



# SANIRE

SOUTH AFRICAN NATIONAL INSTITUTE OF ROCK ENGINEERING

## SYMPOSIUM 2026

BALANCING JUDGEMENT,  
TECHNOLOGY, AND SUSTAINABILITY  
IN ROCK ENGINEERING PRACTICES

7-8 JULY 2026  
EMPERORS PALACE CONVENTION CENTRE,  
KEMPTON PARK

ECSA AND SACNASP VALIDATED CPD ACTIVITY CREDITS = 0.1 PER HOUR ATTENDED

### SANIRE SYMPOSIUM 2026

#### SYMPOSIUM Day 1- Tuesday 7 July 2026

|                                                                                   |                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 07:30–08:30                                                                       | <b>Registration and Early Morning Refreshments</b>                                                                                                                                    |
| 08:30–08:35                                                                       | <b>Safety Briefing</b><br>Venue Official                                                                                                                                              |
| 08:35–08:45                                                                       | <b>Welcome and Opening Address</b><br>O. Rakumakoe, Harmony Gold                                                                                                                      |
| 08:45–09:00                                                                       | <b>SAIMM Presidential Address</b><br>G. Lane, Vuuma                                                                                                                                   |
| 09:00–09:30                                                                       | <b>Keynote Address</b><br>F. Masemula, Harmony Gold                                                                                                                                   |
| <b>Session 1 – Geotechnical and Rock Engineering</b><br>Session Chair - K. Bosman |                                                                                                                                                                                       |
| 09:30–09:50                                                                       | <b>The Role of InSAR in Monitoring Structural Deformation and Subsidence within Restricted Caving Environments</b><br>I. Gkikas, E. Moldes                                            |
| 09:50–10:10                                                                       | <b>A Geotechnical Assessment of Proposed Mining in Shallow-Depth Weathered Rock near the Hex River</b><br>K. Namise, B.P. Watson                                                      |
| 10:10–10:30                                                                       | <b>An Integrated Multi-Sensor Monitoring Approach for Assessing Preconditioning in Deep-Level Narrow-Reef Mining</b><br>H. Greeff, L. Scheepers, M. Wiggins, J. Hanekom               |
| 10:30–10:50                                                                       | <b>Mid-Morning Refreshments</b>                                                                                                                                                       |
| <b>Session 2 – Cave Mining and Mine Design</b><br>Session Chair - B. Tati         |                                                                                                                                                                                       |
| 10:50–11:20                                                                       | <b>Keynote Address: A Journey to ZERO – The Anglo American Story</b><br>R. Carstens, Anglo American                                                                                   |
| 11:20–11:40                                                                       | <b>Decision Support for Rock Tunnel Construction: Prioritizing Excavation Methods Through AHP-TOPSIS Multicriteria Analysis</b><br>N. Olanrewaju Ogunsola                             |
| 11:40–12:00                                                                       | <b>Design and Implementation in Friable Pyroxenite: A Case Study on Risk Anticipation</b><br>T.D. Mametja, K.A. Moganedi                                                              |
| 12:00–12:20                                                                       | <b>Empirical and Numerical Evaluation of Pillar Reclamation Viability in a Shallow Platinum Mine</b><br>M. Esterhuizen, Z. Schutte, B. Vaughan, T. Rangasamy                          |
| 12:20–13:20                                                                       | <b>Lunch</b>                                                                                                                                                                          |
| <b>Session 3 – Ground Support and Rock Mechanics</b><br>Session Chair - R. McGill |                                                                                                                                                                                       |
| 13:20–13:40                                                                       | <b>Enhancing Grout Packs Performance under High Stress Conditions Using Yielding Packs Support Design at Dishaba Mine</b><br>F.E. Vukeya, S.C. Mashile, R.J. Gerber                   |
| 13:40–14:00                                                                       | <b>Explainable Machine Learning for Rock Tensile Strength Prediction Under High Strain-Rate Conditions Using SHAP and Closed-Form Equations</b><br>N. Olanrewaju Ogunsola, H. Grobler |
| 14:00–14:20                                                                       | <b>From Pixels to Pits: The Evolution of Satellite Radar Interferometry and Its Future in Mine Stability Management</b><br>A. Mkandla                                                 |
| 14:20–14:40                                                                       | <b>Geotechnical Analysis of Reduced Middling in Multi-Reef Mining Conditions at Siyanda Bakgatla Platinum Mine</b><br>K. Makhubele, G. Nkosi, K.B. Le Bron                            |
| 14:40–15:00                                                                       | <b>Afternoon Refreshments</b>                                                                                                                                                         |
| <b>Session 4 – Technology and Innovation</b><br>Session Chair - L. Scheepers      |                                                                                                                                                                                       |
| 15:00–15:20                                                                       | <b>How Machine Learning Should Be Applied Responsibly and Effectively in Rock Engineering</b><br>R. Masethe                                                                           |
| 15:20–15:40                                                                       | <b>Improving Underground Safety: A Rapid Method to Generate a Barring Assistance Tool Utilising Machine Learning</b><br>K. Mphahlele                                                  |
| 15:40–18:00                                                                       | <b>Rockbowl</b>                                                                                                                                                                       |
| 18:00                                                                             | <b>End of Day 1</b>                                                                                                                                                                   |
| 18:30–21:00                                                                       | <b>Conference Dinner – Braza Restaurant, Emperors Palace</b>                                                                                                                          |

#### SYMPOSIUM Day 2 - Wednesday 8 July 2026

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|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 07:30–08:20                                                                                        | <b>Registration and Early Morning Refreshments</b>                                                                                                                                                               |
| 08:20–08:25                                                                                        | <b>Safety Briefing</b><br>Venue Official                                                                                                                                                                         |
| 08:25–08:30                                                                                        | <b>Welcome and Opening Address</b><br>O. Rakumakoe, Harmony Gold                                                                                                                                                 |
| 08:30–09:00                                                                                        | <b>Keynote Address: Alternative Data Collection and Data Considerations for Rock Mass Models</b><br>R. Armstrong, SRK Consulting                                                                                 |
| <b>Session 5 – Digital Rock Engineering</b><br>Session Chair - D. Matthews                         |                                                                                                                                                                                                                  |
| 09:00–09:20                                                                                        | <b>Integrated Dynamic Reporting in Operational Mines</b><br>S.Burke, M. Langley, L. Farrington, J. Latilla                                                                                                       |
| 09:20–09:40                                                                                        | <b>Interpretation of Numerical Modelling Results for Optimising Massive Mine Design</b><br>D. van Rooyen                                                                                                         |
| 09:40–10:00                                                                                        | <b>A Data-Driven Approach to Geotechnical Characterisation and Support Optimisation at Styldrift Platinum Mine</b><br>Nkosi M., K.B. Lebron, M.C. van Eeden                                                      |
| 10:00–10:20                                                                                        | <b>Merensky Reef Crush Pillar Stability Assessment, with a Focus on Pillar Bursting</b><br>U. Maqina, K.B. Le Bron, H. Jordaan, M.R. Vermeulen                                                                   |
| 10:20–10:50                                                                                        | <b>Mid-Morning Refreshments</b>                                                                                                                                                                                  |
| <b>Session 6 – Stability and Mine Design</b><br>Session Chair - W. Joughin                         |                                                                                                                                                                                                                  |
| 10:50–11:10                                                                                        | <b>Mototolo Der Brochen Adopting Various Mining Strategies to Successfully Develop New Declines Through a Preferential Weathered Zone</b><br>N. Ndlela                                                           |
| 11:10–11:30                                                                                        | <b>Numerical Modelling to Evaluate the Strength of Different Pillar Shapes</b><br>J.A.Maritz, D.F. Malan                                                                                                         |
| 11:30–11:50                                                                                        | <b>Rock Engineering Assistant: Digital Platform</b><br>J. Hanekom                                                                                                                                                |
| 12:00–13:00                                                                                        | <b>Lunch</b>                                                                                                                                                                                                     |
| <b>Session 7 – Innovation and Monitoring</b><br>Session Chair - J. Maritz                          |                                                                                                                                                                                                                  |
| 13:00–13:20                                                                                        | <b>Siyanda Bakgatla Platinum Mine, Spud Shaft – Considerations for Mining UG2 under Merensky Abutments</b><br>K. Makhubele, G. Nkosi, K. B. Le Bron                                                              |
| 13:20–13:40                                                                                        | <b>The Feasibility of Machine Learning for Optimising Non-Yielding Pillars in Hard-Rock Bord-and-Pillar Designs in Underground Mines</b><br>O. Vetman, H.D. Masethe, M.A. Masethe, R. T. Masethe and A. C. Adoko |
| 13:40–14:00                                                                                        | <b>The Geomechanical Risks of Depositing Reprocessed Tailings into Open Pits Intersecting Legacy Underground Workings</b><br>S. Smith, B.S. Vaughan, T. Rangasamy                                                |
| 14:00–14:20                                                                                        | <b>The Significance of Mobile Machine Damage on the Effectiveness of Full-Column Grouted Resin Bolts</b><br>A. Esterhuizen, B. Watson                                                                            |
| 14:20–14:40                                                                                        | <b>Afternoon Refreshments</b>                                                                                                                                                                                    |
| <b>Session 8 – Pillar Optimisation and Support Systems</b><br>Session Chair - G. Le Bron, F. Muger |                                                                                                                                                                                                                  |
| 14:40–15:00                                                                                        | <b>Application of time-lapse passive seismic tomography in cave mining</b><br>S Prahastudhi, E Bailey, R William, W de Beer, D Collins, A Senso and D Angus                                                      |
| 15:00–15:20                                                                                        | <b>Valterra Platinum, Dishaba Mine Haulage Pillar Optimisation</b><br>N. Jiyane, S. Mashile, K.B. Le Bron, N Meyer, M.C. van Eeden                                                                               |
| 15:20–15:40                                                                                        | <b>Why In-Situ Testing Matters for Cementitious Membrane Support in Underground Mining</b><br>G.H. Louw                                                                                                          |
| 15:40                                                                                              | <b>Conference Close</b>                                                                                                                                                                                          |