



institute  
of mine  
seismology

## 35th Mine Seismology Seminar

7 – 12 June 2026, RACV Hotel, Hobart, Australia



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Sunday 7 June

09h00 - 17h30

**Mine Seismology Primer for Geotechnical Engineers**

09h00 - 17h30

**Meeting of the International Research Advisory Board of the Institute of Mine Seismology**

18h00 - 20h00

Ice-Breaker hosted by the Institute of Mine Seismology

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Monday 8 June

08h30 - 17h30

**Seminar Day 1: Lectures and Presentations on the Applications of Seismic Monitoring in Mines**

18h30 - 20h30

Dinner cruise hosted by the Institute of Mine Seismology

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Tuesday, 9 June

08h30 - 17h30

**Seminar Day 2: Lectures and Presentations on the Applications of Seismic Monitoring in Mines**

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Wednesday 10 June

08h30 - 17h30

**Lecture: Time-lapse Changes and Healing of Earth Materials and Seismic Interferometry**

Prof. Roel Snieder, Professor Emeritus, Colorado School of Mines

**Lecture: Dynamic Rock Failure in Mines**

Dr. Gerrie van Aswegen, Emeritus Consultant, Institute of Mine Seismology

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Thursday 11 June

08h30 - 17h30

**Course: Evaluating Ground Support Capacity for Strainbursting Conditions**

Dr. Peter K. Kaiser (online), President, GeoK, Inc.

Dr. Alex Rigby, Senior Seismologist, Institute of Mine Seismology

Dr. Dmitriy Malovichko, Head of Applied Seismology, Institute of Mine Seismology

**Lecture: Dynamic Rupture Simulations for Tectonic Earthquakes and Seismic Events in Mines: Principles and Applications**

Dr. Martin Gális, Associate Professor, Comenius University Bratislava

Dr. Alex Rigby, Senior Seismologist, Institute of Mine Seismology

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Friday 12 June

08h30 - 17h30

**Training in Seismic Monitoring Systems and Software**

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Saturday 13 June

**Technical visit to Renison Tin Operation, Tasmania**

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Monday 15 June

**Technical visit to Fosterville Gold Mine, Victoria**

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For more information and registration please visit the IMS website.

The IMS Seminar conveniently takes place just before Hobart's iconic Dark Mofo winter festival, a city-wide celebration of art, music, light, and winter rituals. Delegates who wish to extend their stay will have the opportunity to experience one of Tasmania's most unique cultural events, with immersive performances, large-scale installations, and a vibrant night-time atmosphere that transforms the city.

## **Time-lapse Changes and Healing of Earth Materials and Seismic Interferometry**

**Wednesday 10 June, 08h30 - 12h30**

**Prof. Roel Snieder**, Professor Emeritus, Colorado School of Mines

1. An overview of seismological methods for monitoring time-lapse changes, with an emphasis on quasi-continuous measurements and obtaining the sensitivity to minute changes in seismic velocity.
2. Examples of case studies of seismic velocity changes and healing of seismic velocities
3. Rock healing as a multi-process and multi-scale phenomenon.
4. The relaxation spectrum of rock healing.

## **Dynamic Rock Failure in Mines**

**Wednesday 10 June, 13h30 - 17h30**

**Dr. Gerrie van Aswegen**, Emeritus Consultant, Institute of Mine Seismology

1. Rock failure basis.
2. Failure mechanisms: extension fracture, brittle shear (Ortlepp-shear), fault slip, pillar failure, dyke burst, tunnel-burst.
3. Rockburst nomenclature.

## **Evaluating Ground Support Capacity for Strainbursting Conditions**

**Thursday 11 June, 08h30 - 12h30**

**Dr. Peter K. Kaiser** (online), President, GeoK, Inc.

**Dr. Alex Rigby**, Senior Seismologist, Institute of Mine Seismology

**Dr. Dmitriy Malovichko**, Head of Applied Mine Seismology, Institute of Mine Seismology

1. Determining the capacity of bolts.
2. Determining the capacity of areal support elements.
3. Establishing the remnant capacity of the support system from its components.
4. Assessing strainburst demand on the support system (including on the areal support system).
5. Identifying whether the areal support is likely to be the weakest link.
6. Examples of forensic analysis of damaging cases: comparing strainburst demand with the remnant ground support capacity.

# **Dynamic Rupture Simulations for Tectonic Earthquakes and Seismic Events in Mines: Principles and Applications**

**Thursday 11 June, 13h30 - 17h30**

**Dr. Martin Gális**, Associate Professor, Comenius University Bratislava

**Dr. Alex Rigby**, Senior Seismologist, Institute of Mine Seismology

1. Representation and modelling of earthquake sources.
2. Principles of dynamic rupture modelling – physical concept, friction laws, initial conditions, nucleation and arrest of rupture propagation.
3. Earthquake ground motion and fundamental ground motion characteristics.
4. Examples of numerical modelling of dynamic ruptures and earthquake ground motion time histories.
5. Specifics of dynamic rupture simulation in mines and its applications.

## **Training in IMS Software**

**Friday 12 June, 08h30 - 12h30**

**Dr. Ernest Lotter**, Head of Computational Seismology, Institute of Mine Seismology

**Ilana Loubser**, Head of Software Development, Institute of Mine Seismology

After a brief overview of the IMS software ecosystem, the training will be focused on *Nexus* and *Ticker3D* for real-time views of current seismicity and basic analysis before lunch, covering core functionality and practical applications.

## **Training in IMS Systems**

**Friday 12 June, 08h30 - 12h30**

**Andries van Zyl**, Head of Customer Support, Institute of Mine Seismology

**Frans Cronjé**, Head of Technical Services, Institute of Mine Seismology

**Gareth Goldswain**, Head of Engineering, Institute of Mine Seismology

The first half of the session will focus on the design and implementation of microseismic monitoring systems. This will include the technical essentials for planning robust seismic monitoring systems, from site requirements through to maintenance strategies.

Integrated monitoring systems will be discussed and demonstrated during the second half of the session. This will take the form of a hands-on workshop focusing on connectivity, live recording, and diagnostics for DAS, seismic, and non-seismic sensors.

## **Training in IMS Software**

**Friday 12 June, 13h30 - 17h30**

**Dr. Ernest Lotter**, Head of Computational Seismology, Institute of Mine Seismology

**Ilana Loubser**, Head of Software Development, Institute of Mine Seismology

In the afternoon, the training will continue with sessions on *Trace* (seismogram processing and analysis) and *Vantage* (analysis of seismicity and 3D visualisation), highlighting their capabilities and how they can integrate into day-to-day operations.

## **Technical visit: Renison Tin Operation, Tasmania**

**Friday 12 June**, afternoon - **Saturday 13 June**, afternoon

The visit will include:

- Travel from Hobart on Friday afternoon;
- Accommodation near the mine;
- Mine visit including an introduction, visitor induction, changing and preparation for the underground visit, underground visit, changing, lunch, and presentations;
- Travel back to Hobart on Saturday afternoon.

Registration is limited to 10 participants. Once capacity is reached, further registrations will be placed on a waiting list.

Information about the mine: Metals X & Bluestone.

## **Technical visit: Fosterville Gold Mine, Victoria**

**Sunday 14 June**, afternoon - **Monday 15 June**, afternoon

The visit will include:

- Travel from Melbourne on Sunday afternoon;
- Accommodation near the mine;
- Mine visit including an introduction, visitor induction, changing and preparation for the underground visit, underground visit, changing, lunch, and presentations;
- Travel back to Melbourne on Monday afternoon.

Registration is limited to 10 participants. Once capacity is reached, further registrations will be placed on a waiting list.

Information about the mine: Agnico Eagle - Fosterville.