

# Instrumentation and Slope Monitoring Workshop & InSAR, Radar and Emerging Technologies Workshop

9 & 10 April 2018 | Seville, Spain | SAVE THE DATES!

The ACG is committed to supporting the development of modern, efficient and profitable mining operations throughout the world. To this end, the ACG presents worldwide training courses and events; the objective of which is to rapidly develop capacity through technology transfer and teaching best practice that enhances mining organisations' profitability and minimises future environmental impacts from their mining operations.

The ACG is delighted to host two, one day workshops to accompany the Slope Stability 2018 Symposium being held in Spain next year. Both workshops, facilitated by Professor Phil Dight, ACG, are focussed on supporting the continued development and application of advanced monitoring systems to all types of mine sites and their waste landforms.

## Instrumentation and Slope Monitoring Workshop

9 April 2018 | Seville, Spain

### Workshop objective:

This workshop will focus on new developments relating to conventional terrestrial monitoring systems such as open pit radars, prisms, laser scanning, photogrammetry, as well as the integration of the different types of these monitoring systems and their interpretation. Application examples of many companies providing these new technologies include land cover determination, feature extraction, persistent change detection and monitoring, terrain slope characterisation, soils modelling and saturated ground detection. Considerable advances have also been made in remote sensing by using a wide variety of different types of unmanned aerial/piloted vehicles (UAVs), commonly known as drones and also referred to as remotely piloted aircraft (RPA), in monitoring mine sites. This workshop will also explore the advances in the in-ground monitoring of deformation and pore pressure in open pit mining that may be able to provide advance notice of ground movement and changes in pore pressure that might affect slope stability.

## InSAR, Radar and Emerging Technologies Workshop

10 April 2018 | Seville, Spain

### Workshop objective:

This workshop will focus on the use of remote sensing and the application of emerging types of remote monitoring technology. Remote sensing generally enables infrequent, multi-dimensional long term monitoring capability for wide area coverage both within mine sites and in outlying areas. Radar systems are widely used throughout the mining industry as their primary safety critical monitoring systems and provide close-in, focussed, real time monitoring and alarming capabilities for active mining operations. However, due to the dynamic nature of mining, radar monitoring usually takes place over relatively short term periods. The uses of satellite based synthetic aperture RADAR (SAR), as well as interferometric SAR (InSAR) systems, have been gradually gaining popularity as a tool for geotechnical and environmental monitoring of mines.

### Presenting companies include:

- 3D Laser Mapping Ltd, UK
- AMTC, University of Chile, & Elexon Mining, Chile
- CGG, UK
- CSIRO Energy, Australia
- Durham Geo Slope Indicator, USA
- ESS Earth Sciences, Australia
- ESG Solutions, Canada
- Gold Fields Australia Pty Ltd, Australia
- GroundProbe Pty Ltd, Australia
- Hillgrove Resources, Australia
- IDS GeoRadar, Italy
- Measurand Inc., Canada
- Reutech Mining, South Africa
- Tre Altamira s.r.l., Italy

## Instrumentation and Slope Monitoring Workshop & InSAR, Radar and Emerging Technologies Workshop

### Expressions of Interest

Code: 1810 & 1820

Attendee

*\* denotes mandatory field*

\*Name .....

\*Position .....

\*Organisation .....

Mine/Department .....

Workshop interested in .....

\*Address .....

.....

.....

\*Country .....

\*Phone .....

Mobile .....

Fax .....

\*Email .....

*Please note that this is not a registration for the event.*

Please submit your expression of interest to:

Australian Centre for Geomechanics  
The University of Western Australia  
35 Stirling Highway (M600)  
CRAWLEY WA 6009 AUSTRALIA  
Ph: +61 8 6488 3300

info-acg@uwa.edu.au | www.acg.uwa.edu.au

### Workshop facilitator:



Professor Phil Dight  
Professor of Geotechnical Engineering  
Australian Centre for Geomechanics

Phil has been involved with the development and design of ground support for mining applications since 1975. Phil joined the ACG in 2008 and has since been working on stress memory effects in rocks, ground support applications, slope stability problems (including the use of microseismicity to understand failure mechanisms), and 3D rock properties. In 2017, Phil commenced a four year MRIWA project aimed at investigating the issues of strainburst vulnerability in underground mines.

These ACG open pit mining workshops will accompany the 2018 International Symposium on Slope Stability in Open Pit Mining and Civil Engineering at the XIV International Congress for Energy and Resource Mining in Seville, Spain.



The symposium will be held from 11 to 13 April 2018.

For more information, see

[www.congresomineriasi Sevilla2018.org](http://www.congresomineriasi Sevilla2018.org)



### APSSIM 2016

Proceedings of the First Asia Pacific Slope Stability in Mining Conference



### FMGM 2015

Proceedings of the Ninth Symposium on Field Measurements in Geomechanics

Purchase these and other publications from  
[www.acg.uwa.edu.au/shop](http://www.acg.uwa.edu.au/shop)