

DEPARTMENT OF Civil Engineering 土木工程系 eNews



THE UNIVERSITY OF HONG KONG

SEPTEMBER - DECEMBER 2025

Department News

The Thirteenth Lumb Lecture

Prof. Ronaldo I. Borja, Professor of Stanford University, delivered the Thirteenth Lumb Lecture on December 2, 2025 at Rayson Huang Theatre, The University of Hong Kong ("HKU"). The title of the Lecture was "Measurement and modeling of creep deformation in a shale at multiple scales". The event was well attended by about 120 engineers, academics and students (in face-to-face mode). Ir Prof. Jun Yang, Chairman of Lumb Lecture Committee, introduced the background of the Lumb Lecture. Prof. Peter K.K. Lee, Honorary Professor of Department of Civil Engineering, introduced Prof. Borja. Ir Terence Yau, Chairman of the Geotechnical Division of The Hong Kong Institute of Engineers ("HKIE"), delivered the vote of thanks. Prof. Tong Zhang, Acting Dean of Faculty of Engineering, presented the souvenir to Prof. Borja.

The Lumb Lecture was established in 1999 to mark Professor Peter Lumb's contributions to the engineering profession and education. The Lecture was organized by the Department of Civil Engineering, HKU and the Geotechnical Division of HKIE biennially. Financial sponsorship from Geotechnical Division of HKIE for this Thirteenth Lumb Lecture is acknowledged.

A Tea Party with Elite Students

A tea gathering was organized for elite students on October 23, 2025, in Room 1 of Ming Pavilion (Senior Common Room). A selection of finger foods and beverages was provided. The students engaged in meaningful and insightful discussions with our teachers.



MSc Orientation Day

The Department of Civil Engineering's orientation for students studying MSc(Eng) in Civil Engineering and MSc(Eng) in Infrastructure Engineering and Management was held on August 28, 2025 in Rayson Huang Theatre, HKU. Over 160 new students joined the event. There were introductory talks about the MSc(Eng) programmes, the Innovation Wing and the new MSc Student Commons. New students also had the opportunity to visit our department's lab facilities.



Dr Xiaowei Deng, Programme Director of Taught Postgraduate Programmes, introduced the Department of Civil Engineering and highlighted important information of the MSc(Eng) programmes at the Introductory Talk.



Welcoming our new students with a warm tea reception, fostering connections and community as they embark on their postgraduate journey.



Celebrating the MSc(Eng) orientation with a festive touch, Dr. Deng cuts the ceremonial roast pig, marking the start of an exciting journey for our new students.

Staff Awards

Eastern Track Best Paper Award

Prof. Wai Yuen Szeto and Qiande He of Department of Civil Engineering, HKU and Dr. Yi Wang of the University of Canterbury obtained the Eastern Track Best Paper Award for the 7th Annual Bridging Transportation Researchers (BTR#7) conference, which was held on August 6-7, 2025 online. The title of the winning paper is "*A Simultaneous Approach for Solving the Bus Network Design, Express Service Design & Frequency-setting Problem*".



Clarivate's Highly Cited Researchers 2025

Both Prof. Chuyang Tang and Prof. Tong Zhang have been recognized as Clarivate's Highly Cited Researcher 2025.

For Prof. Chuyang Tang, he has been recognized as a Clarivate's Highly Cited Researcher for 5 consecutive years, in the category of Cross-Field for 2021–2024 and in the field of Environment and Ecology in 2025.



For Prof. Tong Zhang, he has been named a Clarivate's Highly Cited Researcher every year since 2018, including again in 2025.



More details can be accessed via these links:

https://www.hku.hk/press/news_detail_28739.html and [2025 年度全球最廣獲徵引研究人員 | 香港 145 學者入選 港大佔 54 人列全港第一](#)

Staff News

Prof. Tak-Ming Chan invited by ARUP as Speaker on Advancing Circularity in APAC

Bringing together international expertise to illuminate scalable pathways towards a new-zero, waste-free construction future, ARUP organised an event titled *"Advancing Circularity in APAC – Insights from regional leaders and global best practices"*. Prof. Tak-Ming Chan was invited as an expert speaker on Material Circularity, and shared strategies for achieving a circular

economy in the construction sector, based on his ongoing Research Impact Fund (RIF) project entitled *"Achieving the Circular Economy in Construction through Deconstruction and Reuse Technologies for Steel and Composite Structures"*. The event highlighted topics ranging from policy framing to design detail and practical implementation for advancing circularity, and was followed by a Circularity Exhibition. The event was held on November 25, 2025, at ARUP Hong Kong Office.



More details can be accessed via this link: https://hkgbc.org.hk/eng/news-events/news/2025/images/20251125_Arup_A4_flyer_confirmed.pdf

Elected Council Member of the Institution of Structural Engineers (IStructE)

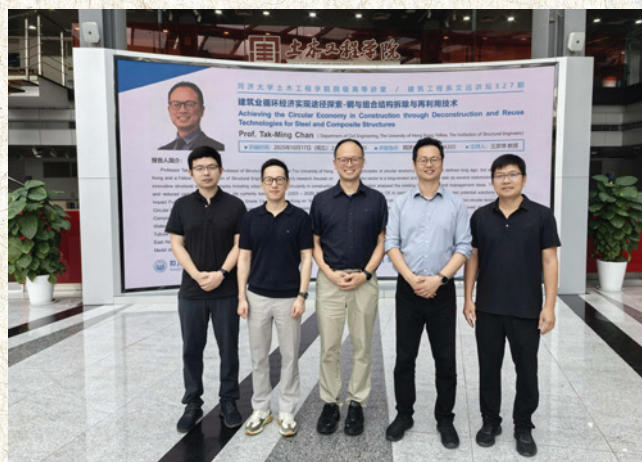
Prof. Tak-Ming Chan has been elected as a Council Member of the Institution of Structural Engineers (IStructE) for the year 2026–2028. He is one of three new Council Members chosen through the global election held in July and August this year. The Council debates issues related to the profession and offers strategic guidance to the Trustee Board to help shape the Institution's direction. This is Prof. Chan's second term on the Council, with his previous term being from 2018–2021.

More details can be accessed via this link: <https://www.istructe.org/resources/news/new-trustees-council-members-announced-istructe/>

Prof. Tak-Ming Chan Invited to Tongji University for Wenyuan Forum Lecture

The Wenyuan Forum at the School of Civil Engineering, Tongji University, hosted Prof. Tak-Ming Chan for its lecture series on October 17, 2025. Prof. Chan delivered a presentation titled *"Achieving the Circular Economy in Construction through Deconstruction and Reuse Technologies for Steel and Composite Structures"*. In his talk, he discussed innovative approaches to reducing carbon emission by directly reusing structural elements based on the concept of Design for Deconstruction and Reuse (DfDR) with the use of interlocking mechanisms to facilitate direct reuse and increased productivity. The lecture was Chaired by Prof. Wang Yanbo, and attended by faculty members and students from the School.

More details can be accessed via this link: <https://structure.tongji.edu.cn/info/1045/7147.htm>



Prof. A.W. Jayawardena's Invited Keynote Lecture

Prof. A.W. Jayawardena was invited to give a keynote lecture titled *"Paradigm Shift from Natural Intelligence to Artificial Intelligence in the context of Earth Systems Modelling"*, at ISESS 6th International Symposium on Education, Economics, Psychology and Social Sciences organised by the Higher Education Forum, which was held in Okinawa Convention Center, Okinawa, Japan from July 23-25, 2025.



More details can be accessed via this link: https://prohef2010.org/issess/page/309?fbclid=IwY2xjawOeEA5leHRuA2FlbQlXMAbIcmIkETFKemptcEsyblVWem9vRONHAR75Wig5rQk62sZKyam58fiUMJrOn1W92VbrQwSCed8WCqlSLCgAqxaMAbt4xAaem_OMjWOqKi0h7CWctnH9bddg

Prof. S.C. Wong was appointed Chairman of the Transport Advisory Committee of the Hong Kong SAR Government for a two-year term, effective from October 1, 2025.

Prof. S.C. Wong was reappointed as a member of both the Pensions Appeal Panel and the Appeal Panel on Government Voluntary Contributions under the Civil Service Provident Fund Scheme of the Hong Kong SAR Government for a three-year term, effective from November 9, 2025.

Prof. S.C. Wong was reappointed as a member of the Management Committee of the Smart Traffic Fund of the Hong Kong SAR Government for an additional year, effective from October 29, 2025.

Environmental Microbiome Engineering and Biotechnology Laboratory deciphers the connectivity between soil and human resistomes

Prof. Tong Zhang's team analyzed 3,965 metagenomic datasets (across 12 habitats including soil, feces, and sewage) and 8,388 genomes of *Escherichia coli* isolates and found that the risk associated with soil ARGs has steadily increased from 2008 to 2021. This trend is closely related to the increasing similarity between soil and human resistomes, with horizontal gene transfer playing a key role in driving this process. This finding has important implications for public health. The study

highlights the urgent need to expand antibiotic resistance surveillance beyond hospitals to include environmental reservoirs such as soil. The prevention and control of AMR also depends on whether we can manage the environment as rigorously and scientifically as we manage our healthcare systems.

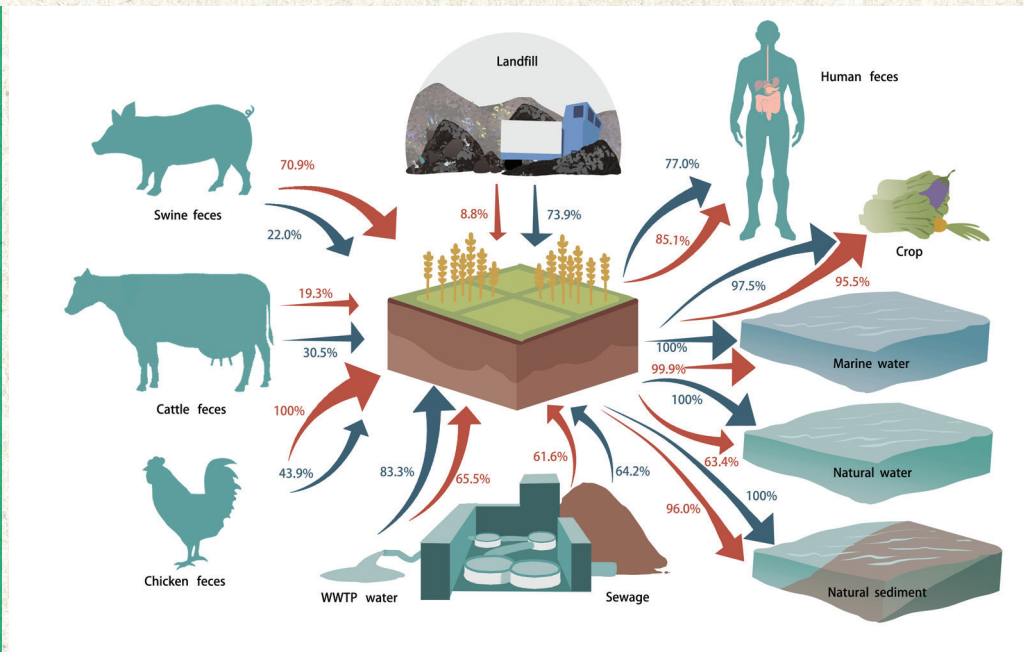


Fig. 1 Similarity between soil resistomes and those from other habitats.

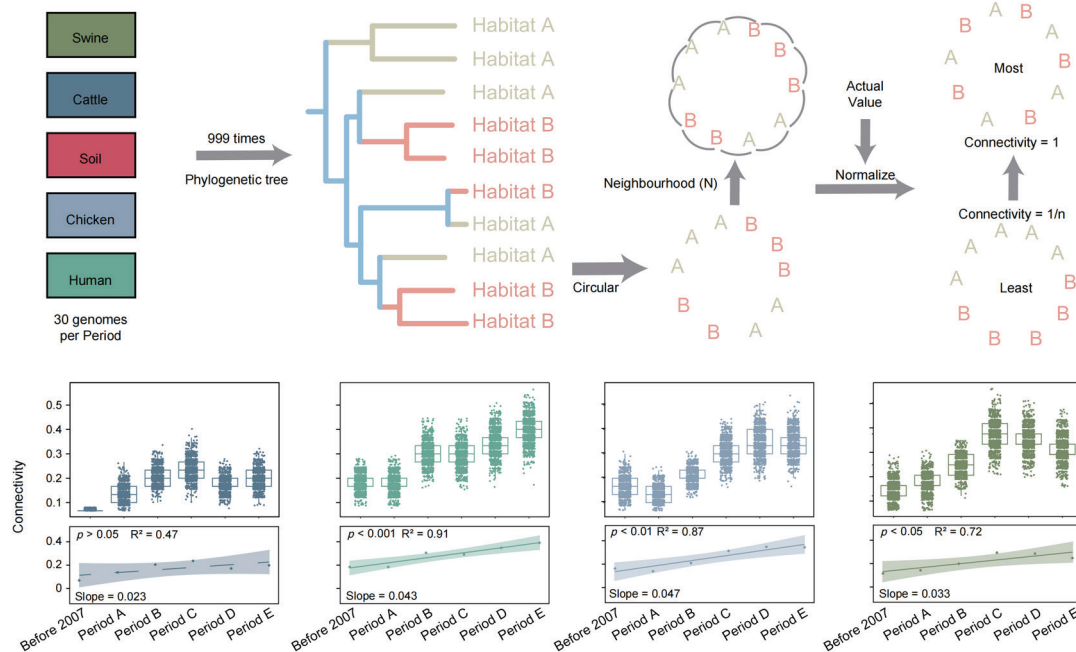


Fig. 2 Connectivity of Rank I ARGs between soil and other habitats.

The research paper published in *Nature Communications*, entitled "Global soil antibiotic resistance genes are associated with increasing risk and connectivity to human resistome". More details can be accessed via this link: <https://www.nature.com/articles/s41467-025-61606-3>

Prof. Tong Zhang's team develops a genome-resolved framework to quantify ecological connectivity for antimicrobial resistance control

Antimicrobial resistance (AMR) poses a serious global health threat, and understanding the ecological connectivity that drives its spread is essential for effective control. To address this challenge, a research team led by Prof. Tong Zhang investigated the ecological connectivity of antibiotic-resistant *Escherichia coli* in Hong Kong's urban waters under the One Health framework. Using Nanopore long-read sequencing, the team reconstructed near-complete genomes for 1,016 isolates, revealing extensive strain and plasmid sharing across human, animal, and environmental sources. The study established a genome-resolved framework to quantify ecological connectivity, demonstrating that urban waters serve as key hubs for antimicrobial resistance dissemination. These findings provide scientific evidence and analytical tools to strengthen integrated monitoring and risk management strategies for antimicrobial resistance. The study, titled "*Ecological connectivity of genomic markers of antimicrobial resistance in Escherichia coli in Hong Kong*," was published in *Nature Communications* in August 2025.

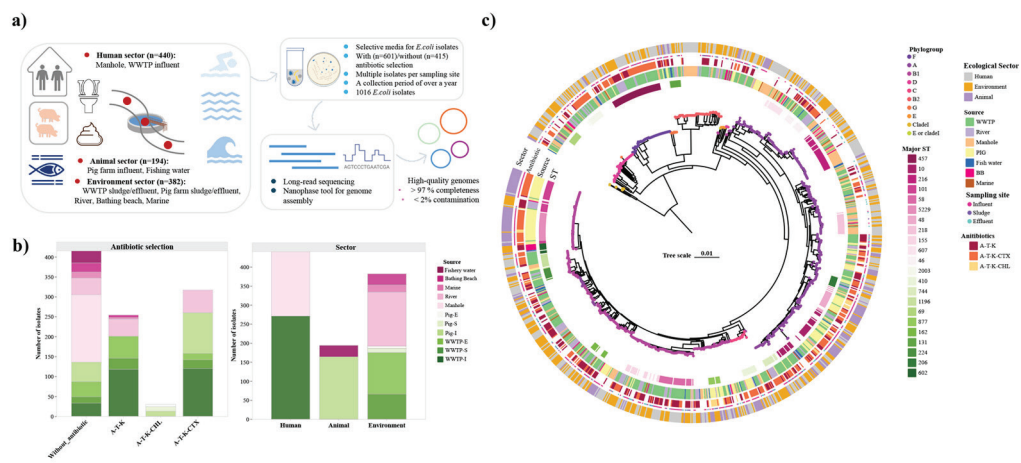


Figure 1. Overview of sampling design, isolate diversity, and genomic reconstruction of urban *E. coli* isolates.



Figure 2. Distribution and genomic localization of ARG subtypes across ecological sectors and sampling sources.

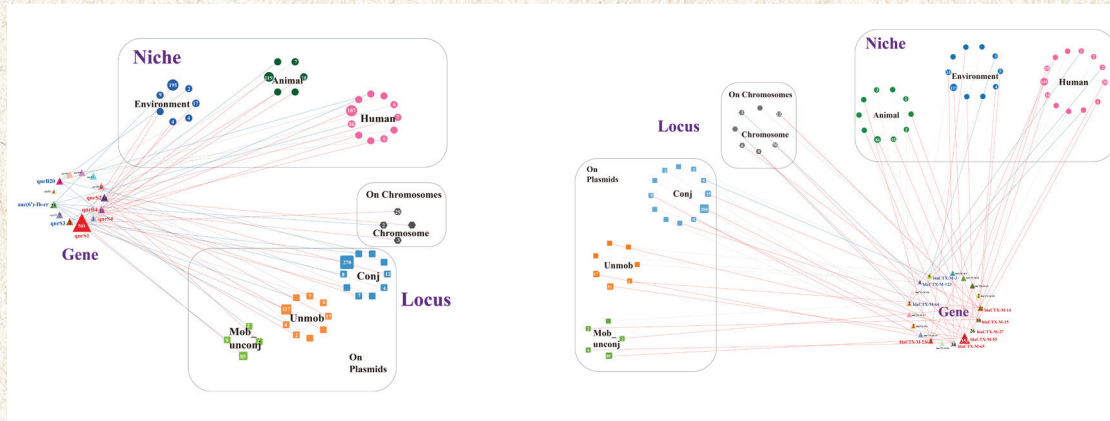
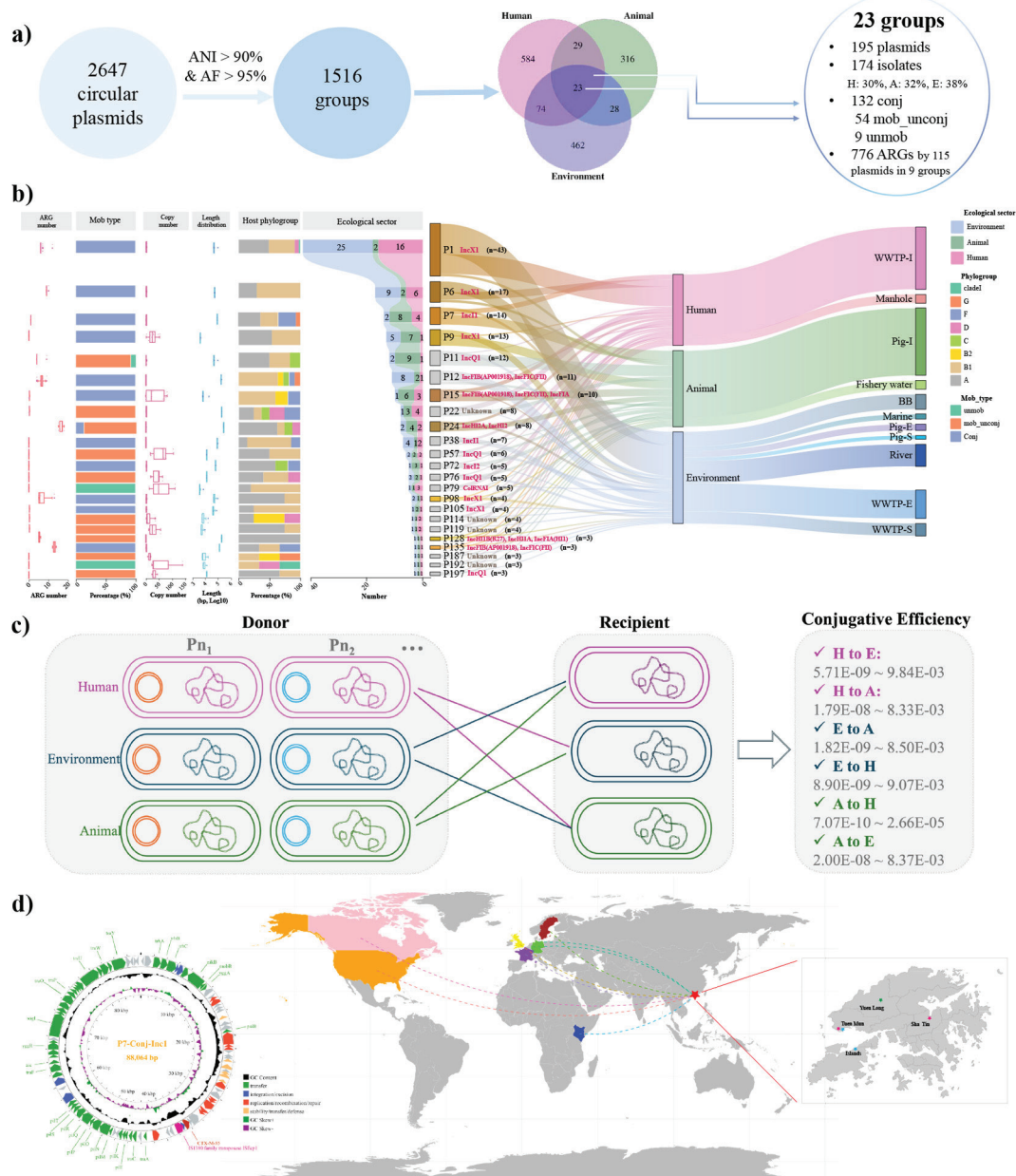


Figure 3. Cross-sectoral dissemination and genomic context of high-risk ARGs.

Figure 4. Sectoral sharing, mobility, and global dissemination of plasmids in urban *E. coli* isolates.

More details can be accessed via this link: <https://doi.org/10.1038/s41467-025-62455-w>

Additional Information:

This research is part of a project supported by the University Grants Committee's Theme-based Research Scheme (TRS), which funds high-level research at UGC-funded universities on themes of strategic importance.

Staff Introduction

Dr. Haoran Duan is an Assistant Professor in the Department of Civil Engineering at HKU. His research focuses on new biotechnologies and process modelling towards sustainable wastewater management. He received his PhD (2019) from the University of Queensland (UQ) and Bachelor degree (2014) from Tianjin University. Before HKU, he served as Senior Lecturer at UNSW and Senior Research Fellow at UQ, and holds the Australian Research Council Inaugural Industry Fellowship (2023). Working with water utilities, he co-led the world's first full scale mitigation of nitrous oxide emissions from wastewater treatment. He has advanced a novel energy neutral wastewater process and a new sludge digestion technology from lab to pilot. These contributions have been recognised with multiple awards including the Environmental Science & Technology Best Paper Award.



As chief investigator, Dr. Duan has secured more than AUD 5 million in competitive funding. He has authored over 75 papers in journals such as *Water Research*, *Environmental Science & Technology*, *Nature Water*, and *Nature Sustainability*, with over 4,000 citations (H index 35). He is Stanford/Elsevier's World's Top 2% Scientists (2024, 2025). He serves as Editor of *Water Research X* and Associate Editor of *CleanMat*. He reviews grants for the Australian Research Council and the German Research

Foundation, and sits on the IWA Modelling and Integrated Assessment Specialist Group committee.

Student Award

HKIE Materials Division Best Paper on Materials 2025

Mr. Tsz Yeung Tsang, a MSc student supervised by Dr. Hailong Ye, has been awarded the HKIE Materials Division Best Paper on Materials 2025. His award-winning B.Eng final year project, "*Alkali-silica reaction of foam glass aggregates in lightweight concrete*" was selected as the sole recipient of this year's honor, presented at the MaSTEC 2025 Conference Dinner on October 23, 2025.



From left to right: Ir. Prof. Jonathan Chung, Chairman, HKIE Materials Division, Mr. Tsz Yeung Tsang and Dr Hailong Ye, HKU.

Alumni News

Construction Industry Outstanding Young Person Award 2025 (Technology Transformation, Design, Academic and Others Category)

Ir Lee Ming-kiu, Owen, is a distinguished graduate and part-time lecturer in Department of Civil Engineering, HKU. He is a recipient of the Construction Industry Outstanding Young Person Award and Civil Engineering Surveyor of the Year 2025, following earlier accolades including the CIC and Autodesk Young BIMer awards in 2020.

He is a Fellow of several prestigious engineering institutions and a Chartered Engineer. As a Resident Engineer at AECOM, he leads digital innovation on the Sha Tin Caverns project,

which has won multiple BIM awards. Committed to industry development, he serves in HKIE and HKIBIM committees and inspires future talents as a dedicated lecturer and mentor, aligning his work with the Construction 2.0 initiative.



Ir Lee Ming-kiu, Owen at the award presentation ceremony.

More details can be access via these links:



[Link 01](#)



[Link 02](#)



[Link 03](#)



[Link 04](#)



[Link 05](#)



[Link 06](#)



[Link 07](#)



[Link 08](#)



[Link 09](#)

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DEPARTMENT OF Civil Engineering 土木工程系 eNews

JULY - AUGUST 2025



THE UNIVERSITY OF HONG KONG

Department News

Engineering Competition for Youth – Ultimate Paper Tower Challenge

The Structural Division of the Hong Kong Institution of Engineers, the Department of Civil Engineering at The University of Hong Kong, and the Technological and Higher Education Institute of Hong Kong jointly organized a youth engineering competition at Tam Wing Fan Innovation Wing on July 4, 2025. Participants from 10 secondary schools competed to build the lightest and most stable paper tower. The winning team was from Hong Kong Baptist University Affiliated School Wong Kam Fai Secondary & Primary School. The event aimed to inspire students' interest in structural engineering and enhance their problem-solving skills. The competition was a great success, and we look forward to host more events in the future to nurture young engineering talents. Displayed below are the photos taken during the competition.





Engineering Competition for Youth – Ultimate Paper Tower Challenge





Staff Award

Prof. Wei Pan is awarded the Medal of Honour (MH) under the 2025 Honours List, published in the Government Gazette on July 1, 2025.

The citation regarding his award is as follows: Professor PAN is awarded MH in recognition of his contributions in the development of the construction industry, particularly in promoting the Modular Integrated Construction and nurturing young talent in the industry.

Staff News



Dr. Xintao Yan is an Assistant Professor in the Department of Civil Engineering at The University of Hong Kong. He received his bachelor's degree from the School of Vehicle and Mobility at Tsinghua University in 2018 and his Ph.D. from the Department of Civil and Environmental Engineering at the University of Michigan, Ann Arbor in 2023. Before joining HKU, he was a Postdoctoral Research Fellow at the University of Michigan.

Dr. Yan's research lies at the intersection of transportation engineering, automotive engineering, and artificial intelligence (AI), with a primary focus on autonomous vehicles (AVs) and intelligent transportation systems. His work encompasses the use of generative AI for world modeling in AV development, accelerated testing methods for efficient and unbiased AV safety evaluation, and the assessment and optimization of AV impacts on transportation systems.

He has authored and co-authored publications in leading academic journals, including *Nature* and *Nature Communications*. He also serves as a member of the SAE On-Road Automated Driving Verification & Validation task force. His work has been recognized with several honors, including the Exceptional Paper Award from the TRB Traffic Signal Systems Committee (2019), the INFORMS TSL ITS Best Paper Award (2021), and selection as a finalist for the 2024 IEEE ITSS Best Ph.D. Dissertation Award.

Student Awards

Mr. Ho Yuk Pui (MSc(Eng)(GeoE)) has been awarded with Hong Kong Construction Association Lo Pan Award (HKCALP Award) 2023-24.

Miss Li Tsz Ying (MSc(Eng)(CivE)-1) has been awarded with Hong Kong Construction Association Lo Pan Award (HKCALP Award) 2023-24.

Mr. Wong Sing Wa (MSc(Eng)(CivE)-2) has been awarded with Hong Kong Construction Association Lo Pan Award (HKCALP Award) 2023-24.

Mr. Hui Ching Kit (MSc(Eng)(CivE)-1) has been awarded with Hong Kong Construction Association Lo Pan Award (HKCALP Award) 2023-24.

Ms. Fung Tsoi Ying (CivE 3) has been awarded BEAM Society Prize in Green Building Excellence 2023-24.

Mr. Au Yeung Chun Hei (CivE 3) has been awarded Powering a Sustainable Generation Scholarship by CLP 2024-2025.

Mr. Wong Tsz Fung (CivE 3) has been awarded Powering a Sustainable Generation Scholarship by CLP 2024-2025.

Ms. Fung Tsoi Ying (CivE 3) has been awarded HKU Engineering Alumni Association Scholarship 2024-2025.

Mr. Chan Hui Yuen (CivE 3) has been awarded Professor Y.K. Cheung Scholarship – Enrichment Scholarship 2024-2025.

Mr. Ho Hop Yat (CivE 3) has been awarded Professor Y.K. Cheung Scholarship – Enrichment Scholarship 2024-2025.

Mr. Wong Yin Ming (CivE 3) has been awarded Professor Y.K. Cheung Scholarship – Enrichment Scholarship 2024-2025.

Mr. Tai Chun Long (CivE 4) has been awarded Geotechnical Contractors Scholarship 2025.

Mr. Chan Yui Hin (Grad 2024) has been awarded Champion, AECOM Prize for Best Final-Year Geotechnical Project 2024.

Ms. Cheung Hoi Yee (Grad 2024) has been awarded First Runner Up, AECOM Prize for Best Final-Year Geotechnical Project 2024.

Mr. Man Chun Pong (Grad 2024) has been awarded AECOM Prize for Best Student of the Year 2024.

Mr. Chan Chun Heung (CivE 4 24-25) has been awarded Tony Shum Education Fund Civil Engineering Scholarship.

Mr. Chan Ming Hei (CivE 2 24-25) has been awarded Tony Shum Education Fund Civil Engineering Scholarship.

Mr. Chong Chi Hang (CivE 2 24-25) has been awarded Tony Shum Education Fund Civil Engineering Scholarship.

Mr. Sze Chung Hang (CivE 2 24-25) has been awarded Tony Shum Education Fund Civil Engineering Scholarship.

Mr. Tsoi Ka Shing (CivE 2 24-25) has been awarded Tony Shum Education Fund Civil Engineering Scholarship.

Mr. Wang Tsz Kin (CivE 2 24-25) has been awarded Tony Shum Education Fund Civil Engineering Scholarship.

Ms. Shum Ying Ying (CivE 2 24-25) has been awarded The HKU Civil Engineering Departmental Scholarship.

Mr. Kwok Po Fai (CivE 2 24-25) has been awarded AECOM Civil/Structural Engineering Scholarship.

Mr. Kwok Long Him (CivE 2 24-25) has been awarded AECOM Environmental Engineering Scholarship.

Mr. Yim Hoi Chun (CivE 3 24-25) has been awarded AECOM Geotechnical Engineering Scholarship.

Mr. Lok Chun Yan (CivE 3 24-25) has been awarded Leung Ting Kui Scholarship.

Mr. Wong Tsz Fan (CivE 4 24-25) has been awarded HKU Centenary Scholarships for Civil Engineering Students.

Mr. Leung Ho Ching (CivE 4 24-25) has been awarded Leung Che Kwong Lai Shim Memorial Scholarship, Scholarship for Civil Engineering Students.

Mr. Ho Yat Chun (Grad June 2024) has been awarded HKIE LTD Best Student Papers 2024-25.

Mr. Wang Yuen Hui (CivE 2 24-25) has been awarded Chun Wo Foundation Scholarship 24-25.



Department of Civil Engineering eNews (May to June 2025)

Department News

Prof. Elizabeth Deakin's Civil Engineering Grand Challenge Lecture

Prof. Elizabeth Deakin, Professor Emerita of City and Regional Planning and Urban Design, University of California, Berkeley and our RAE International Advisor, visited the Department of Civil Engineering and delivered a Civil Engineering Grand Challenge Lecture on April 29, 2025. The title of the seminar was “The Future of Public Transit in the US: Effects of Changing Technologies and Travel Options and What We can Learn – and Not Learn – from Transit-Supportive Cities”. Displayed below is a photo taken during the seminar.



HKU Hosts International Week on Geotechnical Engineering: Advancing Landslide Safety and Slope Innovation

HKU and Geotechnical Engineering Office of CEDD hosted the International Week on Geotechnical Engineering, a week-long series of events dedicated to advancing landslide risk assessment, mitigation strategies, and slope safety. From June 2 to 7, 2025, activities included the 4th Innotech Forum on Geotechnical Engineering, the LARAM International School, and a field trip showcasing real-world mitigation efforts across Hong Kong. The event was supported by the Construction Innovation and Technology Fund (CITF) through the Construction Industry Council, and the Geotechnical Division of HKIE.

Nestled among steep hills and densely populated areas, Hong Kong has long grappled with the challenge of limited flat space and severe landslide risks. Historical tragedies, such as the 1972 Sau Mau Ping landslide and the Po Shan Road disaster, underscore the devastating consequences of slope instability. Today, with approximately 300 landslides occurring annually, Hong Kong has established itself as a global leader in



slope safety. This achievement stems from decades of pioneering research, innovative engineering, and close collaboration between academia and government.

Since the 1960s, HKU's geotechnical engineering group—guided by trailblazers like Prof. Peter Lumb and Prof. C.F. Lee—has revolutionized practical approaches to slope stability. Landmark contributions include advanced methods for water table prediction and soil nail technology, which now form the backbone of slope stabilization in Hong Kong. Today, HKU continues to lead in this field. Our geotechnical colleagues (i.e., Prof. Jun Yang, Dr. Sergio Lourenco, Dr. Fiona Kwok, and Dr. Clarence Choi) are pushing the boundaries further by developing advanced debris flow hazard mitigation strategies, utilizing cutting-edge prediction tools and innovative design methods.

A Warm Welcome and Historical Reflection

Prof. Wei Pan, Head of the Civil Engineering Department at HKU, opened the week with inspiring remarks, emphasizing Hong Kong's enduring commitment to engineering excellence and innovation, he said that *"115 years ago, the foundation of the Main Building, where we are now, was laid. Just 109 years ago, the first batch of engineering undergraduates at HKU graduated here, including seven in civil engineering. Today, as we gather for this international event, we continue that proud legacy of pioneering engineering solutions"*. Displayed below is a photo of Prof. Wei Pan delivering an opening remark.



Event Highlights

June 2, 2025: The 4th Innotech Forum on Geotechnology brought together over 300 local practitioners, international experts, and academics. The forum served as a platform



for sharing innovative solutions to landslide mitigation and fostering collaboration between research and practice. Displayed below is a photo of Guests of honour including Permanent Secretary Ir Ricky Lau, Acting Director of CEDD Ir Harry Ma, Head of GEO Dr. Raymond Cheung, Executive Director of CIC Ir Albert Cheung.



June 3–6, 2025: The LARAM International School trained more than 60 early-career scientists and practitioners from 10 different countries, focusing on landslide risk assessment and mitigation, emphasizing real-world applications and innovative strategies. Displayed below is a photo of international and local researchers and practitioners participating in the LARAM course.





June 7, 2025: A field trip ended the week with visits to historic landslide sites like Po Shan Road, demonstrating the practical application of mitigation structures such as soil-nailed slopes and drainage systems in Hong Kong.



Hong Kong's Global Leadership

Hong Kong's expertise in slope stability has made it a living laboratory for geotechnical innovation. The International Week on Geotechnology not only celebrated this legacy but also reinforced HKU and Hong Kong's role as a vital hub for knowledge exchange—where ground-breaking research transforms into life-saving engineering solutions.

By uniting global minds and fostering international collaboration, this event underscored HKU and Hong Kong's unwavering commitment to advancing slope safety worldwide—a mission rooted in its history, driven by HKU's ingenuity, and sustained through close partnership among academia, government, and industry.

Please access via these newspaper links for details: [Mingpao](#), [Hong Kong Commercial Daily](#), [Singtao](#) and [RTHK](#)

Staff Awards

ASCE Journal of Management in Engineering 2025 Best Peer-Reviewed Paper Honorable Mention Award

Prof. Wei Pan and his team members Dr. Yang Zhang (RAP, first author) and Mr Siwei Chen (PhD student) from Department of Civil Engineering have won the ASCE Journal of Management in Engineering 2025 Best Peer-Reviewed Paper Honorable Mention Award, for their paper titled "Construction Waste Reduction in Buildings through Modular and Offsite Construction".



The HKIE Structural Division Structural Excellence Award 2025 – Grand Award in R&D Branch



Dr. Ray Su (right) and Dr. Lijie Chen (left) have been awarded the HKIE Structural Division Structural Excellence Award 2025 – Grand Award in R&D Branch for the paper titled “Service life modelling of carbonated reinforced concrete with supplementary cementitious materials considering early corrosion propagation”.

SCMs (such as GGBS and PFA) are widely used to reduce concrete's carbon footprint, but they lower carbonation resistance. This paper proposes a new service life model of carbonated SCM concretes, considering early corrosion propagation. This model, validated by Hong Kong field data, can improve durability design of concrete. Besides, this model has been applied in real projects of Urban Renewal Authority of HKSAR. It is the first to provide a performance-based model and practical equations for service life design of carbonated SCM concrete, enhancing sustainability without compromising durability.

The HKIE 50th Anniversary Legacy Award

Dr. Ray Su's study on the “Plate-reinforced composite coupling beam” has been awarded a Certificate of Merit in the Innovation Category of The HKIE 50th Anniversary Legacy Award. This award aims to recognize exceptional engineering projects, technologies, and initiatives that have significantly influenced the engineering sector and society in Hong Kong and worldwide from the 1970s through to the present day. From over 100 nominations, 19 outstanding finalists and 10 merits have been selected. Displayed below is a photo taken during prize presentation ceremony.



Please access via this link for results: [Results of HKIE 50th Anniversary Legacy Award](#)

[HKU scholars secure top spots in Asia across disciplines in Research.com rankings 2025](#)

Prof. Chuyang Tang is one of the twelve HKU scholars to secure top spots (52nd globally, 9th in China for the subject of Engineering and Technology) in Research.com rankings 2025. Please access via this links for details: [HKU Media](#)





Staff News

Prof. Tak-Ming Chan Delivered a Keynote Lecture at an International Workshop

Prof. Tak-Ming Chan was invited as a keynote speaker at the international workshop for the EU project “LASTTS – LASer cutting Technology for Tubular Structures” on May 12, 2025, organized by Project Coordinator Prof. Alper Kanyilmaz (Department of Architecture, Construction Engineering, and Built Environment (DABC), Polytechnic University of Milan, Italy).

Prof. Chan delivered the keynote lecture titled “Circularity in Construction: Transforming Tubular Joint Challenges into Sustainable Opportunities Across Asia”. His presentation addressed critical challenges in tubular joint design and highlighted innovative pathways towards sustainable construction practices, particularly focusing on the proposed direct reuse circular economy approach for construction industry.

Please access via this link for details: [LASTTS – LASer cutting Technology for Tubular Structures](#)

Prof. Tak-Ming Chan Appointed to be an Editorial Board member of two Academic Journals

Prof. Tak-Ming Chan has been appointed to the editorial boards of two academic journals in May 2025: Progress in Steel Building Structures (《建筑钢结构进展》) and the Journal of Energy Infrastructure.

Progress in Steel Building Structures is a leading Chinese journal disseminating cutting-edge research on steel design, fabrication, and sustainability in construction. Please access via this link for details: [Progress in Steel Building Structures](#)

The Journal of Energy Infrastructure is an international, peer-reviewed, open-access journal dedicated to advancing high-quality scholarly research and technological innovation in the field of energy infrastructure. The journal highlights cutting-edge developments in design innovation, intelligent construction, structural safety and resilience, smart operation and maintenance, and low-carbon transformation. Please access via this link for details: [Journal of Energy Infrastructure](#)

Prof. Wei Pan delivered an Invited Speech at the Policy Research Seminar Organized by the Chief Executive's Policy Unit of the HKSAR Government

The Chief Executive's Policy Unit (CEPU) of the HKSAR Government held the “Public Policy Research Funding Scheme (PPRFS) and Strategic Public Policy Research Funding Scheme (SPPRFS) Policy Research Seminar 2025” on April 1, 2025. The theme of this seminar was “Innovation Leading High-Quality Development and Deepening International Exchanges and Cooperation”, with over 130 representatives from universities, think tanks, experts from various sectors, and Legislative Council members participating on-site and online.

Prof. Wei Pan, Head of Department of Civil Engineering, Director of MiCLab and Executive Director of CICID, HKU was invited to deliver a speech on the recently completed research project, which is titled “Enhancing Modular Integrated Construction



(MiC) Supply Chain in the Greater Bay Area (GBA) for Hong Kong (HK) Development” and funded by the SPPRFS, with Prof. Pan as the Principal Investigator of the project. In the speech, Prof. Pan first reviewed MiC developments in Hong Kong, then reported the major findings of the research project, especially on MiC supply and demand analysis and policy roadmap with an action plan, and finally provided recommendations for achieving demand stability, process integration, and supply sustainability, as well as for enhancing systematic MiC cost-effectiveness and MiC ecosystem. Displayed below is a photo taken during the invited speech on an SPPR project on MiC at the Policy Research Seminar organized by the CEPU.



Please access via this link for details:

https://www.cephu.gov.hk/en/PUEG/expertGroup_events/20250401.html

Prof. Wei Pan Delivered a Keynote Speech at an International Workshop Organised by Curtin University, Australia

Prof. Wei Pan, Head of the Department of Civil Engineering, Executive Director of CICID, Director of MiCLab and Director of NetZeroLab, HKU, delivered an invited keynote speech (online) titled “Low-carbon Modular Integrated Construction” at the International Workshop “Precinct Retrofitting for Decarbonisation” organised by Curtin University, Australia, on April 28, 2025. The Modular Integrated Construction (MiC) approach has been promoted globally with widely demonstrated benefits, including enhanced sustainability. In this keynote speech, Prof. Pan first introduced the systematic framework of life cycle carbon modelling for high-rise MiC buildings, then addressed the challenges imposed by climate change, and finally broadened the scope of study by sharing the concept of total factor sustainability to promote the sustainable development of MiC projects. Display below is title slide at the International Workshop organized by Curtin University, Australia.



土木工程系

Department of Civil Engineering
The University of Hong Kong



香港大學
THE UNIVERSITY OF HONG KONG

Net Zero Laboratory
The University of Hong Kong

MiCLab
The University of Hong Kong

香港大學建造及基建創新研究中心
CENTRE FOR INNOVATION IN CONSTRUCTION AND
INFRASTRUCTURE DEVELOPMENT



Prof. Wei Pan Delivered a Keynote Speech on the Nexus Forum 2025

The Nexus Forum 2025, co-hosted by The Hong Kong Polytechnic University and Cell Press, served as a vital platform for promoting exchange and collaboration in interdisciplinary research and innovation. The Forum, with a theme on “Collaborative Innovation for Smart Sustainable Development”, involved a wide range of discussions on innovative techniques for sustainable cities, industrial and interdisciplinary solutions for sustainability, and carbon neutrality and energy system transformation.

Prof. Wei Pan, Head of the Department of Civil Engineering, Executive Director of CICID, Director of MiCLab and Director of NetZeroLab, HKU, delivered an invited keynote speech titled “Dialectical system theory for sustainable MiC and infrastructure” at the Nexus Forum on May 10, 2025. Prof. Pan first explained the dialectical system theory and how it guides the research on sustainable MiC and infrastructure. He also shared research on the Infrastructure Sustainability Assessment Tool (iSAT) and sustainability performance measurement of MiC building projects. This keynote contributed sophisticated systems theories and approaches regarding the sustainable development of MiC and infrastructure to the discourse of the Forum. Displayed below is a photo taken during the keynote Speech in Nexus Forum 2025.



Prof. Wei Pan Delivered a Keynote Speech at the Modular Integrated Construction Technology Exchange Conference in Shenzhen

Organised by the China Civil Engineering Society (CCES), the Modular Integrated Construction (MiC) Technology Exchange Conference was held in Shenzhen on May 16, 2025. The conference invited industrial experts and renowned scholars to share their knowledge and join discussions about cutting-edge MiC technologies and innovative practices.

Prof. Wei Pan, Head of the Department of Civil Engineering, Executive Director of CICID, Director of MiCLab, HKU, delivered an invited keynote speech at the conference. Prof. Pan emphasised that MiC is a key technology for promoting the transformation and upgrading of the construction industry and high-quality development. He further pointed out that advanced MiC technologies will enable the integration of structural components, mechanical, electrical, and plumbing systems, and finishes and furniture. Through MiC innovation, investment can be turned around two or three times faster than traditional construction, which brings in a great business potential and value propulsion. Displayed below are a group photo and the keynote speech at the Modular Integrated Construction Technology Exchange Conference in Shenzhen.



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Prof. Wei Pan moderated the HKAE TechTalk titled “Environmental Analytical Microbiology and its Applications”, which was delivered by Prof. Tong Zhang at HKU on May 20, 2025.





Prof. Wei Pan Joined the Panel Discussion of BTRi Conference 2025

Prof. Wei Pan, Head of the Department of Civil Engineering, Executive Director of CICID, Director of MiCLab, HKU, participated in the Panel Discussion, titled “From Hong Kong to GBA and the World: Strengthening Our Role as an International Leader in Construction Innovation”, of the Building Technology Research Institute (BTRi) Conference 2025 in Hong Kong on June 2, 2025.



Prof. Wei Pan Delivered an Invited Distinguished Speech at the International Conference of Roads and Railways 2025 (ICRR2025)

Prof. Wei Pan, Head of the Department of Civil Engineering, Executive Director of CICID, Director of MiCLab, HKU, delivered an invited Distinguished Speech titled “Enhancing the Safety, Efficiency and Sustainability of Transportation Through Innovation” at the International Conference of Roads and Railways 2025 (ICRR2025), with a theme on “Building Smart and Green Transport Infrastructure” at the Hong Kong Convention and Exhibition Centre on June 13, 2025. In this speech, Prof. Pan first examined the challenges to MiC transportation. He then shared the research of HKU MiCLab on smart MiC transportation, including mobile mapping system, 3D swept path analysis, 360 Bird’s eye view, collision early alarming, module damage analysis, and turnover early alarming. Real-life applications in the HKU High West MiC project and CEDD Fanling Footbridge project were reported. He finally suggested government-industry-university collaboration for closed-loop innovation. Displayed below is a photo taken during Prof. Pan’s speech.



HKU MiCLab Hosted International Conference on Modular Integrated Construction

Modular Integrated Construction (MiC) is an innovative approach to revolutionising the construction industry. To advance the sustainable development of MiC and align with the government's strategic vision for high-quality development and the creation of "better houses", MiC Laboratory (MiCLab) of HKU hosted the "International Conference on Modular Integrated Construction: New Paradigm" on June 26, 2025 at HKU. The conference brought together over 400 local and international experts from government, industry, and academia to share ground-breaking advancements in MiC and exchange insights into innovative modular construction practices and knowledge. Displayed below is a group photo at the International Conference on Modular Integrated Construction.





Prof. Richard Wong, Provost and Deputy Vice-Chancellor of HKU, delivered the welcome address, he mentioned that *“HKU developed MiC together with the Development Bureau of the HKSAR Government in 2017. Supported by the systematic research conducted by HKU MiCLab, MiC has made significant impacts on policy, society, and industry development.”*

The Guest of Honour, Ms. Bernadette Linn, JP, Secretary for Development of the HKSAR Government, delivered the opening address, she said that *“HKU has been a crucial partner of the government, driving progress in modular construction through innovation and technology. This conference gathers experts from around the world to strengthen partnerships, leverage expertise, and embrace cutting-edge innovations.”*

Mr Wei Wang, Level I Bureau Rank Official, from the Department of Standards and Norms, Ministry of Housing and Urban-Rural Development (MOHURD) delivered the special remarks, he said that *“Hong Kong has made remarkable achievements in promoting MiC. MOHURD will support Hong Kong further to develop MiC, actively promote exchanges and cooperation between Mainland and Hong Kong, jointly promote the transformation and upgrading of China’s construction industry, and provide significant support for the construction of better houses.”*

Displayed below is a group photo of Distinguished Guests at the Conference (From Left: Ir Prof. Thomas Ho, Chairman, Construction Industry Council; Ir Prof. Chai-kwong Mak, Vice Chairman, CICID, HKU; Ir Ricky Lau, Permanent Secretary for Development (Works); Prof. Y.C. Richard Wong, Provost and Deputy Vice-Chancellor, HKU; Ms Bernadette Linn, Secretary for Development; Mr Wei Wang, Level I Bureau Rank Official, Department of Standards and Norms, MOHURD; Ms. Linfeng Wen, General Director, Center of Science and Technology and Industrialization Development, MOHURD; Ir Chi-keung Hon, Chairman, Building Technology Research Institute; Prof. Wei Pan, Head of Department of Civil Engineering, Director of MiCLab, Executive Director, CICID, HKU).



During the conference, HKU MiCLab signed the Memoranda of Understanding (MoU) with the Civil Engineering and Development Department (CEDD) of the HKSAR Government, which was witnessed by Prof. Richard Wong, Provost and Deputy Vice-Chancellor of HKU and Ir Ricky Lau, Permanent Secretary for Development (Works) of the HKSAR Government. Also, HKU MiCLab signed the MoU with the Authority of Qianhai Shenzhen-Hong Kong Modern Service Industry Cooperation Zone of Shenzhen, which was witnessed by Prof. Richard Wong and Mr Genghui Liu, Deputy Director-General of the Department of Housing and Urban-Rural Development of Guangdong Province. These MoUs aim to expand collaboration networks to foster the promotion of innovative MiC applications in Hong Kong and beyond. Displayed below is HKU MiCLab signed the MoU with the CEDD of the HKSAR Government.



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Displayed below is HKU MiCLab signed the MoU with the Authority of Qianhai Shenzhen-Hong Kong Modern Service Industry Cooperation Zone of Shenzhen.



Prof. Wei Pan, Head of Department of Civil Engineering, Director of MiCLab and Executive Director of CICID, HKU, introduced the New Paradigm for MiC Research and Development (R&D) with cutting-edge research outcomes from HKU MiCLab.



Prof. Pan also launched the Guidebook for Safe Heavy Lifting in Modular Integrated Construction for High-Rise Buildings, together with Ir Ricky Lau, Permanent Secretary for Development (Works) of the HKSAR Government. This Guidebook aims to equip industry stakeholders with the knowledge and tools necessary to ensure safer and more efficient practices. Displayed below is a photo of Launch of the Guidebook for Safe Heavy Lifting in Modular Integrated Construction for High-Rise Buildings.



Furthermore, Prof. Pan announced the launch of the International Association for Modular Construction (IAMC). The IAMC envisions a smart, sustainable and resilient built environment through continuously pushing outward the knowledge boundary of modular construction technology and innovation, and gathers leading modular construction research units worldwide to drive knowledge creation and sharing, champion technology breakthroughs, and facilitate industry application of modular construction. Prof. Pan is the founding President of the IAMC. Displayed below is a photo of Launch of the International Association for Modular Construction (From Left: Prof. Richard Liew, National University of Singapore; Prof. Mohamed Al-Hussein, University of Alberta; Prof. Martin Fischer, Stanford University; Prof. Wei Pan, HKU; Prof. Chris Goodier, Loughborough University; Prof. Tuan Ngo, The University of Melbourne).



Other prominent local and overseas scholars, experts, and industry leaders shared their insights, including Prof. Martin Fischer, Stanford University; Prof. Richard Liew, National University of Singapore; Prof. Mohamed Al-Hussein, University of Alberta; Ms. Linfeng Wen, General Director, Center of Science and Technology and Industrialization Development, MOHURD; Prof. Chris Goodier, Loughborough University; Prof. Tuan Ngo, The University of Melbourne; Prof. Thomas Bock, Technical University of Munich; Mr. Edward Wong, Architectural Services Department, HKSAR Government; Dr. Sherman Yip, Housing Department, HKSAR Government; Mr. Edmond Lo, Chinachem Group; Mr. Allan Tan, United Tec Construction Pte. Ltd.; and Er. Seng Wong, TW-Asia Consultants Pte Ltd.

On the panel discussions, Ir Prof. Thomas Ho, Chairman, Construction Industry Council; Ir Frankie Fung, Principal Assistant Secretary (Project Capability and Strategy), Project Strategy and Governance Office, Development Bureau; Mrs. Foo-Leoh Chay Hong, Director, Construction Productivity and Quality Group, Building and Construction Authority, Singapore; Ir John Kwong, Director, Building Technology Research Institute; Ir Franco Cheung, Director (Projects), Hong Kong Housing Society; Ir Dr. Conrad Wong, Chairman, Hong Kong Modular Integrated Construction Manufacturer Association; Dr. Louis Chu, Associate Director, Estates Office, HKU; and Mr. Baojun Zhao, General Manager, China State Construction Hailong Technology Co., Ltd. also shared their knowledge regarding the technology breakthroughs and industry application of modular construction.

Prof. C.K. Mak, Vice Chairman of CICID, delivered the closing remarks. He expressed his gratitude to all guests, especially for the strong support from the government,



research institutions, and industry partners, which will certainly be conducive to the future development of MiC.

Please access via this link for the press release: <https://www.hku.hk/press/press-releases/detail/28459.html>

Prof. S.C. Wong has been reappointed as Chairman of the Advisory Committee on Post-service Employment of Civil Servants of the HKSAR Government, effective from September 1, 2025, to August 31, 2027.

Prof. S.C. Wong has been reappointed as Member of the Road Safety Research Committee of the HKSAR Government, effective from June 1, 2025, to May 31, 2027.

Student Awards

A published paper “ConPPMF: Construction Datasets for Privacy-Preserving Mental Fatigue” by Ms. Jianhuan Zeng (a PhD student supervised by Dr. Xiao Li) has been awarded the Best Paper Award on TG81 - Global Construction Data at the prestigious CIB World Building Congress 2025. This recognition highlights our commitment to advancing smart construction collaboration while prioritizing worker well-being and data privacy.

The research project focuses on decentralized collaboration in smart construction, this study introduces a multimodal dataset that integrates physiological data from smartwatches (Heart Rate Variability, HRV) and synchronized visual data (92 worksite videos). Collected from 17 male workers (including those in high-risk roles such as crane operators and truck drivers) across three active construction sites, this dataset addresses two critical industry challenges which are data scarcity and privacy concerns.

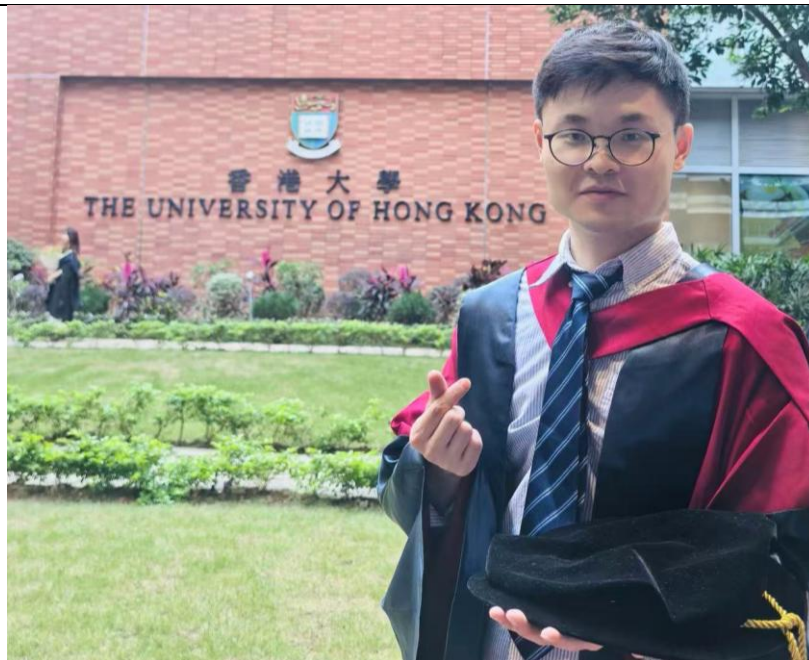
CIB World Building Congress is one of the most influential academic conferences in architecture and construction research, the CIB World Building Congress attracts top global scholars and industry leaders in an annual basis. Displayed below is a photo of Ms. Zeng.



Department of Civil Engineering Outstanding PhD Thesis Award 土木工程系優 秀博士論文獎

Department of Civil Engineering has established “Department of Civil Engineering Outstanding PhD Thesis Award” from the academic year of 2024-2025 onwards. This award is given to outstanding PhD students who have submitted a thesis of exceptional quality and have demonstrated outstanding performance in other academic aspects. The reward of each award shall be HK\$5,000, plus a certificate. This year, the awards are given to Dr. Qimao Gan and Dr. Haochen Yan, whose supervisors are Prof. C.Y. Tang and Dr. M.F. Guan respectively. They were recommended for the award owing to the excellent quality of their thesis and their publication record.

Dr. Qimao Gan said that “My PhD thesis focuses on tailoring thin film composite (TFC) reverse osmosis (RO) membranes for desalination and water reuse, a research area of critical importance to freshwater production and environment protection. Specifically, the reaction-morphology-performance relationship in TFC RO membranes—an important topic that has been debated by membrane researchers for decades—was systematically investigated. As a result, an innovative “nanofoaming mechanism” was proposed. This novel mechanism allows me to establish a theoretical framework for guiding RO membrane design toward enhanced desalination and water reuse. In my future research plan, I intend to further extend this “nanofoaming mechanism” to another type of TFC membranes—nanofiltration (NF). Such TFC NF membranes offer great potential for not only freshwater production but also resource recovery such as recovering lithium ions from saline lake brine.” Displayed below is a photo of Dr. Gan.



Dr. Haochen Yan said that “My research focuses on short-duration rainfall extremes and resulting flood hazards. While climate warming induces non-stationarity in the long-term statistics, these extremes also exhibit complex spatiotemporal variabilities at the event scale. My research reveals the prominence of non-stationarity in short time scales, moderated by meteorological and land-use factors. I also develop novel tools to capture and reconstruct multiscale spatiotemporal variability of rainfall extremes, and to establish urban flood event catalogs through hydrodynamic simulation. Such a hybrid framework integrates statistical and physical models, which enables us to assess urban flood hazard at street level despite lack of long-term records. My work can assist high-resolution urban flood risk assessment and associated adaptation measures under the changing climate. I am profoundly grateful to my supervisor, Dr. Guan, for his unwavering support and guidance. Moving forward, I aim to enhance urban resilience to extreme climates through deeper process understanding and advanced methodologies.” Displayed below is a photo of Dr. Yan.



Student News

2025 Greater Bay Area “Future Stars” Camp: Students from Three Regions Collaborate on Rural Revitalization

The 2025 Guangdong-Hong Kong-Macao Greater Bay Area (GBA) “Future Stars” Camp, hosted by the School of Civil Engineering and Transportation at South China University of Technology (SCUT), was held from June 2 to 6, 2025. Dr. Xiao Li with nine students from the HKU, Dr. Mi Pan and Dr. Qi Zhang with three students from the University of Macau, and SCUT’s faculty and their students attended the camp and they were engaged in field research, academic discussions, and rural practice, contributing to Heshan City’s “Hundreds, Thousands, and Tens of Thousands Project” model village development. The camp explored innovative approaches for GBA youth to collaborate on rural revitalization.



From Labs to the Countryside

Under the theme of “Empowering Rural Development Through Academia,” the camp began with touring SCUT’s State Key Laboratory of Subtropical Building Science (including wind tunnel, fire resistance, and seismic testing labs) and a 3D printing innovation center, learning cutting-edge engineering technologies. On the second day, they visited China Construction Fifth Engineering Division’s ongoing *Bai’etan* project in Guangzhou, gaining insights into real-world construction challenges. The “university-enterprise-rural” tripartite model facilitated the translation of theory into practice.





Cultural Heritage Meets Rural Revitalization

In Chenshan Village (Yayao Town, Heshan), students explored intangible cultural heritage museums, the Li Tiefu Memorial Hall, and a traditional fire dragon culture exhibition, and they were studying rural tourism integration strategies. Later on, in Qingwen Village (Longkou Town), the teams assessed the *Hongqi Canal* restoration project and applied principles from *Rural Planning and Design* courses to draft spatial planning proposals. The blend of international perspectives from Hong Kong and Macao students, combined with mainland students' local expertise, infused fresh ideas into the solutions.





Outcomes: Partnership & Long-Term Collaboration

At the closing ceremony on June 6, 2025, SCUT's School of Civil Engineering and Transportation signed a cooperative agreement with Qingwen Village, incorporating outstanding designs into the village's renovation plan. As a key initiative under the GBA Higher Education Collaboration Program, the "Future Stars" Camp cultivates engineering talent through project-based learning, fostering cross-regional synergy for sustainable development.