

建設與環境



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建設及環境學院

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Opening Minds • Shaping the Future

啟迪思維 • 成就未來

Contents 目錄

Dean's Message 院長的話	2
Awards & Achievements 優秀學者 成績斐然	3
U.S. News Ranks PolyU's Civil Engineering in the Top Three 理大土木工程躋身《美國新聞與世界報導》三甲排名	3
URAP Subject Ranking 2019/20 2019/20 年度 URAP 學科排名榜	4
CEE Scholar to Receive Prestigious International Prize 土木及環境工程學系學者獲國際殊榮	4
Highest Funded GRF Project at PolyU Led by LSGI Scholar 獲最多「優配研究金」撥款的理大科研項目由土地測量及地理資訊學系學者領導	5
BRE Academics Received APFPM Project Management Achievement Award 建築及房地產學系學者獲亞太項目管理聯會頒發「項目管理成就獎」	5
2019 HK Green Innovations Awards 2019 香港綠色創新大獎	5
LSGI Scholar Wins Faculty Award for Outstanding Achievement 2019/20 土地測量及地理資訊學者獲 2019/20 年度學院特設傑出成就獎	5
FCE Dean's Awards 2020 2020 年院長特設傑出教職員獎	6
FCE Awards for Outstanding PhD Theses 2019/20 2019/20 年度建設及環境學院優秀博士論文獎	10
Research Activities 研究薈萃	11
Results of RGC General Research Fund 2020/21 2020/21 年度研資局競爭性撥款結果	11
RGC Postdoctoral Fellowship Scheme 2020/21 2020/21 年度研資局博士後獎學金計劃	14
NSFC/RGC Joint Research Scheme 2020/21 2020/21 國家自然科學基金委員會及研究資助局聯合科研資助基金	14
Funding from NSFC 國家自然科學基金資助	15
2020 Excellent Young Scientists Fund 2020 優秀青年科學家基金	15
BSE Researchers Supported by Funding from Chinese Government 屋宇設備工程學系研究人員獲國家資助	16
Public Policy Research Funding 公共政策研究資助計劃	16
HK Scholars Programme 2020 2020 年香江學者計劃	17
National Observation and Research Station of Ministry of Transport of PRC Jointly Established with CEE Research Team 土木及環境工程學系研究團隊參與國家交通運輸部野外科學觀測研究基地	17
Joint Lab of SPSB and PolyU in Operation 深圳供電局 – 理大聯合實驗室開始運作	18
Lunar Sample-Return Mission Accomplished 完成月球採樣返回任務	18
Comments of BRE Scholar Published in <i>Science</i> 《科學》期刊刊出建築及房地產學系學者技術意見	19
Smart City Tree Management System Adopted by HK Government 智慧城市樹木管理系統獲政府採納	19
BSE Academic Advocates Fresh Air Units to Prevent Covid Transmission 屋宇設備工程學系學者建議安裝鮮風機預防病毒傳播	19

Tracking Coronavirus with a New Air-monitoring System 可追蹤新冠病毒源頭的嶄新空氣質素監測系統	20
Cooling Indoor Temperatures with a Multiple Functional Building Coating 多功能建築物塗層有效降低室內溫度	20
LSGI Scholar Shares Relevance of Global Navigation Satellite Systems to Our Lives 土地測量及地理資訊學系學者分享衛星導航系統與日常生活關係	20
PolyU Postdoc Matching Fund Scheme 2020/21 2020/21 年度理大博士後研究員配對基金	21
FCE Start-up Fund for New Recruits 建設及環境學院新入職人員啟動基金	22
Staff News 教職員消息	23
New Dean for FCE 建設及環境學院新任院長	23
FCE Acting Dean Appointed to RGC Panel 建設及環境學院署理院長獲任命為研資局學科小組成員	23
Appointment at Tsinghua for Head of BSE 屋宇設備工程學系系主任受聘為清華大學教授	23
CEE Scholar Appointed to Endowed Professorship 土木及環境工程學系學者獲委任理大勳學教授席	24
BSE Scholar Appointed Editor of Prestigious Journal 屋宇設備工程學系學者獲委任著名期刊編委	24
New Academic Staff 新聘學術人員	24
Student News 學生消息	26
Entry Scholarships for Outstanding MSc Students 新生獎學金吸引菁英學生入讀本院碩士課程	26
Scholarship Student Graduates with Distinction 獎學金得主以優等成績畢業	28
IFMA Foundation Scholarship for BSE Student 屋宇設備工程學系學生獲 IFMA 基金會獎學金	28
CIOB (HK) Outstanding Student Award 2019/2020 2019/2020 年度 英國皇家特許建造學會 (香港) 卓越學生獎	28
BRE Student Wins HKIS Creativity Competition 建築及房地產學系學生勝出香港測量師學會創作比賽	29
BSE Students Shine in Inter-Institutional Competition 屋宇設備工程學系學生揚威學界比賽	29
Alumni News 校友消息	30
Departmental Outstanding Alumni Awards 2020 2020 年學系傑出校友	30
Meeting with AADO and FHKPUAA 會見校友事務及拓展處和香港理工大學校友會聯會代表	31
Establishment of CEE Research Scholars Alumni Association 土木及環境工程學系成立研究學者校友會	31
Events 活動剪影	32
PolyU Summer Programme 2020 理大暑期計劃 2020	32
Online Orientations for New Undergraduates 本科生網上迎新活動	33
Online Orientation for TPg Students 授課式深造課程網上迎新會	33
FCE Exchange Forum with Gammon 與金門建築合辦交流論壇	34
FCE Annual Forum 建設及環境學院年度論壇	34
FCE Meets Visitors from Republic of Panama 巴拿馬駐港官員到訪	35
Webinar on Technologies in Tree Monitoring 樹木監測技術網上講座	35



Welcome to the magazine of the Faculty of Construction and Environment (FCE). The start of 2021 has brought us some encouraging news. Our research has remained relevant as ever and responded to the needs of society during the pandemic.

Funding for collaborative research has been awarded by the Hong Kong Research Grants Council (RGC) to colleagues in the Department of Building and Real Estate (BRE) as well as the Department of Building Services

Engineering (BSE). Research teams will work on durable and high-performance zinc-air flow batteries for energy storage (Prof. Meng Ni) on the one hand, while the next generation of key technologies for smart building will be developed (Prof. Shengwei Wang) on the other. In addition, a one-off CRF Covid-19 and Novel Infectious Diseases (NID) Research Funding was awarded to another colleague (Dr Horace Mui) for investigating effective ventilation strategies for mitigating infection risks in hospitals. This is one of the two PolyU projects that was funded by RGC to help mitigate the impact of NID on society and people's livelihood, and better equip people should another NID emerge. Altogether, our Faculty received more than half of the total collaborative research funding awarded to PolyU this year. We are also pleased that the National Natural Science Foundation of China (NSFC) has recently awarded RMB 15 million for me and some of our colleagues in the Department of Civil and Environmental Engineering (CEE) to conduct in-depth research on air pollution, particularly the joint toxicity mechanisms and contributions of key bioactive components in airborne fine particulate matters (PM_{2.5}) from typical urban areas of China.

In terms of rankings, the U.S. News & World Report has ranked PolyU among the top three best universities in the world last year for the subject of Civil Engineering. PolyU has also been ranked in the top ten for both Architecture and Civil Engineering by University Ranking by Academic Performance (URAP) in 2019/20. It is clear that the research achievements of our Faculty have played a significant role in the global arena. Moreover, our academics have been involved in national projects that benefited the Chinese mainland. These included the establishment of the Joint Lab of Shenzhen Power Supply Bureau and PolyU, the National Observation and Research Station of the Chinese Ministry of Transport, as well as China's first lunar sample return mission.

In the new normal of the pandemic, not only is teaching and learning done online, but we have also organized many online events like orientations for new students, summer programme, exchange forum with industry etc. I am sure these events are vital for maintaining our connection to our stakeholders. While it is encouraging to receive your active participation online, I hope we all could meet in person very soon in our forthcoming events when the Covid-19 subsides.

As the new Dean of the Faculty, I look forward to working hand in hand with all colleagues to take FCE to new heights in our education and research. I would like to take this opportunity to welcome all the new staff who joined our Faculty recently. Both the University and the Faculty have set aside matching/ startup funding to support this new generation of scholars. Their dynamism will no doubt contribute to our intellectual vigour and research capacities. Indeed, two of our academics (Dr Chao Zhou of CEE and Dr Xiaolin Zhu of LSGI) have been awarded the NSFC Excellent Young Scientists Fund. Let us hope the new year comes with plenty of opportunities and breakthroughs, giving us renewed faith that a better future is just ahead of us.

Prof. Xiangdong Li
Dean of Faculty of Construction and Environment
Ko Jan Ming Professor in Sustainable Urban Development
Chair Professor of Environmental Science and Technology
The Hong Kong Polytechnic University

歡迎閱覽《建設及環境學院院刊》! 學院的科研工作一直與時並進, 在疫症肆虐間依然緊貼社會需要。2021伊始, 本院更收到令人鼓舞的消息!

建築及房地產學系和屋宇設備工程學系的同事, 最近再獲香港研究資助局(研資局)撥款開展協作研究項目。倪萌教授的研究團隊獲資助研發高效能耐用鋅空氣電池, 節省能源; 而王盛衛教授則全力開拓新一代智能建築關鍵技術。另外, 梅國威博士則獲研資局協作研究金一筆過撥款, 針對2019冠狀病毒及新型傳染病, 進行有關改善醫院通風策略的研究, 藉此減低傳染風險。在理大獲研資局資助的兩個相關項目中, 梅博士的專題研究佔其一, 致力減輕新型傳染病對社會民生的影響, 協助市民作好準備, 以防疫症重臨。理大今年獲得的協作研究金撥款中, 本院所佔的份額多於一半。另一樁好消息, 是國家自然科學基金委員會撥出了一千五百萬元人民幣, 資助我和土木及環境工程學系等同事進行深入的空氣污染研究, 特別針對內地典型城市地區空氣中懸浮顆粒物(PM_{2.5})關鍵生物活性成份的聯合毒性機制和作用。

排名方面, 理大去年獲《美國新聞與世界報導》推許為全球土木工程學的三甲學府之一; 在2019/20年度, 理大在建築及土木工程領域均名列《世界大學學術表現排名》(URAP)全球十大。由此可見, 我們的科研成就在國際上舉足輕重。與此同時, 本院學者亦積極參與及貢獻國家級項目, 包括夥同深圳供電局成立聯合實驗室、國家交通運輸部野外科學觀測研究基地, 以及中國首次月球採樣返回任務。

在疫情的新常態下, 網上授課和學習習以為常, 各式各樣的活動也透過虛擬平台舉辦, 如新生講座、暑期課程和業界交流論壇。我深信這些活動對維繫本院與各持份者的關係至為重要。各位在網上的踴躍參與, 固然令我們深感鼓舞, 但我衷心期盼疫情早日結束, 親身與大家再次在不同活動上見面。

履職新任院長, 我懇切期望與全體同事攜手, 帶領建設及環境學院在教研兩方面再登高峰。謹借此機會, 歡迎新加入的同事。大學及院方為了支援新一輩學者, 提供配對/ 啟動基金。毫無疑問, 他們的活力壯大了學院的學術和科研實力。值得一提的是, 本院兩位年輕學者(土木及環境工程學系的周超博士、土地測量及地理資訊學系的朱孝林博士)最近更榮獲國家優秀青年科學基金。就讓我們懷抱希望, 在新一年迎接無數機遇和突破, 重建信心, 邁向更美好的未來。

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香港理工大學建設及環境學院院長
高贊明可持續城市發展教授
環境科學及科技講座教授

Awards & Achievements

優秀學者 成績斐然

U.S. News Ranks PolyU's Civil Engineering in the Top Three

In the latest education rankings of global universities by the U.S. News & World Report, PolyU was in 20th place in Asia and 170th among nearly 1,500 universities around the world. In the subject of civil engineering, PolyU was ranked 3rd globally, just behind China's Tongji University and Tsinghua University. The Faculty of Construction and Environment (FCE) is home to four inter-related departments, including the Department of Civil and Environmental Engineering, whose research achievements have regularly contributed to respectable rankings of PolyU.



The rankings produced by U.S. News & World Report empower students and their families to make better, more informed decisions about their options for higher education. Significant emphasis was placed on academic research in the methodology adopted by U.S. News in its Best Global Universities rankings.

理大土木工程躋身《美國新聞與世界報導》三甲排名

根據《美國新聞與世界報導》最新公佈的世界大學排名，理大在全球近一千五百家大學中，位列亞洲第二十位、全球第一百七十位。土木工程學科排名，理大位居全球第三，僅次於中國的同濟大學及清華大學。土木及環境工程學系是建設及環境學院轄下四個學系之一，其卓越科研成就，造就理大在相關排名榜上名列前茅。

《美國新聞與世界報導》公佈的大學排名，有助學生和家長作出更明智的升學選擇。該刊以大學的學術研究為重點，釐定「全球最佳大學」排名。

URAP Subject Ranking 2019/20



In the University Ranking by Academic Performance (URAP) 2019/20, PolyU was ranked third for the subject of Architecture and tenth for the subject of Civil Engineering, the only local university to be in the top ten in both subjects. This was an improvement

from the field rankings in 2017/18, where PolyU was 6th and 15th in Architecture and Civil Engineering respectively.

Since 2010, URAP has ranked world universities based on academic performance indicators that reflect the quality and the quantity of their scholarly publications. As a non-profit organization, it was established at the Informatics Institute of the Middle East Technical University in Turkey.

2019/20 年度 URAP 學科 排名榜

在 2019/20 年度 URAP 大學學術表現排名榜上，理大再度名列前茅，分別於建築學及土木工程學名列第三及第十，本地大學中只有理大同時在這兩個領域儕身十大。相較於 2017/18 年度相同領域中第六及第十五位的排名，理大在最新公佈的排名榜有較大躍進。

URAP 由土耳其其中東科技大學信息學研究所創立，屬非牟利機構，自 2010 年起已根據學術論文質量及學術表現指標制訂世界大學排名。

CEE Scholar to Receive Prestigious International Prize

Dr Peng Wang of the Department of Civil and Environmental Engineering (CEE) has been chosen for the Prince Sultan Bin Abdulaziz International Prize for Water (PSIPW) in the category of alternative water resources. A scientific prize with a focus on innovation, the award was established in 2002 by HRH Crown Prince Sultan Bin Abdulaziz to recognize the efforts made by scientists, inventors, and research organizations around the world that contribute to the sustainable availability of potable water and the alleviation of the escalating global problem of water scarcity. He received his prize in an award ceremony at the United Nations' headquarters in New York in early 2021.

Dr Wang's work is at the forefront of the solar-water nexus, involving the use of solar energy to produce freshwater from unconventional sources and accessible water to enhance solar electricity production. The specific works, all of which have considerable scientific and implementation value, are: (1) next generation solar distillation designs, including photovoltaics-membrane distillation device that generates both electricity and water, which can potentially shift electricity production from the 'water consumer' side to the 'water producer' side; (2) salt crystallization for seawater desalination brine treatment with zero-liquid discharge, which is fully driven by solar energy and/or other types of low-grade energy; (3) atmospheric water harvesting to produce water for point-of-use consumption and the application [atmospheric] water vapor sorption and evaporation cycle for desalination and effective cooling for photovoltaic panels and buildings.

土木及環境工程學系學者獲 國際殊榮



土木及環境工程學系的王鵬博士，榮獲由沙地阿拉伯 Prince Sultan Bin Abdulaziz 設立的國際水資源獎 (替代水源組別)。該獎於 2002 年創立，旨在鼓勵科學創新，嘉許促進可持續食水供應和紓

緩全球水資源短缺方面有傑出貢獻的科學家、發明家及研究機構。王博士於 2021 年初在紐約聯合國總部舉行的頒獎禮上領取獎項。

王博士擅長研究太陽能與水之間的關係，包括使用太陽能從非傳統源頭提取淡水及飲用水，從而促進太陽能發電。有關研究均具備重要的科學及實用價值，包括 (1) 新一代太陽能蒸餾系統，有關研發可將發電過程由「水消耗者」轉化為「水生產者」(包括可同時生產電力及飲用水的光伏膜蒸餾裝置)；(2) 全面使用太陽能及/或其他低品位能源進行海水化淡，透過鹽結晶作用處理過程中的咸水而達致零液體排放的目標；(3) 從大氣中收集可用水，並透過(大氣)水蒸汽吸附及蒸發迴圈進行海水化淡和有效為光伏板及建築物降溫。

Highest Funded GRF Project at PolyU Led by LSGI Scholar



Dr Charles Wong of the Department of Land Surveying and Geo-Informatics (LSGI) has received the highest funding at PolyU from the Hong Kong Research Grants Council's General Research Fund (GRF) for both 2018/19 and 2019/20. His project entitled "Development of an integrated model for estimating 3D solar energy potential using GIS, Remote Sensing and Deep Learning techniques" was supported with HK\$1,210,980 in 2018/19. He followed that with another project entitled "An integrated knowledge-based Remote Sensing and GIS dynamic model for the urban thermal environment" in 2019/20, which was funded with HK\$1,581,600, the highest funding from GRF for a project at PolyU in the last round.

獲最多「優配研究金」撥款的理大科研項目由土地測量及地理資訊學系學者領導

在2018/19及2019/20連續兩個年度，土地測量及地理資訊學系的黃文聲博士，成為獲研資局「優配研究金」批出最多撥款的理大學者。在2018/19年度，黃博士獲研資局撥款一百二十一萬九百八十元，開展有關「利用地理信息系統、遙感及深度學習技術估算三維太陽能潛力的綜合模型」研究；2019/20年度再下一城，獲研資局資助一百五十八萬一千六百港元，進行「知識為本的城市熱環境遙感及地理信息系統綜合動態模型」研究，是為「優配研究金」最新一輪申請裡獲最多撥款的理大項目。

BRE Academics Received APFPM Project Management Achievement Award

Dr Daniel Chan and Prof. Albert Chan of the Department of Building and Real Estate (BRE) have been recognized by the Asia Pacific Federation of Project Management (APFPM) with a Project Management Achievement Award 2019 in the Research category for their exploratory study of the implementation of the Mandatory Building Inspection Scheme in Hong Kong. They reviewed the current status of building deterioration in Hong Kong, determined and analyzed the perceived benefits, potential difficulties, and effective recommendations or good practices for executing the scheme in existing dilapidated private buildings.

建築及房地產學系學者獲亞太項目管理聯會頒發「項目管理成就獎」

建築及房地產學系的陳煒明博士及陳炳泉教授，最近憑有關香港強制驗樓計劃的探索性研究，獲亞太項目管理聯會頒發2019年「項目管理成就獎」(研究組別)。兩位學者審視了香港樓宇的失修情況，分析在破舊私人物業執行上述驗樓計劃的預計利益和潛在困難，並提出有效建議或做法。

2019 HK Green Innovations Awards

A presentation ceremony for the 2019 Hong Kong Green Innovations Awards was held at the Convention and Exhibition Centre in Wanchai on 3 July 2020. Represented by Prof. Hongxing Yang of the Department of Building Services Engineering (BSE), Dr Yi Chen, a lecturer at PolyU's College of Professional and Continuing Education, and Ms Yunran Min, a PhD student in BSE, the Renewable Energy Research Group received a certificate of merit for their indirect evaporative cooler for efficient energy recovery. Officiating guests of the ceremony included the government's Chief Secretary for Administration the Honourable Matthew Cheung and the Secretary for the Environment the Honourable Kam-sing Wong.

2019 香港綠色創新大獎

2019香港綠色創新大獎頒獎禮已於2020年7月3日假灣仔香港會議展覽中心舉行。由屋宇設備工程學系楊洪興教授、理大專業及持續教育學院講師陳奕博士，以及屋宇設備工程學系博士生閔韻然小姐代表出席的可再生能源研究團隊，憑研發「高效能量回收間接蒸發冷卻器」獲頒優異獎狀。當日的主禮嘉賓為特區政府政務司司長張建宗先生及環境局局長黃錦星先生。

LSGI Scholar Wins Faculty Award for Outstanding Achievement 2019/20

Dr Charles Wong of the Department of Land Surveying and Geo-Informatics (LSGI) has won a Faculty Award for Outstanding Achievement 2019/20 in Teaching. The individual award comes with a cash prize of HK\$10,000 and a teaching grant of HK\$100,000, which can be used for staff development, conference attendances, purchase of equipment, recruitment of personnel, etc. that support teaching, research or other academic activities, as the awardee chooses, subject to management guidelines. He was also honoured with an award certificate.

土地測量及地理資訊學者獲2019/20年度學院特設傑出成就獎

土地測量及地理資訊學系的黃文聲博士，獲學院頒發2019/20年度學院特設傑出成就獎，嘉許他在教學上的傑出表現。得獎者除獲現金獎一萬港元及獎狀外，另獲發放十萬港元教學津貼，可按照管理指引自由運用於有利教學、科研或其他學術活動，如個人進修、參與研討會、購置器材、招聘人員等等。

FCE Dean's Awards 2020

The Faculty of Construction and Environment (FCE) is pleased that 3 of its staff were selected for the newly created Dean's Awards for Highly-Cited Researchers, which recognizes them for having multiple highly-cited papers that rank in the top 1% of citations in their respective fields and making a 2019 list of highly-cited researchers compiled by the Web of Science. They are Prof. Hongxing Yang of the Department of Building Services Engineering (BSE) and Prof. Kwok-wing Chau of the Department of Civil and Environmental Engineering (CEE), both in the engineering category. Another CEE colleague, Prof. Shun-cheng Lee, was honoured in a cross-field category.

In addition, 11 FCE academics were chosen for the Dean's Awards for Outstanding Achievement in Research Funding for their cumulative success in securing external competitive research funding in the last few years. Following are the details:

2020年院長特設傑出教職員獎

建設及環境學院有三位教授榮獲新設立的「院長特設傑出教職員獎(論文獲引用次數最多研究員)」。這幾位得獎者分別著有超過一篇經常獲引用的論文，在其領域屬於引用次數最多的頭1%文章，並晉身Web of Science資料庫編製的2019年引文桂冠名單。得獎者包括屋宇設備工程學系楊洪興教授和土木及環境工程學系周國榮教授，同屬工程學範疇；土木及環境工程學系李順誠教授則屬跨領域範疇。

另外，本院有十一位學者因數年來持續取得校外競爭性科研撥款，榮獲「院長特設傑出教職員獎(科研撥款)」，詳情如下：

Awardee (Dept) 得獎者 (學系)	Allocation Date/ Grant Approval Date 撥款 / 批款日期 (DD/MM/YY) (日 / 月 / 年)	Project Title 項目名稱 (Funding Scheme) (資助計劃)
Dr Joonoh Seo (BRE) 徐準旻博士 (建設及房地產學系)	1/7/2017	Automated Ergonomic Risk Assessment for Construction Workers 針對建築工人的自動化人因工程風險評估方法 (RGC Early Career Scheme) (研資局傑出青年學者計劃)
	1/7/2018	Automated Fall Risk Detection Associated with Falls on the Same Level by Using Wearable Insole Pressure Sensors 足部壓力傳感器應用於自動探測建造業工人在同一高度跌倒的風險 (RGC General Research Fund) (研資局優配研究金)
	1/7/2019	Understanding the Situation Awareness of Mobile Construction Equipment Operators through Immersive Virtual Reality Simulation 通過沉浸式虛擬現實技術仿真理解移動建築設備操作員的情景感知意識 (RGC General Research Fund) (研資局優配研究金)
Prof. Ya Ping Du (BSE) 杜亞平教授 (屋宇設備工程學系)	1/7/2017	A Stable Extended FDTD Thin-Wire Model for Lightning Surge Analysis 用於分析雷電浪湧的穩定 FDTD 細線模型 (RGC General Research Fund) (研資局優配研究金)
	1/7/2018	An Integrated Model for the Lightning Return Stroke, Ground Surface Charge and Wire Systems for Transient Analysis at the Ground 一種用於地面導線瞬態分析的雷電回擊綜合模型 (RGC General Research Fund) (研資局優配研究金)
	1/7/2019	Integrated Model for a Grounded Short-wire Structure Connecting Transmission Lines in Indirect Lightning Strikes 在間擊雷作用下連接傳輸線的接地短線結構的集成模型 (RGC General Research Fund) (研資局優配研究金)

<p>Prof. Asif Sohail Usmani (BSE)</p>	<p>10/7/2019</p>	<p>SureFire: Smart Urban Resilience and Firefighting SureFire: 智慧城市災害防控和火災應急研究 (RGC Theme-based Research Scheme) (研資局主題研究計劃)</p>
<p>Dr Minchen Wei (BSE) 魏敏晨博士 (屋宇設備工程學系)</p>	<p>4/5/2018</p>	<p>The Possibility of Reducing Illuminance Level by Using LED Lighting Products with High Colour Rendering Index for Energy Reduction in Green Buildings 利用高顯色指數的 LED 照明產品實現降低照度和建築照明能耗的可行性分析 (PICO – Public Policy Funding) (政策創新與統籌辦事處 – 公共政策研究資助計劃)</p>
	<p>1/7/2018</p>	<p>Investigation of Perception under Off-Planckian Light Sources Used for General Illumination 色座標遠離黑體輻射線光源下的視覺效應 (RGC General Research Fund) (研資局優配研究金)</p>
	<p>1/7/2019</p>	<p>Characterizing Light Source Colour Rendition and Object Colour Appearance Across a Wide Range of Light Levels 在不同照明水準下光源顯色能力和物體色貌的研究 (RGC General Research Fund) (研資局優配研究金)</p>
	<p>16/8/2019 (Date of Approval) (批款日期)</p>	<p>A Two-step Chromatic Adaptation Transform for Quantifying the Effects of Adapting Chromaticities, Luminance, and Medium 表徵適應場色座標、亮度與媒體作用的兩步色適應變換模型的研究 (NSFC General Program) (國家自然科學基金面上項目)</p>
<p>Prof. Hing Keung William Lam (CEE) 林興強教授 (土木及環境工程學系)</p>	<p>1/7/2017</p>	<p>Maximization of Accessibility in Multi-Modal Public Transit Network with Uncertainty 不確定性條件下多模式公共交通網絡的可達性最大化研究 (RGC General Research Fund) (研資局優配研究金)</p>
	<p>8/1/2019</p>	<p>Reliability-based Intelligent Transportation Systems in Urban Road Network with Uncertainty 城市道路網不確定性條件下，基於可靠性的智能交通系統 (RGC Research Impact Fund) (研資局研究影響基金)</p>
<p>Prof. Jianhua Yin (CEE) 殷建華教授 (土木及環境工程學系)</p>	<p>8/1/2019</p>	<p>Study of Super-fast Large-area Economical Marine Reclamations for Housing and Infrastructural Developments in the Guangdong-Hong Kong-Macau Greater Bay Area 粵港澳大灣區超快大面積經濟填海造地發展房屋和基礎設施之研究 (RGC Research Impact Fund) (研資局研究影響基金)</p>
	<p>1/7/2019</p>	<p>Physical and Numerical Modelling of Consolidation of Bentonite Slurry Accelerated by Vertical Drains under Vacuum Preloading and Heating 用帶真空預壓和加熱的排水板來加速固結膨潤土淤泥的物理和數值類比研究 (RGC General Research Fund) (研資局優配研究金)</p>

Dr Tak Ming Chan (CEE) 陳德明博士 (土木及環境工程學系)	15/10/2015	Application of Polygonal High Strength Concrete-filled Composite Column in Seismic-resistant Buildings in Hong Kong 多邊形高強混凝土填充組合柱在香港抗震建築中的應用 (Construction Industry Council Research Fund) (建造業議會研究撥款)
	1/7/2016	Experimental and Numerical Investigation of High Strength Steel-Concrete Composite Octagonal Shaped Column 八邊形高強鋼混凝土組合柱的試驗和數值研究 (RGC General Research Fund) (研資局優配研究金)
	26/8/2016	Application of High Performance Steel-concrete Composite Structures 高性能鋼混凝土組合結構的應用 (Innovation and Technology Commission - CNERC - sub-project) (創新科技署 - 國家工程技術研究中心子項目)
	1/7/2018	Experimental and Numerical Investigation of Fabricated High Strength Steel Polygonal Hollow Section Stub Columns 高強鋼冷彎多邊形管截面短柱的試驗及數值分析研究 (RGC General Research Fund) (研資局優配研究金)
	8/1/2019	New Prefabricated Composite Pavement Systems for Sustainable and Smart-city Development of Hong Kong: Key Scientific and Engineering Solutions (CEE-1) 為促進香港可持續發展和智慧城市建設的環保、智慧裝配式路面 -- 關鍵科學技術問題及解決方案 (RGC Research Impact Fund - sub-project) (研資局研究影響基金 - 子項目)
Dr Shao Yuan Leu (CEE) 呂紹元博士 (土木及環境工程學系)	1/7/2017	Study of Natural Deep Eutectic Solvents Induced Pretreatment Process for Bioconversion of Refuse-Derived Lignocellulosic Biomass in Hong Kong 研究天然深共溶劑發展新型預處理流程以提升港產廢棄木質纖維生物質之生物轉化 (RGC General Research Fund) (研資局優配研究金)
	31/1/2018	Incorporating Metabolites based Organosolv Pretreatment in Reducing the Recalcitrant of Lignocellulosic Biomass to Saccharification in Food/Yard/Timber Waste Treatment Processes 應用生物代謝產物進行有機溶劑預處理以降低木質纖維生物質對廚餘與園林廢棄物酶促醱化頑抗性之可行性評估 (Environment and Conservation Fund) (環境及自然保育基金)
	29/3/2018	New Solvent-Based Biorefinery Techniques to Extract Lignin from Timber Wastes for High Titer Biofuel Production 新型溶劑生物煉製技術以提取木材廢物中的木質素及製成生物燃料 (Innovation Technology Fund - UICP - MGJR) (創新及科技基金 - 大學與產業合作計劃)
	11/9/2019	Investigation and Demonstration to Convert Camellia Oleifera Shell Biomass into Functional Bio-composites 油茶果殼基功能生物質複合材料關鍵技術研發與應用示範 (Innovation Technology Fund - TCFS) (創新及科技基金 - 粵港科技合作資助計劃)

<p>Prof. Yuhong Wang (CEE) 王予紅博士 (土木及環境工程學系)</p>	1/7/2018	<p>New Prefabricated Composite Pavement Systems for Sustainable and Smart-city Development of Hong Kong: Key Scientific and Engineering Solutions 為促進香港可持續發展和智慧城市建設的環保、智慧裝配式路面 – 關鍵科學技術問題及解決方案 (RGC Research Impact Fund) (研資局研究影響基金)</p>
	1/7/2019	<p>Development of New Mechanistic-based Asphalt Pavement Aging Models for the Improvement of Asphalt Mixture Design and Mechanistic-empirical Pavement Analysis 為改進瀝青混合料設計和力學 – 經驗法道路分析而研究基於機理的瀝青道路老化模型 (RGC General Research Fund) (研資局優配研究金)</p>
<p>Prof. Xiaoli Ding (LSGI) 丁曉利教授 (土地測量及地理資訊學系)</p>	1/7/2017	<p>Territory Wide Ground Deformation Monitoring in Hong Kong for Geohazards Studies 香港區域地面變形監測用以研究地質災害 (RGC General Research Fund) (研資局優配研究金)</p>
	1/7/2018	<p>Landslide Monitoring with Intersecting Tomographic Synthetic Aperture Radar 交匯層析 SAR 技術監測滑坡 (RGC General Research Fund) (研資局優配研究金)</p>
	1/7/2019	<p>Development of Ground-Based Radar Remote Sensing Techniques for Long-Term Monitoring of Fast Deformation over Extended Areas 發展地面雷達遙感技術，用於長期監測大區域的快速變形 (RGC General Research Fund) (研資局優配研究金)</p>
<p>Dr Wai Lok Lai (LSGI) 賴緯樂博士 (土地測量及地理資訊學系)</p>	1/7/2015	<p>Developing Ground Penetrating Radar as a Spectral Analyzer for In-Situ Evaluation of Construction Material Properties 發展探地雷達作為檢定施工材料特性的頻譜分析儀 (RGC General Research Fund) (研資局優配研究金)</p>
	1/7/2016	<p>A Study of Water Seepage in Construction Materials with Phase Velocity Dispersion of Wide-Band Ground Penetrating Radar Wave and Spectral Analysis of Surface Wave (SASW) 透地雷達在建築材料中滲水的的面波頻譜分析 (RGC General Research Fund) (研資局優配研究金)</p>
	19/7/2018	<p>Development of Specifications and Certification Standards for Underground Utility (UU) Survey Based on Nondestructive Testing, Surveying, Imaging and Diagnostic (NDTSID) Approaches 地下管線檢測、測量、成像和診斷的測量規範與認證標準 (Innovation Technology Fund – GSP) (創新及科技基金 – 一般支援計劃)</p>

	1/7/2019	Waveguide Characterization of Shallow Subsurface Damages in Infrastructure Materials by Dispersive Behavior of Ground Penetrating Radar Wave 透地雷達波的色散行為對基礎設施材料中淺層地下損傷的導波特徵 (RGC General Research Fund) (研資局優配研究金)
	22/11/2019	Development of Gas Pipe Diagnostic Technology by Nondestructive Thermographic and Ultrasonic Methods 煤氣管道的無損紅外和超聲波檢測技術發展 (Innovation Technology Fund – PRP) (創新及科技基金 – 夥伴研究計劃)

Moreover, a 5-member team led by Prof. George Liu of the Department of Land Surveying and Geo-Informatics (LSGI) won the Dean's Award for Outstanding Achievement in Services for their outreach efforts to increase the number of exchange and/or international students. His team included Prof. John Shi, Head of LSGI, Dr Wallace Lai, Dr Matthew Pang, and Ms Anna Choi.

Each of the awardees/ winning team received a cash prize of HK\$20,000 and an award certificate.

以土地測量及地理資訊學系劉志趙教授為首以土地測量及地理資訊學系劉志趙教授為首的五人團隊致力於外展工作，力求增加交流生及/或國際學生人數，因而獲頒發「院長特設傑出教職員獎(服務)」。獲獎團隊成員包括系主任史文中教授、賴緯樂博士、彭奕彰博士及蔡嘉興女士。

所有得獎人/團隊各獲贈現金獎二萬港元及獎狀。

FCE Awards for Outstanding PhD Theses 2019/20

2 research graduates of the Faculty of Construction and Environment (FCE) have been honoured with the FCE Awards for Outstanding PhD Theses. Following are the details:

Dept 學系	Awardee 得獎者	Chief Supervisor 主要導師	Thesis Title 論文題目
BSE	Dr Hangxin Li 黎航欣博士	Prof. Shengwei Wang 王盛衛教授	Robust Optimal Design and Online Optimal Control of Zero/Low Energy Buildings 零/低能耗建築的魯棒優化設計和在線優化控制
CEE	Dr Xiaoyi Lan 藍小藝博士	Dr Tak Ming Chan 陳德明博士	Structural Behaviour and Design of High Strength Steel Tubular Sections and Tubular Joints 高強鋼管構件截面和管節點的結構性能和設計

Nominated by their respective departments for the awards, the two winners were chosen for the significance and innovation of their research, their presentation skills and responses to questions from the Faculty Research Committee Working Group, as well as their academic performance and publication track records. Since getting their PhDs, Dr Li has been working as a research assistant professor in BSE, while Dr Lan is working as a research fellow at Nanyang Technological University in Singapore.

2019/20 年度建設及環境學院 優秀博士論文獎

建設及環境學院兩位研究生最近獲學院頒發優秀博士論文獎，詳情如下：

兩位得獎者由所屬學系提名，憑其研究的重要性和創新元素、報告技巧、回答學院研究委員會工作小組問題時的表現、學術成就，以及過往發表論文的紀錄脫穎而出。取得博士學位後，黎博士一直於屋宇設備工程學系擔任助理教授(研究)；藍博士現時則為新加坡南洋理工大學研究員。

Research Activities

研究薈萃

Results of RGC Competitive Funding Schemes 2020/21

The 2020/21 application results for the RGC General Research Fund (GRF) and Early Career Scheme (ECS) were announced on 30 June 2020. Due to their similar nature, the application results for these 2 schemes have been combined in some of the following analysis:

Dept. 學系	GRF grants GRF 項目	ECS grants ECS 項目	Total (including GRF & ECS) 項目總數 (包括 GRF 及 ECS)	Overall success rate 成功率	Total amount of competitive funding (including GRF & ECS) (HK\$) 總資助額 (包括 GRF 及 ECS) (港幣 \$)	Amount per eligible staff member (HK\$) 合資格人員人均資助 額 (港幣 \$)
BRE 建築及房地產學系	1	2	3	15%	\$2,292,136	\$109,149
BSE 屋宇設備工程學系	5	0	5	24%	\$4,098,329	\$195,159
CEE 土木及環境工程學系	13	2	15	47%	\$12,856,889	\$378,144
LSGI 土地測量及地理資訊學系	4	1	5	31%	\$4,783,557	\$298,972
FCE (Total) 建設及環境學院 (總共)	23	5	28	31%	\$24,030,911	\$261,206

In terms of the number of grants per year, CEE led with 15 grants, followed by both BSE and LSGI with 5 each. As seen from Figure 1, the number of grants secured by individual departments, except CEE, has dropped this year, while the total funding secured by FCE departments has reached over \$24 million (Figure 2).

2020/21 年度研資局競爭性撥款結果

研資局 2020/21 年度的「優配研究金」(GRF) 及「傑出青年學者計劃」(ECS) 的申請結果於 2020 年 6 月 30 日公佈。由於性質相近，以下綜合兩個資助計劃的申請結果一併分析：

以每年獲批資助項目總數而言，土木及環境工程學系以十五個項目獨佔鰲頭，屋宇設備工程學系和土地測量及地理資訊學系次之，同樣取得五筆資助。從圖 1 可見，除土木及環境工程學系，其他學系今年獲批的資助項目總數同樣下跌，但本學院四大學系獲得的總資助額則超過二千四百萬元 (圖 2)。

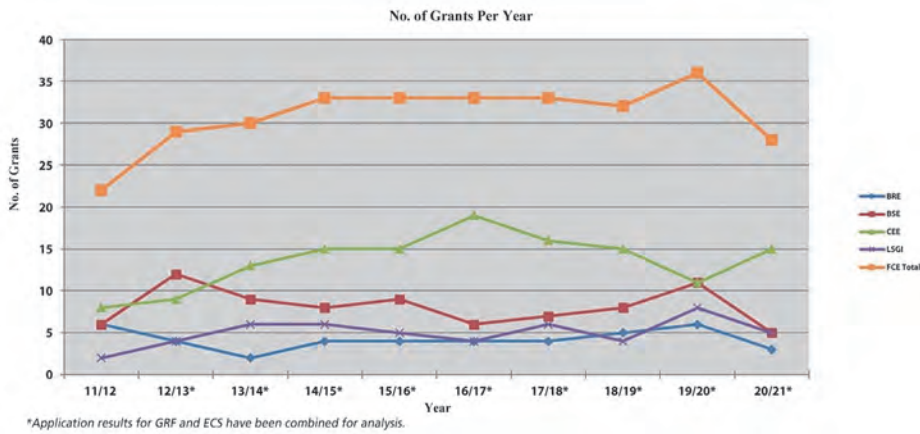


Figure 1: Comparison of Number of Grants per Year between Departments over past 10 Years
圖 1：比較過去十年各學系每年獲資助項目的總數

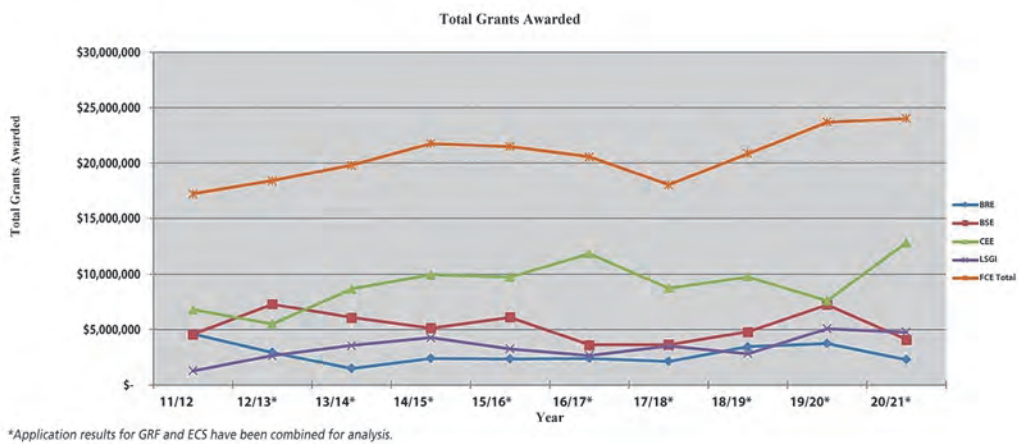


Figure 2: Comparison of Total Grants Awarded per Year between Departments over past 10 Years
圖 2：比較過去十年各學系每年獲得的總資助額

In terms of the average funding amount per academic staff member (only counting those who are eligible), the rankings of our 4 departments in descending order are CEE, LSGI, BSE and BRE. As shown in Figure 3, the average funding received by FCE academic staff have reached a peak in the 2020/21 exercise.

學術人員人均獲資助額方面（只計算合資格人員），四大學系從高至低的排名依次為土木及環境工程學系、土地測量及地理資訊學系、屋宇設備工程學系，以及建築及房地產學系。從圖 3 可見，在 2020/21 年度資助計劃中，本院學術人員的人均獲資助額達到高峰。

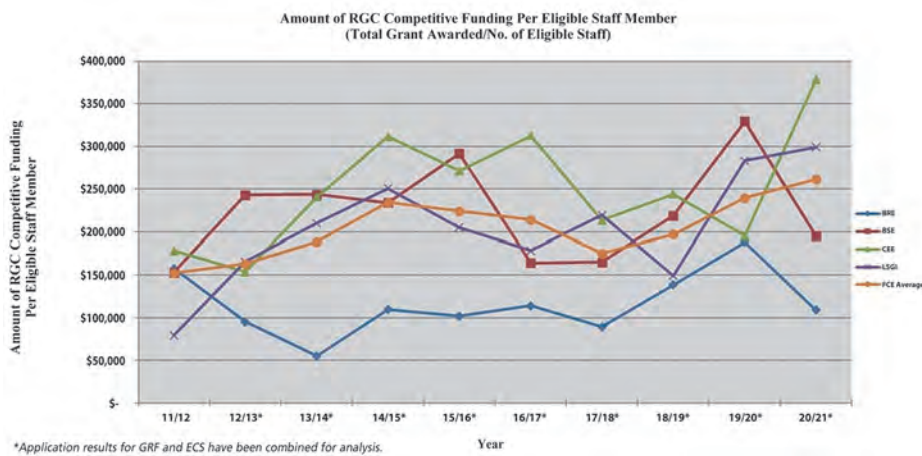


Figure 3: Comparison of Amount of RGC Competitive Funding per Eligible Staff Member between Departments over past 10 Years
圖 3：比較過去十年各學系合資格人員的人均資助額

In the Civil Engineering, Surveying, Building and Construction (CESBC) disciplines of the Engineering Panel, PolyU has led local universities in the GRF/ECS exercises since 1994/95 in both the number of GRF/ECS projects supported and the total grant value awarded, consistently winning around or over 40% of all GRF/ECS grants allocated in these disciplines. The distribution of the amount of GRF/ECS funding in 2020/21 among local universities is shown in Figure 4. PolyU received 45% of the total available funding in the CESBC disciplines this year, with an average funding of HK\$814K per project.

自 1994/95 年度以來，理大在隸屬工程學學科小組的土木工程、測量及建造工程 (CESBC) 範疇，表現持續突出，以優配研究 / 傑出青年學者計劃 (GRF/ECS) 而言，獲資助的研究項目數量及總資助額均領先其他本地學府，穩佔該兩項資助計劃於 CESBC 範疇總撥款約四成。圖 4 顯示了各本地大學在 2020/21 年度在 CESBC 範疇獲批 GRF/ECS 資助的情況，可見本年度批出的資助中，理大獨佔 45%，而每個項目的平均資助額為八十一萬四千港元。

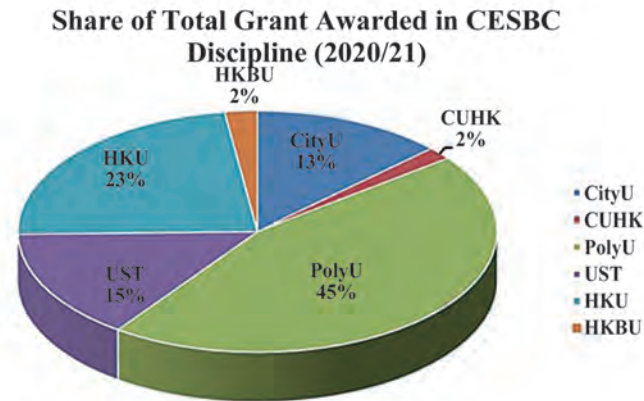


Figure 4: Distribution of GRF/ECS Funding in the CESBC Disciplines among Institutions in the 2020/21 Round
圖 4：各大學於 2020/21 年度在土木工程、測量及建造工程 (CESBC) 範疇獲「優配研究金」及「傑出青年學者計劃」批出的資助份額

Of the 28 GRF/ECS grants awarded to the Faculty this year, 3 were awarded outside the CESBC disciplines. The Faculty won 25 grants (or 34.7%) totaling HK\$20,961K out of 72 GRF/ECS grants awarded by RGC in the CESBC disciplines in the present round (i.e. 2020/21).

FCE colleagues are urged to work hard to ensure a greater share of GRF/ECS funding in the future, which also impacts the finances of the University as well as its departments.

本院今年獲批的二十八筆 GRF/ECS 撥款中，有三筆並不屬於 CESBC 範疇；而綜觀研資局在 2020/21 年度於 CESBC 範疇批出的七十二筆 GRF/ECS 撥款，當中二十五筆由本院獲得，總計達二千零九十六萬一千港元 (34.7%)。

本院會繼續努力獲取更多 GRF/ECS 的撥款，為維持大學及本院學系穩健財政帶來正面的影響。

RGC Postdoctoral Fellowship Scheme 2020/21

From 1 September 2020, Prof. Hongxing Yang of the Department of Building Services Engineering (BSE) has supervised a postdoctoral fellow, Dr Qiliang Wang, supported by the Hong Kong Research Grants Council (RGC) Postdoctoral Fellowship Scheme 2020/21 in a 3-year project entitled "A novel integration of adaptive infrared-reflecting coating into parabolic trough solar receiver based on negative energy-flow region."

2020/21 年度研資局博士後 獎學金計劃

屋宇設備工程學系的楊洪興教授，於 2020 年 9 月 1 日起擔任王其梁博士的博士後導師。王博士是 2020/21 年度香港研究資助局「博士後獎學金計劃」得主，將於理大開展為期三年的研究項目「基於負能流區的新型自我調整紅外反射塗層集成式槽型拋物面太陽能集熱器」。

NSFC/RGC Joint Research Scheme 2020/21

The Faculty of Construction and Environment (FCE) is pleased that 5 of its academics have been awarded funding from the National Natural Science Foundation of China (NSFC) and the Research Grants Council (RGC) Joint Research Scheme 2020/21. Following are the details:

2020/21 國家自然科學基金 委員會及研究資助局聯合科 研資助基金

在 2020/21 年度，建設及環境學院有五位學者喜獲國家自然科學基金委員會及研究資助局的聯合科研資助基金撥款，詳情如下：

HK Principal Investigator/ Dept 香港首席研究員 / 學系	Mainland Principal Investigator/ Institution 內地首席研究員 / 院校	Project Title 項目名稱	Funding Period (months) 資助期 (月)	Amount Awarded by RGC (HK\$) 資助金額 (港元)
Prof. Meng Ni (BRE) 倪萌教授 (建築及房地產學系)	Prof. Minfang Han/ Tsinghua University 韓敏芳教授 / 清華大學	Coupling Hydrogen Production by High Temperature Electrolysis with Iron-and-Steel Works to Recover Industrial Waste-Heat for Low-Carbon Metallurgy 基於工業廢熱的高溫電解制氫聯合氫冶金循環一體化系統研究	48	1,171,828
Prof. Kwok Fai Chung (CEE) 鍾國輝教授 (土木及環境工程學系)	Dr Huiyong Ban/ Tsinghua University 班慧勇博士 / 清華大學	Research on Structural Behaviour of Stainless-Clad Bi-Metallic Steel Welded Connections and Joints under Monotonic and Cyclic Actions 不銹鋼複合鋼材焊接連接與節點在單調和循環荷載下的力學性能基礎理論研究	48	1,158,329
Prof. Jianguo Dai (CEE) 戴建國教授 (土木及環境工程學系)	Prof. Biqin Dong/ Shenzhen University 董必欽教授 / 深圳大學	Research and Development on Waste Ash/Slag-based Artificial Aggregates for Applications in Concrete 基於灰渣廢棄物的人造骨料研發及其在混凝土中的應用	48	1,154,954
Prof. Hai Guo (CEE) 郭海教授 (土木及環境工程學系)	Prof. Likun Xue/ Shandong University 薛麗坤教授 / 山東大學	Organic Aerosols in Offshore Marine Atmosphere of Eastern and Southern China: Sources, Chemical Ageing, and Climate Consequence 中國東部及南部海域近海大氣有機氣溶膠：來源、化學老化和氣候效應	48	1,154,954
Dr Zhenyu Yin (CEE) 尹振宇博士 (土木及環境工程學系)	Prof. Fuping Gao/ Institute of Mechanics, Chinese Academy of Sciences 高福平教授 / 中國科學院力學研究所	Study of Multi-Physics Coupling Mechanism of Deep Sea Pipeline and Soft Marine Organic Deposits Interaction Considering Time and Temperature Effects 考慮時間及溫度效應的深海管道與海洋有機質軟土多場耦合作用機理研究	48	1,154,954

Funding from NSFC

7 scholars from the Faculty of Construction and Environment (FCE) have received funding from the National Natural Science Foundation of China (NSFC) to support their research. Following are the details:

國家自然科學基金資助

建設及環境學院七位學者最近獲國家自然科學基金撥款資助，詳情如下：

Principal Investigator (Dept) 首席研究員 (學系)	Scheme 計劃	Project Title 項目名稱	Funding Approved (RMB) 資助金額 (人民幣)
Prof. Edwin Chan (BRE) 陳漢雲教授 (建築及房地產學系)	General Programme 面上項目	A Research on Small-medium Healthy City Space Collaborative Optimization and Governance Model 基於健康城市理念的中小城市空間協同優化與治理模式研究	580,000
Dr Caiyi Xiong (BSE) 熊才溢博士 (屋宇設備工程學系)	Young Scientists Fund 青年科學基金	Study on the Acoustically Driven Response and Extinction of Buoyant Diffusion Flame 浮力擴散火焰在外加聲場中的回應特性和熄火機理研究	240,000
Prof. Anthony Chen (CEE) (土木及環境工程學系)	General Programme 面上項目	Considering Multi-dimensional Travel Choice in Transportation Network Vulnerability and Optimization Analysis 考慮多維度選擇行為的多模式交通網絡脆弱性分析與優化方法	490,000
Dr You Dong (CEE) 董優博士 (土木及環境工程學系)	General Programme 面上項目	Performance and Resilience Informed Analysis and Design of Bridge in a Life-cycle Context 基於性能和韌性的劣化橋樑全壽命抗震設計理論研究	580,000
Dr Ling Jin (CEE) 金靈博士 (土木及環境工程學系)	Young Scientists Fund 青年科學基金	In Vitro Toxic Potencies of City-specific Fine Particulate Matter: Contribution of Targeted Toxic Components and their Emission Sources 靶向致毒組分及其排放源對大氣細顆粒物細胞毒性城際差異的定量貢獻	240,000
Dr Guan Lin (CEE) 林觀博士 (土木及環境工程學系)	Young Scientists Fund 青年科學基金	Behavior and Design of FRP-concrete-steel Double Skin Tubular Member T-connections FRP-混凝土-鋼雙壁空心構件T型節點力學性能及設計方法研究	240,000
Dr Chengxiang Zhuge (LSGI) 諸葛承祥博士 (土地測量及地理資訊學系)	Young Scientists Fund 青年科學基金	Analysis and Modelling of Users' Willingness to Use the Vehicle-to-Grid Technology 電動汽車入網技術用戶使用意願分析和建模	240,000

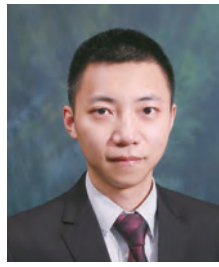
2020 Excellent Young Scientists Fund

The Faculty of Construction and Environment (FCE) is pleased to have two of its academics benefiting from the 2020 Excellent Young Scientists Fund, which was established by NSFC to encourage local young scientists to pursue excellence in basic research and research in cutting-edge technologies. Dr Chao Zhou of the Department of Civil and Environmental Engineering (CEE) and Dr Xiaolin Zhu of the Department of Land Surveying and Geo-Informatics (LSGI) will each receive RMB1.2 million to support their respective research on unsaturated soils and problematic soils on the one hand, and remote sensing: time series image processing on the other.

2020 優秀青年科學家基金

國家自然科學基金設有「優秀青年科學家基金」，鼓勵年輕科研人才在基礎研究及尖端科技研究上力臻卓越。在 2020 年的入圍名單中，包括建設及環境學院兩位年輕學者 – 土木及環境工程學系的周超博士和土地測量及地理資訊學系的朱孝林博士。兩人將各自獲撥款一百二十萬元人民幣，分別進行有關「非飽和土壤及問題土壤」與「遙感：時間序列圖像處理」的研究。

Since its launch in 2019, 25 young scientists (males under 38 and females under 40 years old) from Hong Kong and Macau have been supported by the Excellent Young Scientists Fund each year. Dr Zhou joined CEE in late 2018, while Dr Zhu joined LSGI in July 2016. Both of them are assistant professors who received their PhD degrees in 2014, from the Hong Kong University of Science and Technology and Ohio State University in the US respectively.



自「優秀青年科學家基金」於2019年開放予港澳地區以來，每年都有二十五位年輕科學家（男性及女性申請人的年齡上限分別為三十八歲及四十歲）獲得資助。周博士於2018年底加入土木及環境工程學系，朱博士則於2016年7月成為土地測量及地理資訊學系的一員。2014年，兩人分別於香港科技大學及美國俄亥俄州立大學取得博士學位，現時同為助理教授。

BSE Researchers Supported by Funding from Chinese Government

A team of researchers in the Department of Building Services Engineering (BSE) has received RMB519,100 from the Technology and Industry Development Centre of the Ministry of Housing and Urban-Rural Development of China to conduct a 2-year feasibility study on applied hybrid wind-solar power storage systems in net-zero energy buildings. Led by Prof. Hongxing Yang, the project team includes his colleagues Dr Sunliang Cao, Dr Xi Chen, and Ms Jia Liu, a PhD student in BSE. The research is a sub-project of a Key Research Project of China-USA Clean Energy Collaboration: Integrated demonstration and research in suitable technologies of net-zero energy consumption buildings.

屋宇設備工程學系研究人員獲國家資助

屋宇設備工程學系的研究團隊，最近獲住房和城鄉建設部轄下的科技與產業化發展中心撥款五十一萬九千一百元人民幣，開展在風光互補混合電力蓄能系統應用於零能耗建築的可行性研究，為期兩年。團隊由楊洪興教授領導，成員包括同一學系的曹孫亮博士、陳曦博士，以及博士生劉佳女士。此研究是中美清潔能源聯合研究中心重點項目的子項目：淨零能耗建築適宜技術研究與集成示範。

Public Policy Research Funding

3 academics from the Department of Building and Real Estate (BRE) have been supported by the government's Central Policy Unit. Following are the details:

公共政策研究資助計劃

建築及房地產學系的三位學者獲特區政府中央政策組撥款資助，詳情如下：

Year 年度	Principal Investigator 首席研究員	Project Title 項目名稱	Duration (months) 推行期 (月)	Funding (HK\$) 總資助金額 (港元)
2019-20 (4 th round) (第四輪)	Prof. Heng Li 李恆教授	Solving Public Housing Problem in Hong Kong by Adopting Modular Integrated Construction (MiC) to Build the Transitional House 通過使用組裝合成建築法建造過渡性房屋來解決香港公屋問題	24	878,025
2019-20 (4 th round) (第四輪)	Dr Yi Sun 孫羿博士	Effects of Environment-related Experiences on Older Person's Well-being in Hong Kong's "Double Ageing" Context: A Person-environment Perspective 人口和社區「雙老」背景下長者環境體驗與幸福感關係的實證研究：基於人與環境互動的視角	12	497,030
2020-21 (1 st round) (第一輪)	Dr Esther Yung 容曉君博士	Effects of Indoor Environmental Quality on the Satisfaction Level of Elderly in Residential Care Homes 安老院舍室內環境質量對於長者生活滿意度的影響研究	12	389,942

HK Scholars Programme 2020

6 academics from the Faculty of Construction and Environment (FCE) have been selected by the Hong Kong Scholars Programme (HKSP) 2020 to each engage a mainland scholar as a Postdoctoral Fellow in their research projects. Launched in December 2010 as a joint initiative between mainland authorities and the Society of Hong Kong Scholars, the HKSP promotes academic/ scientific exchanges and collaboration by matching outstanding mainland PhD graduates with leading academics of universities in Hong Kong, who will supervise the mainland scholars for 2 years in a research project. Following are the details:

2020年香江學者計劃

建設及環境學院六名學者在2020年「香江學者計劃」的評選中脫穎而出，將與內地優秀人才合作開展為期兩年的博士後研究項目。香江學者計劃始於2010年12月，由香港學者協會與內地當局合辦，希望透過安排內地菁英博士畢業生與香港的傑出大學教授合作，促進兩地的學術及科研交流。港方學者將於兩年的研究期內擔任內地學者的導師。詳情如下：

PolyU Supervisor (Dept) 理大導師 (學系)	Project Title 項目名稱	Postdoc Fellow 博士後研究員
Prof. Heng Li (BRE) 李恆教授 (建築及房地產學系)	Synthesis of Structural Health Monitoring via Distributed Filter of Sensor Networks 基於傳感器網絡的分布式濾波理論的結構健康監測	Dr Ping He 何平博士
Prof. Lin Lu (BSE) 呂琳教授 (屋宇設備工程學系)	Solar-powered membrane distillation desalination technology and development 太陽能驅動膜蒸餾海水淡化系統研究和產品開發	Dr Zheng Cao 曹崢博士
Prof. Anthony Chen (CEE) (土木及環境工程學系)	A Big Data Approach to Multimodal Urban Transportation System Modeling and Analysis 多模式城市交通系統建模與分析：基於大數據的方法	Dr Tao Liu 劉濤博士
Prof. Wei Chu (CEE) 朱威教授 (土木及環境工程學系)	Advanced Oxidation for the Removal of Emerging Pollutants in Water 用高級氧化方法去除水中新型污染物的研究	Dr Long Bo Jiang 蔣龍波博士
Prof. Xiangdong Li (CEE) 李向東教授 (土木及環境工程學系)	Physico-chemical and Biological Characterization and Inhalation Toxicity of Urban Ambient Airborne Particulate Matters (PMs) in Urban Areas 城市細顆粒的成分及毒性	Dr Xiao Xia Zhou 周小霞博士
Dr Chiu Wa Tsang (CEE) 曾超華博士 (土木及環境工程學系)	Advanced Catalyst for Biomass Upgrading into High-value Chemicals 用於將生物質升級為高價值化學品的先進催化劑	Dr Xie Fei Zhu 朱謝飛博士

National Observation and Research Station of Ministry of Transport of PRC Jointly Established with CEE Research Team

The Ministry of Transport (MOT) of the People's Republic of China recently gave its approval for the establishment of a collaborative research platform known as the National Observation and Research Station of Transport Industry for the Structural Safety of Hong Kong-Zhuhai-Macao Bridge (HZMB) in Guangdong-Hong Kong-Macao Greater Bay Area. It is jointly formed by the HZMB Authority, China Communications Construction Company (CCCC) Fourth Harbour Engineering Research Institute Co. Ltd., Nanjing Hydraulic Research Institute, and the Hong Kong Polytechnic University. The PolyU research team consists of Prof. Yong Xia, Prof. Songye Zhu, Dr You Dong, Dr Yi Zhou, Dr Qi Xia, and Mr Wanglin Wu, all from the Department of Civil and Environmental Engineering (CEE).

土木及環境工程學系研究團隊參與國家交通運輸部野外科學觀測研究基地

國家交通運輸部最近批准建設「粵港澳大灣區港珠澳大橋工程安全野外科學觀測研究基地」作為協作研究平台。該基地由港珠澳大橋管理局、中交四航工程研究院有限公司、南京水利科學研究院及香港理工大學共同參與成立，理大的研究團隊由土木及環境工程學系人員組成，成員包括夏勇教授、朱松曄教授、董優博士、周毅博士、夏琪博士及吳旺林先生。

The National Observation and Research Station will focus on long-term observation of the operational environment, material corrosion and structural performance of the HZMB. It will continuously collect basic research data related to bridge safety, scientifically assess and predict the in-service condition of the bridge, and develop advanced technologies for intelligent construction, operation and maintenance of major projects in China's transportation industry.

Joint Lab of SPSB and PolyU in Operation

A low voltage innovation laboratory platform jointly established by Shenzhen Power Supply Bureau (SPSB) and PolyU has begun its operations in Shenzhen. It is the first laboratory in China that integrates grid systems and building electrical systems, and serves as a foundation for the Shenzhen Power Supply Bureau, as well as the China Southern Power Grid, to research and develop their own intelligent power distribution equipment independently, and to address various safety issues in the distribution and utilization of electricity. Developed by Prof. Yaping Du, Prof. Mingli Chen, and their team at the Department of Building Services Engineering (BSE), this lab is currently operated by the Futian Power Supply Bureau of Shenzhen in collaboration with BSE.

Shenzhen Power Supply Bureau will continue to work with PolyU and other experts in the future to unleash the advantages of Shenzhen and Hong Kong with an aim to construct leading research bases and enhance academic research in this area.

Lunar Sample-Return Mission Accomplished

China's first lunar mission to collect samples from the moon has returned to Earth. The sampling process was generally smooth, except the surface sampling and packing system had once dug too deep and collected more samples than expected, but the research team at PolyU had prepared for such situations and successfully removed the excess soil to complete the task. Prof. Bo Wu of the Department of Land Surveying and Geo-Informatics (LSGI) has contributed to previous missions by developing innovative techniques for high-precision high-resolution 3D mapping and geomorphologic analysis of the landing region. He is expecting some samples of the lunar regolith can be distributed to Hong Kong for scientific research, such as mineralogy of the samples, young volcanic basalts, and crater chronology.

上述基地以長期監測港珠澳大橋為重點工作，包括監測大橋操作環境、材料腐蝕和工程結構，持續收集有關大橋安全的基礎研究數據，科學評估及預測大橋運行狀況，以及為國家交通運輸行業重大工程開拓先進的建築、運營及維護技術。

深圳供電局 – 理大聯合實驗室開始運作

由深圳供電局與理大攜手創建的「低壓創新實驗室」已於深圳開始運作。這是中國首個糅合電網與建築物電氣系統的實驗室，將有助深圳供電局與南方電網各自研發其智能配電設施，以及解決配電及用電的安全問題。實驗室由杜亞平教授、陳明理教授聯同屋宇設備工程學系的人員研發，現時由該系與福田供電局合作營運。

深圳供電局將繼續與理大及其他專家合作，發揮深、港兩地的優勢，以建設一流科研基地和促進有關學術研究。

完成月球採樣返回任務

國家首次月球採樣任務已經返航。是次採樣過程大致順暢，雖然表土採樣及封裝系統一度鑽挖過深，使採得的樣本較預期為多，但理大研究團隊已為這種情況早作準備，成功清走多餘的土壤，順利完成任務。在之前的多次探月任務中，土地測量及地理資訊學系的吳波教授研發了不少嶄新技術，對著陸區進行高精度及高解像度的三維地形測繪和分析，貢獻良多。他期望香港今次可獲分配部分月壤樣本，以開展有關樣本礦物學、年輕火山玄武岩，以及隕石坑地質年齡的研究。

Comments of BRE Scholar Published in Science



A technical comment on fuel cells by Prof. Meng Ni of the Department of Building and Real Estate (BRE) and Prof. Zongping Shao of Nanjing Technical University and Curtin University in Australia has been published in *Science*. In their review of a paper in *Science* on a new mechanism for proton conduction, they discussed its limitations and the future of protonic ceramic fuel cells (PCFCs). Entitled "Fuel Cells that Operate at 300° – 500°C," their commentary highlighted the applications of protonic conductors in electrochemical water-splitting for hydrogen production and electrochemical ammonia synthesis. More details are at <https://science.sciencemag.org/content/369/6500/138>.

Prof. Meng Ni is currently Associate Head (Research) of BRE and a Humboldt Fellow (Germany). His research covers fuel cells, metal-air batteries, flow batteries, and novel electrochemical cells for low grade heat recovery. He is a senior editor of *Sustainable Energy Technologies and Assessments* (Elsevier, <https://www.journals.elsevier.com/sustainable-energy-technologies-and-assessments>), an associate editor of the *International Journal of Energy Research* (Wiley, <https://onlinelibrary.wiley.com/journal/1099114x>) and the *International Journal of Green Energy* (Taylor & Francis, <https://www.tandfonline.com/toc/ljge20/current>).

Smart City Tree Management System Adopted by HK Government

In the 2020 Policy Address of the Chief Executive of the Hong Kong Government, it was announced that the Development Bureau would commence a three-year study to collect and analyse data from tilt sensors to test their effectiveness in identifying trees at risk of collapse. This is a follow-up of the Jockey Club Smart City Tree Management Project led by Dr Charles Wong of the Department of Land Surveying and Geo-Informatics (LSGI), whose collaboration with the Development Bureau since 2018 has resulted in significant knowledge transfer and social impact to make Hong Kong a more livable city.

Moreover, Dr Wong has been appointed one of six new non-official members of the Urban Forestry Advisory Panel (UFAP) for a term of two years from January 2021 by the Development Bureau. Comprising both local and overseas experts from different fields such as urban forestry, plant science, engineering and landscape architecture, the UFAP will provide advice on urban forestry policies and initiatives from multiple perspectives, including urban forestry management strategies and an applied research and development regime, as well as positive capacity building initiatives for the arboriculture and horticulture industry.

BSE Academic Advocates Fresh Air Units to Prevent Covid Transmission

In a radio programme, Dr Horace Mui of the Department of Building Services Engineering (BSE) called on restaurants to install fresh air units that would increase the air exchange rate and double the amount of fresh air in indoor spaces to prevent coronavirus transmission. Such a move would cost at least HK\$80,000 to \$100,000 and increase electricity bills by about 20-30%. He proposed the government provide subsidies to the industry for installation.

《科學》期刊刊出建築及房地產學系學者技術意見

《科學》期刊最近刊出了建築及房地產學系倪萌教授和南京工業大學 / 澳洲科廷大學邵宗平教授有關燃料電池的技術意見。兩位學者審閱《科學》期刊裡一篇關於質子傳導新機制的文章時，探討了這機制的局限和質子陶瓷燃料電池 (PCFCs) 的前景。該文題為「於攝氏 300° 至 500° 運行的燃料電池」，兩人重點提到質子導體在電化學制氫水分解和氨合成過程中的應用。閱讀詳情，可瀏覽 <https://science.sciencemag.org/content/369/6500/138>。

倪萌教授是建築及房地產學系副系主任 (科研) 及德國洪堡基金會學者，主力研究燃料電池、金屬空氣電池、液流電池，以及可進行低品位熱回收的新式電化學電池，除擔任《可持續能源技術及評估》高級編輯 (Elsevier, <https://www.journals.elsevier.com/sustainable-energy-technologies-and-assessments>)，也是《國際能源研究》(Wiley, <https://onlinelibrary.wiley.com/journal/1099114x>) 及《國際綠色能源》副編輯 (Taylor & Francis, <https://www.tandfonline.com/toc/ljge20/current>)。

智慧城市樹木管理系統獲政府採納

行政長官在 2020 年《施政報告》中宣佈，發展局將開展為期三年的研究，收集及分析來自斜度感測儀的數據，以評估此裝置在鑑定塌樹風險的成效。這是「賽馬會智慧城市樹木管理計劃」的跟進項目，由土地測量及地理資訊學系的黃文聲博士領導，黃博士自 2018 年已開始與發展局合作，對促進知識轉移、使香港成為宜居城市作出積極貢獻。

另外，黃博士最近更獲發展局委任為城市林務諮詢小組六位新任非官方成員之一，2021 年 1 月生效，為期兩年。諮詢小組由擅長城市林務、植物科學、工程及園景設計的本地及海外專家組成，將從多角度提供有關城市林務政策及措施的意見，包括城市林木的管理策略、應用研究及發展範疇，以及如何提升樹藝與園藝行業的整體能力。

屋宇設備工程學系學者建議安裝鮮風機預防病毒傳播

屋宇設備工程學系的梅國威博士在一個電台節目中表示，食肆可考慮安裝鮮風機，為室內引入雙倍新鮮空氣，以加強通風，預防新冠肺炎病毒傳播。然而，有關安裝最少耗費八萬至十萬港元，亦會令電費開支上升約兩至三成。因此，他建議由政府補貼安裝費用。

Tracking Coronavirus with a New Air-monitoring System

PolyU has developed an air-monitoring device that can identify high-risk areas for virus transmission or pollutants. The system assesses hazards in a given space and has an "airborne pathogen tracing/ dispersion" facility to simulate the spread of a virus. According to Dr Horace Mui of the Department of Building Services Engineering, airflow in a room would be analyzed after a tracer gas had been released, so the origin of the virus and pollutants would be detected. He hopes the new device can help health authorities track coronavirus dispersal and control its spread.

In addition, Dr Mui led a test of different kinds of incense using the air-monitoring device and found that cone incense released the most particulate matters, with PM10 matters of 223.17 mg/m³ and total volatile organic compound (TVOC) ranged from 583.12 to 695.73 mg/m³ after five minutes, exceeding the standard slightly. The TVOC of the natural agarwood also moderately exceeded the standard. While the results of all other samples were below the limit, eco-friendly incense outperformed other samples with PM10 matters of 21 to 35.83 mg/m³.

可追蹤新冠病毒源頭的嶄新空氣質素監測系統

理大近日研發了一套空氣質素監測系統，有助辨識容易傳播病毒或污染物的高危地區。此系統能評估處所內潛藏的危險，並配備「可追蹤經空氣傳播或擴散的病源體」的裝置，模擬病毒的擴散軌跡。屋宇設備工程學系的梅國威博士表示，在室內釋放示蹤氣體後，便可分析該處的空氣流動情況，進而偵測病毒和污染源頭。他期望新發明能協助衛生當局追蹤冠狀病毒的擴散途徑，加以控制。

另外，梅博士還使用上述空氣質素監測裝置進行了一項有關燒香的測試，發現以塔香（香錐）釋出的顆粒物最多。燃燒五分鐘後，其釋出的PM10顆粒物達到每立方米223.17毫克，每立方米的總揮發性有機化合物(TVOC)含量介乎583.12至695.73毫克，較標準稍高。天然沉香木釋出的TVOC亦輕微高於標準。餘下所有樣本的測試結果均低於上限，當中又以環保香表現最佳，每立方米的PM10顆粒物僅有21至35.83毫克。

Cooling Indoor Temperatures with a Multiple Functional Building Coating

An innovative coating for buildings has been jointly developed by Prof. Jianguo Dai of the Department of Civil and Environmental Engineering (CEE) and a former colleague of the Department of Applied Physics, Dr Dangyuan Lei, in collaboration with Dr Weidong Zhang of China State Construction. The "smart" coating can enhance daytime and suppress nighttime sub-ambient radiative cooling for large-scale building applications. Under strong sunlight, the temperature of building surfaces can be reduced by 6 degree Celsius compared with the surrounding air temperature, and room temperatures of around 26 degree Celsius can be maintained without the use of air-conditioners in the summer. The coating is also endowed with water proofing and self-cleaning properties, greatly improving the building durability and maintainability. The research has been recently published in a top journal known as *Advanced Materials*. (<https://onlinelibrary.wiley.com/doi/full/10.1002/adma.201906751>)

多功能建築物塗層有效降低室內溫度

由土木及環境工程學系戴建國教授、前中大應用物理學系雷黨願博士，以及中建集團張衛東博士攜手研發的創新「智能」塗層，不僅可增強日間製冷和抑制夜間超荷製冷，更能在建築物上大規模使用。在強烈陽光照射下，塗層可使建築物表面的溫度較四周空氣溫度最多降低攝氏六度，即使不啟動空調，夏季的室內溫度亦可保持在攝氏二十六度左右。另外，塗層更具備防水及自潔特性，除了大大延長建築物的壽命，保養亦較為容易。是項研究的論文最近剛於頂級學報《先進材料》刊出。(<https://onlinelibrary.wiley.com/doi/full/10.1002/adma.201906751>)

LSGI Scholar Shares Relevance of Global Navigation Satellite Systems to Our Lives

In the last few decades, Global Navigation Satellite Systems (GNSSs) have made tremendous impacts on technological innovations. GNSSs have become a global Positioning, Navigation and Timing (PNT) infrastructure to support diversified economic activities, such as transportation, construction, mobile communication, power grids, space explorations, and scientific research. Prof. Wu Chen and his team have developed a seamless urban navigation system that can overcome the difficulties of satellite positioning in urban centres packed with skyscrapers. Its accuracy can be within 10 m with smartphones and up to 10 cm when specialised receivers are used. A powerful cloud server ensures positioning is updated in real time, supporting various smart city functions.

土地測量及地理資訊學系學者分享衛星導航系統與日常生活關係

過去數十年，衛星導航系統(GNSS)對科技革新舉足輕重。GNSS早已成為用於全球定位、導航及計時的基礎建設，支援包括運輸、建築、流動通訊、電網、太空探索及科學研究等不同的經濟活動。由土地測量及地理資訊學系陳武教授為首的團隊，共同研發的城市無縫導航系統，能夠克服在市區高樓林立遇到定位困難的問題，使用智能手機定位精準度保持在十米之內，若以專業接收器進行定位，精準度更在十厘米之內，而高效能的雲端伺服器，更實時更新定位數據，配合智慧城市的不同功能。

Using multiple Global Navigation Satellite System (GNSS) measurements, 3D city modelling and various data gathered from smartphone sensors to enhance accuracy, the system accesses four major GNSSs, namely China's BeiDou, GPS of the US, Europe's Galileo, and Russia's GLONASS at the same time, which results in higher precision because more satellites are used. It was recently showcased at the Virtual Inno Carnival 2020 organized by the Innovation and Technology Commission.

In addition, Prof. Wu Chen of the Department of Land Surveying and Geo-Informatics (LSGI) gave an online presentation on 11 December 2020 reviewing the development of GNSSs and the technologies behind them. He shared a few examples of Beidou applications to illustrate the impact of GNSS technologies in our daily lives.

該城市無縫導航系統應用多個 GNSS 系統測量儀、三維城市模型和智能手機傳感器收集所得的各類數據，並同時結合全球四大 GNSS 系統——即中國北斗、美國 GPS、歐洲伽利略、俄羅斯 GLONASS，由於連接了更多衛星，大大提升了定位的精準度。在創新科技署主辦的「創新科技嘉年華 2020」中，亦有介紹這項科研成果。

另外，陳武教授在 2020 年 12 月 11 日的網上簡介會中，回顧了 GNSS 系統的發展歷程和科技原理，並分享北斗系統的一些應用實例，以說明 GNSS 科技與日常生活息息相關。

PolyU Postdoc Matching Fund Scheme 2020/21

The 1st round of the PolyU Postdoc Matching Fund Scheme 2020/21 has supported 11 academics in the Faculty of Construction and Environment (FCE) to each engage a postdoc fellow (PDF) in their research for 2 years. Following are the details:

PI (Dept) 首席研究員 (學系)	PDF Candidate (Institution where PhD was obtained) 博士後研究員 (頒發博士學位的高等學院)
Prof. Albert Chan (BRE) 陳炳泉教授 (建築及房地產學系)	Dr Emmanuel Kingsford Owusu (The Hong Kong Polytechnic University) (香港理工大學)
Dr Xinyan Huang (BSE) 黃鑫炎博士 (屋宇設備工程學系)	Dr Caiyi Xiong (University of Science and Technology of China) 熊才溢博士 (中國科學技術大學)
Prof. Jianguo Dai (CEE) 戴建國教授 (土木及環境工程學系)	Dr Yinfu Jin (Ecole Centrale de Nantes) 金銀富博士 (法國南特中央理工學院)
Dr You Dong (CEE) 董優博士 (土木及環境工程學系)	Dr Peng Yuan (Central South University) 袁鵬博士 (中南大學)
Prof. Hai Guo (CEE) 郭海教授 (土木及環境工程學系)	Dr Jingcui Xu (The Hong Kong University of Science and Technology) 許晶翠博士 (香港科技大學)
Dr Siu Kai Lai (CEE) 黎紹佳博士 (土木及環境工程學系)	Dr Linhao Zhang (The Hong Kong Polytechnic University) 張林昊博士 (香港理工大學)

2020/21 年度理大博士後研究員配對基金

2020/21 年度理大博士後配對基金計劃的第一輪申請結果已揭曉：建設及環境學院共有十一位學者獲資助，在未來兩年可聘請一位博士後研究員參與他們的研究，詳情如下：

PI (Dept) 首席研究員 (學系)	PDF Candidate (Institution where PhD was obtained) 博士後研究員 (頒發博士學位的高等學院)
Dr Andy Leung (CEE) 梁日暉博士 (土木及環境工程學系)	Dr Man Kong Lo (The Hong Kong Polytechnic University) 羅文江博士 (香港理工大學)
Prof. Yiqing Ni (CEE) 倪一清教授 (土木及環境工程學系)	Dr Qiuhu Zhang (The Hong Kong Polytechnic University) 張秋虎博士 (香港理工大學)
Prof. Chi Sun Poon (CEE) 潘智生教授 (土木及環境工程學系)	Dr Mohammad Uzzal Hossain (The Hong Kong Polytechnic University) (香港理工大學)
Dr Zhenyu Yin (CEE) 尹振宇博士 (土木及環境工程學系)	Dr Pei Wang (Georgia Institute of Technology) 王培博士 (美國喬治亞理工學院)
Prof. Wu Chen (LSGI) 陳武教授 (土地測量及地理資訊學系)	Dr Jintao Lei (Wuhan University) 雷錦韜博士 (武漢大學)

In the 2nd round, the following 13 academics were supported:

以下十三位學者在第二輪獲基金資助：

PI (Dept) 首席研究員 (學系)	PDF Candidate (Institution where PhD was obtained) 博士後研究員 (頒發博士學位的高等學院)
Prof. Heng Li (BRE) 李恆教授 (建築及房地產學系)	Dr Weize Song (Tsinghua University) 宋偉澤博士 (清華大學)
Prof. Michael Yam (BRE) 任志浩教授 (建築及房地產學系)	Dr Jing-Zhou Zhang (Tongji University) 張驚宙博士 (同濟大學)
Prof. Tarek Zayed (BRE) (建築及房地產學系)	Dr Saeed reza Mohamndes (The Hong Kong University of Science and Technology) (香港科技大學)
Prof. Ya Ping Du (BSE) 杜亞平教授 (屋宇設備工程學系)	Dr Yuxuan Ding (The Hong Kong Polytechnic University) 丁雨軒博士 (香港理工大學)
Prof. Cheuk Ming Mak (BSE) 麥卓明教授 (屋宇設備工程學系)	Dr Kuen Wai Ma (The University of Hong Kong) 馬權威博士 (香港大學)
Dr Liming Jiang (BSE) 江黎明博士 (屋宇設備工程學系)	Dr Xuesong Cai (Tongji University) 蔡雪松博士 (同濟大學)
Prof. Anthony Chen (CEE) (土木及環境工程學系)	Dr Shangbo Wang (University of Technology Sydney) 王尚博博士 (悉尼科技大學)

PI (Dept) 首席研究員 (學系)	PDF Candidate (Institution where PhD was obtained) 博士後研究員 (頒發博士學位的高等學院)
Prof. William Lam (CEE) 林興強教授 (土木及環境工程學系)	Dr Jiarong Yao (Tongji University) 姚佳蓉博士 (同濟大學)
Prof. Xiangdong Li (CEE) 李向東教授 (土木及環境工程學系)	Dr Tangtian He (City University of Hong Kong) 何唐天博士 (香港城市大學)
Prof. Songye Zhu (CEE) 朱松曄教授 (土木及環境工程學系)	Dr Jinyang Li (The Hong Kong Polytechnic University) 李錦陽博士 (香港理工大學)
Dr Zhenyu Yin (CEE) 尹振宇博士 (土木及環境工程學系)	Dr Xiang Wang (Central South University) 王翔博士 (中南大學)
Prof. Xiaoli Ding (LSGI) 丁曉利教授 (土地測量及地理資訊學系)	Dr Huan Wu (The Chinese University of Hong Kong) 吳歡博士 (香港中文大學)
Prof. Wen-zhong Shi (LSGI) 史文中教授 (土地測量及地理資訊學系)	Dr Yangjie Sun (Wuhan University) 孫洋杰博士 (武漢大學)

FCE Start-up Fund for New Recruits

The following assistant professors have been awarded funding from the FCE Start-up Fund for New Recruits:

建設及環境學院新入職人員 啟動基金

下述學者獲建設及環境學院「新入職人員啟動基金」資助開展其研究項目：

PI (Dept) 首席研究員	Project Title 項目名稱	Duration (Years) 項目周期 (年)	Funding Approved (HK\$) 資助金額 (港元)
Dr Ying Fan (BRE) 樊穎博士 (建築及房地產學系)	The Status Role of Housing: Income Inequality and Housing Demand in China 收入不平等與中國城鎮家庭住房需求：基於社會分層視角的研究	3	BRE: \$250,000 FCE: \$100,000 PolyU: \$250,000
Dr Wei Ma (CEE) 馬璋博士 (建設及環境工程學系)	HKSim: A Data-Driven Multi-Modal Dynamic Traffic Management System for Hong Kong 基於數據驅動的香港多模式動態交通管理系統	3	CEE: \$250,000 FCE: \$100,000 PolyU: \$250,000
Dr Qi Zhao (CEE) 趙奇博士 (建設及環境工程學系)	Digital Rock Physics with Micro-CT Imaging and Numerical Simulation 基於微 CT 技術的岩石成像和數值模擬研究	3	CEE: \$250,000 FCE: \$100,000 PolyU: \$250,000

New Dean for FCE

Prof. Xiangdong Li, Director of PolyU's Research Institute of Sustainable Urban Development (RISUD) and Ko Jan Ming Professor in Sustainable Urban Development, has been appointed Dean of the Faculty of Construction and Environment (FCE) from 1 January 2021 upon the retirement of Ir Prof. You-Lin Xu. He thanks Prof. Xu for his leadership and guidance over the last 6 years and wishes his predecessor all the best.

Prof. Li began his academic career at PolyU in 1995. He has a PhD in environmental technology from Imperial College London. His major research interests include regional pollution, urban environmental studies, and remediation of contaminated sites. He has published more than 200 papers in leading international journals, and is an author of 15 highly cited papers (top 1%) in Environment/Ecology of the Web of Science database. A past president (2011-2013) of the International Society of Environmental Geochemistry and Health (SEGH), he is currently an associate editor for *Environmental Science and Technology* (ES&T), a journal published by the American Chemical Society, and serves on the editorial board for several other international journals in related fields.

FCE Dean Appointed to RGC Panel

Prof. Xiangdong Li, Dean of the Faculty of Construction and Environment (FCE), has been appointed to the Engineering Panel of the Hong Kong Research Grants Council (RGC) for 2 years till the end of October 2022. As a panel member, he will contribute his academic expertise in assessing individual research proposals for the annual General Research Fund (GRF)/ Early Career Scheme (ECS) of RGC. PolyU has led local universities in the GRF/ECS exercises since 1994/95 in both the number of GRF/ECS projects supported and the total grant value awarded, consistently winning around 40% of all GRF/ECS grants allocated in the Civil Engineering, Surveying, Building and Construction (CESBC) disciplines of the RGC Engineering Panel.

Appointment at Tsinghua for Head of BSE

Prof. Asif Usmani, Head of the Department of Building Services Engineering (BSE), has been appointed Distinguished Visiting Professor at Tsinghua University for 3 years with effect from July 2020. He will be contributing his expertise in teaching and research to nurture budding talents in his field.

Since joining PolyU in August 2016, Prof. Usmani has been awarded HK\$33.333 million from the Hong Kong Research Grants Council (RGC) Theme-based Research Scheme (TRS) 2019/20 for a 5-year project entitled "SureFire: Smart Urban Resilience and Firefighting." He was honoured with a Faculty Award for Outstanding Performance/ Achievement in Research & Scholarly Activities in 2018/19.

建設及環境學院新任院長



理大可持續城市發展研究院院長暨「高質明可持續城市發展教授」李向東教授，於徐幼麟教授工程師2021年1月1日榮休時繼任建設及環境學院院長。李教授感謝徐教授過去六年來的領導和指導，

並衷心祝願其退休生活一切順遂。

李教授是倫敦帝國學院環境科技博士，1995年加入理大，主要研究區域性污染、城市環境和污染地點的修復，在頂級國際學報發表的文章超過二百份，當中十五份屬於《科學網》數據庫環境學/生態學範疇裡首1%最常獲引用的論文。他是國際環境地球化學與健康學會前會長(2011-2013)，現任美國化學學會學報《環境科學技術》副編輯，以及數份相關國際學術期刊的編務委員。

建設及環境學院院長獲任命為研資局學科小組成員

建設及環境學院院長李向東教授，最近獲任命為香港研究資助局工程學科小組成員，任期兩年，至2022年十月底止。他將以學科小組成員的身份發揮學術專長，協助評審每年競逐優配研究金/傑出青年學者計劃 (GRF/ECS)撥款的研究建議書。自1994/95年度起，無論是獲批的GRF/ECS項目數量或總資助額，理大持續取得研資局工程學科小組分配予土木工程、測量及建築範疇的約40% GRF/ECS撥款，領先其他本地學府。

屋宇設備工程學系系主任受聘為清華大學教授

屋宇設備工程學系系主任Prof. Asif Usmani於2020年七月受聘為清華大學傑出訪問教授，為期三年。他將在教學及科研兩方面貢獻所長，培育後進。

Prof. Usmani於2016年8月加入理大，2019/20年度獲香港研究資助局「主題研究計劃」撥款三千三百三十三萬三千港元，進行為期五年的研究，項目名為「SureFire：智慧城市災害防控和火災應急研究」。他曾於2018/19年度獲學院特設卓越表現/成就獎(科研及學術活動)。

CEE Scholar Appointed to Endowed Professorship

Prof. Yiqing Ni, Chair Professor of Smart Structures and Rail Transit in the Department of Civil and Environmental Engineering (CEE), has been appointed as Yim, Mak, Kwok & Chung Professor in Smart Structures under the University's Endowed Professorship Scheme for five years from January 2021 to December 2025. He is the second scholar appointed to this endowed professorship, after the former Dean of the Faculty of Construction and Environment (FCE), Prof. You-Lin Xu, who held the post from its establishment in April 2017 until his retirement in December 2020.

土木及環境工程學系學者獲委任理大勵學教授席

倪一清現任土木及環境工程學系智慧結構與軌道交通講座教授，最近獲理大「勵學教授冠名計劃」委任「嚴、麥、郭、鍾智能結構教授席」，任期為2021年1月至2025年12月，合共五年。「嚴、麥、郭、鍾智能結構教授席」於2017年四月設立後，一直由建設及環境學院前院長徐幼麟教授出任，直至他於2020年12月榮休為止。倪教授是繼徐教授後第二位獲此殊榮的學者。

BSE Scholar Appointed Editor of Prestigious Journal

Ir Prof. Cheuk Ming Mak of the Department of Building Services Engineering (BSE) has been appointed editor of the prestigious Elsevier's journal, *Building and Environment*, from 1 January 2021. It is a top SCI journal in the field of building environment with an impact factor of 4.971 in 2019, publishing original research papers and review articles related to building science, urban physics, and human interaction with the indoor and outdoor built environment.

屋宇設備工程學系學者獲委任著名期刊編委

2021年1月1日起，屋宇設備工程學系麥卓明教授工程師獲委任《建築與環境》編輯。《建築與環境》是一本發表原創研究論文及評論文章的國際期刊，內容圍繞建築科學、城市物理學、人類與室內外建築環境的互動。2019年其影響系數為4.971，是建造與建築技術領域的頂級刊物。

New Academic Staff



The Department of Building and Real Estate (BRE) welcomed a new assistant professor at the end of August 2020. Dr Tanya Z. Tan received both her MSc in Sustainable and Environmental Design (Distinction) and her PhD in Architecture from The Chinese University of Hong Kong (CUHK), in 2010 and 2016 respectively. She was a research fellow at the School of Civil and Environmental Engineering of Nanyang Technological

University in Singapore, and a postdoctoral fellow at the Institute of Future Cities of CUHK. She then joined the Mechanical and Civil Engineering Department at Hautes Études d'Ingénieur, Université Catholique de Lille, for teaching and research. Her research interests focus on sustainable design, urban climate, outdoor thermal comfort and urban walkability, age-friendly cities, architectural spaces and human perception. Since 2014, Tanya has been involved in teaching architectural design studio, sustainable urban planning, green building design strategies, and computer simulation (microclimate modelling and building energy performance simulation).

Another assistant professor joined BRE in the middle of September 2020. Dr Minhyun Lee received her doctoral degree in Architectural Engineering at Yonsei University in Seoul in 2018, specializing in smart and sustainable building management. Prior to joining PolyU, she was a visiting scholar at the Energy Institute of the University of Texas at Austin (UT Austin) as well as a research professor in the Department of Architecture and Architectural Engineering at Yonsei University. Dr Lee studies

新聘學術人員

建築及房地產學系於2020年8月底有一位助理教授履新。新加入的譚鏗博士是香港中文大學(中大)校友，分別於2010及2016年在該校取得可持續與環境設計理學碩士(優異)及建築學博士學位，曾任新加坡南洋理工大學土木及環境工程學院研究員及中大未來城市研究所博士後研究員，其後加入法國里爾天主教大學工程研究學院機械及土木工程系從事教研工作。她的主要研究範圍包括：可持續設計；城市氣候；室外熱舒適性與城市可步行性；年齡友善城市；以及建築空間與人體感知。自2014年起，譚博士一直任教建築設計、可持續城市規劃、環保建築設計策略及電腦模擬(小氣候建模及建築物能源效益模擬)等科目。



另一位於2020年9月中加入建築及房地產學系的助理教授，是在2018年取得首爾延世大學建築工程博士學位的李旼炫博士。她精研智能及可持續建築管理，加入理大前，曾任

and investigates technical, economic, environmental, social, and behavioral aspects in the built environment for smart and sustainable buildings, communities, and cities.

The Department of Building and Real Estate (BRE) welcomed Dr Ying Fan as an assistant professor in July 2020. She received her PhD degree in real estate economics and management from Tsinghua University in 2018. Prior to joining PolyU, she was a research fellow at the National University of Singapore and a visiting scholar at the University of Wisconsin-Madison. Her major research interests are in real estate economics and household finance, specializing in housing price dynamics, household consumption and housing demand under uncertainty, household mortgage choice and risk management, and housing market policies.

美國德州大學奧斯汀分校能源研究所訪問學者及延世大學建築及建築工程系研究教授，擅長從技術、經濟、環境、社會及行為層面研究智能及可持續建築、社區及城市的建設環境。



建築及房地產學系另有一位助理教授於2020年7月入職。新加入的樊穎博士於2018年取得清華大學房地產經濟及管理博士學位，加入理大前，曾任新加坡國立大學研究員及威斯康辛大學麥迪遜分校訪問學者。她主要研究房地產經濟學及家庭金融，特別是房價波動、不確定性下的家庭消費及住房需求、家庭抵押貸款選擇及風險管理，以及住房市場政策。



The Department of Civil and Environmental Engineering (CEE) also welcomed 3 new academic staff. Dr Alessandro Stocchino joined CEE as an associate professor in August 2020. He has a PhD in hydraulic engineering from the University of Padova in Italy and began his career at the University of Genova, becoming Head of its MSc programme in environmental engineering.

He has coordinated several European projects. Environmental topics related to sediment transport, circulation modelling, marine and river pollution are his main research interests.

土木及環境工程學系最近新添三位成員。在2020年8月履新副教授的Alessandro Stocchino博士，持有意大利帕多瓦大學水利工程博士學位。他的學術事業於熱那亞大學起步，其後晉升為該校環境工程學理學碩士課程主管，曾統籌數個歐洲項目，主要研究範疇包括沉積物的輸送、循環建模及河海污染。

In July 2020, Dr Wei Ma joined CEE as an assistant professor. He obtained his PhD and master's degrees from Carnegie Mellon University in the US. Before that, he graduated with honours from Tsinghua University with double majors in civil engineering and mathematics. Dr Ma's research focuses on the intersection of transportation network modelling, machine learning, and data mining, with applications for smart and sustainable transportation systems.



於2020年7月加入土木及環境工程學系擔任助理教授的馬璋博士，是美國卡內基梅隆大學碩士及博士。他畢業於清華大學，獲土木工程及數學雙學位，主力研究交通網絡交叉口建模、機器學習及數據挖掘，以及上述各項於智慧及可持續運輸系統上的應用。



Another assistant professor, Dr Qi Zhao, joined CEE in June 2020. He was a postdoc researcher at the University of Toronto (UT) and the University of California at Berkeley after getting his PhD from UT. He develops innovative laboratory experiments to investigate rock mechanics and geophysics problems.

該系第三位新成員是於2020年6月履新，並出任助理教授的趙奇博士。趙博士於多倫多大學取得博士學位後，於多倫多大學及加州大學柏克萊分校從事博士後研究，通過創新實驗鑽研岩土力學和地球物理學問題。



Student News

學生消息

Entry Scholarships for Outstanding MSc Students

The Postgraduate Scheme in Construction and Environment provides scholarships to outstanding applicants admitted to its taught MSc programmes. For 2020/21, 14 scholarships covering the tuition fees were given to the following outstanding students:

新生獎學金吸引菁英學生入讀本院碩士課程

建設及環境學院的新生獎學金計劃，鼓勵成績優異的同學入讀本院的授課式碩士課程。在2020/21年度，共有十四名申請人獲頒獎學金，以支付一個學年的學費，詳情如下：

Dept 學系	MSc Programme 理學碩士課程	Name 獎學金得主
BRE 建築及房地產學系	Construction and Real Estate 建築及房地產學	 Nelson Ayodeji Akindele
		 Ahmad Assad Mohammad Alshami
		 Comfort Salihu
	Construction Law and Dispute Resolution 建築法及爭議解決學	 Ka Man Lee 李嘉汶

BRE 建築及房地產學系	Project Management 項目管理學		Muhamed Ali Mostafa Ali Hassan
BSE 屋宇設備工程學系	Building Services Engineering 屋宇設備工程學		Yau Fun Chow 周有歡
			Cheung Chun Wan 尹翔俊
	Fire and Safety Engineering 消防及安全工程學		Ting Yan Mok 莫庭恩
	High Performance Buildings 高效能建築學		Chun Kuen Leung 梁俊權
		Chung Wan Ngan 顏頌弘	
CEE 土木及環境工程學系	Civil Engineering 土木工程學		Byron Francisco Reyes Barzola
LSGI 土地測量及地理資訊 學系	Geomatics (Geographic Information Systems) 測繪及地理資訊學 (地理資訊)		Ka Yan Cheng 鄭嘉茵
			Wing Yan So 蘇穎茵
	Urban Informatics and Smart Cities 城市信息學及智慧城市		Hung Wai Tsai 蔡鴻威

Scholarship Student Graduates with Distinction

An MSc student in construction and real estate, Mr Sherif Mohamed Abdelmageed Mohamed, graduated with Distinction in the summer of 2019/20. His most memorable experience at PolyU was when his examiners praised him for doing a great job in his dissertation. He advises students to manage their time wisely and enjoy their studies. He plans to pursue PhD studies in the field of construction engineering and management.

獎學金得主以優等成績畢業



修讀建築及房地產學理學碩士的Sherif Mohamed Abdelmageed Mohamed，已於2019/20學年暑假以優等成績畢業。畢業論文大獲考官讚賞，是這位高才生在理大最難忘的回憶。他建議同學善用時間，享受校園生活。

展望未來，他則有意攻讀建築工程及管理博士學位。

IFMA Foundation Scholarship for BSE Student

An MSc student in Facility Management (FM) in the Department of Building Services Engineering (BSE), Miss Ashley Leung, has been awarded the 2020 International Facility Management Association (IFMA) Foundation Scholarship (Hong Kong Chapter). A student of Dr Joseph Lai, Associate Professor and leader of the MSc programme in FM, Miss Leung received the scholarship for her exceptional academic achievement, strong leadership, and interpersonal skills. Currently working as a local public hospital administrator, she has been invited to attend the IFMA World Workplace 2021 Conference and Expo.

The IFMA Foundation scholarship programme started in the early 1990s. Scholarship recipients receive a cash award and fully subsidized World Workplace conference travel, registration and participation.

屋宇設備工程學系學生獲 IFMA 基金會獎學金

在屋宇設備工程學系修讀設施管理學碩士課程的梁穎璋同學，最近獲國際設施管理協會(IFMA)基金會香港分會頒授2020年獎學金。梁同學是設施管理學碩士課程主任及副教授黎鴻傑博士的高足，憑出色的學業成績、過人的領導才能和人際技巧而獲獎。她現職公立醫院行政人員，已獲IFMA邀請出席該會的2021年世界職場大會暨博覽會。

IFMA基金會獎學金計劃始於1990年代初，獎學金得主除可獲現金獎，亦會獲全費贊助出席世界職場大會的旅費、報名及參加費用。

CIOB (HK) Outstanding Student Award 2019/2020

A recent graduate of the BSc (Hons) programme in Building Engineering and Management, Mr Martin Yiu, has won a CIOB (HK) Outstanding Student Award. Organized annually by the Chartered Institute of Building (CIOB) to promote excellence in construction project management, the award was a recognition of Martin's hard work in this area. He was both honored and happy to have received the award, which came with a cheque and a certificate.

2019/2020 年度 英國皇家特許建造學會 (香港) 卓越學生獎



建築工程及管理學(榮譽)理學士課程畢業生姚文傑先生，榮獲英國特許建造學會(香港)頒發「卓越學生獎」。此獎每年頒發一次，旨在提升建築項目的管理水平。獲頒現金支票和獎狀的姚先生，

對得獎感到十分光榮和興奮，亦證明其努力獲得認同。

BRE Student Wins HKIS Creativity Competition

A second-year surveying student in the Department of Building and Real Estate (BRE) was awarded the winning trophy in the Tiny Model (Public Category) of the Maintenance and Appreciation of Historical Buildings Creativity Competition organised by the Hong Kong Institute of Surveyors (HKIS). Miss Wing-yan Lo created a 1 to 200 scale model of Lui Seng Chun in beige and grey, with one colour marking the original building structure and the other the revitalized new structure, which was clearly visible from the cross-section on the top and back of the model. The revitalized building has managed to retain its architectural value and meet contemporary building codes at the same time.

Participating in the competition has enhanced Miss Lo's awareness of heritage conservation and maintenance. She thinks there is much to explore in historical buildings: their rich history, cultural traditions and architectural features may reflect the needs of the society at a particular point in time. "With conservation and timely maintenance, historical buildings are given a new lease of life. Surveyors can play an active role in the process to address the problems of ageing buildings and to provide professional planning advice on heritage conservation. It is crucial to preserve our heritage as these buildings are a witness to the development of Hong Kong and valuable assets of the city."

BSE Students Shine in Inter-Institutional Competition

At the International Facility Management Association (IFMA) Integrate Conference on 17 November 2020, two undergraduates from the Department of Building Services Engineering (BSE) won big in an inter-institutional competition on facility management project presentation. Miss Erica Lau won a platinum trophy, while Mr Alvis Chow won a gold trophy. A student of Dr Joseph Lai, Associate Professor and leader of the MSc programme in Facility Management, Miss Lau used the analytic hierarchy process to evaluate the importance of different attributes that contributed to the satisfaction level of the two swimming pools at PolyU. Mr Chow's research project investigated the feasibilities of achieving zero emission building with energy conservation and renewable energy measure to retrofit current MTR facilities. He is a student of Dr Sunliang Cao.

建築及房地產學系學生勝出香港測量師學會創作比賽

在香港測量師學會主辦的「賞•惜•舊築跡」創作比賽中，建築及房地產學系地產及建設測量學二年級生勞穎欣脫穎而出，奪得微縮模型(公開組別)冠軍。勞同學以1比200的比例呈現歷史建築「雷生春」的面貌，分別使用米色及灰色製作建築物的原始結構部分與活化後的新結構。從模型頂部及背面的橫切面，可清楚看見活化後的建築結構。活化後的「雷生春」不僅得以保留原有建築價值，亦符合了現代建築的規範。

參加比賽，令勞同學更瞭解文物保育和維修的重要性。她相信歷史建築仍有大量瑰寶有待發掘：它們蘊含的深厚歷史、文化傳統和建築特色，都可以反映當時的社會需要。她說：「只要適時保育和維修，便可賦予歷史建築新的生命。無論是解決樓宇老化問題或提供有關保育舊建築的專業規劃意見，測量師都可以發揮很大作用。我們需要保育歷史建築，是因為它們見證了香港的發展，是這城市的珍貴資產。」

屋宇設備工程學系學生揚威學界比賽

在2020年11月17日國際設施管理協會綜合會議上，兩位屋宇設備工程學系學士課程的學生，在大專界別的設施管理專題項目報告比賽中大放異彩。奪得白金獎的劉詩穎小姐，師承設施管理學碩士課程主任黎鴻傑副教授，她應用層級分析法，評估不同因素如何影響使用者對理大兩個泳池的滿意程度。榮獲金獎的周梓謙先生是曹孫亮博士的學生，其研究旨在通過節能及使用可再生能源打造零碳建築，探討翻新港鐵現有設施的可行性。

Departmental Outstanding Alumni Awards 2020

2 alumni from the Department of Building and Real Estate (BRE) have been chosen for its Outstanding Alumni Award 2020. They are Sr Choi Kai Au, former Director of Buildings of the Hong Kong government, and Sr Tony Wai Chuen Tse, Legislative Council member for Architecture, Surveying, Planning and Landscape.

Sr Au graduated from the then Hong Kong Polytechnic with a Higher Diploma in Surveying before joining the then Buildings Ordinance Office in 1974. He was a founding member of the Hong Kong Institute of Surveyors in 1984, became a Fellow in 1990, and was awarded Distinguished Building Surveyor in 2014. His expertise in building control and formulation of statutory building standards came from four decades of work experience. He was the Director of Buildings and Building Authority from 2008 until his retirement in 2014.



Sr Tony Wai Chuen Tse graduated with a Higher Diploma in Surveying before joining the civil service, working in various offices of the then Public Works Department and later the Lands Department for 12 years. He also worked in several private land development companies. He has served on the Vocational Training Council's (VTC) Real Estate Services Training Board for more than 12 years, receiving a VTC Honorary Fellowship in 2009. Active in many professional organizations, Tony was recognized with a Lifetime Achiever Award from the Royal Institution of Chartered Surveyors (RICS) in 2017 and a Bronze Bauhinia Star from the HKSAR government in 2014.

The Department of Building Services Engineering (BSE) has chosen Ir Dr Fiona Tsui for its Outstanding Alumni Award 2020. Chairlady of the HKIE Fire Division, Honorary Secretary of its Discipline Advisory Panel and a Founding Member of the MTR Community of Practice, Women in Engineering, Ir Dr Tsui has many years of practical experience in both fire engineering and building services engineering. She is currently involved in projects in the Tung Chung area for new railway and depot redevelopment.

2020年學系傑出校友

建築及房地產學系在2020年頒發「傑出校友獎」予兩位校友，分別是香港政府前屋宇署署長區載佳測量師，以及立法會建築、測量、都市規劃及園境界議員謝偉銓測量師。



區載佳校友取得香港理工學院測量學高級文憑後，於1974年加入當時的建築物條例執行處。他是1984年成立的香港測量師學會創會會員，1990年晉升資深專業會員，2014年獲頒傑出屋宇測量師獎。他在業內有四十年豐富經驗，擅長樓宇監督工作和制訂有關建築物標準的法規，2008年起擔任屋宇署署長及建築事務監督，直至2014年榮休。

謝偉銓校友為理大測量學高級文憑畢業生，學成後加入政府，先後於當時工務局轄下多個辦事處及地政總署任職，合共達十二年之久，亦曾於數家私人地產發展商工作。他擔任職業訓練局房地產服務業訓練委員會委員超過十二年，2009年獲該局頒授榮譽院士頭銜。熱心服務業界團體的他成就斐然，在2017年成為英國皇家特許測量師學會「終身成就獎」得主，2014年更獲香港特區政府頒發「銅紫荊星章」。



屋宇設備工程學系2020年「傑出校友獎」得主崔淑莊博士工程師，為香港工程師學會消防分部主席及該專業界別諮詢委員會榮譽秘書，也是港鐵女性工程人員實踐社群始創成員。崔校友在消防工程及屋宇設備工程方面擁有多年實務經驗，現正參與多項東涌區的新鐵路及車廠重建發展計劃。



The recipient of the Department of Land Surveying and Geo-Informatics (LSGI) Outstanding Alumni Award 2020 is Sr Paul Tsui, who graduated with a Higher Diploma in land surveying and a Master of Philosophy in geographic information systems. He has been President of the LSGI Alumni Association since 2008 and Vice Chairman of the Land Surveying Division of the Hong Kong Institute of Surveyors since 2018. Currently Managing Director of Esri China (Hong Kong), he is a member of the Advisory Committee of LSGI

土地測量及地理資訊學系2020年傑出校友徐開源測量師，先後於理大修畢土地測量學高級文憑及地理信息系統哲學碩士學位，2008年起擔任土地測量及地理資訊學系校友會會長。他於2018年起出任香港測量師學會土地測量組副主席，現為Esri China (Hong Kong)董事總經理和土地測量及地理資訊學系諮詢委員會委員。

Meeting with AADO and FHKPUAA

To explore potential collaboration between different parties to keep our alumni engaged, a meeting was held on 21 October 2020. Representatives of the Alumni Affairs and Development Office (AADO) and the Federation of PolyU Alumni Associations (FHKPUAA) met with the senior management of the Faculty of Construction and Environment (FCE), including its Acting Dean Prof. Xiangdong Li, Associate Deans Prof. Xiaoli Ding (Partnership) and Prof. Geoffrey Shen (Teaching), as well as its 4 Department Heads. After the Acting Dean had welcomed and introduced the meeting participants, Ir Kwok-fai Yau, Vice President of FHKPUAA, briefly introduced AADO, FHKPUAA, and its member associations before Prof. Xiangdong Li gave a presentation on FCE and its academic departments. Views on how to recruit alumni, contributions from alumni for the development of the Faculty as well as the University, alumni reunion etc. were also exchanged. It is expected more activities involving alumni will be planned for the future.



會見校友事務及拓展處和香港理工大學校友會聯會代表

為探討如何透過多方合作促進校友與大學的聯繫，本院高層管理人員於2020年10月21日會見校友事務及拓展處與香港理工大學校友會聯會的代表。當日與會的本院管理層包括署理院長李向東教授、副院長(協作)丁曉利教授、副院長(教務)沈岐平教授，以及四大學系的系主任。署理院長歡迎和介紹各與會者後，便由校友會聯會副會長游國輝

工程師扼要介紹校友事務及拓展處、校友會聯會及其屬會，其後再由李向東教授講解本院及轄下各學系的資料。各人就如何招募校友入會、校友如何為學院和理大的發展作出貢獻、校友聚會等事宜交流意見。展望未來，學院/大學將計劃更多活動讓校友參與。

Establishment of CEE Research Scholars Alumni Association

To reinforce the bonds between PolyU, the department and its alumni, the Department of Civil and Environmental Engineering (CEE) has established the CEE Research Scholars Alumni Association (CEE-RSAA). Its first committee meeting, chaired by Chairman of CEE-RSAA Prof. Jun Chen, was held online on 5 December 2020 to discuss its medium to long-term goals, working mechanism, information platforms, and cultural construction responsibility etc. Prof. Chi Sun Poon, Head of CEE, updated members on the latest development of the department, including its student population, research facilities, research focus and PolyU's world ranking in the discipline of civil and structural engineering. Prof. Yong Xia, Associate Head (Research Development), then stated the aim of the CEE-RSAA to reconnect all its research alumni and scholars, who were encouraged to work together for the benefit of the association and the wider community. Afterwards all 18 committee members shared their learning/ working experiences at CEE, and expressed their eagerness to serve the University.

土木及環境工程學系成立研究學者校友會

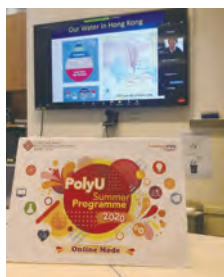
為加強理大、土木及環境工程學系(學系)與校友之間的聯繫，學系最近成立了研究學者校友會，並於2020年12月5日由理事會會長陳雋教授在網上主持首次會議，商討該會的中、長期目標、工作機制、資訊平台及文化建設責任等事宜。會議上，系主任潘智生教授向成員介紹了學系的最新發展，包括學生人數、科研設施及重點，以及理大在土木及結構工程領域的世界排名。副系主任(科研發展)夏勇教授接著闡述校友會的宗旨，旨在重新聯繫學系內從事研究的校友和學者，鼓勵他們合力造福校友會及廣大社群。另外，與會的十八位理事會成員也分享了各自在學系的學習和工作體驗，並表明為理大作出貢獻的意願。

PolyU Summer Programme 2020

The departments of the Faculty of Construction and Environment (FCE) recently reached out to local secondary school students online in separate summer programmes designed to give them a preview of what to expect at PolyU and the career prospects for various disciplines. At the online programme of the Department of Building and Real Estate (BRE) on 6 August 2020, about 50 students heard some welcome remarks from Prof. Albert Chan, Head of the Department, before watching a video about its programmes and a presentation by Mr Wai-kei Kong. This was followed by a talk from Prof. Eddie Hui on the housing prices in Hong Kong and a sharing from a student ambassador in BRE. Projects related to modular integrated construction (MiC) were shown in the MiC Display Centre, as well as some projects of the Smart Construction Laboratory. The BRE programme ended with a mock interview and some tips for students to prepare for the real thing.



The Department of Building Services Engineering (BSE) held its summer programme on 19 August 2020, beginning with a video about the department introducing its BEng (Hons) and HD programmes. A virtual laboratory tour, was followed by a sharing from Mr Boris Tang, a current student, an introduction by Dr Hilda Cheung to a software application for professional lighting design, and several demonstrations. Students saw the making of an acoustic window by Prof. Shiu-keung Tang, a demonstration by Dr Xinyan Huang that facilitated an understanding of fire and the resilience of a smart city, and a smart wireless sensing module by Dr Horace Mui for indoor air quality monitoring under Covid-19.



The Department of Civil and Environmental Engineering (CEE) held its online summer programme on 7 August 2020 for over 140 secondary students. Introducing CEE was Dr Barbara Siu, which was followed by a short lecture from Prof. Songye Zhu on the role of structural and civil engineers in driving the sustainable growth of Hong Kong. Then there was an introduction to the water issue in Hong Kong, the world, and a possible solution by Dr Shao-Yuan Leu. Students subsequently saw a clean water demonstration by Dr Yi Jiang, a fire lab demonstration by Dr Xinyan Huang, and a shaking table demonstration by Prof. Songye Zhu. An admission talk was also given by Dr Tak Ming Chan. Before the end of the programme, students had a chance to win some prizes by completing a small challenge.

理大暑期計劃 2020

暑假期間，建設及環境學院轄下各學系均精心策劃以本地中學生為對象的網上活動，藉此介紹理大的學習環境和不同專業範疇的發展前景。在建築及房地產學系於2020年8月6日舉辦的網上活動中，系主任陳炳泉教授首先向約五十位參與同學致辭，接著是播放有關該學系各項課程的短片，以及由江偉基先生所作的介紹。活動還包括許智文教授就有關香港房屋價格的演講，及學生大使的分享。另外，同學亦有機會一睹「組裝合成」建築法(MiC)展示中心裡一些相關工程，以及智能建造實驗室的部分項目。到了活動尾聲，同學參與模擬面試之餘，還獲得實用升學資訊。



屋宇設備工程學系的中學生暑期活動則於2020年8月19日舉行，以介紹該系學士(榮譽)學位及高級文憑課程的短片揭開序幕。參加者完成虛擬實驗室之旅後，就讀該系的鄧正熙同學隨即現身說法，與眾人分享校園生活；張曉丹博士則介紹用於專業照明設計的軟件應用程式，又進行多項示範。此外，多位學者亦粉墨登場，通過示範來講解屋宇設備工程知識：首先登場的鄧兆強教授示範了隔音窗的製作方法；黃鑫炎博士接著以實例講解消防概念及智慧城市的彈性；至於壓軸亮相的梅國威博士，就分析如何在新冠肺炎疫情下，利用智能無線感應模塊監察室內空氣質素。

土木及環境工程學系於2020年8月7日舉行的網上活動，吸引逾一百四十名中學生參與。邵泳怡博士介紹學系資料後，便由朱松擘教授簡要闡述結構及土木工程師怎樣促進香港的可持續發展。接著登場的呂紹元博士，則講解香港以至世界的水資源問題和可行解決方案。到了示範環節，蔣毅博士、黃鑫炎博士和朱松擘教授分別進行了淨水、消防實驗室及振動台示範。聽畢陳德明博士主講的入學講座後，同學還可在活動完結前接受挑戰，贏取獎品。

Over 100 students participated in the online summer programme of the Department of Land Surveying and Geo-Informatics (LSGI) on 31 July 2020. They listened to Dr Matthew Pang talked about building the smart city of Hong Kong and storytelling with maps, then Dr Wai-yeung Yan talked about the history of Hong Kong's land boundary system and the role of land surveyors in different disputes. Next up was Dr Wallace Lai, who took students on a virtual tour of LSGI's Underground Utility Survey Lab, where they could see different technologies being used to conduct utility surveying underground. After providing some information on admissions and career prospects in LSGI, Dr Lai also interviewed a student representative, Mr Jeffrey Ma, who shared his experiences in an exchange programme to Canada and an internship with the government during his studies. Students had their questions answered and later demonstrated their knowledge of LSGI in a game on social media.



土地測量及地理資訊學系的網上暑期活動於2020年7月31日舉行，參加的中學生超過一百人。彭奕彰博士率先出場，介紹如何將香港建設為智慧城市和有關地圖的故事；緊接其後的甄威揚博士，則負責講解香港陸地邊界系統的歷史，以及土地測量師在解決各類糾紛擔當的角色。在賴緯樂博士帶領下，同學踏上深入地下管線測量實驗室的虛擬之旅，一睹用以進行地下管線測量的各種技術。賴博士除了講解入學資料和土地測量/地理資訊專業的發展前景，又訪問了學生代表馬斯恆同學，讓他分享遠赴加拿大交流和在政府部門實習的體驗。同學提出的疑問獲即場解答；他們其後更可在社交媒體參加遊戲，一展他們對土地測量及地理資訊的認識。

Online Orientations for New Undergraduates

Incoming freshmen of undergraduate degree and Higher Diploma (HD) programmes of the Faculty of Construction and Environment (FCE) attended an online orientation held by their respective departments on 31 August 2020. Each orientation included a welcome address and an introduction of the department by its head. The Department of Building and Real Estate (BRE) was introduced by Prof. Albert Chan, the Department of Building Services Engineering (BSE) by Prof. Asif Usmani, the Department of Civil and Environmental Engineering (CEE) by Prof. Chi-Sun Poon, and the Department of Land Surveying and Geo-Informatics (LSGI) by Prof. John Shi. Students also met their programme leaders online to learn more about their study programmes.

In addition, students heard from representatives of the Student Affairs Office about student services. Other administrative and support units like the University Health Service, the Health, Safety and Environment Office, and the Global Engagement Office etc. also presented their services respectively in selected orientations.

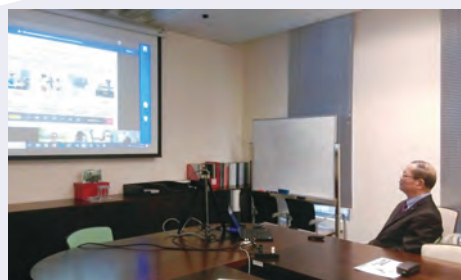
本科生網上迎新活動

2020年8月31日，四大學系各自為於新學年入讀學士及高級文憑課程的新生舉辦網上迎新會。所有迎新會均由系主任親致歡迎辭和簡介學系資料。四位系主任分別為建築及房地產學系的陳炳泉教授、屋宇設備工程學系的Asif Usmani教授、土木及環境工程學系的潘智生教授，以及土地測量及地理資訊學系的史文中教授。學生更可在網上與課程主任見面，深入瞭解其選修課程。

另外，學生事務處派員講解學生服務，大學醫療保健處、健康安全及環境事務處、環球事務處等行政及支援部門亦有派代表出席，在網上迎新活動中介紹其服務範圍和職責。

Online Orientation for TPg Students

An online orientation for more than 500 full-time and part-time new students of taught postgraduate (TPg) programmes in the Faculty of Construction and Environment (FCE) was held on 29 August 2020. Welcoming and introducing them to FCE was Faculty Dean Prof. You-Lin Xu, after which the Postgraduate Scheme in Construction and Environment was introduced by Prof. Geoffrey Shen, Associate Dean (Teaching). Subsequently, the four departments of FCE were respectively introduced by Prof. Michael Yam, Associate Head (Teaching) of the Department of Building and Real Estate (BRE), Prof. Asif Usmani, Head of the Department of Building Services Engineering (BSE), Prof. Jianguo Dai, Associate Head (Academic Development) of the Department of Civil and Environmental Engineering (CEE), and Prof. John Shi, Head of the Department of Land Surveying and Geo-Informatics (LSGI). Students then met with their respective programme leader online in one of twelve parallel sessions before the end of the orientation.



授課式深造課程網上迎新會

逾五百名授課式深造課程的全日制及兼讀制新生，參加本院於2020年8月29日網上迎新會。院長徐幼麟教授致歡迎辭後，便由副院長(教務)沈岐平教授介紹「建設及環境深造課程組合」的資料；其後，由建築及房地產學系副系主任(教務)任志浩教授、屋宇設備工程學系系主任Asif Usmani教授、土木及環境工程學系副系主任(學術發展)戴建國教授，以及土地測量及地理資訊學系系主任史文中教授，負責講解四大學系資料。迎新會特設十二個分組講座，學生可以善用這機會與其課程主任見面。

FCE Exchange Forum with Gammon

An Exchange Forum with Gammon Construction Limited was held on 10 July 2020 at PolyU. Organized by the Faculty of Construction and Environment (FCE) to explore collaborations with industry, the event drew about 20 online participants, in addition to the physical presence of some 15 academics. After welcome speeches from the Faculty Dean, Prof. You-lin Xu, and the Executive Director of Gammon, Mr Paul Evans, FCE was introduced by Prof. Xu and Gammon by Mr Evans respectively. Subsequently, 8 academics of FCE shared their construction-related innovations, including Prof. Lin Lu, Dr Xinyan Huang, and Dr Horace Mui of the Department of Building Services Engineering (BSE), Prof. Geoffrey Shen, Associate Dean (Teaching), Prof. Songye Zhu of the Department of Civil and Environmental Engineering (CEE), Prof. Xiaoli Ding, Associate Dean (Partnership), Prof. John Shi, Head of the Department of Land Surveying and Geo-Informatics (LSGI), and his colleague Prof. Wu Chen. Presentations were also made by 3 representatives of Gammon: Dr David-John Gibb, Mr Andy Wong, and Mr Jeremiah To. The forum concluded with a round-table discussion led by Prof. Xiangdong Li, Associate Dean (Research), and Mr Paul Evans.



與金門建築合辦交流論壇

建設及環境學院於2020年7月10日與金門建築有限公司在理大合辦交流論壇，探討與業界合作的事宜，除了約十五位親身到場的學者，還有約二十位人士透過網上平台參與。論壇由院長徐幼麟教授及金門建築執行董事Paul Evans先生致歡迎辭揭開序幕。兩人分別簡介所屬單位後，隨即由本院八位學者逐一分享他們

與建築學有關的創新發明。八位學者分別為屋宇設備工程學系的呂琳教授、黃鑫炎博士及梅國威博士；副院長(教務)沈岐平教授；土木及環境工程學系朱松曄教授；副院長(協作)丁曉利教授；土地測量及地理資訊學系系主任史文中教授；以及同系的陳武教授。金門建築方面，亦派出David-John Gibb博士、Andy Wong先生及Jeremiah To先生作口頭報告。論壇最後由副院長(科研)李向東教授與Paul Evans先生聯合主持的圓桌討論環節作結。

FCE Annual Forum

On 26 August 2020, the Faculty of Construction and Environment (FCE) held its annual forum via Zoom for some of its academics to share their successful experiences of writing proposals for external competitive research grants. More than 100 staff were in attendance. After opening remarks from the Faculty Dean, Prof. You-lin Xu, the following colleagues took turns to address the online forum:

建設及環境學院年度論壇

2020年8月26日，建設及環境學院透過Zoom視訊會議軟件舉行年度論壇，由院內多位學者與同事分享撰寫建議書申請校外競爭性研究撥款的成功經驗。當日參與的員工超過一百位。徐幼麟院長致開幕辭後，便由以下幾位同事陸續發言：

Speaker (Dept.) 講者 (學系)	Topic 題目
Dr Wai-yeung Yan (LSGI) 甄威揚博士 (土地測量及地理資訊學系)	Writing a proposal for the Early Career Scheme (ECS) 撰寫「傑出青年學者計劃」建議書
Dr Joonoh Seo (BRE) 徐準旻博士 (建築及房地產學系)	Writing a proposal for the General Research Fund (GRF) 撰寫「優配研究金」建議書
Prof. William Lam (CEE) 林興強教授 (土木及環境工程學系)	Views of a panel member and writing for the GRF 評審小組成員對撰寫「優配研究金」建議書的意見
Prof. Bo Wu (LSGI) 吳波教授 (土地測量及地理資訊學系)	Writing a proposal for the Research Impact Fund (RIF) 撰寫「研究影響基金」建議書
Prof. John Shi (LSGI) 史文中教授 (土地測量及地理資訊學系)	Views of a panel member for NSFC Excellent Young Scientists Fund (Hong Kong and Macao) 國家自然科學基金「優秀青年科學家基金項目」(港澳地區)評審小組成員的意見

In addition to highlighting the importance for staff to get external funding for their research, the forum also addressed the need for recruiting quality Hong Kong PhD Fellowship candidates to study at FCE and passing the major review exercise, a milestone for academic staff in their careers. Sharing their successful experiences in these areas respectively were Prof. Anthony Chen of CEE and Dr Minchen Wei of the Department of Building Services Engineering (BSE). Afterwards, Prof. Xiangdong Li, Associate Dean (Research), concluded with some encouraging words.



論壇除了強調院內人員必須爭取校外研究經費，亦提到要吸引更多優秀的「香港博士研究生獎學金計劃」申請人選擇在本院深造，並通過被視為事業發展里程碑的校內主要評估。分享上述成功心得的講者，分別是土木及環境工程學系的Anthony Chen教授和屋宇設備工程學系的魏敏晨博士。壓軸發言的副院長(研究)李向東教授鼓勵同事之餘，並為論壇作總結。

FCE Meets Visitors from Republic of Panama

On 7 July 2020, several academics of the Faculty of Construction and Environment (FCE) met with the Consul General of Panama, Mr Jaime Andres Campuzano Melendez, and his Head Secretariat, Ms Elvira Carrera, to introduce a few of its taught postgraduate programmes to the visitors. The MSc programme in Civil Engineering was introduced by Prof. Kwok-wing Chau of the Department of Civil and Environmental Engineering (CEE), the MSc/ PgD in Sustainable Urban Development by Prof. Hongxing Yang of the Department of Building Services Engineering (BSE), and the MSc/ PgD in Project Management by Dr Ann Yu of the Department of Building and Real Estate (BRE). The visitors also learnt about scholarship opportunities for overseas students and the application cycle. They hoped they could encourage some students from Panama to apply for the next academic year 2021/22.

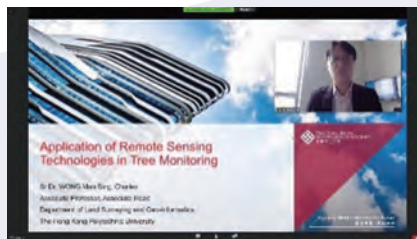
巴拿馬駐港官員到訪

2020年7月7日，本院數位學者會見到訪的巴拿馬共和國駐香港總領事Jaime Andres Campuzano Melendez先生及領事館秘書處主管Elvira Carrera女士，並向對方介紹部分授課式深造課程。當日在座的本院學者包括土木及環境工程學系周國榮教授、屋宇設備工程學系楊洪興教授，以及建築及房地產學系余峽芸博士，三人分別講解土木工程學理學碩士、可持續城市發展學理學碩士/深造文憑，以及項目管理理學碩士/深造文憑的資料。另外，來賓亦認識了專為海外學生而設的獎學金及申請程序，並希望鼓勵巴國學生於2021/22學年申請入讀本院。



Webinar on Technologies in Tree Monitoring

Invited by the Tree Management Office of the government's Development Bureau, Dr Charles Wong of the Department of Land Surveying and Geo-Informatics (LSGI) gave a webinar on 11 September 2020 on the application of remote sensing technologies in tree monitoring for over 130 government officials who work in tree management. He shared with them the use of remote sensing for tree health detection, tree data extraction with LiDAR technology, hyperspectral imaging for vegetation monitoring, smart sensing for tree tilt monitoring, detection of structural tree defects using thermal infrared imaging, as well as urban green management through remote sensing and geographic information systems.



樹木監測技術網上講座

土地測量及地理資訊學系的黃文聲博士應發展局樹木管理辦事處邀請，於2020年9月11日主持網上講座，向一百三十多位政府人員講解如何把遙感技術應用於樹木管理，包括利用遙感技術檢查樹木健康狀況；以激光雷達技術提取樹木數據；利用高光譜成像技術監察植被狀況；監測樹木傾斜程度的智能感應技術；使用熱紅外線成像技術檢測樹木的結構缺陷；以及通過遙感及地理資訊系統實行城市綠化管理。

Invitation for Programme Admissions

課程招生

Both local and international students are welcome to apply.

本地及海外學生均歡迎申請

<p>Doctoral Programme</p> <p>International Real Estate and Construction</p>	<p>博士課程</p> <p>國際房地產及建築</p>	<p>Department</p> <p>BRE</p>
<p>Master's Degree/Postgraduate Diploma (PgD)</p> <p>Building Services Engineering</p> <p>Civil Engineering</p> <p>Construction and Real Estate</p> <p>Construction Law and Dispute Resolution</p> <p>Environmental Management and Engineering</p> <p>Facility Management</p> <p>Fire and Safety Engineering</p> <p>Geomatics (Geographic Information Systems)</p> <p>Geomatics (Surveying)</p> <p>High Performance Buildings</p> <p>International Real Estate*</p> <p>Project Management</p> <p>Sustainable Urban Development</p> <p>Urban Informatics and Smart Cities</p>	<p>碩士學位 / 深造文憑</p> <p>屋宇設備工程學</p> <p>土木工程學</p> <p>建築及房地產學</p> <p>建築法及爭議解決學</p> <p>環境管理及工程學</p> <p>設施管理</p> <p>消防及安全工程學</p> <p>測繪及地理資訊學(地理資訊)</p> <p>測繪及地理資訊學(測量)</p> <p>高效能建築</p> <p>國際房地產</p> <p>項目管理</p> <p>可持續城市發展學</p> <p>城市信息學及智慧城市</p>	<p>Department</p> <p>BSE</p> <p>CEE</p> <p>BRE</p> <p>BRE</p> <p>CEE</p> <p>BSE</p> <p>BSE</p> <p>LSGI</p> <p>LSGI</p> <p>BSE</p> <p>BRE</p> <p>BRE</p> <p>FCE</p> <p>LSGI</p>
<p>Bachelor's Degree</p> <p>Building Engineering and Management</p> <p>Building Services Engineering</p> <p>Civil Engineering</p> <p>Environmental Engineering and Sustainable Development</p> <p>Environmental and Occupational Safety and Health (Top-up Degree Programme)</p> <p>Land Surveying and Geo-Informatics</p> <p>Property Management</p> <p>Structural and Fire Safety Engineering</p> <p>Surveying</p>	<p>學士學位</p> <p>建築工程及管理學</p> <p>屋宇設備工程學</p> <p>土木工程學</p> <p>環境工程與可持續發展學</p> <p>環境及職業安全與健康</p> <p>土地測量及地理資訊學</p> <p>物業管理學</p> <p>結構及消防安全工程學</p> <p>地產及建設測量學</p>	<p>Department(s)</p> <p>BRE</p> <p>BSE</p> <p>CEE</p> <p>CEE</p> <p>CEE</p> <p>LSGI</p> <p>BRE</p> <p>CEE & BSE</p> <p>BRE</p>
<p>Higher Diploma</p> <p>Building Services Engineering</p> <p>Building Technology and Management (Engineering)</p> <p>Building Technology and Management (Surveying)</p> <p>Civil Engineering</p> <p>Land Surveying and Geomatics</p>	<p>高級文憑</p> <p>屋宇設備工程學</p> <p>建築科技及管理學(工程)</p> <p>建築科技及管理學(測量)</p> <p>土木工程學</p> <p>測繪及地理資訊學</p>	<p>Department</p> <p>BSE</p> <p>BRE</p> <p>BRE</p> <p>CEE</p> <p>LSGI</p>

* Offered at the PolyU Zhejiang outpost
於理大設於浙江的境外中心上課

For programme details, please contact the departments or visit our 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：

<p>Department of Building and Real Estate (BRE) 建築及房地產學系</p> <p>2766-5807/7770 www.bre.polyu.edu.hk</p>	<p>Department of Building Services Engineering (BSE) 屋宇設備工程學系</p> <p>3400-5847 www.bse.polyu.edu.hk</p>	<p>Faculty of Construction and Environment (FCE) 建設及環境學院</p> <p>3400 8496 www.polyu.edu.hk/fce</p>	<p>Department of Civil and Environmental Engineering (CEE) 土木及環境工程學系</p> <p>2766-6068 www.cee.polyu.edu.hk</p>	<p>Department of Land Surveying and Geo-Informatics (LSGI) 土地測量及地理資訊學系</p> <p>2766-5968 www.lsgi.polyu.edu.hk</p>
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Tentative Application Periods 暫定報名日期

Master's Degree/ Postgraduate Diploma Programmes 碩士及深造文憑課程

Local applicants 本地申請人：
24 September 2020 — 30 April 2021
For details, please visit the www.polyu.edu.hk/study
詳情請參閱 www.polyu.edu.hk/study

Full-time Bachelor's Degree and Sub-Degree Programmes 全日制學士學位及非學位課程

Local applicants 本地申請人：
24 September 2020 — 8 February 2021

Non-local applicants 非本地申請人：
24 September 2020 — 25 February 2021

Students applying on the basis of current year
Joint Entrance Examination
(JEE) results 內地應屆高考生：
2 November 2020 — 15 June 2021 (9 am)

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.

請於 Study@PolyU 查閱最新資料，網址為 www.polyu.edu.hk/study.

Enquiries on Application and Admission 查詢申請及入學

Academic Registry
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：

ar.tpg@polyu.edu.hk	Master's Degree/ Postgraduate Diploma programmes 碩士學位及深造文憑課程
ar.rpg@polyu.edu.hk	Master of Philosophy/ Doctor of Philosophy programmes 研究碩士及哲學博士課程
ar.ug@polyu.edu.hk	Full-time Bachelor's degree & sub-degree programmes – local applicants 全日制學士學位及非學位課程 — 本地申請人
ar.intl@polyu.edu.hk	Full-time Bachelor's degree & sub-degree programmes – non-local applicants 全日制學士學位及非學位課程 — 非本地申請人
ar.jee@polyu.edu.hk	Full-time Bachelor's degree & sub-degree programmes – non-local applicants applying on the basis of current year Joint Entrance Examination (JEE) results 全日制學士學位及非學位課程 — 非本地申請人 (內地應屆高考生)

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