

Mining for Intelligent, Open and Responsible Organisations: Enhancing the Role of Innovation for a Sustainable Mining Future

Friday 28 November 2025

Zebula Golf Estate & Spa, Farm 534KQ, Bela Bela, Limpopo



Limpopo Branch Technical Presentation

Final Programme

07:00–08:00 Registrations and Early Morning Refreshments
08:00–08:05 Safety Brief
Venue Official
08:05–08:25 Opening by Branch Chairperson
M.S. Zulu, *Siyanda Bakgatla Platinum Mine, South Africa*
08:25–08:45 SAIMM Presidential Address
G.R. Lane, *SAIMM President*

Session 1:

Session Chair: O. Madire, *Two Rivers Platinum Mine, South Africa*
Session Co-chair: P. Mokwele, *Siyanda Bakgatla Platinum Mine, South Africa*

08:45–09:05 Sponsor Presentation – Kings Beads 
09:05–09:25 Metallurgical slags: A drive to circularity and search for a new research agenda
E. Matinde, *Mintek, South Africa*
09:25–09:45 Geopolymers in sustainable engineering: Enhanced building material, water purification, CO₂ sequestration, and thermal resistance: A review
M.J. Mvita, *University of Johannesburg, South Africa*
09:45–10:05 Unlocking flotation circuit stability at Palabora mining company through froth sensing and computer vision
K. Machaba, E. Mualusi, R. Moagi, T. Ramakobya, T. Mokalapa, K. Mashilo, *Palabora Mining Company, South Africa*
10:05–10:25 Mine closure challenges and the need for innovation to crack the closure certificate conundrum
H. Coetzee, *Owl Mountain Earth Science, South Africa*

10:25–10:45 Sponsor Presentation – Metsop 
10:45–11:05 Mid-Morning Refreshments

Session 2:

Session Chair: E. Mualusi, *Palaborwa Mining Company, South Africa*
Session Co-chair: K. Taba, *AECI, South Africa*
11:05–11:15 Sponsor Presentation – Gondo Mining 
11:15–11:35 Evaluation of the recovery potential of weathered oxidized open pit UG2 ore at Modikwa concentrator
S. Mabitla, H. Mphahlele, C. Maleka, *Modikwa Platinum Mine, South Africa*
11:35–11:55 An explorative study on monitoring and evaluation of HR policies and procedures in the mining industry: A governance truce and a case study of Palabora mining company
O. Patel, B.R. Khumalo, K.A. Mashele, *Palabora Mining Company, South Africa*
11:55–12:15 Nanostructured functionalised sewage sludge adsorbent: Utilising ANN and RSM for optimised wastewater remediation
M.J. Mvita, *University of Johannesburg, South Africa*

12:15–12:35 Improving the control of explosives through technology: A framework for safe and accountable mining
T.J. Bogopa, *University of South Africa, South Africa*
12:35–12:55 Energy and cost optimisation in underground mine dewatering at Palabora mining company: A pump scheduling approach for block cave operations under inflow variability and off-peak power usage
S.C. Ramashala, T. Mojela, V. Baloyi, C. Coetzee, *Palabora Mining Company, South Africa*

Sponsor Presentation – AECI Mining 
Lunch

Session 3:

Session Chair: M. Nkwanyana, *RMN Dawn Solutions (PTY) LTD, South Africa*
Session Co-chair: L. Ndzumeni, *Valterra Platinum, South Africa*
14:05–14:15 Sponsor Presentation – Makurung 
Process Solutions
14:15–14:35 Improving safety and reducing risk by introducing a breathable air backup system for permanent emergency refuge bays underground
G. Meredith¹, W. Marx², R. van der Westhuizen², E. Swanepoel³, *¹Palabora Mining Company, ²BBE Consulting, ³MineARC Africa, South Africa*
14:35–14:55 Bio-desilication of UG2 tailings using *Paenibacillus mucilaginosus* for enhanced liberation and pre-concentration of Platinum Group Metals
N.G. Zulu^{1,2}, B.M. Kanyane², D.X. Makaula³, *¹Centre for Nanoengineering and Tribocorrosion, ²University of Johannesburg, ³Mintek, South Africa*
14:55–15:15 Integrating biomass-derived syngas and hydrogen in ferrochrome smelting: A multi-faceted approach to decarbonising the South African metal industry while enhancing economic viability and community resilience
M.J. Mvita, *University of Johannesburg, South Africa*
15:15–15:35 Intelligent and responsible mines: Leveraging innovation for a sustainable mining future
M.J.R. Moloto, *University of Limpopo, South Africa*
15:35–15:45 Sponsor Presentation – Investec 
Private Banking
15:45–16:05 Tokens of Appreciation
M.S. Zulu, *Siyanda Bakgatla Platinum Mine, South Africa*
16:05 Event Closed/Network Cocktail Function

Evaluation of Technical Presentations

B. Hlatshwayo – Glencore Ferroalloys (Chair)
T. Mabe – SIMA Operations (PTY) LTD
O. Madire – Two Rivers Platinum Mine
J. Modipe – SIMA Operations (PTY) LTD
G. Moilwe – Siyanda Bakgatla Platinum Mine