

II International Rock Mechanics Convention

safe and sustainable mining

San Carlos Bay, Sonora, Mexico

November 17 - 18, 2021



The two-day convention will feature leading rock mechanics specialists from around the world sharing knowledge, operational expertise, and addressing challenges faced in rock characterization, data collection, ground control, monitoring, and more. This event aims to provide a platform to share and discuss case studies and technological innovations on geomechanics and its role in daily mining operations.

The convention will include workshops, technical sessions, and an exhibition hall showcasing the latest technologies from specialized providers in instrumentation, laboratory testing, rock fall control, and software development.

short courses | november 17

Short Course A | Room 1

Ground Support Design for Underground Mines | Bruce Murphy

This course aims to provide theoretical and practical demonstrations of ground support design for underground mines. Learn the fundamentals of active and passive ground support, and discuss the best ways of selecting an appropriated ground support. Learn how to design and explore empirical and numerical methods for estimating ground support requirements.

Short Course B | Room 2

Numerical Modeling Applied to Open Pit and Underground Mining | Carlos Carranza

This course aims to provide theoretical and practical demonstrations of numerical modeling applications. Learn the fundamentals of numerical simulations, numerical methods, and how to select appropriate numerical methods according to your own problems. Discuss, when a numerical model is required, learn the differences between numerical methods (finite element, discrete element, finite differences), explore the differences between numerical modeling and limit equilibrium. Discover the limitations of numerical simulations, and learn how to select appropriate software applications.

Session Times

8:30 a.m. - 10:30 a.m. Session 1

10:30 a.m. - 10:50 a.m. Short Break

10:50 a.m. - 12:50 p.m. Session 2

12:50 p.m. - 1:50 p.m. Lunch

1:50 p.m. - 3:50 p.m. Session 3

3:50 p.m. - 4:10 p.m. Short Break

4:10 p.m. - 5:10 p.m. Session 4

5:10 p.m. - 5:30 p.m. Short Break

5:30 p.m. Real Time Monitoring Experiences | Gabriela Gutierrez

5:45 p.m. Maptex Wall Scanning Applied to Rock Mechanics Data | Lahari Escalera Valdovinos

6:05 p.m. Full Pillar Recovery Using Wood Packs | Special Guest

6:20 p.m. - 7:20 p.m. Cocktail Reception | Exhibit Hall

7:20 p.m. - 8:20 p.m. Welcome Dinner | Observation Deck

presentations | november 18

8:30 a.m. - 8:40 a.m.

Opening Keynote Presentation

8:40 a.m.

Narrow Vein Mining in Peru: Learning and Experiences | Antonio Samaniego

9:20 a.m.

Paste Tailings Backfill | Rob Brown

9:40 a.m. - 10:00 a.m.

Short Break | Exhibit hall

10:00 a.m.

Computational Tools for Analysis of Circular Failure of Rock Slopes | Carlos Carranza

10:30 a.m.

Introduction of Rock Fall Solutions | Olegario González

10:40 a.m.

Rock Fall Risk Mitigation Systems | Joaquín Indacochea Beltrán

11:10 a.m. - 11:30 a.m.

Short Break | Exhibit hall

11:30 a.m.

Mining in Weak Materials: Experiences and Learning | Bruce Murphy

12:00 p.m.

Geotechnical Mapping Assisted with Photogrammetric Methods | Raúl Rojas Vargas

12:20 p.m.

Filling the Gap Between Core & Wireline Logging Data | Mariano Rodríguez

12:40 p.m.

New Technology for Blasting Monitoring | Albert Cabrejo

1:00 p.m.

Slope Monitoring with Interferometric Radars | Maria Renteria

1:20 p.m. - 2:20 p.m.

Lunch | Exhibit hall

(virtual) 2:20 p.m.

Numerical Modeling Approaches for Solving Rock Mechanics Problems | Loren Lorig

(virtual) 2:45 p.m.

Practical Application of the Q-slope Method for Rock Slope Engineering | Neil Bar

3:10 p.m. - 3:30 p.m.

Short Break | Exhibit hall

3:30 p.m.

Digitization of Geotechnical Instrumentation in Tailings Dams Through IoT Technology | Fernando Gutiérrez

4:00 p.m.

Rock Support Optimization With the Use of Encapsulated Resins | Sergio Ricardo Coronado Cisneros

4:30 p.m.

Open Pit Design Based on Rock Mass Deformations | Fredy Henriquez

4:50 p.m.

ISRM Activities, Relevant Events and Benefits of Joining | Valentin Castellanos Pedroza

5:00 p.m. - 5:10 p.m.

Closing Remarks

speakers



Fredy Henriquez, MSc
SRK Consulting

Fredy has more than 25 years of experience in civil and mining geotechnical projects. His experience ranges from conceptual through feasibility design levels and operations

support. He is skilled in both soil and rock mechanics engineering and specializes in the design and management of mine excavations. His primary areas of expertise include mine operations, mine planning, hard rock and soft rock characterization, and underground and open pit stability analysis.



Bruce Murphy, MSc
SRK Consulting

Bruce has over 30 years of experience, specializing in mining rock mechanics; he leads the Vancouver mining rock mechanics group.

Bruce has worked in mining operational rock mechanics since 1989, in both hard rock open pit and underground operations, including deep level gold, copper, and iron ore, before joining SRK in 2002. His strong experience includes operating open pits under difficult mining and stability conditions (failures) and underground mining in weak ground conditions.



Antonio Samaniego, PhD
SRK Consulting

Antonio is a corporate mining consultant and an experienced specialist in rock mechanics.

Antonio has over 30 years of experience. He focuses on mineral appraisal and feasibility studies, underground mine design and mine planning, slope and underground geomechanics, and mine waste management and is revisor of all geotechnical studies related to rock mechanics in mining and civil engineering projects in Peru.



Gabriela Gutierrez
Grupo Mexico

Gabriela is an experienced geomechanical engineer with Grupo Mexico.



Valentin Castellanos Pedroza
Comisión Federal de Electricidad

Valentin has 24 years of experience in rock mechanics and rock engineering in: dams, hydroelectric projects, and electrical infrastructure with the federal commission of electricity, as

well as in mining projects and studies of characteristics. He also has experience in the geotechnical assessment of underground workings. Valentin is the President of the Mexican National Group of the ISRM.



Carlos Carranza, PhD
University of Minnesota

Carlos is Professor of Geotechnical Engineering, at the Department of Civil Engineering at the University of Minnesota, Duluth Campus. His

experience includes analytical and numerical modeling, design of underground and surface excavations, engineering geology, rock mechanics, and geotechnical engineering.



Loren Lorig, PhD
Itasca Consulting Group
(Presenting virtually)

Loren has over 30 years of experience in Civil and mining projects. Currently, Loren is serving as chief executive officer of Itasca international,

a global engineering consulting and software firm, working in areas of geomechanics, hydrogeology.



Lahari Escalera Valdovinos
Maptek

Lahari Escalera Valdovinos is an experienced Technical Services Manager with Maptek Mexico.



Fernando Pérez Gutierrez
Worldsensing

Fernando is the business development manager for Worldsensing LATAM.

speakers



Rob Brown
Paterson & Cooke

Rob Brown is the Principal of Paterson & Cooke's Sudbury, Ontario practice, a Director of Paterson & Cooke (UK) Ltd. and is the President of Paterson & Cooke Canada Inc. Rob leads P&C's

Global Backfill Group and has worked on paste backfill and surface paste tailings applications since 1997. He has extensive international experience with paste plant design and commissioning, backfill reticulation design and installation, operator training and underground backfill placement.



Joaquín Indacochea Beltrán
Maccaferri

Joaquín Indacochea Beltrán is a civil engineer from Lafayette College in Easton, Pennsylvania. He has a Master's degree in Geotechnical Engineering from the University of Sydney,

Australia. He has 7 years of experience in engineering projects with geomaterials. He currently works as Technical Coordinator of the Maccaferri Department of Engineering in Peru where he is responsible for the technical management and development of engineering solutions.



Albert Cabrejo
GroundProbe

Albert is a civil engineer, with postgraduate studies in geotechnical engineering and over 20 years' experience working for the geotechnical industry. He has supported the expansion of

radar technology worldwide for open pits, and more recently new technologies for rock fall detection, tailings dam surface monitoring, underground convergence and construction monitoring, and R&D of new software and products.



Maria Renteria
IDS GeoRadar

María is a topographic systems engineer who has worked in construction and mining for 10 years. Now with IDS GeoRadar, she is involved in technical support and business development

in Mexico and Latin America.



Raúl Rojas Vargas
Datamine

Raúl Rojas Vargas is an experienced Geological Consultant with Datamine.



Olegario González
Maccaferri

Olegario Gonzalez is an experienced Geosciences Engineer with Maccaferri Mining.



Neil Bar
Gecko Geotechnics
(Presenting virtually)

Neil has a diverse range of engineering and related experience in mining, tunnelling and civil engineering projects across Australia and abroad.

He has held senior engineering and management roles in several major mining companies including Rio Tinto, BHP, Barrick and Ok Tedi Mining and has experience in Au, Ag, Cu, Fe, Ni, Pb and Zn commodities.



Mariano Rodríguez
IDS / ALT

Mariano has more than 20 years conducting and performing near-surface and borehole geophysical projects and applied geophysical techniques in civil engineering, hydrology, environment, and NDT

for building and structures auscultation. He also has 8 years conducting training courses on the use of both logging tools and WellCAD software.



Sergio Ricardo Coronado Cisneros
Minova

Sergio is Minova's commercial manager for Mexico.

registration

General Admission:

- \$640 USD (tax not included)
- Two days attendance to the expo hall
- Box lunch for two days
- Dinner buffet and cocktail reception on day 1
- Coffee and snack breaks
- Wifi access while at the expo hall

Short Courses:

- 8 Hour Session \$900 USD

Tax not included

General admission discount: If payment is made before September 20th, a discount of \$140 USD will be provided.

Late payment: If payment for short courses or general admission is made after November 1st, an extra \$260 USD will be added to the total cost of admission.

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