Preliminary Programme

Tuesday—10 November 2020
Session 1: Sustainable treatment technologies
Session Chair, S. Ndlovu, University of the Witwatersrand, South Africa
10:00–10:05 Welcome and Introduction
S. Ndlovu, University of the Witwatersrand, South Africa
10:05–10:25 Keynote: Structural and environmental properties of coal combustion products for cemented paste backfill applications
C. Pardesi, C. Sheridan, and J. Burgess, The University of the Witwatersrand, South Africa and Isle Utilities, United Kingdom
10:25–10:40 Treatment of iron-rich mine water for the recovery of drinking water, pigment and Na₂SO₄
L. Letjiane, Tshwane University of Technology, South Africa
10:40–10:55 Performance evaluation of freeze crystallization for removal of water and sodium sulphate from mine wastewater
P.M. Ramothole, J.P. Maree, M.S. Onyango, and A. Adeniyi, Tshwane University of Technology, University of Limpopo, and ROC Water Technologies, South Africa
10:55–11:05 Comfort break
11:05–11:25 Keynote: Should irrigation with mine-impacted water be considered part of the long-term strategy to manage acid mine drainage in the Witwatersrand Goldfields?
J.G. Annandale, H.M. du Plessis, P.D. Tanner, and S.N. Heuer, University of Pretoria, South Africa
11:25–11:40 Sulphate removal technologies for the treatment of mine impacted water
M. van Rooyen and P.J. van Staden, South Africa
11:40–11:55 The application of coal discards for acid mine drainage neutralization
S. Mxinwa, E.D. Deenanath, S.W. Robertson, S. Ndlovu, and P. Basson, Mintek and University of the Witwatersrand, South Africa
11:55–12:30 Panel discussion and Q and A
12:30 Closing

Thursday—12 November 2020
Session 2: Value recovery
Session Chair, K. du Preez, Mintek, South Africa
10:00–10:05 Welcome and Introduction
K. du Preez
10:05–10:25 Keynote: Mine-Impacted water: from waste to resource
A.N.C. Clay, S. Joubert, and N.N. Moeketsi, EY Minvest, South Africa
10:25–10:40 Synthesis of nanosized rare earth oxide particles from purified acid mine drainage solution using ultrasonic spray pyrolysis method
G. Alkan, S. Stopic, C. Dittrich, G.S. Simate, S Ndlovu, and B. Friedrich, DLR, Cologne, Germany, former IME2, RWTH Aachen University, Aachen, Germany, IMEAB Chemie Technik GmbH, Aachen and University of the Witwatersrand, South Africa

10:40–10:50 Carbonation as a potential method for liquid mine waste beneficiation
T. Grewar and D. Shai, Mintek, South Africa
10:55–11:05 Comfort break
11:05–11:20 Ashes for AMD remediation with value added resource recovery
K.K. Kefeni and B.B. Mamba, University of South Africa, South Africa
11:20–11:35 Recovery of Rare Earth Elements (REE) from Acid Mine Drainage (AMD) passive treatment systems – A review
G.Dube, V.R.K. Vadapalli, and M. Malati, Council for Geoscience, South Africa
11:35–11:50 Economic evaluation of the recovery of poly-alumino-ferric sulphate coagulant from acid mine drainage
B. Mwewa, S. Ndlovu, and G. Simate, University of the Witwatersrand, South Africa
11:50–12:30 Panel Discussion and Q and A
12:30 Closing
Thursday—19 November 2020
Session 4: Case Studies
Session Chair, G. Simate, University of the Witwatersrand, South Africa

10:00-10:05  Welcome and Introduction
10:05-10:25  Keynote: Mapping of hazardous mine waste using multispectral remote sensing technology: A case study of Brumadinho dam failure, Brazil
I. Atif, F.T. Cawood, and M.A. Mahboob, University of the Witwatersrand, South Africa
10:25-10:40  Acid mine drainage (AMD) contamination at Odagbo Coal Mine in Kgogi state, Nigeria: A proposal for extensive prediction and remediation approach (EPRA)
T.I. Ojonimi, O.I. Cornelius, and T.P. Chanda, University of Jos, Nigeria, University of Bristol, United Kingdom and The Copper Belt University, Zambia
10:40-10:55  Groundwater Impact from an Underground Coal Gasification Geo-reactor
L. Mokhahlane, University of the Witwatersrand, South Africa
10:55-11:05  Comfort Break
11:05-11:25  Keynote: Acid mine drainage prediction – the role of mineralogy
D. Chetty, O. Bazkho, V. Govender, and S. Ramatsoma, Mintek, South Africa
11:25-11:40  Assessment of mine water contamination and evaluation of retention mechanisms of inorganic contaminants in a natural wetland system: A case study in Mpumalanga Emalahleni abandoned coal mine site
K.P. Makhado, M.W. Gitari, R. Mudziebwana, O.U. Izebekhia, R. Thobakgale, A. Shumba, and C.M. Dube, University of Venda, Council for Geoscience, South Africa
11:40-11:55  Waste treatment and disposal of mine impacted waste waters from an AngloGold Ashanti gold mine
S. Hareeparsad, P. Wille, and C. Mutambanengwe, Gold, AngloGold Ashanti, South Africa
11:55-12:30  Panel Discussion and Q and A
12:30-12:40  Closing

Tuesday—24 November 2020
Session 5: Student Session
Session Chair, B. Xakalashe, Mintek, South Africa

10:00-10:05  Welcome and Introduction
B. Xakalashe
10:05-10:25  Keynote: Remediation of acid mine-impacted water by advanced oxidation process
S.J. Baloyi and C.M. Masuku, Mintek, Purdue University, South Africa
10:25-10:40  Beneficiation of recycled process water at DRDGOLD’s ERGO Plant and evaluating its effect on gold recovery
A. Narain, H. Potgieter, G. Rencken, and J. Smith, University of the Witwatersrand, South Africa
10:40-10:55  Stability of solid residue after integral treatment of acid mine drainage
N. Petronijević, D.R. Ivšić, S. Stanković, M. Sokić, Ž. Kamberović, A. Onjia, and Z. Striković, Institute for Technology of Nuclear and Other Mineral Raw Materials, University of Belgrade, Serbia, Bundesanstalt für Geowissenschaften und Rohstoffe, Deutschland, University of Belgrade, Serbia and PUC Belgrade Waterworks and Sewerage, Serbia
10:55-11:05  Comfort Break
11:05-11:20  Toxicity and acid generation potential of sulfidic mine waste based on resuspension and leaching tests
J. Helser and V. Cappuyns, Department of Earth and Environmental Science, Research Centre for Economics and Corporate Sustainability
11:20-11:35  Removal of trace concentrations of heavy metals from simulated dilute mine streams via ion and precipitate flotation
P. Xanthopoulos, K. Binnemans, and K.U. Leuven, Celestijnenlaan, Belgium
11:35-11:55  Waste to resource related opportunities through high-sulphur coal discards accelerated bioleaching
M. Gcayiya, J.R. Amaral Filho, A. Kotsiopoulos, M. Smart, and S.T.L. Harrison, University of Cape Town, South Africa
12:00-12:10  Announcement of Winner – Student Presentation
12:10-12:20  Closing