

Preliminary Programme — Deep Mining 2019 Conference — 24–25 June 2019

DAY 1 — 24 JUNE 2019

07:00–08:00	Registration and Early Morning Refreshments		
08:00–08:10	Emergency Procedures Presentation		
08:10–08:25	Welcome Address - SAIMM President A.S. Macfarlane, <i>Mandela Mining Precinct</i>		
08:25–08:35	SANIRE presentation P. Couto, <i>Middindi, SANIRE, Conference Co-chairperson</i>		
Session Chairperson	P. Couto, <i>Middindi, SANIRE, Conference Co-chairperson</i>		
Session 1	Plenary		
08:35–09:15	Keynote 1: Layout design criteria for deep tabular mines: Quo vadis? D.F. Malan and Y. Jooste, <i>University of Pretoria and Harmony Gold, South Africa</i>		
09:15–09:35	DM30: The geotechnical evolution of deep level mechanised distress mining at South Deep P.G. Andrews, R.J. Butcher, and J. Ekkerd, <i>Gold Fields, Australia and South Africa</i>		
09:35–09:55	DM33: Accounting for rock mass heterogeneity and buckling mechanisms in the study of excavation performance in foliated ground at Westwood mine L. Bouzeran, M. Pierce, P. Andrieux, and E. Williams, <i>Itasca Consulting Group Inc. (ICG), Pierce Engineering, A2GC, IAMGOLD, CVM Consultants, USA, Canada</i>		
09:55–10:15	DM62: Artificial Intelligence and / big data analytics in mining geomechanics J. McGaughey, <i>Mira Geoscience Ltd, Canada</i>		
10:15–10:25	Sponsor Presentation: New Concept Mining		
10:25–10:35	Sponsor Presentation: Minova		
10:35–11:00	Mid-Morning Refreshments		
Session Chairperson	W.C. Joughin, <i>SRK, Conference Co-Chairperson</i>	Session Chairperson	D. O'Connor, <i>Minova</i>
Session 1A	Mine design and performance	Session 1B	Support design and testing
11:00–11:20	DM37: Geotechnical assessment of stope design for the SF3 Orebody at Rosh Pinah Zinc Mine G.P. Shali and A. Vakili, <i>University of the Witwatersrand, Rosh Pinah Zinc Corporation, South Africa, Namibia, Australia</i>	11:00–11:20	DM73: Large scale testing of surface support R. Brändle, R. Luis Fonseca, and T. Hangartner, <i>Geobrugg AG, Geobrugg Ibérica S.A., Switzerland, Spain</i>
11:20–11:40	DM71: The seismic response to mining during the extraction of the Thuthukani shaft pillar, Kloof Operations, South Africa R.T. Masethe, R.J. Durrheim, and M.S.D. Manzi, <i>University of the Witwatersrand, Sibanye Still Water Limited, South Africa</i>	11:20–11:40	DM10: A practical design approach for an improved resin anchored tendon B. Crompton and J. Sheppard, <i>New Concept Mining, Australia</i>
11:40–12:00	DM19: Effects of stoping activities on tunnel conditions in a deep, hard rock mine in Austria T. Ladinig, H. Wagner, and A. Daborer, <i>Montanuniversitaet Leoben, Austria</i>	11:40–12:00	DM14: An evaluation of the bond strength of multiple resin bolt and capsule combinations through laboratory testing and applied methodologies R. Bierman, L. Gardner, and P. Piper, <i>Groundwork Consulting (Pty) Ltd, Impala Platinum Ltd, South Africa</i>
12:00–12:20	DM28: Support and reinforcement damage initiation and design adjustments in a deep mine environment - Case study: Cuiabá Mine, Minas Gerais, Brazil L.C.B. Costa, R.C. Padula, L.M.V. Pimenta, R.S. Pereira, and D.T. Peterle, <i>Anglogold Ashanti, Brazil</i>	12:00–12:20	DM35: Case Story: LKAB Malmberget, self-drilling anchors and pumpable resin P. Bray, A. Johnsson, and H. Schunnesson, <i>Epiroc Rock Drills AB, LKAB, Luleå University of Technology, Sweden</i>
12:20–13:20	Lunch	12:20–13:20	Lunch
Session Chairperson	L. Scheepers, <i>Anglogold Ashanti</i>	Session Chairperson	N. Chittenden, <i>BASF</i>
Session 1A continued	Mine design and performance	Session 1B continued	Support design and testing
13:20–13:40	DM34: Numerical modelling of the high rock stress challenges at Rana mine, Norway N.Q. Trinh, T.E. Larsen, S. Molund, B. Nost, and A. Kuhn, <i>SINTEF, Rana Gruber AS, Norway</i>	13:20–13:40	DM22: A New method to evaluate dynamic bolts and the development of a new dynamic rock bolt B. Darlington, M. Rataj, and W. Roach, <i>Sandvik Mining and Rock Technology, Australia</i>
13:40–14:00	DM75: Seismic risk management practices in metalliferous mines Y. Potvin, J. Wesseloo, G. Morkel, S. Tierney, K. Woodward, D. Cuello, <i>Australian Centre for Geomechanics, the University of Western Australia, Newcrest Mining Ltd, Australia</i>	13:40–14:00	DM26: Laboratory full-scale rock bolt testing: Analysis of recent results S.A. Hagen, T. Larsen, A. Berghorst, and G. Knox, <i>SINTEF AS, New Concept Mining Canada, Norway, Canada</i>
14:00–14:20	DM09: Application of laser scanner to determining ground surface displacement rate in block caving mine B. Augusta, M. Safkaur, and E. Wandra, <i>Freeport Indonesia, Indonesia</i>	14:00–14:20	DM79: Development of a remote control rock bolting system for narrow seam hard rock mines D. O'Connor and Tsertic, <i>Minova Africa (Pty) Ltd and Doking Africa Pty Ltd, South Africa</i>

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DAY 1 — 24 JUNE 2019 (Continued)

14:20–14:45	Mid-Afternoon Refreshments
Session Chairperson	R. Mitra, <i>The University of the Witwatersrand</i>
Session 2	Modelling / Monitoring
14:45–15:05	Sponsor Presentation: Reutech
15:05–15:25	DM63: Fracture model for rockburst mitigation based on the strain energy concept R. Zepeda and G. Karstulovic, <i>Codelco, Universidad Central, Chile</i>
15:25–15:45	DM32: Stopping sequence optimisation at Eleonore Mine based on stress analysis through horizon scale numerical modelling L. Bouzeran, M. Pierce, A. Jalbout and M. Ruest, <i>Itasca Consulting Group Inc, Pierce Engineering, Goldcorp Inc, USA, Canada</i>
15:45–16:05	DM41: Advanced techniques for the monitoring of pillar and excavation behaviour at a deep level massive mine P.G. Andrews, L. Rwodzi, and J. Ekkerd, <i>Gold Fields, Australia, South Africa</i>
18:30–21:00	Conference Dinner - Carnivores Restaurant

DAY 2 — 25 JUNE 2019

07:00–08:00	Registration and Early Morning Refreshments
08:00–08:10	Emergency Procedures Presentation
Session Chairperson	D.F. Malan, <i>University of Pretoria</i>
Session 3	Plenary
08:10–08:50	Keynote 2: Deep infrastructure tunnels - experience from the Alpine Crossing T. Jesel
08:50–09:30	Keynote 3: Addressing some misconceptions regarding seismic hazard assessment in mines J. Wesseloo, <i>Australian Centre for Geomechanics, The University of Western Australia</i>
09:30–09:50	DM66: Ideal stope configuration to manage seismicity in deep tabular narrow reef mines O. Rakumakoe, <i>AngloGold Ashanti, South Africa</i>
09:50–10:10	DM68: Anisotropic rock mass behaviour in large deformation ground at CSA mine B Chapula, <i>Australia</i>
10:10–10:20	Sponsor Presentation: OHMS
10:20–10:30	Sponsor Presentation: Rocscience Africa
10:30–10:50	Mid-Morning Refreshments
Session Chairperson	R. Durrheim, <i>The University of the Witwatersrand</i>
Session 4	Seismicity
10:50–11:10	DM27: Advances and applications for automated drones in underground mining operations E. Jones, J. Sofonia, F. Kendoul, and S. Hrabar, <i>Emesent, Universidad de Concepción, Australia, Chile</i>
11:10–11:30	DM59: Analysis of the Gutenberg-Richter <i>b</i>-values of overlapping seismic clusters with application to Cooke 4 Mine J. von Ketelhodt, D. Ligaraba, and R.J. Durrheim, <i>University of the Witwatersrand, South Africa</i>
11:30–11:50	DM40: Seismic response to mining the massive ore -body at South Deep gold mine N. Naicker, <i>Gold Fields, South Africa</i>
11:50–12:10	DM55: Modern seismic is illuminating the depths R. van Buren, G. Turner, and G. Hird, <i>HiSeis, South Africa, Australia</i>

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DAY 2 — 25 JUNE 2019 (Continued)

12:10–12:30	<p>DM65: 2019 status report: Drilling into seismogenic zones of M2.0–M5.5 earthquakes in South African gold mines (DSeis) project H. Ogasawara, B. Liebenberg, M. Ziegler, Y. Yabe, T. Ito, R.J. Durrheim, S. Manzi, S. Tau, B. Watson, D. Roberts, N.Z. Nkosi, S. Kaneki, Y. Yokoyama, T. Hirano, A. Funato, C. Onstott, T. Wiesberg, M. Zimmer, C. Kujawa, R. Conze, G. van Aswegen, N. Wechsler, A.K. Ward, DSeis Team, <i>Ritsumeikan University, Japan, Moab Khotsong mine, South Africa, ETH, Switzerland, Princeton University, USA, University of the Witwatersrand, South Africa, Tohoku University, Japan, Osaka University, Japan, Free State University, South Africa, i Water Solutions, South Africa, ICDP, Germany, Institute of Mine Seismology Ltd, South Africa, Tel Aviv University, Israel, Seismogen CC, South Africa, Council for Geoscience</i></p>
12:30–12:40	Sponsor Presentation: Sibra
12:40–13:40	Lunch
Session Chairperson	J. Wesseloo, <i>University of Western Australia</i>
Session 4 continued	Seismicity / Monitoring
13:40–14:00	<p>DM25: The validity of Es/Ep as a source parameter in mining seismology G. Morkel, J. Wesseloo, and Y. Potvin, <i>Australian Centre for Geomechanics, Australia</i></p>
14:00–14:20	<p>DM43: In-situ stress around source faults of seismic events in and beneath South African deep gold mines Y. Yabe, S. Abe, T. Ito, A. Ishida, K. Sugimura, M. Kanematsu, M. Higashi, R. Tadokoro, H. Ogasawara, A. Funato, H. Kato, B. Watson, S. Mngadi, R. Durrheim, G. Hofmann and L. Scheepers, <i>Tohoku University, Ritsumeikan University, Fukada Geological Institute, 3D Geoscience, Japan</i></p>
14:20–14:40	<p>DM76: Self-similarity in rock fracturing and the behaviour of large-scale faults in the mining environment E. Morton, E. Villaescusa, and A. Thompson, <i>AMC Consultants, United Kingdom, West Australian School of Mines, Curtin University, Australia</i></p>
14:40–15:00	<p>DM49: Do stopes contribute to the seismic source? L. Linzer, M. Hildyard, S.M. Spottiswoode, J. Wesseloo, <i>SRK Consulting, University of Leeds, Independent Consultant, Australian Centre for Geomechanics, University of Western Australia, United Kingdom, South Africa, Australia</i></p>
15:00–15:05	<p>Presentation: Deep Mining 2021 Prof. J. Wesseloo</p>
15:05–15:15	<p>Conference Close W.C. Joughin, <i>Conference Chairperson</i></p>
15:15–15:45	Mid-Afternoon Refreshments