

# CAVING

Photograph courtesy of Oyu Tolgoi LLC

# Caving 2026

11–13 August 2026 | Shangri-La Ulaanbaatar, Ulaanbaatar, Mongolia

Earlybird registration ends 26 June 2026

LIST OF ACCEPTED PAPERS

The ACG Caving series provides a platform for mining companies to be kept informed of the latest technological developments from caving research carried out by industry and academia.

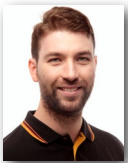
The Australian Centre for Geomechanics, a not-for-profit mining research organisation at The University of Western Australia, looks forward to hosting Caving 2026 in Mongolia.

This follows previous events held in Adelaide in 2022, Vancouver in 2018, Santiago in 2014, Perth in 2010, and Cape Town in 2007.

### Conference co-chairs



**Professor Andre van As**  
*Professor Deep Mining Geoscience*  
The University of Queensland



**Dr Daniel Cumming-Potvin**  
*Project Lead – mXrap*  
Australian Centre for Geomechanics



**Professor Johan Wesseloo**  
*Director*  
Australian Centre for Geomechanics

### Principal Sponsor



### Conference themes

- Cave design and planning
- Cave fragmentation and flow
- Cave management and draw control
- Caving geomechanics
- Caving operations
- Geotechnical data and rockmass characterisation
- Instrumentation monitoring and data management
- Mine seismicity and inrush hazard
- Risk management and controls
- Rock mass preconditioning
- Subsidence

### Local Partner



### Collaborating Organisation



MON   10 AUGUST	TUES   11 AUGUST	WED   12 AUGUST	THUR   13 AUGUST	FRI   14 AUGUST
Principal Hazard Management in Caving Mines Workshop	Caving 2026   Ulaanbaatar, Mongolia			Muon Tomography Workshop (am)
		Conference Dinner		Airblast & Hazard Workshop (am)
				Core Photography Workshop (pm)
				Oyu Tolgoi Site Visit



## ACCEPTED PAPERS\*

KEYNOTE: What is my block cave worth? Valuing risk in block cave mining *J-A Dudley, Mine Ventures, Australia*

KEYNOTE: Addressing some of the challenges of cave mining *J Jakubec, SRK Consulting, Canada*

KEYNOTE: Planning for complexity in block caving *C Kamp, New Gold Inc, Canada*

Improving drawbell drill and blast performance in block caving: field-based improvements from Panel 0, Oyu Tolgoi underground mine *M Abdul, D Baasandorj, G Jamsranbileg, Oyu Tolgoi LLC, Mongolia*

Impact of operational variables on pillar deformation in the Chuquicamata underground mine *JP Alegria Reyes, Codelco, Chile*

Calibration of caving behaviour in Macrobloc S2S3 at Chuquicamata underground mine using 3D numerical modelling *C Alvarez, C Barra, ITASCA, Chile; G Barindelli, Codelco, Chile*

Numerical sensitivity models for second lift design in Chuquicamata underground mine *C Alvarez, A Ramirez, ITASCA, Chile; F Galvez, Codelco, Chile*

Oredrive stability in a sublevel caving project for Jwaneng Mine *C Alvarez, C Barra, ITASCA, Chile; L Lorig, ITASCA, USA; M Dunn, Debswana Diamond Company, Australia; LQ Kebatsetse, Debswana Diamond Company, Botswana*

Field learnings and future directions of distributed fibre optics sensing technology in cave management *Z Anderson, J Furlong, Sintela, Canada; D Hill, Sintela, UK*

Timelapse passive seismic tomography at New Afton C-Zone Mine *E Bailey, ESG Solutions, Canada; Y Yanagimura, E Martyniuk, New Gold Inc, Canada; D Collins, D Angus, ESG Solutions, Canada*

Lessons learned on the exploitation of Chuquicamata underground mine *G Barindelli, R Quiroz, Codelco, Chile*

Evolution of wet muck inflow risk management at El Teniente: lessons learned and current practices *K Basaure-Matsumoto, A Latorre, P Miranda, Codelco, Chile*

Drawpoint fragmentation analysis and application to flow modelling at Oyu Tolgoi *T Batbayar, Rio Tinto, Australia*

Time-dependent convergence response of drawpoint pillars during undercutting and early caving at the Oyu Tolgoi Panel 0 block cave *B Batkhuu, E Enkhtaivan, A Biziyabal, B Batbayar, L Tsogtbaatar, Oyu Tolgoi LLC, Mongolia*

Estimating shaking and bulking ground velocities at Oyu Tolgoi Mine *E Bayar, B Batbayar, U Perlee, Z Bayartegsh, Oyu Tolgoi LLC, Mongolia; D Malovicho, Institute of Mine Seismology, Australia*

Cave growth mechanism and surface subsidence in a structurally complex block cave: Panel 0 case study *E Bayar, J Ooi, Z Naranzorig, D Mendbayar, M-E Ulzijjargal, B Khurmyet, Oyu Tolgoi LLC, Mongolia; I Brunton, ITASCA, Australia*

Transforming marginal reserves into productive assets in mature caving operations: the Codelco Chuquicamata underground experience *A Berg, R Duran, R Cortes, N Jammett, B Mori, Codelco, Chile*

Estimating a block cave yield zone shape using comprehensive microseismic data *DJ Birch, Institute of Mine Seismology, Australia; SG Meyer, Institute of Mine Seismology, Canada; G Pararath, J Pilkington, C Orrego, A Osorio, H Haayat, Newmont Corporation, Australia*

A framework for airblast analysis and risk management for early-stage caving *T Bruning, Resolve Mining Solutions, Australia; C Orrego, Newmont Corporation, Australia; C Vejrazka, Resolve Mining Solutions, Australia; G Pararath, Newmont Corporation, Australia*

Drawpoint spacing in block/panel caving *R Castro, University of Chile, and Advanced Mining Technology Center, Chile; R Gomez, Advanced Mining Technology Center, and University of Chile, Chile*

Integrating analytic hierarchy process/analytic network process for seismicity hazard assessment in block/panel caving assessment *A Catalan, Rock Mechanics and Caving Consultants, Australia; S McKinnon, Queen's University, Canada*

Holistic evaluation of caving mining methods through multi-criteria decision-making: a novel integrated analytic hierarchy process/analytic network process framework *A Catalan, Rock Mechanics and Caving Consultants, Australia; G Fergusson, Seltrust Associates Limited, UK*

Advancing orebody knowledge for cave mining using high-resolution rock strength measurements *MC Centin, S Nadolski, Y Fung, Minpraxis Solutions Ltd, Canada; N Byambadorj, A Shijir, Mongolian National University of Science and Technology, Mongolia*

TANDEM traffic control system: enhancing production efficiency and safety at El Teniente *B Clark, F Villarroel, J Bernier, M Ferrada, Codelco, Chile*

Backfilling with filtered tailings above an active cave mine *NC Clarke, Imtech Pty Ltd, Australia; J Jakubec, SRK Consulting, Canada*



## ACCEPTED PAPERS\*

- Hazard-aligned framework for interpreting cave geometry in block caving operations *D Cuello, GMT Global Mining Services, Australia; C Orrego, Newmont Corporation, Australia*
- Enhancing cave seismic monitoring with distributed acoustic sensing and template matching *R Czarny, DJ Birch, R Enslin, G Goldswain, Institute of Mine Seismology, Australia; J Pilkington, G Pararath, Newmont Corporation, Australia*
- Trigger action response plan development I: the use of event activity decay rates to assess re-entry times in caving *W de Beer, ESG Solutions, Australia; RS William, S Prahastudhi, ESG Solutions, Indonesia; J de Beer, De Beer Advisory, Australia*
- Towards a deformation-based probabilistic framework for rockburst hazard forecasting in cave mining *J De Ross, D Cuello, GMT Global Mining Services, Australia*
- Methodology to evaluate the reactivation of geological structures through advanced analytics at El Teniente *D Diaz, Codelco, Chile; LF Orellana, N Mery, University of Chile, Chile*
- Fragmentation assessment in caving mining: operational evidence from Chuquicamata underground mine *C Divasto Vergara, G Barindelli, R Quiroz Alegria, Codelco, Chile*
- The Jwaneng underground project: overview of numerical modelling as a design tool *M Dunn, Debswana Diamond Company, Australia; L Kebatsetse, E Bushula, C Rekopanye, Debswana Diamond Company, Botswana*
- Integrating mechanisms, monitoring, and modelling for strainburst support design in deep cave mining *J Roy, The University of British Columbia, and WSP, Canada; AA Primadiansyah, The University of British Columbia, Canada, and PT Freeport Indonesia, Indonesia; R McMillan, The University of British Columbia, and Mott MacDonald, Canada; A Moss, Sonal Mining Technology Inc, Canada; R Campbell, N Viljoen, PT Freeport Indonesia, Indonesia*
- Real-time simulation projection of block cave production rate *C Eustace, P Kontos, K Nguyen, Deswik, Australia*
- A new dynamic bolt design with improved resin mixing and high-capacity anchoring *DW Evans, P Witter, Sandvik, Australia*
- Hydraulic fracturing in high-stress environments post-large-magnitude rockbursts at El Teniente, Codelco *M Ferrada, M Farias, P Flores, H Godoy, Codelco, Chile*
- Post-rockburst tunnel repair methodology ensuring operational continuity at El Teniente, Codelco *M Ferrada, M Farias, P Flores, H Godoy, Codelco, Chile*
- Management model and secondary breaking methodologies for flow reactivation at mud-affected drawpoints in Dacita Mine *C Figari, N Vega, J Bernier, M Ferrada, Codelco, Chile*
- Simulation to right size equipment selection *R von Varendorff, V Fitzmaurice, Hatch, Australia*
- Impact of crosscut spacing on recovery and dilution at Jwaneng underground mine *M Fuenzalida, ITASCA, USA; M Dunn, Debswana Diamond Company, Australia*
- Evaluation of the impact of time-dependent compaction, induced stress and spacing on stability for deep cave mines *M Fuenzalida, ITASCA, USA; P Paredes, Newmont Corporation, Australia*
- Velocity model uncertainty in block cave microseismic monitoring: a case for distributed acoustic sensing *J Furlong, Z Anderson, Sintela, Canada*
- Effect of industrial tests (pro-fragmentation drawbell and double hydraulic fracturing) on hang-up events and drawpoint availability at Esmerelda Mine, División El Teniente, Codelco *C Gaete, M Ramirez Coloma, R Gonzáles, Codelco, Chile*
- Sublevel caving at Santa Rita underground: integrated seismic-geotechnical-caving monitoring for risk-informed operations: geomechanical monitoring challenges in the first sublevel caving mine in Brazil *D Gajardo, T Trópia, T Marques, F Prince, Appian Atlantic Nickel, Brazil*
- Browset design background and practical learnings from Panel O block at Oyu Tolgoi underground mine *B-E Ganbold, J Ooi, B Baitag, B Baasanjav, P Stobbert, Oyu Tolgoi LLC, Mongolia*
- Reactivating mud-affected drawpoints at El Teniente mine *D Garces, S Rejas, J Bernier, M Ferrada, Codelco, Chile*
- Development of a site-specific model for cave-scale rock mass strength at Hu'u block cave *E Ghazvinian, M Fuenzalida, ITASCA, USA; W Teweng, Vale, Indonesia; J Roy, WSP, Canada*
- Quantifying gravity flow in high height of draw through physical model experiments *R Gomez, Advanced Mining Technology Center, and University of Chile, Chile; R Castro, University of Chile, Chile; C Sergovia, Advanced Mining Technology Center, Chile*
- Photogrammetric mapping as geotechnical data: enabling overbreak measurement and control in caving *S Gonzalez Negrete, B Leiva Vargas, Codelco, Chile*



## ACCEPTED PAPERS\*

- Simulating cave growth, fragmentation, and flow using a mesh-free approach V Thanh Le, T Viet Nguyen, Monash University, Australia; M Karakus, G Dinh Nguyen, Adelaide University, Australia; H Hong Bui, Monash University, Australia; C Chester, M Musolino, BHP, Australia
- Oyu Tolgoi Hugo North Lift 1 update: Panel 0 performance and the commencement of Panel 2 S Hanani, Rio Tinto, Australia; C Stegman, S Herselman, B Rodda, A McKellar, Oyu Tolgoi LLC, Mongolia
- Methodology for the analysis of geotechnical vulnerabilities at Chuquicamata underground mine D Harrison Correa, S Lopez Norambuena, R Quiroz Alegria, Codelco, Chile
- A flow-controlled support formulation for coupled cave propagation modelling Y Hebert, Equilibrium Mining, Australia; K Lawrence, B Peik, Equilibrium Mining, USA
- An automated computational tool for drilling quality assurance/quality control in block caving mining JP Henriquez, C Torres, D Morales, Enaex, Chile
- Energy distribution criteria for drawbell blasting in block caving based on post-blast scanning and back-analysis JP Henriquez, C Torres, C Alvarado, D Morales, Enaex, Chile
- A structured decision-making framework for Lift 2 block cave design at Oyu Tolgoi mine MB Hutahaean, AL Sta Ana, K Simanjuntak, Rio Tinto, Australia
- Drawbell drill and blast recovery at New Afton Mine M Ierino, New Gold Inc, Canada; A Berg, Teck Resources Limited, Canada; E Martyniuk, Y Yanagimura, New Gold Inc, Canada
- Oyu Tolgoi underground: mine production modelling of a coupled material handling system S de Hennin, A Isabel, U Olonbayar, L McKenna, B Cuthbert, Oyu Tolgoi LLC, Mongolia
- The utility of passive seismic attenuation tomography for monitoring changes of a block caving mine A Jaimes, DJ Birch, Institute of Mine Seismology, Australia
- Caving subsidence backfilling: case studies J Jakubec, H Xu, A Thomas, SRK Consulting, Canada
- Methodology for evaluating caving subsidence backfilling J Jakubec, D Hockley, A Barrett, A Thomas, H Xu, SRK Consulting, Canada
- Machine-vision-based automation of geotechnical core logging: rock quality designation workflow and comparative assessment at Dund Sukhait J Jaroling, C Sarrazin, H Mulshaw, A Jackson, Tetra Tech, Canada; P Hanžl, G Tumurkhuu, Altan Shar Tal LLC, Mongolia
- Planning for complexity in block caving C Kamp, New Gold Inc, Canada
- Emerging sublevel cave mine: learnings from early years of production M Karlsson, J Ihanus, A Petäjäjärvi, Outokumpu Oy, Finland
- Kimberlite durability: a geotechnical input into Jwaneng underground mining studies LQ Kebatsetse, K Maphane, Debswana Diamond Company, Botswana; M Dunn, Debswana Diamond Company, Australia; E Bushula, Debswana Diamond Company, Botswana
- Operationalising remote data acquisition in block caving: a case study at Oyu Tolgoi R Kennett, Oyu Tolgoi LLC, Mongolia; M Allan, J Cronin, D Preller, Australian Droid and Robot, Australia
- Influence of testing configuration on the behaviour of energy absorbing self-drilling rockbolts under impact loading G Knox, University of Toronto, South Africa; J Hadjigeorgiou, Georock Inc, Canada
- Gravity flow of blasted rock within tall slopes V Lapcevic, Luleå University of Technology, Sweden; T-O Latta, Boliden, Sweden; D Saiang, Luleå University of Technology, Sweden
- Managing change: geotechnical insights and learning from caving operations J Lett, AMC Consultants, Australia; J Walls, AMC Consultants, South Africa
- Application and prospects of block caving mining technology in mining engineering of China L Yuming, X Changnian, C Xiaowei, L Wen, C Qingang, W Haohao, X Shenqing, China ENFI Engineering Corporation, and Key Laboratory of Ground Control Management Plan in Deep Metal Mines National Mine Safety Administration, China
- Numerical assessment of jointed rock mass response near a drift under different loading conditions J Liu, UNSW Sydney, and JENNMAR Australia, Australia; C Zhang, J Oh, UNSW Sydney, Australia; C Li, Norwegian University of Science and Technology, Norway; I Canbulat, UNSW Sydney, Australia; P Craig, JENNMAR Australia, Australia; S Saydam, UNSW Sydney, Australia
- Challenges and operational management of block caving by JCHX Mining Management in Pulang Copper Mine W Huan, H Zhou, W Weiwei, L Liu, JCHX Mining Management, China



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- Importance of surveying mines in the implementation of post-undercutting with hydraulic fracturing at El Teniente R Lizana, M Ferrada, R Lattus, C Correa, R Inostroza, Codelco, Chile
- Increasing net present value in sublevel caving: incorporating discount rate as an essential input for mineable inventory and scheduling S Loewen, SRK Consulting, Canada
- Preventative pillar reinforcement methodology incorporating instrumentation and extraction strategy at the Chuquicamata underground mine S Lopez Norambuena, JP Alegria, M Ossandon, R Quiroz Alegria, Codelco, Chile
- Lessons from the geotechnical reconciliation of the B3 cave K Mann, University of Toronto, Canada; Y Yanagimura, New Gold Inc, Canada; J Hadji Georgiou, University of Toronto, Canada
- The benefits of unconstrained, data-driven velocity models for seismic processing in caving operations I Haque, Freeport-McMoRan, USA; W Törnman, RockSigma, and Luleå University of Technology, Sweden; J Martinsson, RockSigma, Sweden; C Vanegas-Palacio, Freeport-McMoRan, USA; N Viljoen, Freeport-McMoRan, Canada; A Primadiansyah, PT Freeport Indonesia, Indonesia; E Svanberg, RockSigma, Sweden
- Findings from large-scale distributed acoustic sensing monitoring at the Oyu Tolgoi Panel O block cave W Törnman, J Martinsson, RockSigma, Sweden; E Bayar, M-E Ulzijiargal, B Uranchimeg, Oyu Tolgoi LLC, Mongolia; A Davies, Rio Tinto, USA; M Amir, Silixa, UK; E Svanberg, RockSigma, Sweden
- Global benchmarking of block caves: a supercave update C Mawdesley, B Altankhuu, Rio Tinto, Australia
- Integrated caving and gravity flow modelling for remnant resource optimisation at Chuquicamata underground lift 1 Y Molina, R Quiroz, Codelco, Chile; R Castro, University of Chile, Chile; L Arancibia, M Valderrama, B Castro, S Ortiz, BCTEC Engineering and Technology, Chile
- Challenges encountered in high-lift block cave extensions and the lessons learned: experience from the Padcal Mine, Philippines JA Monis, B Palma, V Villarín, A Lim, Philex Mines, Philippines
- Subsidence backfilling operation of Padcal Mine: a unique case in block caving JA Monis, Philex Mining Company, Philippines
- Using convergence monitoring and damage mapping to interpret ground behaviour in Padcal Mines' block caving JA Monis, KM Taban-ud, Philex Mining Company, Philippines
- Integrating multi-source data through a geomechanical digital twin: advancing risk management in cave mining J Monsalve, C Vanegas, C Lemas-Pesqueira, G Hilt, S Ferguson, N Shea, Freeport-McMoRan, USA
- Discontinuities persistence as a key variable in caving: a 3D numerical evaluation for a sublevel caving method E Montiel, V Jelcic, SRK Consulting, Chile; J Ha, O Mahabadi, A Lisjak, Geomechanica, Canada; E Hormazabal, SRK Consulting, Chile
- A new software-based methodology for applying Laubscher's empirical charts to estimate caving angles and evaluate subsidence surfaces in caving mining projects J Montoya, Minera de Cobre Quebradona, Colombia; J Morales, CIG2 Ingenieros SAS, Colombia; E Hamman, AngloGold Ashanti, Australia
- Analysis of the application of block/panel caving methods in deep mining D Morales, JP Henriquez, Enaex, Chile; R Castro, University of Chile, Chile; F Caballero, S Ortiz, B Castro, M Valderrama, BCTEC Engineering and Technology, Chile
- Re-evaluating the Es:Ep ratio and the need for site-specific calibration: a statistical analysis IG Morkel, IGM Geotechnical Pty Ltd, Australia; F Basson, Newmont Corporation, Australia
- Advances in groundwater control and mud rush prevention for caving mines K Morton, W van Heedern, KLM Consulting Services Pty Ltd, South Africa
- Automating block caves: learning from the past J Mowen, Resolve Mining Solutions, Australia; J Millane, UNSW Sydney, Australia
- A method for weighted ranking of full tensor in situ stress test results M Musolino, BHP, Australia; L Niedzielski, J Wesseloo, Australian Centre for Geomechanics, The University of Western Australia, Australia; C Chester, BHP, Australia
- Hydraulic fracturing in the construction of the Diamante project R Navarrete, Codelco, Chile
- Hydraulic fracturing techniques applied in the El Teniente mining project R Navarrete, H Godoy, Codelco, Chile
- Influence of veining on tensile strength and fragmentation of brittle rock in cave mining S Noori, CL Harraden, E Eberhardt, C Iferobia, The University of British Columbia, Canada
- Management of orepasses in poor ground: learnings from Carrapateena sublevel caving M O'Bree, S Karn, C Peters, J Aslin, BHP, Australia



## ACCEPTED PAPERS\*

- A pre-mix model for strategic block and sublevel caving production planning *S O'Connor, S Lonon, Amplify Mine Planning, USA; C Perez Strutz, Pan American Silver, Chile; M Wafforn, C Barich, Pan American Silver, Canada*
- Oyu Tolgoi ore handling system truck chute development, raisebore and construction evolution *E Odmaa, D Batzorig, D Khongorzul, S Paul, W Casey, Oyu Tolgoi LLC, Mongolia*
- Practical primer: a cave management system for safe and successful mining *J Parsons, SRK Consulting, Canada; K Davenport, Knight Piésold, Canada; A Thomas, J Jakubec, SRK Consulting, Canada*
- Mechanised lining of an orepass with the boxhole back-reaming method in the El Teniente diamante mining project *M Piña, R Navarrete, Codelco, Chile*
- Case study: Carrapateena cave back propagation and recovery *M Poulter, T Ormerod, BHP, Australia; G Balog, Bogr-Engineering, Australia; D Cox, PT Freeport Indonesia, Indonesia*
- A study of seismic tomography for cave shape model estimation *S Prahastudhi, R William, ESG Solutions, Indonesia; E Bailey, ESG Solutions, Canada; W de Beer, ESG Solutions, Australia*
- Santa Rita underground project: bringing caving to Brazil *F Prince, R Bueno, R Grandi, Atlantic Nickel, Brazil*
- Caving monitoring with integrated fibre optic acoustic and strain sensing: a field experiment *Q Qu, J Duan, K Hoehn, X Lin, D Harpley, M van de Werken, CSIRO, Australia*
- Geological and geotechnical characterisation of the quartz equal sericite unit in Chuquicamata underground mine, Chile *CS Ramirez Fernandez, DERK Ingeniería y Geología, Chile; IB Smoje Tico, GA Barindelli, RA Quiroz Alegria, Codelco, Chile*
- Spatial trend of hydraulic fractures during the preconditioning process using fibre optic monitoring at Recursos Norte Mine, División El Teniente, Chile *B Ravest, RyQ, Chile; D Faundez, M Silva, Codelco, Chile*
- Managing complexity and risk in large-scale mining developments: strategies for successful operations *E Rubio Esquivel, M Fuentes Bustamante, REDCO Mining Consultants, Chile*
- Geotechnical characterisation of Hugo North, Oyu Tolgoi *L Rwodzi, J Ekkerd, M Taylor, A Batsaikhan, Rio Tinto, Australia; A Russo, C Ramirez, E Hormazabal, SRK Consulting, Chile*
- Quantifying excavation response to accurately inform numerical modelling analysis at Oyu Tolgoi *K Simanjuntak, Rio Tinto, Australia; G Sharrock, ITASCA, Australia; L Rwodzi, J Ekkerd, Rio Tinto, Australia; J Mgumbwa, F Mardiansyah, J Ooi, Rio Tinto, Mongolia*
- Geotechnical basis of design and cave performance at Hugo North Lift 1, Oyu Tolgoi *L Rwodzi, J Ekkerd, K Simanjuntak, Rio Tinto, Australia; B Baasanjav, J Ooi, Rio Tinto, Mongolia*
- The role of rock mass modulus and structure on cave propagation behaviour *B-A Sainsbury, Deakin University, Australia; D Sainsbury, Geotechnica Pty Ltd, Australia*
- Stochastic determination of the stress state via Monte Carlo simulations in Hi Cell overcoring tests at El Teniente *M Silva Riquelme, B Ravest Cabello, P Cisternas Quintana, Codelco, Chile*
- Beyond a single conceptual caving model: monitoring evidence for multiple cave propagation mechanisms *G Smit, L Ayotte, S Steffen, S Allen, Elexon Mining, Australia*
- Optimising cut-off grade methodology for enhanced economic viability in sublevel caving: a case study of the Alemao project *N Soto, Dassault Systèmes, Chile; D Villa, Dassault Systèmes, Canada; R Campos Rosado, Vale, Brazil*
- Application of gravity flow modelling to evaluate caving alternatives at Leveäniemi *M Sormunen, LKAB, Sweden; D Saiang, V Lapcevic, Luleå University of Technology, Sweden*
- Applicability of sublevel caving to small-scale orebodies: design and mixing analysis from the Jama Bor Mine *M Stojanovic, I Vojinovic, D Sabaz, I Svrkota, Mining and Metallurgy Institute Bor, Serbia; D Villa, Dassault Systèmes, Canada*
- Applying a risk management approach to mass underground mining *C Stegman, Oyu Tolgoi LLC, Australia*
- Enhancing data integration and visualisation for block cave operations *R Teet, J Mowen, Resolve Mining Solutions, Australia*
- Monitoring inrush risk with mXrap: from idea to reality *R Teet, J Mowen, Resolve Mining Solutions, Australia*
- Design and construction of a water re-use bulkhead at New Afton Mine *A Thomas, W Joughin, H Khalil, SRK Consulting, Canada; S Owre, Y Yanagimura, New Gold Inc, Canada*
- Consumed capacity monitoring for Sandvik MD and MDX bolts using ultrasonic pulse echo *O Vallati, J Wang, P Young, Sandvik, Australia*



## ACCEPTED PAPERS\*

- Full-range strain monitoring of rockbolts using the xCell Hydra instrumentation system O Vallati, C Reich, S Weaver, Sandvik, Australia
- High columns, high risk: point-load-driven convergence in deep cave mining A van As, Van As Geotechnical Pty Ltd, Australia; GJ Van Hout, GATCO BV, Belgium
- Observed cave flow behaviour at the Argyle block cave and its implications for cave performance A van As, The University of Queensland, Australia; G Van Hout, GATCO BV, Belgium; J Ooi, Oyu Tolgoi LLC, Mongolia; M Wilson, PT Freeport Indonesia, Indonesia
- Laboratory testing framework for assessing mud rush risk J Varian, J Jakubec, A Thomas, H Xu, SRK Consulting, Canada
- Multi-lift methodology for production level selection in block and panel caving projects P Vergara Lara, REDCO Mining Consultants, Chile; J Barrera Vergara, REDCO Mining Consultants, Peru
- Improving mixing model calibration using scenario simulation in block caving mines D Villa, Dassault Systèmes, Canada; N Soto, Dassault Systèmes, Chile
- Geomechanical analysis and experience in panel caving using high drawbells at División El Teniente M Villarreal, J Salgado, A Muñoz, H Constanzo, Codelco, Chile
- Methodology for monitoring the caveback connection process in El Teniente F Villarroel, P Cisterna, B Clark Flores, Codelco, Chile
- Rock mechanics study on the design of combined open pit and block caving mining: a case study of YD Copper Mine X Zanmin, L Yuming, L Mingchun, L Wen, L Xiaolong, R Pengzhao, Z Amin, China ENFI Engineering Corporation, and Key Laboratory of Ground Control Management Plan in Deep Metal Mines National Safety Administration, China
- Cave-scale 3D finite discrete element method modelling H Xu, SRK Consulting, Canada; Y Li, The University of British Columbia, Canada; J Jakubec, A Thomas, SRK Consulting, Canada
- Practical fragmentation estimates using new block cave fragmentation tool H Xu, SRK Consulting, Canada; G Esterhuizen, Independent Consultant, USA; J Jakubec, SRK Consulting, Canada
- Seismic hazard in deep hard rock mining: a brief comparison of stoping and caving practices H Xu, B Ollila, J Parsons, J Jakubec, A Thomas, SRK Consulting, Canada
- Stress fracturing modelling of fragmentation and preconditioning to assist in caving design H Xu, SRK Consulting, Canada; Y Li, The University of British Columbia, Canada; J Jakubec, A Thomas, SRK Consulting, Canada
- Staged calibration of a cave-scale numerical model for the New Afton C-Zone block cave C Cancino, M Fuenzalida, ITASCA, USA; Y Yanagimura, E Martyniuk, New Gold Inc, Canada
- Hybrid vibrating wire piezometer packer system: design verification and underground trial at Carrapateena mine LP Young, J Ghelichzadeh, Tetra Tech Coffey, Australia; A Stryk, BHP, Australia
- Cavability evaluation of block caving and prediction of caving fragmentation for a gold mine J Youtong, College of Resources and Safety Engineering, University of Science and Technology Beijing, China; X Lianku, Information Research Institute of Ministry of Emergency Management, China; L Zhonghao, C Hui, College of Resources and Safety Engineering, University of Science and Technology Beijing, China; Z Guang, Information Research Institute of Ministry of Emergency Management, China; W Aiai, O Shengqing, College of Resources and Safety Engineering, University of Science and Technology Beijing, China; L Peng, Information Research Institute of Ministry of Emergency Management, China
- The next generation mining methods: towards zero waste, zero emissions, and zero human entry C Zhang, S Saydam, I Canbulat, UNSW Sydney, Australia
- Artificial-intelligence-driven fragmentation assessment for safer block caving operations T Ziina, M-E Enkhbayar, M Sanaakhorol, K Nasantogtokh, U Ganbaatar, B Soyolbaatar, B Battulga, Oyu Tolgoi LLC, Mongolia

## Book your accommodation

The Shangri-La has kindly extended a reduced room rate for Caving 2026 delegates of USD320 per night between the dates of 8-16 August 2026. Learn more and book your accommodation at [acgcaving.com/venue](http://acgcaving.com/venue)

# Caving 2026

11–13 August 2026 | Ulaanbaatar, Mongolia

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# Caving 2026

11–13 August 2026 | Ulaanbaatar, Mongolia

## Associated Events

### Principal Hazard Management in Caving Mines Workshop

10 August 2026 | Ulaanbaatar, Mongolia

### Unprecedented Subsurface Visibility for Safer, Smarter Cave Mining Using Muon Tomography Workshop

(Half day event–am) 14 August 2026 | Ulaanbaatar, Mongolia

### Airblast Analysis and Hazard Management for Caving Operations Workshop

(Half day event–am) 14 August 2026 | Ulaanbaatar, Mongolia

### Automated Geotechnical Data Extraction from Core Photography for Caving Projects Workshop

(Half day event–pm) 14 August 2026 | Ulaanbaatar, Mongolia

### Oyu Tolgoi Site Visit

14 August 2026 | Ulaanbaatar, Mongolia

These events will be held alongside Caving 2026. Visit [acgcaving.com](https://acgcaving.com) for more information

## Keynote Paper Presenters



### Jo-Anne Dudley

Principal Consultant  
Mine Ventures, Australia

Abstract title: *What is my block cave worth?  
Valuing risk in block cave mining*



### Jarek Jakubec

Corporate Consultant & Practice Leader  
(Mining and Geology)  
SRK Consulting, Canada

Abstract title: *Addressing some of the challenges  
of cave mining*



### Corey Kamp

Director, Mining and Rock Mechanics  
New Gold Inc., Canada

Abstract title: *Planning for complexity in block  
caving*

## Opening Speaker

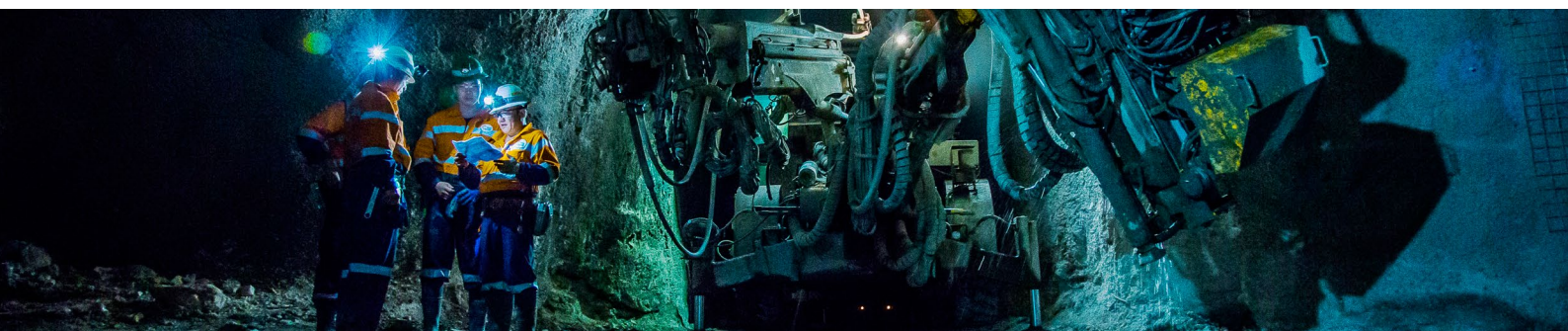


### Andrew Lye

Chief Operating Officer - Oyu Tolgoi  
Rio Tinto, USA



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ACG events.



[acgcaving.com](https://acgcaving.com)