

International Workshop on Digital Twin and AI Empowered Emergency Risk Management

6–8 August 2026 | Hong Kong, China

Organized by



香港大學
THE UNIVERSITY OF HONG KONG

Supported by



International Society for Soil Mechanics and Geotechnical Engineering
TC210 on Embankment Dams
TC309 on Machine Learning



GEOTECHNICAL DIVISION
岩土分部

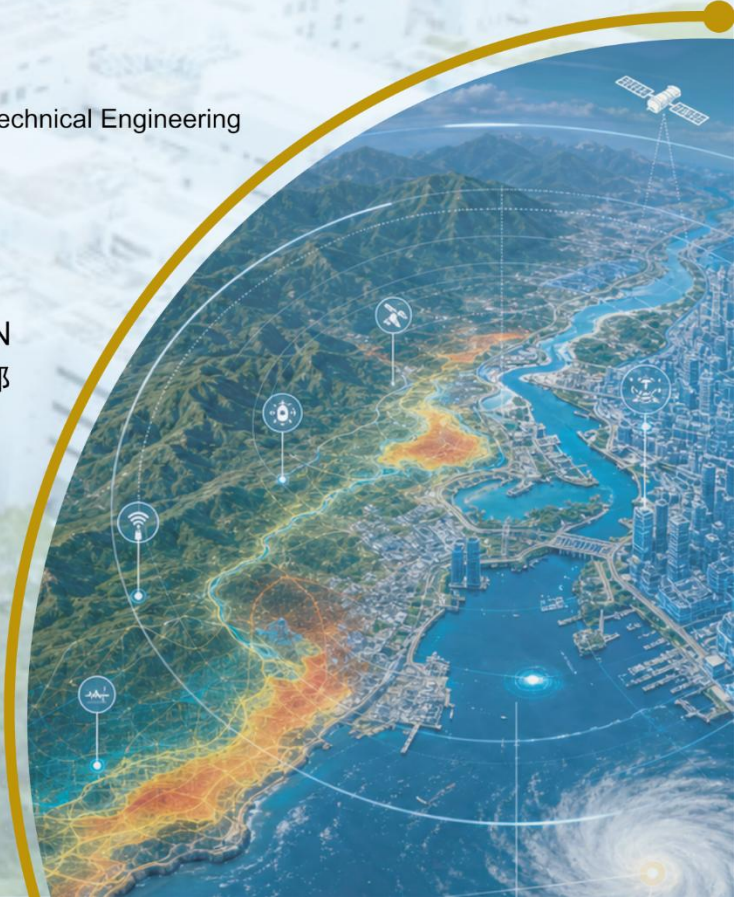


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WELCOME MESSAGE

In the face of intensifying climate change, extreme natural hazards—such as landslides, debris flows, and floods—are occurring with unprecedented frequency and severity. Coupled with rapid urban expansion and socioeconomic development, societal exposure and vulnerability to these risks have escalated significantly. Addressing these complex challenges urgently demands more integrated, efficient, and innovative disaster management frameworks.

Recent breakthroughs in digital twin technology, artificial intelligence (AI), and remote sensing offer transformative opportunities to redefine natural hazard risk management. Against this backdrop, the International Workshop on Digital Twin and AI Empowered Emergency Risk Management serves as a timely, interdisciplinary platform. Our mission is to unite leading researchers, engineers, practitioners, and policymakers from around the globe to share cutting-edge insights, push technological boundaries, and enhance societal resilience.

The workshop invites contributions exploring innovative approaches at the intersection of advanced technology and disaster management, including but not limited to:

- Digital twin modeling
- Geospatial big data analytics for disaster risk reduction
- AI-driven risk analysis, forecasting, and early warning
- Remote sensing and IoT for real-time monitoring
- Urban resilience and infrastructure risk management
- Societal response monitoring and analysis
- Emergency management technologies

We extend our warmest welcome to the global scientific and engineering communities. We look forward to hosting you at HKUST in Hong Kong for a vibrant, inspiring, and fruitful workshop!

Limin Zhang, Workshop Chair

Bo Huang, Workshop Co-Chair

Yu Wang, Workshop Co-Chair

ORGANIZING COMMITTEE

Limin Zhang (Chair)	The Hong Kong University of Science and Technology; ISSMGE TC210 on Embankment Dams
Bo Huang (Co-Chair)	The University of Hong Kong
Yu Wang (Co-Chair)	The Hong Kong University of Science and Technology; ISSMGE TC309 on Machine Learning
Jack Chin Pang Cheng	The Hong Kong University of Science and Technology
Raymond Wai Man Cheung	Geotechnical Engineering Office, CEDD, HKSARG
Jian He	The Hong Kong University of Science and Technology
Jimmy Jiu Jiu Jiao	The University of Hong Kong
Florence Wan Yee Ko	Geotechnical Engineering Office, CEDD, HKSARG
Suzanne Lacasse	Norwegian Geotechnical Institute
Kenichi Soga	University of California, Berkeley
Chi Keung Tang	The Hong Kong University of Science and Technology
Gang Wang	The Hong Kong University of Science and Technology
Xun Wu	The Hong Kong University of Science and Technology (Guangzhou)
Te Xiao	Shanghai Jiao Tong University
Yantao Yu	The Hong Kong University of Science and Technology
Zhixiong Zeng	Nanjing University
Fan Zhang	Peking University
Shenghan Zhang	The Hong Kong University of Science and Technology
Jidong Zhao	The Hong Kong University of Science and Technology

INTERNATIONAL ADVISORY COMMITTEE

Michele Calvello	The University of Salerno
Johnny Cheuk	AECOM Asia Co. Ltd.
Peng Cui	University of Chinese Academy of Sciences
Renzhong Guo	Shenzhen University
Gretchen Kalonji	Sichuan University–The Hong Kong Polytechnic University Institute for Disaster Management and Reconstruction
Chack Fan Lee	The University of Hong Kong
Joseph Hun Wei Lee	Macau University of Science and Technology
Charles Wang Wai Ng	The Hong Kong University of Science and Technology
Luciano Picarelli	Università della Campania
Magnus Romoen	Norwegian Geotechnical Institute
Hok Ning Wong	The University of Hong Kong

CONFERENCE OVERVIEW

6 Aug 2026

14:00-20:00	Registration	Lecture Theatre C
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7 Aug 2026

09:00-09:15	Opening Ceremony	Lecture Theatre C
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09:15-09:25	Photo taking	Lecture Theatre C
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09:25-10:40	Keynote Lectures 1-3	Lecture Theatre C
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10:40-11:05	Coffee Break (Lecture Theatre C)	
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11:05-12:20	Keynote Lectures 4-6	Lecture Theatre C
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12:20-14:00	Lunch & Break (Lecture Theatre C)	
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14:00-15:40	Keynote Lectures 7-10	Lecture Theatre C
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15:40-16:05	Coffee Break (Lecture Theatre C)	
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16:05-17:45	Keynote Lectures 11-14	Lecture Theatre C
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17:45-20:30	Conference Banquet (HKUST China Garden Restaurant, G/F)	
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8 Aug 2026

09:00-10:30	Parallel session 1	Room 2128A
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Parallel session 2	Room 2129A
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10:30-10:55	Coffee Break (Lecture Theatre C)	
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10:55-12:10	Keynote Lectures 15-17	Lecture Theatre C
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12:10-12:20	Closing Ceremony	Lecture Theatre C
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12:20-14:00	Lunch & Break (Lecture Theatre C)	
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14:00-18:00	Site Visit	
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CONFERENCE GUIDELINES

Date

6-8 August 2026 (Beijing Time)

Registration

14:00-20:00, 6 August 2026 (Lecture Theatre C, HKUST)

09:00-17:45, 7 August 2026 (Lecture Theatre C, HKUST)

09:00-12:20, 8 August 2026 (Lecture Theatre C, HKUST)

Presentation

Presentation time	Keynote Lecture: 25 mins (including Q&A) Parallel Session: 15 mins (including Q&A)
File type	PPT (English, aspect ratio = 16:9)
File upload	• Please arrive in the session room at least 5 minutes before the session. • Upload the presentation file to the computer in the session room before the session starts.
Remarks	• Any standard fonts provided by MS Office may be used. If not, please attach the font file(s) with the presentation file. • Please check your presentation file before your presentation to ensure that your file works properly.

Contact

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Luyu Ju luyuju@ust.hk



(QR code of website)

Website <https://georisk.hkust.edu.hk/events>

Resources

Scan the QR code below to join the WeChat group.



(QR code of WeChat group)

CONFERENCE PROGRAM

7 Aug 2026, Friday

Opening Ceremony (Lecture Theatre C)

09:00-09:15 **Welcome Speech**

09:15-09:25 **Group Photo Taking**

Keynote Lectures (Lecture Theatre C) *Co-Chairs: Limin Zhang (HKUST), Bo Huang (HKU)*

09:25-09:50 **Generative Digital Base for Infrastructure and its Applications**
Hehua Zhu (Tongji University)

09:50-10:15 **Intelligent Regulation of Reservoirs for Flood Management in Yangtze River Using Digital Twin Technology and AI**
Yan Huang (China Three Gorges University)

10:15-10:40 **Data Driven Disaster Preparedness – The Role of Monitoring and Digital Twinning**
Kenichi Soga (University of California, Berkeley)

10:40-11:05 **Coffee Break (Lecture Theatre C)**

Keynote Lectures (Lecture Theatre C) *Co-Chairs: Yan Huang (China Three Gorges University), Jinhui Li (Harbin Institute of Technology (Shenzhen))*

11:05-11:30 **Transforming Landslide Emergency Lifecycle Management with Smart Geotechnology**
Lawrence Shum (Geotechnical Engineering Office, CEDD, HKSARG)

11:30-11:55 **Key technologies for dam breaching flood forecasting and risk management**
Fang Yang (Pearl River Water Resources Research Institute)

11:55-12:20 **Satellite Image Fusion for Landslide Monitoring**
Bo Huang (The University of Hong Kong)

12:20-14:00 **Lunch & Break (Lecture Theatre C)**

CONFERENCE PROGRAM

Keynote Lectures (Lecture Theatre C)

*Co-Chairs: Fang Yang (Pearl River Water Resources Research Institute),
Qiuchen Lu (University College London)*

14:00-14:25	Urban Resilience and Infrastructure Risk Management <i>Suzanne Lacasse (Norwegian Geotechnical Institute)</i>
14:25-14:50	Knowledge-Enhanced LLM for Urban Waterlogging <i>Jinhui Li (Harbin Institute of Technology (Shenzhen))</i>
14:50-15:15	Modelling Complex Landside Dynamics: Integrating Physics-Based and Data-Driven Approaches <i>Zhongqiang Liu (Norwegian Geotechnical Institute)</i>
15:15-15:40	AI-empowered Digital Twin for Resilient Smart Cities, Infrastructure and Buildings <i>Jack Chin Pang Cheng (The Hong Kong University of Science and Technology)</i>
15:40-16:05	Coffee Break (Lecture Theatre C)

Keynote Lectures (Lecture Theatre C)

*Co-Chairs: Zhongqiang Liu (Norwegian Geotechnical Institute),
Yu Wang (HKUST)*

16:05-16:30	Towards Resilient Cities through Digital Coupled Human, nAture and INfrastructure Systems (CHAINS) <i>Qiuchen Lu (University College London)</i>
16:30-16:55	Numerical Simulation and Dynamic Visualization of Urban Flooding Processes <i>Liang Gao (University of Macau)</i>
16:55-17:20	Transforming Regional Landslide Risk Control Using Modern AI Techniques <i>Te Xiao (Shanghai Jiao Tong University)</i>
17:20-17:45	Traffic Image-based Quantitative Waterlogging Depth Measurement for Flood Detection and Rapid Prediction <i>Ping Shen (University of Macau)</i>
17:45-20:30	Conference Banquet (HKUST China Garden Restaurant, G/F)

CONFERENCE PROGRAM

8 Aug 2026, Saturday

09:00-10:30

PARALLEL SESSIONS 1 & 2

10:30-10:55

Coffee Break (Lecture Theatre C)

Keynote Lectures (Lecture Theatre C)
*Co-Chairs: Johnny Cheuk (AECOM Asia Co. Ltd.),
Liang Gao (University of Macau)*

10:55-11:20

Beyond Monitoring: Predictive Engineering Through Digital Twins and AI
Ryan Yan (AECOM Asia Company Limited)

11:20-11:45

Probabilistic Hazard Analysis of Rainfall-Induced Landslides at a Specific Slope under Climate Change
Yu Wang (The Hong Kong University of Science and Technology)

11:45-12:10

Digital Twin Empowered Landslide and Flood Risk Management
Limin Zhang (The Hong Kong University of Science and Technology)

12:10-12:20

Closing Ceremony (Lecture Theatre C)

12:20-14:00

Lunch & Break (Lecture Theatre C)

14:00-18:00

Site Visit

PARALLEL SESSION 1

Venue: Room 2128A, Chair: Ping Shen (University of Macau)

09:00-09:15

To be determined

09:15-09:30

To be determined

09:30-09:45

To be determined

09:45-10:00

To be determined

10:00-10:15

To be determined

10:15-10:30

To be determined

CONFERENCE PROGRAM

PARALLEL SESSION 2

Venue: Room 2129A, Chair: *Te Xiao (Shanghai Jiao Tong University)*

09:00-09:15	To be determined
09:15-09:30	To be determined
09:30-09:45	To be determined
09:45-10:00	To be determined
10:00-10:15	To be determined
10:15-10:30	To be determined

KEYNOTE SPEAKERS



Generative Digital Base for Infrastructure and its Applications

Hehua Zhu

Academician of the Chinese Academy of Engineering
Distinguished Professor of Tongji University, China

Biography: Hehua Zhu is now Distinguished Professor in Geotechnical Engineering at Tongji University and the Academician of the Chinese Academy of Engineering, and Director of State Key Laboratory of Disaster Reduction in Civil Engineering. He received his Bachelor's and Master's Degrees in Mining Engineering from Chongqing University in 1983 and 1986, respectively, and his PhD was awarded in Structural Engineering (Civil Engineering) at Tongji University in 1989. He did his post-doctoral research at the Geo-Research Institute of Osaka and Kyoto University, Japan, from 1993 to 1995. He proposed a generalized 3D Hoek-Brown rock strength criterion together with Prof. Lianyang Zhang, which was also called generalized Zhang-Zhu rock strength criterion (GZZ) recommended as ISRM standard. He was awarded the Humboldt Research Prize in 2015 and the T.H.H. medal at ICCES'13 in 2013. He created an international journal named Underground Space.



Intelligent Regulation of Reservoirs for Flood Management in Yangtze River Using Digital Twin Technology and AI

Yan Huang

President
China Three Gorges University, China

Biography: Dr. Ms. Huang Yan, the president of China Three Gorges University (CTGU), was graduated from Hohai University in 1992, has been working in Changjiang River Water Resource Commission till 2024 before she joined CTGU. She has been working as the deputy chief engineer for the bureau of hydrology, and the deputy chief engineer of the Changjiang design company, and the deputy chief engineer of Changjiang River Commission. She is the chairman of the Flood Assessment and Dam Safety Committee of ICOLD, and member of the 14th national congress of China. Ms. Huang has long been engaged in technical support for river basin management in Changjiang River. She led the development of joint regulation schemes for large reservoirs such as the Three Gorges reservoir and Danjiangkou reservoir, the development of Digital Twin Water technology, development of national planning on river basin and water resources management for Ecuador, Pakistan, Peru etc. Based on digital twin water technologies and relevant project / products, she is promoting the improvement of data service functions featuring the integrated development of data, algorithms and computing power, to develop and utilize various data resources generated by digital twin water systems for agriculture, irrigation, transportation (shipping), geological disaster early warning and prevention, and emergency response etc.

KEYNOTE SPEAKERS



Data Driven Disaster Preparedness – The Role of Monitoring and Digital Twinning

Kenichi Soga

Fellow of the Royal Academy of Engineering, UK
Member of the National Academy of Engineering, USA
Member of the Engineering Academy, Japan
University of California, Berkeley, USA

Biography: Dr. Kenichi Soga is the Donald H. McLaughlin Chair and a Distinguished Professor of Civil and Environmental Engineering at UC Berkeley. He is also the Director of the Berkeley Center for Smart Infrastructure and a faculty scientist at Lawrence Berkeley National Laboratory. His research focuses on infrastructure sensing, performance-based design and maintenance of infrastructure, energy geotechnics, and geomechanics from micro to macro. He has published more than 500 journal and conference papers and is a co-author of "Fundamentals of Soil Behavior". He is a member of the National Academy of Engineering, a fellow of the UK Royal Academy of Engineering, the Institution of Civil Engineers (ICE), the American Society of Civil Engineers (ASCE), and the Engineering Academy of Japan.



Transforming Landslide Emergency Lifecycle Management with Smart Geotechnology

Lawrence Shum

Geotechnical Engineering Office
Civil Engineering and Development Department, Hong Kong, China

Biography: Ir Lawrence Shum is currently the Deputy Head of the Geotechnical Engineering Office, Civil Engineering and Development Department of the HKSAR Government. He has been practicing in the field of civil and geotechnical engineering for over twenty-five years. His professional experience covers various aspects, including slope safety management, landslide risk mitigation, site formation, deep excavation and cavern engineering. He has been involved in slope safety public communication for improving crisis preparedness and community resilience. In recent years, he has been exercising geotechnical control for public and private developments in the city and leading the innovation and technological advancement of the GEO.

KEYNOTE SPEAKERS



Key technologies for dam breaching flood forecasting and risk management

Fang Yang

Secretary of the Party Committee and Deputy President
Pearl River Water Resources Research Institute, China

Biography: Professor Fang Yang is a Senior Engineer (Level 2) and PhD Supervisor at the Pearl River Water Resources Research Institute. She serves as Director of the MOE Key Laboratory for Water Security Guarantee in the Guangdong-Hong Kong-Macao Greater Bay Area and holds key academic positions in multiple national water conservancy and ocean engineering societies, as well as associate editor of the journal Pearl River. Her research focuses on Pearl River estuary regulation and protection, water environment and ecological restoration, and flood and tidal disaster prevention. She has presided over and participated in more than 100 national and provincial research projects and received nine provincial and ministerial scientific and technological awards, along with prestigious provincial labor and youth science and technology honors.



Satellite Image Fusion for Landslide Monitoring

Bo Huang

Chair Professor, Department of Geography & Deputy Director
The University of Hong Kong, Hong Kong, China

Biography: Dr. Bo Huang is Chair Professor in the Department of Geography and Deputy Director of the Institute of Urban Systems at the University of Hong Kong. His research focuses on spatiotemporal data analytics, unified satellite image fusion, and spatial optimization, with applications in environmental monitoring, disaster management, transportation, and urban planning. He has published more than 300 papers in SCI/SSCI-indexed journals, including Nature Human Behaviour and Nature Communications. He is an Associate Editor of the International Journal of Geographical Information Science and previously served as Editor-in-Chief of Elsevier's Comprehensive Geographical Information Systems. He has received several prestigious awards, including the RGC Senior Research Fellowship, the CPGIS Innovation Award, the Second Prize of the Ministry of Education Natural Science Award, a Gold Medal at the Geneva International Exhibition of Inventions, and the Ministry of Education Changjiang Scholar Chair Professorship.

KEYNOTE SPEAKERS



Urban Resilience and Infrastructure Risk Management

Suzanne Lacasse

Fellow of the US, Canadian, French and Norwegian National Academies of Engineering, Fellow of the Canadian and Norwegian Academies of Science
Norwegian Geotechnical Institute, Norway

Biography: Dr. Suzanne Lacasse did a Bachelor of Arts at University of Montréal and her civil engineering degrees at Ecole Polytechnique of Montréal and MIT. After 12 years on MIT's Faculty, she joined NGI where she was Managing Director between 1991 and 2012. She serves on GEO's Soil Safety Technical Review Board in Hong Kong. She published over 400 papers and gave the Rankine, Terzaghi and Lumb Lectures. ISSMGE established the 'Suzanne Lacasse Lecture' on Risk and Reliability in Geotechnical Engineering. Dr. Lacasse received five PhDs Honoris Causa. She is elected member of the national Academies of Engineers in the USA, Canada, Norway and France. She is Honorary Professor at Tongji and Zhejiang Universities, and Visiting Professor at Shanghai Jiaotong University.



Knowledge-Enhanced LLM for Urban Waterlogging

Jinhui Li

Professor
Harbin Institute of Technology (Shenzhen), China

Biography: Prof. Jinhui LI is a Professor at Harbin Institute of Technology (Shenzhen). Her research has long focused on disaster-cascade risk control and intelligent geotechnical engineering. She has led more than 30 research projects, including Key Programs of the National Natural Science Foundation of China. She has authored or co-authored more than 140 papers, over 90 of which are indexed in the Science Citation Index, and has published two English-language academic books. She holds a total of nine granted Chinese invention patents and registered software copyrights. Prof. LI has been named among the World's Top 2% Scientists and received the 18th China Youth Science and Technology Award. She led the team that received the First Prize of the Guangdong Provincial Natural Science Award, and was also honoured with the Young Scientist Award of the International Society for Geotechnical Safety (ISGS) and the AGS Geotechnical Award of the Association of Geotechnical and Geoenvironmental Specialists in Hong Kong, among other distinctions. She serves as Associate Editor of Journal of Ocean Engineering and Marine Energy and as an Editorial Board Member of Computers and Geotechnics and Georisk.

KEYNOTE SPEAKERS



Modelling Complex Landside Dynamics: Integrating Physics-Based and Data-Driven Approaches

Zhongqiang Liu

Principal Researcher

Norwegian Geotechnical Institute, Norway

Biography: Dr. Zhongqiang Liu is Principal Researcher at Norwegian Geotechnical Institute (NGI) and Adjunct Professor at Oslo Metropolitan University (OsloMet), Oslo, Norway, with expertise in risk and hazard assessment for geohazards, machine learning in geotechnics. He is Founding Chair of Technical Committee 309 of ISSMGE: Machine Learning and Big Data in Geotechnics. He is Chair of “Geotechnical Safety Network (GEOSNet)”. Dr. Liu is Technical Lead of Research Group – Georisk at NGI. Dr. Liu is PI/co-PI of several HEU and RCN projects. His research has earned several international recognitions, including Best Paper Award of Journal Georisk in 2015, OTC ASCE Best Paper Award in 2019, GEOSNet Young Researcher Award in 2019, Best Paper Award of JZUSA in 2023, Best Paper Award of Engineering Geology in 2025.



AI-empowered Digital Twin for Resilient Smart Cities, Infrastructure and Buildings

Jack Chin Pang Cheng

Associate Head and Professor

The Hong Kong University of Science and Technology, Hong Kong, China

Biography: Prof. Jack Cheng is a Professor and Associate Head in the Department of Civil and Environmental Engineering, Associate Director of GREAT Smart Cities Institute, Director of Center for Digital Twin on the Built Environment, Director of BIM Lab, and a Member of Low Altitude Economy Research Center at HKUST. His research interests include BIM, digital twin, artificial intelligence, construction robotics, blockchain, construction and facility management, smart and low-carbon buildings, and construction digitalization. He has led several R&D projects in smart buildings and construction. He is an author of over 400 international journal and conference publications, with over 20,000 citations. Prof. Cheng is also currently the Chairperson of Task Force on Digitalisation, BIM and AI at Hong Kong Construction Industry Council (CIC), a CIC Council Member, Chairperson of CITF BIM Vetting Subcommittee, Director of the BEAM Society Limited, and Editorial Board Member of several international journals.

KEYNOTE SPEAKERS



Towards Resilient Cities through Digital Coupled Human, nAture and INfrastructure Systems (CHAINS)

Qiuchen Lu

Professor

University College London, UK

Biography: Prof. Qiuchen Lu is a Professor in Digital Built Asset Management at The Bartlett School of Sustainable Construction, University College London (UCL), and a globally recognized scholar in digital innovation for the built environment. Her research focuses on the integration of digital twins, artificial intelligence, and informatics to support the development of smart, sustainable, and resilient (3S) city systems in the context of climate change. Prof. Lu has secured many fundings as PI/Co-PI, funded by the Engineering and Physical Sciences Research Council (EPSRC), Royal Academy of Engineering (RAEng), British Standards Institution (BSI) etc. She was awarded the Royal Academy of Engineering (RAEng)/Leverhulme Trust Research Fellowship in 2024/2025. Within the domain of digital built environment, she has authored more than 75 peer-reviewed publications and four books, including the Digital Twins in the Built Environment: Fundamentals, principles and applications (ICE Publishing). Her methodological and theoretical contributions – particularly the Five-layer Multi-scale Digital Twin Theory (FMDTT) – are widely adopted in industry and academia across multiple scales.



Numerical Simulation and Dynamic Visualization of Urban Flooding Processes

Liang Gao

Associate Professor

University of Macau, Macao, China

Biography: Dr. Liang Gao is currently an Assistant Professor at the State Key Laboratory of Internet of Things for Smart City and the Department of Ocean Science and Technology, University of Macau. Her research focuses on multi-hazard risk simulation and mitigation for floods and landslides in coastal urban areas, encompassing multi-hazard triggering mechanisms, multi-scale coupled numerical modeling, and quantitative risk assessment methods for disaster chains. She has published over 80 papers in SCI journals (55 as first/corresponding author). As Principal Investigator, she has been awarded multiple research grants from funding agencies including the National Natural Science Foundation of China (NSFC), the Science and Technology Development Fund of Macau (FDCT), and the Shenzhen Science and Technology Innovation Commission. She serves on the editorial boards of several international journals, including Natural Hazards and Earth System Sciences (NHESS), Georisk, Underground Space, International Journal of Sediment Research, Geodata and AI, and the Chinese journal Geological Science and Technology Bulletin.

KEYNOTE SPEAKERS



Transforming Regional Landslide Risk Control Using Modern AI Techniques

Te Xiao

Associate Professor
Shanghai Jiao Tong University, China

Biography: Dr. Te Xiao is an Associate Professor at Shanghai Jiao Tong University and a recipient of the National Youth Talent Program of China. His research focuses on geotechnical disaster risk prevention and control, machine learning, and digital twin technology. He has earned a series of prestigious domestic and international academic honors, including the ISSMGE Bright Spark Lecture Award, the Géotechnique Young Researcher Award, and the Georisk Best Paper Award. He serves as a committee member of the ASCE Embankment and Slope Committee and a corresponding member of multiple core technical committees under ISSMGE, engaging in cutting-edge academic research and international academic exchanges in geotechnical engineering.



Traffic Image-Based Quantitative Waterlogging Depth Measurement for Flood Detection and Rapid Prediction

Ping Shen

Assistant Professor
University of Macau, Macao, China

Biography: Dr. Shen is currently an Assistant Professor at the State Key Laboratory of Internet of Things for Smart City (SKL-IOTSC) at University of Macau. He obtained the PhD degree (2019) from Department of Civil and Environmental Engineering, Hong Kong University of Science and Technology (HKUST). His research areas are physical mechanisms and practical solutions in disasters affecting human activity, mainly including landslide, debris flow, flooding, etc. His research has received 5 PI fundings from NSFC and FDCT and the outcomes have been published by more than 50 journal papers.

KEYNOTE SPEAKERS



Beyond Monitoring: Predictive Engineering Through Digital Twins and AI

Ryan Yan

Technical Director

AECOM Asia Company Limited, Hong Kong, China

Biography: Ir Dr. Ryan Yan is currently an Executive Director at AECOM Asia Company Limited. He has over 29 years of experience in civil engineering including teaching, research and engineering practice in Hong Kong and overseas covering a wide spectrum of subject fields. Ryan specializes in numerical modelling of soil-structure interaction problems, characterization of materials via field and laboratory testing, slope engineering, sustainable geotechnics, and application of novel digital solutions to the project life cycle. He is a Chartered Member of the Hong Kong Institution of Engineers and Engineering New Zealand, a Registered Professional Engineer in Hong Kong, a CIC-Certified BIM Manager, and an Accredited NEC4 ECC Project Manager. Ryan has published more than 80 technical articles in peer-reviewed international journals and conference proceedings and is the recipient of several national and international awards. He also serves as an Adjunct Professor of the Hong Kong University of Science and Technology and the Hong Kong Polytechnic University.



Probabilistic Hazard Analysis of Rainfall-Induced Landslides at a Specific Slope under Climate Change

Yu Wang

Professor

The Hong Kong University of Science and Technology, Hong Kong, China

Biography: Dr. Yu Wang is a professor at the Hong Kong University of Science and Technology. His recent research efforts have focused on machine learning in geotechnical/geological engineering, digital twin of subsurface geo-structures, and geotechnical uncertainty, reliability and risk. His research earned several prestigious international awards, including the GEOSNet Award from the Geotechnical Safety Network (GEOSNet), the 2023 Thomas A. Middlebrooks Award from ASCE, and multiple Best Paper Awards from various international journals, e.g., Georisk, Computers and Geotechnics, Canadian Geotechnical Journal, ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering, and the Highly Cited Research Award from the journal of Engineering Geology. Dr Wang has authored/co-authored over 230 journal papers and three books in English. He chairs ISSMGE's TC309 Machine Learning and serves in editorial boards of several top journals in geotechnical engineering or risk and uncertainty analysis (e.g., Associate Editor for the ASCE Journal of Geotechnical and Geoenvironmental Engineering).

KEYNOTE SPEAKERS



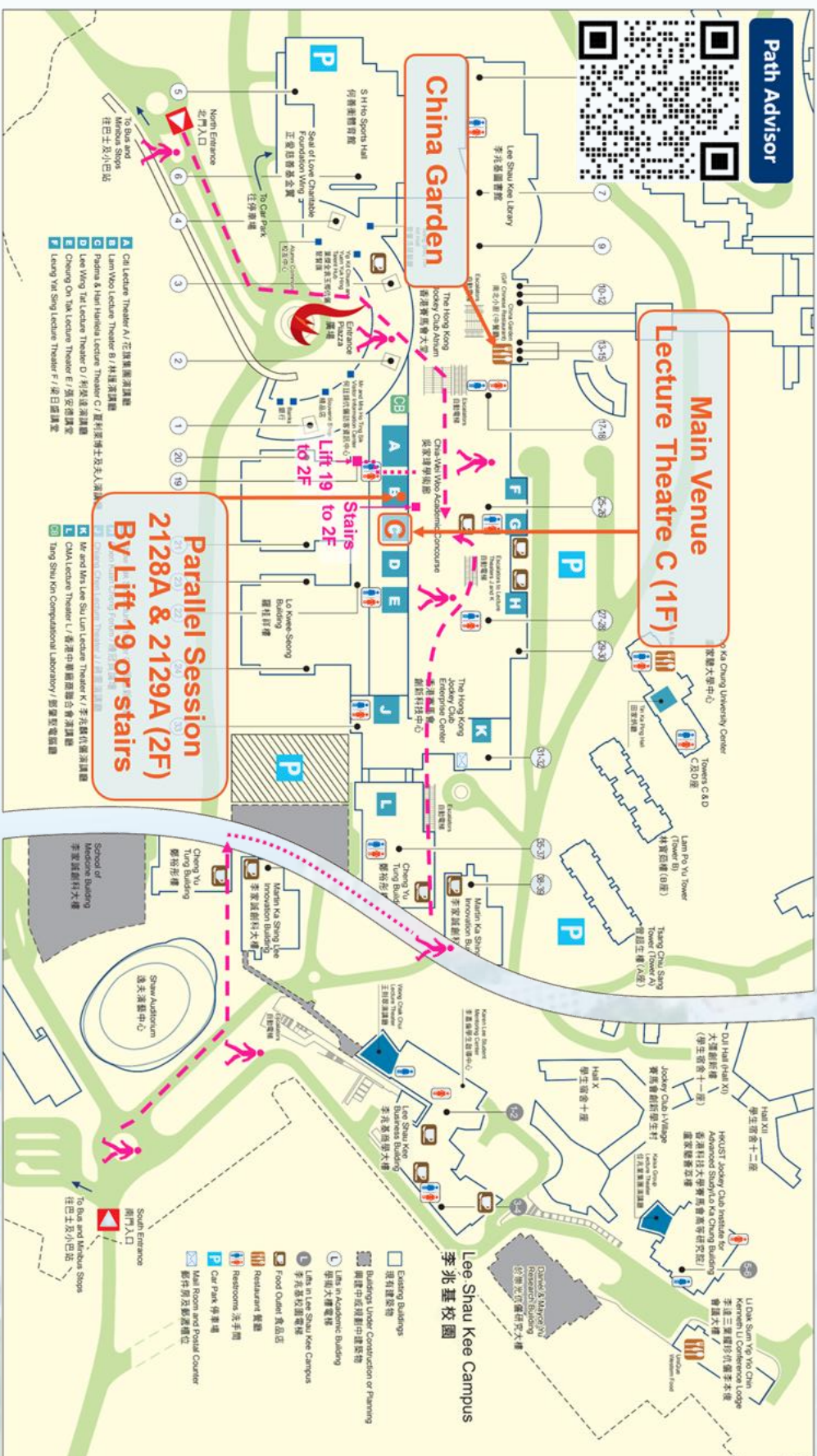
Digital Twin Empowered Landslide and Flood Risk Management

Limin Zhang

Fellow of the Hong Kong Academy of Engineering
Chair Professor and Department Head

The Hong Kong University of Science and Technology, Hong Kong, China

Biography: Dr. Limin Zhang is Chair Professor and Head of the Department of Civil and Environmental Engineering and Associate Director of State Key Lab of Climate Resilience for Coastal Cities at the Hong Kong University of Science and Technology. His research areas include slopes, dams, foundations, geotechnical risk assessment and management, as well as geoscience sensing. Dr. Zhang is Chair of International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE)'s TC210 on Embankment Dams, Past Chair of ASCE Geo-Institute's Risk Assessment and Management Committee, Editor-in-Chief of Georisk, and Special Editor of Geodata and AI. He is the recipient of the Chinese National Engineer Award, National Award for Excellence in Innovation, ASCE Ralph Peck Award, ISSMGE's Lacasse Lecture Award, Wilson Tang Lecture Award, and Chinese Geotechnical Society's Huang Wenxi Lecture Award.



PUBLIC TRANSPORTATION



Transportation from airport to HKUST:

For passengers with bulky luggage, taking a taxi to HKUST direct is recommended. Those with simple luggage may take Airport Bus A22 to Lam Tin MTR station or A29 to Po Lam MTR station, and change for taxi to HKUST.

MTR Stations with bus or green minibus service to HKUST
提供往科大巴士或綠色專線小巴服務的港鐵車站

Diamond Hill 鑽石山: 91, 91M, 91P*

Choi Hung 彩虹: 91, 91M, 91P*

Ngau Tau Kok 牛頭角: 11, 11S#

Tiu Keng Leng 調景嶺: 104

Hang Hau 坑口: 792M

Po Lam 寶琳: 11, 11M, 11S#

Tseung Kwan O 將軍澳: 12, 11S#

792M

* Departing from Diamond Hill Station at 07:55 - 08:50 to North Bus Station (HKUST) Monday to Friday (except Public Holidays)
星期一至星期五 (公眾假期除外), 於07:55至08:50由鑽石山鐵路站前往北門巴士站 (香港科技大學)

Departing from Po Lam (Public Transport Interchange) at midnight 12:00 to 05:00 to North Bus Station (HKUST)
午夜12:00至05:00由寶琳 (公共交通交匯處) 前往北門巴士站 (香港科技大學)

NOTES

A background image of a city skyline, featuring a large stadium with a white, curved roof and a bridge in the distance. The image is overlaid with horizontal lines, suggesting it is a template for a document or a presentation.

NOTES

An aerial photograph of a modern university campus. The image shows several large, multi-story buildings with light-colored facades and numerous windows. There are green spaces, trees, and a curved road or path in the foreground. The overall scene is bright and clear, suggesting a sunny day. The image is used as a background for a document with horizontal lines.

NOTES

A background image of a city skyline, featuring a large stadium with a white, curved roof and a bridge in the distance. The image is overlaid with horizontal lines, suggesting it is a template for a document or a presentation.



Organizers:

The Hong Kong University of Science and Technology (HKUST)

Department of Civil and Environmental Engineering

The University of Hong Kong (HKU)

Supporters:

The International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

TC210 on Embankment Dams

TC309 on Machine Learning

The Hong Kong Institution of Engineers-Geotechnical Division

American Society of Civil Engineers (ASCE)