

GREEN MINING
CONFERENCE 2026



Conference Program

**9th International Symposium on Mine Safety Science
and Engineering &
Green Mining Conference 2026**

28th September – 2nd October 2026, Wollongong, NSW, Australia

HOSTED BY



UNIVERSITY
OF WOLLONGONG
AUSTRALIA

ORGANISED BY



AUSTRALIAN RESEARCH COUNCIL
Industrial Transformation Training Centre
For Innovative Composites for the Future
of Sustainable Mining Equipment

ORGANISATION



Conference website: <https://conference.uow.edu.au/green-mining-conference/>

Welcome from the Conference Chair

Dear Colleagues,

On behalf of the Organising Committee, it is my great pleasure to welcome you to the 9th International Symposium on Mine Safety Science and Engineering (ISMSSE) and Green Mining Conference 2026, hosted by the University of Wollongong from 28 September to 2 October 2026.

This conference brings together researchers, industry leaders, practitioners and technology innovators from around the world to explore how we can make mining safer, smarter and more sustainable. Under the theme of Innovation, Safety and Sustainability, we have created a platform for sharing research, practical experience and emerging technologies that can help shape the future of the resources sector.

The program reflects the rapidly changing landscape of mining. It covers a broad range of topics including green mining and critical minerals, mine hazard prevention and control, smart mining and artificial intelligence, mine safety monitoring, coal burst and seismic hazards, environmental impact and rehabilitation, carbon capture, and sustainable mining technologies. These themes highlight the increasing importance of integrating technological innovation with strong safety and environmental outcomes.

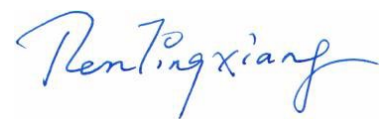
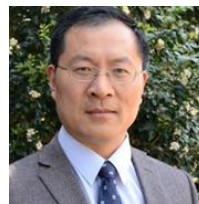
I am particularly pleased that this conference brings together such a diverse international community. The collaboration between universities, research organisations, mining companies, equipment and technology providers, and government and industry bodies is essential if we are to translate research and innovation into practical solutions. The conference is organised by the ARC Industrial Transformation Training Centre for Innovative Composites for the Future of Sustainable Mining Equipment, with support from the International Committee on Mine Safety Science and Engineering, and reflects UOW's strong commitment to research excellence, industry engagement and a sustainable resources sector.

I would like to sincerely thank all our speakers, authors, delegates, sponsors, supporters, organising committee members and volunteers. Your contributions and commitment have made this international gathering possible. I also extend a warm welcome to our international and interstate delegates and hope that the conference provides opportunities to establish new partnerships, strengthen existing collaborations and inspire the next generation of mining professionals and researchers.

I encourage everyone to take full advantage of the conference program to share ideas openly, engage in constructive discussion, explore new technologies and build connections across disciplines and borders. It is through these exchanges that research can become innovation, and innovation can contribute to a safer, greener and more sustainable mining industry.

Finally, I hope you will enjoy your time at the University of Wollongong and in Wollongong, with its beautiful coastline, surrounding escarpment and vibrant community.

Thank you for joining us, and I wish you an inspiring, productive and enjoyable conference.



Professor Ting Ren
Conference Chair

9th International Symposium on Mine Safety
Science and Engineering and Green Mining
Conference 2026
School of Engineering, EIS, University of
Wollongong

Welcome from the ARC Industrial Transformation Training Centre

For Innovative Composites for the Future of Sustainable Mining Equipment

As the Director of the ARC Industrial Transformation Training Centre for Innovative Composites for the Future of Sustainable Mining Equipment, it is my great privilege and honour to warmly welcome you to the 9th International Symposium on Mine Safety Science and Engineering (ISMSSE) and Green Mining Conference 2026. Our journey has been shaped by a clear vision and a deep belief in the transformative power of research, education, professional training and industry collaboration. The tireless hard work, commitment and passion of our team have made this conference possible, and I am delighted to see so many distinguished researchers, industry leaders, professionals and young researchers gathered here today.

The Mining Equipment, Technology and Services (METS) sector is vital to the Australian economy. It contributes approximately \$92 billion, supports more than half a million jobs, and has experienced average annual growth of around 7%, significantly exceeding the growth of the Australian economy. By 2030, the sector is projected to generate more than \$50 billion in additional economic value and almost 80,000 new jobs. At the same time, mining is undergoing a profound transformation towards operations that are safer, more efficient, innovative and sustainable. As mines become deeper and operating environments are more challenging, we need safer, lighter, stronger and smarter mining equipment. We also need a new generation of highly skilled engineers and professionals with technical expertise, innovative thinking, knowledge of emerging technologies, and a strong sense of environmental and social responsibility. This is where our Centre and this conference play an important role.

Advanced composite materials and innovative manufacturing technologies can make a significant contribution to the next generation of mining equipment. Lightweight, durable and sustainable composites can improve equipment performance, safety, energy efficiency and environmental sustainability. These advances are particularly important as Australia and the world responsibly develop critical minerals such as copper and lithium, which are essential to the global transition

to renewable energy and a low-carbon economy.

The 9th ISMSSE and Green Mining Conference 2026 reflects the University of Wollongong's strong commitment to research excellence, industry engagement and practical solutions for a safer and more sustainable mining future. As you will see in the program, our team has already made significant progress. We have developed new composite materials and solutions for sustainable conveyor scrapers, aiming to improve wear performance and durability in demanding mining environments. We have also developed practical solutions to important challenges in mining safety. These achievements demonstrate the value of bringing together fundamental research, engineering innovation, industry needs and professional training. They also strengthen our ARC ITTC's commitment to developing the technologies and talent needed for the future of sustainable mining. We hope our Centre will continue to be a beacon of innovation, collaboration and lifelong learning, inspiring the next generation of engineers, researchers and industry leaders.

While you are here, I warmly encourage you to explore our beautiful campus, world-class research facilities and iconic harbour and coastal city, and to enjoy the wonderful spring sunshine that Wollongong has to offer. On behalf of all our Chief Investigators, Partner Investigators, staff and students, I sincerely thank you for joining us and for your continued support and collaboration with our Centre.

I wish you a highly productive, inspiring and enjoyable conference. Thank you, and a very warm welcome to Wollongong!



Distinguished Professor Zhengyi Jiang

Director

ARC ITTC Innovative Composites for Sustainable Mining
School of Engineering, EIS, UOW

9th ISMSSE & Green Mining Conference 2026 Agenda and Information

28th September – 2nd October 2026, Wollongong, NSW, Australia

Pre-Conference Workshops

Monday 28th September
9:00 am – 5:00 pm
Building 6, University of Wollongong

Conference Sessions

Tuesday 29th September - Thursday 1st October
8:30 am – 5:20 pm
Novotel Wollongong Northbeach

Welcome Reception

Tuesday 29th September
7:00 pm – 9:00 pm
Novotel Wollongong Northbeach

Conference Gala Dinner

Wednesday 30th September
7:00 pm – 10:00 pm
Novotel Wollongong Northbeach

HDR Student Forums

Thursday 1st October
1:50 pm – 5:21 pm
Novotel Wollongong Northbeach

Conference Close

Thursday 1st October
5:21 pm – 5:40 pm
Novotel Wollongong Northbeach

Conference Proceedings

Conference proceedings are available online. A link to access the proceedings will be provided. If you require assistance accessing the proceedings, please contact conference email address (green-mining@uow.edu.au).

Dress Code

Dress code for the conference and social functions is smart business casual.

Name Badges

You will be issued with a name badge upon registration. Your name badge is the official pass to all sessions and must be worn at all times.

Special Requirements

For those with special dietary requirements, please make yourself known to venue staff who will direct you to the appropriate catering station.

Waiver of Liability

UOW, ARC ITTC and the Conference Organising Committee accept no liability to any person or body for any loss, injury or damage caused whilst attending an event organised, promoted or supported by ARC ITTC and Conference Sponsors and Supporters.

24

CPD Hours

Organising Committee

Conference Honorary Chairs

- Professor G.Q. Max Lu AO (Vice- Chancellor and President FEng FAA FTSE FMCAS IFIVA), University of Wollongong (UOW), Australia
- Professor Alan Rowan (Deputy Vice- Chancellor, Research & Innovation), University of Wollongong (UOW), Australia
- Professor Shirong Ge (Vice-Chancellor and President of JXUST, CAE academician), Jiangxi University of Science and Technology (JXUST), China
- Professor Liang Yuan (Vice-Chancellor and President of AUST, CAE academician), Anhui University of Science and Technology (AUST), China
- Professor Yishan Pan (Vice-Chancellor and President of LNU, CAE academician), Liaoning University (LNU), China
- Professor Qingxue Huang (CAE academician), Taiyuan University of Technology (TYUT), China
- Professor Aixiang Wu (Vice Chair of the University Council of USTB, CAE academician), University of Science and Technology (USTB) Beijing, China
- Professor Guofa Wang (CAE academician), China Coal Technology and Engineering Group (CCTEG), China
- Professor Xueqiu He, University of Science and Technology Beijing (USTB), China
- Professor Hani Mitri, McGill University, Canada
- Professor Jixiong Zhang (Vice-Chancellor and President of CUMT), China University of Mining and Technology (CUMT), China
- Professor Jun Deng (Vice-Chancellor and President of XUST), Xi'an University of Science and Technology (XUST), China
- Professor Hua Guo (Vice-Chair of World Mining Congress 2026), Anhui University of Science and Technology (AUST), China
- Professor Jun Han (Deputy Vice-Chancellor of LNTU), Liaoning Technical University (LNTU), China

Conference Chairs

- Professor Ting Ren (Chair), Deputy Director of ARC Training Centre, SOE/EIS, University of Wollongong (UOW), Australia
- Distinguished Professor Zhengyi Jiang (Co-chair), Director of ARC Training Centre, SOE/EIS, University of Wollongong (UOW), Australia
- Professor Linming Dou (Co-Chair), China University of Mining and Technology (CUMT), China
- Professor Ismet Canbulat (Co-Chair), Head of School – School of Mineral and Energy Resources Engineering, University of New South Wales (UNSW), Australia
- Professor Weimin Cheng (Co-Chair), Head of School – College of Safety and Environmental Engineering, Shandong University of Science and Technology

Conference Chair Assistants

- Dr Ming Qiao, UOW, Australia
- Professor Shengquan He, USTB, China

Local
Organisation
Committee

- Professor Ting Ren, UOW
- Professor Xueqiu He, UOW & USTB
- Professor Zhengyi Jiang, UOW
- Professor Jiangtao Xi, UOW
- Professor Faisal Hai, UOW
- Professor Alex Remennikov, UOW
- Professor Ismet Canbulat, UNSW
- Professor Guangyao Si, UNSW
- Professor Murat Karakus, University of Adelaide, UA
- Professor Peter Knights, University of Queensland, UQ
- Professor Mehmet Kizil, UQ
- Professor Erkan Topal, Curtin University
- Professor Danqi Li, UOW
- Professor Beifang Wang, UOW & LNTU
- Dr Marc Elmouttie, CSIRO
- Dr Xing Li, CSIRO
- Dr Qingdong Qu, CSIRO
- Dr Jan Nemcik, UOW
- Dr Jon Roberts, UOW
- Dr Lihong Su, UOW
- Dr Ming Qiao, UOW
- Dr Zhongbei Li, UOW
- Dr Kun Li, UOW
- Dr Itman Abedin, UOW
- Dr Liang Zhao, AMT-CCTEG
- Dr Dennis Black, GM³
- Ms Lily An, UOW
- Mr Norman Bradshaw, UOW
- Ms Helen Jiang, UOW
- Ms Julie Curcio, UOW

International
Organisation
Committee

- Professor Linming Dou, CUMT, China
- Professor Weimin Cheng, SDUST, China
- Professor Yuanping Cheng, CUMT, China
- Professor Kai Wang, CUMTB, China
- Professor Jun Han, LNTU, China
- Professor Jianping Wei, HPU, China
- Professor Yanli Huang, CUMT, China
- Professor Cheng Zhai, CUMT, China
- Professor Sheng Xue, AUST, China
- Professor Dazhao Song, USTB, China
- Professor Baisheng Nie, CQU, China
- Professor Feng Xu, HLJUST, China
- Professor Jingwei Zhao, TYUT, China
- Professor Weidong Lu, XJIE, China
- Professor Aiwen Wang, LNU, China

International
Organisation
Committee

- Professor Shimin Liu, Pennsylvania State University (PSU), USA
- Professor Stanislaw Prusek, GIG, Poland
- Professor Shuqing Li, HKUST, China
- Professor Petr Konicek, Czech Academy of Sciences, Czech Republic
- Professor Guang Xu, Missouri S&T, USA
- Professor Mitra Rudrajit, South Dakota Mines, USA
- Professor F. Albert Liu, McGill University, Canada
- Dr Jamal Rostami, Colorado School of Mines, USA
- Dr Radovan Kukutsch, Czech Academy of Sciences, Czech Republic
- Professor Piotr Malkowski, AGH, Poland
- Professor Sahendra Ram, National Institute of Technology Rourkela, India
- Professor Shavkat Azimov, TDTU, Uzbekistan
- Professor Lei Zhang, CUMT, China
- Professor Zhenyu Zhang, CQU, China
- Professor Anye Cao, CUMT, China
- Professor Liang Wang, CUMT, China
- Professor Gang Zhou, SDUST, China
- Professor Zhen Liu, SDUST, China
- Professor Gang Wang, SDUST, China
- Professor Bingyou Jiang, AUST, China
- Professor Wei Yang, TYUT, China
- Professor Zhenlei Li, USTB, China

Event
Support

- Dr Yi Zhang, AUST, China
- Dr Shiju Wang, AUST, China
- Dr Di Pan, UOW, Australia
- Ms Carmen Tang, Australia
- Ms Xia Zhao, UOW, Australia
- Mr Shipan Zeng, UOW, Australia
- Mr Wenlong Yin, UOW, Australia
- Mr Wenbo Liu, UOW, Australia
- Mr Lisong Zhu, UOW, Australia
- Ms Suzanne Larkin, UOW, Australia

Day 1 | Monday 28th September 2026

PRE-CONFERENCE WORKSHOPS – Building 6, University of Wollongong

Pre-Conference Workshop

WORKSHOP ONE

Spontaneous Combustion and Fire Prevention and Control in Underground Coal Mines

Time: 08:30 am – 12:30 pm

Venue: Room 210, Building 6, UOW

Speakers:

Professor Wanxing Ren and his team, Jiangsu Ji'an Mining Technology Co. Ltd. (China)

Professor William Wu, AST Mining Service Pty Ltd (Australia)

Workshop moderator: Professor Ting Ren, University of Wollongong

WORKSHOP TWO

Mine Dust Control and Mitigation

Time: 08:30 am – 12:30 pm

Venue: Room 105, Building 6, UOW

Speaker: Professor Wen Nie and his team, Shandong University of Science and Technology

Workshop moderator: Dr Jon Roberts, University of Wollongong

WORKSHOP THREE

Dynamic Hazard Management and Control in Deep Underground Mining

Time: 1:30 pm – 5:00 pm

Venue: Room 210, Building 6, UOW

Speaker: Professor Linming Dou and his team, China University of Mining and Technology

Workshop moderator: Professor Petr Konicek, Head of Department of Geomechanics and Mining Research, Czech Academy of Sciences

Day 2 | Tuesday 29th September 2026

The Grand Ballroom, Novotel Wollongong Northbeach, 2/14 Cliff Rd, North Wollongong NSW 2500, Australia

7:30 am – 8:25 am	Conference Registration (Grand Ballroom Gallery)
8:25 am – 9:00 am	Conference Opening: Professor Ting Ren, Conference Chair (Grand Ballroom)
8:25 am – 8:30 am	Acknowledgement of Country - Professor Ting Ren
8:30 am – 8:35 am	Opening Speech by Ms Alison Byrnes MP, Member for Cunningham
8:35 am – 8:40 am	Opening Speech by Professor Alan Rowan, Deputy Vice-Chancellor (Research and Innovation), University of Wollongong
8:40 am – 8:45 am	Opening Speech by Professor Xueqiu He, Chair of ICMSSSE, University of Science and Technology Beijing
8:45 am – 8:50 am	Opening Speech by Professor Hani S Mitri, International Chair of ICMSSSE, McGill University
8:50 am – 8:55 am	Opening Speech by Professor Zhengyi Jiang, Director, Australian Research Council – Industrial Transformation Training Centre for Innovative Composites for the Future of Sustainable Mining Equipment, University of Wollongong
8:55 am – 9:00 am	Opening Speech by Professor Hua Guo, Vice-Chair of World Mining Congress, Anhui University of Science and Technology

9:00 am – 10:40 am	Plenary Session 1 (Grand Ballroom)
	Session Chair: Professor Ting Ren
9:00 am – 9:25 am	AI-assisted Smart Mining in China: Achievements and Future Directions, Professor Shirong Ge, Member of the Chinese Academy of Engineering (CAE) & Vice-Chancellor and President of Jiangxi University of Science and Technology
9:25 am – 9:50 am	Smarter Mining Starts with People: Technology, AI and where we are heading at GM ³ , Peter Baker, Chief Executive Officer (CEO) of CM³
9:50 am – 10:15 am	Cemented Paste Backfill: The Cornerstone of Safe and Green Mining, Professor Aixiang Wu, Member of the Chinese Academy of Engineering (CAE) & University of Science and Technology Beijing
10:15 am – 10:40 am	Research and Development in Mine Safety and Environmental Sustainability: Challenges and Emerging Opportunities, Dr Marc Elmouttie, CSIRO Australia

10:40 am – 11:10 am	Morning Tea Break Grand Ballroom Foyer	Sponsored by 
11:10 am – 12:50 am	Plenary Session 2 (Grand Ballroom)	
	Session Chair: Dr Marc Elmouttie	
11:10 am – 11:35 am	Digital Intelligent Technology for Unmanned Coal Mining and Research Progress on Spatiotemporal Intelligence in Deep Earth, Professor Guofa Wang, Member of the Chinese Academy of Engineering (CAE) & CCTEG Beijing Tianma Intelligent Control Technology Co., Ltd.	
11:35 am – 12:00 pm	Technological Innovation and Engineering Practice of Ecological Coal Mining, Professor Quansheng Li, China Energy Investment Corporation Co., Ltd.	
12:00 pm – 12:25 pm	Quantifying the Exothermic Reaction Temperature of Polymeric Chemicals in a Field Setting for Induced Thermal Runaway and Spontaneous Combustion Hazard Management, Dr Richard Campbell, Blackrock Mining Solutions Pty Ltd	
12:25 pm – 12:50 pm	Coal Spontaneous Combustion Prevention, Control and Early Warning Technology Oriented to Fire Zone Characteristics, Professor Wanxing Ren, Founder and Chairman of Jiangsu Ji'an Mining Technology Joint Stock Co., Ltd.	

12:50 pm – 1:50 pm	Lunch Palisade Kitchen	Sponsored by 
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1:50 pm – 3:15 pm	Parallel Session 1 (Grand Ballroom): Gas Management	Parallel Session 2 (Kembla Room): Mine Safety and Monitoring
	Session Chair: Professor Alex Remennikov	Session Chair: Professor Guangyao Si
1:50 pm – 2:15 pm (Keynote)	Recent Advances in Low-Concentration Coal Mine Methane Emission Abatement Technologies, Professor Hua Guo, Anhui University of Science and Technology	High-Performance Laser Gas Sensors Empower On-line Coal Mine Safety Systems, Professor Tongyu Liu, Shandong Micro-Sensor Photonics Co. Ltd.
2:15 pm – 2:35 pm	Advances in Mechanical and Permeability Behaviors of Gas-bearing Coal, Professor Xiaofei Liu, China University of Mining and Technology	Sealing Device for Underground Gas Drainage Borehole and Its Airtightness Detection, Professor Ruxiang Qin, Anhui University of Science and Technology
2:35 pm – 2:55 pm	Study on the Methane Displacement Effect of Coal Fractured by Liquid Carbon Dioxide, Professor Gang Bai, Liaoning Technical University	Intelligent Identification of CH ₄ /CO Mixtures Using a Minimalist Pd/Ag/SnO ₂ Sensor Array, Associate Professor Yu Zhang, China University of Mining and Technology
2:55 pm – 3:15 pm	Technology of Coalbed Methane Recovery Enhanced by Ultrasonic Cavitation, Professor Xiaoyang Guo, Taiyuan	Multi-source Interference Suppression for Laser Gas Remote Sensing in Disaster Rescue Environments, Dr Guobin Cai, Xi'an

	University of Technology	University of Science and Technology
1:50 pm – 3:15 pm	Parallel Session 3 (Keira Room): Geomechanics	Parallel Session 4 (Belmore Room): Mining Materials
	Session Chair: Dr Richard Campbell	Session Chair: Professor Derek Apel
1:50 pm – 2:15 pm (Keynote)	Geotechnical Hazards Associated with the Flooding of Coal Mines, Professor Petr Konicek, Czech Academy of Sciences	Advanced Metallic Composites for Sustainable Mining Equipment, Professor Zhengyi Jiang, University of Wollongong
2:15 pm – 2:35 pm	Physical Similarity Principles of Coal-rock Dynamics Simulation for Coal Burst, Professor Linming Dou, China University of Mining and Technology	Study on the Effects of a Multi-surfactant Composite Solution on Coal Dust Wettability, Professor Zhian Huang, University of Science and Technology Beijing
2:35 pm – 2:55 pm	Principles and Control Technology of Surrounding Rock Stability for Gob-side Entry Retaining, Professor Jianbiao Bai, China University of Mining and Technology	Research on Self-Wetting Nanofluid Gravity Heat Pipe for Coal Pile Spontaneous Combustion Prevention, Professor Zhaojun Tian, Hunan University of Science and Technology
2:55 pm – 3:15 pm	Precursor Identification and Stability Study of Locked Slope Instability Failure, Professor Chuangye Wang, Inner Mongolia University of Science and Technology	Mechanism of the Acid-Nanofluid for Modifying Low-Permeability Coal Seam and Field Application, Associate Professor Xu Yu, China University of Mining and Technology

3:15 pm – 3:45 pm	Afternoon Tea Break Grand Ballroom Foyer	Sponsored by 
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3:45 pm – 5:10 pm	Parallel Session 5 (Grand Ballroom): Mining Safety	Parallel Session 6 (Kembla Room): Geomechanics
	Session Chair: Professor Lina Zheng	Session Chair: Professor Petr Konicek
3:45 pm – 4:10 pm (Keynote)	From Methane to Hydrogen: Explosion Hazards, Blast Loads and Safety Distances for Zero-Emission Mining, Professor Alex Remennikov, University of Wollongong	Beyond Stability: The Expanding Role of Geotechnical Engineering, Yvette Heritage, SCT Operations, Australia
4:10 pm – 4:30 pm	Research on PID Regulation Theory and Technology of Air Volume in Ventilation System of Mines, Professor Kai Wang, China University of Mining and Technology	Study on the Dynamic Evolution Law of Fractures in Structural Coal-Bearing Composites Under Loading, Professor Weidong Lu, Xinjiang Institute of Engineering
4:30 pm – 4:50 pm	Integrated Technology of Coal-fired Power Plant Flue Gas Injection into Coal Mine Underground Storage and Utilization, Professor Xuefeng Wang, Taiyuan University of Technology	Grouting Reinforcement of Gob-Side Coal Pillars and Monitoring of Grouting Quality, Professor Jian Sun, Anhui University of Science and Technology

4:50 pm – 5:10 pm	Spatial-temporal Evolution of Coal and Gas Outburst Geodynamic System and its Prevention Countermeasures, Professor Chaojun Fan, Liaoning Technical University	Intense Mine-pressure Behavior and Support Load Calculation of Shallow-Buried Working Face under Goaf Roof, Professor Beifang Wang, Liaoning Technical University
3:45 pm – 5:10 pm	Parallel Session 7 (Keira Room): Burst Control	Parallel Session 8 (Belmore Room): Rock Mechanics
	Session Chair: Dr Xing Li	Session Chair: Professor Wu Cai
3:45 pm – 4:10 pm (Keynote)	Mechanical Reinforcement of Coal Mass with Flexible Materials and Prevention of Coal-rock Dynamic Disasters, Professor Baisheng Nie, Chongqing University	Research and Application of “Blasting Fracturing + Fracturing Drive” Uniform Pressure Relief Antireflection and Outburst Prevention Technology, Professor Wei Yang, Taiyuan University of Technology
4:10 pm – 4:30 pm	Study on Collaborative Monitoring of Full-section Stress and Deformation in Roadway Cable Support, Professor Denghong Chen, Anhui University of Science and Technology	Research on the Characteristics of Coal Rock Fracture and Damage Constitutive Model under Thermal Mechanical Coupling, Professor Qingyi Tu, Anhui University of Science and Technology
4:30 pm – 4:50 pm	Mechanism of Rock Burst Triggering in Longwall Mining with Deep Topsoil and Thin Bedrock, Associate Professor Jiang He, China University of Mining and Technology	Study on the Performance and Thermal Insulation Effect of Surrounding Rock Insulation Materials in High Temperature Mines, Professor Bo You, Hunan University of Science and Technology
4:50 pm – 5:10 pm	Multi-parameter Integrated Early Warning Model and An Intelligent Identification Cloud Platform of Rockburst, Professor Shengquan He, University of Science and Technology Beijing	Temporal Fracture Tracking and Mechanical Correlation of Coal-Rock Based on Cognitive Memory Architecture, Associate Professor Guanyu Yang, China Coal Research Institute

5:10 pm – 5:15 pm	Day-Two Conference Wrap-up	
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7:00 pm – 9:00 pm	Welcome Reception The Deck, Novotel Wollongong Northbeach	Sponsored by 
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Day 3 | Wednesday 30th September 2026

The Grand Ballroom, Novotel Wollongong Northbeach, 2/14 Cliff Rd, North Wollongong NSW 2500, Australia

9:00 am – 10:40 am	Plenary Session 1 (Grand Ballroom)
	Session Chair: Professor Hua Guo
9:00 am – 9:25 am	Evolution of Seismic Risk Management Strategies at Vale's Ontario Operations over the Last Decade, Dr Mike Yao, Vale Base Metals, Canada
9:25 am – 9:50 am	Gas Management in a Complex Reservoir: Innovating for a Safe and Sustainable Future, Dr Dennis Black, Dendrobium Mine of GM³
9:50 am – 10:15 am	Application of Advanced Diamond Composite in Greening Mining, Dr Xing Li, CSIRO Australia
10:15 am – 10:40 am	Gas Management at Appin Mine, Russell Thomas, Appin Mine of GM³

10:40 am – 11:10 am	Morning Tea Break Grand Ballroom Foyer	Sponsored by	
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11:10 am – 12:50 pm	Plenary Session 2 (Grand Ballroom)
	Session Chair: Professor Erkan Topal
11:10 am – 11:35 am	Downstream Savings and Benefits using Mechanical Cutting in Hard Rock Mining, Colin Wade, Komatsu
11:35 am – 12:00 pm	Blasthole Stability and Performance Optimization: A Field Investigation of Non-Newtonian Fluid Stemming in Underground Production Cycles, Professor Derek Apel, University of Alberta
12:00 pm – 12:25 pm	Roadway Deformation during Developing and Mining based on Dense Multi-point Displacement Monitoring, Professor Jun Han, Liaoning Technical University
12:25 pm – 12:50 pm	Adaptive Drilling with Yabby 2.0: the New Benchmark for Increasing UIS Drilling Efficiency, Scott Thomson, Yabby Innovations

12:50 pm – 1:50 pm	Lunch Palisade Kitchen	Sponsored by	
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1:50 pm – 3:15 pm	Parallel Session 1 (Grand Ballroom): Green Mining	Parallel Session 2 (Kembla Room): Mining Technology
	Session Chair: Professor Murat Karakus	Session Chair: Dr Dennis Black
1:50 pm – 2:15 pm (Keynote)	Beyond NPV: A Multi-criteria Optimisation Framework for Integrating Stakeholder Values into Mine Planning, Professor Erkan Topal, Curtin University	Vertical Shaft Safety Equipment & Wire Rope Replacement Technology, Han Jia, Sansen Well (Shanghai) Robotics Co., Ltd.
2:15 pm – 2:35 pm	Improving the Technology for Extracting Iron from Copper Smelting Slags through Complex Processing, Associate Professor Shavkat Shukhratovich Azimov, Tashkent State Technical University	Continuous Miner Technology in India Over the Past Two Decades: A Review of Geotechnical Issues and the Way Forward, Assistant Professor Sahendra Ram, National Institute of Technology Rourkela
2:35 pm – 2:55 pm	Stability Analysis of Hydropower Plants with Pumped Storage in Abandoned Surface Mine Affected by Underground Gobs, Professor Yang Li, China University of Mining and Technology Beijing	Effect of Regenerator Structure and Position on the Combustion Characteristics of Low-concentration Coal Mine Gas, Professor Xiaoliang Zheng, Anhui University of Science and Technology
2:55 pm – 3:15 pm	Green Rock Fracturing in High-altitude Cold Regions: Optimizing SCDA Performance with Thermal Retention Shells, Professor Tuo Chen, Chongqing University	Application of Improved Ensemble Learning in Predicting the Safety Factor of Open-pit Mine Slopes, Associate Professor Jiliang Pan, University of Science and Technology Beijing
1:50 pm – 3:15 pm	Parallel Session 3 (Keira Room): Geomechanics	Parallel Session 4 (Belmore Room): Mining Safety
	Session Chair: Professor Liang Wang	Session Chair: Professor Mehmet Kizil
1:50 pm – 2:15 pm (Keynote)	Evolution Law and Application of EMR Vector Generated from Rock Fracture, Professor Dazhao Song, University of Science and Technology Beijing	Correlation Effect and Mutual-Feedback Mechanism Between Rock Burst and Water Inrush Under Confined Aquifer, Professor Anye Cao, China University of Mining and Technology
2:15 pm – 2:35 pm	Microseismic Criterion for Dynamic Risk Assessment and Warning of Roadway Rockburst Induced by Coal Mine Seismicity, Associate Professor Lianpeng Dai, Liaoning University	Mechanisms of Coal Fire Oxidation Kinetics-induced Hazards and Synergistic Prevention and Control, Professor Xuyao Qi, China University of Mining and Technology
2:35 pm – 2:55 pm	Mechanism and Influencing Factors of Grouting-induced Dynamic Floor Failure, Associate Professor Xuwei Li, China University of Mining and Technology	Research on Technologies for Eliminating Toxic Gases in Limited Work Spaces, Associate Professor Na Gao, University of Science and Technology Beijing
2:55 pm – 3:15 pm	Coal Damage-permeability-mechanical Response Induced by Alternating N ₂ /CO ₂ Injection, Associate Professor Ziwen Li, Taiyuan University of Technology	Clustering-based Modeling for Safety Improvement in Small-Scale Mines, Assistant Professor Niaz Muhammad Shahani, China University of Mining and Technology

3:15 pm – 3:45 pm	Afternoon Tea Break Grand Ballroom Foyer	Sponsored by 
3:45 pm – 5:10 pm	Parallel Session 5 (Grand Ballroom): Mining Safety	Parallel Session 6 (Kembla Room): Explosion Prevention
	Session Chair: Professor Anye Cao	Session Chair: Dr Radovan Kukutsch
3:45 pm – 4:10 pm (Keynote)	Understanding the Time Delay Mechanism in Tangent Modulus Method (TMM), Professor Murat Karakus, Adelaide University	Modernizing Blast Practices: How i STEM Blasting Resolves Critical Failures of Conventional Methods, Dr Mani Ram Saharan, Safe MineTech Solutions (INDIA) Pvt Ltd
4:10 pm – 4:30 pm	Inhibition of Spontaneous Combustion in Low-rank Coal by Facultative Anaerobic Microflora: Reducing Oxidizer, Increasing Retardant and Modifying Coal Structure, Professor Hongguang Guo, Taiyuan University of Technology	Study on Regenerative Oxidation Mechanism and Lower Explosive Limit of Low Concentration Gas at 600~1000°C, Associate Professor Bo Zhao, Taiyuan University of Technology
4:30 pm – 4:50 pm	Macro- and Micro-Scale Studies on the Spontaneous Combustion Characteristics of Coal Gangue and Related Prevention and Control Technologies, Professor Xuping Li, Inner Mongolia University of Science and Technology	Study on the Explosion Characteristics of Industrial Aluminum Dust and the Kinetic Mechanism of Suppression by Composite Explosion Suppressants, Associate Professor Haiyan Chen, Shandong University of Science and Technology
4:50 pm – 5:10 pm	Research on the Characteristics of Three-dimensional Air Leakage Flow Field and Flexible Sealing and Control Mechanism of Air Curtain Wall in Gob-side Entry Formed by Cutting Roof, Associate Professor Hongwei Liu, Taiyuan University of Technology	Research on the Performance of Aerogel Laminated Structure in Preventing and Controlling Gas Explosions, Dr Xinyu Ma, Tsinghua University
3:45 pm – 5:10 pm	Parallel Session 7 (Keira Room): Gas Management	Parallel Session 8 (Belmore Room): Green Mining
	Session Chair: Professor Lei Zhang	Session Chair: Professor Danqi Li
3:45 pm – 4:10 pm (Keynote)	Mitigating Coal Mine Methane Emissions to Support Carbon Neutrality in China: Characteristics, Technical Potential and Internal Driving Mechanisms, Professor Liang Wang, China University of Mining and Technology	Development of Nanolubricants and Their Potential Applications in Mining Equipment, Professor Jingwei Zhao, Taiyuan University of Technology
4:10 pm – 4:30 pm	Key Technologies for the Synergistic Prevention and Control of Gas and Fire Hazards in a Double Roof-cutting Entry-retaining Working Face of a High-gas Coal Mine, Professor Jun Nian, Taiyuan University of Technology	Development of Key Technologies and Equipment for Intelligent Construction of Concrete Support in Tunneling Working Faces, Associate Professor Guanguo Ma, Shandong University of Science and Technology

4:30 pm – 4:50 pm	Two-phase Flow Characteristics of CO ₂ -H ₂ O in Typical Nanoporous Structures under High-temperature Conditions, Associate Professor Xiangliang Zhang, China University of Mining and Technology	Assessing the Long-term Thermal Energy Storage Potential of Flooded Coal Mines in the Sydney Basin, Australia, Dr Pabasara Kumari Wanniarachchige, University of Wollongong
4:50 pm – 5:10 pm	Study on Coal Body Borehole Damage and Gas Flow Characteristics under Dynamic Disturbance, Associate Professor Huan Zhang, Taiyuan University of Technology	Surface-modified Nanoclay in Polyester/HMMM Coil Coatings for Pre-coated Metal, Dr Weikang Lin, University of Queensland

5:10 pm – 5:15 pm	Day-Three Conference Wrap-up	
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7:00 pm – 10:00 pm	Conference Gala Dinner: Grand Ballroom, Novotel Wollongong Northbeach	
	Speakers: - Professor G.Q. Max Lu AO, Vice-Chancellor and President, University of Wollongong - Professor Shirong Ge, Vice-Chancellor and President, Jiangxi University of Science and Technology, CAE academician - Industry Guest Speaker: Peter Baker, CEO of GM³	Sponsored by  吉安科技 Jiangsu Ji'an Mining Technology Joint Stock Co., Ltd.
	- International Outstanding Young Scholar Award – ICMSSE – Professor Xueqiu He, USTB - Promotion of the 28th World Mining Congress, Hefei, China – Professor Hua Guo, AUST	

Day 4 | Thursday 1st October 2026

The Grand Ballroom, Novotel Wollongong Northbeach, 2/14 Cliff Rd, North Wollongong NSW 2500, Australia

9:00 am – 10:40 am	Parallel Session 1 (Grand Ballroom): Dust Control	Parallel Session 2 (Kembla Room): Geomechanics
	Session Chair: Dr Mani Ram Saharan	Session Chair: Professor Dazhao Song
9:00 am - 9:20 am (Keynote)	Study on Collaborative Dust Control Technologies Integrating Extraction, Induced Airflow, and Isolation for Multiple Dust Sources at Fully Mechanized Coal Mining Faces, Professor Wen Nie, Shandong University of Science and Technology	Multistage Hydraulic Fracturing of Coordinated Multiple Horizontal Wells for Stress Alleviation and Energy Dissipation in Underground Coal Mining, Professor Wu Cai, China University of Mining and Technology
9:20 am - 9:40 am	Intelligent Dust Suppression Method for Ultra Short Distance in Fully Mechanized Excavation Face, Professor Haiming Yu, Shandong University of Science and Technology	Stability Assessment of Underground Structures under Overlying Goaf and Barrier Pillars during Mechanised Depillaring: A Field and Numerical Modelling Study, Tamilprasanth M, National Institute of Technology Rourkela
9:40 am - 10:00 am	Development of a Mining Wetting–binding Agent and Its Dual Mechanisms in Dust Capture and Consolidation, Dr Shiju Wang, Anhui University of Science and Technology	Evolution of Overburden Fissures Induced by Mining in Double-cutting Top-retention Lanes, Associate Professor Xiaobo Lyu, Taiyuan University of Technology
10:00 am - 10:20 am	Molecular Simulation and Quantum Chemical Investigation of Surfactant-Enhanced Spray Dust Suppression in Underground Coal Mines, Dr Shuo Liu, Taiyuan University of Technology	Main Controlling Factor Identification and Risk Assessment of Coal Burst Triggered by Mining-Induced Earthquake in Deep Ordos Mines, Associate Professor Changbin Wang, China University of Mining and Technology
10:20 am - 10:40 am	Study on the Effect of Modified Silica Nanofluid on Coal Microstructure and Dust Suppression Mechanism, Dr Yi Zhang, Anhui University of Science and Technology	Damage Evolution and Energy Dissipation of Coal under Multi-Stage Cyclic Loading via LF-NMR, Dr Chuanyu Hu, Liaoning University
9:00 am – 10:40 am	Parallel Session 3 (Keira Room): Gas Management	Parallel Session 4 (Belmore Room): Mining Safety
	Session Chair: Dr Jan Nemcik	Session Chair: Professor Yang Wei
9:00 am - 9:20 am (Keynote)	Research on Gas Injection in Coal for Enhanced Methane Recovery and Flow-solid Coupling Mechanisms, Professor Lei Zhang, China University of Mining and Technology	Development of Instruments for Rapid and Accurate Measurement of Workplace Dust, Professor Lina Zheng, China University of Mining and Technology

9:20 am - 9:40 am	Mechanism and Technology of Two-level Graded Early Warning and Pre-control for Gas Concentration in Coal Mining Face, Associate Professor Yansheng Wang, Taiyuan University of Technology	Preparation and Characterization of High-performance Composite Foam for Inhibition of Coal Spontaneous Combustion, Associate Professor Changkui Lei, Taiyuan University of Technology
9:40 am - 10:00 am	Study on CO ₂ Seepage Characteristics and Transport Laws in Micro/Nano Pore Structures of Coal, Associate Professor Zhigang Li, Taiyuan University of Technology	The Synergistic Damage Effects and Mechanism of CO ₂ -alkaline-water on Coal Physicochemical Properties, Dr Purui Li, Anhui University of Science and Technology
10:00 am - 10:20 am	Research Progress on Efficient Surface Extraction of Coalbed Methane from Residual Mining Areas in China, Associate Professor Zhen Li, Taiyuan University of Technology	Catalytic Activity and Sulfur Resistance of Modified OMS-2, Dr Shuangli Du, Taiyuan University of Technology
10:20 am - 10:40 am	Research Progress on Multiscale Heat and Mass Transfer Mechanisms of Non-continuous Spread in Coalfield Fire Zones under Multiple Air Leakage Conditions, Dr Li Yan, Xi'an University of Science and Technology	Study on the Combustion Characteristics of Coal from the Jirentai Goukou Site, Dr Xiaofeng Ren, Shandong University of Science and Technology

10:40 am – 11:10 am	Morning Tea Break Grand Ballroom Foyer	Sponsored by 
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11:10 am - 12:50 am	Parallel Session 5 (Grand Ballroom): Mining Safety	Parallel Session 6 (Kembla Room): Geomechanics
	Session Chair: Professor Xuyao Qi	Session Chair: Professor Xiaofei Liu
11:10 am - 11:30 am (Keynote)	Recent Advances in Proximity Detection Technologies for Life Information of Trapped Miners in Mine Disaster Rescue, Professor Xuezhao Zheng, Xi'an University of Science and Technology	Back-analysis of Rock Mass Properties Using Stress-deformation Monitoring Data and 3D Numerical Modelling, Dr Radovan Kukutsch, Czech Academy of Sciences
11:30 am - 11:50 am	Development and Application of Personal Respiratory Protective Filter Media for Synergistic Dust and Toxic Gas Control, Professor Rulin Liu, Shandong University of Science and Technology	Transparent Interpretation of Discontinuous Structures and Internal Volumetric Strain in Coal Rock during Creep, Associate Professor Liang Zhang, CCTEG Chinese Institute of Coal Science
11:50 am - 12:10 pm	Architecture and Key Technology Framework of an Intelligent Full Life-cycle Management and Control Platform for Gas Drainage, Associate Professor Jing Zhang, Taiyuan University of Technology	Research on the Influence of Primary Cracks on Impact Damage Characteristics of Coal and Rock Subjected to Controlled Electric Pulse, Associate Professor Fazhi Yan, Taiyuan University of Technology

12:10 pm - 12:30 pm	Development of a Novel Mining Method for Coal Extraction at Higher Depth Using Continuous Miner Technology: A Perspective for Indian Coal Mines, Birendra Kumar Thakur, National Institute of Technology Rourkela	Research on Intelligent Calibration of Rock Mechanical Parameters and Stress Field Assimilation for Mine Numerical Simulation, Dr Wenyuan Wang, Taiyuan University of Technology
12:30 pm - 12:50 pm	Research on the Mechanism of Mechanical Modification of Coal Body by Flexible Polymer Materials, Dr Dan Zhao, Chongqing University	Study on Time-dependent Deformation and Permeability Evolution of Coal Mass under Non-uniform Stress Conditions, Dr Lei Zhang, Taiyuan University of Technology
11:10 am - 12:50 pm	Parallel Session 7 (Keira Room): Geomechanics	Parallel Session 8 (Belmore Room): Green Mining
	Session Chair: Professor Shengquan He	Session Chair: Associate Professor Changbin Wang
11:10 am - 11:30 am (keynote)	Study on the Cutting Force and Damage Effect of Diamond Beaded Wire Saw Cutting Loaded Coal Body, Professor Shuqing Li, Hunan University of Science and Technology	A Probabilistic CFD Framework for Multi-hazard Risk Quantification in Underground Goafs: Coupling Monte Carlo Simulation with Surrogate Modelling, Professor Guangyao Si, University of New South Wales
11:30 am - 11:50 am	Study on Evolution Mechanism of Gas Backflow in Parallel Airway During Outburst Disaster Period, Dr Xuelin Yang, Taiyuan University of Technology	Evolution of Pore-fracture Systems, Permeability Enhancement and CO ₂ Sequestration Performance of Deep Unmineable Coal Seams, Dr Hongge Zhang, Taiyuan University of Technology
11:50 am - 12:10 pm	Dynamic Prediction of Coal and Gas Outburst Risk Based on Quantitative Analysis of Stress-energy Evolution and Adaptive Correction, Dr Yingjie Zhao, University of Science and Technology Beijing	The Mechanism of Microbial Action on the Pore Structure of Dananhu Coal and Its CO ₂ Adsorption Characteristics, Dr Jie Yang, Xi'an University of Science and Technology
12:10 pm - 12:30 pm	Macro-meso Mechanical Mechanisms of Grouting Reinforcement in Fractured Rock Mass under Compression-shear Loading: Experimental and Numerical Simulation Study, Dr Tao Zhao, Taiyuan University of Technology	Positively Charged COF-modified Monovalent Selective Cation Exchange Membrane for Efficient Ion Separation in Mine Water, Dr Yue Wang, Taiyuan University of Technology
12:30 pm - 12:50 pm	Study on Gas Migration Law and Prevention Technology of Gob-side Roadway Mining in Protective Layer of Outburst Mine, Dr Yuxi Huang, Taiyuan University of Technology	Real-Time Computation of Complex Ventilation Networks based on Sensor Data Fusion, Dr Junqiao Li, Taiyuan University of Technology

12:50 pm – 1:50 pm	Lunch Palisade Kitchen	Sponsored by 
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ARC ITTC Composite for Sustainable Mining -2026 HDR Student Forum



1:50 pm - 3:26 pm	HDR Student Forum 1 (Grand Ballroom): Green Mining	HDR Student Forum 2 (Kembla Room): Geomechanics
	Session Chair: Dr Lihong Su	Session Chair: Dr Ming Qiao
1:50 pm – 2:02 pm	Microalgae-based Copper Recovery for Sustainable Mining Applications: Strain Screening and Biosorption Kinetics, PhD Candidate Soroosh Danaee, University of Technology Sydney	Hydro-mechanical Compaction and Void Structure Evolution of Fragmented Rock Masses in Underground Mine Reservoirs, PhD Candidate Duo Zhou, Liaoning Technical University
2:02 pm – 2:14 pm	Investigating Mine-Based Geothermal Energy Potential in the Southern Coalfield of the Sydney Basin, Australia: A Geospatial Framework, PhD Candidate Chamini Sandunika Waravita, University of Wollongong	Mechanical Characteristics of Damage and Energy Mutation Evolution Mechanism of Sandstone under Different Intermediate Principal Stress Cyclic Loading and Unloading, PhD Candidate Yaoyuan Zhang, Anhui University of Science and Technology
2:14 pm – 2:26 pm	Critical Minerals Recovery: Process Integration and Intensification, PhD Candidate Sohail Zafar, Curtin University	Modeling of Rough Discrete Fracture Networks and Its Application in Coal Seam Roofs, PhD Candidate Quandong Wang, Taiyuan University of Technology
2:26 pm – 2:38 pm	Modelling and Evaluation of Battery Degradation in Electric Haul Trucks for Sustainable Open Pit Mining, PhD Candidate Mohammad Mirzei, University of Queensland	Zone Feature and Control Technology of Overlying Strata Mining-induced Fracture in Shallow Buried Compound Goaf, PhD Candidate Yuanhao Lyu, Liaoning Technical University
2:38 pm - 2:50 pm	Multiscale Framework for Fine Mineral Particle Flocculation in Green Mineral Processing: From Interfacial Forces to Process Translation, PhD Candidate Yuanguo Zhang, Anhui University of Science and Technology	Objective Full Dual-stream Neural Constitutive Modeling Framework for ECC under Complex Loading and Its Finite Element Implementation, PhD Candidate Song Tian, Anhui University of Science and Technology
2:50 pm - 3:02 pm	Repurposing Flooded Mines for Geothermal Energy: Influence of Operational Parameters on Heat Recovery, PhD Candidate Sandali Maleesha Ranchigoda Kankanamge, University of Wollongong	Failure Mechanisms of Coal-sandstone Combinations under Graded Triaxial Cyclic Loading Unloading: Interface-controlled Crack Evolution, Energy Partition and Fused Damage Indices, PhD Candidate Jinfei Zhan, Chongqing University
3:02 pm - 3:14 pm	Adsorption Mechanism of Sodium Oleate on Kaolinite Surfaces under pH Regulation: Experimental and Simulation Study, PhD Candidate Zihan Li, Anhui University of Science and Technology	Study on the Macro Micro Mechanical Behavior and Failure Evolution of Rock Like Samples Containing Hole and Cracks, Master Candidate Wending Wang, Shandong University of Science and Technology
3:14 pm - 3:26 pm	Corrosion Behaviour of Pipeline Steels in a Hot Dry Rock Geothermal System Using Supercritical CO ₂ , PhD Candidate Jiacheng Wang, University of New South Wales	Coal Spontaneous Combustion in Longwall Goaf: How Inhibitor Foam Treatment Reshapes the Indicator Gas Field, PhD Candidate Tianyang Deng, University of New South Wales

1:50 pm - 3:14 pm	HDR Student Forum 3 (Keira Room): Fire Prevention	HDR Student Forum 4 (Belmore Room): Gas Management
	Session Chair: Associate Professor Hongwei Liu	Session Chair: Professor Beifang Wang
1:50 pm – 2:02 pm	Dynamic Response and Upscaling Mechanism of Pore Structure in Mesoscale during Coal Spontaneous Combustion, PhD Candidate Hanqi Ming, Xi'an University of Science and Technology	Effects of Surfactant-Assisted Microbial Treatment on CO ₂ Adsorption Performance and Chemical Structure of Coal, PhD Candidate Hua Gong, Xi'an University of Science and Technology
2:02 pm – 2:14 pm	Addressing the Nonlinear Gas-temperature Relationship in Coal Spontaneous Combustion: A Machine Learning Model and Its Validation, PhD Candidate Lijuan Jiang, Taiyuan University of Technology	Differential and Competitive Adsorption Characteristics of H ₂ S and CH ₄ in Bituminous Coal: Experimental and Molecular Simulation Insights, PhD Candidate Jinluo Li, Taiyuan University of Technology
2:14 pm – 2:26 pm	Research Progress on the Application of Ultrasonic Technology in Mechanism Analysis of Coal Spontaneous Combustion and Gas Desorption–Flow Enhancement, PhD Candidate Dailin Li, Xi'an University of Science and Technology	Multiscale Two-phase Flow Modeling in a 3D Matrix–fracture System of Fractured Coal: Implications for Enhanced Coalbed Methane Recovery, PhD Candidate Kang Yang, Chongqing University
2:26 pm – 2:38 pm	The Synergistic Regulation Mechanism of Pre Oxidation Temperature and Time on the Secondary Oxidation Activity of Residual Coal in Goaf, PhD Candidate Tielian Shi, Taiyuan University of Technology	Explosion Suppression Characteristics of Ferrocene–silica Composite Powders in Hydrogen Explosions, PhD Candidate Weili Wang, China University of Mining and Technology Beijing
2:38 pm - 2:50 pm	Study on the Influence of Bent Heat Pipes on the Three-Dimensional Temperature Field Distribution Characteristics of Coal, PhD Candidate Lei Wang, Xi'an University of Science and Technology	Backpressure Inhibition Mechanism and Dynamic Diffusion Evolution of Methane Desorption in Coal under Constant-volume Variable-pressure Conditions, PhD Candidate Junnan Shen, Shandong University of Science and Technology
2:50 pm - 3:02 pm	HCl Formation Mechanism in the Pyrolysis Process of Coal Mine Conveyor Belt, PhD Candidate Maoxia Liu, Xi'an University of Science and Technology	Dynamic Evolution Characteristics and Microscopic Mechanisms of Contact between Gas-bearing Coal and Water, PhD Candidate Qijun Han, Anhui University of Science and Technology
3:02 pm - 3:14 pm	Research on Coal Spontaneous Combustion Temperature Prediction Based on Physics-Guided Neural Network and Gas Characteristic Analysis, Master Candidate Zongyao Yue, Taiyuan University of Technology	Study on Gas-Water Two-Phase Migration Mechanism of Coal Based on Low Field Nuclear Magnetic Resonance Experiment, Master Candidate Hongde Ma, Shandong University of Science and Technology
3:14 pm - 3:26 pm	Failure Prediction in Ultra-thin Stainless Steel for Bipolar Plate Micro-stamping, PhD Candidate Hongyu Xiao, Deakin University	Abrasive Impact Wear Performance of Heat-Treated Medium Mn Steel vs Wear Grade Steel, PhD Candidate Shiyu Zhou, University of Wollongong

3:26 pm - 3:45 pm	Afternoon Tea Break Grand Ballroom Foyer	Sponsored by 
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3:45 pm - 5:21 pm	HDR Student Forum 5 (Grand Ballroom):	HDR Student Forum 6 (Kembla Room): Geomechanics
	Session Chair: Dr Jon Roberts	Session Chair: Associate Professor Xu Yu
3:45 pm - 3:57 pm	A Comparative Analysis of Spray Nozzle Performance for Coal and Silica Dust Suppression, PhD Candidate Xia Zhao, University of Wollongong	Advanced Simulation of Dynamic Rock Cutting for Next-Generation Excavation Tools, PhD Candidate Satar Volkan, Adelaide University
3:57 pm - 4:09 pm	Numerical Investigation on the Effect of Vehicle Motion on Diesel Particulate Matter Distributions in an Underground Mine Heading by Using Dynamic Mesh, PhD Candidate Bocheng Zhang, Curtin University	STIGA-IFM: State-Dependent Kernel Mechanics for Multi-Seam Subsidence Prediction, PhD Candidate Felipe Gutiérrez-Sepúlveda, Czech Academy of Sciences
4:09 pm - 4:21 pm	Application of Plasma Activated Water in Mine Dust Control, PhD Candidate Tianyi Yang, Taiyuan University of Technology	Improving DEM Prediction of Brittle Rock Fracture Using a History-Dependent Bond Model and AI-Assisted Calibration, PhD Candidate Jipei Chen, University of Wollongong
4:21 pm - 4:33 pm	Formation Mechanism of Coal Dust Deposition Hotspots at the Floor Junction of an Angle-Connected Roadway Based on CFD-DPM, PhD Candidate Xiaoxia He, Taiyuan University of Technology	A Method for Phase Picking and Event Recognition of Hydraulic Fracturing Microseismic Signals Based on Self-Supervised Pre-training, PhD Candidate Yulong Zhao, Chongqing University
4:33 pm - 4:45 pm	Mechanism of Surface Modification of Ultrafine Ammonium Dihydrogen Phosphate and Its Role in Coal Dust Explosion Suppression, PhD Candidate Jing Shi, Shandong University of Science and Technology	Research Progress on Damage Characteristics and Numerical Simulation of Freeze-Thaw Rock in Open-Pit Mines in Cold Regions, PhD Candidate Shiyuan Liang, Shandong University of Science and Technology
4:45 pm - 4:57 pm	Investigation of Airborne Saline Water Carrying Capacity in a Deep Mine Ventilation Upcast Shaft using CFD-DPM, Master Candidate Abhiram Kamsani, Curtin University	Step Gravity Fusion Search Microseismic Location Algorithm based on P-wave Arrival Time, Master Candidate Chen Wang, Chongqing University
4:57 pm - 5:09 pm	Multiscale Breakup Mechanisms of Air-assisted Atomizing Nozzles Revealed by VOF-to-DPM Coupling and Vortex Dynamics Characterization, Master Candidate Ziyang Wang, Shandong University of Science and Technology	Mining-Induced Unloading of the Coal Seam Floor and Upward Seepage Characteristics of Confined Water, Master Candidate Lefan Liu, Anhui University of Science and Technology

5:09 pm - 5:21 pm	Metamorphic Degree and Particle Size of Coal Dust Synergistically Determine Soil-plant Toxicity and Biochar Remediation Efficiency, Master Candidate Zongwei Gu, Shandong University of Science and Technology	Stress Field Inversion and Engineering Application of Surrounding Rock in Deep Mining Roadways, Master Candidate Baokang Xiang, Anhui University of Science and Technology
3:45 pm - 5:21 pm	HDR Student Forum 7 (Keira Room): Smart Mining	HDR Student Forum 8 (Belmore Room): Mining Technology
	Session Chair: Associate Professor Guanyu Yang	Session Chair: Dr Ping Chang
3:45 pm - 3:57 pm	Impact of Autonomous Haul Truck Size on Productivity, Safety and Sustainable Mining, PhD Candidate Sahar Ardehali, The University of Queensland	Mapping Projectile Hazards from Coal Mine Openings in Case of Methane-Air Explosions, PhD Candidate Edward Gan, University of Wollongong
3:57 pm - 4:09 pm	Surface Quality Improvement of Hot Rolled Steels under High Chloridion Water-based Nanolubricant, PhD Candidate Muyuan Zhou, University of Wollongong	A State-variable-based Computational Framework for Ageing-dominated Gels with Coupled Property Evolution and Flow Feedback, PhD candidate Yi Luo, University of New South Wales
4:09 pm - 4:21 pm	Research Progress and Prospects of Intelligent Swarm-Based Life Detection and Cooperative Localization Technologies in Mine Collapse and Burial Environments, PhD Candidate Changming Chen, Xi'an University of Science and Technology	Review on Thermal Runaway Mechanisms and Safety Prevention Technology of Lithium Ion Batteries under Multi Physics Coupling Conditions in Underground Coal Mine, Master Candidate Shutong Jiang, Shandong University of Science and Technology
4:21 pm - 4:33 pm	Image-Based Intelligent Safety Inspection in Underground Mines: From Deep Learning to Large Model Applications, PhD Candidate Wangyuhao Li, University of Wollongong	Effects of Water Injection into an Untapped Coal Seam on Hydrogen Production during a Field-Scale Underground Coal Gasification Trial, PhD Candidate Rika Iriguchi, Kyushu University
4:33 pm - 4:45 pm	Improving Predictive Maintenance of Mining Equipment Through Optimized Feature Selection, PhD Candidate Bahar Karamzadeh, University of Queensland	Synthesis and Carbon Monoxide Purification Performance of ZSM-5 Molecular Sieve Co-doped Mn/V Catalytic Material, PhD Candidate Xinyuan Zhang, Shandong University of Science and Technology
4:45 pm - 4:57 pm	Joint Modeling and Signal Attenuation Law of Antenna in Porous Media in Goaf based on FDFEM, PhD Candidate Tongren Li, Anhui University of Science and Technology	Data-Driven Assessment of Rainfall-Induced Slope Instability in Open-Pit Mines, Jingtian Zhang, Monash University
4:57 pm - 5:09 pm	Research on Ash Content Detection of Flotation Tailings Based on Hyperspectral Image Feature Analysis, Master Candidate Shuxin Zhang, Taiyuan University of Technology	Coarse-Grained Molecular Dynamics of Nanoindentation Response and Recovery in Polyester-HMMM-Nanoclay Coatings, PhD Candidate Oscar Orozco Gonzalez, University of Queensland

5:09 pm - 5:21 pm	Adaptive Operating Condition Recognition for Flotation Froth Point Cloud via MAB Optimization and Consistency Regularization, Master Candidate Linkai Zhang, Taiyuan University of Technology	Multifunctional Ceramic-reinforced Nanocomposite Hydrogel for Thermal Runaway Propagation Blocking and Heat Dissipation of Lithium-ion Battery Modules, PhD Candidate Yang Kong, Shandong University of Science and Technology
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5:21 pm - 5:40 pm	Conference Close: Grand Ballroom ▪ Announcement of the Host for the 10th ISMSSE – Professor Xueqiu He USTB, and Professor Jun Han, Deputy Vice-Chancellor of Liaoning Technical University ▪ Announcement of the Host for Green Mining Conference 2027 and the 10th International Symposium on Dynamic Hazards in Underground Coal Mines – Professor Linming Dou, China University of Mining and Technology, Professor Wei Yang, Executive Dean, Taiyuan University of Technology	
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Day 5 | Friday 2nd October 2026

POST-CONFERENCE TOUR

Post Conference Activities

VISIT TO APPIN COAL MINE

Depart: Friday 2nd October (6:30 AM) | NOVOTEL HOTEL

Duration: 6:30 AM – 14:00 PM

Cost: \$200 per delegate

Numbers:

Maximum 7 for Underground LW visit

Maximum 7 for Surface Shaft visit

Book: Please purchase the ticket and then contact the conference coordinator (Dr Ming Qiao)

Note: Visit is subject to final confirmation

Address: Lot 2 Douglas Park Dr, Douglas Park NSW 2569

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VISIT TO WOODLAWN METAL MINE

Depart: Friday 2nd October (6:00 AM) | NOVOTEL HOTEL

Duration: 6:00 AM – 14:00 PM

Cost: \$200 per delegate

Numbers: Maximum 7

Book: Please purchase the ticket and then contact the conference coordinator (Dr Ming Qiao)

Note: Visit is subject to final confirmation

Address: Bungendore Road, Tarago NSW 2580

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GROUP ONE

GROUP TWO

VISIT TO COAL SERVICES

Depart: Friday 2nd October (8:30 AM) | NOVOTEL HOTEL

Duration: 8:30 AM – 13:30 PM

Cost: \$200 per delegate

Numbers: Maximum 7

Book: Please purchase the ticket and then contact the conference coordinator (Dr Ming Qiao)

Note: Visit is subject to final confirmation

Address: Woonona NSW 2517

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VISIT TO GREEN GRAVITY

Depart: Friday 2nd October (09:30 AM) | NOVOTEL HOTEL

Duration: 09:30 AM – 13:00 PM

Cost: \$200 per delegate

Numbers: Maximum 14

Book: Please purchase the ticket and then contact the conference coordinator (Dr Ming Qiao)

Note: Visit is subject to final confirmation

Address: Innovation Campus, Squires Way, North Wollongong NSW 2500

Proudly sponsored by:



GROUP THREE

GROUP FOUR

VISIT TO KOMATSU

Depart: Friday 2nd October (9:30 AM) | NOVOTEL HOTEL

Duration: 9:30 AM – 11:30 AM

Cost: \$200 per delegate

GROUP FIVE

Numbers: Maximum 7

Book: Please purchase the ticket and then contact the conference coordinator (Dr Ming Qiao)

Note: Visit is subject to final confirmation

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Social Programs

Welcome Reception



Venue:

The Deck, Novotel Wollongong Northbeach

Address:

2/14 Cliff Road, North Wollongong, NSW, 2500

Date/Time:

Tuesday, 29th September 2026, 7:00 PM – 9:00 PM

Cost:

Free for fully registered delegates (excluding HDR students)

Sponsored by



Conference Gala Dinner



Venue:

Gala Room, Novotel Wollongong Northbeach

Address:

2/14 Cliff Road, North Wollongong, NSW, 2500

Date/Time:

Wednesday, 30th September 2026, 7:00 PM – 10:00 PM

Cost:

Free for registered delegates

Sponsored by:



Wollongong Campus Map



General Inquiry: (+61) 02 4221 3491

UOW Security: (+61) 02 4221 4900 (Emergency) or (+61) 2 4221 4555 (General inquiry)

Emergency: 000

Conference Coordinator: (+61) 04 1020 3820 (Dr Ming Qiao)

Wollongong City Transport Map

Wollongong - 55A / 55C Free Shuttle Bus



Key

- Free Shuttle Bus stops
- Places of interest
- Train station
- Stop name reference
- Weekend service only

See individual mode network maps for destinations served

Free shuttle

Service times and frequency

Monday to Friday
07:00 to 18:00
services every 10 minutes
18:00 to 22:00
services every 20 minutes

Saturday, Sunday and Public Holidays
08:00 to 18:00
services every 20 minutes

Stop names

- 1 University of Wollongong
- 2 TAFE
- 3 Wollongong & Keira High Schools
- 4 Princes Hwy, Fairy Meadow
- 5 Princes Hwy, Elliotts Rd
- 6 Cnr Elliotts Rd & Squires Way
- 7 University of Wollongong Innovation Campus
- 8 Bourke St
- 9 Gipps St, Georges Pl
- 10 Wollongong Harbour
- 11 Corrimal St, Smith St
- 12 WIN Entertainment Centre WIN Stadium
- 13 Burelli St
- 14 Keira St, Crown St
- 15 Wollongong Station
- 16 Wollongong Hospital
- 17 Greenacre Rd, Bligh St
- 18 Foley St
- 19 North Wollongong Station





AUSTRALIAN RESEARCH COUNCIL
Industrial Transformation Training Centre
For Innovative Composites for the Future
of Sustainable Mining Equipment

The Australian Research Council (ARC) Industrial Transformation Training Centre for Innovative Composites for the Future of Sustainable Mining Equipment (ARC ITTC Innovative Composites for Sustainable Mining) is a 5 year and \$15 million ARC major investment (May 2023 to April 2028).

The Centre will conduct industry-focused research projects across four programs that are specialised in innovative composites and mining equipment as well as incorporating work-integrated learning into PhD training programs:

- Innovation in material design fabrication and evaluation of performance
- Advanced simulation and manufacturing innovation
- Artificial intelligence-based and data-driven solution for mining equipment solution and
- Safety, maintainability and reliability of mining equipment

For more information on the ARC Innovative Composites for Sustainable Mining Equipment, please visit <https://arc-innovative-composites-sustainable-mining.org.au/>

ROOBUCK

Bisalloy



TOP IRON

KOMATSU

BAOSTEEL

Australia L&Y Mine Equipment Manufacturing Pty Ltd

HBIS

CCTEG



Jiangsu Ji'an Mining Technology Joint Stock Co., Ltd. was founded in 2013. It is a national key specialized, refined, distinctive, and innovative "Little Giant" enterprise in the field of coal spontaneous combustion prevention and control, a national high-tech enterprise, and a Jiangsu Gazelle Enterprise.

Since its establishment, the company has been implementing the business principle of "taking technological innovation as the foundation, technical services as the core, and problem-solving as the orientation". To expand its business areas, the company has successively invested in three enterprises: Xuzhou Botai Mine Safety Technology Co., Ltd.: Focuses on the R&D and application of industrial dust control technology, providing dust prevention and control solutions for the mining and industrial fields. Zhongneng Huibo Safety Technology (Xuzhou) Research Institute Co., Ltd.: Devotes itself to safety production inspection and testing as well as research on comprehensive control technology of mine disasters, offering professional and accurate safety diagnosis services and disaster control solutions for safe coal mine mining. Beijing Zhongneng Huibo International Energy Technology Co., Ltd.: Concentrates on the R&D and promotion of safety protection technology for overseas coal mining, providing technical support and services for global coal transportation and intelligent mining. These three enterprises achieve in-depth synergy with Ji'an Technology, complementing each other in technology and business. Up to now, five major business systems have been formed, with intelligent disaster early warning, mine disaster prevention and control materials, intelligent equipment, inspection and testing, and technical services as the core. This has significantly enhanced the company's comprehensive service capabilities in the field of mine safety, providing customers with a full range of overall solutions from disaster monitoring and early warning to safety diagnosis services and then to disaster control.

The company has established the Xuzhou Enterprise Technology Center and the Xuzhou Coal Spontaneous Combustion Control Engineering Research Center. Over the past three years, the company's R&D expenditure has accounted for more than 10% of its operating income, and it has built a R&D system and business structure with fire prevention and extinguishing as the core, and intelligent ventilation and multi-disaster collaborative early warning and prevention as the foundation. From 2014 to 2025, Ji'an Technology has cumulatively contributed 5 major technological innovations to the industry. By December 2025, Ji'an Technology has filed 158 patents in total, including 78 invention patent applications; 24 invention patents have been authorized, and 15 software copyrights have been registered. Currently, it possesses 1 "internationally leading" technology and has won 1 First Prize of the "Anhui Provincial Science and Technology Award", 1 Third Prize of the "Shanxi Provincial Science and Technology Progress Award", 1 First Prize, 5 Second Prizes and 10 Third Prizes of the "China National Coal Industry Science and Technology Award", as well as 2 items of "China Good Technology (Category A)".

Ji'an people have always adhered to the professional orientation of "taking mine fire prevention and control as the core and multi-disaster collaborative prevention and control as the foundation", upheld the mission of "eliminating coal spontaneous combustion disasters", safeguarded the safe production of coal mines, and helped the country lay a solid foundation for energy security.



WECHAT OFFICIAL ACCOUNT



OFFICIAL WEBSITE

Tel: 0516-80202990

Web: <https://www.jiankeji.com/>



UNLOCKING COAL VALUE THROUGH TECHNOLOGY AND INNOVATION

China Coal Technology & Engineering Group Co., Ltd. (CCTEG) is the comprehensive scientific and technological innovation enterprise that encompasses the entire professional field of the coal industry. It covers the value chain of the industry, from fundamental research, technology transformation to design services arising from coal mining industry research and equipment development.

With a history of over 70 years, CCTEG has more than 30,000 employees, 15,000 professional and technical personnel across various fields. It directly manages more than 30 secondary enterprises, including Azure Mining Technology Pty Ltd (AMT), founded in Sydney 2019. AMT is focused on research, development, providing innovative solutions and technologies for coal mining applications in Australia and globally.

CHINA COAL TECHNOLOGY & ENGINEERING GROUP

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About GM³

GM³ is an Australian metallurgical coal mining company focused on the safe, responsible and sustainable production of premium-quality coal products essential to modern steelmaking. Owned by a consortium consisting of Golden Energy and Resources (GEAR); M Resources; POSCO and JSW, GM³ combines deep industry expertise, operational excellence and long-term investment to support the future of steel manufacturing both in Australia and internationally.

Operating in the Southern Coalfield of New South Wales, GM³ manages two major underground mining operations, Appin Mine and Dendrobium Mine, together with associated coal processing facilities and infrastructure. Both operations supply premium-quality metallurgical coal products to domestic and international markets, supporting industries critical to economic development and modern society.

Our Expertise and Capabilities

GM³ brings together extensive experience across:

- Underground longwall coal mining
- Mine planning and technical services
- Project delivery and infrastructure development
- Ventilation and shaft-sinking projects
- Processing and product quality management
- Safety leadership and operational risk management
- Workforce development, apprenticeships and graduate programs
- Environmental stewardship and community engagement
- Innovation, technology and digital transformation in mining

GM³ continues to invest in modern mining systems, advanced technology and workforce capability to enhance safety, improve productivity and support informed operational decision-making.

GM³ believes that technology delivers its greatest value when it helps people work safer, smarter and more effectively.

Supporting the Future of Mining

At GM³, putting safety first is our leading value and remains at the centre of every decision we make. We are committed to responsible resource development, operational excellence and creating long-term value for our people, communities and stakeholders. Through strong partnerships with industry, research institutions and universities, GM³ actively supports innovation and the development of practical solutions to the challenges facing the mining sector.

As a major employer in the Illawarra region, GM³ is committed to developing the next generation of mining professionals through apprenticeships, cadetships, graduate programs and community partnerships that create pathways into the industry.

Our Contribution

GM³ is proud to support initiatives that bring together industry leaders, researchers and practitioners to share knowledge, explore innovation and strengthen the future of mining. Through continued investment in people, technology and operational excellence, GM³ is helping shape a mining industry that is safer, more sustainable and better prepared for the challenges and opportunities of tomorrow.



GEOTECHNICAL CONSULTING AND MINING TECHNICAL SERVICES.

WHO WE ARE

Blackrock Mining Solutions provides specialist geotechnical consulting and mining technical services to open cut and underground mining operations. Combining advanced engineering analysis, practical field experience, and industry-leading modelling capabilities, our team supports safe, productive, and informed decision-making throughout the mine lifecycle – from exploration and feasibility studies through to production and closure.

GEOTECHNICAL CONSULTING



GEOTECHNICAL ANALYSIS & DESIGN

Practical geotechnical solutions for open cut and underground mining environments.

Open Cut

- Mine slope stability assessments
- Internal and external spoil dump design
- Heap leach pad assessments
- Mining methodology evaluations
- Slope stabilisation design
- Depressurisation studies
- Rehabilitation and closure planning inputs

Underground

- Ground support design and optimisation
- Portal, drift and roadway assessments
- Underground excavation modelling
- Ventilation shaft stability assessments
- Subsidence analysis for longwall and caving operations
- Seismic and caving assessments



GEOTECHNICAL SITE INVESTIGATION

Field programs designed to maximise data quality and support informed engineering decisions.

- Site investigation planning and execution
- Geotechnical logging and sampling
- On-site and off-site field testing
- Geotechnical laboratory program management
- Geotechnical drilling support
- Hydrogeological investigations
- Geotechnical supervision of drilling and excavation works



GEOTECHNICAL MODELLING

Advanced numerical modelling supporting mine planning, design validation, and risk management.

- Rock mass characterisation and classification
- Stress analysis and failure assessment
- 2D and 3D geotechnical modelling
- Finite element and finite difference modelling
- Dynamic and non-linear simulations
- Discrete fracture network modelling
- Calibration using field monitoring and site data
- Expertise in Rocscience and Itasca software packages



DATA ACQUISITION & INTERPRETATION

Collection and analysis of geological, geophysical, hydrogeological, and geomechanical data.

- Open cut highwall mapping
- Photogrammetry and 3D point cloud analysis
- Wireline geophysical interpretation
- Underground geotechnical hazard mapping
- Borehole scanner interpretation
- Instrument installation, monitoring and assessment
- Acoustic televiewer interpretation



INTEGRATED MINING EXPERTISE

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SANSEN Well Mining Technology Co., Ltd.

Silver Sponsor — 9th ISMSSE & Green Mining Conference 2026

Company Overview

Founded in 2010 and headquartered in Xuzhou, Jiangsu Province — China’s renowned “Safety Valley” — Xuzhou Sansen Well Mining Technology Co., Ltd. is a national-level “Little Giant” specialized and sophisticated enterprise and a national high-tech enterprise, integrating scientific research, design, manufacturing, sales and service. Founded by Professor Jia Fuyin of China University of Mining and Technology, the company is a leading provider of integrated safety and intelligent solutions for mine shaft hoisting systems, serving nearly 1,000 mines worldwide.

Leveraging the research strengths of China University of Mining and Technology and Southeast University, the company has established the Jiangsu Provincial Engineering Technology Research Center for Mine Transportation and Hoisting Safety Equipment, and operates an intelligent R&D center in Shanghai through its subsidiary Sansen Well (Shanghai) Robotics Co., Ltd.

Core Technologies & Products

- Intelligent rope-changing systems: the world’s first double stepless-chain linear-conveying rope change vehicle, a non-destructive, flexible technology that broke the long-standing foreign monopoly. It reduces a single rope-change operation to as little as 4 hours — improving efficiency by 75% over comparable overseas technologies — with equipment costs roughly two-thirds lower than imported alternatives.
- Intelligent protection against rope slip and conveyance runaway, filling a domestic gap and reaching an internationally leading level.
- Double-compensation locking technology, which solves the rebound of hoisting conveyances in large mines and deep shafts under heavy loads, fully replacing imported equipment.
- Full life-cycle wire rope services: an AI-vision-based inspection system and extensive rope defect database enabling an integrated closed loop of inspection, early warning, maintenance and replacement.

Achievements & Global Reach

The company and its subsidiaries have won five first prizes for provincial and ministerial scientific and technological achievements, developed one national key new product, six provincial high-tech products and two provincial first-set major equipment items. Three products are listed in the State Coal Mine Safety Administration’s Catalogue of Advanced and Applicable Technologies and Equipment for Coal Mine Safety Production. With nearly 100 authorized patents (about 50 invention patents), its products are widely used in coal, iron and non-ferrous metal mines across more than 1,000 mines in China and have been exported to Turkey, South Africa, Australia, India and other countries. Its rope-changing technology is also being extended to cableway and long-span bridge cable maintenance.

Commitment to Safe and Sustainable Mining

Guided by the mission “Create first-class products, ensure mine safety”, Sansen Well is committed to transforming mine operations from traditional high-risk manual modes to intelligent, safe and efficient ones. As a proud Silver Sponsor of the 9th ISMSSE & Green Mining Conference 2026, the company looks forward to working with global partners to advance safe, green and sustainable mining practices worldwide.

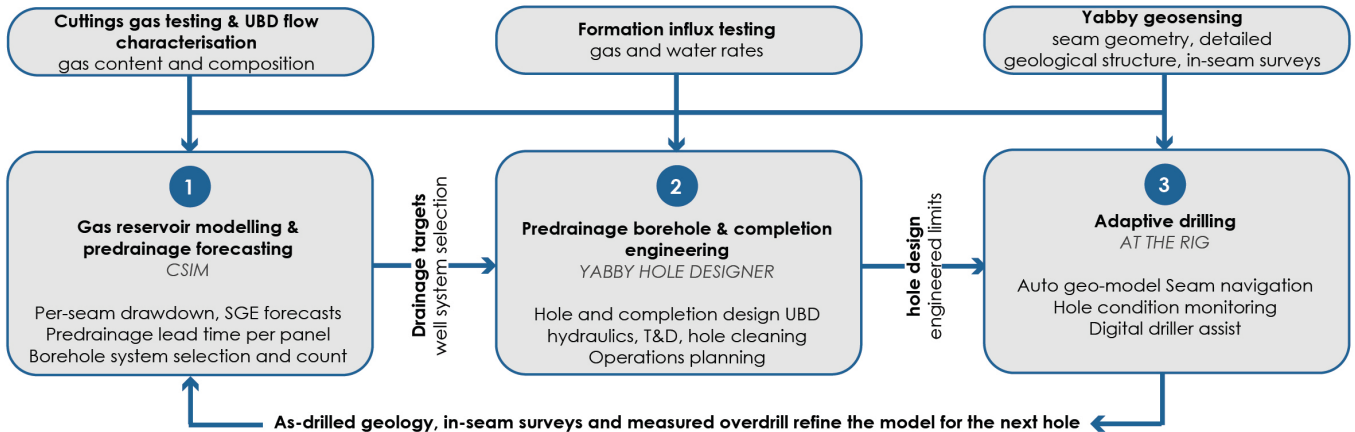
Website: www.sansen-group.com | Xuzhou, Jiangsu, China



Who we are — one integrated service provider for coal gas drainage

CoalBed Innovations and Yabby Geosensing work as a single, integrated provider across the full pre-drainage lifecycle. We carry a coal seam gas program from reservoir modelling, through hole and completion design, to the drill floor, and back again. Each stage is engineered to hand the next exactly what it needs, and what is learned in the ground is fed straight back into the model for the next hole.

MEASUREMENT & DATA SERVICES



THE INTEGRATED CHAIN

CSIM (CoalBed Innovations) forecasts per-seam drawdown and specific gas emissions, sets pre-drainage lead time by panel, and determines the borehole system and count needed to hit drainage targets. Those targets pass directly to the Yabby Hole Designer, which engineers the hole and completion — underbalanced drilling hydraulics, torque and drag, hole cleaning, and operations planning — within limits the rig can actually deliver. At the rig, the team executes that engineered design as adaptive drilling: seam navigation, hole condition monitoring, and digital driller assist keep the well on target in real time.

All three stages draw on the same measurement and data services, namely cuttings gas testing, formation influx testing, and Yabby geosensing (seam geometry and in-seam surveys), so every hole is planned and drilled against current, ground-truthed geology, not a static model.

Coalbed Innovations Pty Ltd
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YABBY GEOSENSING

Yabby Geosensing supplies the in-seam drilling and geosensing technology that underpins the chain, unlocking in-seam data to build accurate predictive models of seam geology ahead of drilling and mining. Its services span underground and surface geomodelling, gas reservoir assessment, and gas safety systems built on a simple principle: simple, clear and knowledgeable communication of what the ground is telling us.

WHY THE LOOP MATTERS

The return path is the argument the whole offering rests on. As-drilled geology, in-seam surveys, and measured overdrill are fed back into the reservoir model, so every well drilled makes the forecast for the next one more accurate. That is what an integrated provider delivers and a collection of separate vendors cannot: a pre-drainage program that gets measurably better, hole after hole.



Shandong Micro-Sensor Photonics Co.Ltd.is a Sino-UK JV company founded by Shandong Academy of Science and Intelligent Sensor System Ltd.UK.The company is specializing in laser CH₄,CO,0₂,CO₂ sensors and fibre optic temperature,pressure, strain,displacement,vibration sensor series,which have been succesfully deployed in over 2000 coal mines in China.



Shanxi Gowin Construction Technology of Coalbed Gas Co., Ltd.

Company Profile

Shanxi Gowin company established in 2012, is a technology-driven company specializing in **intelligent drilling technologies, advanced drilling equipment, and integrated mine safety engineering solutions**. Focusing on safe coal mining operations and engineering challenges under complex geological conditions, the company has developed comprehensive capabilities covering **technology R&D, engineering design, equipment manufacturing, underground construction, and professional technical services**.

The company currently employs **1,325 people** and operates **103 imported and domestically manufactured kilometer-class directional drilling rigs**. Supported by senior engineers and a broad range of underground coal mining professionals, Gowin has the capabilities to organize and execute large-scale underground engineering projects and provide on-site technical services. The company holds a **Class I General Contracting Qualification for Mining Engineering Construction, a Class B Engineering Design Qualification for Coal Mine Projects, and other professional qualifications**. It also owns 30 patents and 16 software copyrights, supporting the continued in-house development and engineering application of intelligent directional drilling technologies and related equipment.

As a leader in intelligent precision directional drilling for coal mines, Gowin has drilled a cumulative total of **4.5 million meters of gas drainage boreholes and extracted 780 million cubic meters of gas**, with operations spanning more than ten provinces across China. In 2025, the company held a **27% share of this market segment**, firmly maintaining its position among the top three companies in the sector.

In research and technological development, Gowin maintains long-term industry–academia–research partnerships with universities including **Taiyuan University of Technology and Xi'an University of Science and Technology**. The company also participates in establishing intelligent **drilling research institutes and technology innovation platforms** for intelligent directional drilling in mining. Through collaboration among industry, universities, and research institutions, Gowin advances the development, commercialization, and practical application of intelligent drilling technologies in mines.

The company is committed to addressing safety and engineering challenges in coal mining related to coal mine gas, water hazards, roof control, rockburst risks, and complex geological structures. By combining intelligent drilling technologies with specialized engineering expertise, Gowin helps customers **enhance mine safety, improve construction efficiency, reduce operational risks under complex geological conditions, and achieve more stable and sustainable mining operations**.

Note

Note

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