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THE 17TH INTERNATIONAL CONFERENCE OF IACMAG

Conference Organization

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Conference at a glance

(The 17th International Conference of the International Association for Computer Methods and Advances in Geomechanics)

December 18 - 21, 2025 | Hong Kong

Date	Time	Contents	Location
18/12/2025 (Thursday)	14:00-21:00	Registration	2 nd Floor, Block Z
19/12/2025 (Friday)	08:30-09:00	Opening Ceremony	Z207
	09:00-10:30	Keynote Session	Z207
	10:30-10:50	Poster Session & Coffee Break	Outside Room Z207
	10:50-12:20	Keynote Session	Z207
	12:20-14:30	Lunch	Ju Yin House Seafood Restaurant
	13:15-14:30	IACMAG Board Meeting	Z414
	13:30-14:30	Editorial Board Meeting of Computers and Geotechnics	Z412
	13:30-14:00	Consortium meeting of EU MSCA projects LOC3G and MONUGEO	Z211
	14:30-17:50	Keynote Session	Z207
	18:00-21:30	Banquet	Ju Yin House Seafood Restaurant
20/12/2025 (Saturday)	08:30-12:10	Parallel Session (MS-01 ~ MS-05)	Z205, Z207, Z211, Z412, Z413, Z414
	12:10-14:00	Lunch	Ju Yin House Seafood Restaurant
	13:00-14:00	Editorial Board Meeting of International Journal of Geomechanics	Z414
	14:00-18:05	State-of-The-Art (SOTA) Session	Z207
	18:10-21:30	Dinner	Ju Yin House Seafood Restaurant
21/12/2025 (Sunday)	08:30-11:40	Parallel Session (MS-06 ~ MS-09)	Z205, Z207, Z211, Z412, Z413, Z414
	11:40-12:00	Closing Remark	Z211
	12:00-14:30	Lunch	Ju Yin House Seafood Restaurant

THE 17TH INTERNATIONAL CONFERENCE OF IACMAG

Programme of IACMAG 2025

(The 17th International Conference of the International Association for
Computer Methods and Advances in Geomechanics)

December 18 - 21, 2025 | Hong Kong

Venue Address: Block Z, The Hong Kong Polytechnic University, 11 Yuk Choi Road, Kowloon, Hong Kong.

Thursday, 18/12/2025	
14:00-21:00	Registration (2 nd Floor, Block Z, PolyU)

Friday, 19/12/2025	
Venue: Room Z207, Block Z, PolyU	
08:00-18:00	Registration (2 nd Floor, Block Z)
08:30-08:45	Opening Ceremony: Chair: Zhen-Yu YIN Jin-Guang TENG, <i>President of The Hong Kong Polytechnic University</i> John CARTER, <i>President of IACMAG</i>
08:45-08:55	Desai Tribute: Musharraf ZAMAN, <i>Executive Vice President of IACMAG</i>
08:55-09:00	Photo Session
09:00-10:30 (30 mins per talk)	Session 1 Chairs: Limin ZHANG, Jun YANG
	Keynote: Reflections on elastoplastic constitutive modelling John CARTER, <i>University of Newcastle</i>
	Keynote: Multiplicative elastoplasticity for transversely isotropic solids in the finite deformation range Ronaldo I. BORJA, <i>Stanford University</i>
	Keynote: Frost heave in dry clean sand – Challenge to cold region geotechnical design Daichao SHENG, <i>University of Technology Sydney</i>
10:30-10:50	Coffee Break
10:50-12:20 (30 mins per talk)	Session 2 Chairs: Charles W.W. NG, Zhongqi YUE
	Keynote: Where geodata meets machine learning Kok-Kwang PHOON, <i>Singapore University of Technology and Design</i>
	Keynote: The case for reliability-based design of MSE walls Richard J. BATHURST, <i>Royal Military College of Canada</i>
	Keynote: Vision-informed phase-field analysis (VIPFA) for resilience safety evaluation of tunnel concrete lining Hongwei HUANG, <i>Tongji University</i>

Friday, 19/12/2025	
Venue: Room Z207, Block Z, PolyU	
12:20-14:30	Lunch (Ju Yin House Seafood Restaurant)
13:15-14:30	IACMAG Board Meeting (Z414, Block Z)
13:30-14:30	Editorial Board Meeting of Computers and Geotechnics (Z412, Block Z)
13:30-14:00	Consortium meeting of EU MSCA projects LOC3G and MONUGEO (Z211, Block Z)
14:30-16:00 (30 mins per talk)	Session 3 Chairs: Jidong ZHAO, Nasser KHALILI
	Keynote: Recent advances in modelling dense granular flow Wei WU, <i>University of Natural Resources and Life Sciences (BOKU)</i>
	Keynote: Computational poromechanics for frozen soils Steve Waiching SUN, <i>Columbia University</i>
	Keynote: Numerical modelling approach for thermo-active structures Lidija ZDRAVKOVIC, <i>Imperial College London</i>
16:00-16:20	Coffee Break
16:20-17:50 (30 mins per talk)	Session 4 Chairs: Yu WANG, Louis N.Y. WONG
	Keynote: Multiscale poromechanics of clay rocks in the framework of geological disposal of nuclear waste Jianfu SHAO, <i>University of Lille</i>
	Keynote: AI in shield tunnelling via both data-driven and physical-informed modelling Shuilong SHEN, <i>Shantou University</i>
	Keynote: Conceptual and computational perspectives of sustainable rail geotechnics Buddhima INDRARATNA, <i>University of Technology Sydney</i>
18:00-21:30	Banquet (Ju Yin House Seafood Restaurant) Chair: Jian-Hua YIN

Saturday, 20/12/2025	
Venue: Room Z205, Z207, Z211, Z412, Z413, Z414, Block Z, PolyU	
08:00-18:00	Registration (2 nd Floor, Block Z, PolyU)
08:30-10:10	Parallel Session (MS-01 ~ MS-05)
10:10-10:30	Coffee Break
10:30-12:10	Parallel Session (MS-01 ~ MS-05)
12:10-14:00	Lunch (Ju Yin House Seafood Restaurant)
13:00-14:00	Editorial board meeting of International Journal of Geomechanics (Z414, Block Z)

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Saturday, 20/12/2025 Venue: Room Z207, Block Z, PolyU	
14:00-15:40 (25 mins per talk)	Session 5 Chairs: Dong WANG, Annan ZHOU
	SOTA: Assessment of pavement conditions using laboratory and field testing and AI-based modeling Musharraf ZAMAN, <i>University of Oklahoma</i>
	SOTA: Multi-scale interfacial mechanical mechanisms and engineering Characteristics of Heavy Metal-Contaminated Soils Qiang XUE, <i>Institute of Rock and Soil Mechanics, Chinese Academy of Sciences</i>
	SOTA: The optimal control problem for stability analysis of general slopes Hong ZHENG, <i>Beijing University of Technology</i>
	SOTA: Recent advances in multiphysics modelling of coupled flow-deformation and large-deformation processes in geomaterials Ha H. BUI, <i>Monash University</i>
15:40-16:00	Coffee Break
16:00-18:05 (25 mins per talk)	Session 6 Chairs: Zhongxuan YANG, Gang WANG
	SOTA: Digital twins for time-dependent landslides-infrastructure interaction Marco BARLA, <i>Politecnico di Torino</i>
	SOTA: The Breakup of Earth: from rock fracture modeling to a new hypothesis of Earth evolution Chun'an TANG, <i>Dalian University of Technology</i>
	SOTA: Numerical modelling of continuous and discontinuous deformation in geotechnical engineering Shanyong WANG, <i>University of Newcastle</i>
	SOTA: Development of CASRock for modeling of multiple fractures interaction in rocks Pengzhi PAN, <i>Institute of Rock and Soil Mechanics, Chinese Academy of Sciences</i>
	SOTA: NetZero: Odyssey from philosophy to practice Devendra Narain SINGH, <i>Indian Institute of Technology Bombay</i>
18:10-21:00	Dinner (Ju Yin House Seafood Restaurant) Chairs: Jidong ZHAO, Wan-Huan ZHOU

Sunday, 21/12/2025	
Venue: Room Z205, Z207, Z211, Z412, Z413, Z414, Block Z, PolyU	
08:00-12:00	Registration (2 nd Floor, Block Z, PolyU)
08:30-10:10	Parallel Session (MS-06 ~ MS-09)
10:10-10:30	Coffee Break
10:30-11:40	Parallel Session (MS-06 ~ MS-09)
11:40-12:00	Closing Remark (Z211, Block Z) Zhen-Yu YIN
12:00-14:30	Lunch (Ju Yin House Seafood Restaurant)

Parallel Session MS-01 ~ MS-05

MS-01 Computational Particle Methods and Engineering Applications

Chairs: Mingliang ZHOU, Kaihui LI

Time: 8:30-12:10, 20 December

Venue: Z205, Block Z

08:30-12:10	Chair: Mingliang ZHOU, Tongji University Chair: Kaihui LI, Central South University
08:30-08:55	(Invited) Vision-informed MPM simulation for hydro-mechanical failure assessment in subsea tunnel excavation Mingliang ZHOU, <i>Tongji University</i>
08:55-09:10	Fracture and post-fracture modeling of compacted clay soils based on coupled peridynamics-DEM Yutaka FUKUMOTO, <i>Okayama University</i>
09:10-09:25	Effect of vertical wall on the passive resistance of buried pipe with DEM Yoko OHTA, <i>Yamaguchi University</i>
09:25-09:40	Three-dimensional discrete element simulation of shale with nonlinear crack-closure behavior Kaihui LI, <i>Central South University</i>
09:40-09:55	Study of particle breakage of highly decomposed granite particles under a one-dimensional compression test Zhiren ZHU, <i>City University of Hong Kong</i>
09:55-10:10	Shear band characteristics of dry silicious sand in ring shear and direct shear tests - a DEM study Congyang YU, <i>The University of Western Australia</i>
10:10-10:30	Coffee Break
10:30-10:55	(Invited) Method for determining the M-value using iteration based on horizontal static load test and its application Xiangping HUANG, <i>Zhuhai Institute of Urban Planning and Design</i>
10:55-11:10	A numerical study for assessing tunnelling-induced distortions of masonry structures Yalin YU, <i>Qilu Institute of Technology</i>
11:10-11:25	Simulation methods and applications of micro-mesoscopic interactions among clay particles Hemei SUN, <i>Shenzhen University</i>
11:25-11:40	Comparative evaluation of constitutive models for predicting strain amplitude generated by machine foundations Viktor KRAUSE, <i>Ruhr Universität Bochum Germany</i>
11:40-11:55	Estimation of residual porewater pressure in PVD-assisted soft soil foundations at the Port of Brisbane Lami KARAGOZ, <i>University of Technology Sydney</i>
11:55-12:10	Effects of wire diameter for 3D filter on its functions using dem analysis Mitsuki YODEN, <i>Yamaguchi University</i>

Chairs: Yukio NAKATA, Pei WANG

Time: 8:30-12:10, 20 December

Venue: Z207, Block Z

08:30-12:10	Chair: Yukio NAKATA, Yamaguchi University Chair: Pei WANG, East China Jiaotong University
08:30-08:55	(Invited) Effect of geogrid reinforcement on the seismic slope stability of railway embankment Bal Krishna MAHESHWARI, <i>Indian Institute of Technology Roorkee</i>
08:55-09:10	Microscale investigation of geomembrane-sand interface cyclic shear behavior using DEM Jian WU, <i>Tongji University</i>
09:10-09:25	Study on horizontal loading response of rectangular barrettes in sandy soil based on p-y method Zhitong ZHANG, <i>Hebei University of Architecture</i>
09:25-09:40	Stability analysis of the subwater tunnel working face considering the influence of joints Lingshuai TONG, <i>Tongji University</i>
09:40-09:55	A pre-processing scheme for fast convolution-based peridynamics and its application in geotechnical engineering Xingchuan LIAO, <i>Zhejiang University</i>
09:55-10:10	Numerical simulation of CPTu: Ballina clay case study Andreas Erdian WIJAYA, <i>Graz University of Technology</i>
10:10-10:30	Coffee Break
10:30-10:55	(Invited) A multi-scale modeling framework with the material point method Shabnam SEMNANI, <i>University of California, San Diego</i>
10:55-11:10	A grain-scale insight into the role of fines in cyclic response of binary mixtures Kangle ZUO, <i>The University of Hong Kong</i>
11:10-11:25	Investigating the impact of anisotropic consolidation on the undrained cyclic true triaxial behavior of granular soils Mohammad SALIMI, <i>Ruhr University Bochum</i>
11:25-11:40	Analytical expressions of contact probability and contact force ratio for binary mixture of granular materials Haoran WANG, <i>Zhejiang University</i>
11:40-11:55	Effect of helix pitch and advancement ratio on helical anchor installation and pullout in uniform clay Meili ZHANG, <i>The University of Western Australia</i>
11:55-12:10	Interparticle responses of soil simulated by SJKR and liquid-bridge cohesive contact models in DEM drawdown tests Quoc Thien HUYNH, <i>University of Technology Sydney</i>

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MS-02 Multiscale Modelling of Geomaterials

Chairs: Lalit BORANA, Aoxi ZHANG

Time: 8:30-12:15, 20 December

Venue: Z211, Block Z

08:30-12:00	Chair: Lalit BORANA, <i>Indian Institute of Technology Indore</i> Chair: Aoxi ZHANG, <i>Delft University of Technology; Zhejiang University</i>
08:30-08:55	(Invited) Microscale investigation of capillary stress in unsaturated granular materials using DEM-LBM Olivier MILLET, <i>La Rochelle University</i>
08:55-09:10	Modelling frictional behaviour of expansive clay: insights into microscopic mechanics of montmorillonite Jiapei DU, <i>Royal Melbourne Institute of Technology</i>
09:10-09:25	Modelling energy dissipation of clays during cyclic loading Francesca PALMIERI, <i>Imperial College London</i>
09:25-09:40	Simulation of lunar extreme environments and mechanical characteristics of lunar regolith Qiyin ZHU, <i>China University of Mining and Technology</i>
09:40-09:55	A thermodynamics-based constitutive model for clays accounting for double porosity Fabio ROLLO, <i>Sapienza University of Rome</i>
09:55-10:10	Nanoscale shear behavior of mixed-layer clays: molecular dynamics simulations Wenbo NIU, <i>Zhejiang University</i>
10:10-10:30	Coffee Break
10:30-10:45	Dynamic bounding surface viscoplasticity for soil Jian LI, <i>Beijing Jiaotong University</i>
10:45-11:00	An effective coordination number describing microstructures of bio-cemented soils accounting for different distribution patterns of cement agents Aoxi ZHANG, <i>Delft University of Technology; Zhejiang University</i>
11:00-11:15	A two-scale numerical modelling of time-dependent mechanical behaviour of viscous clay rocks Benoît PARDOEN, <i>University of Lyon</i>
11:15-11:30	Hysteresis at low relative humidity on vapor sorption isotherm of montmorillonite: insights from molecular simulations Yijie WANG, <i>The Hong Kong Polytechnic University</i>
11:30-11:45	An anisotropic micromechanical model for granular materials Hailin WANG, <i>Tongji University</i>
11:45-12:00	Strength enhancement of montmorillonitic clay with metakaolin-OPC composites Ankit Kumar KUMAWAT, <i>Indian Institute of Technology Indore</i>
12:00-12:15	Performance and mechanisms of foam-dispersant composite conditioners for clay: macroscopic, mesoscopic, and microscopic scales Jialong LI, <i>Northeastern University</i>

Chairs: Chaofa ZHAO, Zheng HU

Time: 8:30-10:10, 20 December

Venue: Z412, Block Z

08:30-10:10	Chair: Chaofa ZHAO, Zhejiang University Chair: Zheng HU, Sun Yat-sen University
08:30-08:55	(Invited) Localised failure and meso scale behaviour of geomaterials Giang D. NGUYEN, <i>University of Adelaide</i>
08:55-09:10	Implementation and use of a non-local method in coupled Eulerian-Lagrangian analyses Yumeng QI, <i>University of Western Australia</i>
09:10-09:25	An analytical expression for averaging interparticle forces at similarly oriented contacts in granular materials Ge DUAN, <i>Zhejiang University</i>
09:25-09:40	Numerical simulation of grain-scale failure modes of MIPC cemented particles Yupeng JIANG, <i>Leibniz University Hannover</i>
09:40-09:55	3D hydromechanical modelling of tunnelling-induced ground settlement: a case study of the West Link project, Sweden Hadi KARIMZADEH, <i>Uppsala University</i>
09:55-10:10	Molecular insights into the adsorption behavior of PFAS on montmorillonite, polyethylene, and polypropylene: a molecular dynamics study Rui XU, <i>Hefei University of Technology</i>

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MS-03 Modeling of Erosion of Soil and Rock

Chairs: Jie YANG, Farid LAOUAFA

Time: 10:30-12:25, 20 December

Venue: Z412, Block Z

10:30-12:10	Chair: Jie YANG, <i>Shenzhen University</i> Chair: Farid LAOUAFA, <i>National Institute for Industrial Environment and Risks (INERIS)</i>
10:30-10:55	(Invited) CFD-DEM modelling of internal sand erosion based on Micro-CT investigation Jianfeng WANG, <i>City University of Hong Kong</i>
10:55-11:10	Internal stability analysis of construction and demolition waste particles under seepage erosion Qian-Feng GAO, <i>Changsha University of Science & Technology</i>
11:10-11:25	Modelling rock dissolution with diffuse interface methods: strengths and challenges in the context of geomechanics Farid LAOUAFA, <i>National Institute for Industrial Environment and Risks</i>
11:25-11:40	Modeling granular flow considering phase transition from solid-like to fluid-like states via material point method Hang FENG, <i>The Hong Kong Polytechnic University</i>
11:40-11:55	Simulation of suffusion around shield tunnels under train vibration Sirui CHEN, <i>Tongji University</i>
11:55-12:10	Quick clay landslide simulation with NGI-ADP-Soft model using the material point method Enok CHEON, <i>Norwegian Geotechnical Institute</i>
12:10-12:25	The coupling FEM-DEM-CFD method for micro- and macro-response analysis of granular materials Xiang HE, <i>Zhejiang University</i>

MS-04 Intelligent Computational Geomechanics and Geoengineering

Chairs: Pin ZHANG, Xi WANG

Time: 8:30-12:10, 20 December

Venue: Z413, Block Z

08:30-12:10	Chair: Pin ZHANG, <i>National University of Singapore</i> Chair: Xi WANG, <i>The Hong Kong Polytechnic University</i>
08:30-08:55	(Invited) Efficient three-dimensional slope stability analysis using mathematical programming finite element method Xi CHEN, <i>Beijing Jiaotong University</i>
08:55-09:10	t-PiNet: A Thermodynamics-informed hierarchical learning for discovering constitutive relations of geomaterials Pin ZHANG, <i>National University of Singapore</i>
09:10-09:25	Semi-supervised learning for rock mass classification with limited labeled data in TBM tunnelling Feng SHAN, <i>Central South University</i>
09:25-09:40	HydraxMPM: A JAX-based, high-performance simulation environment for granular flow simulations Hongyang CHENG, <i>University of Twente</i>
09:40-09:55	Effect of fault zone width on fault rupture propagation through uniform soil Abhiparna DASGUPTA, <i>Indian Institute of Technology Mandi</i>
09:55-10:10	CFD-driven design of two-stage grouting for karst sealing Piao MIAO, <i>Hefei University of Technology</i>
10:10-10:30	Coffee Break
10:30-10:45	Physics-encoded numerical network for multidimensional heterogeneous forward and inverse analysis Xi WANG, <i>The Hong Kong Polytechnic University</i>
10:45-11:00	Mechanical behavior and failure mechanisms of bell-and-spigot jointed PCCP under internal water pressure and overburden load Wenda WANG, <i>Tongji University</i>
11:00-11:15	Predicting the shaft capacity of monopiles in soft clay using the Press-Replace finite element method Aflizal ARAFIANTO, <i>University of Western Australia</i>
11:15-11:30	Response of a sloped ground subjected to sequence of seismic events Jayasri NAVULURI, <i>Indian Institute of Technology Mandi</i>
11:30-11:45	Numerical investigation of stone column supported embankment with emphasis on critical height Nulu Varun KRISHNA, <i>Indian Institute of Technology Kharagpur</i>
11:45-12:10	(Invited) Future perspective of AI in computational geomechanics Pijush SAMUI, <i>National Institute of Technology Patna</i>

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MS-05 Computational Multiphysics for Porous Media

Chairs: Jinhyun CHOO, Yunteng WANG, Qi ZHANG

Time: 8:30-11:55, 20 December

Venue: Z414, Block Z

08:30-10:10	Chair: Yunteng WANG, <i>The University of Natural Resources and Life Sciences</i> Chair: Qi ZHANG, <i>University of Macau</i>
08:30-08:55	(Invited) An image-based framework for modeling the freezing process in water-saturated porous media Jinhyun CHOO, <i>Seoul National University</i>
08:55-09:10	Slurry penetration characteristics of novel oscillatory grouting technology Lubo TANG, <i>Central South University</i>
09:10-09:25	Peridynamic modeling of hydraulic fracture in poroelastic media with leak-off Zirui LU, <i>Kyoto University</i>
09:25-09:40	Determining geothermal potential of the porous sedimentary oil reservoir in Upper Assam Shelf, India Faakirah RASHID, <i>Indian Institute of Technology Bombay</i>
09:40-09:55	Verification of modelling wave propagation in an unbounded domain by perfectly matched layers Lexin LI, <i>Delft University of Technology</i>
09:55-10:10	A spectral Feynman-Kac framework for consolidation analysis of soft soil incorporating random coefficient of consolidation Naina DEB, <i>Indian Institute of Technology Guwahati</i>
10:10-10:30	Coffee Break
10:30-11:55	Chair: Yunteng WANG, <i>The University of Natural Resources and Life Sciences</i> Chair: Jinhyun CHOO, <i>Seoul National University</i>
10:30-10:55	(Invited) Numerical modeling of pumping-induced earth fissures and its application Yun ZHANG, <i>Nanjing University</i>
10:55-11:10	Radial consolidation of multilayered soil under time-dependent loading and varied drainage boundaries based on the spectral method Binhua XU, <i>University of Technology Sydney</i>
11:10-11:25	Phase-field model for viscous dominated hydraulic fracturing Tao YOU, <i>Montanuniversität Leoben</i>
11:25-11:40	A FEM-MPM-FVM sequentially coupled method for simulating large deformations in saturated soil Yunyi LI, <i>Tsinghua University</i>
11:40-11:55	Characterising the seabed by monitoring pore pressure dissipation after insertion of free-fall penetrometers: FE analysis Zahra Bashir MALIK, <i>University of Western Australia</i>

Parallel Session MS-06 ~ MS-09

MS-06 Digital Twin in Civil Engineering: Bridging Data Sensing and Numerical Modeling

Chairs: Wan-Huan ZHOU, Linchong HUANG

Time: 8:30-11:30, 21 December

Venue: Z205, Block Z

08:30-11:30	Chair: Wan-Huan ZHOU, <i>University of Macau</i> Chair: Linchong HUANG, <i>Sun Yat-sen University</i>
08:30-08:55	(Invited) Performance analysis and optimized design of vertical cut-off walls Haijian XIE, <i>Zhejiang University</i>
08:55-09:10	Reliability-based design of laterally loaded tapered offshore piles in spatially variable clay Jianhong WAN, <i>Nanchang University</i>
09:10-09:25	Time-dependent numerical modelling of the effectiveness of a drainage intervention on a large landslide Francesco CAMPANA, <i>Politecnico di Torino</i>
09:25-09:40	An efficient bayesian updating method for predicting excavation displacement in rock slope: case of Baihetan hydropower station Hongpeng HU, <i>Nanchang University</i>
09:40-09:55	Multi-source sensing monitoring and risk control for large-diameter slurry shield tunnelling beneath structures Junhao JING, <i>University of Macau</i>
09:55-10:10	Parameter identification of constitutive soil models by means of optimization and supervised machine learning algorithms Haris FELIĆ, <i>Graz University of Technology</i>
10:10-10:30	Coffee Break
10:30-10:45	Prediction of ballast deformation and degradation under train loading using multilaminar framework Rakesh Sai MALISETTY, <i>University of Technology Sydney</i>
10:45-11:00	Generating borehole description using advanced prompt engineering, few-shot learning, and retrieval-augmented generation with large language models Shaoze SU, <i>University of Macau</i>
11:00-11:15	Landfill barrier leakage detection based on tracer experiments and analytical models Yanghui SHI, <i>Zhejiang University</i>
11:15-11:30	Finite element modeling of the dynamic roller-soil interaction during vibratory compaction Wenjun HUA, <i>KTH Royal Institute of Technology</i>

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MS-07 Geomechanics of Waste Materials for infrastructure - Constitutive Relations, Design and Applications

Chairs: Binhua Xu, Yujie QI

Time: 8:30-11:30, 21 December

Venue: Z207, Block Z

08:30-11:40	Chair: Binhua Xu, <i>University of Technology Sydney</i> Chair: Yujie QI, <i>University of Technology Sydney</i>
08:30-08:55	(Invited) Investigation and mitigation of premature rutting in flexible pavements: a case study on Oklahoma state highway 7 Musharraf ZAMAN, <i>University of Oklahoma</i>
08:55-09:10	A comparative study of geosynthetic stiffness characterization approaches on the deformations of GRS abutments Yewei ZHENG, <i>Wuhan University</i>
09:10-09:25	Utilization of waste rubber and waste plastics from landfills for sustainable infrastructure development Prithvendra SINGH, <i>Indian Institute of Technology Bomba</i>
09:25-09:40	The modified critical-state framework of a waste mixture concerning the addition of rubber Yujie QI, <i>University of Technology Sydney</i>
09:40-09:55	Understanding the efficacy of a climate adaptive barrier through physical and numerical modelling Piyush VERMA, <i>Indian Institute of Technology Mandi</i>
09:55-10:10	An enhanced data-driven constitutive model for argillaceous rocks Moyuan PENG, <i>Tongji University</i>
10:10-10:30	Coffee Break
10:30-10:45	Microscopic origins of the compressibility and strength of clay: DEM insights into the role of physicochemical forces Bo LIU, <i>The Hong Kong Polytechnic University</i>
10:45-11:00	Effect of strain formulation on the load-displacement response of shallow foundation Yuepeng DONG, <i>Technical University of Denmark</i>
11:00-11:15	An advanced constitutive model for capturing brittle-to-ductile transitions and strength degradation in quasi-brittle rocks Vahid AZAMIPOUR, <i>Monash University</i>
11:15-11:30	Early-age prediction of compressibility in cement-stabilized clays using critical state framework Balaji Sai Kumar BANDARU, <i>IIT Madras</i>

MS-08 Mechanics and Modeling of Granular Materials

Chairs: Ali DAOUADJI, Mengmeng WU

Time: 8:30-11:30, 21 December

Venue: Z211, Block Z

08:30-11:30	Chair: Ali DAOUADJI, <i>INSA Lyon</i> Chair: Mengmeng WU, <i>The Hong Kong Polytechnic University</i>
08:30-08:55	(Invited) Reducing grain breakage in granular materials during loading Ali DAOUADJI, <i>INSA Lyon</i>
08:55-09:10	Three-dimensional micromechanical expression for the average strain tensor of granular materials Chaofa ZHAO, <i>Zhejiang University</i>
09:10-09:25	Percolation of contact force network in granular materials Jiaying LIU, <i>Hangzhou City University</i>
09:25-09:40	A hyperelastic constitutive model incorporating soil anisotropy Nazanin IRANI, <i>Ruhr-university Bochum</i>
09:40-09:55	Evaluation of advanced constitutive models for sand under drained and undrained cyclic loading Hui WANG, <i>University of Oxford</i>
09:55-10:10	The effect of gradation scaling techniques on the mechanical properties of rockfill materials: A DEM study Jiuyang ZHOU, <i>Tongji University</i>
10:10-10:30	Coffee Break
10:30-10:45	Multiscale experiments and numerical modeling of biocementation in geotechnical engineering Huanran WU, <i>Chongqing University</i>
10:45-11:00	DEM Study of shear strength of heart-shaped root system at different depths Qixin WU, <i>Wuhan University</i>
11:00-11:15	Effect of overburden pressure on cylindrical cavity expansion using advanced constitutive models Cathryn SEBASTIAN, <i>Indian Institute of Technology Madras</i>
11:15-11:30	DEM modelling of path-dependent small strain stiffness of Fujian sand Hechen ZHOU, <i>Tongji University</i>

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Chairs: Qiushi CHEN, Weijian LIANG

Time: 8:30-11:40, 21 December

Venue: Z412, Block Z

08:30-11:40	Chair: Qiushi CHEN, <i>Clemson University</i> Chair: Weijian LIANG, <i>Shenzhen University</i>
08:30-08:55	(Invited) Stress dependent hydraulic permeability of hydrate-bearing sediments Lele LIU, <i>Ocean University of China</i>
08:55-09:10	Dynamic responses of tetrapod suction bucket jacket foundations under environmental loads Shun CHEN, <i>Tongji University</i>
09:10-09:25	Numerical modeling of unbound granular pavements under moving loads Piyush PUNETHA, <i>University of Technology Sydney</i>
09:25-09:40	Simplified calibration of hypoplastic model parameters based on grain size distribution characteristics Joana BOMBE, <i>Ruhr University Bochum</i>
09:40-09:55	Internal stability analysis of geosynthetic reinforced steep soil slopes considering the effect of tension cracks Pavan MEENA, <i>Indian Institute of Technology Roorkee</i>
09:55-10:10	Understanding the effect of vertical pillar depth on cross-tunnels under dynamic loading Rishav BAISHYA, <i>Indian Institute of Technology Bombay</i>
10:10-10:30	Coffee Break
10:30-10:55	(Invited) Semi-implicit material point method for modeling saturated porous media Weijian LIANG, <i>Shenzhen University</i>
10:55-11:10	Sustainable utilization of shield waste muck for synchronous grouting: mixture ratio optimization and assessment of environmental and economic performance Dazeng SUN, <i>Northeastern University</i>
11:10-11:25	Lateral response of monopile for offshore wind turbines under static and dynamic loadings Sambit PANI, <i>Indian Institute of Technology Roorkee</i>
11:25-11:40	A simple subloading surface breakage constitutive model for crushable sands at high confinement pressures Rahul SINHA, <i>Indian Institute of Technology Kanpur</i>

Chairs: Zhengshou LAI, Yong FU

Time: 8:30-11:30, 21 December

Venue: Z413, Block Z

08:30-11:30	Chair: Zhengshou LAI, <i>Sun Yat-sen University</i> Chair: Yong FU, <i>Southern University of Science and Technology</i>
08:30-08:55	(Invited) Dynamic elastic energy processes within granular assemblies Yang LIU, <i>University of Science and Technology Beijing</i>
08:55-09:10	Pile-running of large-diameter pipe piles in spatially variable clay Yong FU, <i>Southern University of Science and Technology</i>
09:10-09:25	Numerical evaluation of caisson foundation capacity in layered soils under V-H-M loads Puran, <i>Indian Institute of Technology Roorkee</i>
09:25-09:40	Understanding the friction behavior during normal stress perturbations: the role of contact evolution Jing LI, <i>Tongji University</i>
09:40-09:55	GPU-accelerated semi-implicit two-phase double-layer MPM with adaptive projection-error compensation for accurate soil–water coupling Yong LIU, <i>Institute of Rock and Soil Mechanics, Chinese Academy of Sciences</i>
09:55-10:10	A noise-based framework for generating 3D soil particles and its applications in discrete element modeling Chenxi TONG, <i>Central South University</i>
10:10-10:30	Coffee Break
10:30-10:45	Time dependent effects of concrete decks on the cyclic soil-structure interaction of integral bridges Mohammed Sulaimaan KAIZER HASSAN, <i>Western Sydney University</i>
10:45-11:00	A comparative study on estimation of soil constitutive model parameter employing sequential Monte Carlo and Markov chain Monte Carlo techniques Shraddha KUMARI, <i>Indian Institute of Technology Mandi</i>
11:00-11:15	Simulation of soil mixing with generalized interpolation material point method Ying MA, <i>Aalto University</i>
11:15-11:30	Numerical simulation of the pile behaviour in Unsaturated soils Shanujah MATHURANAYAGAM, <i>Western Sydney University</i>

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MS-09 Multiphysics Coupling in Geotechnical Engineering

Chairs: Liming HU, Kaiqi LI, Dantong LIN

Time: 8:30-11:30, 21 December

Venue: Z414, Block Z

08:30-10:30	Chair: Liming HU, Tsinghua University Chair: Kaiqi LI, The Hong Kong Polytechnic University
08:30-08:55	(Invited) Holistic simulation of energy sheet pile walls (ESPWs) for renewable energy extraction Arash LAVASAN, <i>University of Luxembourg</i>
08:55-09:10	Soil macropore structure in Loess Plateau Dantong LIN, <i>Lanzhou University</i>
09:10-09:25	Investigation of the relationship between rock joint surface roughness and shear strength considering sampling intervals of morphological Zhenning SHI, <i>Changsha University of Science & Technology</i>
09:25-09:40	Poromechanical modeling of frozen soils for geothermal energy development in cold regions Biao LI, <i>Concordia University</i>
09:40-09:55	Migration behavior of organic contaminants in natural clay sites considering corrosion effect Peihao OUYANG, <i>Tongji University</i>
09:55-10:10	Discrete element modeling predicts shear strength and quantifies patchy water distribution effect in unsaturated soils under funicular regime Pengyu ZHANG, <i>Zhejiang University</i>
10:10-10:30	Coffee Break
10:30-11:30	Chair: Liming HU, Tsinghua University Chair: Dantong LIN, Lanzhou University
10:30-10:45	Fine particle migration and clogging in porous media: an experimental study Pengwei ZHANG, <i>Beijing Jiaotong University</i>
10:45-11:00	Water vapor circulation in soil under temperature gradients: mechanistic analysis and experimental confirmation Guochao SUN, <i>Beihang University</i>
11:00-11:15	CO ₂ brine interactions in deep saline aquifers governing long-term storage of CO ₂ : a review S Yogendra NARAYANAN, <i>Indian Institute of Technology Bombay</i>
11:15-11:30	Thermal performance of energy tunnels in partially saturated soils Alaaeldin MAGDY, <i>Lille University</i>

Poster Session

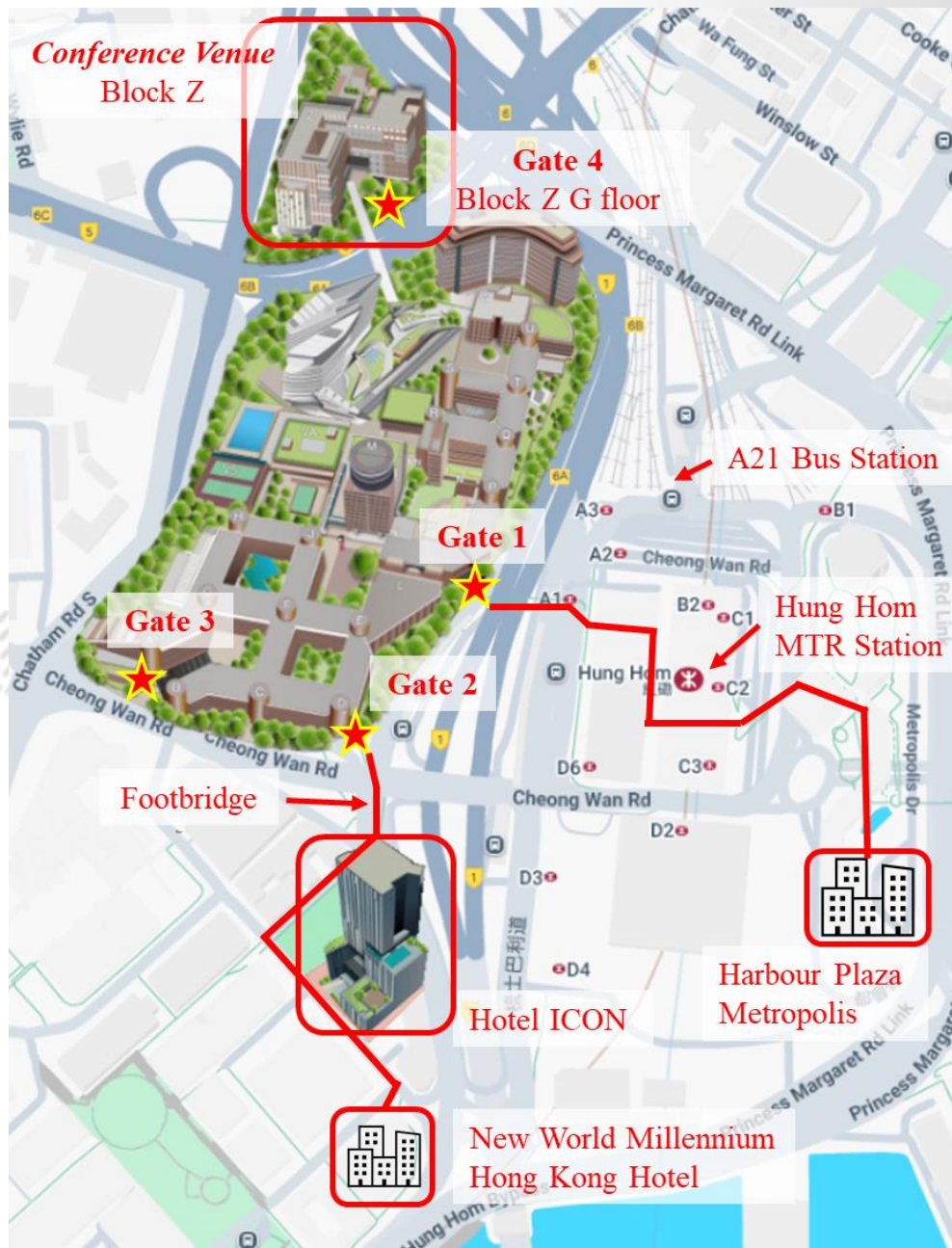
Venue: Outside Room Z207, Block Z, PolyU

Time: 10:30-10:50, 19 December

Author	Title
Yaoru LIU <i>Tsinghua University</i>	Structural safety evaluation of tunnels considering material deterioration and structural damage
Nguyen THANH <i>University of Technology Sydney</i>	3D finite element modelling of PVD-soil cement columns foundation considering stiffness variation
Huihao CHEN <i>Tongji University</i>	Effect of train vibration on seepage erosion in gap-graded soils
Kentaro YAMAMOTO <i>Oita University</i>	Stability analysis of triple tunnels in cohesive-frictional soil subjected to surcharge loading
Vivek Prakash MANI <i>Indian Institute of Technology Mandi</i>	Rainfall-induced deformation in unsaturated railway embankment considering fully coupled flow deformation analysis
Qi MIN <i>Southwest Jiaotong University</i>	Data-driven identification and prediction of seismic-induced landslide disasters
Ruidong LI <i>The Hong Kong Polytechnic University</i>	Novel particle reconstruction and tracking algorithms to reveal 3D micromechanical behaviors of coral sands
Somdutt PATHAK and Puran <i>Indian Institute of Technology Roorkee</i>	Stability analysis of expanded MSW landfill for earthquake forces under over berm failure condition
Chenghuan LI <i>Nanchang University</i>	Comparison of explicit and implicit DEM for geomechanics: a computational performance study using triaxial tests
Yuhao LUO <i>Zhejiang University</i>	Modeling fracture growth in porous media considering solid dissolution with the assumed enhanced strain method

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Sites around University Campus



Transportation

❑ Taxi to Gate 4

Destination: HK PolyU Faculty of Construction and Environment (Block Z)

(**Tips:** Many taxis in Hong Kong only accept cash, while a few taxis may accept electronic payments. We strongly suggest bringing some cash (HK dollars) with you.)

❑ Subway to Gate 1

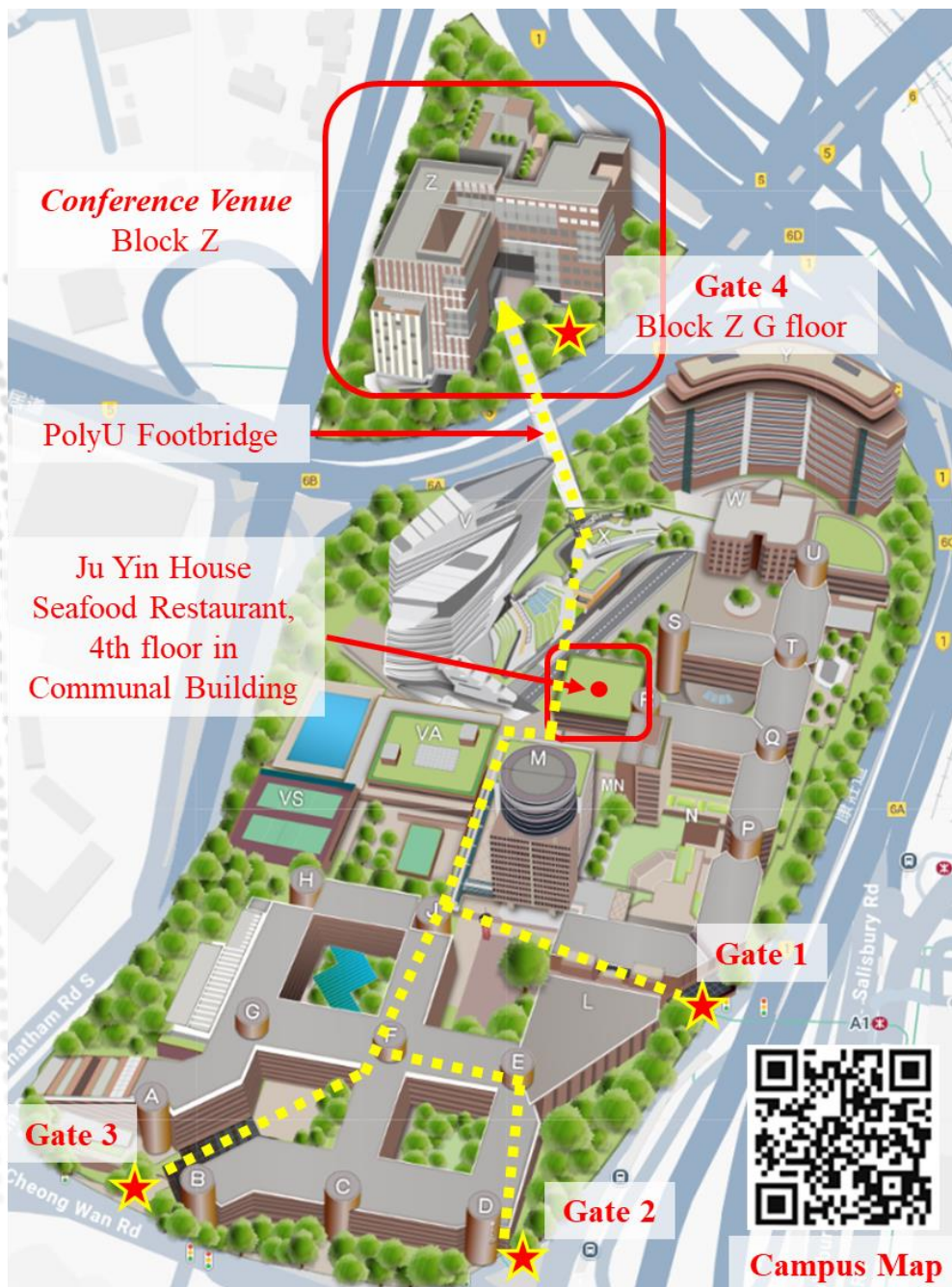
Destination: MTR Hung Hom Station

❑ Bus to PolyU

By A21: Destination: Hung Hom Station (Close to Gate 1)

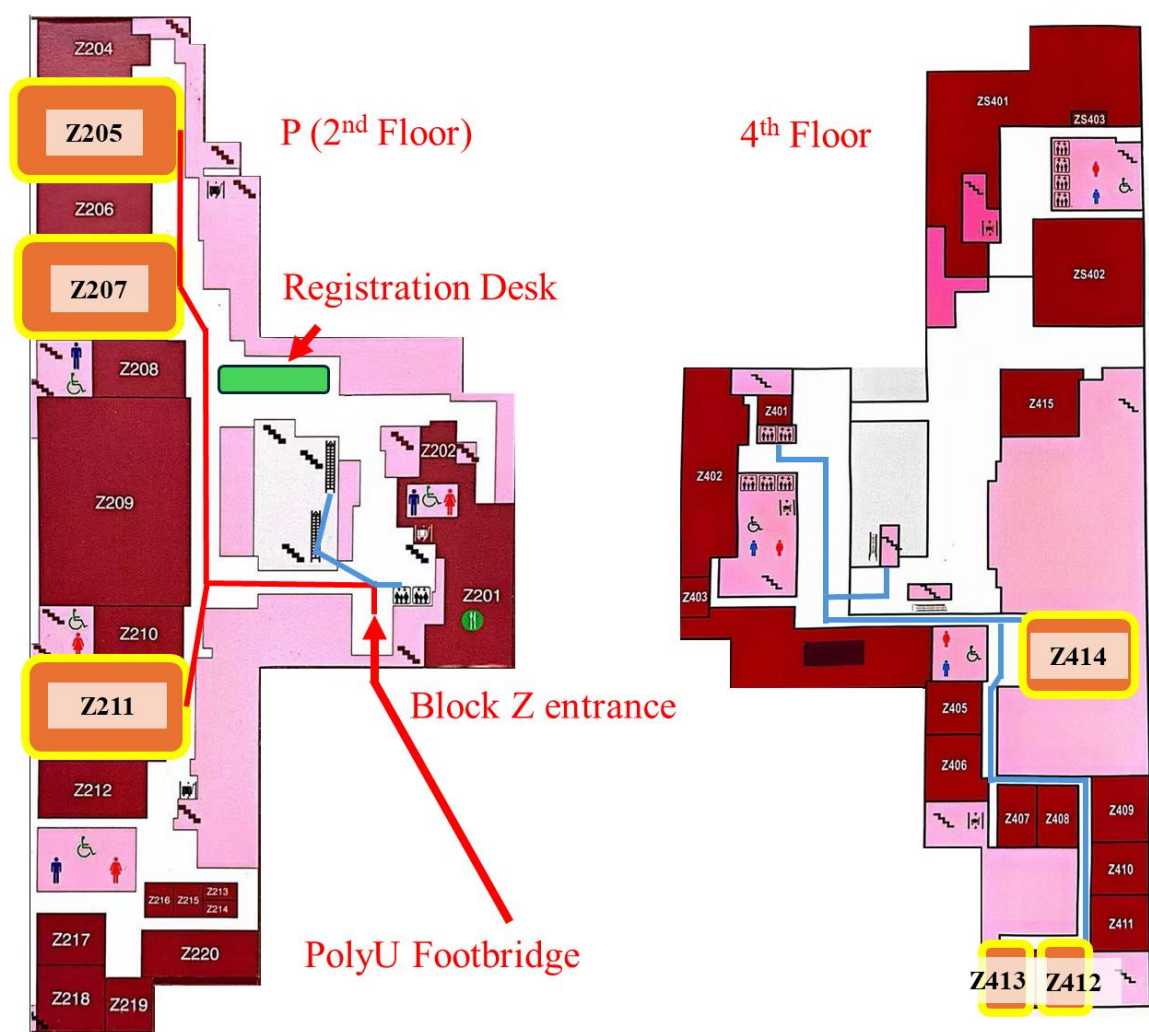
Transportation payment methods: Cash, Octopus Card, Credit Cards & Mobile Payments.

Campus Map



- Conference facilities are located at the Hung Hom Bay campus of PolyU (pedestrian access at 8 Hung Lok Road, Hung Hom). Campus Map: <https://www.polyu.edu.hk/campus-map/> or scanning the above code.
- If you have not received the QR code for entering university campus, or the QR code does not work, please contact Mr. Hang FENG: 23039257r@connect.polyu.hk and +852 5617 2852.

Conference Venue



2nd and 4th Floor, Block Z, PolyU