PROGRAM SLOPE STABILITY SYMPOSIUM 2018

Miércoles 11 de abril de 2018 / Wednesday April 11th 2018

SLOPE STABILITY SYMPOSIUM

Sala / Room Sevilla 3 y 4

08:15 – 11:30

Keynote Lecture A

John Read

Developments in Open Pit Slope Design since 2009

Papers

Session 1.

Geotechnical and geological modelling in mine planning and operative mining

El modelado geológico y geotécnico en la planificación y operación minera

Chairman: Stephen Cooper, Cobre Las Cruces

- Evaluation of geomechanical parameters through Factor Analysis. T. Barreto dos Santos, L. Regina Costa Silveira, M. Sabino Lana, T. Martins Pereira
- Applicability of Strain Softening Models to Slope Stability Analyses. C. Cancino, C. Álvarez, M. Díaz, R. Ledezma
- Quantifying Transitional Rock Mass Disturbance in Open Pit Slopes Related to Mining Excavation. N.D. Rose, M. Scholz, J. Burden, M. King, C. Maggs and M. Havaej
- Suggested standards for improving structural geologic definition for open pit desig. T.G. Carter
- Approach to Geotechnical Characterization and Slope Design in Specific Deposits Types. B. Murphy, W. Barnett
- The application of run out analysis to mine site landslides. M. Llano-Serna

11:30 – 12:00 Pausa – café y visita pósteres / Coffe break and poster visit

12:00 – 14:00

Papers

Session 2.

Pit slope monitoring and processing of geotechnical data

Monitoreo y procesado de datos geotécnicos

Chairwoman: Mercedes Ferrer, IGME

- Use of radar system for real-time safety-critical slope monitoring and long-term mine planning in Siilinjärvi mine, Finland. S. Mononen, M. Suikkanen, N. Coli, F. Meloni
- DFN based analysis of step path failure pathways for improved slope stability analysis. S. Rogers, P. Hamdi, K. Moffett and B. Dershowitz
- The use of the Maptek I-Site 8820 laser scanner and Sentry software system in managing brittle rock movements at the Kanmantoo Copper Mine in Australia. B. J. Hutchison, J. Chambers, S. Gannon, and J. Herrmann
- State-of-the-Art Monitoring Techniques for Samarco Tailings Dams. L. Clarkson, S. Carneiro; B. de Matos Castilho; D. Williams; M. Ruest; M. Llano; and D. Noon
- Managing Large Scale Failures – A Case Study from Ok Tedi Mine, Papua New Guinea. F.M. Weir, A.G Smith, J.Watton, M. Koek and P. Kuira
- Comparing traditional and televiewer methods of structural data collection. K Llewelyn, A. McCracken, and M. Brown

14:00 – 15:00 Almuerzo / Lunch

15:00 – 16:30

Keynote Lecture 1
Geoff Beale
How our understanding of water and slope stability has improved since 2009

Papers
Session 3.

Risk assessment and management of effects of groundwater in mining pits
Gestión y evaluación del riesgo asociado al agua subterránea en la minería a cielo abierto
Chairman: Geoff Beale, Piteau

- Managing water pressures in a steeply dipping coal-mine footwall. A. Duran and R.W.Seedsman
- Numerical Investigation of Potential Pore Water Pressure Changes In Jointed Brown Coal Due To Waste Material Placement Against A Brown Coal Open-Cut Batter. T. Shagghahi, A. Tolooiyan and R. Mackay
- Operational Risk Management of Land Based Beach Mining 30m Below the Atlantic Ocean. S. Kirkpatrick, P. de Graaf, SW Jacobsz

16:30 – 17:00 Pausa – café y visita pósteres / Coffe break and poster visit

17:00 – 19:00

Keynote Lecture 2
Pedro Ramírez
Slope stability problems in the Iberian Piritic Belt (IBP) and the Ossa-Morena geological zones

Papers
Session 4.

Blasting and slope stability
Voladuras y estabilidad de taludes
Chairman: Martyn Robotham, Rio Tinto

- Managing Blast-Induced Highwall Deformation Using an Improved Signature Hole Technique: A Case Study from Cortez Gold Mines, northeast Nevada, USA. P. Jenks, J. Silva Castro, M. Morfin
- Full Wall Control Blasting Optimization. B. Cebrian, M. Rocha, B. Morales, JL. Castañon, J. Floyd
- Refining the Wall Control Blasting Program at Rio Tinto’s Iron Ore Company of Canada Mine. G. Abrahams, G. Powell, J. Hardy
- Importance of characterization and representation of fault damage zones in slope stability models. J. Severin

*Cena libre / Free diner*
08:15 – 09:40

**Papers**

**Session 5.**

**Slopes (Smarter Lignite Open Pit Engineering Solutions)**

**Soluciones de ingeniería inteligente para cortas de lignito**

**Chairwoman: Vanesa Pozo, Subterra Ingeniería**

- A coupled probabilistic-numerical methodology for the reliability-based design of slopes. A. V. Deliveris, I. E. Zevgolis, N.C. Koukouzas
- Stability Analysis of the working face slope and the inner dump in a lignite open pit mine. V. Pozo, D. De Paz, J. Salas, J.M. Galera
- Geotechnical characteristics of spoil materials in European open pit lignite mines. Mohsen S. Masoudian, Hossein Zanganeh, Alec M. Marshall, Charles M. Heron
- Improved understanding of active slope instability mechanisms in lignite operations. C. Vanneschi, J. Burdab, L. Žižkab, M. Eyrea, M. Francionia, J. Coggan

09:40 – 11:30

**Keynote Lecture 3**

Rodrigo Silva Mandiola

Rosario Mine – Evolution of Geotechnical Understanding

**Papers**

**Session 6.**

**Ground Control and Rockfall Management: Risk quantification and acceptance criteria**

**Control del terreno y gestión de caídas de bloques: cuantificación del riesgo y criterios de aceptabilidad**

**Chairman: Doug Stead, Simon Fraser University**

- A rockfall hazard appraisal and management system for quarries and open pit mines. S. J. Collins, J. Hall
- Kinematic Evaluation of Pit Shell Designs using Geotechnical Block Model. J. Venter, K. du Plooy, E. Hamman
- The Yellowstone Talc Mine. D. Morrison
- Probabilistic stability analysis of slopes in highly heterogeneous rock masses. H. Rafieirenani, C. Derek Martin, P. Varona and L. Lorig

11:30 – 12:00 **Pausa – café y visita pósteres / Coffe break and poster visit**
12:00 – 14:00

**Papers**

**Session 7.**

**FE/FD analysis techniques and their selection**

*Técnicas de análisis FE/FD y criterios de selección*

Chairman: Leandro Alejano, Universidad de Vigo

- Effect of Rock Mass Strength Parameters Variation on the Fracturing Amount in Rock Slopes. A. K. Alzo'ubi
- Definition of intact rock bridges for 2D and 3D slope stability problems. D. Elmo, D. Stead
- Use of Response Surface Methodology in computationally intensive 3DEC models of open pit slope influenced by a block caving operation. M. Marciniak, E. Widzyk-Capehart, V. Rivero, D. Diaz
- Application of monitoring data for calibrating numerical models. J. Jung, T. Katsaga, L. Lorig
- Computational tools for the determination of factor of safety and location of the critical failure surface for slopes in Mohr-Coulomb dry ground. C. Carranza-Torres and E. Hormazabal

14:00 – 15:00 Almuerzo / Lunch

15:00 – 16:30

**Papers**

**Session 8.**

**Open pit and underground mining interactions: assessment of reliability and safety of methods**

*Interacción entre el cielo abierto y labores subterráneas: evaluación de la fiabilidad y seguridad de los métodos de análisis*

Chairman: Allan McCracken, SRK

- An application of point estimation methods to assess open pit slope stability. M. Valerio, S. D’Ambra, R. Woodward
- The Uncertainty of Rock Mass Shear Strength Estimates: How to Incorporate the Reduction in Variance Due to Spatial Averaging for Use in Probabilistic Analysis. S.D. Cylwik, J.A. Beck, T.M. Ryan
- Implications for other hard rock mines of slope steepening investigation and performance improvements at the Tio Pit, Rio Tinto Fer et Titane, Quebec. M. Rougier, F. Hees, C. Gravel,
- Overall probability of failure of rock slopes with multiple failure modes. J. Dong Du

16:30 – 17:00 Pausa – café y visita pósteres / Coffe break and poster visit

17:00 – 18:00

**Keynote Lecture 4**

Jonny Sjoberg

Analysis of large-scale pit slope stability — The Aitik mine revisited
Keynote Lecture 5
Phil Dight
Interpretation of instability/failure mechanisms based on surface and subsurface monitoring

Cena del Congreso en Hacienda Montelirio / Congress Dinner at Hacienda Montelirio

Viernes 13 de abril de 2018 / Friday April 13th 2018

SLOPE STABILITY SYMPOSIUM
Sala / Room Sevilla 3 y 4

09:00 – 11:30

Keynote Lecture B
Derek Martin
Strength of Weak Rocks in Open Pit Slope Design

Papers

Session 9.

Slope failure management and remediation
Gestión y remediación de la rotura de taludes
Chairwoman: Marnie Pascoe, Rio Tinto

- A review of the bench slope design at the Aitik and Salmijärvi open pits, Sweden. R. Ortiz and P. Gómez
- Aguablanca, a case study in slope stability management P. O’Bryan, M. Barrero Bouza, L. Merino Tores, C. Moreira Ascenso
- Risk assessment and management of effects of groundwater in mining pits. S. O’Neill
- Characterization of a large slope failure in an open pit mine through the back analysis of satellite InSAR and ground based radar data. P. Farina, T. Carlà, E. Intrieri, H. Ketizmen, N. Casagli
- Complex rock slope failure mechanisms involving toppling. Leandro R. Alejano

11:30 – 12:00 Pausa – café y visita pósteres / Coffe break and poster visit

14:00 – 14:30 Conferencia Clausura / Closing Lecture

14:30 – 15:00 Acto de Clausura / Closing

15:00 – 16:00 Cóctel de despedida / Farewell cocktail

Sábado 14 de abril de 2018 / Saturday April 14th 2018

Visitas técnicas a / Technical visit to:

MATSA, MINAS DE RIO TINTO Y MUSEO, COTO DE DOÑANA, CENTRAL TERMOSOLAR GEMASOLAR DE FUENTES DE ANDALUCÍA, FUNDICIÓN DE ATLANTIC COOPER, ALMACENAMIENTOS DE IMPALA EN HUELVA Y MINA DE COBRE LAS CRUCES