



3rd International Conference on Geomechanics and Geoenvironmental Engineering, Sydney, 2025 (iCGMGE 2025)

26-28 Nov 2025 Sydney, Australia

8th GCSTMR World Congress

Western Sydney University, Parramatta South Campus, Sydney, Australia

[Corner of Victoria Road and James Ruse Drive (enter via Victoria Road), Parramatta]

Organised by:

School of Engineering, Design and Built Environment

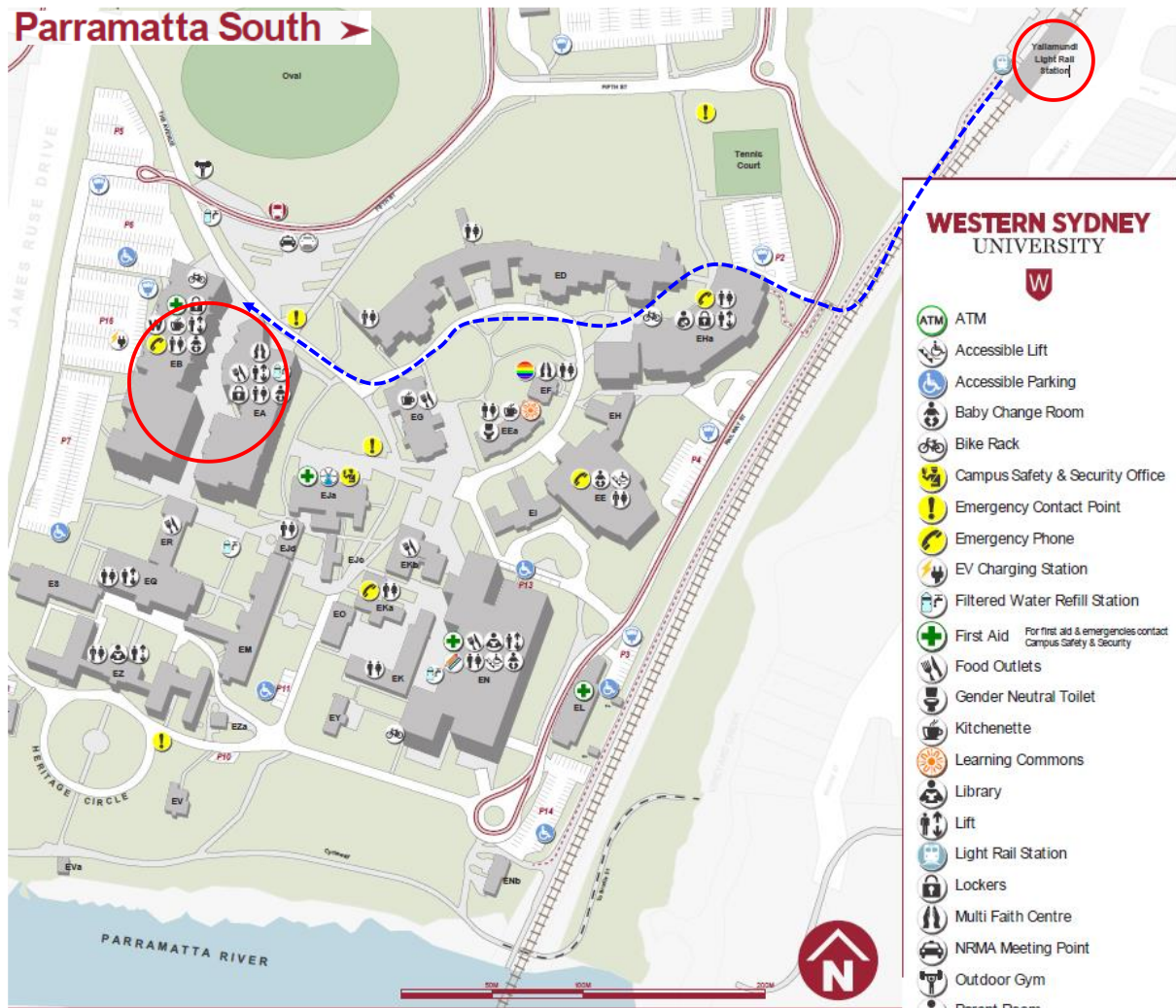
Western Sydney University

and

*Global Circle for Scientific, Technological and Management Research
(GCSTMR)*

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Conference venue: Western Sydney University Parramatta South campus, Building EA/EB. It is 8 minutes' walk from Yallamundi light rail station, which can be reached via light rail from Parramatta Square light rail station (near Parramatta train station).

https://www.westernsydney.edu.au/content/dam/digital/pdf/campus-maps/Parramatta_Campus_General.pdf

Time: Australian Eastern Time (AEST)

Day 1 – Wednesday 26 Nov 2025

Time	Event	Remark
5:30 – 7:30 pm	Registration, Refreshments, and Networking (Foyer Building EA Parramatta South Campus)	Delegates will be welcomed by: Conference Co-Chairs: Prof. Chin Leo (iCGMGE-2025) A/Prof. Fidelis Mashiri (iCSER-2025) A/Prof. Qinghua Zeng (iCMEMS-2025) Conference Secretaries: Dr Pan Hu (iCGMGE-2025) Dr Md Kamrul Hassan (iCSER-2025) Dr Xuefeng Dong (iCMEMS-2025) Conference Management Coordinator: Ms Jenis Islam

Day 2 – Thursday 27 November 2025

Time	Session
8:00 – 9:00 am	Registration Parramatta South Campus, Foyer Building EA and EB.G.18 Desk in charge: Ms Jenis Islam
9:00 – 10:00 am	Conference Opening Room EA.2.13 (LT02), Parramatta South Campus Moderator: Prof. Chin Leo, Co-Chair, iCGMGE Acknowledgment of Indigenous owners of the land Speech: Prof. Ataur Rahman, Chair GCSTMR Speech: Prof. Chin Leo, Co-Chair (iCGMGE-2025) Speech: A/Prof. Fidelis Mashiri, Co-Chair (iCSER-2025) Speech: A/Prof. Qinghua Zeng, Co-Chair (iCMEMS-2025) Speech: Prof. Yang Xiang Acting Dean, School of Engineering, Design and Built Environment Speech: Nicole Waterman President, Engineers Australia (Sydney Division) Housekeeping: Prof. Ataur Rahman
Morning Session	Chair: Prof Samanthika Liyanapathirana (Room EB.G.36) (Zoom ID: 817 3756 5604; password: icgmge2025)
10:00 – 10:30 am	Keynote Speaker 1: Integrated Solutions for Rockfall Safety: Monitoring, Prediction and Mitigation Designs Prof Anna Giacomini, Newcastle University, Australia
10:30 – 11:00 am	Morning Tea (Room PS-EB.G.32 and EB.G.33)
11:00 – 11:20 am	Invited Speaker 1: Technical challenges and lessons learnt from design and construction of large retaining walls Dr Jim Yang, Arcadis, Australia
11:20 – 11:35 am	Effect of Stress Conditions on the Onset of Bifurcation Using the Modified Cam Clay Model Vikas Prajapati, Nhan T. Nguyen, Dat G. Phan, Ha. H. Bui, Murat Karakus and Giang D. Nguyen

11:35 – 11:50 am	Effect of Hydraulic Flux on the Stability of Tailing Storage Facilities <i>Balqis Pertiwi, Adrian Russell</i>
11:50 – 12:05 pm	Study on Hazard Intensity and Risk Assessment of Geological Hazards along Road Cut Slopes <i>Ye Li, Xiaoxu Xie, Kunlong Yin, Lixia Chen, Deying Li, Qin Chen</i>
12:05 – 12:20 pm	Microstructural Evolution and Performance of Sustainable Expansive Soil Stabilisation <i>Hadeel Alzghool, Pan Hu, Chin Leo, Samanthika Liyanapathirana, Qinghua Zeng, Jeff His, Reza Karimi</i>
12:20 – 12:35 pm	Probabilistic Analysis of Tunnel Convergence for Cross-Correlated and Non-Stationary Random Fields <i>Ajeet Verma</i>
12:35 – 1:30 pm	Lunch (Room PS-EB.G.32 and EB.G.33)
Afternoon Session 1	Chair: Prof Chin Leo (Room EB.G.36) (Zoom ID: 817 3756 5604; password: icgmge2025)
1:30 – 2:00 pm	Keynote Speaker 2: Integration of Theory and Practice in Unsaturated Soil Mechanics for Enhancing Civil Engineering Student Education Prof Hadi Khabbaz, University of Technology Sydney, Australia
2:00 – 2:20 pm	Invited Speaker 2: GeoAI: An Expert-System-Oriented Platform for Cross-Data Synthesis in Geotechnical Engineering Stephen Darmawan, Geotesta, Australia
2:20 – 2:35 pm	The size effect of class-II rocks in well-controlled Brazilian tests using AUSBIT <i>Fauzan Pratomo, Murat Karakus, Giang Nguyen, Ha Bui</i>
2:35 – 2:50 pm	Colloidal Silica Gelation for Ground Improvement <i>Farzana Iqbal, Golnaz Alipour Esgandani, Simon Martin Clark</i>
2:50 – 3:05 pm	Predicting Soil Swelling Stabilisation Using Agro-industrial Byproducts: Comparing Deep Learning with Genetic Programming <i>Hamed Faizi, Abbas El-Zein</i>

3:05 – 3:30 pm	Afternoon Tea break (Room PS-EB.G.32 and EB.G.33)
Afternoon Session 2	Chair: Prof Lixia Chen (Room EB.G.36) (Zoom ID: 817 3756 5604; password: icgmge2025)
3:30 – 3:50 pm	Invited Speaker 3: Codifying Geotechnical Reasoning for Artificial Intelligence: A Practitioner's Framework for Project Delivery Dr Chia Weng Boon Gamuda Australia
3:50 – 4:05 pm	Rainfall- induced landslides in Chongqing, China: failure mechanism, spatial heterogeneity and rainfall thresholds <i>Kai Wang, Kunlong Yin, Deying Li, Shuhao Liu, Taorui Zeng, Ye Li, Qin Chen, Binjing Jin, Yang Liu</i>
4:05 – 4:20 pm	Artificial Intelligence for Classification of Railway Earth Retaining Structures <i>Md Zahidul Islam, Chin Jian Leo, Ju Jia Zou, Samanthika Liyanapathirana, Pan Hu, Bo Xiao, Stanley Yuen</i>
4:20 – 4:35 pm	Finite Element Stability Analysis of Blocky EPS Geofoam Embankment <i>Yang An, Bo Xiao, Stanley Yuen</i>
4:35 – 4:50 pm	Soil-Structure Interaction and 3D Scour Mechanisms Around Spudcan Foundations <i>Hossein Ameri, Pan Hu, Ming Zhao, Chin Leo, Samanthika Liyanapathirana</i>
4:50 – 5:05 pm	A Mixed Finite Element Model for Deep Excavation Analysis <i>Morteza Ramezanpour, Chin J. Leo, Samanthika Liyanapathirana, Pan Hu, Jeffrey Zou</i>
7:00 – 10:00 pm	CONFERENCE DINNER (Only for the CONFERENCE DINNER ticket holders) (Novotel Sydney Parramatta – Prince Alfred Square light rail station)

Day 3 – Friday 28 Nov 2025

Time	Session
8:00 – 9:00 am	Registration, Parramatta South Campus (Room PS-EB.G.18)
Morning Session 1	Chair: A/Prof Giang Nguyen (Room EB.G.36) (Zoom ID: 817 3756 5604; password: icgmge2025)
9:00 – 9:30 am	Keynote Speaker 3: The behaviour of slightly unsaturated soils and tailings Prof Adrian Russell, University of New South Wales, Australia
9:30 – 9:50 am	Invited Speaker 4: Managing Geotechnical Risk in Sydney's Road Tunnel Projects Peter Ng, John Holland Group, Australia
9:50 – 10:05 am	FEM Study of Root Effects on Rainfall-Induced Internal Erosion in Deposited Soil <i>Xiaoqin Lei, Weiyu Zhang and Henry Wong</i>
10:05 – 10:20 am	Deep Learning-Based Crack Detection with a Focus on Masonry and Concrete Earth Retaining Structures <i>Md Zahidul Islam, Chin Jian Leo, Ju Jia Zou, Samanthika Liyanapathirana, Pan Hu, Bo Xiao and Stanley Yuen</i>
10:20 – 10:35 am	Enhanced Un-Calcinated Kaolinite-Based Alkali-Activation Binder Slurry for Expansive Soil Stabilisation <i>Mengyuan Zhu, Minghao Lu, Yikang Hu, Chin Leo, Qinghua Zeng, Samanthika Liyanapathirana, Pan Hu, Jeff Hsi, Reza Karimi</i>
10:35 – 11:00 am	Morning Tea (Room PS-EB.G.32 and EB.G.33)
Morning Session 2	Chair: Dr Pan Hu (Room EB.G.36) (Zoom ID: 817 3756 5604; password: icgmge2025)
11:00 – 11:30 am	Keynote Speaker 4: Prof Yin Kunlong, China University of Geosciences, Wuhan, China Title: landslides and their risk management in the Three Gorges Reservoir, China
11:30 – 11:50 am	Invited Speaker 5: Consolidation and semi-rigid ground improvement techniques-lessons learned from projects and standard requirements

	Dr AHM Kamruzzaman, TfNSW, Australia
11:50 – 12:05 pm	Identification of a novel passive failure in semi-integral bridge abutment wall <i>Minghao Lu, Mengyuan Zhu, Ahmed Al-qarawi, Lila Sigdel</i>
12:05 – 12:20 pm	Application of Expanded Polystyrene (EPS) Geofoam for Column-supported Embankments over Soft Ground <i>A. A. S. Kaushalya, D. S. Liyanapathirana, C. J. Leo, W. D. Habaraduwa Peellage</i>
12:20 – 12:35 pm	Durability Of Expansive Residual Bringelly Shale Stabilized with Lime and Sodium Hydroxide under Wetting and Drying Cycles <i>Fatemeh Sadeghian, Chin Leo, Qinghua Zeng, Samanthika Liyanapathirana, Pan Hu</i>
12:35 – 1:30 pm	Lunch (Room PS-EB.G.32 and EB.G.33)
Afternoon Session 1	Chair: Dr AHM Kamruzzaman (Room EB.G.36) (Zoom ID: 817 3756 5604; password: icgmge2025)
1:30 – 2:00 pm	Keynote Speaker 5: The importance of groundwater consideration in geotechnical designs Kim Chan, Australia
2:00 – 2:15 pm	Fluidisation in Saturated Clay Subgrades – A Review <i>Piumali Abeywickrama, D. S. Liyanapathirana</i>
2:15 – 2:30 pm	Finite Element Analysis to Simulate Controlled Modulus Columns Installation <i>Vajira Jayasundara, Samanthika Liyanapathirana, and Chin Leo</i>
2:30 – 2:45 pm	Interfacial Behaviour of Expanded Polystyrene (EPS) Geofoam in Embankments: A Review of Numerical Approaches <i>A. A. S. Kaushalya, D. S. Liyanapathirana, C. J. Leo, W. D. Habaraduwa Peellage</i>
2:45 – 3:00 pm	A meshless numerical method for wave-shore interaction analysis <i>Yang Jianhua, Tang Yang, Zheng jin, Zhang yu</i>
3:00 – 3:30 pm	Afternoon Tea (Room EB.G.32 and EB.G.33)
Afternoon Session 2	Chair: Prof Deying Li (Room EB.G.36)

	(Zoom ID: 817 3756 5604; password: icgmge2025)
3:30 – 3:45 pm	<i>A Qualitative and Quantitative Assessment of Standard Penetration Test (SPT) Practices in Bangladesh</i> Mohammad Mominul Hoque , Reshma and Md. Hasibul Islam
3:45 – 4:00 pm	Evaluation of Bitumen Characteristics Modified with Plastic Waste for Flexible Pavements Ahmed Alqarawi , Amer Wadi, Sokrates Ioannou, Ammar Al Hajjaj, Patcy Paul
4:00 – 4:15 pm	Quantifying Negative Skin Friction along Pile under Axial Load and Surface Surcharge Hayder Hasan , Malik Assi, Faris Jawad, Hadi Khabbaz
4:15 – 4:30 pm	Weathering-Induced Mineralogical Changes in Sri Lankan Hilly Terrain: Implications for Slope Stability and Sustainable Land Use K.W.D. Sanjeewa , U.P. Nawagamuwa
4:30 – 4:45 pm	Real-Time Forest Encroachment Detection Using Remote Sensing Chinta Sai Madhurya, K. Srinivas, Allu Vema Durga Pranav
4:45 – 5:00 pm	Synthesis and Characterization of Coal Ash Reinforced Clay-based Bricks as A Construction Material. As Means of Ecosystem/Environment Management Getahun Demeke Worku , Assamen Ayalew Ejigu, Chirota Getem Zenebe
5:00 – 5:30 pm	Conference Closing and Awards (Room EA.2.13 (LT02))