization and selection of the Chinese Chang'E-3 lunar exploration, which contributed to the successful landing of Chang'E-3 on the Moon in December 2013. Funded by CAST, Dr Wu is currently working on characterization and selection of the Chang'E-5 landing site and China's future mission to explore Mars. Dr Wu was the Vice President of the Hong Kong GIS Association, and currently serves as the Co-Chair of the Working Group II/6: Geo-Visualization and Virtual Reality of the International Society for Photogrammetry and Remote Sensing. Dr Wu was a recipient of the Duane C. Brown Senior Award from the Ohio State University in 2009 and the John I. Davidson President's Award from the American Society for Photogrammetry and Remote Sensing in 2014. He has secured a number of external research grants and published over 50 peer-reviewed research articles.



### 吳波博士晉升為副教授（土地測量及地理資訊學系）

吳博士於2006年取得武漢大學攝影測量及遙感學博士學位後，隨即前赴美國俄亥俄州立大學從事博士後研究，參與美國太空總署資助的火星及月球探測計劃，負責研發火星車定位及地形測繪所需的新穎攝影

測量技術，直至2009年加入理大。成為理大一員後，他研發出創新的月球地形測繪技術，並應中國空間技術研究院邀請，為嫦娥三號分析著陸區的地形和地貌，進而選取合適的登陸地點，為完成這次登月任務作出貢獻。在中國空間技術研究院資助下，吳博士現時正為嫦娥五號登月分析及選取著陸地點，亦參與中國未來的火星登陸任務的著陸點分析選取。吳博士是香港地理信息系統學會前副會長，現為國際攝影測量及遙感學會屬下「II/6工作組：地理資訊可視化及虛擬現實」聯席主席，繼2009年獲俄亥俄州立大學頒發「杜恩·布朗攝影測量獎(高級)」，去年又勇奪美國攝影測量及遙感學會的「約翰·戴維森主席論文獎」，並多次取得校外科研撥款，發表的研究論文超過半百。

## New Head for BRE Department

Prof. Albert Chan has been appointed Head of the Department of Building and Real Estate (BRE) with effect from 1 March 2015. A Chartered Construction Manager, Engineer, Project Manager, and Surveyor by profession, Prof. Chan received his PhD from the University of South Australia and has served at BRE since 1996. An exemplary scholar with research interests in partnerships between public and private enterprises, construction health and safety, as well as procurement and contracting in the construction industry, Prof. Chan has received the Dean's Award for Outstanding Achievement in Research Funding a record three times. He brings to his new appointment a wealth of management experience and expertise. Prior to this, he was Associate Dean (Partnership) of the Faculty of Construction and Environment (2011-13) and its Interim Dean (2013-14). He thanks the University sincerely for giving him this opportunity to lead the department for the next few years.

## 建築及房地產學系任命新系主任



陳炳泉教授於2015年三月一日上任建築及房地產學系系主任。他於1996年加入建築及房地產學系，擁有南澳洲大學哲學博士學位，特許建造師、工程師、營造師及測量師等多項專業資格。陳教授的研究領域包括公私營機構合作、建造業的健康及安全，以及建築工程採購及承包等，三度榮獲本院頒發的「院長特設卓越表現獎(科研經費)」。

除了傑出的科研成果，陳教授擁有豐富的管理經驗，曾擔任2011-13年建設及環境學院副院長（夥伴合作），及2013-14年建設及環境學院暫任院長。陳教授衷心感謝大學的信任與肯定，有幸擔任建築及房地產學系的系主任。



## BSE Scholar Elected to PolyU Council

Dr Ming-Yin Chan of the Department of Building Services Engineering (BSE) has recently been elected to the PolyU Council to serve for two years from 2 August 2015. Currently an Assistant Professor in BSE, Dr Chan has been a member of the PolyU Staff Association (PUSA) since 2010 and a member of its Executive Council since 2012 as the representative of BSE. He has served as the Acting Assistant Secretary of PUSA since early 2015. In his new role, Dr Chan will speak for staff concerns at the PolyU Council, the governing body of the University.

PUSA is a registered trade union for full-time PolyU staff. It aims to provide help and advice to its members on matters relating to their conditions of service, benefits, and working environment; to serve as a link between staff and management of the university; and to facilitate a platform to share views to improve the well-being of staff.

## New Academic Staff

The Department of Civil and Environmental Engineering welcomed a new Assistant Professor in July 2015. Dr Lai Siu Kai obtained a Bachelor's degree in Building Services Engineering with first class honours from the City University of Hong Kong in 2004. Subsequently, he received his PhD degree in Mechanical Engineering from the same institution in 2007.

From 2007 to 2010, he was a Postdoctoral Fellow at the School of Engineering and Civionics Research Centre of the University of Western Sydney in Australia. He later worked as a Research Associate at the Department of Mechanical Engineering of The University of Hong Kong from 2011 to 2012. Prior to joining PolyU, Dr Lai was a Senior Engineer in Meinhardt (M&E) Limited working in the field of building and construction, and was involved in many large-scale industrial projects in both Hong Kong and Macau.

Professionally, Dr Lai is a Chartered Engineer of the Engineering Council of the UK, Chartered Professional Engineer of The Institution of Engineers Australia (IEAust), and Registered Professional Engineer (Mechanical Discipline) of the National Professional Engineers Register (NPER) in Australia. He is also a member of The Hong Kong Institution of Engineers (HKIE), the Institution of Mechanical Engineers (IMechE), and The Institution of Engineers Australia (IEAust).

Dr Lai's main research interests focus on nonlinear dynamics of mechanical structures, structural dynamics, smart materials, active noise & structural vibration control, and application of computational fluid dynamics. He has hitherto co-authored more than 30 articles in refereed journals.

## 屋宇設備工程學系學者晉身理大校董會



屋宇設備工程學系的陳銘賢博士最近獲選為理大校董，任命於2015年八月二日起生效，為期兩年。陳銘賢現為屋宇設備工程學系的助理教授，於2010年成為教職員協會會員，2012年成為部門代表及幹事，並於2015年初成為署理助理秘書。作為民選校董會的成員，陳

博士將為大學所有職級的員工發聲，把員工的聲音帶入大學校董會。

教職員協會是為理工大學員工而設的註冊工會。其目標及使命包括為員工爭取公平和合理的服務條件、福利及工作環境；作為員工及大學管理層的溝通橋樑；為員工的福祉和發展提供一個意見平台。

## 新教職員



黎紹佳博士2004年畢業於香港城市大學，獲頒發屋宇裝備工程學士學位(甲等榮譽)。其後，他繼續進修，並於2007年於同一學院修畢博士學位(機械工程)。

2007年到2010年期間，黎博士在澳洲西悉尼大學工程學院及土木電子工程研究中心從事博士後研究。2011年到2012年期間，他在香港大學機械工程系擔任副研究員。黎博士在2015年7月加入香港理工大學之前，在香港邁進機電工程顧問有限公司擔任高級工程師，曾參與香港和澳門多個大型的建築項目。

在專業方面，黎博士是英國特許工程師、澳洲特許專業工程師和澳洲國家工程註冊局註冊專業工程師(機械工程)。他也是香港工程師學會、英國機械工程師學會以及澳洲工程師學會會員。

黎博士的主要研究方向包括機械結構的非線性振動、結構振動與穩定性、智能材料結構系統的非線性動力學及計算流體力學的應用。至今，他已在國際期刊上發表了30多篇論文。



# Student News

## 學生消息

### Outstanding Student Award 2014

On 12 February 2015, a BSc Year 3 student of the Department of Land Surveying and Geo-Informatics (LSGI), Miss Ya Gao, was honoured at the Outstanding Student Awards Presentation Ceremony. Not only was she the recipient of the Outstanding Student Award of LSGI, she was also chosen for the Outstanding Student Award of the Faculty of Construction and Environment. An active participant in numerous extracurricular activities, Miss Gao has volunteered as a teacher in Sri Lanka and in a middle school in Shaanxi. She was also a mentor for the Common Orientation Programme and the YMCA South Asian Programme for one semester, while maintaining an impressive academic record throughout her years of study for her BSc degree.

One of the most prestigious award schemes for students at PolyU, the annual Outstanding Student Awards recognize final-year undergraduate students who excel in both academic and non-academic pursuits during their studies.

### 卓越學生獎 2014

在2015年二月十二日舉行的「卓越學生獎」頒獎典禮上，土地測量及地理資訊學系三年級生高雅不僅榮膺該系卓越學生，更勇奪建設及環境學院卓越學生榮譽。高同學多年來成績優異，更積極參與課外活動，除了遠赴斯里蘭卡及陝西一所中學義教，也曾在其中一個學期擔任大學迎新活動及基督教男青年會南亞計劃的導師。

一年一度的卓越學生獎頒獎典禮，是理大嘉許優秀學生的最高榮譽之一，得獎人均屬文武全才，在學業與其他方面都有均衡發展的畢業班同學。



### OSH Best Project Award 2014

At the Best Project Award Prize Presentation Ceremony organized by the Occupational Safety and Health (OSH) Council on 4 February 2015, a recent PhD graduate of the Department of Building and Real Estate, Dr Wen Yi, was honoured for her work on modeling rebar labor productivity in hot weather. Her PhD thesis on the same topic was supervised by Prof. Albert Chan. The thesis has brought her numerous awards, including a Distinction Award from PolyU's CIB student chapter in its 2014 Best Dissertation Awards and a championship in the Students Project Competition organized by the Safety Specialist Committee of the Hong Kong Institution of Engineers.

### 最佳職安健研究項目 2014

新近於建築及房地產學系修畢的伊文博士，憑著對酷熱天氣中扎鐵工人生產力的研究，勇奪職業安全健康局2014年「最佳職安健研究項目」，並已於2015年二月四日領取獎項。她是陳炳泉教授的高足，博士論文也是以此為題。該論文為她贏得無數榮譽，包括國際建築工程研究與創新理事會理大學生分會2014年「最佳畢業論文獎」金獎，以及香港工程師學會安全工程專責事務委員會「學生專題研究比賽」冠軍。



## CEE PhD Student Attends European Research Course on Atmospheres

Qinyi LI, a PhD student in the Department of Civil and Environmental Engineering, attended a high-level international course, the European Research Course on Atmospheres (ERCA), in Grenoble and the Observatory of Haute-Provence (OHP) in France from 7 January to 6 February 2015. Organized by the University of Joseph Fourier and the National Center for Scientific Research of France and sponsored by several international and French organizations, ERCA focuses on atmospheric physics and chemistry, climate system and change, and air pollution at different scales. Among the 37 participants (36 PhD students and 1 postdoc) selected from 21 countries, Qinyi was the only one from Hong Kong. He seized this rare opportunity to learn from 43 distinguished lecturers from 11 countries, including his own supervisor, Prof. Tao WANG, who was invited to give two lectures on China's air pollution. The intensive interactions of the international students gave Qinyi a chance to network with his peers as well as to promote the higher education and culture of Hong Kong and China. Many thanks go to ERCA's sponsors.

## 土木及環境工程學系博士生獲選參加歐洲大氣研究課程

由法國 Joseph Fourier 大學聯同法國國家科研中心舉辦的「歐洲大氣研究課程」，是一項極高規格的國際學術活動。今年，它已於一月七日至二月六日在法國格勒諾布爾市及上普羅旺斯天文台舉行，而土木及環境工程學系博士生李沁怡同學，就是其中一位非常幸運的參加者。該課程獲多個國際及法國組織贊助，主要探討大氣物理及化學、氣候系統及其轉變，以及不同程度的空氣污染。本年度的三十七位學員（三十六位博士生及一位博士後研究員）分別來自二十一個國家/地區，沁怡是唯一的香港代表。他亦抓緊這個難得機遇，向來自十一個國家的四十三位傑出講者學習，當中包括其論文導師、應邀就中國空氣污染問題主講兩場講課的王韜教授。這一個月裡，他有不少機會與一起上課的其他國家學生交流互動，拓展人脈，更可同時推廣香港以至內地的高等教育和文化。



## BRE Students Win HKIS Scholarships

On 1 April 2015, 6 students from the Department of Building and Real Estate were honoured for their academic excellence in a Scholarship Presentation Ceremony organized by the Quantity Surveying Division of the Hong Kong Institute of Surveyors (HKIS). They were Miss Chan Hiu Yu, Miss Lam Ching, Miss Wong Wing Huen, Mr Cheng Ka Tsun, Miss Choy Sin Woon, and Miss Leung Hiu Wa. The first three are students in the BSc (Hons) programme in Surveying, while the last three are in the Higher Diploma programme in Building Technology and Management (Surveying). Each of the students received a scholarship worth \$14,000.

## 建築及房地產學系學生獲香港測量師學會頒發獎學金

香港測量師學會工料測量組在2015年四月一日舉行獎學金頒授儀式，建築及房地產學系一共有六位同學獲得嘉許，包括陳曉榆，林澄，黃榮萱，鄭嘉浚，蔡善媛及梁曉樺。首三位同學現時攻讀「地產及建設測量學（榮譽）理學士課程」，其餘三人則屬「建築科技及管理學（測量）高級文憑課程」學生。每位同學均獲發獎學金一萬四千港元。



## LSGI Entrepreneur in the News

A third year student from the Department of Land Surveying and Geo-Informatics who won an Entrepreneurship Award from the PolyU Micro Fund last year was recently interviewed by *Sing Tao Daily* about his hydroponic farming scheme, also known as "EasyGreen." Mr Sam Yan Kit Chong introduced the media to his self-designed hydro-planting system that eschewed the use of conventional soil and allowed growers to experience the joy of getting higher yields in a shorter period of time. About 300 PolyU students and staff have participated in a farming scheme developed by Mr Chong on campus. Mr Chong hopes to establish similar schemes at local schools and commercial organizations in the future.

The PolyU Micro Fund was set up in 2011 to provide seed funding for students and alumni in their entrepreneurial ventures. Competition for funding is fierce. This year, it has received a record 170 applications from aspiring entrepreneurs. Only 20 will ultimately be selected for a seed funding of \$100,000 each.



## 土地測量及地理資訊學系學生受訪 暢談創業路

去年成功獲理大「微型基金計劃」資助的土地測量及地理資訊學系三年級生莊恩傑同學，最近接受《星島日報》訪問，暢談其取名「EasyGreen盛放」的水耕項目。莊同學向該報記者介紹這個由他自行設計的水耕系統，特色在於無需使用泥土，參加者可以在短時間內取得較多收成，享受耕種樂趣。他表示至今已有約三百名理大師生參與，希望日後能把概念推廣至本地學界及商業機構。

理大「微型基金計劃」始於2011年，旨在為缺乏資金的學生和校友提供創業資助，由於申請者眾多，競爭十分激烈。今年，計劃接獲的撥款申請達一百七十宗，是歷年之冠，最終僅有二十宗申請中選，每個項目的資助額為十萬港元。



## Support for LSGI from HKIES

The Hong Kong Institute of Engineering Surveyors (HKIES) has kindly donated a batch of field books to the Department of Land Surveying and Geo-Informatics (LSGI) on 27 March 2015. The field book is indispensable for students in their practical classes as it is used as a survey record of geospatial-related information during construction activities.

Meanwhile, a third year student in the BSc (Hons) programme in Geomatics (Land Surveying), Miss Winnie Yuen-ning Ng, has been approved for the HKIES Scholarship 2014/15. A student member of both the Hong Kong Institute of Surveyors and the Royal Institution of Chartered Surveyors who actively pursues every learning opportunity, Winnie is a well deserved scholarship winner.

## 土地測量及地理資訊學系獲香港工程測量師學會大力支持



2015年三月二十七日，土地測量及地理資訊學系獲香港工程測量師學會慷慨捐贈一批工地記錄簿，供同學於工地進行測量實習時記錄地理空間數據之用。

另外，學會已通過將其2014/15年度獎學金授予「測繪及地理資訊學(土地測量)(榮譽)理學士課程」三年級生吳婉寧。吳同學為香港測量師學會及英國皇家特許測量師學會學生會員，非常珍惜每個學習機會，今次獲獎，絕對實至名歸。



## Career Talks for ESD Students

Two career talks were held for students in the BSc (Hons) programme in Environment and Sustainable Development (ESD) on 27 March and 17 April respectively. Organized by Dr Dan Tsang of the Department of Civil and Environmental Engineering (CEE), the first event attracted over 40 ESD students and alumni, who were encouraged by the employment statistics of former ESD graduates, as shown by Ir Prof. K.F. Chung, Associate Head of CEE (Academic Development), that evening. The employability of ESD graduates was also noted by Ir Prof. C.S. Poon, Associate Head of CEE (Research Development), who pointed out that all ESD graduates had fulfilled the academic requirements for Corporate Membership of the Environmental Discipline of The Hong Kong Institution of Engineers.

Sharing their experiences were four invited speakers from the environmental engineering industry: Ir Barry Lee, Associate Director at ATAL; Ir Dennis Li, Principal Engineer at Black & Veatch; Ir Victor Li, Business Development Director at Dunwell; and Ir H.S. Kan, Senior Engineer at the Drainage Services Department of the Hong Kong Government.

Speakers for the second event were Ms Julia Chan, Principal Environmental Consultant of Mott Macdonald; Mr Jackel Law, Associate at Environment of AECOM; Mr Frank Wan, Partner of Environmental Resources Management; and Mr Honmeng Wong, Assistant Director of the Environmental Protection Department.

The career talks gave students an excellent opportunity to learn about the technical skills required by industry as well as the attributes for success in their future career.



## 為環境與可持續發展學學生而設的 就業講座

土木及環境工程學系最近為環境與可持續發展學（榮譽）理學士學生安排了兩場就業講座。首場講座於三月二十七日舉行，由該系助理教授曾超華博士主持，吸引逾四十名同學及校友參加。副系主任鍾國輝教授工程師在席上表示，該課程畢業生的就業數據理想，使大家十分鼓舞。潘智生教授工程師亦指出，所有畢業同學均符合香港工程師學會環境專業界別對法定會員的學術要求。

當日有四位從事環境工程的嘉賓講者應邀分享自己的切身體驗，包括安樂工程有限公司副總監李志康工程師、博威工程顧問有限公司顧問李仁震工程師、正昌環保科技(集團)有限公司業務拓展總監李志良工程師，以及特區政府渠務署高級工程師簡漢成工程師。

第二場講座於四月十七日舉行，講者有莫特麥克唐納首席環境顧問陳穎妍小姐、AECOM Associate at Environment 羅卓豪先生、香港環境資源管理顧問有限公司合夥人溫志雄先生，以及特區政府環境保護署助理署長黃漢明先生。

兩次講座讓同學有機會瞭解投身環境工程專業的技術要求，以及在業內幹出成績的首要條件。







## LSGI Students Learn Their Career Options

On 16 April 2015, more than 70 students from Higher Diploma, BSc and MSc programmes of the Department of Land Surveying and Geo-Informatics (LSGI) attended a career talk co-organized by the department and the LSGI Alumni Association. 7 invited speakers were on hand to share their career experiences, including Sr Lizzy Ka Yi To of the Hong Kong Institute of Surveyors, Sr Kwok Leung Lee of the Lands Department, Sr Lit Yin Lam of the Hong Kong Institutes of Engineering Surveyors, Mr Freddy Ho of Champion Surveying and Engineering Co. Ltd., Ms Ellis Tong of ESRI China (HK) Ltd. and Ms Pinky Lee of BUDA Surveying Ltd.

## 土地測量及地理資訊學系學生就業講座

逾七十名在土地測量及地理資訊學系修讀高級文憑、學士及碩士學位課程的同學，出席由學系與校友會於2015年四月十六日合辦的就業講座。當日有七位嘉賓應邀與同學分享自己的寶貴經驗，分別為香港測量師學會理事杜嘉儀測量師、地政總署的李國樑測量師、香港工程測量師學會的林烈賢測量師、俊威測繪工程有限公司的何智忠先生、環研中國（香港）有限公司的李麗儀小姐，以及沛達管理及專業測量有限公司的李紫琪小姐。

## Scholarship Students Graduate with Distinction

Xi Yifan, a recipient of the 2013/14 Entry Scholarship, has completed the MSc programme in Geomatics (Geographic Info Systems) with Distinction in Semester One of 2014/15. During the one and a half years he spent studying at PolyU, he has learnt much and made many friends.

"On the one hand, I gained much knowledge and skills in classes; on the other hand, I also learnt how to get along with other people, especially those who have different opinions. What is more important, I learnt how to work with others in a team. In the whole process, I learnt how to communicate with others, find the key points of a project, how to arrange tasks for every member of a team and work hard to finish my own tasks. Teamwork taught me how to solve practical problems."

In the second semester of 2014/15, five Entry Scholarship recipients graduated with Distinction. Following are their details:

## 碩士組合課程的獎學金得主以優異成績畢業



2013/14年度碩士組合課程新生獎學金其中一位得獎人奚禕飢，已於2014/15年度首學期取得測繪及地理資訊學理學碩士學位（地理資訊系統），成績優異。在理大進修的一年半裡，他自言獲益良多，並結交了不少朋友。

「除了在課堂上學到很多知識和技能，我還學會跟意見相反的人相處，更重要的是怎樣與別人合作，發揮團隊精神。過程中，我學會如何和別人溝通，找出項目的重點，為每位組員安排任務，並努力完成自己的責任。團隊合作教曉我怎樣解決問題。」

以下是其他獲碩士課程獎學金的2014/15優異畢業生：

| Name<br>姓名            |   | Programme<br>課程   |
|-----------------------|---|---|
| FUNG Yu Hang<br>馮宇恆   |  | MSc in Construction Law and Dispute Resolution<br>建築法及爭議解決學理學碩士學位 |
| KWONG Siu Ting<br>鄭肇婷 |  | MSc in Environmental Management and Engineering<br>環境管理及工程學理學碩士學位 |
| NG Choi Hung<br>伍彩紅   |  | MSc in Fire and Safety Engineering<br>消防及安全工程學理學碩士學位              |
| TSO Tak Yi<br>曹德怡     |  | MSc in Project Management<br>項目管理理學碩士學位                           |
| ZHANG Yangyang<br>張洋養 |  | MSc in Building Services Engineering<br>屋宇設備工程學理學碩士學位             |

## FCE Offers Joint PhD Programmes with the University of Calgary

To facilitate research collaboration and to strengthen our links with partner institutions by capitalizing on both institutions' research facilities and resources, PolyU has been offering joint PhD programmes with designated partner institutions to enrich the learning experience of students. Students admitted under the joint PhD programme will receive awards from both PolyU and the partner institution upon satisfactory completion of their studies.

As one of Canada's leading universities, the University of Calgary (UofC) has recently been designated a partner institution of PolyU in offering joint PhD programmes. The two universities have been collaborating in research endeavors since 2007. The scope of the joint PhD programmes covers but is not limited to the following research areas:

- Construction Engineering and Management
- Environmental Engineering and Science
- Geo-Informatics
- Geotechnical Engineering
- Hydraulic Engineering
- Land Surveying
- Structural Engineering
- Transportation Engineering

Other designated partner institutions which offer Joint PhD Programmes with PolyU include:

- Beihang University
- Harbin Institute of Technology
- Jinan University
- Loughborough University
- Queensland University of Technology
- Sichuan University
- Sun Yat-sen University
- Swinburne University of Technology
- Tongji University
- University of Science and Technology of China
- University of Technology, Sydney
- Xi'an Jiaotong University
- Zhejiang University

## 建設及環境學院與卡爾加里大學合辦博士課程

為促進科研合作及加強與夥伴院校的連繫、善用雙方的科研力量和資源，理大一向有跟特定院校合辦博士課程，藉此擴闊學生眼界，使他們的學習生活更為豐富。學生畢業時，可同時獲理大及有關夥伴院校頒發學位。

最近成為理大夥伴院校的卡爾加里大學，是加拿大其中一所最著名的學府。事實上，雙方早於2007年已開展科研合作。雙學位博士課程涉及的科研範疇包括但不限於

- 建設工程及管理學
- 環境工程科學
- 測繪及地理資訊學
- 岩土工程學
- 水利工程學
- 土地測量學
- 結構工程學
- 運輸工程學

與理大合辦博士課程的其他夥伴院校包括：

- 北京航空航天大學(北航大學)
- 哈爾濱工業大學
- 暨南大學
- 英國拉夫堡大學
- 昆士蘭科技大學
- 四川大學
- 中山大學
- 澳洲斯威本科技大學
- 同濟大學
- 中國科學技術大學
- 悉尼科技大學
- 西安交通大學
- 浙江大學

# Alumni News

## 校友消息

### CEE Alumnus Receives Outstanding PolyU Alumni Award 2015

The Faculty of Construction and Environment is pleased that Ir Prof. Kin-Kuen Choy, recipient of an Outstanding Alumni Award from the Department of Civil and Environmental Engineering (CEE) in 2014, has gone on to receive the Outstanding PolyU Alumni Award 2015. Beginning his engineering career after finishing his studies for a Higher Diploma in Structural Engineering in 1974 and an Associateship in the same subject in 1975 at the Hong Kong Polytechnic, PolyU's predecessor, Ir Prof. Choy rose through the ranks to become an Assistant Director of the Buildings Department of the HKSAR Government in 2006. As one of the pioneers in setting up the current building control and site supervision system administered by the Buildings Department, he has also steered the development of the Code of Practice for foundation and building demolition, which has won the respect of the building industry. He became Director of the Structural Division of Meinhardt (C&S) Ltd. in 2013 after 33 years of public service. A staunch supporter of his alma mater, he has been an Adjunct Professor of CEE since 2004, and has established the K.K. Choy Scholarship to help students fulfill their dreams of higher education.

Launched in late 1996, the Outstanding PolyU Alumni Awards honour distinguished graduates of PolyU and its forerunning institutions – the Government Trade School, the Hong Kong Technical College, and the Hong Kong Polytechnic – every other year. This year marks the 10th award presentation, which took place in a ceremony on 19 May 2015.

### 2015年「傑出理大校友」頒獎禮

於2014年榮膺土木及環境工程學系傑出校友的蔡健權教授工程師，今年再下一城，獲理大頒發「傑出理大校友」榮譽。蔡教授是理大前身——香港理工學院1974年結構工程學高級文憑畢業生及1975年結構工程學院士，其後一直在業內發展，2006年起擔任屋宇署助理署長，有份建立該署現行的建築物管制及工地監督制度，以及制訂有關地基工程及拆卸建築物的實務守則，深得業界尊敬，服務市民長達三十三年，榮休後，於2013年起出任邁進土木結構工程顧問有限公司結構分部董事。他心繫母校，2004年起擔任土木及環境工程學系兼任教授，又設立「蔡健權獎學金」，助年輕人達成升學理想。

「傑出理大校友」選舉始於1996年，兩年一度，旨在表揚理大(包括前香港官立高級工業學院、香港工業專門學院及香港理工學院)的卓越畢業生，今年已是第十屆，選舉頒獎禮剛於本年五月十九日舉行。



Ir Prof. Choy (second from left) receiving his award



## BRE PhD Graduates Off to a High-flying Career

Two recent PhD graduates from the Department of Building and Real Estate, Dr Hong Yuming and Dr Yuan Zhao, have accepted job offers from the Country Garden Corporation Limited, one of China's leading integrated property developers, with businesses comprising construction, installation, fitting, property development, property management, as well as hotel development and management.

Recruited by Country Garden under its Future Leader Scheme, Dr Hong and Dr Yuan will work alongside outstanding PhD graduates from prestigious universities around the world, such as Harvard University, Stanford University, and Princeton University. The recruitment scheme, as declared by Country Garden, is dedicated to nurturing future management leaders in the area of integrated property development both locally and globally.

Dr Hong Yuming was supervised by Dr Daniel Chan and Prof. Albert Chan, while Dr Yuan Zhao was supervised by Geoffrey Shen. Another former BRE postdoctoral research staff, Dr Xu Yelin, who was supervised by Prof. Albert Chan in a joint PhD scheme with Southeast University in China, also participated in the Future Leader Scheme of Country Garden. Good luck to all of them.

## 建築及房地產學系博士畢業生事業路上振翅高飛

建築及房地產學系兩位博士畢業生洪羽明博士及原釗博士，最近獲中國著名綜合房地產開發商碧桂園集團聘用，成為該集團「未來領袖計劃」的一份子。

碧桂園集團的業務涵蓋規劃設計、建築裝修，以及物業和酒店的發展與管理。洪博士及原博士將與哈佛、史丹福、普林斯頓等國際頂級學府的菁英博士畢業生一起工作，接受培訓。據集團所言，「未來領袖計劃」旨在為本地以至全球的綜合房地產開發行業培育新一代領軍人才。

洪博士的導師是陳煒明博士及陳炳泉教授；原博士則是沈岐平教授的高足。「未來領袖計劃」另一位入選者 Dr Xu Yelin，曾參加理大與中國東南大學的聯合博士生計劃，是陳炳泉教授的學生，之前於建築及房地產學系任職博士後研究員。謹此祝願三位一切順利、鵬程萬里！



Dr Hong (on left) with Prof. Albert Chan  
洪博士(左)與陳炳泉教授

# Events

## 活動剪影

### Second International Conference on Sustainable Urbanization

More than 300 researchers and industry practitioners from 19 countries and regions gathered on the campus of The Hong Kong Polytechnic University (PolyU) from 7 to 9 January 2015 for the Second International Conference on Sustainable Urbanization (ICSU), which was jointly organized by the Research Institute for Sustainable Urban Development (RISUD) and the Faculty of Construction and Environment (FCE). The conference was chaired by Professor Jin-Guang TENG, Director of RISUD. Apart from a set of plenary lectures by distinguished speakers given in the three mornings, the conference was organized into six symposia, each of which focused on a distinct theme and chaired by a leading PolyU academic:

### 第二屆可持續城市化國際會議

逾三百位來自十九個國家及地區的科研人員及業界人士，於2015年一月七至九日齊集理大，參加由可持續城市發展研究院與建設及環境學院合辦的第二屆可持續城市化國際會議。該活動由可持續城市發展研究院院長滕錦光教授擔任主席，除了由特邀講者主講的多個全體報告環節，還設有六個專題研討會，各由一位理大知名學者主持。



**Symposium 1:** Emerging Materials and Technologies for Sustainable Infrastructure, chaired by Professor Jin-Guang TENG

**Symposium 2:** Sustainable Urban Renewal in High-Density Cities, chaired by Professor Geoffrey Q.P. Shen

**Symposium 3:** Sustainable Water in Cities, chaired by Professor Xiang-dong LI

**Symposium 4:** Urban Data and Urban Computing, chaired by Professor Xiao-li DING

**Symposium 5:** Energy Saving and Renewable Energy Technologies for Buildings, chaired by Professor Hong-xing YANG

**Symposium 6:** Second Cross-Strait Forum on Sustainable Urban Development, chaired by Professor Jan-Ming KO

**研討會 1：**可持續新型基建材料及技術國際研討會  
(主席：滕錦光教授)

**研討會 2：**高密度城市的可持續市區重建國際研討會  
(主席：沈岐平教授)

**研討會 3：**城市可持續水供應國際研討會  
(主席：李向東教授)

**研討會 4：**城市數據與城市運算國際研討會  
(主席：丁曉利教授)

**研討會 5：**建築物節能及再生能源技術國際研討會  
(主席：楊洪興教授)

**研討會 6：**第二屆海峽兩岸可持續城市發展論壇  
(主席：高贊明教授)

The three-day conference was officially kicked off by Professor Timothy W. TONG, President of PolyU, Professor You-lin XU, Dean of FCE, and Professor Jin-Guang TENG, Director of RISUD. Speaking at the opening ceremony, Professor TONG said, "Sustainable development has become pivotal to the future of cities in the Asia-Pacific region and the world at large. High-density urban development not only brings economic growth, but also generates problems in relation to growing pressures on natural resources. To preserve the environment for the generations to come, there is an urgent need for coordinated action on urban sustainability." Ir. C.S. Wai, the Guest-of-Honor of the Opening Ceremony and Permanent Secretary for Development (Works) of the Hong Kong S.A.R. Government, then delivered an opening speech to introduce the impressive infrastructure development programme for Hong Kong.

Seven prominent international and local experts delivered keynote lectures at the conference. They included Professor Chimay ANUMBA of The Pennsylvania State University, Professor Hongguang JIN of the Chinese Academy of Sciences, Mr Alex LUI, Chairman of Green Deck Taskforce of PolyU, Professor Perry L. McCARTY of Stanford University, Dr Baoxing QIU of the Chinese Society for Urban Studies, Prof. K.V. RAGHAVAN of the Indian Institute of Chemical Technology, and Professor Jerald L. SCHNOOR of The University of Iowa.

According to the organizers, massive high-density urbanization in many parts of the world, often in regions where the available land and resources are limited relative to the size of the population, has posed many challenges for society. Such challenges include the provision of effective urban infrastructures (e.g. transport systems), adequate housing, sufficient energy and water supplies, a clean environment, and sustainable community support systems to meet people's needs.

Generously supported by many organizations, the conference provided an international forum for the scientific/engineering community to examine these challenges, and to find effective solutions to ensure a sustainable process of urbanization as well as sustainable management of urbanized areas.

Following the conference, the International Advisory Committee (IAC) of RISUD held its first meeting on 10 January 2015 to review the progress made by RISUD since its launch in January 2012. Members of the IAC provided valuable advice on the future development of RISUD. The IAC of RISUD includes influential industrial leaders in Hong Kong and distinguished researchers from outside Hong Kong. Chaired by Ir Dr Andrew CHAN, Chairman of Arup Group Trusts, the IAC was set up by RISUD to provide advice on the development of RISUD, and to facilitate collaborations between RISUD and R & D organizations around the world.



這個一連三天的大型會議由理大校長唐偉章教授、建設及環境學院院長徐幼麟教授，以及可持續城市發展研究院院長滕錦光教授主持揭幕儀式。唐校長在儀式上指出：「在亞太地區以至世界各地，可持續發展已成為城市規劃及管理的關鍵。高密度城市發展雖然帶動了經濟增長，但對天然資源的需求不斷增加，衍生了種種問題。為了保護往後世代的生活環境，各界須立即行動，合力為可持續的城市發展作出貢獻。」應邀擔任主禮嘉賓的香港特區政府發展局常任秘書長(工務)韋志成工程師，致辭時則特別介紹了香港龐大的基建發展計劃。



大會請來七位知名的國際及本地專家發表主題演講，包括美國賓夕法尼亞州立大學的 Chimay ANUMBA 教授、中國科學院的金紅光教授、理大綠化平台工作小組主席雷震寰先生、史丹福大學的 Perry L. McCARTY 教授、中國城市科學研究會的仇保興博士、印度化學科技學院的 K.V. RAGHAVAN 教授，以及美國艾奧瓦大學的 Jerald L. SCHNOOR 教授。

主辦機構指出，在人口眾多但土地及資源相對有限的地區，大規模的高密度城市發展為社會帶來不少挑戰，包括因應市民需要為他們提供足夠的城市基建(運輸系統等)、房屋、能源和用水、清潔的環境，以及可持續的社區支援等等。

在各參與機構大力支持下，是次會議讓科學及工程界得以聚首一堂，深入探討這些迫在眉睫的挑戰，共商有效方案，從而確保城市化過程和城市管理的可持續性。

會議結束後，可持續城市發展研究院的國際諮詢委員會於翌日首次開會，除了檢討該院自 2012 年 1 月成立以來的工作進展，還就其未來發展提出了不少寶貴意見。委員會由可持續城市發展研究院成立，主席為奧雅集團總公司信托董事局主席陳嘉正博士，成員包括極具影響力的香港工業家和外地傑出科研人員，職責是就研究院的發展提供意見，以及推動研究院與全球其他科研組織的合作。





## The 9<sup>th</sup> Annual Seminar on Spatial Information Science and Technology (ASSIST'14)

The 9<sup>th</sup> Annual Seminar on Spatial Information Science and Technology (ASSIST'14) was successfully held on the PolyU campus on 19 December 2014, drawing more than 100 participants from various Hong Kong government departments and industries.

Hosted annually by the Department of Land Surveying & Geo-Informatics (LSGI), the seminar provided a platform for discussing the latest advances in spatial information science and technology and their applications in Hong Kong. The theme of the seminar was Spatial Big Data in Smart City.

The seminar was officially opened by Professor John W.Z. Shi, Head of LSGI, and Sr Simon Kwok, President of The Hong Kong Institute of Surveyors. Delegates from different universities, departments and industries showcased their research projects and discussed their findings with the participants. Prof. Shi moderated a closing panel discussion with representatives from the Survey and Mapping Office of the Lands Department, the Civil Engineering and Development Department, the Highways Department, the Planning Department, the Water Supply Department, the Transport Department and the Hong Kong Observatory. The panel highlighted the future needs of spatial information technologies in Hong Kong (including GIS, remote sensing, satellite positioning, and advanced surveying techniques).

## 第九屆空間信息科學技術年會 (ASSIST' 14)

第九屆空間信息科學技術年會 (ASSIST' 14) 已於2014年十二月十九日於理大校園完滿舉行，與會的特區政府官員及業界人士超過一百人。

這項一年一度的活動由土地測量及地理資訊學系主辦，旨在提供一個平台，讓與會者討論空間信息科學技術的最新進展及在香港的應用情況。

年會由土地測量及地理資訊學系系主任史文中教授及香港測量師學會時任會長郭志和先生揭幕後，來自各大學、政府部門及業界的代表陸續介紹自己的研究項目，並與其他參加者討論有關結果。研討會最後一個環節是由史文中教授主持的小組討論，參與者包括來自地政總署測繪處、土木工程拓展署、路政署、規劃署、水務署、運輸署及香港天文台的代表；眾人重點討論了香港未來對地理資訊系統 (GIS)、遙感、衛星定位及先進測量技術等空間信息科技的需求。





## The 19<sup>th</sup> International Conference of Hong Kong Society for Transportation Studies

The 19<sup>th</sup> International Conference of Hong Kong Society for Transportation Studies (HKSTS) was successfully held from 13-15 December 2014 at the InterContinental Grand Stanford Hong Kong. Jointly organized by the HKSTS and the Department of Civil and Environmental Engineering (CEE) of The Hong Kong Polytechnic University (PolyU), the conference had transportation and infrastructure as its theme, covering topics related to both the software and hardware of a sustainable transportation system, such as Transportation Infrastructure and Built Environment; Sustainability Issues in Transportation; Transportation Surveys; Travel Behaviour Modelling; Technology, Transportation and Telecommunications; Logistics and Supply Chain Management; Transport Dynamics; and Transport Management. Mrs. YEUNG HO Poi Yan Ingrid, JP, Commissioner for Transport of the Transport Department of the Government of the Hong Kong Special Administrative Region, was invited as the keynote speaker.

Generously supported by Autotoll Limited and the Faculty of Construction and Environment, the conference provided an excellent platform to share insights on the design, analysis, planning, operation, co-ordination and management of transport infrastructure projects together with their impacts. It attracted over 240 submissions from researchers across five continents. After a vigorous review process, over 130 papers covering a spectrum of research topics were accepted for presentation. With more than 220 participants from all over the world, the annual conference of HKSTS was indeed an international event for exchanging and archiving knowledge on the development of advanced transportation research.

## 香港交通研究學會第十九屆國際研討會

香港交通研究學會(HKSTS)第十九屆國際研討會，已於二零一四年十二月十三日至十五日假座香港海景嘉福酒店完滿舉行。本屆研討會由該學會與本院土木及環境工程學系聯合主辦，圍繞交通與基建的主題，討論範圍涵蓋可持續交通運輸系統的軟硬件各方面，如交通基建與建築環境；交通運輸的可持續性；交通調查；出行行為建模；科技、運輸與通訊；物流與供應鏈管理；運輸動力學以及交通管理。特區政府運輸署署長何蓓茵太平紳士應邀擔任本屆會議主講嘉賓。

在快易通有限公司及本院鼎力支持下，研討會為交通基建的設計、分析、規劃、執行、協調、管理及影響提供了一個分享經驗和心得的優秀平臺。這次提交論文/報告的科研人員遍及五大洲，共計收到超過二百四十份投稿。經嚴謹評審後，共有一百三十多份涉及不同研究專題的論文獲選在會上發表。本屆學術年會共吸引二百二十多位來自世界各地的代表參與，堪稱國際盛會，有效促進了交通運輸學科前沿發展的交流和彙集。





## EMI International Conference 2015

On 7-9 January 2015, the first Engineering Mechanics Institute (EMI) International Conference outside of North America was held at The Hong Kong Polytechnic University. Prof. Alex Wai, Vice-President (Research Development) of PolyU, delivered a welcome speech at the opening ceremony on the first day, followed by Prof. Roberto Ballarini, President of EMI, and Prof. Kam Tim Chau, Chair Prof. of Geotechnical Engineering at the Department of Civil and Environmental Engineering, who chaired the organizing committee of the conference. Financially supported by the Faculty of Construction and Environment (FCE), the conference's theme was mechanics for civil engineers against natural hazards.

With 21 parallel sessions and 6 keynote lectures, including one from Prof. You-Lin Xu, Dean of the FCE, the conference attracted more than 130 scholars and practitioners from 20 different countries. Participants of the conference were invited to submit their work to be published in a special issue of the *Journal of Engineering Mechanics* of the American Society of Civil Engineers.

## 美國工程力學學會國際會議 2015

美國工程力學學會 (EMI) 於 2015 年一月七至九日在理大召開國際會議，寫下該項活動首次移師北美以外地區舉行的紀錄。在會議的第一天，除有理大副校長（科研發展）衛炳江教授親臨開幕儀式發言，美國工程力學學會會長 Roberto BALLARINI 教授，以及擔任會議籌委會主席的本院土木及環境工程學系講座教授（岩土工程學）周錦添教授亦分別致辭。今次會議以「土木工程師應對自然災害的力學技術」為主題，經費獲建設及環境學院資助。

大會包含二十一個分組會議及六個主題報告，當中一位主講為本院院長徐幼麟教授，與會的學者及業界人士來自二十個國家，合共超過一百三十人。參加者均獲邀提交報告/論文，由美國土木工程師學會 (ASCE) 的《工程力學期刊》結集成特刊出版。

## HKIE Accreditation for FCE Programmes

Since the switch to the 4-year degree curricula in Hong Kong in 2012, it has been necessary for many 3-year programmes to be re-accredited by their respective professional institutions for the 4-year degree framework. To facilitate this in the Faculty of Construction and Environment (FCE), an accreditation team from the Hong Kong Institution of Engineers (HKIE) paid a visit to the Faculty in January 2015 to reassess six existing programmes that have been adapted for the 4-year curriculum, namely, the BEng (Hons) in Civil Engineering (full-time and part-time self-financed), the BEng (Hons) in Building Services Engineering (full-time and sandwich as well as 2-year self-financed full-time), and the BSc (Hons) in Building Engineering and Management (full-time and part-time self-financed). At the Accreditation Board meeting of the HKIE on 14 April 2015, provisional accreditation was granted to all of the programmes. The decision was reached because the HKIE accreditation team was convinced that those programmes have the staff, resources, and facilities to provide students with a high quality education.

Full accreditation of the above programmes is contingent on continuous programme improvement and further evaluation by the HKIE accreditation team, when graduates of the 4-year degree curriculum are available.

## 本院四年制課程獲香港工程師學會認可

香港於 2012 年改行大學四年制後，很多「三改四」的課程均須由相關專業團體重新評審認可。為協助我們完成這項程序，香港工程師學會一隊專責人員特別於 2015 年一月到訪本院，重新審核六項現存的「三改四」課程，包括全日制及自負盈虧兼讀制的「土木工程學（榮譽）工學士課程」、全日廠校交替制及自負盈虧兩年全日制的「屋宇設備工程學（榮譽）工學士課程」，以及全日制及自負盈虧兼讀制的「建築工程及管理學（榮譽）理學士課程」。在學會於 2015 年四月十四日舉行的學術評審政策委員會會議上，上述六項課程均取得臨時認可。委員會作出這項決定，是因為學會的學術評審團隊確信這些課程的師資、教學資源及設備足以為學生提供優質教育。

能否取得正式認可，須視乎課程會否持續改進，並待首批四年制學生畢業後由工程師學會的評審人員再作評估。



## The US ION's Pacific PNT Conference

Dr George Zhizhao Liu of the Department of Land Surveying and Geo-Informatics was invited to serve as an international advisor to the US Institute of Navigation's (ION) Pacific PNT conference that was held in Honolulu Hawaii from 20-23 April 2015. A premier gathering for technical and policy leaders in the Positioning, Navigation and Timing (PNT) community from the Pacific region, including Japan, Singapore, Mainland China, Taiwan, Hong Kong, Macau, South Korea, Australia, Canada, and the United States, the conference also attracted participants outside the Pacific region.

Founded in 1945, the US ION is the world's premier non-profit professional society dedicated to the advancement of the art and science of PNT. The Global Navigation Satellite System (GNSS)-based PNT technology is regarded as one of the most important technologies in the 21st century. At the conference, Dr Liu presented a collaborative study comparing the characteristics of equatorial scintillation in Hong Kong and Brazil. This was the first time an investigation between two ionospherically very active regions in the northern and southern hemispheres was conducted. Ionosphere scintillation has a serious adverse effect on GNSS-based PNT applications, which can significantly degrade the accuracy and reliability of PNT.

## 美國導航學會太平洋定位、導航及授時學術會議

土地測量及地理資訊學系的劉志趙博士應美國導航學會 (ION) 邀請，於該會在2015年四月二十至二十三日假檀香山舉行的太平洋定位、導航及授時 (PNT) 學術會議擔任國際顧問。除了日本、新加坡、中國內地、台灣、香港、澳門、南韓、澳洲、加拿大及美國等太平洋地區的業內專家和政策制訂者趁機聚首一堂，會議亦吸引區外人士參加。

於1945年成立的美國導航學會，致力促進PNT藝術及科學的發展，是上述領域中全球首屈一指的非牟利專業組織。建基於全球衛星導航系統 (GNSS) 的PNT技術，被視為二十一世紀最重要的科技之一。劉博士在會議上介紹了一項比較赤道閃爍在香港與巴西的特徵的協作研究。應用以GNSS為基礎的PNT技術時，電離層閃爍現象會大大削弱其精確度及可靠性，而劉博士的項目，則是首次對南、北半球兩個電離層非常活躍的地區同時進行研究。



Dr Liu (on right) with the US ION President, Prof. Dorota Grejner-Brzezinska of Ohio State University

## PolyU-NAMI Workshop on Construction and Building Materials

On 20 March 2015, a collaborative workshop between PolyU and Nano and Advanced Materials Institute Limited (NAMI) was held on the university campus. Facilitated by Prof. C.S. Poon, Associate Head of the Department of Civil and Environmental Engineering (CEE), the workshop on construction and building materials brought together PolyU scholars, research students, and NAMI researchers in this field. They were welcomed by Prof. Y.L. Xu, Dean of the Faculty of Construction and Environment, who noted the importance of the topics covered by the workshop. After an opening address by the Chief Executive Officer of NAMI, Mr Daniel Yu, scholars from CEE presented their latest research and areas of expertise, including Prof. C.S. Poon, Prof. K.F. Chung, Dr Eddie Lam, Dr J.G. Dai, Dr Dan Tsang, and Dr Ben Leu. The University Research Facility in Materials Characterization and Device Fabrication was also introduced by its Director, Prof. Helen Chan. Six researchers from NAMI subsequently gave well received presentations on their research in different construction and building materials, led by Dr Ivan Sham, Director of Research and Development in Construction and Building Materials at NAMI. It is hoped that the workshop will lead to further collaborations between PolyU and NAMI.

## 理大與納米及先進材料研發院合辦先進建材工作坊

2015年三月二十日，理大與香港納米及先進材料研發院有限公司於校園合辦工作坊，由土木及環境工程學系副系主任潘智生教授主持，與會者除理大學者及研究生，還有從事納米建材研究的人員。本院院長徐幼麟教授致歡迎詞時，肯定了工作坊中各個議題的重要性；而在研發院行政總裁余宏德先生發表開幕詞後，土木及環境工程學系的多位學者——潘智生教授、鍾國輝教授、林少書博士、戴建國博士、曾超華博士及呂紹元博士，便逐一闡述其最新研究進展及專長領域。另外，理大材料與器件中心實驗室的陳王麗華教授，亦介紹了該科研設施的運作情況。研發院方面，則派出以研究發展總監(建築及屋宇材料)沈文龍博士為首的六位科究人員，講解針對不同建築及屋宇材料的研究。當日氣氛熱烈，雙方均期望工作坊可促進日後合作。

Established in 2006, NAMI was designated by the Innovation and Technology Commission as a Research and Development Centre for nanotechnology and advanced materials. NAMI undertakes and provides support for market-oriented research in nanotechnology and advanced materials, and strives for commercialization of the technologies to promote the economic growth of Hong Kong as a knowledge-based economy.

納米及先進材料研發院有限公司於2006年成立，是創新科技署指定的納米技術及先進材料研發基地，除進行及支援由市場主導的納米技術及先進材料研發工作，亦致力將技術商品化，從而推動香港以知識為基的經濟發展。

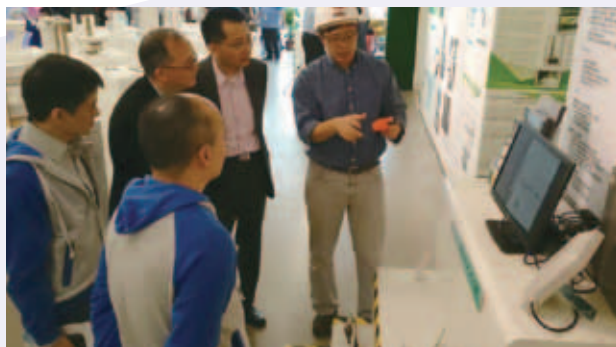


## Building Safety Week 2015



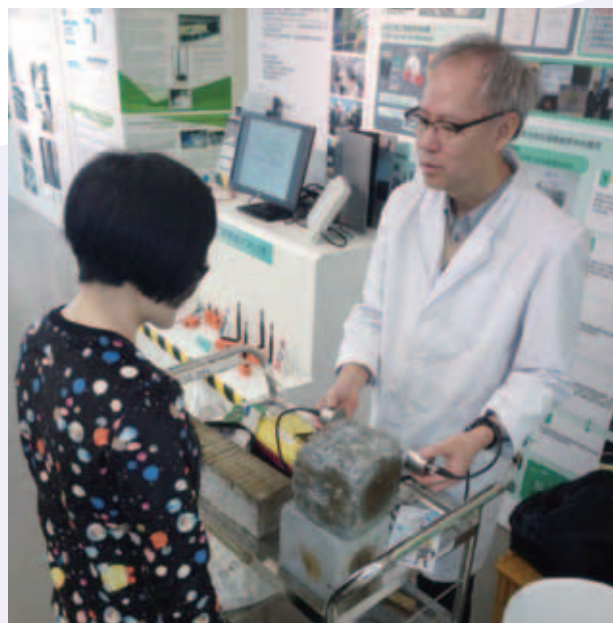
A major public education and publicity event on building safety was held on the campus of PolyU from 14 to 20 March 2015. Organized by the Buildings Department of the Hong Kong Government for building professionals, contractors, students, and the general public, the event took place at several venues on campus. Staff from the Department of Civil and Environmental

Engineering participated in numerous workshops and seminars, while staff from the Department of Building and Real Estate demonstrated the Proactive Construction Management System (PCMS) and the ultrasonic technology for non-destructive testing for building maintenance. Developed by BRE researchers, the PCMS enhances safety on construction sites by tracking the positions of workers and machinery in real time and alerting the former of possible fatal collisions. Besides these demonstrations, seminars and workshops, there were exhibitions with interactive displays on building safety, live music, a 3D mapping show, game booths, and performances for children. It was a fun-filled week for all involved.



## 樓宇安全週 2015

由特區政府屋宇署主辦的「樓宇安全週2015」，已於2015年三月十四至二十日在理大校園舉行。這是一項為建造業從業員、承建商、學生及公眾而設的大型教育及宣傳活動，內容豐富，各項目分別在理大校園多個地點進行，當中不少工作坊和講座，均有土木及環境工程學系的人員參與。另外，建築及房地產學系亦派出代表講解由該系研發的「雲建管」系統，以及用於樓宇維修、可避免進行損毀性測試的超聲波技術。「雲建管」系統可實時追蹤工人及重型機械的位置，在可能發生致命撞擊時預先發出警號，改善工地安全。除了講解示範、講座及工作坊，樓宇安全週還包括多個設有互動裝置的樓宇安全展覽、現場樂隊演出、三維立體投射表演、攤位遊戲，以及為小朋友而設的表演，樂趣滿溢，參加者無不盡興。





## FCE Forums for Strategic Research Planning

To enhance communication and collaboration across the four departments in the Faculty of Construction and Environment (FCE) and to facilitate strategic planning for the next 3 years, 5 forums have been held in the Faculty. The first and second forums were held on 21 and 30 April 2015, respectively, for Assistant Professors (including Research Assistant Professors) and Associate Professors. In each of the forums, an opening address was given by Prof. You-Lin Xu, Dean of FCE, followed by a presentation by each academic staff on his/her research interests, existing and potential research collaborations, and his/her views on the directions of the Faculty in pursuit of research excellence. Prof. Xiang-Dong Li facilitated the discussions and flows of the forums.

Subsequent forums for Professors and Chair Professors were also held, with the final one on 19 May 2015 for all the FCE academic staff.



## 科研策略規劃論壇

為加強轄下四大學系的溝通與協作，並就未來三年的科研工作進行策略規劃，建設及環境學院決定召開五場論壇，首兩場分別為助理教授(包括助理教授(研究))及副教授而設，已於2015年四月二十一及三十日舉行。論壇由李向東教授主持，徐幼麟院長致開幕詞後，每位在座同事均有機會發言，講述其研究興趣、科研協作的現況及動向，以及學院在致力提升科研水平的過程中應採取的路向。

為教授及講座教授而設的同類型論壇亦已舉行，而集全體教研人員的最後一場論壇，已於五月十九日舉行。



## RICS-HK Geomatics Conference 2014

At the Geomatics Conference on 22 November 2014, two assistant professors from the Department of Land Surveying and Geo-Informatics were invited to deliver technical presentations. Organized by the Geomatics Professional Group of the Royal Institution of Chartered Surveyors (RICS), the conference had as its theme "A Geospatial Smarter City." In Dr Wallace Wai-lok Lai and Dr Charles Man-sing Wong shared their knowledge and experience of how geospatial information and the latest technology in geomatics could contribute to building a smarter city. Their presentation topics were "Information Acquisition and Management of Underground Utility in a Well-developed City" and "Green Index Mapping in an Urban City" respectively.

## 皇家特許測量師學會香港分會 2014 年測繪學會議

土地測量及地理資訊學系的賴緯樂博士工程師及黃文聲博士，於2014年十一月二十二日出席了一個有關測繪及地理資訊學的會議，並應邀發表技術報告。該活動由英國皇家特許測量師學會(RICS)轄下的測繪及地理資訊學專業小組主辦，主題為「進一步透過地理空間技術建設智慧城市」，而兩人的技術報告，則分別以「高度發展城市裡的信息採集及地下管線管理」及「城市綠指數製圖工作」為題。另外，他們也跟與會者分享了不少見解和經驗，細談如何利用地理空間信息和最新的測繪學技術建設智慧城市。





## HKIE Accreditation Visit

An accreditation visit by the Hong Kong Institution of Engineers (HKIE) was held on 12-13 January 2015. Members of HKIE's visiting team and an independent Washington Accord Review Panel gathered at the Office of the Faculty of Construction and Environment (FCE) for the accreditation exercise. Prof. You-lin Xu, Dean of FCE, Prof. Geoffrey Shen, Associate Dean, as well as Dr Michael Yam, Prof. Wan Ki Chow, and Prof. William Lam, the respective Heads of the Department of Building and Real Estate (BRE), Department of Building Services Engineering (BSE), and the Department of Civil and Environmental Engineering (CEE), met with the visitors to review strategic and generic issues affecting six programmes, including the BEng (Hons) in Civil Engineering (both full and part time), the BEng (Hons) in Building Services Engineering (full time and sandwich as well as 2-year self-financed full time), and the BSc (Hons) in Building Engineering and Management (both full and part time). Programme leaders and key academic staff responsible for major elements of the programmes under review were split into three groups to facilitate discussion of the relevant issues with the HKIE visitors, who also attended an informal reception with external stakeholders, such as representatives of Advisory Board members and employers of graduates. Prof. Philip Chan, Deputy President and Provost, was also present at a combined session with all the programme leaders and visitors. In addition, current students as well as recent graduates of each programme were selected to meet with the HKIE visitors as part of the accreditation exercise. Outcome evidences of student work were reviewed, including assignments, projects, examination question papers, answer scripts, lab reports etc.

On the second day, HKIE visitors were given a tour of Departmental labs, the Industrial Center, and University facilities like the library and the English Language Centre before they had a final meeting with the Dean, the Department Heads, Programme Leaders and other key staff to wrap up the visit. It was a mutually productive meeting for all concerned.

## 香港工程師學會於本院進行學術評審

香港工程師學會於2015年一月十二日到訪本院，進行一連兩天的認證視察。當天，學會視察人員及獨立的《華盛頓協議》覆檢委員會成員首先齊集本院辦事處，與院長徐幼麟教授、副院長沈岐平教授，建築及房地產學系系主任任志浩博士、屋宇設備工程學系系主任周允基教授，以及土木及環境工程學系系主任林興強教授會面，檢視關於六項課程的策略及總體事宜。該六項課程分別為土木工程學（榮譽）工學士課程（全日制及兼讀制）、屋宇設備工程學（榮譽）工學士課程（全日廠校交替制、自負盈虧兩年全日制），以及建築工程及管理學（榮譽）理學士課程（全日制及兼讀制）。課程主任及主責教員分成三組，方便與評審人員討論相關事宜；另外，又進行了一次與院外持份者的非正式會面，與會人士包括學系顧問委員會代表及畢業生的僱主；而在一個包含了所有課程主任及評審人員的聯合會議裡，理大常務及學務副校長陳正豪教授亦有出席。除進行一連串會議，評審過程還包括會見部分現時修讀上述課程的學生和近期的畢業同學，以及檢視學生的功課、專題習作、試題、考卷、實驗報告等，以瞭解同學的學習情況。

次日，評審人員首先參觀各學系的實驗室、工業中心，以及大學圖書館、英語學習中心等設施，然後與院長、各系主任、課程主任及其他主要職員開會，總結學術評審結果。雙方均感到會議內容有益和實用。





## MoU Between PolyU and City of Beijing

On 20 May 2015, a Memorandum of Understanding (MoU) was signed between PolyU and the Leading Group for Beijing's Talent Affairs, municipal Government of Beijing, to promote collaboration and facilitate the development of numerous areas, including exchange visits for university professors, researchers, and students from both sides; the nurture of young leaders; building a platform for youths to innovate and launch their careers; collaborative research and knowledge transfer; joint application for research funding; and other matters of mutual interest. Representing the city of Beijing were 11 government officials. Prof. Phillip Chan, Deputy President and Provost, represented PolyU in signing the MoU, while Yan Cheng, Director of the Office of the Leading Group for Beijing's Talent Affairs, represented the Beijing delegation. Prof. Angelina Yuen, Vice President of PolyU (Institutional Advancement and Partnership), was one of the witnesses at the signing event.

The research collaboration will mainly be in the areas of transportation, air quality, urban hazards and smart city development. The Faculty of Construction and Environment (FCE) will play a leading role in the collaboration. Prof. You-Lin Xu, Dean of FCE, and about 15 academic staff joined the discussion with the Beijing delegation and the MoU signing ceremony.

## 理大與北京市簽訂諒解備忘錄

2015年五月二十日，理大與北京市人才工作領導小組簽訂諒解備忘錄，藉此促進雙方在不同領域的合作，包括大學教授、科研人員及學生互訪、培育年輕領袖、幫助年輕人發揮創意和發展事業、協作研究及知識轉移、聯手申請科研經費，以及其他彼此同感興趣的事宜。當天共有十一位北京市政府官員出席儀式。雙方分別由理大常務及學務副校長陳正豪教授及北京市人才工作領導小組的辦公室主任閻成簽約；理大副校長（學院發展及合作）阮曾媛琪教授亦有在場見證。

由於雙方的科研合作會集中在交通運輸、空氣質素、城市災害，以及智慧城市的發展，建設及環境學院將扮演非常吃重的角色。因此，以院長徐幼麟教授為首的約十五位本院學者，亦有參與和北京代表團的討論及簽約儀式。

## ESD Programme Leader Reached Out to IVE Students

On 15 April 2015, about 55 final year students in the Higher Diploma (HD) programme in Environmental Technology at the Tsing Yi campus of the Hong Kong Institute of Vocational Education (IVE) were introduced to the BSc (Hons) programme in Environment and Sustainable Development (ESD) by its programme leader, Dr K.S. Lam of the Department of Civil and Environmental Engineering. The students had a chance to learn more about the senior year curricula at PolyU.

## 環境與可持續發展學課程主任與香港專業教育學院學生見面

2015年四月十五日，擔任「環境與可持續發展學」學士學位課程主任的林嘉仕博士，與香港專業教育學院青衣分校約五十五名修讀「環境科技高級文憑」的畢業班同學見面，向他們介紹這項由土木及環境工程學系開辦的課程。同學可藉此增進對理大環境學高年級課程內容的認識。



Dr K.S. Lam (second from left) with some lecturers of IVE's Department of Construction

## Annual Partnership Meeting of FCE and RICS

On 8 December 2014, representatives from the Royal Institution of Chartered Surveyors (RICS) met with academic leaders from the Faculty of Construction and Environment (FCE) to brief one another on their current positions and latest developments in their respective course provision and development. They also reviewed their mutual aims and objectives, including the development of collaborative programmes/ research in China, scholarships/ sponsorships etc. Prof. You-lin Xu, Dean of FCE, and Prof. Albert Chan, immediate past Interim Dean, were both present, as were the Associate Heads of three departments: Dr Lilian Pun (LSGI), Prof. Y.H. Chiang (BRE), Prof. C.S. Poon (CEE); and five programme leaders of various courses, including Dr C.K. Chau, Dr Joseph Lai, Prof. Yang Hongxing, Dr Bo Wu, and Dr Conrad Tang.

## 建設及環境學院與皇家特許測量師學會周年合作會議

2014年十二月八日，皇家特許測量師學會 (RICS) 的代表與本院多位學者 (FCE) 會面，互相簡介在課程發展方面的現況和動向，並檢視雙方的共同目標，如在內地合辦課程或進行研究、設立獎學金/贊助等等。除本院院長徐幼麟教授及前暫任院長陳炳泉教授，我方的與會學者還有三大學系的副系主任——潘鄭淑貞博士（土地測量及地理資訊學系）、蔣日雄教授（建築及房地產學系）及潘智生教授（土木及環境工程學系），以及周志坤博士、黎鴻傑博士、楊洪興教授、吳波博士及鄧康偉博士五位課程主任。



## LSGI Scholars Faced the Press

In an exclusive interview with *Wen Wei Po* in December 2014, three academics from the Department of Land Surveying and Geo-Informatics, Prof. Xiaoli Ding, Prof. Wu Chen, and Dr Zhizhao Liu, enthused about the contributions made by Global Navigation Satellite Systems (GNSS) in the history of mankind. Not only have the technologies enhanced the accuracy of weather forecasts, the wide application of Global Positioning System (GPS) in smartphones has done much to personalize its use in everyday life. The Lands Department of the Hong Kong Government also has in place a Satellite Positioning Reference Station Network that greatly increases the speed and quality of land surveying and mapping in Hong Kong.

To develop the technology of GPS further, PolyU partnered with Wuhan University earlier this year to establish a joint research center that harnesses the strengths of both institutions. The partnership aims to take advantage of the location of Hong Kong, which has traditionally posed more hurdles for positioning systems due to its high building density, ubiquitous flyover bridges, and low latitude. The same place could end up having several locations as a result of varying heights. However, LSGI researchers are determined to turn these "setbacks" into home field advantages. They posited that if they could successfully test and prove the accuracy and reliability of GPS in a crowded city like Hong Kong, then the system is guaranteed to work anywhere else in the world. Thus, Hong Kong can become a natural laboratory for testing China's Beidou Navigation Satellite System.

"The accuracy of GPS in navigating outdoors is very good, but satellite signals are very weak in indoor situations, making them impossible to determine position," said Prof. Ding. He believes this can be a trend in the future development of GPS, since many indoor services are vital nowadays.

The HK PolyU-Wuhan University Partner GNSS Research Center will focus on the basic theories and applications of navigation systems, using the satellite systems of other countries such as the United States' GPS and the European Union's Galileo system as benchmarks.

## 土地測量及地理資訊學系學者接受報章專訪

土地測量及地理資訊學系的丁曉利教授、陳武教授及劉志趙博士早前接受了《文匯報》專訪，把全球導航衛星系統 (GNSS) 譽為人類歷史上最重大的發明之一。它不但有助更準確地預測天氣，智能電話廣泛應用衛星導航定位技術 (GPS) 後，這種高科技實際上已融入日常生活，與每個人都息息相關。另外，香港地政總署亦設立了「香港衛星定位參考站網」，大大提升了土地測量及製圖的速度和質素。

為了進一步發展 GPS 技術，理大 2014 年初便聯同武漢大學成立夥伴研究中心，藉此結合雙方的長處，並發揮香港的地理優勢。香港的建築密度極高，行車天橋多不勝數，加上位於低緯度地區，同一個地方也可以因高度不同而有幾個位置，原本對發展定位系統甚為不利。不過，土地測量及地理資訊學系的研究人員卻決心把這些不利條件化為「主場之利」。根據他們的說法，假如能在香港這樣擠迫的城市成功測試及證明 GPS 的準確和穩定性，系統必然可以在任何其他地方使用；這樣，香港就可以成為測試中國北斗衛星系統的天然實驗室。

丁教授說：「GPS 的室外定位導航精度很好，但一到室內，衛星訊號就非常弱，導致無法定位。」他認為不少室內服務已變得非常重要，預計 GPS 未來亦會朝這個方向發展。

由理大與武漢大學合組的 GNSS 研究中心，會以美國的 GPS、歐盟的伽利略系統等為基準，重點研究導航系統的基礎理論及應用。



## BRE Postdoc led CPD Forum

In a forum for continuing professional development (CPD) on 13 February 2015, Dr Irene Wong of the Department of Building and Real Estate discussed the lessons learnt from five cases of revitalization of industrial buildings in Hong Kong. The cases included wholesale conversions into loft apartments, elderly housing, an art centre, an outlet cum hotel development, and a redevelopment project into a residential building. Organized by the Chartered Institute of Building, the forum also investigated the potential of converting industrial buildings into loft apartments for sale. It was suggested that the floor plan could be divided into small units without any partitions to target buyers from the young middle class. The interactive forum was well received by all those in attendance.

## 建築及房地產學系學者擔任持續進修論壇講者

2015年二月十三日，建築及房地產學系的王安蘭博士應邀出席一個由英國皇家特許建造學會香港分會主辦的持續專業進修論壇，闡述五宗活化香港工廈案例所帶來的啟示，包括全幢改裝為開放式單位、長者房屋、藝術中心、零售暨酒店項目，以及把工廈重新發展為住宅。與會者亦探討了把工廈改建為出售房屋的可行性，並建議把樓面重劃成不設間隔的小單位，針對年輕中產買家。會上討論氣氛熾熱，各人均感獲益良多。



## Visit by Yokohama National University

On 27 March 2015, a delegation from Yokohama National University (YNU) met with representatives of the Faculty of Construction and Environment (FCE) to explore opportunities for collaboration with one another. Led by its President-designate, Prof. Yuichi Hasebe, the delegation consists of Prof. Fumihiko Nakamura, Vice President-designate and Dean of the Graduate School of Urban Innovation/ Faculty of Urban Innovation; Prof. Kazuo Konagai, Dr Takayuki Suzuki, Dr Yasuhiro Fujioka, all of the same Graduate School/ Faculty; Dr Taku Ishiro of the Graduate School of International Social Science; Prof. Haoyuan Xu of the Information Technology Service Center; Prof. Gu Lin Sheng, Executive Dean of Sichuan University-The Hong Kong University Institute for Disaster Management and Reconstruction; and Mr Zi Yang, PhD candidate in the Graduate School of Environment and Information Sciences. After presentations on the universities were made by their respective representatives, the 9 visitors had a chance to discuss their interests and concerns with Prof. Y.L. Xu, Dean of FCE; Prof. X.L. Ding, Associate Dean of FCE; and several colleagues from the Department of Civil and Environmental Engineering, including Prof. K.T. Chau, Prof. J.H. Yin, Dr J.G. Dai, and Dr Mark Hsu. They also visited the Transport and Highway Engineering Lab, Air Pollution Lab and Atmospheric Research Lab, and Structural Engineering Research Lab. At a lunch reception, they were joined by Ir Prof. J.M. Ko, Interim Vice President of PolyU, Emeritus Professor of Structural Engineering, and Prof. William Lam, Head of the Department of Civil and Environmental Engineering, whom a few of them had met the day before.

The Graduate School of Urban Innovation at YNU was established in April 2011 with the "city" as its theme. It is Japan's first interdisciplinary Graduate School integrating the humanities and sciences. In the discipline of civil engineering, it has research groups in areas similar to those in PolyU's Department of Civil and Environmental Engineering, such as structural engineering, estuarine and coastal engineering, geotechnical engineering, transportation and urban engineering, as well as concrete. It is hoped that the visit will facilitate collaborations in research between FCE, YNU, and Sichuan University, which was further explored in an afternoon visit to the Jockey Club by Prof. Gu and the YNU delegation.

## 橫濱國立大學代表團到訪

2015年三月二十七日，日本橫濱國立大學代表團到訪建設及環境學院，探討雙方加強合作的機會。該團由當時的候任校長長谷部勇一教授率領，成員包括候任副校長兼都市創新學府/研究院院長中村文彥教授；同一學府/研究院的小長井一男教授、鈴木崇之博士及藤岡泰寬博士；國際社會科學學府/研究院的居城琢博士；情報基盤中心的徐浩源教授；四川大學-香港理工大學災後重建與管理學院執行院長顧林生教授；以及環境情報研究院博士生 梓。來賓各自介紹其所屬大學的情況後，隨即與本院院長徐幼麟教授、副院長丁曉利教授，以及土木及環境工程學系的幾位學者(周錦添教授、殷建華教授、戴建國博士及徐書謙博士)討論雙方關注和感興趣的事宜，其後又參觀交通及道路工程實驗室、空氣污染實驗室、大氣研究實驗室及結構工程研究實驗室，並出席午宴，在座者還包括理大暫任副校長兼結構工程學榮休教授高贊明教授工程師，以及之前一天曾會見部分代表團成員的土木及環境工程學系主任林興強教授。

橫濱國立大學的都市創新研究院成立於2011年四月，以「城市」為主題，是日本首家結合人文學及科學的跨領域大學研究院。土木工程方面，它設有多個研究小組，研究範疇與理大土木及環境工程學系相若，如結構工程學、河口及海岸工程學、岩土工程學、運輸及都市工程學、混凝土等。是次訪問旨在促進本院、橫濱國立大學與四川大學之間的科研合作。顧林生教授及代表團在當天下午到訪香港賽馬會期間，對此事進行了更深入的探討。



## Visit by Lyceum of the Philippines University

On 22 January 2015, a group of 14 delegates from the Lyceum of the Philippines University paid a courtesy visit to The Hong Kong Polytechnic University to explore opportunities for exchange and collaborations. The visitors included five management and faculty staff from the Department of Engineering and Architecture. They were met by Prof. You-Lin Xu, Dean of the Faculty of Construction and Environment (FCE); Prof. Geoffrey Shen, Associate Dean (Teaching) of FCE; Prof. Edwin Chan, Associate Head of the Department of Building and Real Estate; Dr Henry Lee, and Dr Mark Hsu, Assistant Professors in the Department of Civil and Environmental Engineering.

## 菲律賓萊西姆大學代表團來訪

菲律賓萊西姆大學一行十四人的代表團於2015年一月二十二日到訪理大，希望探討雙方交流合作的機會。當中五位來自該校工程及建築學系的管理及教學人員，會見了本院院長徐幼麟教授、副院長(教務)沈岐平教授、建築及房地產學系副系主任陳漢雲教授，以及土木及環境工程學系兩位助理教授李伯亨博士及徐書謙博士。



## Visit by University of Westminster

A delegation from the University of Westminster in the UK visited The Hong Kong Polytechnic University on 14 January 2015. Among the visitors was Prof. David Dernie, Dean of the Faculty of Architecture and the Built Environment, who met with Prof. Xiaoli Ding, Associate Dean (Partnership) of the Faculty of Construction and Environment, and Dr Patrick Fong, Associate Head of the Department of Building and Real Estate. They had a fruitful discussion exploring opportunities for collaboration in research, student exchange, joint summer schools, and professional development.

## 英國威斯敏斯特大學學者來訪

英國威斯敏斯特大學代表團於2015年一月十四日到訪理大，而團員之一的建築學及建築環境學院院長David DERNIE教授，亦於當日與本院副院長(夥伴合作)丁曉利教授和建築及房地產學系副系主任方識華博士會面，探討在科研、交換學生、合辦暑期課程及專業發展等範疇合作的可能。雙方同感獲益良多。



## MoU between FCE and VTC

The Faculty of Construction and Environment (FCE) has been admitting a substantial number of Higher Diploma (HD) students from the Vocational Training Council (VTC) at senior year/ advanced levels in the past several years. To strengthen the alliance between FCE and VTC, a Memorandum of Understanding was signed by the two parties on 15 December 2014. While the Institute of Vocational Education's Engineering Discipline of VTC will provide a list of recommended students for FCE's consideration for admission, FCE will advise on related VTC curricula to better prepare VTC students for university studies and brief the IVE HD students about FCE's admission criteria. This liaison will also support PolyU's bid for more senior year places in the 2016-19 Academic Development Proposal.

## 建設及環境學院與職業訓練局簽訂諒解備忘錄

近年，不少職業訓練局的高級文憑學生獲本院錄取入讀學士學位的高年級課程。為加強本院與職訓局在這方面的合作，雙方於2014年十二月十五日簽署諒解備忘錄。職訓局轄下香港專業教育學院的工程學科，將向本院提供推薦學生名單，而本院則會向其高級文憑學生講解我方的收生要求，並就職訓局的相關課程內容提供意見，讓他們較易適應大學學習生活。上述安排將有利理大在2016-19年度的《學務發展建議》中爭取較高年級學額。

## Taught Postgraduate Info Day

On 10 January 2015, the Taught Postgraduate Info Day was held on the PolyU campus. Prof. Geoffrey Shen, Associate Dean of the Faculty of Construction and Environment, gave an overview of the Postgraduate Scheme in Construction and Environment to a crowd of over 100. This was followed by break-out sessions on individual postgraduate programmes that were attended by more than 260 people. The total number of attendees represents a 27% increase over last year's Info Seminar.

## 授課式深造課程教育資訊日

為方便有意報讀理大課程的同學掌握最新資料，校方於2015年一月十日舉辦授課式深造課程教育資訊日。當天，本院副院長沈岐平教授向在座的過百名人士綜合介紹了「建設及環境碩士學位組合課程」的資料；其後，個別課程分頭舉行簡介會，參與者合共超過二百六十人，較去年上升百分之二十七。



## Meeting with HKU SPACE Community College

A plan to channel Associate Degree and Higher Diploma graduates from the HKUSPACE Community College to continue their studies at the Faculty of Construction and Environment (FCE) was discussed in a meeting between academic leaders of both institutions on 11 December 2014. At the meeting were Prof. You-lin Xu, Dean of FCE; Prof. Xiaoli Ding, Associate Dean; Prof. Yat-hung Chiang, Associate Head of the Department of Building and Real Estate; Prof. Kwok-tai Chan, Associate Head of the Department of Building Services Engineering; Prof. William Lam, Head of the Department of Civil and Environmental Engineering (CEE); Prof. K.F. Chung, Associate Head of CEE; Prof. Y.S. Li, Chair Prof. of CEE; and Dr Lilian Pun, Associate Head of the Department of Land Surveying and Geo-Informatics. Representing HKUSPACE were its College Principal, Prof. L.S. Chan; its Associate Vice Principal, Dr Eliot Lee; and those responsible for the Higher Diploma programmes in Engineering, Real Estate Management, as well as Environmental Studies and Occupational Safety at the Community College. The latter were introduced to the various Bachelor's Degree programmes offered by the four departments of FCE. These would allow graduates of the Community College to get a Bachelor's degree in two more years of full-time study at PolyU. A Memorandum of Understanding has been signed by the two institutions to pave the way for further collaboration between them.

## 與香港大學附屬學院代表會面

2014年十二月十一日，本院與香港大學附屬學院的代表舉行會議，商討讓該校副學士及高級文憑畢業生在本院修讀銜接學位課程的計劃。我方代表包括院長徐幼麟教授、副院長丁曉利教授、建築及房地產學系副系主任蔣日雄教授、屋宇設備工程學系副系主任陳國泰教授、土木及環境工程學系的系主任林興強教授、副系主任鍾國輝教授及李毓湘講座教授，以及土地測量及地理資訊學系副系主任潘鄭淑貞博士。港大附屬學院方面，校長陳龍生教授、協理副校長李志聰博士，以及負責工程學、房地產管理、環境學及職業安全學高級文憑課程的人員均有出席。我方介紹了四大學系開辦的各項全日制課程，港大附屬學院的畢業生只需多花兩年時間，便可取得學士學位。雙方已簽署諒解備忘錄，為進一步合作鋪路。





## LSGI Introduced to Secondary Students

On 7 January 2015, Ir Dr Wallace Lai of the Department of Land Surveying and Geo-Informatics (LSGI) visited Diocesan Boys' School to share with over 200 Grade 10-12 students the use of ground penetrating radar (GPR) to study and map the subsurface in 3D. In particular, he presented a case study about the discovery of a Tang Dynasty cemetery in San Tau, Tung Chung, which significantly enhances our understanding of local history of military and civilian activities during that period.

Dr Lai demonstrated how GPR is used to outline the hotspots or what archaeologists call 'juicy locations', where clusters of grave goods, including coins, iron weapons, a silver inscribed ingot, and pottery, were unearthed after at least 1000 years in the ground. The work was led by Dr Mick Atha, a local archaeologist, funded by Hong Kong Archaeological Society (HKAS), and supported by a group of people from very diverse backgrounds. During his visit, Dr Lai also introduced FCE and LSGI to DBS students and teachers.

Meanwhile, a group of F.6 students from Pui Ching Middle School visited Department of Land Surveying and Geo-Informatics (LSGI) on the same day to learn more about the department. Mr Kent Lam introduced the subjects and the programmes on offer, their admission requirements and career prospects of the graduates. After 3 BSc students shared their experiences of studying at LSGI, doing an internship and exchanging to a foreign university, Dr George Liu showed the visiting students some GNSS instruments and explained their functions. The students then visited the Underground Utility Survey Laboratory, where Dr Wallace Lai again demonstrated the use of ground penetrating radar (GPR).

The visit programme was well received by both the secondary teachers and students. It was definitely a good opportunity for them to better understand the available choices and career paths associated with study in LSGI.



## 讓中學生認識土地測量及地理資訊學系

2015年一月七日，土地測量及地理資訊學系的賴緯樂博士工程師到訪拔萃男書院，向逾二百名第十至十二班的同學講解怎樣運用探地雷達探究地底情況及繪製地底三維地圖。他特別提到在東涌散頭村發現唐代古墓的經過，對我們瞭解香港當時的軍事活動和民間生活幫助甚大。

當日，賴博士詳述怎樣使用探地雷達找尋考古熱點或考古學家稱之為「黃金地帶」的地點，最終成功發掘出埋藏地底最少一千年的多組陪葬品，包括錢幣、鐵製武器、陶器，以及刻有文字的銀塊。該次發掘工作由本地考古學家范旼濤博士主持，並獲香港考古學會資助，參與者來自不同專業背景。期間，賴博士亦向拔萃師生介紹了建設及環境學院，以及土地測量及地理資訊學系的資料。

同一天，培正中學一群中六學生到訪土地測量及地理資訊學系，希望藉此增進對該系的瞭解。林偉強先生向他們介紹了學系開辦的各項科目及課程、收生要求及畢業生的出路。接著，三位本科生分享了對學習、見習及到海外大學當交換生的體驗。同學聽罷劉志趙博士講解全球導航衛星系統 (GNSS) 所用的儀器及其功能後，便參觀地下管線研究實驗室，由賴緯樂博士介紹探地雷達的用途。

無論是老師或同學，都對今次安排評價甚高。他們可藉著這次機會深入瞭解土地測量及地理資訊學系開辦的科目，以及畢業生的發展路徑。



## Mainland High School Students Visit BSE

On 9 February 2015, 72 students and 6 teachers from three well known high schools in Guangzhou visited the Department of Building Services Engineering (BSE). They were welcomed by Dr Vivien LU and Professor Geoffrey Q.P. SHEN, Associate Dean of the Faculty of Construction and Environment (FCE) and Chair Professor of Construction Management, who introduced FCE and outlined its structure, objectives, accomplishments, research focus, facilities and recent developments. Subsequently, Dr LU introduced BSE's undergraduate degree programmes. The students were very attentive and expressed a strong interest in BSE's programmes. They were given a guided tour of BSE's laboratories at the end of their visit.

## 內地高中生參觀屋宇設備工程學系

2015年二月九日，廣州市三所知名高中的七十二名學生及六位老師到訪屋宇設備工程學系，獲呂琳博士及本院副院長兼建築管理學講座教授沈岐平教授接待。沈教授向他們介紹本院的組織架構、目標、成就、研究重點、設施及最新發展後，便由呂博士講述屋宇設備工程學系提供的學士學位課程。同學細心聆聽，對該系的課程大感興趣；其後，眾人參觀了該系的實驗室，才結束這次行程。



## JUPAS Applicants Flocked to PolyU

On 16 May 2015, prospective applicants to PolyU under the Joint University Programmes Admissions System (JUPAS) had a chance to learn more about the various programmes offered by the university, key strategies for programme selection, and admission interview techniques. Staff members in charge of undergraduate programmes were available that afternoon to provide consultation and information on strategies for admission to a range of Higher Diploma programmes as well as those leading to Bachelor's degrees. The Faculty of Construction and Environment provided consultation sessions for its programmes, including one for the Broad Discipline of Construction and Environment (BDCE). An info seminar organized by the Department of Building and Real Estate (BRE) on the programmes 'BSc (Hons) in Building Engineering and Management', 'BSc (Hon) in Property Management', and 'BSc (Hons) in Surveying' was also well received.

## 「聯招生入學全攻略」助中學生作好入讀理大準備

理大於2015年五月十六日舉辦「聯招生入學全攻略」活動，讓可能透過「大學聯合招生辦法」(JUPAS)申請入學的中學生，深入瞭解我校開辦的各項課程，選科策略及面試要訣。各學系亦派出負責學士及高程文憑課程的同事，即場提供關於選科的資訊及諮詢服務。本院方面，除了就「建設及環境廣泛學科」及其他多項課程提供個別選科輔導，還舉辦了關於「建築工程及管理學（榮譽）理學士」、「物業管理學（榮譽）理學士」及「地產及建設測量學（榮譽）理學士」三項課程的講座，全皆反應熱烈。



## Faculty Public Lectures 建設及環境學院公開講座



**Prof. Xiang Dong Li**, Chair Prof. in Environmental Science & Technology at PolyU's Department of Civil and Environmental Engineering, gave a Chair Professor inaugural lecture entitled "Environmental Pollution on a Regional Scale – Research in the Pearl River Delta Region, South China." (11 December 2014)



**Prof. John Villadsen** of the Department of Chemical and Biochemical Engineering of Danish Technical University in Denmark gave a public lecture entitled "Technical and Economic Issues Related to Bio-Industrial Enterprises." (27 March 2015)



**Prof. Roberto Ballarini**, Chair of the Department of Civil and Environmental Engineering at the University of Houston, gave a public lecture entitled "Structural Testing at the Micro and Nano Scales: Breaking Invisible Specimens with Zero Force." (5 January 2015)



**Prof. Yeong-Bin Yang**, Honorary Dean of the College of Civil Engineering of Chongqing University and Professor Emeritus of the Department of Civil Engineering of National Taiwan University, gave a distinguished lecture entitled "Direct Time-Integration Method for Solving Nonlinear Dynamic Problems with Large Rotations and Displacements." (30 March 2015)



**Prof. Ahsan Kareem**, Robert M. Moran Professor of Engineering in the Department of Civil and Environmental Engineering and Earth Sciences and Director of the NatHaz Modeling Laboratory at the University of Notre Dame, gave a distinguished lecture entitled "Cyberinfrastructure based Analysis, Simulation, Design and Monitoring of Tall Buildings Under Winds." (12 January 2015)



**Prof. Ahmed Elghazouli** of the Department of Civil and Environmental Engineering of Imperial College in the UK gave a public lecture entitled "Seismic Design to the Structural Eurocodes." (21 April 2015)



**Prof. Xinzhong Chen** of the National Wind Institute and the Department of Civil, Environmental and Construction Engineering of Texas Tech University in the US gave a public lecture entitled "Wind Load Effects of Long-Span Bridges and Tall Buildings: Some New Developments for Non-Stationary Winds and Nonlinear Aeroelastic Effects." (28 April 2015)



**Prof. Jian Zhao** of the Department of Civil Engineering of Monash University in Australia gave a public lecture entitled "Rock Cavern Studies, Development and Planning in Singapore." (17 March 2015)



**Prof. Chimay J. Anumba**, Head of the Department of Architectural Engineering at Pennsylvania State University in the US, gave a distinguished lecture entitled "Context-Awareness in Construction Project Delivery." (22 May 2015)



## Invitation for Programme Admissions 2015/16

### Master of Science (MSc)/Postgraduate Diploma (PgD)

Building Services Engineering  
Civil Engineering  
Construction and Real Estate  
Construction Law and Dispute Resolution  
Environmental Management and Engineering  
Facility Management  
Fire and Safety Engineering  
Geomatics (Geographic Information Systems)  
Geomatics (Surveying)  
High Performance Buildings  
International Real Estate (Zhejiang)  
Project Management  
Sustainable Urban Development

### 理學碩士 / 深造文憑

屋宇設備工程學  
土木工程學  
建築及房地產學  
建築法及爭議解決學  
環境管理及工程學  
設施管理  
消防及安全工程學  
測繪及地理資訊學 ( 地理資訊 )  
測繪及地理資訊學 ( 測量 )  
高效能建築  
國際房地產  
項目管理  
可持續城市發展學

### Department

BSE  
CEE  
BRE  
BRE  
CEE  
BSE  
BSE  
LSGI  
LSGI  
BSE  
BRE  
BRE  
FCE

### Bachelor's Degree

Broad Discipline of Construction and Environment  
Building Engineering and Management  
Building Services Engineering  
Civil Engineering  
Environment and Sustainable Development  
Geomatics (Geo-Information Technology)  
Geomatics (Land Surveying)  
Geomatics (Utility Management and Surveying)  
Property Management  
Surveying

### 學士學位

建設及環境廣泛學科  
建築工程及管理學  
屋宇設備工程學  
土木工程學  
環境與可持續發展學  
測繪及地理資訊學 ( 地理資訊科技 )  
測繪及地理資訊學 ( 土地測量 )  
測繪及地理資訊學 ( 管線設施測繪與管理 )  
物業管理學  
地產及建設測量學

### Department

FCE  
BRE  
BSE  
CEE  
CEE  
LSGI  
LSGI  
LSGI  
BRE  
BRE

### Higher Diploma

Building Services Engineering  
Building Technology and Management (Engineering)  
Building Technology and Management (Surveying)  
Civil Engineering  
Geomatics

### 高級文憑

屋宇設備工程學  
建築科技及管理學 ( 工程 )  
建築科技及管理學 ( 測量 )  
土木工程學  
測繪及地理資訊學

### Department

BSE  
BRE  
BRE  
CEE  
LSGI

For programme details, please contact the departments or visit their websites:  
如欲查詢詳細課程資料，請聯絡相關學系或瀏覽學系網頁：

**Department of Building and Real Estate (BRE)**  
建築及房地產學系

2766-5807/5808/7770  
www.bre.polyu.edu.hk

**Department of Building Services Engineering (BSE)**  
屋宇設備工程學系

3400-3597  
www.bse.polyu.edu.hk

**Faculty of Construction and Environment (FCE)**  
建設及環境學院

3400 8496  
www.polyu.edu.hk/fce

**Department of Civil and Environmental Engineering (CEE)**  
土木及環境工程學系

2766-6052  
www.cee.polyu.edu.hk

**Department of Land Surveying and Geo-Informatics (LSGI)**  
土地測量及地理資訊學系

2766-5968  
www.lsgi.polyu.edu.hk

### Programme Entrance Requirements 課程入學要求

Please check the most up-to-date information on the Study@PolyU website at [www.polyu.edu.hk/study](http://www.polyu.edu.hk/study).

請於 Study@PolyU 查閱最新資料，網址為 [www.polyu.edu.hk/study](http://www.polyu.edu.hk/study).

### Enquiries on Application and Admission 查詢申請及入學

Academic Secretariat  
The Hong Kong Polytechnic University  
Hung Hom, Kowloon, Hong Kong

香港理工大學教務處  
香港九龍紅磡

#### Email 電郵：

|                       |   |
|-----------------------|---|
| asadmpg@polyu.edu.hk  | Master's/ Postgraduate Diploma programmes<br>理學碩士及深造文憑課程  |
| asadmft@polyu.edu.hk  | Full-time Bachelor's degree & sub-degree programmes –<br>local applicants<br>全日制學士學位及非學位課程 — 本地申請人      |
| asnlocal@polyu.edu.hk | Full-time Bachelor's degree & sub-degree programmes –<br>non-local applicants<br>全日制學士學位及非學位課程 — 非本地申請人 |
| asadmpt@polyu.edu.hk  | Part-time Bachelor's degree & sub-degree programmes<br>兼讀制學士學位及非學位課程                                    |

## Forthcoming Events 最新消息

### 21<sup>st</sup> Congregation and Faculty Prize Presentation Ceremony

**Date:** 3-4 November 2015

**Venue:** Jockey Club Auditorium, The Hong Kong Polytechnic University

### 2<sup>nd</sup> International Conference on Performance-based and Lifecycle Structural Engineering (PLSE 2015)

**Date:** 9-11 December 2015

**Venue:** Brisbane Convention and Exhibition Centre, Australia

**Website:** <http://plse2015.org/visit-brisbane/>

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