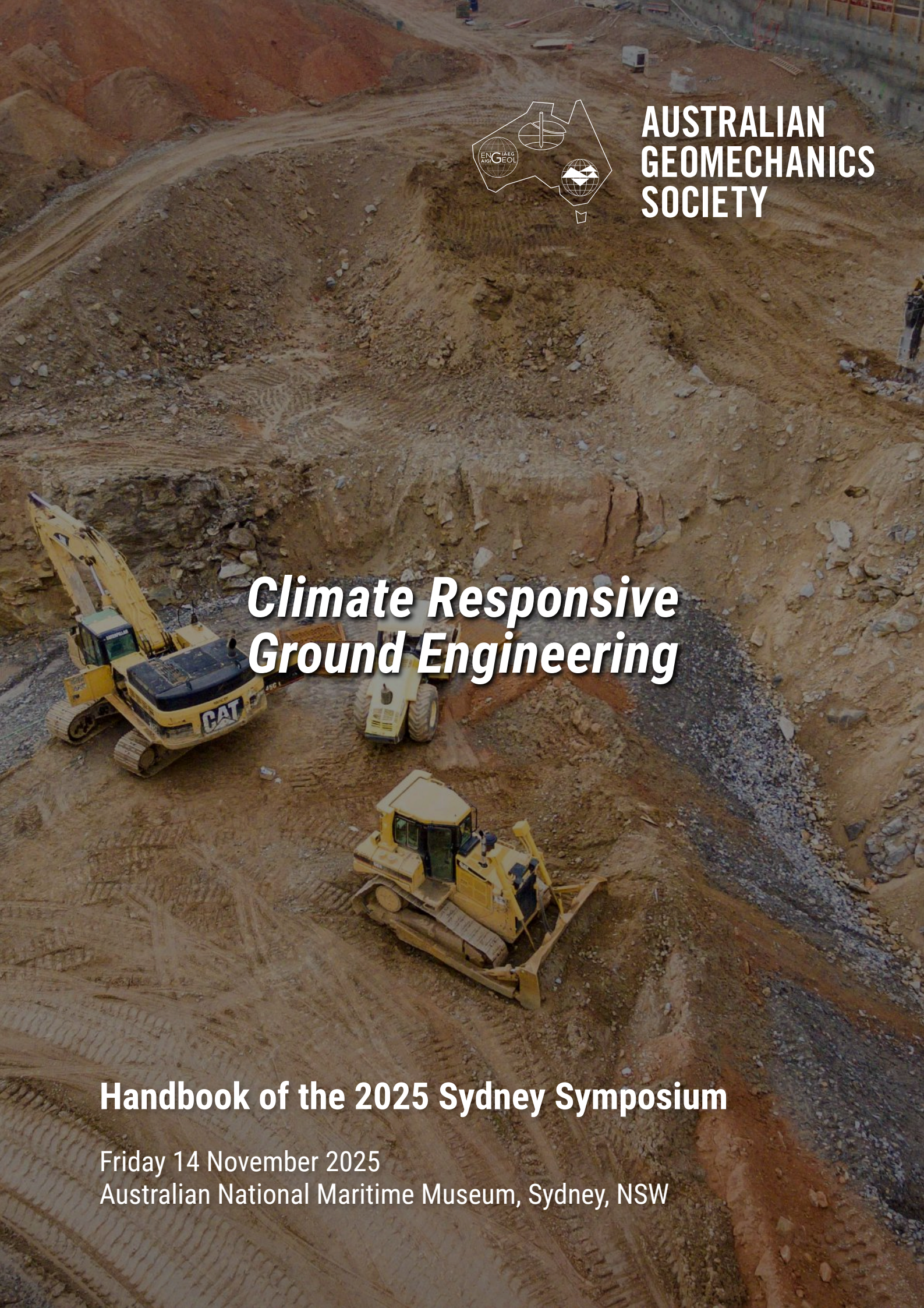

AUSTRALIAN GEOMECHANICS SOCIETY

Climate Responsive Ground Engineering

Handbook of the 2025 Sydney Symposium

Friday 14 November 2025
Australian National Maritime Museum, Sydney, NSW

Welcome from the Sydney Symposium Organising Committee

Australian National Maritime Museum
Murray Street, Sydney NSW
Friday 14 November 2025

The 2025 AGS Sydney Symposium brings together practitioners, researchers, and industry leaders to explore the role of geotechnical engineering in a changing climate. This year's theme – Climate Responsive Ground Engineering, challenges us to consider how our designs, materials, and methods must adapt to an environment defined by variability, uncertainty, and transformation.

Geomechanics sits at the intersection of nature and infrastructure. From landslides to foundations, flood recovery to renewables, our field continues to evolve in response to the pressures of climate change and the papers presented at this symposium reflect the breadth and ingenuity of our responses. Nature-based solutions, material reuse, resilient and adaptive infrastructure design all feature in the technical program, alongside studies that push the boundaries of material science, design modelling, and performance prediction.

Our industry works with complex materials – those shaped by nature, not manufactured to specification. This reality forces us to innovate and to look beyond standards. To learn from what came before and to apply sound judgment grounded in experience and data.

This symposium serves not only as a technical exchange, but as a celebration of the collective efforts shaping our profession. Whether you are here to share your work, learn something new, or connect with peers – we welcome you to be part of this important conversation.

Alice Clark, Aurecon (Organising Committee Coordinator)
Ali Parsa, JK Geotechnics
Hadi Khabbaz, University of Technology Sydney
Cholachat Rujikiat-kamjorn, University of Technology Sydney
Saman Zargarbashi, WSP
Sam Mirlatifi, Arcadis
AHM Kamruzzaman (Zaman), TfNSW
Mehdi Tamadon, GHD
Mehrnaz Alibeikloo, WSP
Hamid Mortazavi Bak, Beca
Ali Arefnia
Pan Hu, Western Sydney University
Mohammad Vahab, UNSW

Keynote Speakers

Prof. Slobodan Mickovski
Glasgow Caledonian University

Climate-Resilient Geotechnics: Integrating Vegetation and Nature-Based Solutions

Professor Slobodan Mickovski is a Chartered Civil Engineer with over 20 years' experience across sectors including rail, highways, flood defence, marine, and residential development. He combines practical design expertise in geotechnical engineering with a research background focused on how vegetation improves soil strength. His work spans ground investigations, foundation and slope design, and earthworks, with specialist skills in bio and eco-engineering solutions for erosion control and natural hazard remediation. With a focus on the sustainability and resilience of nature-based engineering solutions, he actively collaborates with UK and international partners in France, Brazil, China, Canada, Austria, and Spain.

Dr Jim Yang
Arcadis

Impacts of Climate Change on Design and Construction of Infrastructure Projects – Case Studies

Dr Jim Yang is a Fellow, EngExec and Chartered Professional Engineer of Institution of Engineers, Australia, with over 30-year experience in project management and design of major infrastructure projects and building structures within Australia and overseas. He has published two book chapters and over 85 technical papers and invited lectures. Jim was the co-chairman for the China Tunnel and Bridge Summit in 2012, 2016 and 2018 respectively.

Invited Speakers

Prof. Behzad Fatahi

University of Technology Sydney

Response of Stabilised Landfill Waste to Cyclic Loading for Sustainable Subgrade Applications

Professor Behzad Fatahi is a distinguished and award winning civil and geotechnical engineer recognised for advancing infrastructure resilience under complex ground and loading conditions. He has held key leadership roles at the University of Technology Sydney (UTS), including Head of Discipline and Deputy Head of School. His research spans dynamic soil-structure interaction, ground improvement, and infrastructure resilience against natural hazards. Behzad has published over 250 peer-reviewed papers and supervised more than 20 PhD students. A former engineer at Coffey in Sydney, he contributed to major infrastructure projects across Australia and was named 'Australasia Young Railway Engineer of the Year' by the Railway Technical Society of Australasia and Engineers Australia.

Dr Asal Bidarmaghz

University of New South Wales

Energy Geo-Structures

Dr Asal Bidarmaghz is a Senior Lecturer in Geotechnical Engineering at the School of Civil and Environmental Engineering, UNSW Sydney, and a recognised leader in the fields of Energy Geotechnics and Underground Climate Change. Her expertise spans the design and optimisation of energy geostructures and the coupled hydro-thermo-mechanical behaviour of the urban subsurface, with a strong focus on its interaction with above and below-ground infrastructure. Her research advances large-scale modelling of urban underground heat islands and quantifies their geotechnical, environmental, and hydrological impacts – driving sustainable, climate-resilient use of underground spaces and geo-energy systems in modern cities.

2025 Symposium Programme

TIME	PRESENTER	TOPIC	ORGANISATION
08:00 - 08:45		Registration	
SESSION 1: CLIMATE-RESPONSIVE DESIGN AND ADAPTATION			
08:45 - 09:00	Cholachat Rujikiatkamjorn	Opening address	AGS Committee
09:00 - 09:40	Slobodan Mickovski	Climate-Resilient Geotechnics: Integrating Vegetation and Nature-Based Solutions	Glasgow Caledonian University, UK
09:40 - 09:55	Manuel Neves	Geotechnical Site Classification Post-Flood: How Soils Change and Why It Matters	Fortify Geotech
09:55 - 10:10	Muliadi Merry	Integration of Slope Risk Assessment and Computer-Aided Simulation in Rock Fall Control	MM Geomechanics
10:10 - 10:25	Cameron Baker	Bridging Geotechnics and Coastal Engineering: A Consultant's Approach	Fortify Geotech
10:25 - 10:40		Session 1 Q&A	
10:40 - 11:00		Morning tea	
SESSION 2: CIRCULAR GEOTECHNICS AND MATERIAL REUSE			
11:00 - 11:10	Asal Bidarmaghz	Ground Level Alliance Presentation	Ground Level Alliance
11:10 - 11:30	Behzad Fatahi	Response of Stabilised Landfill Waste to Cyclic Loading for Sustainable Subgrade Applications	University of Technology Sydney
11:30 - 11:45	Roseller Oblimar	Temporary Strand Anchors Beyond Design Life: Performance Assessment and Remedial Strategy	Fortify Geotech
11:45 - 12:00	Stefano Pirrello	Alternative Method to Reclassify Uncontrolled Fill to Deem to Comply Level 1 Fill	GeoSmart Solutions
12:00 - 12:15		Session 2 Q&A	
12:15 - 12:30	Amir Shahkolahi	AGS Life Membership Award Presentation: Professor David Airey	
12:30 - 13:30		Lunch	
SESSION 3: CLIMATE CHANGE IN INFRASTRUCTURE DESIGN AND GROUND IMPROVEMENT			
13:30 - 13:40	Ananta Ananda & Muliadi Merry	Platinum Sponsor Presentation	MM Geomechanics
13:40 - 14:10	Jim Yang	Impacts of Climate Change on Design and Construction of Infrastructure Projects – Case Studies	Arcadis
14:10 - 14:25	James Ternes	Geotechnical Monitoring and Preload Optimisation for a Road Embankment over Compressible Soils under Climatic Variability	Geomotion Australia
14:25 - 14:40	Vajira Jayasundara	Evaluation of Existing Design Methods for Controlled Modulus Columns	Western Sydney University
14:40 - 14:55	Jamie McIlquham	Ground Improvement Design for Parramatta Light Rail Stabling and Maintenance Facility	WSP
14:55 - 15:10		Session 3 Q&A	
15:10 - 15:20	Amir Shahkolahi	Don Douglas Youth Fellowship Award Presentation: Stephanie Salim	
15:20 - 15:45		Afternoon tea	
SESSION 4: ENERGY AND EMERGING TECHNOLOGIES IN GEOTECHNICS			
15:45 - 16:05	Asal Bidarmaghz	Energy Geo-Structures	University of New South Wales
16:05 - 16:20	Tabassom Afshar	Reliable Methods to Measure Thermal Resistivity of Ground: A Review Article	Arcadis
16:20 - 16:35	Hamed Faizi	Balancing Swelling Control and Strength in Clayey Subgrades Using Waste-Based Geopolymers	University of Sydney
16:35 - 16:50		Session 4 Q&A	
16:50 - 17:00	Alice Clark	Closing remarks	AGS Committee
17:00 - 17:30		Networking and Drinks	

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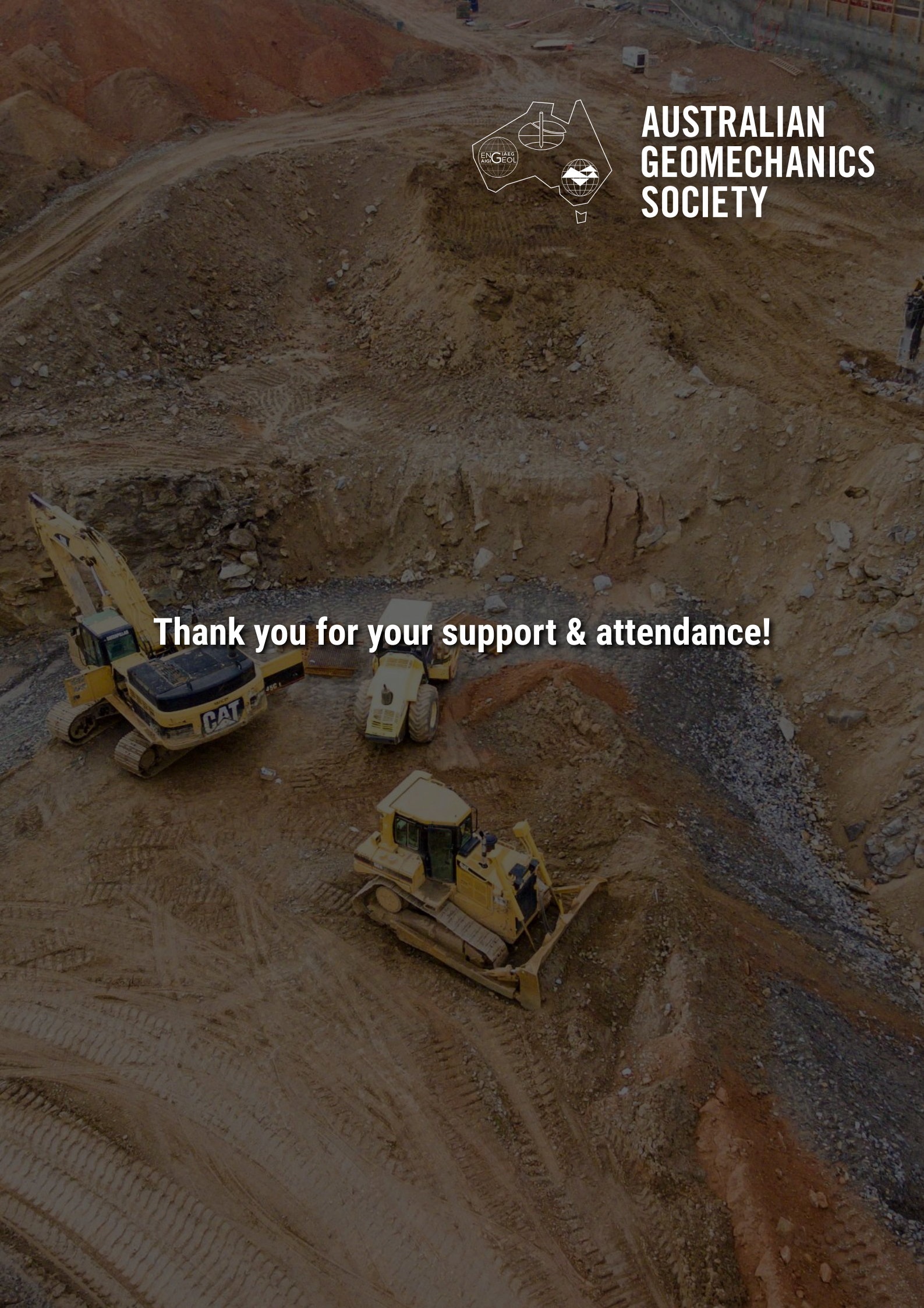

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Thank you for your support & attendance!