

Departmental Event

Strategic Collaboration with Universities in the Yangtse River Delta (YRD)

Prof Wei Pan in his role of Head of Department visited and delivered seminar presentations about the Department and MiC research at five universities in the YRD of China, which included Tongji University, Shanghai Jiaotong University, Zhejiang University, Nanjing University, and Southeast University, during the period from July 31 to August 3, 2023.



Photos taken during seminar presentations.

Hosted Visit by Chairman of ESRI China (Hong Kong) Limited (ESRI (HK))

Prof. Wei Pan in his roles of Head of Department, Executive Director of CICID and Director of MiCLab hosted a delegation visit to the Department led by Prof. Winnie Tang, Chairman of ESRI (HK) on October 19, 2023 to explore collaboration on digital innovation.

Hosted Visit by President of Institution of Structural Engineers (IStructE)

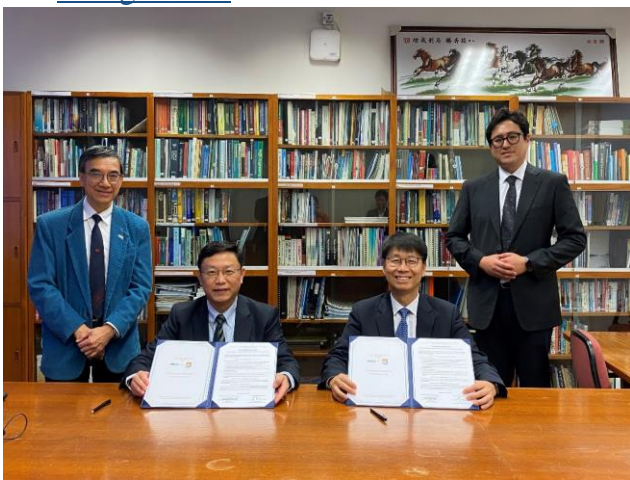
Prof. Wei Pan in his role of Head of Department hosted a delegation visit to the Department led by Mr. Matt Byatt, President of IStructE, on November 1, 2023. Ir. Joseph Chi, Chairman of IStructE Hong Kong, also joined the visit.

HKU and MIDAS Announce Strategic Partnership for Advancement of Education through the use of Cutting-Edge Engineering Software

Our Department and MIDAS Information Technology Co., Ltd jointly announced their agreement to enter into a Partnership Agreement on November 16, 2023, forging an international collaboration for the advancement of higher education.

For full story, please access newspaper articles by clicking here:

[HKU Media](#); [Open Gov Asia](#); [BOLLYINSIDE](#) and [Mirage News](#)



Under the witness of Prof. Francis T.K. Au, Honorary Professor and Mr. Kounghwan Kim, Project Manager, Prof. Wei Pan, Head of Department and Dr. Suntae Jeong, President of MIDAS signed the Partnership Agreement.



Group photo of all participants.

Keynote at Global Construction Sustainability Forum

Prof. Wei Pan in his role of Head of Department delivered an invited Keynote Speech entitled “MiC Enhanced High-Productivity and Sustainable Construction” at the Global Construction Sustainability Forum and Exhibition organized by the Development Bureau of the HKSAR Government and the Construction Industry Council held on November 20, 2023.



Photo taken during the Keynote Speech.

Guangdong-Hong Kong-Macao Greater Bay Area Construction Technology Alliance

Our Department has joined, by invitation, the Guangdong-Hong Kong-Macao Greater Bay Area Construction Technology Alliance as a first-batch Vice-Chairmanship Organisation since January 2024. Prof. Wei Pan, Head of Department, participated in the launching ceremony of the Alliance held in Guangzhou on January 6, 2024.



A plaque was issued to the Department for commemoration.

Hosted Visit by President of Institution of Civil Engineers (ICE)

Prof. Wei Pan in his roles of Head of Department, Executive Director of CICID and Director of MiCLab hosted a delegation visit to the Department on January 12, 2024 led by Prof. Anusha Shah, President of the ICE joined by Mr. Yasir Imran, Husband of Prof. Anusha Shah, Ms. Wendy Blundell, ICE Director of Regions, and Mr. Wan Kai Hong, ICE Regional Director HK. The hosting team also included Prof. CK Mak, Vice Chairman of CICID, Prof. Sam Chan, Associate Director of CICID, and Dr. Ken Zhang, Operations Manager of CICID.



Group photo of the hosting team and ICE representatives.



Laboratory Visit at MiC Lab in HW 213.

William Mong Distinguished Lecture 2024

Prof. Tong Zhang, as host, invited guest speaker Prof. Mark van Loosdrecht (from Delft University of Technology) to give a distinguished lecture on “Anticipating the next century of wastewater treatment: resource recovery and the blue economy” in Chow Yei Ching Building on January 17, 2024.



Prof. Tong Zhang and Prof. Mark van Loosdrecht took a photo before the lecture.



Photo taken during the Lecture.

Hong Kong Green Week - Leveraging BuildTech and Green Finance in Public Housing

The Department supported and collaborated for the Hong Kong Green Week - Leveraging BuildTech and Green Finance in Public Housing Event organized by the Housing Bureau of the HKSAR Government, which was held at Rayson Huang Theatre in HKU on February 29, 2024.



Group photo of speakers and distinguished guests at the event.

Prof Wei Pan, Head of Department, delivered an invited speech entitled “Accelerating Sustainable Housing Supply through MiC Innovations” at this event. Prof Pan shared the state of the art of MiC research led by the MiC Laboratory of the Department and explained innovative solutions from the perspectives of novel structures, advanced materials, and smart project delivery for safeguarding the MiC take-up for high-rise buildings such as around 40-storey public housing blocks and enhancing the competitiveness of MiC in total factor sustainability.



Photo taken during Prof. Pan's speech.

For full story, please access Press Release of Housing Bureau by clicking here: [Housing Bureau PR](#)

Staff Awards/ Activities/ News

Staff Award

UNESCO-IHP Regional Steering Committee Asia Pacific Award

Prof. A. W. Jayawardena was among six people who received the Award at the 30th Anniversary of the Regional Steering Committee for Asia Pacific held on November 8, 2023 in Putrajaya, Malaysia.



Group photo of all awardees and award presenters.

Prof. Wei Pan Won a Smart Traffic Fund to Disrupt Modular Integrated Construction (MiC) Module Transport

Prof. Wei Pan and his team were awarded a major Smart Traffic Fund which kicked off from December 1, 2023 to develop a smart planning platform for safe and efficient MiC transportation.

MiC is an innovative approach to construction with widely demonstrated benefits including enhanced productivity, quality, cost-effectiveness and sustainability, and reduced safety hazards, waste and reliance on site labour. The Policy Address of the Chief Executive of the HKSAR states that the Government will adopt the MiC approach to build light public housing (LPH) units expeditiously, and about 30,000 LPH units will be completed in five years. The Government also suggests that the Housing Authority require all public housing projects scheduled for completion in the first five-year period (2023-24 to 2027-28) to adopt the MiC approach in suitable projects and in the second five-year period (2028-29 to 2032-33), no less than 50% of the projects will adopt the MiC approach, and that Housing Society will also adopt the MiC approach in more public housing projects. Consequently, hundreds of thousands or even millions of bulky volumetric modules, prefabricated in factories located mainly in the Greater Bay Area, will be transported to the construction sites in Hong Kong for assembly. This inevitably poses a challenge to Hong Kong's transportation system. How to ensure transportation safety and efficiency through technology and innovation becomes crucial.

Prof. Wei Pan has been awarded a major research grant to develop a smart planning platform for safe and efficient MiC module transport. This project has secured a funding support of HK\$19,326,900 from the Smart Traffic Fund (Project Reference: PSRI/69/2306/RA). With additional matching funds from university and industry, the total project budget amounts to HK\$21,475,900.



Principal Investigator Prof. Wei Pan.

The innovative smart planning platform will offer three core technologies that promise to disrupt MiC module transport in Hong Kong, including 3D Swept Path Analysis (SPA), Swept Path-Aware Routing (SPR), and Traffic Impact Review (TIR). These cutting-edge technologies will help reduce module transport safety risks by at least 40% compared to daily routing tools, and improve swept path analysis efficiency by at least 50% and traffic impact review efficiency by at least 40% compared to current practice. This 24-month project has kicked off recently and should safeguard the safe, efficient, and environmental-friendly MiC module transport system of Hong Kong, ultimately benefiting the entire community.



A figure to describe SPP.

Prof. Wei Pan, Principal Investigator of the project, expressed enthusiasm about the disruptive nature of this research, said, "The Smart Planning Platform will not only streamline MiC module transport but also contribute to Hong Kong Smart City Blueprint 2.0 and Smart Mobility Roadmap for Hong Kong. We are confident that this project will greatly enhance safety and efficiency of MiC module transport." Prof. Pan also expressed his gratitude to the wide range of government bureaus and departments, as well as industry organisations, for their strong support on the project.

About Prof. Wei Pan (<https://www.civil.hku.hk/wpan/>)

Prof. Wei Pan is a world leading academic in sustainable construction engineering and management. He serves as Head of Department of Civil Engineering of The University of Hong Kong (HKU), Executive Director of HKU Centre for Innovation in Construction and Infrastructure Development (CICID), and Director of MiC Laboratory. His research interests cover MiC, smart construction, sustainable infrastructure, and net zero carbon. He has earned over HK\$120 million research funding, and has authored over 350 publications and 12 patents. He has gained significant recognition, being a Top 1% scholar worldwide by citations by Clarivate Analytics, a World's Top 2% scientist released by Stanford University, and a global most impactful scholar in civil engineering released by GlobalAuthorID in 2023. Prof. Pan has received many prestigious awards including Distinguished Young Investigator of China by the Chinese Academy of Engineering in 2019, the Chief Executive's Commendation in 2020, and MiC Outstanding People in 2022.

About HKU Centre For Innovation In Construction And Infrastructure Development (CICID)
(<https://www.civil.hku.hk/cicid/>)

CICID of HKU was established in 2002, aiming to foster continuous improvements and excellence in the construction industry and infrastructure development in particular, through the development of innovative strategies and techniques. CICID targets to be a "Centre of Excellence" for research, discourse and dissemination of innovations in infrastructure, construction management and methodologies, and interdisciplinary research.

About HKU MiCLab (<https://www.miclab.hk/>)

MiCLab was established in 2020 to lead innovative research in MiC to enhance its widespread uptake and adoption in Hong Kong and beyond. MiCLab involves a team of researchers with diverse research backgrounds covering construction engineering and management, structural engineering and material science, computer and control science, and supply chain management, etc. MiCLab has been leading systematic research and development on MiC.

For full story, please access newspaper articles by clicking here: [HKU Media](#) and [Wen Wei Po](#)

Fellow of the Institution of Civil Engineers

Prof. Wei Pan has been awarded Fellow of the Institution of Civil Engineers with effect from March 2024.

Staff Activities

Systematic Measurement of Construction

Productivity

Prof. Wei Pan, Executive Director of CICID, delivered a presentation on construction productivity study funded by the Development Bureau of the HKSAR Government, entitled "Construction Productivity Measurement in Hong Kong", to the Productivity Committee of the Construction Industry Council on March 22, 2023.



One of the research outcomes in the presentation.

Knowledge Exchange on MiC

Prof. Wei Pan organised a number of sites, factory, and lab visits by a team of researchers on MiC and construction innovation, which included:

- (1) A visit to three MiC factories in the GBA of China from March 29 to April 1, 2023;



- (2) A visit to the MiC Mock-up site of High West MiC project in Yuen Long, New Territories on May 12, 2023;
- (3) A visit to the Emerging Technology Institute led by Prof. Xi Ning at Cyberport, Hong Kong Island on December 22, 2023; and



- (4) A visit to the first MiC public housing project at Anderson Road Quarry Site, which was developed by Hong Kong Housing Authority on January 30, 2024.



Knowledge Exchange on Innovation in Construction and Infrastructure

Prof. Wei Pan organised and/or chaired a number of meetings, seminars and workshops, which included:

- (1) The research seminar jointly organized by the Department and CICID and delivered by Dr. Chen Long, Senior Lecturer of Loughborough University, UK, on July 13, 2023;
- (2) The research workshop on the Infrastructure Sustainability Assessment Tool at HKU with participants from government, industry and academia on August 25, 2023;
- (3) The research seminar jointly organized by the Department and CICID and delivered by Dr. Li Xinming, Associate Professor of the University of Alberta, Canada on November 3, 2023;
- (4) The research seminar on digital construction and modular building jointly organized by the Department and CICID and delivered by Dr. Johnson Shen, Associate Professor of UNSW Australia and Mr. Tim Hall, Director of Alma Kaizen Limited, UK on December 4 2023;



Photos taken during seminars.

Keynote on MiC Innovations for High-Quality Development

Prof. Wei Pan delivered an invited Keynote Speech entitled “MiC Innovations for High-Quality Development” at the International Forum on Construction Industrialization organized by the Building Industrialization Association Shenzhen in Shenzhen on September 15, 2023.



Photo taken during Keynote Speech.

Honourable Guest Speech at HKU Civil Society Annual Dinner

Prof. Wei Pan delivered an Honourable Guest Speech at the HKU Civil Society Annual Dinner on November 9, 2023.

Prof. Jun Yang’s Keynote speech

Prof. Jun Yang delivered a keynote speech titled “15 Years after the Wenchuan Earthquake: Some Reflections on Seismic Codes” at the 11th National Conference on Soil Dynamics held between December 9 to 11, 2023 in Hangzhou, China.



Photo taken at the conference.

Guest of Honour Talk at ASCE Greater China Annual Dinner

Prof. Wei Pan delivered a Guest of Honour talk entitled “MiC for Sustainable Development” at the ASCE Greater China Section Annual Dinner on December 13, 2023.



Photo taken during the talk.

Dr. Mingfu Guan's Research Publication in Nature Water

A research work entitled "Strategic storm flood evacuation planning for large coastal cities enables more effective transfer of elderly populations" has been accepted for publication in *Nature Water*. The study was led by Dr. Guan, plus the collaborators Prof. Jie Yin from East China Normal University and Prof. Dapeng Yu from Loughborough University who are the co-corresponding authors. This study presents a system-level methodology to elaborate citywide coastal flood evacuation plans for optimal deployment of shelters and effective transfer of groups with special needs. By conducting a comparative analysis between Shanghai and New York City (NYC), which are both among the most exposed coastal megacities to flooding, but represent two distinct institutional systems of emergency operation, this study found that coastal megacities, Shanghai and New York, exhibit marked disparities in flood evacuation patterns for elderly residents, and strategic storm flood evacuation planning can improve higher need and lower efficiency of evacuation transfer in Shanghai. Publication information: *Yin J.*, Yang Y., Yu D.*, Lin N., Wilby R., Wang D., Bricker J., Wright N., Guan M.**, 2024. *Strategic flood evacuation planning facilitates effective transfer of vulnerable population in coastal megacities. Nature Water, in press.*

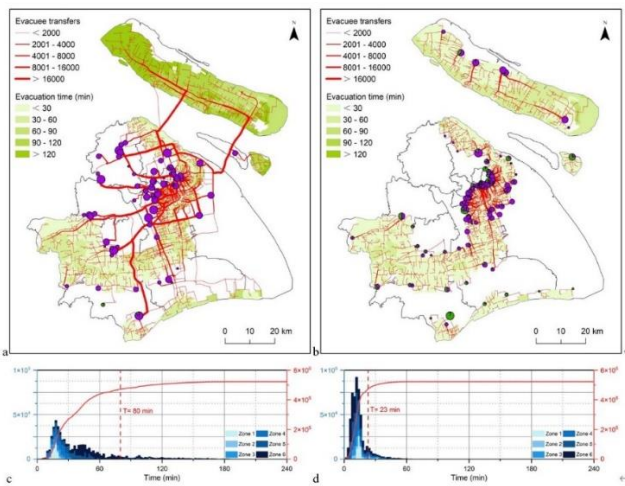


Figure: Spatial distribution of evacuee transfers and travel times for large-scale coastal flood evacuation plans with Strategy 1 (a) and Strategy 2 (b) in Shanghai. (c) and (d) plot time series of evacuee transfers under baseline traffic condition for the two strategies.⁴¹

A figure from the publication.

Keynote on MiC Past, Present and Prospect

Prof. Wei Pan delivered an invited Keynote Speech entitled "MiC Past, Present and Prospect" at the MiC Supply Chain Conference co-organised by the Development Bureau of the HKSAR Government, Huizhou Municipal People's Government, and Department of Housing and Urban-Rural Development of Guangdong Province in Huizhou on January 23, 2024.



Photo taken during the Keynote Speech.

Staff New

Prof. Jun Yang has been appointed as Editor (Civil) of the HKIE Transactions and member of the HKIE Transactions Committee (HTC). Prof. Wei Pan has been appointed as Member of the Building Committee of Hong Kong Housing Authority with effect from April 2023.

Prof. Wei Pan has been appointed as Guest Professor of Southeast University for a five-year term with effect from June 2023.

Prof. Wei Pan has been appointed as Guest Professor of Tongji University for a three-year term with effect from December 2023.

Prof. Wei Pan has been appointed as Honorary Advisor to the ICE Hong Kong Association with effect from December 2023 till June 2025.

Prof. Wei Pan was appointed as External Juror for the Annual Award & Innovation and Technology Award 2023 by the Architectural Services Department of the HKSAR Government.

Dr. Hailong Ye has been promoted to Associate Professor with effect from February 1, 2024.

Student Awards/ News

Student Awards

Ms. Michelle Chiew (Grad 2023) has been awarded as Champion of Emerging Engineers Award 2024 Hong Kong regional final for her paper on “Effects of increased use of electric vehicles on future design traffic action on bridges.”



Group photo of Ms. Chiew (front row, right) and other awardees, plus ICE representatives.

Mr. Chun Heung Chan (CivE 3 2023-24) and Mr. Yui Hin Chan (CivE 4 2023-24) have been awarded with Professor YK Cheung Scholarship Enrichment Scholarship 2023-24.

Mr. Yee Chun Wong (CivE 3 2023-24) has been awarded with Chevalier Engineering Scholarship 2023-24.

Mr. Tak San Lau (CivE 3 2023-24) has been awarded with HKU Engineering Alumni Association Scholarship 2023-24.

About Project Mingde

Project Mingde was established by the Department of Civil Engineering in 2004. It provides an open platform for nurturing our students to acquire not only hard skills, but also to possess soft skills, such as a sense of social responsibility, by participating in real-world on-going civil engineering projects in remote impoverished regions in China and other Asian countries. We have a slogan “We grow as we build” and that is the core value of Project Mingde. Project Mingde attracts not only Civil Engineering students, but also students from other disciplines and institutions to participate in this meaningful programme. We hope that students would have personal growth through this experiential learning opportunity and participation in various real-life projects; and also education in impoverished localities in China could be provided. For more information about Project Mingde, please visit our official website at <http://www.civil.hku.hk/mingde/>.

Alumni are welcome to join Project Mingde and if you are interested to be part of us, please contact Dr. C.P. Wong at cpwryan@hku.hk (for projects) or Dr. K.H. Law at adalaw@hku.hk (for communications).

Restoration and Expansion of Guigang Duling Primary School

The construction of Composite Building (with a kindergarten for early childhood education and a

teacher dormitory) was completed. Four students participated in the final inspection in early October, to ensure that the building fully complied with the contract requirements. They also liaised with the school principal regarding

the handover and opening ceremony arrangements. The ceremony was hence held on October 20, 2023, and was organized and attended by a group of 16 students led by Prof. Nic Yeung, Dr. Ryan Wong, Ms. Anila Ma. The ceremony began with speeches from local government officer, the school principal of Duling Primary School, and Chairman of Project Mingde Student Association. This was followed by performances by local and HKU students. With the cheers of the crowd, this newly constructed Composite Building was officially handed over to Duling Primary School for operation. The team also gave some gifts to local children, spreading joy and hope to the community.

A summer camp is scheduled to visit the school again in late May to inspect the quality of the building and address any defects that may have arisen within the one-year guarantee period.



Dance performance by local students in the handover and opening ceremony.



Group photos of all participants in front of the newly built Composite Building.

Revitalization of a silo-cave in Henan

A group of seven engineering students, three architecture students, and a dentistry student participated in a series of site supervision trips in

September and October to the silo-cave redevelopment site in Xiwang Village, Henan. The construction of masonry vaults was completed, in which the team put in great effort to ensure precise docking of vault intersections. The shape and structural integrity of the arches and vaults were achieved by placing brick panels at the sides of the arches and adding curved steel bars. Implementing reinforced concrete layers on top of the vaults to enhance stability was in process. In addition, the construction of earth retaining masonry walls was completed, and the design for drainage and piping systems was finalized. The installation of these systems will take place soon.

The construction of the courtyard areas using robotic 3D printing technique will be commenced in upcoming months. To prepare for this, a robotic 3D printing workshop is scheduled for late March, and a follow-up visit trip will be arranged during the Easter Holiday.



The construction works to revitalize the silo-cave were in process on site.



Brick panels were placed at the sides of the arches, and curved steel bars were added to provide structural integrity.

Name of students participated in various projects

7 – 8 October (Guigang): PANG Sik Yuen, LI Zhuowei, GUAN Hantian, WONG Lok Hei

23 – 24 September (Henan): WANG Xuchen (Architecture), WU Wilson (Architecture)

7 – 8 October (Henan): HUI Ching Kit, YU Jakie, KWAN Sum Yuet Celine (Architecture), PUN Owen (Dentistry)

19 – 21 October (Guigang – Opening and Handover Ceremony): HUI Ching Kit, CHAN Yui Hin, CHUI Cheuk Yu, HUI Kwan Ming, CHEUNG Hoi Yee, MAN Hoi Kei, LI Tsz Ying, LO Chun Ming, MOK Dickens, TSANG Tsz Yeung, WONG Lok Hei, LAM Chun Wa, CHEUNG King Chun, LAU Tsz Him, LIN Wenbin, MAN Kwun Po

22 – 23 October (Henan): AU YEUNG Chun Hei, CHOW Yim Tat, ZHUANG Jiajun, WONG Po Ying, CHEN Chin Hong

