

Program Overview

Monday 26 June 2023



26th World Mining Congress
BRISBANE AUSTRALIA 26-29 JUNE 2023

Special Symposium on Mine Closure and Post-Mining Transitions

SYMPOSIUM 1

Session Type	Topic	Speakers/panellists
Welcome from Symposium Chair - Tom Measham		
08:30-09:15	KEYNOTE Regional transitions and mining as an agent of change: What does good closure look like?	Dr Emma Gagen , ICMM Manager, Mine Closure and Water
First Nations Perspectives on sustainability on transitions in mining economies (Chaired by Jim Walker)		
09:15-10:30	PANEL DISCUSSION Sustainable Development Goals and closure Closure business models to enable Indigenous business opportunities	Vanessa Elliot , CRC TiME Nalaine Morin , Skeena Resources Jonathan McLeod , Northern Land Council
10:30 MORNING TEA		
Case studies of closure and transition		
	STREAM 1	STREAM 2
11:00 - 11:20	PRESENTATION Coal in Europe (25)	Vladimir Budinsky , Technical University of Kosice, Slovakia Suitability and Economic Viability of Reclaimed Mined Land for Food Crop Production (969) Dr Daniel Osei-twumasi , Asanko Gold Ghana
11:20 - 11:40	PRESENTATION Insights to successful mine closure and land repurposing in the Australian context: A piecemeal experience	Fiona McKenzie , UWA Australia Towards successful post-mining areas reconversion in conjunction with climate adaptation strategies: Lessons learned from just transition planning in mining regions Jan Bondaruk , Central Mining Institute, Poland
11:40 - 12:00	PRESENTATION Integrating mine closure and re-purposing: Kidston case study (601)	Professor David Williams , UQ Post-Mining Reclamation of Arid Decertified Lignite Mining Lands- A Case Study of Kutch, Gujarat, India (277) Biswajit Paul , Indian School of Mines, Dhanbad, Jharkhand, India
12:00 - 12:20	PRESENTATION The Coal Transition in the Ohio River Valley: Using Social Science and Fine Arts to Understand Community Impacts (924)	Dr. Jeffrey Jacquet , Ohio State Uni, USA More and Better Mine Rehabilitation - Lessons from Queensland (78) James Purtil , QMRC, Brisbane Australia
12:30 - 13:30 LUNCH		
Advances in best practice for closure and transition		
	STREAM 1	STREAM 2
13:30 - 13:50	PRESENTATION Adding Value - Mine Closure as a Dynamic Process (304)	Luke Bagnall , Okane, Brisbane, Australia Repurposing of coal mines and coal-fired power plants in low-carbon energy transformation process (248) Stanislaw Prusek , Central Mining Institute, Poland
13:50 - 14:10	PRESENTATION Assessing Post Mining Geoheritage Tourism Potential: A Case Study from the Hercules Legacy Site in Tasmania (208)	Jon Crosbie , MMG, Australia Investigating the Feasibility of a National Abandoned Mine Database for Risk and Opportunity Assessment in Australia (326) Ebrahim F. Salmi , CSIRO, Australia
14:10 - 14:30	PRESENTATION Study on the effects of saline water on brown coal strength in Latrobe Valley (1282)	Nima Baghbani , Federation University, Australia An agile partnership approach to support the energy transition across the resources industry (880) Mr Marius Verwoerd , Metso, Helsinki, Finland
14:30 - 14:50	PRESENTATION Unlocking Opportunities Through Innovation in Mine Rehabilitation	James Anderson , Thiess The role of Regional Cumulative Impact Assessment in managing for Mine Closure (701) Renee Young , WABSI, Perth Australia
15:00 - 15:30 AFTERNOON TEA		
The significance of good closure for the future of the sector (Chaired by Tom Measham)		
15:30 - 16:50	PANEL DISCUSSION Just transitions and getting out of coal Barriers and enablers Business models How well are we going? Where to next	Guy Boggs , CRC TiME Nadja Kunz , University of British Columbia Anarmaa Sharkhuu , Mongolia Research and Development Center for Climate Change and Sustainable Development
16:50 - 17:00	Closing comments	

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Special Symposium on Sustainable Construction Materials

Pre-Congress Session - Requires Symposium Registration

SYMPOSIUM 2

	Topic	Speakers / panellists
Session 1 – The neglected minerals of development		
8:00-8:20	OPENING	Symposium chairs: Professor Daniel Franks , Program Lead – Development Minerals, Sustainable Minerals Institute, The University of Queensland Professor Pascal Peduzzi , Director, UNEP/GRID Geneva Uyanga Gankhuyag , Program Manager, ACP-EU Development Minerals Programme, UNDP
8:20-8:35	KEYNOTE Mineral security essential to achieve the Sustainable Development Goals	Daniel Franks , Professor and Program Lead – Development Minerals, Sustainable Minerals Institute, The University of Queensland
8:35-8:50	Harnessing artisanal and small-scale mining and quarrying of construction materials for affordable and resilient housing	Uyanga Gankhuyag , ACP-EU Development Minerals Programme, UNDP
8:50-9:05	Engaging Artisanal and Small-Scale Miners of Development Minerals in Public Infrastructure projects: The case of Uganda	Patrick Junior , Development Minerals Program, Sustainable Minerals Institute, The University of Queensland
9:05-9:20	Poverty reduction and livelihood improvement through Development Minerals: The case of Cameroon	Charlot Moussa , UNDP
9:20-9:35	Silicosis among quarry workers in Rajasthan: prevention and alternative livelihoods	Lynda Lawson , Development Minerals Program, Sustainable Minerals Institute, The University of Queensland
9:35-10:15	QUESTIONS TO PRESENTERS & DISCUSSION	Symposium chairs
10:15-10:45 MORNING TEA		
Session 2 – Sand and sustainability Chairs: Professor Daniel Franks , Program Lead – Development Minerals, Sustainable Minerals Institute, The University of Queensland Professor Pascal Peduzzi , Director, UNEP/GRID Geneva Uyanga Gankhuyag , Program Manager, ACP-EU Development Minerals Programme, UNDP		
10:45-11:30	PANEL Sand and sustainability: from science to policy	Louise Gallagher , The University of Queensland Aurora Torres , Université Catholique De Louvain Rajjeli Taga , Permanent Secretary, Mineral Resources Department, Ministry of Lands and Mineral Resources, Fiji
11:30-11:45	Geospatial Modelling to Predict Sediment budgets. Cases from Eastern Jamaica	Laurence Neufville , University of Technology Jamaica
11:45-12:00	The indirect negative impact of mercury in sand tailings from gold mining on Buhweju landscapes	Raymond Katebaka , African Union of Conservationists
12:00-12:15	Assessing the environmental impact of mining – A holistic data-driven approach for quarrying operations	Felipe Sanchez , Chair of Mining Engineering and Mineral Economics, Montanuniversität Leoben
12:15-12:30	QUESTIONS TO PRESENTERS & DISCUSSION	Symposium chairs
12:30-1:30 LUNCH		
Session 3 - Sustainable Concrete Chairs: Professor Daniel Franks , Program Lead – Development Minerals, Sustainable Minerals Institute, The University of Queensland Professor Pascal Peduzzi , Director, UNEP/GRID Geneva Uyanga Gankhuyag , Program Manager, ACP-EU Development Minerals Programme, UNDP		
13:30-13:45	KEYNOTE The global uptake of low carbon cement	Soumen Maity , LC3 Technology Resource Centre & TARA, India
13:45 - 14:00	The state of the art of sustainability innovation in concrete	Professor Shashank Bishnoi , Indian Institute of Technology Delhi
14:00 - 14:45	PANEL Pathways for sustainable transformations in the cement and aggregate industry	Aaron Johnstone , State Director, Queensland, Cement, Concrete and Aggregates Australia Michael Booy , Regional Technical Manager, Hanson Construction Materials, Australia Raymond Mohammed , Acting Director, Mineral Resources Department, Fiji Ministry of Lands and Mineral Resources
14:45 - 15:00	Introductory remarks	Rajjeli Taga and Raymond Mohammed , Ministry of Lands and Mineral Resources, Fiji
	The Blue Concrete Initiative – Low Carbon Concrete in the Pacific	Paul Rogers , Development Minerals Program, Sustainable Minerals Institute, The University of Queensland
15:00 - 15:15	Prospects, Barriers, and innovation drivers in implementing Low Carbon Concrete in Sub-Saharan Africa	Apollo Buregyeya , Eco Concrete Ltd
15:15 - 15:30	Evaluating the use of crushed waste glass modified asphalt mixes in mine haul roads	Aayush Kumar , The University of Queensland & Indian Institute of Technology – Delhi Academy of Research
15:30 - 15:45	QUESTIONS TO PRESENTERS & DISCUSSION	Symposium chairs
15:45 - 16:00 AFTERNOON TEA		
Session 4 - Toward the Future MODERATOR: Louise Gallagher, UQ		
16:00 - 16:45	BREAK OUT DISCUSSION Toward a global network of sand and sustainability researchers and practitioners	
16:45 - 17:15	REPORT BACK	
17:15	CLOSE, Day 1 of Special Symposium	Symposium chairs: Daniel Franks, Pascal Peduzzi, Uyanga Gankhuyag
17:30 - 19:00	WMC 2023 Welcome Reception and Exhibition Opening	

Program Overview

Tuesday 27 June 2023



26th World Mining Congress
BRISBANE AUSTRALIA 26-29 JUNE 2023

Special Symposium on Sustainable Construction Materials

In Congress Session - Requires Full Congress Registration

SYMPOSIUM 2

	Topic	Speakers / panellists
	Sustainable sourcing of sand and aggregates Session Chair: Daniel Franks , The University of Queensland	
15:30 - 15:45	KEYNOTE Sand and sustainability: 10 strategic recommendations to avert a crisis	Pascal Peduzzi , Professor and Director, UNEP/GRID Geneva
15:45 - 16:00	A global assessment of the impact of mining construction minerals on biodiversity, policy coverage, and mitigation strategy	Aurora Torres , Université Catholique De Louvain
16:00 - 16:15	Inspiring responsible sourcing of sand	Louise Gallagher , Development Minerals Program, Sustainable Minerals Institute, The University of Queensland
16:15 - 16:30	Scoping the sustainability of our sand and silicates supply chain	Louise von Ehrenheim & Pramod Singh , IKEA of Sweden
16:30 - 16:45	Tracing sand-supply networks through provenance analysis	Zachary Sickmann , University of Texas
16:45 - 17:00	Introductory remarks	Uyanga Gankhuyag , UNDP
	Building disaster and climate resilience through Development Minerals	Gary Lee , Pacific Community
17:00 - 17:15	QUESTIONS TO PRESENTERS & DISCUSSION	Session Chair

Wednesday 28 June 2023

Special Symposium on Sustainable Construction Materials

In Congress Session - Requires Full Congress Registration

	Reducing mineral wastes through by-products MODERATOR: Prof. Daniel Franks , The University of Queensland	
11:00 - 11:20	KEYNOTE An Alternative Sand from Mineral Ores named "Ore-sand": how Vale has got to create a sustainable business from tailings	Laís Resende , Vale Minerals
11:20 - 11:35	Ore-sand as a solution to the mine tailings and global sand sustainability crises	Juliana Segura-Salazar , Development Minerals Program, Sustainable Minerals Institute, The University of Queensland
11:35 - 12:15	PANEL Circular economy approaches for mine waste reduction	MODERATOR: Prof. Daniel Franks , The University of Queensland
		Laís Resende , Senior Product Development Engineer, Vale, Brazil Luke Vollert , Principal Metallurgist Directional Studies & Technology Newcrest Mining Limited, Australia Juliana Segura-Salazar , Research Fellow, Development Minerals Program, Sustainable Minerals Institute, The University of Queensland Chamari Pushpamali Narayana Naidelage , Queensland Department of Resources & Centre for Social Responsibility in Mining, Sustainable Minerals Institute, The University of Queensland
12:15 - 12:45	QUESTIONS	

Program Overview

Monday 26 June 2023



26th World Mining Congress
BRISBANE AUSTRALIA 26-29 JUNE 2023

Symposium on Minerals Policy & Governance for the New Economy

SYMPOSIUM 3

	Topic	Speakers / panellists
Session 1 - Key drivers for governments and other stakeholders that will influence minerals policy and governance over the next 30 years		
8:00 - 8:15	Change in the minerals industry to address global expectations supporting decarbonisation and minerals' supply challenges	Mark Cutifani , Symposium chair
8:15 - 8:35	Title TBA	The Hon Madeleine King, MP , Commonwealth Government Minister for Resources
8:35 - 8:50	Australia's Opportunity in the Expanding Critical Minerals Sector	Hon Susan McDonald , Senator for Queensland, Shadow Minister for Resources and Northern Australia
8:50 - 9:10 (pre-recorded)	Rationale for international governmental collaboration and coordinated policy approaches to achieve the required production of minerals for the new economy	Tim Gould , Chief Energy Economist, International Energy Agency
9:10 - 9:30	The role of different stakeholders in minerals policy and governance processes in the 21st century	Tony Hodge , Consultant
9:30 - 9:50	The Queensland Way: developing a resilient, responsible and sustainable resources industry that grows as it transforms Australia	The Hon. Scott Stewart , Minister for Resources, Queensland Government
9:50 - 10:10	USA policy on the consumption and production of materials for the new economy	Stephen Fortier , Presented on behalf of Stephen Fortier by Elisa Alonso , USGS
10:10 - 10:40 MORNING TEA		
10:40 - 11:00	The policy, status and trend for metals recycling in China	Han Long , Chair, BGRIMM
11:00 - 11:20	India policy on the consumption and production of materials for the new economy	Vivek Kumar Sharma , Director, Indian Ministry of Mines
11:20 - 11:40	The African mining vision and critical minerals: opportunities and challenges	Marit Kitaw , Interim Director, African Minerals Development Centre
11:40 - 12:00	NE Asia (S Korea/Japan) policy on the consumption of materials for the new economy	Nobuaki Arima , Director, Mineral & Natural Resources Division, METI
12:00 - 13:20 LUNCH		
Session 2 - Collaborative government and stakeholder policy approaches		
13:20 - 13:40	Global Battery Passport - a benchmark for critical materials collaboration	Gillian Davidson , Chair, Global Battery Alliance and chair, ESG Responsible Supply Chains
13:40 - 14:00	Critical Minerals in the Amazon: the refined challenge of expanding production and keeping the forest standing	Rinaldo Mancin , Director of Institutional Relations, IBRAM
14:00 - 14:20	The ASEAN Minerals Cooperation Action Plan - a collective approach to minerals policy aimed at enhancing sustainable national and regional outcomes	Djoko Widajatno , Indonesian Mining Association
14:20 - 14:40	What is likely to be the most effective role for governments in supporting and driving sourcing and supply of the critical minerals needed for the new economy	Rod Eggert , Professor, Colorado School of Mines, and Deputy Director, Critical Materials Institute
14:40 - 15:00	Peru's critical minerals policy in the context of LATAM policy on materials for the new economy	Vitaliano Gallardo , Ambassador
15:00 - 15:20	Metals for Clean Energy - Pathways to solving Europe's Raw materials Challenge	Roman Stiftner , Vice President, Euromines
15:20 - 16:00 AFTERNOON TEA		
16:00 - 16:20	Governance issues for the UK's critical minerals supply chain	Jeff Townsend , Founder, Critical Minerals Association, UK
16:20 - 16:40	Mining for Development in the age of critical minerals - more important than ever!	Robin Evans , SMI Industry Fellow
16:40 - 17:00	Critical minerals and socio-economic development - a Latin American perspective	Ricardo Labo , Independent Mining Consultant
17:00 - 17:20	Regeneration: New governance, policy, and business thinking for the energy transition, green tech, and sustainable brands	Stephen D'Esposito , President & CEO, Resolve and Regeneration
17:20	CLOSE, Day 1 of Special Symposium	
17:30 - 19:00	WMC 2023 Welcome Reception and Exhibition Opening	

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Symposium on Minerals Policy & Governance for the New Economy

In Congress Session - Requires Full Congress Registration

SYMPOSIUM 3

	Topic	Speakers / panellists
	Critical Minerals' Supply Chain Provenance - Queensland Government Session Sponsor Session Chair: Shaun Ferris	
15:30 - 15:50	Global Supply Chain Issues for Critical Minerals	Magnus Ericsson , Lulea University of Technology
15:50 - 16:05		
16:05 - 16:20	Sumitomo's Vanadium Redox Flow Battery and electrolyte	Arata Doi , Manager, Strategic Business Planning Group, Flow Battery System Business Planning, Department, Energy Systems Division, Sumitomo Electric Industries, LTD
16:20 - 16:35	OECD Due Diligence guidance for responsible supply chains of minerals	Louis Marechal , Sector Lead, Directorate for Financial & Enterprise Affairs, OECD
16:35 - 16:50	It's time to make global supply chains traceable, ethical and sustainable	Yue Jin Tay , Circular
16:50 - 17:20	Panel Discussion with all speakers	Mark Cutifani , Moderator
17:20 - 17:35	Summary of the 3 Sessions of the Symposium on Minerals Policy & Governance. AND, where to from here?	Graeme Stanway , Founder, StateofPlay.org, Perth
17:35 - 17:45	Symposium closing remarks	Helen Degeling , Cobalt Blue Holdings Limited
17:45 - 17:50	Vote of Thanks	Shaun Ferris , Queensland Government

Theme: Mining: Creating Value for Society

TIME (AEST)	PLENARY SESSION
08:00 - 08:30	Welcome to Country Official Opening
SESSION CHAIR	
08:30 - 08:40	Welcome to WMC 2023 Dr Hua Guo WMC 2023 Congress Chair
08:40 - 08:50	Welcome from WMC Professor Marek Cala Chairman of International Organising Committee of World Mining Congress
08:50 - 09:00	Welcome from CSIRO Dr Larry Marshall Chief Executive, CSIRO
09:00 - 09:15	Welcome from Commonwealth Minister Commonwealth Minister
09:15 - 09:30	Welcome to Queensland Plenary Session 1
SESSION CHAIR	
09:30 - 09:55	Rohit Dhawan President and Chief Executive Officer, International Council on Mining and Metals (ICMM) Plenary Session 2
09:55 - 10:20	Mike Henry Chief Executive Officer and Director, BHP Plenary Session 3
10:20 - 11:00	MORNING TEA/POSTERS

SESSION CHAIR	
11:00 - 11:25	Duncan Wanblad Chief Executive, Anglo American plc Plenary Session 4
11:25 - 11:50	Plenary Session Fiona Hick Chief Executive Officer, Fortescue Metals Group Ltd Plenary Session 5
11:50 - 12:15	Sanjeev Gandhi Managing Director & CEO, Orica Plenary Session 6
12:15 - 13:30	LUNCH / POSTERS
SESSION CHAIR	
13:30 - 13:55	Critical minerals, collaboration and training: The role of universities in mining's global future Professor Deborah Terry AO Vice-Chancellor and President, The University of Queensland Plenary Session 7
13:55 - 14:10	Professor Li Xiaohong President, Chinese Academy of Engineering Plenary Session 8
14:10 - 14:25	Tania Constable PSM Chief Executive Officer, Minerals Council of Australia Plenary Speaker - Discussion + Q&A
MODERATOR	
14:25 - 15:00	Facilitated discussion + Question & Answer Plenary Speakers
15:00 - 15:30	AFTERNOON TEA/POSTERS

PARALLEL SESSIONS

TIME (AEST)	ARTIFICIAL INTELLIGENCE	AUTONOMOUS SYSTEMS	CRITICAL MINERALS	DECARBONISATION	ENVIRONMENTAL SUSTAINABILITY	FUTURE WORKFORCE & EDUCATION	GEOSCIENCES & DISCOVERY	HEALTH, SAFETY & WELLBEING	MINING SCIENCE & ENGINEERING	NEW MINING FRONTIERS	PROCESSING & REFINING	SOCIAL PERFORMANCE & GOVERNANCE	TECHNOLOGY & OPERATIONS	TECHNOLOGY & OPERATIONS	TECHNOLOGY & OPERATIONS	SUSTAINABLE CONSTRUCTION MATERIALS
15:30 - 17:15	Rapid Resource Modelling	Human Autonomy Integration	Critical Minerals Provenance Final Session of the Minerals Policy & Governance Symposium & Joint Session of Decarbonisation & Critical Minerals Streams	Global Change Driving the Rise of ESG	Industry Discussion Forum Future Workforce Skills - Needs, Training and Development Models	Global Mega Trends - Resource Implications	Safety Leadership and Safety Culture	Mining - Creating Value for Society	New Mining Frontiers	Optimising the Production Chain	Panel Session on Social Performance in the Global Mining Sector: the State of Play and Emerging Challenges	Mine Operations	Rock Mechanics & Tunneling	Electrification	Sustainable Sourcing of Sand and Aggregates	
Session Chair:	David Lawie Imdex Ltd	Ross McAree The University of Queensland	Shaun Ferris Queensland Government	Nadja Kunz The University of British Columbia	Diana Drinkwater Minerals	Chris Pigram Geoscience Australia	Susan Johnston The University of Queensland	Charlie Sartain FausIMM, FTSE	Jonathon Ralston CSIRO	Joe Pease Minerals	Deanna Kemp The University of Queensland	Ian Neill Australian Coal Research Limited	Charles Fairhurst Itasca International Inc.	Tony Egan Glencore	Daniel Franks The University of Queensland	
15:30 - 15:45	KEYNOTE AI in Mining - ChatGPT (One Body Knowledge) Anyone? David Lawie Imdex Ltd	15:30 - 16:15 KEYNOTE AI Reality Check: Truth vs Hype in the stampede towards AI Missy Cummings George Mason University	15:30 - 15:50 Global Supply Chain Issues for Critical Minerals Magnus Ericsson Luleå University of Technology	15:30 - 15:50 KEYNOTE Global Change Driving the Rise of ESG Aidan Davy ICMM	15:30 - 17:15 Industry Discussion Forum Sharon Aldenton Bechtel Gavin Lind Mining and Automotive Skills Alliance	15:30 - 16:00 KEYNOTE Sustainable Australian Mineral Resources - A grand challenge Rob Hough CSIRO	15:30 - 15:50 KEYNOTE Leadership for Highly Reliable Organisations Jolanda Jetten The University of Queensland	15:30 - 15:50 KEYNOTE Modern Mining - Responsible and Sustainable Jeffrey Dawes Komatsu Ltd	15:30 - 15:40 Introduction to the New Mining Frontiers Theme Jonathon Ralston CSIRO	15:30 - 15:50 KEYNOTE Sensing Developments for Preconcentration and Process Control Applications David Miljak CSIRO	15:30 - 17:15 PANEL SESSION Adam Lees Rio Tinto Dario Zegaro Newmont Peru Marit Kitaw African Minerals Development Centre	15:30 - 15:50 KEYNOTE Just Transition - Way Forward Amrit Lal Meena Ministry of Coal, Government of India Ismet Canbulat The University of New South Wales	15:30 - 15:50 KEYNOTE The Need for Future Developments in Rock Mechanics Charles Fairhurst Itasca International Inc.	15:30 - 15:50 KEYNOTE Centralised Maintenance Planning and Scheduling - BHP's Journey Tim Day BHP	15:30 - 15:45 KEYNOTE Sand and Sustainability: 10 Strategic Recommendations to Avert a Crisis Pascal Peduzzi UNEP/GRID Geneva	
15:45 - 16:00	Rapid Resource Modelling: New Workflows for Radically Faster and More Flexible Models Clint Ward Anglo American	16:15 - 16:30 System Safety for Autonomous Mining Chirag Sathe GMG	15:50 - 16:05	15:50 - 16:10 KEYNOTE Mining and the Sense of Place Nalaine Morin Skeena Resources	Nicole Brook AusIMM Virginia Lawson Glencore	16:00 - 16:15 Critical Raw Materials for the Energy Transition Kathryn Goodenough BGS	15:50 - 16:05 Psychological Safety: Setting the Foundation for a Speak Up Culture Bobbie Foot BHP Naomi Armitage Humanology Group	15:50 - 16:10 Carrapateena Province - From Salt Bush to Block Cave, A Case Study Myles Johnston BHP	15:40 - 16:05 KEYNOTE Space Technology and Industries: Opportunities and Challenges Alan Duffy Swinburne University of Technology	15:50 - 16:05 Unlocking Complex Orebodies Richard Valenta The University of Queensland Tricia Wilhelm Anglo American	15:30 - 16:05 KEYNOTE YILMADEN Holding / Eti Krom INC (Elazığ, Eastern Anatolia, Türkiye) "SMART MINING" Applications Ilker Senguler Yildirim Group of Companies / Yilmaden Holding Deepak Adhikary CSIRO	15:50 - 16:05 Predicting the Height of Longwall mining Induced Connective Fracturing and Estimating the Permeability Enhancement Deepak Adhikary CSIRO	15:50 - 16:05 Sustainable Electrified Haulage: The World's Longest Consecutive Trolley Line and Only Trolley Line in the 100t Class Peter Schimek Va Erzberg GmbH	15:45 - 16:00 A Global Assessment of the Impact of Mining Construction Minerals on Biodiversity, Policy Coverage, and Mitigation Strategy Aurora Torres Université Catholique De Louvain		
16:00 - 16:15	Enhancing Automated Classification of Geochemical Data for Core Logging June Hill CSIRO	16:30 - 16:45 How Can We Achieve Functionally Safe Mining Robots Ross McAree The University of Queensland	16:05 - 16:20	16:10 - 16:25 The Changing Landscape for Closing a Mining Operation Jennifer Bowcock Rio Tinto	Christopher Boreham Geoscience Australia	16:15 - 16:30 Australia's Geology - Providing Natural Hydrogen for the Future Christopher Boreham Geoscience Australia	16:05 - 16:20 How Can We Create Better Learning Outcomes in Industry? Trish Kerin iChEMe	16:10 - 16:30 Northparkes Mines - The Life of Mine Focus to Achieve a Century of Mining Together Mitch Garside Northparkes Mines	16:05 - 17:15 PANEL DISCUSSION Facilitator: Justine Lacey CSIRO Alan Duffy Swinburne University of Technology Jerry Sanders NASA	16:05 - 16:20 Processing of Complex Materials in the Copper Industry: Challenges and Opportunities Ahead Gerardo Alvear Flores Canadian Engineering Associates	16:05 - 16:20 Fleet Management System in Open Pit Coal Mining For Truck Optimization Ikhshan Maulana PT Pamparsada Nusantara Wanwei Fang Shandong Energy Group	16:05 - 16:20 Study on Roof Failure Law and Repair Technology of Gob-side Entry Retaining in Deep and Large Dip Angle Ikhsan Maulana PT Pamparsada Nusantara Wanwei Fang Shandong Energy Group	16:05 - 16:20 A Profitability Assessment of Developing Infrastructure for Battery-Powered Heavy Equipment Rizky Wikandika Pt. Kaltim Prima Coal Wanwei Fang Shandong Energy Group	16:00 - 16:15 Inspiring responsible sourcing of sand Louise Gallagher & Daniel Holm Development Minerals Program, Sustainable Minerals Institute, The University of Queensland		
16:15 - 16:30	Classification of Rock Units through Machine Learning using Sample Images and Geochemistry Mikael Artursson Minalyze Pty Ltd	16:45 - 17:00 Cyber Physical Systems to Achieve Human Optimised Autonomy in the Resources Industry Edward Cronin Digital Twinning Australia	16:20 - 16:35 OECD Due Diligence Guidance for Responsible Minerals Supply Chains Louis Marechal OECD - OCDE	16:25 - 17:15 Panel Discussion Aidan Davy, Nalaine Morin, Jennifer Bowcock, Saleem Ali, Stephen D'Esposito & Busisipho Siyobi	16:30 - 16:45 Systems to Discovery Cam McCuaig BHP	16:30 - 16:45 Opening New Doors to a Prevention Culture for Sustainable Mining By Vision Zero Helmut Ehnes ISSA Mining - Social Security	16:30 - 16:50 Consideration of Transition from Open Pit to Underground Scott Cowie Anglo American	16:30 - 16:50 Development, Application and Trend of Tunnel Boring Machine in Coal Mine Shenghua Yang China Coal Technology and Engineering Group Shanghai Ltd	16:35 - 16:50 How to Reduce the Hard Rock Mining Industry's Carbon Footprint by up to 40% Stephen Morrell SMC Testing Pty Ltd	16:20 - 16:35 Planet positive approach to water and resource efficiency Kari Heiskanen Metso Ross Dugavell CSIRO	16:20 - 16:35 Sustainable Open Pit Mine Planning with In-Pit Dumping and Haul Road Selection Ranjit Das Inctec Pivot Ltd	16:20 - 16:35 Continuous Electrified Mining Systems Rudie Boshoff Komatsu Ltd	16:20 - 16:35 Recommended Practices for Battery Electric Vehicles in Underground Mining Troy Charsley Hatch	16:15 - 16:30 Scoping the sustainability of our sand and silicates supply chain Louise von Ehrenheim & Pramod Singh IKEA of Sweden		
16:30 - 17:15	Panel Discussion Toby Cressman Komatsu Ltd	17:00 - 17:15 Assisting Operators of Tomorrow Toby Cressman Komatsu Ltd	16:35 - 16:50 It's time to make global supply chains traceable, ethical and sustainable Yue Jin Tay Circular	Moderator: Tony Hodge The University of Queensland, and Queens University	16:45 - 17:00 New Technologies, Methodologies for Exploration Success Sandra Occhipinti CSIRO	16:45 - 17:00 Fatality Elimination is Within Reach Johan Van Der Mewe BHP	16:50 - 17:10 Development, Application and Trend of Tunnel Boring Machine in Coal Mine Shenghua Yang China Coal Technology and Engineering Group Shanghai Ltd	16:35 - 16:50 How to Reduce the Hard Rock Mining Industry's Carbon Footprint by up to 40% Stephen Morrell SMC Testing Pty Ltd	16:50 - 17:15 Facilitated Panel Discussion	16:35 - 16:50 How to Reduce the Hard Rock Mining Industry's Carbon Footprint by up to 40% Stephen Morrell SMC Testing Pty Ltd	16:50 - 17:15 Question & Answer Session	16:50 - 17:05 Inspecting Rock Mass Movements Behind the Longwall Face Using an Automatic Monitoring System Piotr Malkowski AGH University of Science and Technology	16:50 - 17:05 A Parametric Study to Assess the Impact of Factors Influencing the Cavability of Main Roof in the Longwall Panel Veera Reddy Boothukuri Coal India Limited	16:45 - 17:00 Building Disaster and Climate Resilience Through Development Minerals Gary Lee Pacific Community		
			17:20 - 17:35 Summary of Sessions and Where to from here? Graeme Stanaway 17:35 - 17:45 Closing Remarks Helen Degeling Cobalt Blue Holdings Limited 17:45 - 17:50 Vote of Thanks Shaun Ferris Queensland Government			17:05 - 17:15 Question & Answer Session			Facilitated Panel Discussion		17:05 - 17:15 Question & Answer Session	17:05 - 17:15 Question & Answer Session	17:05 - 17:15 Question & Answer Session	17:00 - 17:15 Question & Answer Session		
17:30 - 19:00	DIGITAL POSTER SESSION															

Theme: Transformation in Mining

TIME (AEST)	PLENARY SESSION
08:15 - 08:30	Opening Session & Housekeeping
	Plenary Session 9
SESSION CHAIR	
08:30 - 08:55	Plenary Session Sinead Kaufman Chief Executive of Minerals, Rio Tinto
	Plenary Session 10
08:55 - 09:20	Plenary Session Transformation of Mining – Sustainability of Lithium Supply Martin Perez de Solay Managing Director & CEO, Allkem

	Plenary Session 11
09:20 - 09:45	Plenary Session Allie MacAdam Global President, Bechtel Mining & Metals
	Plenary Session 12
09:45 - 10:10	Plenary Session Tom Palmer President and Chief Executive Officer, Newmont Corporation
10:10 - 11:00	MORNING TEA/POSTERS
















PARALLEL SESSIONS

TIME (AEST)	ARTIFICIAL INTELLIGENCE	AUTONOMOUS SYSTEMS	CRITICAL MINERALS	DECARBONISATION	ENVIRONMENTAL SUSTAINABILITY	FUTURE WORKFORCE & EDUCATION	GEOSCIENCES & DISCOVERY	HEALTH, SAFETY & WELLBEING	MINING SCIENCE & ENGINEERING	NEW MINING FRONTIERS	PROCESSING & REFINING	SOCIAL PERFORMANCE & GOVERNANCE	TECHNOLOGY & OPERATIONS	TECHNOLOGY & OPERATIONS	TECHNOLOGY & OPERATIONS	SUSTAINABLE CONSTRUCTION MATERIALS
11:00 - 12:45	AI in Ore Body Knowledge and Its Use	Sustainability, Digitisation, and Automation for the Natural Resources Sector	Trade & Investment in Sustainable Critical Minerals	Company Perspective on Decarbonisation	Climate Change and Mining	Future Workforce Skills - Adaptive to Change	Orebody Knowledge - The Sensing, Digital, Visualisation and Information Revolution	Health and Wellbeing	Transformations in Mining	Space Resources Vision and Future	Recycling and Refining	Panel Session ESG Certification and Evaluation Schemes in the Mining Sector: How Do They Work and What Do They Have to Offer?	Ventilation / Methane	Rock Mechanics / Caving	Research Initiatives	Reducing Mineral Wastes Through By-Products
Session Chair:	Rajkumar Mathiravedu Orica	Andrew Strange CSIRO	Ian Dover Non-Executive Director	David Noon GroundProbe	Ian Lowe Griffith University	Jan Cilliers Imperial College London	Andrew Bailey MinEx CRC Ltd	Bobbie Foot BHP	José Marun Consultant	Wayne Stasinowsky CSIRO	Ralph Holmes CSIRO	Bruce Harvey The University of Queensland	John Grieves QCoal Group	Xing Li CSIRO	Tony Egan Glencore	Daniel Franks The University of Queensland
11:00 - 11:15	KEYNOTE Delivering the Digital Mining Value Chain Angus Melbourne Orica	KEYNOTE Satellite Monitoring of Emissions in the Natural Resources Industries: Automation and Advances Rob Perrons Queensland University of Technology	KEYNOTE Investor Requirements in Delivering New Economy Minerals Robert Gray Resource Capital Funds	KEYNOTE Starting with the End in Mind: BHP's Path to Net Zero Anna Wiley, Burkhard Seifert & Tim Richards BHP	KEYNOTE Climate change: Risks and Opportunities for the Global Mining Sector David Karoly University of Melbourne	Session Introduction Jan Cilliers Imperial College London	KEYNOTE A New Methodology for a Better Estimation of Reserves/ Resources of Minor Metals on the Example of Selenium Roman Stiftner Austrian Non Ferrous Metals Federation and Austrian Mining and Steel Association	KEYNOTE Retire with (full) function Gerald Poplin US Centre for Disease Control	KEYNOTE Re-imagining Mining's Footprint Matt Daley Anglo American	KEYNOTE Space Mining is Coming: Implications for Space Exploration and Terrestrial Mining Jerry Sanders NASA	KEYNOTE SMaRT Green SteelTM Polymer Injection Technology: A Pathway to Shape a Sustainable Future for the Iron and Steel Industry by Harnessing Waste Resources Veena Sahajwalla The University of New South Wales	PANEL SESSION Janus Henderson Investors Tim Gerrard Initiative for Responsible Mining Assurance Jon Samuel Anglo American Ben Chalmers Mining Association of Canada	KEYNOTE Impact of Gas Composition on Outburst Propensity of Coal Ting Ren University of Wollongong	KEYNOTE Theory and technology of deep metal ore development by combining high-pressure abrasive water jet and in-situ stress Yiyu Lu Chongqing University	KEYNOTE Future Coal - A Resource for All Reasons Jane Hodgkinson CSIRO	KEYNOTE An Alternative Sand from Mineral Ores named "Ore-sand": How Vale has got to Create a Sustainable Business from Tailings Lais Resende Vale Minerals
11:15 - 11:30	Iron Ore Processing Behaviour Prediction and Enhancing Product Quality in Short-term Planning Using Predictive Geometallurgy Emet Arya Rio Tinto	Prospects of Smart Mining Operating System in the Mining 4.0 Chris Yang The University of Queensland	Masterplan Raw Materials 2030 - A Raw Materials Strategy for Austria Robert Holnsteiner Director-General IV - Telecommunications, Postal Services and Mining	Decarbonising the Copper Industry: A Positive Challenge Bernard Respaud European Copper Institute	KEYNOTE Exploring double binds & opportunities of the nexus of energy, climate change and environment of Mongolia Anarmaa Sharkhuu National University of Mongolia	Swiping Right: Making Mining the Industry of Choice for Gen Z Claudia Mueller Schulich School of Business	Precise Domain of Carbonate Quartz Vein Structures Using Deep Learning and Novel Pattern-matching Filters Farzi Yusufali Stratum AI	KEYNOTE Participatory ergonomics in action Professor Robin Burgess-Limerick The University of Queensland	KEYNOTE A Strategic Approach to Delivering Drill and Blast Step Change Across Anglo American Operations Alan Tordoir Anglo American	Current Achievements and Future Activities Sam Webster SAM	Sustainability in the Nonferrous Smelting Sector for Absolute Resource Recovery and Waste Minimalisation Takashi Nakamura Tohoku University	Stephen D'Esposito Regeneration Enterprises	11:20 - 11:55 Controlled Longwall Shearer Operation Aimed at the Methane Hazard Reduction Jerzy Krawczyk Strata Mechanics Research Institute of the Polish Sciences	11:20 - 11:55 Phase Space Reconstruction and Stability Prediction of the Large-Area Backfill-Surrounding Rock Mass Combination Using Heterogeneous Information Dapeng Chen University of Science and Technology Beijing	11:20 - 11:55 GMG Decarbonization and Collaboration Strategy Chih-Ting Lo EELO Solutions	11:20 - 11:55 Ore-sand as a Solution to the Mine Tailings and Global Sand Sustainability Crises Juliana Segura-Salazar The University of Queensland
11:30 - 11:45	The Application of Orebody Learning for Operational Decision Support Penny Stewart PETRA Data Science	Autonomous Robots Reduce Post-Plant Re-Entry Delays in Underground Mines Farid Kendoul Emsent	Role of European Institute of Innovation & Technology (EIT) - Raw Materials in the EU Massimo Gasparon European Raw Materials Alliance	Deploying Best Available Technology in Australia for the First Time Troy Powell Orica Limited	Climate Change & Mining in the Chilean Context Doug Aitken SMI-ICE-Chile	What Does the Future Hold for Frontline Operators in the Mining Industry? Jake Thornton KPMG Australia	Digital Earth - Visualising Massive Spatial Data to Build a Geological Twin of Queensland Steven Micklethwaite Sustainable Minerals Institute, The University of Queensland	Diesel Exhaust Management: Our Journey of Continuous Improvement to Protect Worker Health Fiona Rosenberg BHP	Prediction and Minimization of Blast Induced Air-Overpressure Using Kernel Extreme Learning Machine and Jaya Algorithm Ruixuan Zhang Queensland University of Technology	Solving our Largest on Earth Challenges Through the Benefit of Technology Transfer Between Space and Mining Michelle Keegan Arose	11:40 - 11:55 Metals for a Healthier Planet - Metso Outotec Kim Fagerland Metso	11:35 - 11:50 Assessment of Gasification Area with Acoustic Emission Instead of Temperature Monitoring in Underground Coal Gasification Akihiro Hamanaka Kyushu University	11:35 - 11:50 Red Chris Block Cave Project Overview Aleksander Purba Newcrest Mining Limited	11:35 - 11:50 Geotechnologies and Mineralurgy for the Production of Metals from Deposits of a New Type Marat Bitimbayev Satbayev University	11:35 - 12:15 Panel Circular Economy Approaches for Mine Waste Reduction Lais Resende Vale	
11:45 - 12:00	AI/ML to Unlock Potential of "Dormant Data" of Drill Cuttings Marina Pervukhina CSIRO	Real-Time Mining Machine Guidance for Selective Mining Andrew Strange CSIRO	Entering the Critical Minerals Production Chain: An Australian Perspective Joe Kaderavek Cobalt Blue Holdings Ltd	Hydrogen-Fuelled Fleet Decarbonisation Ruth Knibbe The University of Queensland	No Green Deal without access to critical raw materials - a tightrope act between climate neutrality and security of supply? Roman Stiftner Austrian Mining & Steel Association	The Making of the Geoforum: An Employee Driven Global Technical Community at Rio Tinto Hayley McLean Rio Tinto	The Expanding Scope of Public Geophysics Supporting Resource Discovery Mark Duffett Mineral Resources Tasmania	The Future of Dust Monitoring Nikky La Branche The University of Queensland	Long-Term Mine Planning Optimization for IPCC-Based Open-Pit Mining Operations Hooman Askari-Nasab University of Alberta	12:05 - 12:25 Exploring Novel Architectures in Lunar In-Situ Resource Utilisation Luka Malone Imperial College London	11:55 - 12:45 Facilitated Panel Discussion	11:50 - 12:05 A Rapid Tracer Gas Detection Method for Investigation of Goaf Gas Flow Behaviour and Inertisation Ting Ren University of Wollongong	11:50 - 12:05 Technical Progress of Accurate and Intelligent Control of Drawing Opening in Longwall Top Coal Caving Face Jiachen Wang China University of Mining and Technology	11:50 - 12:05 Research and Development of a Multi-Sensor High-Precision Slope Stability Monitoring System Marc Elmouttie CSIRO	11:50 - 12:05 Moderator: Daniel Franks The University of Queensland	
12:00 - 12:15	Exploring the Importance of Preprocessing Operations in Geoscience Knowledge Graphs Through the Application of a Machine Learning Approach Mark Lindsay CSIRO	Human-systems integration for the implementation of automation in mining Robin Burgess-Limerick The University of Queensland	Western Australia's Investment Strategy in Battery and Critical Minerals Richard Sellers Government of Western Australia	Fortescue's Decarbonisation Journey Eva Hanly Fortescue Future Industries	Panel Discussion	Insights from Equity, Diversity, and Inclusion Allies: Results from the Second Phase of an Interdisciplinary Study on the Retention of Under-represented People in Mining Jocelyn Pettier-Huntley University of Saskatchewan	Exploration and Investment in 2023 Kim Wainwright Queensland Exploration Council	Development of an Integrated, Automated Optical and Scanning Electron Microscopy System to Rapidly Characterise and Quantify the Mineral and Organic Particulates in Dust Samples Joe Perkins CSIRO	Wireless Blasting Methods Safely Accelerate Production in Surface Mines Geoff Stevenson Orica	12:25 - 12:45 Making Ceramics and Metals on the Moon Geoffrey Brooks Swinburne University of Technology	12:05 - 12:20 Reopening of Churi Underground Coal Mine of Coal India After Fire, By Evaluation of Underground Atmosphere PM Prasad Central Coalfields Limited	12:05 - 12:20 Research and Application of Hydraulic Fracturing Pressure Relief Technology in Fully Mechanized Working Face with Large Mining Height Xiaoyong Wang Shaanxi Coal and Chemical Industry Group Co. Ltd	12:05 - 12:20 Research on the Overall Framework and Implementation Path of Intelligent Construction of Coal Mines in China Jianzhong Zhang China Coal Technology and Engineering Group	12:15 - 12:30 Question & Answer Session		
12:15 - 12:30	Understanding Mine to Mill Relationships at Penasquito Mine Using Machine Learning Rajive Ganguli The University of Utah	12:30 - 12:45 A Vanishing Point Detection Method Based on Improved Ransac in Coalmine Tunnel Jian Cheng China Coal Research Institute	12:05 - 12:45 Question & Answer Session	12:20 - 12:35 Summary of Session	11:45 - 11:55 Pathways for Developing Future Workforce Skills in the Resources Sector Elaine Wightman The University of Queensland	12:30 - 12:45 Question & Answer Session	12:25 - 12:40 A Participatory Ergonomics Approach to Re-Design of an Underground Rib and Roof Bolter Danelle Lynas The University of Queensland				12:20 - 12:35 Evaluation of Emergency Response System in Coal Mines- Cognitive Work Analysis Approach Chandra Shekhar Singh Coal India Limited	12:20 - 12:35 Land Surface Deformation Monitoring of Metal Mines Using Time Series InSAR Li Liu Chongqing University	12:20 - 12:35 Recent Practices and Advancement in Digital Mining - A Case Study at NMDC Ltd. INDIA Sahoo Bhimasen NMDC Limited	12:35 - 12:45 Question & Answer Session		
12:30 - 12:45	Question & Answer Session				11:55 - 12:45 Question & Answer Session							12:35 - 12:45 Question & Answer Session	12:35 - 12:45 Question & Answer Session	12:35 - 12:45 Question & Answer Session		

12:45 - 14:00

LUNCH / POSTERS

Theme: Transformation in Mining

PARALLEL SESSIONS															
14:00 - 15:45	 ARTIFICIAL INTELLIGENCE	 AUTONOMOUS SYSTEMS	 CRITICAL MINERALS	 DECARBONISATION	 ENVIRONMENTAL SUSTAINABILITY	 FUTURE WORKFORCE & EDUCATION	 GEOSCIENCES & DISCOVERY	 HEALTH, SAFETY & WELLBEING	 MINING SCIENCE & ENGINEERING	 NEW MINING FRONTIERS	 PROCESSING & REFINING	 SOCIAL PERFORMANCE & GOVERNANCE	 TECHNOLOGY & OPERATIONS	 TECHNOLOGY & OPERATIONS	 TECHNOLOGY & OPERATIONS
	Case Studies of Industrial AI in Operations and Maintenance	Challenges and Opportunities of Autonomous Technology	Global Primary and Secondary Critical Mineral Occurrence and Supply	Hydrogen and Decarbonising Downstream Industry	International Approaches to Environmental Sustainability	Future Education Challenges for Mining Industry Professionals	Orebodies in a Geological Context - Minerals Systems and Predictive Geoscience	Using Data to Drive Safety & Health Improvement	Transformations in Mining	Pioneering Mining Concepts and Enablers	Developments in Hydrometallurgy and Mineral Processing	Perspectives on Governance	Methods & Optimisation	Rock Mechanics / Geotech	Rock Cutting
Session Chair:	Karin Breitman Rio Tinto	Andrew Job Plotlogic	Anita Parbhakar-Fox The University of Queensland	Ruth Knibbe The University of Queensland	Anna Littlebooy The University of Queensland	Bruce Hebblewhite Professor Emeritus, UNSW Sydney	Rob Hough CSIRO	Steve Faulkner Thiess	Alice Clark The University of Queensland	Jane Hodgkinson CSIRO	Maurits Van Camp The University of Queensland	David Brereton The University of Queensland	John Grieves QCoal Group	Ali Mirzaghobanali University Southern Queensland	Sevda Dehkoda Beck Engineering
	14:00 - 14:15 KEYNOTE Pit-to-Port Analytics: A Holistic Perspective of Using AI in the Mining Industry Karin Breitman Rio Tinto	14:00 - 14:30 KEYNOTE DARPA Subterranean Challenge: How a Team of Robots Explored an Unknown Underground Environment Navinda Kottage Data 61, CSIRO	14:00 - 14:20 KEYNOTE Reimagining Mine Waste: New Resources, New Challenges Anita Parbhakar-Fox The University of Queensland	14:00 - 14:20 KEYNOTE Clean Hydrogen for Industrial Decarbonisation: Status & Challenges Prof Eric May The University of Western Australia	14:00 - 14:20 KEYNOTE Mining's Role in the Material-Energy Nexus: Beyond "Green Extractivism" Saleem Ali The University of Delaware	14:00 - 14:25 KEYNOTE Transforming Graduate Metallurgists into Effective Process Engineers Jan Cilliers Imperial College London	14:00 - 14:30 KEYNOTE Pre-Competitive Geoscience for Minerals Discovery Karol Czarnota Geoscience Australia	14:00 - 14:20 KEYNOTE Big data, for big outcomes: the next step to eliminating fatalities Elsabe Muller BHP	14:00 - 14:20 KEYNOTE Think and Act Differently: transforming our oldest industry with our newest technology Laura Tyler BHP	14:00 - 14:25 KEYNOTE ACARP: An Industry-Driven Model for achieving High-Impact R&D Delivery Tony Egan Glencore	14:00 - 14:25 KEYNOTE The Future of Copper Hydrometallurgy - Chalcocyanide Heap Leaching John Marsden Metallurgium	14:05 - 14:25 Tough Times For Transparency - Where to Now for the Extractive Industries Transparency Initiative? Sefton Darby Voconiq	14:00 - 14:20 KEYNOTE A US Perspective on Emerging Opportunities for Improved Mining Methods Charles Fairhurst Itasca International Inc.	14:00 - 14:20 KEYNOTE How to Bridge the Gap Between Geotechnical Research and the Development of Credible Mine-site Geotechnical Design Tools Mark Colwell Geotechnical Software Services Pty Ltd	14:00 - 14:20 KEYNOTE Unlocking Coal Value through Technology and Innovation Jianzhong Liu CCTEG
	14:15 - 14:30 Transforming Maintenance through Data Science Andrew Rohl Curtin University	14:30 - 14:45 Future Autonomous Systems and Technology in Mining - Why Precision is the Key? Mohsen Yahyai The University of Queensland	14:20 - 14:35 Tailings and Critical Minerals in Australia: A Comprehensive Data Synthesis and Assessment of Secondary Prospectivity Gavin Mudd RMIT University	14:20 - 14:35 Compressed Air Energy Storage: R&D and Demonstration Haisheng Chen Chinese Academy of Sciences	14:20 - 14:35 Brazilian Resolutions, Global Industry Standard on Tailings Management, Trends for Tailings Management in Sustainable Mining Cristiano Siqueira Hatch	14:25 - 14:35 Mathematics in Mining and Geoscience: Enabling Better Decision Making Rick Jeuken BHP	14:30 - 14:45 Conceptual Mineral Systems Models and Impacts on Mineral Prospectivity Predictions: An Iron Ore Example Mark Lindsay CSIRO	14:20 - 14:35 Improving Contractor Safety Management Dale Temby The University of Queensland	14:20 - 14:40 Materials Transport: Racing to Net Zero - Comparing Haulage Options for Reduced Greenhouse Gas Emissions and Costs Amber Bieg Warm Springs Consulting	14:25 - 14:45 Virtual Twin of the 2050's Mines Delphine Gondoin Dassault Systems	14:25 - 14:40 Ensuring a Golden Future Teresa McGrath Curtin University and Anglo Gold Ashanti	14:25 - 14:45 Mission Critical for Resource Governance: Guarding Against Corruption in Energy Transition Mineral Value Chains Kathryn Sturman The University of Queensland	14:20 - 14:35 A New Mining Method Based on Mining Compensation Theory Manchao He China University of Mining and Technology	14:20 - 14:35 Geotechnical Information at a Mine Site from Airborne EM and Magnetics David Moore Xcalibur Multiphysics	14:20 - 14:35 Challenges in Mechanical Excavation in Mining and Need for Robotization of Tool Change Nikolaus August Sifferlinger Montanuniversitaet Leoben
	14:30 - 14:45 Digitalisation and Data Analytics to Effectively Identify 'Waste' in Maintenance Strategies Kiriaco Jarami BHP	14:45 - 15:00 On Bench Digital Assaying: A Necessary Step Towards Full Mine Automation Andrew Job Plotlogic	14:35 - 14:50 Mapping Secondary Prospectivity for a Sustainable Critical Minerals Industry in Australia Jane Thorne Geoscience Australia	14:35 - 14:50 Circored Fine Ore Direct Reduction Plus DRI Smelting - Proven Technologies for the Transition Towards Green Steel Roberto Valery Mesto Outotec	14:35 - 14:50 International Principles and Standards for the Ecological Restoration and Recovery of Mine Sites Renee Young The Western Australian Biodiversity Institute	14:35 - 14:45 Engineering Higher Education Support for Sustainable Mining Development of Mongolia Borya Orkhontuul Mongolian University of Science and Technology	14:45 - 15:00 Prospectivity Analysis for Large Porphyry Copper Deposits - An Integrated Geological Knowledge and Machine Learning Approach Chris Woodfull SRK Consulting	14:35 - 14:50 Development of Underground Mine Monitoring System with Mobile Devices Based on Wi-Fi Direct Technology Takaya Shionoiri Hokkaido University	14:40 - 15:00 Evaluating the Long-Term Value and Trade-offs of Transitioning to Electric Mine Haulage and its Hybrid Alternatives - A Mine Planning Perspective Erik Isokangas Mining3	14:45 - 15:05 Will Nuclear Power Open Up New Mining Frontiers? James Montgomery Rolls-Royce Plc	14:40 - 14:55 Towards a Sustainable Mining: The Econometrics Contribution Ricardo Pezoa Econometrics Limited	14:45 - 15:05 The Swim Lane Effect: Institutional Investors, ESG and the Resources Industry Leisa Elder Independent Consultant	14:35 - 14:50 Driving Sustainability by Reducing Asset-Waste from Pit to Port by 3D Radar Machine Vision Reik Winkel Indurad Pty Ltd	14:35 - 14:50 Methodology for Verifying Height of Draw Through Drawpoint Sampling and Monitoring Gert Van Hout Gatco Bv	14:35 - 14:50 The Coordinated Development Mode and Key Technology System of Coal and Coaled Methane in China's Coal Mining Areas Haitao Sun Technology And Engineering Group
	14:45 - 15:00 Predicting Chute Liner Life Using Real Time Wear Monitoring Piero Velletri Metso	15:00 - 15:15 Research on High-Precision Location Based Service System for Intelligent Mines Zhou Libing CCTEG Changzhou Research Institute	14:50 - 15:05 Evaluating Long-Term Co-Product Mineral Supply and Exploration Interdependencies Using the PEMMSS Model Stephen Northey University of Technology Sydney	14:50 - 15:05 Green Steel Timescales and Iron Ore Mining Robin Batterham & Ella Kashi The University of Melbourne	14:50 - 15:05 The SUMEX Project - A European Vision on Sustainable Mining Michael Tost Montanuniversitaet Leoben	14:45 - 14:55 Shaping the Future of Mining Education Simit Raval University of New South Wales	15:00 - 15:15 Mineral Prospectivity as an Inference Question: Towards the Unification of 'Knowledge'- and 'Data'-Driven Approaches Marcus Haynes Geoscience Australia	14:50 - 15:05 Detection of Ethylene by Micro Gas Chromatograph and Associated Evolution Temperatures for Gas Evolution Testing Sean Muller Simtars	15:00 - 15:20 Achieving Net Zero Aspirations from Day One with Sustainability in Design Mary Jane McQuhae BHP	15:05 - 15:25 Think & Act Differently: Unlocking Undeveloped Assets in the Mining Industry: Moving Beyond Traditional Project Evaluation and Development Katie Hulmes BHP	14:55 - 15:10 The Processing of Copper Concentrates Containing Arsenic David Dreisinger University of British Columbia	15:05 - 15:25 What Does the Energy Transition Mean for the Mining Sector? Ana Carballo Transparency International	14:50 - 15:05 Shaft Boring Cutterhead - Safe sinking of deep blind shafts in hard rock Patrick Rennkamp Herrenknecht	14:50 - 15:05 Microseismic Monitoring of the Rock Mass in Real Time Peter Espinoza Compañia Minera Poderosa S. A.	14:50 - 15:05 A Study on Energy-Saving Effect by Selecting Optimum Operating Parameters of Surface Miner in Opencast Coal Mines - An Approach Nilesh Pratap Singh Indian Institute of Technology
	15:00 - 15:15 Get the most out of condition monitoring data: Improving conveyor belt wear forecasts to make better maintenance decisions Ryan Leadbetter Curtin University	15:15 - 15:30 Applying Machine Learning to Drill and Blast Optimisation Angelo Labriola Orica	15:05 - 15:20 Rare Earth Elements Mineralisation Related with Carbonate-Alkaline Complexes: A Regional-Scale Comprehensive Prospectivity Study in Northeast India Malcolm Aranha Indian Institute of Technology Bombay	15:05 - 15:20 Net-zero Steel Production in Europe: When and How? Jean-Pierre Birat IF Steelman	15:05 - 15:20 Progress Towards Responsible Environmental Management for Sustainable Mining in South Africa Thakane Ntholi Council for Geoscience	14:55 - 15:05 The Actualities and Development Trend of University Courses of Metallurgical Education in China Fenglong Sun Central South University	15:15 - 15:30 Mapping Hydrothermal Alteration in Regolith: Implication for Gold Exploration in Deeply Weathered Terrains Walid Salama CSIRO	15:05 - 15:45 Question & Answer Session	15:20 - 15:40 Design of Inclined Underground Mine Pillars Fidelis Suorineni Nazarbayev University	15:25 - 15:45 The Use of Digital Twin Environments and Scenario-Based Hazard Profiling: A case study using the EMESRT Control Framework Sara Pazell Viva Health Group	15:10 - 15:45 Facilitated Panel Discussion	15:25 - 15:45 Question & Answer Session	15:05 - 15:20 An Artificially Intelligent Mining Value Chain: Real-time Decision Optimisation in Theory and in Practice Mark De Gues Intellisenze	15:05 - 15:20 Identification of Rock Fissures and Voids using Seismic Measurement While Drilling Manoj Khanal CSIRO	15:05 - 15:20 Online Pick Condition Monitoring for Underground Mining - Challenges and Opportunities Yong Sun CSIRO
	15:15 - 15:45 Panel Discussion	15:30 - 15:45 High Precision Positioning Optimization of Coal Mine Roadway Based on Fast-Loam Jianjian Yang China University of Mining & Technology	15:20 - 15:35 Evaluation of the Consistency of Geostatistical Algorithms for Resource Modelling of Critical Elements Nasser Madani Nazarbayev University	15:20 - 15:35 Electric Pyroprocessing to Address Global Challenges for Minerals Processing Mark Sceats Calix Limited	15:20 - 15:45 Question & Answer Session	15:05 - 15:45 Question & Answer Session	15:30 - 15:45 4D Tectonic-Magmatic Evolution and Regional Implications for the Pataz Gold Deposits, Easter Andean Cordillera, Northern Peru Carlos Villanes Compañia Minera Poderosa S.A.						15:20 - 15:35 A Novel Methodology to Implement Mining Carbon Tax and Optimal Pitwall Profiles into Strategic Open-Pit Optimisation Stefano Utili Newcastle University	15:20 - 15:45 Question & Answer Session	15:20 - 15:35 Verification of CFD Numerical Model with Results of In-Situ High Energy Water Jet Cutting of Lignite Coal Jacek Skiba Central Mining Institute of Katowice Poland
			15:35 - 15:45 Question & Answer Session	15:35 - 15:45 Summary of Session									15:35 - 15:45 Question & Answer Session		15:35 - 15:45 Question & Answer Session

15:45 - 16:15

AFTERNOON TEA / POSTERS

Theme: Transformation in Mining

PARALLEL SESSIONS															
16:15 - 18:00	ARTIFICIAL INTELLIGENCE	AUTONOMOUS SYSTEMS	CRITICAL MINERALS	DECARBONISATION	ENVIRONMENTAL SUSTAINABILITY	FUTURE WORKFORCE & EDUCATION	GEOSCIENCES & DISCOVERY	HEALTH, SAFETY & WELLBEING	MINING SCIENCE & ENGINEERING	NEW MINING FRONTIERS	PROCESSING & REFINING	SOCIAL PERFORMANCE & GOVERNANCE	TECHNOLOGY & OPERATIONS	TECHNOLOGY & OPERATIONS	TECHNOLOGY & OPERATIONS
	Infrastructure, Organisational Capability and Individual Competence Requirements for AI	Applications of Automation	ESG and Critical Minerals	Fugitive Emissions / Capturing and Sequestering CO2	Environmental Stewardship	Future Education and Training Challenges for the Mining Industry	The Latest Tools for Mapping and Discovery	Risk Management and Controls	Transformations in Mining	Emerging Mining Transition Pathways	Developments in Mineral Processing 1	Mining and Development: International Perspectives	Case Studies - Technology	Rock Fragmentation / Drill & Blast	Groundwater & Restoration
Session Chair:	Joseph Starwood Microsoft	Mark Dunn CSIRO	Jennifer Purdie BHP	Sarah Ryan Woodside Energy	Rae Mackay Mine Land Rehabilitation Authority	Elaine Wightman The University of Queensland	Chris Pigram Geoscience Australia	Kate Du Preez Queensland Commissioner for Resources Safety and Health	Charlie Sartain FAUSIMM, FTSE	Chad Hargrave CSIRO	Virginia Lawson Glencore	Adam Babatu World Bank	John Grieves QCoal Group	Ian Neill Australian Coal Research Limited	Tony Egan Glencore
16:15 - 16:30 KEYNOTE	Enabling AI in the Digital Sustainable Mine of the Future Joseph Starwood Microsoft	Beyond the Mine: Exploring the Broader Autonomous Vehicle Landscape Trent Williams Data 61, CSIRO	New Approaches to Support Development of Critical Minerals Supply Chains Tony Knight Queensland Government	Opportunities and Challenges for CCS Dr Chris Greig Princeton University	The ESG challenge for the mining sector - how might government help? Karen Hussey Queensland Government	Future Education and Training Challenges for the Mining Industry Robert (Bob) Gee Queensland Government	Is Exploration Scientific? Kurt House Kobold Metals	Risk Management in uncertain times - how can we prepare for the unexpected and unpredictable? Dame Judith Hackitt Chair, Enginuity	Sustainable Energy and Mining Solutions Leading ESG Transformation at Gold Fields Stuart Mathews Goldfields	Regional Aspirations: The clash of dreams and reality in a changing resource landscape Kyle Porter Greater Whitsunday Alliance	Flotation - a Past and a Future James Finch McGill University	How Could We Guarantee a Just Transition in the Lithium Triangle? Andy Symington University of New South Wales	Supply Chain Resilience Framework for Coal Processing and Handling from Pit to Port Poltak Sinaga PT Kaltim Prima Coal	The UN Sustainable Development Goals and the Australian Coal Industry's Role Ian Neill ACRL	Are We Heading for an Innovation Plateau? Replenishing the Pipeline Through R&D to Deliver Impact Jacqui Coombes Amira Global
16:30 - 16:45	Understanding Technical Debt in Remote Operations Centres David Gould The University of Western Australia	Full Automation of Resin Roofbolting in Soft Rock Mining Jeremy Leeming Komatsu Mining Corp Group	From Contention to Collaboration: How to Strike Mining's Sweet Spot for ESG and the Energy Transition Satish Rao Clareo	Perspectives on CCS From an Ex-Miner Alex Zapantis Global CCS Institute	Spatial Distribution of Environmental, Social and Governance Water-Related Risks for the Chilean Mining Industry Consuelo Garcia Zavala The University of Queensland	Digital Upskilling in Anglo American Mehdi Zohouri Anglo American	Deep Earth Imaging - A Research Platform for Technologies that help Image, Conceptualise and Predict the Location of Australia's Resources Tim Munday CSIRO	Risk Management in High-Hazard Industries Paul Amyotte University of Halifax	CFD Modelling of Intensive GOAF Gas Drainage for Spontaneous Combustion Risk Management Yuehan Wang The University of New South Wales	Mining Deeper: Challenges and Opportunities for Future Ore Ewan Sellers CSIRO	The Role of Modular and Flexible Mineral Processing in a More Sustainable World Jennifer Agnew Sedgman	Land Acquisition, Displacement and Resettlement: Lessons from South Africa Gwendolyn Wellmann Gwendolyn Wellmann	Application of Key Technology and Equipment Size Distribution to Understand Variability Within a Blast, Rock Mass and Orebody Benny Chen Orica	Leveraging Geospatial Particle Size Distribution to Understand Variability Within a Blast, Rock Mass and Orebody Benny Chen Orica	Socio-Psychological Dimensions of Sustainable Coal Sector in India: A Study Peeyush Kumar Coal India Limited
16:45 - 17:00	An Industry-led Method & Capability Framework for Building a 'Data Fit Organisation' Zane Prickett CORE	Application of Advanced Sensors and Digital Platforms for Underground Mining Automation Mark Dunn CSIRO	Sustainability Indicators for the Value Chain of Mineral Lithium Primary Ores? Maria Cristina Vila Centre for Natural Resources and the Environment	Potential for CO2 Storage in Denison Trough Gas Fields, Bowen Basin, Queensland Xingjin Wang Denison Gas Ltd	An Overview of the Long-Term Stewardship of Remediated Uranium Mine and Milling Sites in Europe Maria de Lurdes Dinis Centre for Natural Resources and the Environment	A Global Collaborative Alliance for Mining Academics Simit Raval University of New South Wales	Precompetitive Geoscience: The Secret to Australia's Exploration Success Helen Degeling Cobalt Blue Holdings Limited	Newmont Evolution of Critical Control Verifications and Audits to Incorporate Human Performance Principles Suzy Retallack Newmont	Geotechnically Optimal Pitwall Profiles for Open Pit Mines to Maximise NPV and Reduce Carbon Footprint Stefano Uttili Newcastle University	Could Royalties Have a Role in Commercial Lunar Mining? Ben McKeown University of New South Wales	Evolution of the West Musgrave Flowsheet to Maximise Value Mark Weidenbach BHP	Making Community Agreements Work in Emerging Mining Economies: Lessons from Mongolia's Experience Byambajav Dalaibuyan Mongolian Institute For Innovative Policies	Eco-Efficient Iron Ore Pelletization/Agglomeration (Under Ambient Conditions) Using Novel Binder Sheila Devashayam Curtin University	High Resolution Rock Domaining Based on Drilling and Blast Data and Machine-Learning Technology Daniel Serkovic Orica	Groundwater Targeting for Mine Development Using Geophysical Exploration Across Multiple Scales; Case Study from the Mt Richardson Haul Road Project Remke Van Dam Southern Geoscience Consultants
17:00 - 17:15	Guideline for Sharing Open Data Sets in Mining Rob Johnson Citic Pacific Mining	Unmanned Ground Systems and Unmanned Aerial Systems Collaboration - The Synergy of Ground and Air in Mining Operation Damien Williams FireHawk	Flowsheeting for Energy and Lithium Recovery from Geothermal Brine Richard Martinelli Curtin University	Low-Cost Metal Oxides Catalysts for Ventilation Air Methane Abatement Guangyu Zhao CSIRO	Road Map for Incorporating ESG Risks and Opportunities into the Mine Planning and Design Process Micah Nehring The University of Queensland	The Changing Role of an Electrical Trades' Skillset for a Future Grid: The Case of Smart Battery System Installers in Australia Vernan Patterson Hann University of Tasmania	Question & Answer Session	Integration will Take you Forward: Causal Networks as a New Approach to Address Inherent Problems with Risk Management Practice in Mining Organisations Ben Seligman The University of Queensland	3-D Analysis of Rock Slope Deformation at Higashi-shikago Limestone Quarry, Japan Zhang Cheng Hokkaido University	Emerging Trends for Remote Operation Centres and Mission Control Rooms Craig James CSIRO	The Design of Efficient Concentrators - Current Status and New Approaches Matt Pyle Ausenco	Sustainable Mining Attractiveness Index: District-level Study of Major Mining States of India Ishita Kapoor Centre for Social and Economic Progress	Design and Implementation of an Automated System for Investigation of the Deformation Processes in the Area of Uncovered Ore Stockpile No1 of Mine Complex "Eltatzite" Tsvetan Dilov Eltatzite Med Ad	Ore Type Dependent Blasting Results Study of Gold Mines Bat-Ochir Bayantur Mongolian Mining Science Academy	Diffuse Groundwater Recharge in Eastern Australia Andy Wilkins CSIRO
17:15 - 18:00	Panel Discussion	The Use of RPAS Technology at Kumba Iron Ore's Open Pit Mines Johan Van Heerden Anglo American	Tailing Management of Critical Minerals Using Accelerated Mechanical Consolidation Jacques Janse Phibion	Oxy's Pathway to Large-Scale Direct Air Capture Deployment Ryan Edwards Oxy	Panel Discussion	Future Curriculum Needs for Mining 4.0 Workforce and the Collaboration Between Consulting and Academia Monique G Mattos Visagio	Designing a safe and reliable wireless blasting system Rhys Patterson Orica	Blasting for Net Zero Emissions Ewan Sellers CSIRO	The Space Mining Evolution: Transforming Science Fiction Into Science Fact Jon Sciortino Nova Systems	Application of Dense Media Separation Data for Studying the Mineral Liberation of Kimberlite Treated by Microwave Irradiations Azlan Aslam McGill University	Question & Answer Session	Mechanical Properties of Sandstone Under Cyclic and Single Dynamic Loading at Different Strain Rates Fanjie Kong Chongqing University	The Use of Machines as Sensors to Optimise Drill and Blast Outcomes Claudia Haug Rio Tinto	Restoration of Ecosystem Services in Post-Mining Areas: A Recovery Project Approach Alicja Krzemieci Central Mining Institute	
		Perspective and Solution of Intellectualized Mining Face at Liu Kuang in Sal Energy Co., Ltd., Yinjian Hang Xuzhou Coal Mining Group	Crystallization and Precipitation Processes for Obtaining Rare Earth Element Salts of High Quality Kerstin Forsberg Kth Royal Institute of Technology	Considerations for Estimating and Mitigating Methane Emissions from Metallurgical Versus Thermal Coal Mines Volha Roshchanka US EPA		Question & Answer Session	The Development and Implementation of a Berm Monitoring System at Kumba Iron Ore Alton Bester Reutech Mining			Facilitated Panel Discussion		Methodology for Predicting High Risk Zones around Underground Coal Mine openings Alex Remennikov University of Wollongong	Study of Seismicity Source Location Errors Minimization: Impact of Voids, Fractures and Backfill Fidelis Suorineni Nazarbayev University		
			Question & Answer Session	Question & Answer Session			Question & Answer Session					Question & Answer Session	Question & Answer Session	Question & Answer Session	Question & Answer Session

19:00 - 23:00

CONGRESS DINNER

Theme: Resourcing Our Future World

TIME (AEST)	PLENARY SESSION
08:20 - 08:30	Opening Session
	Plenary Session 13
SESSION CHAIR	
08:30 - 08:55	Plenary Session Dr Cathy Foley AO PSM Australia's Chief Scientist, Australian Government
	Plenary Session 14
08:55 - 09:20	Plenary Session Sherry Duhe Interim Chief Executive Officer, Newcrest
	Plenary Session 15
09:20 - 09:45	Plenary Session Michael Wright Executive Chair and Chief Executive Officer, Thiess

TIME (AEST)	PLENARY SESSION
09:45 - 10:10	Plenary Session Jim Chalmers MP Treasurer of Australia
10:10 - 11:00	MORNING TEA/POSTERS

PARALLEL SESSIONS															
TIME (AEST)	ARTIFICIAL INTELLIGENCE	AUTONOMOUS SYSTEMS	CRITICAL MINERALS	DECARBONISATION	ENVIRONMENTAL SUSTAINABILITY	FUTURE WORKFORCE & EDUCATION	GEOSCIENCES & DISCOVERY	HEALTH, SAFETY & WELLBEING	MINING SCIENCE & ENGINEERING	NEW MINING FRONTIERS	PROCESSING & REFINING	SOCIAL PERFORMANCE & GOVERNANCE	TECHNOLOGY & OPERATIONS	TECHNOLOGY & OPERATIONS	TECHNOLOGY & OPERATIONS
11:00 - 12:45	Technology Solutions for Specific Geological, Mining and Processing Challenges	Successful Implementation of Automation	Technological Advancements in Processing, Refining and Recycling	Serious about Decarbonisation: be up-to-date with Nuclear Energy	Innovation in Managing Water	Future Ways of Working	Geoscience in the Mine of the Future	International Approaches to Safety & Health	Resourcing our Future World	Subsea Exploration and Discovery	Developments in Smelting, Refining and Recycling	Mining and Indigenous Peoples	Outburst / Rock Burst	Knowledge Sharing	Case Studies - Operations
Session Chair:	Paul Lucey Worley	Carl Hendricks Caterpillar	Massimo Gasparon European Raw Materials Alliance	Claire Cote The University of Queensland	Gavin Lind Mining and Automotive Skills Alliance	Sandra Occhipinti CSIRO	Trish Kerin iChemE	Alice Clark The University of Queensland	Joe Perkins CSIRO	Gerardo Alvear Flores Canadian Engineering Associates	Chris Anderson The University of Queensland	John Grieves QCoal Group	Mikael Rinne Aalto University	Xing Li CSIRO	
11:00 - 11:15	KEYNOTE Harnessing the Potential: Exploring the Challenges and Opportunities of Generative AI in the Mining Industry Paul Lucey Worley	KEYNOTE Don't Digitise your rubbish Andy Sherring NextGenOpX	KEYNOTE How Australia is Becoming a Global Force in Developing Technologies from its Critical Minerals Jacques Eksteen Curtin University	KEYNOTE 21st Century Developments in Nuclear Energy and Prospects for the Mining Industry Stephen Wilson The University of Queensland	KEYNOTE Defining Good Water Performers in Mining, and Why Efficiency Goals are Insufficient Nadja Kunz The University of British Columbia	KEYNOTE Future Ways of Working: A World Without Work? Kate Hobbs Hobbs Consulting Group	KEYNOTE Geoscience in the Mine of the Future Suzanne Hunt BHP	KEYNOTE Safety and Health in Chinese Coal Mines: Yesterday, Today and Tomorrow Xinjian "Kevin" He China University of Mining and Technology	KEYNOTE Engineering or Economics to meet the growing world demand for minerals Matt O'Neill Independent Mining Expert	11:00 - 11:25 Synergies Between Scientific Ocean Drilling and NASA Mitch Schulte NASA	11:00 - 11:20 Metallurgy Enables the Circular Economy: An Exergetic Analysis of Opportunities Markus A Reuter SMS Group	11:05 - 11:25 Working in Mining as an Indigenous Person: A Personal Perspective Danielle Crawford Voconiq	11:00 - 11:20 Research and Application of Intelligent and Safe Mining in China Da Zhang BGRIMM Technology Group	11:00 - 11:20 KEYNOTE An Overview of Indonesian Mining Sector Rizal Kasli PERHAPI	11:00 - 11:20 KEYNOTE Recent Advances of Autonomous Mining Technology in China Coal Mines Shirong Ge China University of Mining & Technology
11:15 - 11:30	Data Center Assists Digital Transformation of Caojiatan Coal Mine Cundi Han Shaanxi Coal and Chemical Industry Group Co. Ltd	11:30 - 11:45 Rare Earth Element Sources, End-Use Demand Trends, and Hydrometallurgical Separations James Vaughan The University of Queensland	11:20 - 11:35 Opportunities for the Deployment of Small and Micro Modular Reactors for Mines and Remote Communities Tony Irwin SMR Nuclear Technology Pty Ltd	11:20 - 11:35 Influence of (Historic) Mining Activities on Groundwater Composition in Austria - Spatial Analyses of Hydrochemical Data Annett Uhmann Geological Survey of Austria	11:20 - 11:35 The Relationship Between Human Factors and Technology Adoption at Sishen Mine Mogaleadi Seabela Anglo American	11:30 - 11:40 Application of TEM Method for Tailings Characterisation Using Fast Acquisition LOUPE EM Instrument Sasha Aivazpourpogou Geological Survey of Queensland	11:30 - 11:45 Synthetic Learning Environments: Combining Simulation with Serious Games to Improve Training in Mine Safety and Health Leonard Brown University of Arizona	11:20 - 11:35 Towards Cave Layout Designs That Can Enable Safer, Faster and Lower-Cost Establishment of High Column Block Caves Pablo Paredes Independent Mining Limited	11:25 - 11:45 Offshore Environmental-Resource Exploration in the U.S. Exclusive Economic Zone Paul Knorr Bureau of Ocean Energy Management	11:20 - 11:35 New Insight About Metal Recovery From Acidic Chloride Media: Application to Lithium-Ion Battery Recycling Alexandre Chagnes Université De Lorraine - Georesources	11:25 - 11:45 Rock Burst Risk Near Major Geological Structures in Underground Coal Mines Neil Butler Peak Carbon Capital	11:20 - 11:35 VAM - Barriers to Deployment Xiaoxuan Sun Sinosteel Australia	11:20 - 11:35 Experience & Lessons from Managing the Sino-Australia Mining Joint Ventures Ning Su Yancoal Australia		
11:30 - 11:45	Development of Machine Learning Models using IES-ModelNet application for fast simulation of operation response to blocks of the resource block model Eiman Amini Orica	11:45 - 12:00 Overcoming Barriers to Noisy Data: A Case Study of Inflation, Labelling, and Classification of Mass Transport Activities Using Conditional StyleGAN Rachel Xu CSIRO	11:35 - 11:50 The Western Nuclear Fuel Supply Chain: Threats and Opportunities Geordie Graetz SILEX	11:35 - 11:50 Addressing Water Scarcity in Arid Mining Zones Through Coordinated Planning of Integrated Water Supply Networks: A Case Study of the Atacama Region in Chile Liliana Pagliero The University of Queensland	11:40 - 11:50 Gender Equality in Mine: Best Practice Toward A Better Future For The Mining Industry Zulfatun Mahmudah PT Kaltim Prima Coal	11:45 - 12:00 Sitting on a Goldmine: Recent Advances in Hard Rock Seismic Technology Applications Unlock the Deep Leigh Rigg Hiseis Pty Ltd	11:35 - 11:50 The Journey from Oil and Gas to Minerals: Lessons in Process Safety Marcus Lemlin BHP	11:40 - 12:00 The Hidden Impacts of Risk on Mine Planning Mark Bowater Insignia Mining	11:45 - 12:05 The Seabed as an Unlikely Frontier for Responsibly Sourced Critical Metals Renee Grogan Impossible Metals	11:35 - 11:50 Some Requirements for an Extreme Make Over of the Metals Industry Maurits Van Camp The University of Queensland	11:45 - 12:05 From Conflict to Partnership - The Reconciliation Journey of the Cheslatta Carrier Nation and Rio Tinto Aluminium Claudine Gagnon Rio Tinto	11:35 - 11:50 Outburst Hazard of Coal Beds in Geological Fault Areas Rustam Khojavev GeoMark Research Centre LLP	11:35 - 11:50 Methane Reduction Emissions as a JSW Capital Group's Environmental Strategy Main Goal Artur Badyiak JSW SA	11:35 - 11:50 Yancoal - Building the Best Practices for Australian Coal Enterprises Ning Su Yancoal Australia	
11:45 - 12:00	A 3D Rock Fragmentation Measurement Using a Machine-Learning Approach Radhakanta Koner IIT (ISM)	12:00 - 12:15 Verification of the Radio Wave Attenuation Coefficient Based on Comparison of Communication Experiments and Simulations of Wi-Fi Direct in an Underground Mine Hajime Ikeda Akita University	11:50 - 12:05 Micro Modular Reactors: Why Westinghouse is Developing the eVinci Microreactor Eddie Saab Westinghouse	11:50 - 12:05 Water Management in Mining: Beyond Water Accounting Richard Dixon Metso	11:50 - 12:00 A Case Study on Women's Mentorship in Mining Jocelyn Peltier-Huntely University of Saskatchewan	12:00 - 12:45 Question & Answer Session	11:50 - 12:05 Human-Centred Design of Technology for Mining: A Case Study of a Collision Awareness System Robin Burgess-Limerick The University of Queensland	12:00 - 12:20 Advances in Blast Movement Modelling and its Application to Next Generation Grade Control David La Rosa Orica	12:05 - 12:25 Mining on Land or in the Deep Sea? Overlooked Considerations of a Reshuffling in the Supply Source Mix Eleonore Lebre The University of Queensland	11:50 - 12:05 High Pressure Acid Leach Nickel Refinery Project in Obi Island Indonesia A Contribution to Reduce Global Emission Tonny Gultom Harita Nickel Group	12:05 - 12:25 If You Can't Communicate, You Can't Negotiate Fundamentals in Reaching Free Prior Informed Consent Simon Nish & Kyle Kerin BHP	11:50 - 12:05 Fast Desorption Method in Relation to Outburst in Australia Jun-Seok Bae CSIRO	11:50 - 12:05 Virtual Reality Based Simulation and Training Tool for Dust Control in Gateroad Development Panels Jon Roberts University of Wollongong	11:50 - 12:05 A Sharing of the Experience in Investing Overseas Troy Hey MMG	
12:00 - 12:15	A Global Volumetric Indexing System for Integrating Distributed Mining Data Sets for Machine Learning and Analytics Faris Azhari CSIRO	12:15 - 12:30 Wi-Fi Ad-Hoc Mode-based Wireless Sensor Network in Underground Mine Tunnels: A Case Study of Deterministic Deployment in an Active Mine Daniyar Malgazhdar Akita University	12:05 - 12:20 Extraction of Rare Earth Elements from Low-Grade Ore and Process Waste Stream Yamini Kannappan Curtin University	12:05 - 12:20 How Small and Micro Modular Reactors Change Engagement with Communities Lenka Kollar Helixos	12:05 - 12:20 Approaches for Benchmarking Mine Site Water Management and Contexts Stephen Northey University of Technology Sydney	12:00 - 12:10 Gender in Kazakhstan's Mining Industry Eleonora Widzyk-Capehart Sintars	12:05 - 12:20 Shifting the Needle on Safety at the Face - Wireless Development Charging with Orica and Epiroc's Avatell™ Charging Solution Ben Taylor Orica	12:20 - 12:40 Mixed Haulage Fleet Energy Management Lucas Van Latum Komatsu Ltd	12:25 - 12:45 MNF and the RV Investigator: Seafloor Characterisation Capabilities and Challenges Chris Yule CSIRO	12:05 - 12:20 Development of Ultra-Low FeO - SiO2 Containing Sinters for Low Emission Blast Furnace Ironmaking Xiaodong Ma The University of Queensland	12:25 - 12:45 Closing Remarks	12:05 - 12:20 Improvement of the Blast-Induced Seismic Effect Aimed at Increase of Active Rockburst Prevention Effectiveness - A Case Study from Polish Underground Copper Mine Krzysztof Fulawka KGHM CUPRUM Ltd	12:05 - 12:20 Mining Innovation for a Sustainable Future - An Overview SPEAKER TBA	12:05 - 12:20 Overview of the Development of Chinese E&R Enterprises in Australia and Concluding Remarks Ning Zhang Yancoal Australia	
12:15 - 12:45	Question & Answer Session	12:30 - 12:45 Question & Answer Session	12:20 - 12:45 Question & Answer Session	12:20 - 12:35 Developments in long-term radioactive waste stewardship in Australia Nate Smith Tellus	12:20 - 12:45 Question & Answer Session	12:10 - 12:45 Question & Answer Session	12:20 - 12:35 Re-Imagining Rock Related Safety - The Anglo American Journey Lesley Munsamy Anglo American	12:20 - 12:45 Facilitated Panel Discussion	12:20 - 12:45 The Karaganda Coal Basin Mines Challenges: State of the Art of Gas Outbursts and Coal Bursts with a View to Future Improvements Fidelis Suorineni Nazarbayev University	12:35 - 12:45 Question & Answer Session	12:35 - 12:45 Question & Answer Session	12:35 - 12:45 Question & Answer Session	12:35 - 12:45 Question & Answer Session		
12:45 - 14:00	LUNCH / POSTERS														

Theme: Resourcing Our Future World

PARALLEL SESSIONS													
	ARTIFICIAL INTELLIGENCE	AUTONOMOUS SYSTEMS	CRITICAL MINERALS	DECARBONISATION	ENVIRONMENTAL SUSTAINABILITY	FUTURE WORKFORCE & EDUCATION	GEOSCIENCES & DISCOVERY	HEALTH, SAFETY & WELLBEING	MINING SCIENCE & ENGINEERING	NEW MINING FRONTIERS	PROCESSING & REFINING	SOCIAL PERFORMANCE & GOVERNANCE	TECHNOLOGY & OPERATIONS
14:00 - 15:45	Digital Twins	Panel: Mining Automation: Where is it Going and How Will it Get There?	Critical Minerals Mining Trends and Forecasts	General Discussion with Invited Panellists and Delegates	Innovation in Environmental Stewardship	The Work Environment and Workforce Skills - Workforce Attraction and Retention	Geoscience and Discovery	New Frontiers in Health, Safety and Wellbeing	Resourcing Our Future World	Off-Earth Mining Science and Exploration	Mineral Processing Developments 2	Improving Social Performance on the Ground	Strata Support
Session Chair:	Michelle Ash BHP	John McGagh McGagh Advisory Pty Ltd	Warren Pearce Association of Mining & Exploration Companies	Robin Batterham The University of Melbourne	Laura Sontner The University of Queensland	Kate Hobbs Hobbs Consulting Group	Rick Valenta The University of Queensland	Susan Johnston The University of Queensland	José Marun Consultant	Marc Elmouttie CSIRO	Jim Finch McGill University	Caroline Digby University of Cape Town	Naj Aziz University of Wollongong
	14:00 - 14:15 KEYNOTE Digital Twins in Mining Michelle Ash BHP	14:00 - 14:10 Panel Introduction John McGagh McGagh Advisory Pty Ltd	14:00 - 14:20 KEYNOTE Critical Minerals Markets and Technology Developments Rod Eggert Colorado School of Mines & Critical Materials Institute	14:00 - 15:45 General Discussion with Invited Panellists and Delegates Moderator: Robin Batterham Ben O' Donnell Rio Tinto Stephen Wilson The University of Queensland	14:00 - 14:20 KEYNOTE Regeneration - Building Value Through Biodiversity Stephen D'Esposito Regeneration Enterprises	14:00 - 14:10 Attracting the Next Generation Through Innovative Industry-Education Partnerships Matthew Heskett Queensland Resources Council David Giles MinEx CRC	14:00 - 14:30 KEYNOTE MinEx CRC: Exploration Tools For the Next Generation of Mineral Discovery David Giles MinEx CRC	14:00 - 15:45 PANEL DISCUSSION New frontiers in Health, Safety and Wellbeing Xinjian (Kevin) He China University of Mining and Technology Gerald Poplin US Centre for Disease Control	14:00 - 14:20 KEYNOTE How technology and innovation can help bridge the minerals supply gap to meet global climate change ambitions Richard Seville Corporate NED	14:00 - 14:25 KEYNOTE Ice Mining on the Moon With NASA Prime1 and Viper Missions Kris Zacny Honeybee Robotics	14:00 - 14:20 KEYNOTE Coarse Separation - An Enabler for Improving the Sustainability of Ore Processing Luke Vollert Newcrest Mining Limited	14:05 - 14:25 Certification and Beyond Certification: Facets of Driving Change in the Aluminium Value Chain Fiona Solomon Aluminium Stewardship Initiative	14:00 - 14:20 KEYNOTE Technology Development and Commercialization to Support Sustaining Mining Business Jianjun Tian CMOC Northparkes Mines
	14:15 - 14:30 Metallurgical Digital Twin for Managing Variability and Optimizing Resources Jari Mollanen Metso	14:10 - 14:15 Navinda Kottege Data 61, CSIRO	14:20 - 14:35 How Meaningful are Raw Material Forecasts for the Short, Medium, or Long-Term Global Supply of Copper? Leo Weber World Mining Congress International Organising Committee	Sarah Ryan Non-Executive Director Chris Greig Princeton University Sandy Gray Gekko Michael Dolan Fortescue Future Industries	14:20 - 14:35 Designing a Pathway to Nature Positive Actions Gavin Price BHP	14:10 - 14:20 Build a Bigger Tent for a Better Industry Karin Olson Hoal Cornell University	14:30 - 14:45 Geochronology and Geochemistry of Carbonates and Garnets: New Insights into Evolution of Mineralising Fluids Renjie Zhou The University of Queensland	Ludovic Le Cam Anglo American Michael Wright Thiess Kylie Ah Wong Glencore Coal Assests	14:20 - 14:40 Can We Shift to a New Paradigm of Flexibility in Mining and Processing to Build Mines Powered Exclusively by the Variable Input of Renewables? Ryan Bracey Sedgman	14:25 - 14:45 Technology Transfer Opportunities Between Mining and Space Industries Serkan Saydam University of New South Wales	14:20 - 15:35 Why the Boycott Effect Matters - Addressing Challenges in the Processing of Minerals Kevin Galvin Arc Centre of Excellence for Enabling Eco-Efficient Beneficiation of Minerals	14:25 - 14:45 Adopting the Global Industry Standard on Tailings Management: Engaging Communities at Risk Jennifer Bowcock & Carly Balkin Rio Tinto	14:20 - 14:35 Mechanical and acoustic emission characteristics of sandstone subjected to multi-level cyclic loading Qican Ran Chongqing University
	14:30 - 14:45 FutureView™ Smart MMO Mega Worlds for Solving "Wicked" Problems: Mining, A Cost Effective Solution with Accelerated Results and High Impact Neil Sahota ACSI Labs	14:15 - 14:20 Andrew Scott GMG	14:35 - 14:50 Mineral Exploration for Critical and Minor Metals: Drivers and Trends in Latin America Emilio Castillo University of Chile		14:35 - 14:50 The Business Case for Adopting Innovations in Tailings Management Sally Inns The University of British Columbia	14:20 - 14:30 Curriculum Renewal and Learning Through Doing: Work-integrated Learning in Practice Danielle Thompson Curtin University	14:45 - 15:00 An Ever-expanding List of Accessory Minerals for Mineral Exploration Needs Elena Belousova Geological Survey of Queensland		14:40 - 15:00 Understanding the Complex Interactions Between Geo-Risks, Mine Design and Operation in Deep Cave Mines Andre Van As The University of Queensland	14:45 - 15:05 Technology for Planetary Exploration Mitch Schulte NASA	14:35 - 14:50 Optimising the Pre-Concentration Performance of a Continuous High Voltage Pulse System for Mining Operations Flavio P Andre Julius Kruttschnitt Mineral Research Centre	14:45 - 15:05 Competency Development for Social Performance and Environmental Professionals Bruce Harvey Resolution88	14:35 - 14:50 Design and Optimization of Mining Roadway Support in Extra-Thick Self-Combustible Coal Seam Under Goaf Jingmin Zhang Henan Energy & Chemical Group, Kuqa Kexing Coal Industry Co. Ltd
	14:45 - 15:00 Digital Twins in Mining and Mineral Processing Plants Oswaldo Bascur OSBDigital	14:20 - 14:25 Carl Hendricks Caterpillar	14:50 - 15:05 Metal Requirements and the Green Economy 10 Inconvenient Truths Eamonn Grennan Retired Geoscientist, Institute of Technology, Sligo		14:50 - 15:05 Reclamation and waste utilization pattern of India's two extensive lignite mines i.e. Neyveli Lignite Mines (Tamilnadu) and Gujarat mineral Development Corporation Lignite mines (Gujarat), India Juhi Rani Indian Institute of Technology	14:30 - 14:40 Building a Stronger Stem Talent Pipeline for the Future Resources Industry Through Gamification Suzy Urbaniak Core Learning Foundation	15:00 - 15:15 The Role of Geological Discoveries - A Western Australian Perspective Sarah Sargent Geological Survey of Western Australia		15:00 - 15:20 Complex Orebodies Analysis: A Multidisciplinary Application to the Izok Lake Corridor Project in the Canadian Arctic Steven Micklethwaite The University of Queensland	15:05 - 15:25 Off-Earth Civil Engineering: Construction Requirements for Artemis Base Camp John Culton ATCSR	14:50 - 15:05 Pumping Sustainably - Power and Water Consumption in Mineral Processing Plants Alan Varghese Metso	15:05 - 15:25 Worlds of Pain or Possibility: Putting People at the Heart of Collaborating to Solve Complex Mining Challenges Wendy Tyrrell Development Partner Institute	14:50 - 15:05 Study on Deformation and Failure Mechanism of Soft Rock Anchors with Different Anchor Lengths Under Temperature and Pressure Xiaohu Liu Anhui University of Science and Technology
	15:00 - 15:15 How Much Value Can we Realise Through AI-driven Solutions, and How Can We Accelerate the Use in the Mining Industry? Rajiv Chandramohan Ausenco	14:25 - 14:30 Andrew Job PlotLogic	15:05 - 15:20 Global Trends in Mining Production Christian Reichl Postal Affairs and Mining		15:05 - 15:20 Upcycling Mine Wastes for Environmental Pollution Management with Carbon Offset Co-benefits Tuan Nguyen The University of Queensland	14:40 - 14:50 The Future of Mining Engineering in the Era of the Climate Change Crisis - Strategies for Survival of Mining Engineering Programs in Universities Fidelis Suorineni Nazarbayev University	15:15 - 15:45 Facilitated Panel Discussion		15:20 - 15:45 Panel Session - Resourcing Our Future World - Mining Science & Engineering Perspectives Eric Ianson NASA	15:25 - 15:45 Nasa Solar System Exploration and Sample Return Eric Ianson NASA	15:05 - 15:20 Microwave Heating Impacts on Breakage Phenomena of Kimberlite Rock in Crusher Azlan Aslam McGill University	15:25 - 15:40 Key Take-outs from the Conference Sharon Flynn CSR Industry Fellow and Independent Consultant	15:05 - 15:20
	15:15 - 15:30 Mitigating uncertainty in deep resources exploration and characterization: learnings for the Mining Industry from Oil and Gas Noele Carvalho The University of Queensland	14:30 - 14:35 Missy Cummings George Mason University	15:20 - 15:45 Question & Answer Session		15:20 - 15:35 Bioaccumulation of Metal(loid)s by Plants Growing on Soils Irrigated with Copper Tailings Water in View of Their Potential Use for Land Remediation Through Phytomanagemen David Rubinos The University of Queensland	14:50 - 15:45 Question & Answer Session					15:20 - 15:45 Facilitated Panel Discussion	15:40 - 15:45 Closing Remarks	15:20 - 15:35 The Behaviour of Cable Bolts Under Axial and Shear Loading Conditions Naj Aziz University of Wollongong
	15:30 - 15:45 Question & Answer Session	14:35 - 15:45 Panel Discussion + Questions & Answers			15:35 - 15:45 Question & Answer Session								15:35 - 15:45 Question & Answer Session

15:45 - 16:15

AFTERNOON TEA / POSTERS

PLENARY SESSION

16:15 - 17:35	Closing Ceremony
16:15 - 16:45	26th WMC Awards
16:45 - 17:25	26th WMC Handover to 27th WMC Host Country
17:25 - 17:35	Lucky Draw Attendance Prize & Congress Close
17:35 - 18:45	Farewell drinks