

**GLOBAL TAILINGS STANDARDS
AND OPPORTUNITIES**
FOR THE MINE OF THE FUTURE
ONLINE CONFERENCE

15, 17, 19, 22, 24, 26 NOVEMBER 2021

Preliminary Programme

Day 1–Monday 15 November 2021

- 09:00–09:30 **Zoom Login**
- 09:30–09:35 **Zoom Logistics**
SAIMM
- 09:35–09:45 **Welcome and Opening by Conference Chairperson**
A.S. Macfarlane, *Conference Chairperson*
- 09:45–09:55 **SAIMM Presidential Address**
I.J. Geldenhuys
- Session 1: Management and Governance**
- 09:55–10:25 **Keynote Address: TBC**
A. Davy, *International Council on Mining and Metals, United Kingdom*
- 10:25–10:55 **Keynote Address: An Owner's perspective on implementing the global industry standard for tailings management**
R.A. Cooper, *Sibanye Stillwater Limited, South Africa*
- 10:55–11:10 **Q&A**
- 11:10–11:25 **Mid-Morning Break**
- 11:25–11:40 **The future of mining with zero mine waste**
C. Vuillier, A. Price, M. Ingwersen, A. Peys, and Y. Menard, *Circular Mine, SoilCyclers, MEKS Solutions, Vito BRGM, Australia, Belgium, France*
- 11:40–11:55 **Engineering geological characterisation of sites for greenfield and existing mine tailings dam extensions with reference to the requirements of GISTM**
P. Aucamp and J. Stiff, *SRK Consulting, South Africa*
- 11:55–12:10 **Monitoring systems and modern technologies and their application in better managing the risks posed by tailings storage facilities at all phases of the facility lifecycle**
K. Mistry, *Fraser Alexander, South Africa*
- 12:10–12:25 **Practical steps to global industry standards on tailings management compliance for operational tailings storage facilities in South Africa**
S. Dladla, *Fraser Alexander, South Africa*
- 12:25–12:55 **Lunch Break**
- 12:55–13:10 **Global tailings standard and opportunities**
J. Teixeira and A. Van Der Westhuizen, *Knight Piésold (Pty) Ltd, South Africa*

- 13:10–13:40 **Q&A**
- 13:40–14:00 **Survey feedback on requirements for GISTM appointees**
C. MacRobert, *Stellenbosch University, South Africa*
- 14:00–14:30 **Panel discussion: Adoption and implementation of GISTM, and the impact on the Southern African environment**
- 14:30 **Day 1 close**

Day 2–Wednesday 17 November 2021

- 09:30–10:00 **Zoom Login**
- 10:00–10:05 **Zoom logistics**
SAIMM
- 10:05–10:10 **Welcome and Opening by Conference Chairperson**
A.S. Macfarlane, *Conference Chairperson*
- 10:10–10:20 **Address by the South African Institute of Civil Engineering**
- Session 2: Affected Communities**
- 10:20–10:50 **Keynote Address: Historic and current management of gold tailings and proposed management by integration**
M. Liefferink, *Federation for a Sustainable Environment, South Africa*
- 10:50–11:20 **Keynote Address: TBA**
I. Ramdoo, *International Institute for Sustainable Development, Switzerland*
- 11:20–11:30 **Q&A**
- 11:30–11:45 **Mid-Morning Break**
- 11:45–12:00 **Environmental and Social Management System approach for Tailings Management**
J. Burke, V. Maharaj, and F. Lake, *SRK Consulting, South Africa*
- 12:00–12:15 **The design of drainage systems for tailings storage facilities**
K. Uderstadt and G. Howell, *SRK Consulting, South Africa*
- 12:15–12:30 **Q&A**
- 12:30–13:00 **Lunch Break**
- 13:00–13:30 **Panel discussion: Implications and opportunities for affected communities**
- 13:30–14:00 **Keynote Address: People live downstream! Building communities into tailings planning, management and closure**
C. Anderson, *Yirri Global LLC, USA*
- 14:00 **Day 2 Close**

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Day 3–Friday 19 November 2021

- 09:30–10:00 **Zoom Login**
- 10:00–10:05 **Zoom logistics**
SAIMM
- 10:05–10:10 **Welcome and Opening by Conference Chairperson**
A.S. Macfarlane, *Conference Chairperson*
- 10:00–10:20 **Address by the Mine Metallurgical Managers Association**

Session 3: Integrated Knowledge Base

- 10:20–10:50 **Keynote Address: Integration of global standards into the Southern African environment**
A.S. Macfarlane, *South Africa*
- 10:50–11:05 **Development of down drag forces due to consolidation of tailings at tailings-penstock tower interface**
M. Brink and K. Padayachee, *SRK Consulting, South Africa*
- 11:05–11:20 **Helping safeguard tailing storage facilities with digital twin technology**
T. Krom, *Seequent Global Segment, Germany*
- 11:20–11:35 **Q&A**
- 11:35–11:50 **Mid-Morning Break**
- 11:50–12:05 **Evaporation and infiltration observations during and post deposition on platinum tailings in a semi-arid environment**
S. Lorentz and A. Clulow, *SRK & University of KwaZulu-Natal, South Africa*
- 12:05–12:20 **Rainfall induced transient pressure wave mechanisms and pore water pressure dynamics in tailings**
C. Theron and S. A. Lorentz, *Cape Peninsula University of Technology & SRK Consulting, South Africa*
- 12:20–12:35 **Robust drainage analysis and design for Tailings Storage Facilities: A generic study**
W. Rouncivell, S. Imrie, G. Howell, S. Seroalo, and A. Vicente, *SRK Consulting, South Africa*
- 12:35–12:50 **Q&A**
- 12:50–13:20 **Lunch Break**
- 13:20–13:35 **Pore pressure behavior of tailings during deposition and further construction of a platinum TSF in South Africa**
W. Kruger, *SRK Consulting, South Africa*

- 13:35–13:50 **A limit equilibrium approach to the use of stability bunds for the design of an HDPE-lined tailings storage facility**
J. Visagie, *SRK Consulting, South Africa*
- 13:50–14:05 **Improving tailing dry stacking is dependent on belt filtration efficiency aided by filtration chemicals**
N. Mautsa, T. Chikuni, J. Farmer, and E. Kalipi, *Kemira South Africa, KHeat Exchange Products, Namibia, Navacgab Mine Kribib Namibia, South Africa & Namibia*
- 14:05–14:20 **Q&A**
- 14:30 **Day 3 close**

Day 4–Monday 22 November 2021

- 09:00–09:30 **Zoom Login**
- 09:30–09:40 **Zoom logistics**
SAIMM
- 09:40–09:50 **Welcome and Opening by Conference Chairperson**
A.S. Macfarlane, *Conference Chairperson*
- Session 3: Integrated Knowledge Base (continued)**
- 09:50–10:20 **Keynote Address: Construction of a new TSF**
- 10:20–10:35 **The importance of chemically assisted filtration of mine tailings**
N. Mautsa, R. Pretorius, M. Mbonami, B. Nel, J. Miller, and M. Penttinen, *Kemira, South Africa, Germany, Finland*
- 10:35–10:50 **The impact of weak foundation material properties on the design and stability of tailings storage facilities**
J. Viljoen, *Knight Piésold (Pty) Ltd, South Africa*
- 11:50–11:05 **Application of near-surface observations to seepage modelling of tailings storage facilities**
S. Imrie, W. Rouncivell, S. Lorentz, and G. Howell, *SRK Consulting, South Africa*
- 11:05–11:25 **Q&A**
- 11:25–11:40 **Mid-Morning Break**
- 11:40–11:55 **Problems and solutions for lining of high-density polyethylene for tailings storage facilities and pollution control dams**
D. Govender, *Knight Piésold (Pty) Ltd, South Africa*

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- 11:55–12:10 **Seismic hazard assessment for mine facilities in North-West Zambia**
M.E. Biselela and G. Greenaway, *Knight Piésold (Pty) Ltd, South Africa*
- 12:10–12:25 **Seismic deformation modelling of tailings dams, criteria for selecting seismic records**
A.O. Sfriso, *SRK Consulting, Argentina*
- 12:25–12:55 **Lunch Break**
- 12:55–13:40 **Keynote Address: SAICE Tailings Medal**
J. Wates, *John Wates Consulting, South Africa*
- 13:40–14:25 **Keynote Address: Geoff Blight Oration**
D. van Zyl, *University of British Columbia, Canada*
- 14:25 **Day 4 Close**

Day 5–Wednesday 24 November 2021

- 09:00–09:30 **Zoom Login**
- 09:30–09:35 **Zoom logistics**
SAIMM
- 09:35–09:40 **Welcome and Opening by Conference Chairperson**
A.S. Macfarlane, *Conference Chairperson*
- Session 4: Design, Construction, Operation and Monitoring**
- 09:40–09:55 **Management of risks associated with operating tailings facilities in the changing environment in South Africa**
S. Dladla, *Fraser Alexander, South Africa*
- 09:55–10:10 **Satellite based monitoring of tailing storage facilities**
N.C. Steenkamp, S.L. Goosen, P.J. Boucher, and W. Lück, *Pinkmatter Solutions, Pretoria, Pinkmatter North America, South Africa & Canada*
- 10:10–10:25 **Remote sensing of the decant pond of tailings dams**
C. O'Donovan, E. Adam, and L.A. Torres-Cruz, *University of the Witwatersrand, South Africa*
- 10:25–10:40 **Investigation of the stability of a fly ash pond facility using 2D and 3D slope stability analysis**
M. Ferentinou, L. de Kooker, I. Musonda, and K. Esmaeili, *University of Johannesburg & University of Toronto, South Africa & Canada*
- 10:40–10:55 **Q&A**

- 10:55–11:10 **Mid-Morning Break**
- 11:10–11:25 **Opportunity for value addition: Remining of LG, MG and UG2 tailing storage facilities**
K. Shame-Letsoalo, *Mintek, South Africa*
- 11:25–11:40 **Advances in tailings monitoring, a hydrogeologists perspective**
K. Morton, *KLM Consulting Services Pty Ltd, South Africa*
- 11:40–11:55 **Remote data collection, safety evaluation and monitoring of tailings storage facilities**
D. Epstein and I. Hammond, *Geotheta Consulting & Delta Scan, South Africa*
- 11:55–12:10 **European Standard EN 16907-7 - Part 7: Hydraulic placement of extractive waste**
F. Hörtkorn, *Karlsruhe University of Applied Sciences, Germany*
- 12:10–12:25 **Numerical modelling of the interaction between tailings and a Penstock Tower**
F. Spinazzola, M. Sottile, A. Sfriso, and G. Howell, *SRK Consulting, Argentina*
- 12:25–12:40 **Q&A**
- 12:40–13:00 **Lunch Break**

Session 5: Public Disclosure and Access to Information

- 13:00–13:30 **Keynote Address: Insights from tailings data disclosed by mining houses to institutional investors**
L.A. Torres Cruz, *University of the Witwatersrand, South Africa*
- 13:30–14:00 **Keynote Address: The investor's perspective**
A. Matthews, *Church of England Pensions Board, United Kingdom*
- 14:00–14:15 **Impala Canada: Integration of hybrid upstream/downstream dam raising in long-term tailings management plan**
T. Hofton, *Impala Canada, Canada*
- 14:15–14:30 **Q&A**
- 14:30 **Day 5 Close**

Day 6–Friday 26 November 2021

- 09:30–09:30 **Zoom Login**
- 09:30–09:35 **Zoom logistics**
SAIMM
- 09:35–09:40 **Welcome and Opening by Conference Chairperson**
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Session 6: Emergency Response and Long-Term Recovery

09:40–09:55 **A comparison between HEC-RAS 6.0 and FLO-2D as tools used in tailings dam breach analyses**

A. Scholtz and S. Chetty, *SRK Consulting, South Africa*

09:55–10:10 **Tailings dam failure studies at the University of Pretoria**

S.W. Jacobsz and Y. Narainsamy, *University of Pretoria, South Africa*

10:10–10:25 **SANS Update**

A. Copeland, *Knight Piésold*

10:25–10:40 **Q&A**

10:40–11:10 **Panel discussion : Beyond the technical: how do we engage, communicate and disclose to stakeholders , communities and investors**

11:10–11:25 **Mid-Morning Break**

11:25 **Session 7: Crafting the future through dialogues: a multistakeholder, structured and facilitated global dialogue on the following topics :**

- What are the burning issues for NGOs and stakeholders?
- How does industry communicate with stakeholders and communities?

- What levels of disclosure are adequate and necessary to meet stakeholder needs?
- What is required in terms of research and development?
- How do non-ICMM companies and countries comply?
- How enforceable should guidelines be?
- How does this fit into ESG reporting requirements?
- What is Board responsibility?