



International Workshop on Deep Mining Geomechanics

Tue, Oct 10th, 2013 | 1:30 pm to 6 pm |

Workshop Handouts will be provided

Organizes by: ISRM commission on Deep Mining

Chair: Prof Abbas Taheri

Description:

One of the most significant challenges to the future of the global mineral industry is the reduction in the mineral resources inventory due to high production rates and difficulties extracting deep-earth resources. Exploring and extracting deeper mines is a way to address this significant issue. However, violent and uncontrolled failure of rocks in deep mines is a severe threat to this goal.

This workshop aims to present current research and engineering practices in the area of deep mining and to facilitate discussions to exchange knowledge from research to practice. It will discuss rock behavior and its failure in deep underground openings in the short and long term, deep high-stress mining operational and design problems, and methods to deal with high-stress and problematic ground conditions. The presenters will demonstrate geomechanical problems from operating mines and discuss the approaches that can be implemented to deal with the problems.

Agenda:

Timeline	Activity	Presenter
1:30 – 1:40 pm	Opening and Introduction	Chair
1:40 – 2:10 pm	Rock Violent Failure Characterization in Laboratory	Abbas Taheri
2:10 – 2:50 pm	Predicting Seismic Hazards Using Numerical Modeling	Kathy Kalenchuk
2:50 – 3:30 pm	Mitigation of Rock Burst Risks in Deep Mines	Raymond Durrheim
3:30 – 4:00 pm	Coffee Break	
4:00 – 4:20 pm	Time-dependency in Deep Hard Rock Mines	Abbas Taheri
4:20 – 5:00 pm	Application and Design of Destress Blasting in Deep Mines	Hani Mitri
5:00 – 5:40 pm	Strategies to Address Geomechanical Problems in Mining at Increasing Depth	Rebecca Westley Hauta
5:40 – 6:00 pm	Discussion and closing	All

Speakers Biography:

Dr Abbas TAHERI is a Tenured Associate Professor at the Robert M. Buchan Department of Mining at Queen's University in Kingston, Canada, where he holds the Chair in Mine Design. He has over 20 years of industry, research, and teaching experience in Iran, Japan, Australia, and Canada in mining, rock mechanics, and geotechnical engineering. He is the editor, associate editor, and member of the editorial board of several international journals and has produced more than 170 refereed publications. He is the president of the ISRM Commission on Deep Mining and developed and toughed several courses in geotechnical engineering and mining operation.



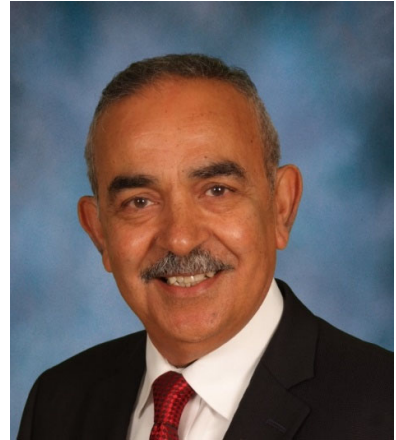
Dr Kathy Kalenchuk has over 15 years of experience in geotechnical and geomechanical engineering. Dr. Kalenchuk is a geotechnical QP for mining studies and provides due diligence and third-party reviews for geotechnical design, induced seismicity, and numerical modeling studies. Dr. Kalenchuk has extensive experience in underground mining, operational rock engineering, and ground control. She is an expert in high-end numerical modeling, with particular skills in developing calibrated models capable of reproducing rock mass behavior as observed through field studies and monitoring instrumentation. Dr. Kalenchuk also provides expertise in slope mechanics, particularly large-scale rock slopes.



Dr Raymond Durrheim held the South African Research Chair in Exploration, Earthquake, and Mining Seismology at the University of the Witwatersrand, Johannesburg, from 2007-2021. He now has a post-retirement appointment as a Professor in the School of Geosciences. Durrheim leads the DSI-NRF-SAIMI Community of Practice in Knowledge & Skills Development for Oil & Gas Exploration & Production and is the principal investigator of the ICDP project Drilling into Seismogenic Zones of M2.0 – M5.5 Earthquakes in Deep South African Gold Mines (DSeis, 2016-present). In 2021 Durrheim received two NSTF-South32 “Science Oscars”: the Lifetime Award and shared the Data for Research Award with a Wits Geosciences team.



Dr Hani Mitri is a Professor of Mining Engineering at McGill University and founder of McGill's Mine Design and Numerical Modelling Laboratory. He has made technical and scientific contributions as an educator, researcher, and consultant in mining in rock mechanics, ground control safety, and mine design. He published more than 250 papers and supervised to completion more than 60 Master's and PhD students. He is the recipient of the J.A. Franklin Award by the Canadian Geotechnical Society and the CIM Rock Mechanics Medal. He is a registered professional engineer and a Fellow of the Canadian Institute of Mining, Metallurgy, and Petroleum (CIM)



Ms. Rebecca Westley Hauta has been working in the mining industry for over 10 years, including work as a researcher for the Mining Initiative on Ground Support Systems and Equipment (MIGS) and Mining Innovation, Rehabilitation, and Applied Research Corporation (MIRARCO); and Ground Control positions at Barrick's Hemlo Mine and Newmont's Eleonore mine as well as contract work in Ground Control and Rock Mechanics at various mines in Ontario and Quebec in Canada. Rebecca is currently a Ground Control engineer. She has a master's degree in Mining Engineering from Laurentian University. Rebecca has several publications about mine safety and seismicity.

