

IMPC 2026

XXXII INTERNATIONAL MINERAL PROCESSING CONGRESS
18 - 22 OCTOBER 2026 CAPE TOWN SOUTH AFRICA

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Empowering a future-fit mineral processing industry

We would like to invite you to attend the
XXXII International Mineral Processing Congress
in Cape Town, South Africa from **18 - 22 October 2026**.

IMPC 2026 will be hosted by the Southern African Institute of Mining and Metallurgy (SAIMM).

PROGRAMME

TUESDAY
20 OCTOBER 2026

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20 CTOBER 2026

Venue: Auditorium 1 Plenary

Plenary Session Sponsored by: BME Metallurgy

Session Chair: J Sweet

08:10-08:15 Safety Briefing

08:15-08:20 Welcome

08:20-08:50 The Application of Novel Scientific Techniques in Developing Our Understanding of the Fundamental Processes Occurring During Flotation, Prof. C. O'Connor, University of Cape Town, South Africa

Parallel Session 1:
Ore Body Characterisation
Venue: 2.44-2.46

Time	Theme / Session	Presentation
		Session Chair: G. Nwaila, The University of the Witwatersrand, South Africa
08:55-09:15	Ore Body Characterization | Mineralogy	**A multiscale and multi-instrument approach to understanding the distribution of trace elements in zinc sulphide ores** S. Burness, A. Mulelu, A. Menzies, M. Becker, *University of Cape Town, University of Cape Town, South Africa*
09:20-09:40	Ore Body Characterization | Mineralogy	**Automated mineralogy (bpma) for investigation of process mineralogical "genetic properties" of skarn zn deposit: A case study** L. Wen, Y. Zhu, J. Zhao, M. Jia, Q. Wang State Key Laboratory of Intelligent Optimized Manufacturing in Mining & Metallurgy Process, BGRIMM Technology Group, Beijing 100160, China
09:45-10:05	Ore Body Characterization | Mineralogy	**Mineralogical Evaluation of HZL Ore and Process samples: Implications on operational improvement and metal recovery in Pb-Zn beneficiation** P.M.A.T.S. Mashruwala *Hindustan Zinc Limited, Vedanta, India*

10:10-10:30	Ore Body Characterization | Mineralogy	**Same basin, different behavior: A comparative process mineralogical study of the klerksdorp and west rand goldfields** M.C. Mashanyu, F.B. Waanders, Q.P. Campbell, T. Netshidzivhe *North West University, South Africa*
10:30-11:00	Break	Mid-Morning Refreshments
		Session Chair: M. Parian, Lulea University of Technology, Sweden
11:00-11:20	Ore Body Characterization | Mineralogy	**Applications of tcm characterization and advanced gold deportment technique for metallurgy diagnostics** *A. Chattopadhyay[1], B. Gorain[2]* *[1]Integrated Process Mineralogy Solutions., [2]Ore2Metal, Toronto, Ontario, Canada*
11:25-11:45	Ore Body Characterization | Mineralogy	**Characterisation of refractory gold in flotation circuits** A. Chryssoulis[1], R. Dunne[2] *[1]Advanced Mineral Technology Laboratory Limited (AMTEL Ltd.) [2]Robert Dunne - Independent Consultant, Canada*
11:50-12:10	Ore Body Characterization | Mineralogy	**Mineral properties of Chingola refractory ore and processing considerations** M. Kapembwa, H. Hylke, R. Fitzpatrick *University of Exeter, United Kingdom*
12:15-12:35	Ore Body Characterization | Mineralogy	**Phase and mineralogical characterisation of ferrochrome slags from an historical dump** R. Rivera, A. Garbers-Craig *University of Pretoria, Pretoria, South Africa*
12:40-13:00	Ore Body Characterization | Geometallurgy	**Data-driven geometallurgy: Using XRD to optimise critical minerals processing and predict process parameters** M. Pernechele[1], U. König[1], L. Negrão[3], I. Duran[4] *[1]Malvern Panalytical, [2]Spectris do Brasil, [3]Spectris Canada Inc., Quebec, [1]Netherlands, [2]Brazil [3]Canada*
13:00-14:00	Break	Lunch
		Session Chair: S. Burness, University of Cape Town, South Africa
14:00-14:20	Ore Body Characterization | Mineralogy	**Mineralogical Toolkit for Real-Time Flotation Optimisation** R. Harrison, K. *Youlton,* *SGS, South Africa*
14:25-14:45	Ore Body Characterization | Geometallurgy	**Beyond liberation: assessing gangue mineralogy and reactivity as the hidden barrier to enhanced metal recovery** E. O.Ansah *Sustainable MInerals Institute, University of Queensland, Australia*
14:50-15:10	Ore Body Characterization | Mineralogy	**Quantitative Microstructural Analysis (QMA) as a basis for future mining and processing of raw materials** A. Durjagina, O. Popov, H. Lieberwirth *F. TU, Deutschland, Germany*

15:15-15:35	Ore Body Characterization | Mineralogy	**Mineralogical characterisation of ukrainian weathered ilmenite and the influence of chemical alteration on its beneficiation behaviour** M. Lechner, E. Gerold, H. Flachberger *Montanuniversität Leoben, Austria*
15:35-17:00	Exhibition Hall	Refreshments and Poster Session
17:00	Programme Close	
19:00-21:00	19:00-21:00	Cultural Evening – CTICC Halls 5 & 6

Parallel Session 2:
Comminution
Venue: 2.41-2.43

Time	Theme / Session	Presentation
		Session Chair: K. Bhadan, Chalmers University of Technology, Sweden
08:55-09:15	Comminution | Circuits	**Exploring the limits of multistage crushing and screening, with examples in gold** K. E. M. Johansson, Sandvik, South Africa
09:20-09:40	Comminution | Circuits	**DRA Comminution Methodology** P.J.Morgan[1], J.Kalala[2], D du Pisani[2] [1]DRA Projects Europe Ltd [2]DRA Global Ltd., South Africa
09:45-10:05	Comminution | Circuits	**Improving mill circuit reliability and sustainability: A data-driven approach to pump performance optimisation** A. Varghesea,[1,3] E. Lessing[2], G.M. Hassan[3], A. Karrech[3] *[1]Metso Australia Pty Ltd, [2]Metso Oyj, [3]University of Western Australia, Perth, Western Australia 6009, [1,3]Australia, [2]Finland*
10:10-10:30	Comminution | Circuits	**Effect of different comminution methods on particle surface properties and separation performance of hematite ore** F. Liu[1], L. Li[1], N. Li[1], J.Wang[1], Z. Wang[1], Y. Feng[1], S. Dai[2], B. Klein[3] *[1]University, Shenyang110819, [2]University of Science and Technology, [3]Norman B. Keevil Institute of Mining Engineering, The University of British Columbia, [1,2]China, [2]Canada*
10:30-11:00	Break	Mid-Morning Refreshments
		Session Chair: M. Yaeyaei
11:00-11:20	Comminution | Stirred Mills	**Investigating the influence of finer grinding, using a stirred mill, on downstream flotation processes in a continuous pilot plant** D. Chottu [1], A. Hemphill [1], B.J. Youlton[1], S. Bremner[2], A.N. Mainza[2] *[1]Anglo American Technical Solutions, [2]University of Cape Town, South Africa*

11:25-11:45	Comminution | Stirred Mills	**Two-way coupled simultaneous modelling of laboratory stirred media detritors** D. Ssebunnya[1], A.N. Mainza[1], S. Neethling[2] [1]University of Cape Town, [2]Imperial College, [1]South Africa, [2]United Kingdom
11:50-12:10	Comminution | Stirred Mills	**Modelling power draw of vertical stirred mills using DEM-CFD** M. Denzel, F. Wang, A. Boylston, R. Soutar-Dawson *Metso, Haselstrasse 18, Switzerland*
12:15-12:35	Comminution | Stirred Mills	**Application of the stress energy approach to demonstrate the recovery potential of fine-grained gold ores** K. Izina[1], M. Becker[1], J. Petersen[1], A. Kwade[2], A. Mainza[1] [1]University of Cape Town, [2]Technische Universität Braunschweig, [1]South Africa [2]Germany
12:40-13:00	Comminution | Stirred Mills	**Value of high intensity grinding for improved recovery from tailings** K.I Mohapi[1], M. Becker[1], K.C. Corin[1], D Makhubele[2], T Pienaar[2] A.N. Mainza[1] *[1]University of Cape Town, South Africa* *[2]Tailings Technology (Pty) Ltd, South Africa*
13:00-14:00	Break	Lunch
		Session Chair: H. Lieberwirth, TU Bergakademie Freiberg, Germany
14:00-14:20	Comminution | AG/SAG/ Ball Mills	**Enabling overflow ball mills to operate as open-ended grate discharge mills using eepl discharge system** S. Latchireddi[1], R. Latchireddi[1], P. Fallon[2], J. Taaffe[2], *[1]EEMS Australia, [2] FMR Greenfields Mill Operation, Australia*
14:25-14:45	Comminution | AG/SAG/ Ball Mills	**An approach to optimising a complex SABC comminution plant** R.A. Syarif, G.A. Afnany, A.S. Karurung, A.N. Sumadipradja, L. Gurieff, A.N. Mainza
14:50-15:10	Comminution | AG/SAG/ Ball Mills	**Quantifying the influence of feed size top size on the performance of an industrial circuit** F.K. Mdluli, K.O. Madire, A.N. Mainza
15:15-15:35	Comminution | AG/SAG/ Ball Mills	**Comparing the deportment of multi-component pebbles for the PMC primary circuit before and after converting from AG to SAG mill** R. Khumalo, D.B. Mayayise, N. Mulaudzi, D.L. Zambukere, K.R. Mlambo, A.N. Mainza
15:35-17:00		Refreshments and Poster Session
17:00	Programme Close	
19:00-21:00		Cultural Evening – CTICC Halls 5 & 6

Parallel Session 3:
Flotation 1
Venue: Auditorium 1

Time	Theme / Session	Presentation

		Session Chair: L. Filippov, University of Lorraine, France
08:55-09:15	Flotation | Chemistry	**Flotation separation technology and mechanism for sulfur-cobalt mixed ores in southwest China** R. Fan[1], C. Liu[1], R. Zheng[1], S. Xu[2], K. Zhao[2], Y. Yang[2], Z. Gao[1], H. Wang[3] *[1]Central South University, [2]Chinese Academy of Geological Sciences, [3]Design and Research Institute of Mining Co., Ltd., Pangang Group, State Key Laboratory of Comprehensive Utilisation of Vanadium Titanium Resources, China*
09:20-09:40	Flotation | Chemistry	**Flotation Purification of Barite from Drilling Fluid Solid Waste and its Mechanism** Z. Tang, C. Wang, W. Sun, Z. Gao *Central South University China*
09:45-10:05	Flotation | Chemistry	**Alternative depressants of chalcopyrite** N. Ghaffari Touran[1], B. Han[1], M. Pawlik[1], M Bagayas[2], P. Moran[2], M. Vasudevan[2], B. Norman[1] *Keevil Institute of Mining Engineering, University of British Columbia, [2]Tessenderlo Kerley Inc., [1]Canada, [2]USA*
10:10-10:30	Flotation | Chemistry	**Towards the efficient direct recycling of lithium-ion batteries: investigating the role of thermo-chemical parameters in metal ion dissolution during froth flotation** Mohazzam, *Aalto University, Finland*
10:30-11:00	Break	Mid-Morning Refreshments
		Session Chair: M. Manono, University of Cape Town, South Africa
11:00-11:20	Flotation | Chemistry	**Calcium-activated quartz: Experimental and molecular modeling insights into collector adsorption** VAS, FOU, LAI, JUN, BAD *Université de Lorraine, France*
11:25-11:45	Flotation | Chemistry	**Green volatile hydrocarbons as gas-phase co-adsorbents: Exploring alternatives to conventional surfactants** A. Wiertel-Pochopien, D. Kosior, G. Gochev, P. Batys, P. Kowalczuk, J. Zawal *Norwegian University of Science and Technology Norway*
11:50-12:10	Flotation | Chemistry	**Consideration of the chemistry of grinding aids and their role in mineral grinding and flotation** P.T. Madziwa, C.T. O'Connor, K.C. Corin *University of Cape Town, South Africa*
12:15-12:35	Flotation | Chemistry	**Adopting DFT-D and AIMD-MLFF techniques for investigating the modified heterocyclic collectors for chalcopyrite and pyrite minerals separation** P.P. Mkhonto, P.E. Ngoepe *University of Limpopo, South Africa*
12:40-13:00	Flotation | Chemistry	**Molecular design and performance study of copper–molybdenum separation inhibitors based on machine learning** G. Wu, T. Lu, Y. Zhu, Z. Zhao, M. Wei, C. Liu, H. Liu, Y. Ma *BGRIMM Technology Group, China*
13:00-14:00	Break	Lunch
		Session Chair: B. McFadzean, University of Cape Town, South Africa

14:00-14:20	Flotation | Chemistry	**Exploring biosurfactants for sustainable flotation of graphite from synthetic Lithium-Ion Battery black mass** C. Nzuma, D. Kosior, J.Z.A. Vanderbruggen, P. Kowalczuk *Norwegian University of Science and Technology (NTNU) Norway*
14:25-14:45	Flotation | Chemistry	**Adsorption behavior of n-benzoyl-n', n'-diethyl thiourea (bdetu) as a selective collector: a dft study** D. Kumar, V. Jain, V. Runkana *Tata Consultancy Services Ltd., India*
14:50-15:10	Flotation | Chemistry	**The Importance of Mill Electrochemistry in Process Water Contaminations** B. Norman, 1- Northland OreTech AB (Consulting), 2- Adjunct Professor, Keevil Institute of Mining Engineering, University of British Columbia (UBC) Sweden
15:15-15:35		
15:35-17:00	Exhibition Hall	Refreshments and Poster Session
17:00	Programme Close	
19:00-21:00		Cultural Evening – CTICC Halls 5 & 6

Parallel Session 4:
Flotation 2
Venue: 1.61-1.62

Time	Theme / Session	Presentation
		Session Chair: K. Galvin, University of Newcastle, Australia
08:55-09:15	Flotation | Cells	**Re-engineering coarse particle flotation through controlled dynamic effects** L.Y.W. Guan, A. Yang, H.P.Z. Li *The University of Queensland, Australia*
09:20-09:40	Flotation | Cells	**Six years of the Concorde Cell in industrial applications – how is the journey going?** A Yanez, J. Suhonen, B. Tunc, C. Emer, J. Sovechles, N. Kupka *Metso Finland Oy, Finland*
09:45-10:05	Flotation | Cells	**Linking froth stability and froth crowding in a large mechanical flotation cell: Effects on air recovery, gas hold-up, and flotation performance** D. Mesa, J. Martinez, Y. Guan, S. Chen, D. Davoise, P.R. Brito-Parada *Imperial College London, United Kingdom*
10:10-10:30	Flotation | Cells	**A first-principles flotation model for scale-up, design and process optimization** K. Huang, R. Yoon *Virginia Polytechnic Institute & State University, USA*
10:30-11:00	Break	Mid-Morning Refreshments

		Session Chair: K. Heiskanen, Aalto University, Finland
11:00-11:20	Flotation | Chemistry	**Separation of galena from chalcopyrite in a complex ore from Namibia** A. Andreas, T. Nghipulile, G. Dzinomwa *Namibia University of Science and Technology, Namibia*
11:25-11:45	Flotation | Chemistry	**The Reagent-Water Interplay for Flotation of a Great Dyke PGM Ore** M.S. Manono, N. Ngoepe, T. Shumba, L. Chipise, L.L. October *University of Cape Town, South Africa*
11:50-12:10	Flotation | Chemistry	**Switchable collectors for fine particle flotation** M.Q. Ni, Q.R. Long, F. Jiang, J.N. Pei, B.D. Lu, J.F. Li, Z.S. Wen, Z.H. Xu Southern University of Science and Technology, China
12:15-12:35	Flotation | Chemistry	**Influence of polymer architecture on mass pull, entrainment and selectivity in PGM flotation: A comparative study of depressants with an extended and a compact polymer structure** S.M. Padayachee[2], N.J. Shackleton[2], V. Malysiak[2], S Xulu[1], S. Engelbrecht[2] *[1]AECI Mining Chemicals, [2]bAECI Mining Chemicals, AECI Place, South Africa*
12:40-13:00		
13:00-14:00	Break	Lunch
		Session Chair: J. Cilliers, Imperial College London, United Kingdom
14:00-14:20	Flotation | Chemistry	**Synergistic effects of non-ionic reagents on direct and reverse flotation of low grade phosphate ore flotation** L.O. Filippov,.I.V. Filippov, V.V. Severov *Université de Lorraine, CNRS, France*
14:25-14:45	Flotation | Chemistry	**Interaction between chalcopyrite and bornite during carrier flotation of copper sulfide ore** I. Park, Y. Hirata, T. Saito, T. Horii, T. Kawasaki, H. Matsumoto, K. Mitsuhashi, M. Ito *Hokkaido University, Japan*
14:50-15:10	Flotation | Chemistry	**Investigation of the residual collector concentration in process water on copper flotation recovery** M. Safari, H. Hamedani, F.S. Hoseinian *Mintek, South Africa*
15:15-15:35	Flotation | Chemistry	**Flotation upgrading of copper, nickel, and cobalt concentrate from low-grade sulfide ore from northern laos using potassium isopropyl xanthate and 2-(octylthio) aniline novel collector** V. Sorvang, J. Zhao, L.L. Godirilwe, A. Shibayama *Graduate School of International Resource Sciences, Akita University, Japan*
15:35-17:00	Exhibition Hall	Refreshments and Poster Session
17:00	Programme Close	
19:00-21:00		Cultural Evening – CTICC Halls 5 & 6

Parallel Session 5:
Extractive Metallurgy
Venue: 1.63-1.64

Time	Theme / Session	Presentation
		Session Chair: B Knights, *CM Solutions, South Africa*
08:55-09:15	Extractive Metallurgy | Hydrometallurgy	**Reversibility of chalcopyrite electrodes after exposure to Jetti's catalytic technology** O.G. Olvera, Z. Ren, M. Rebolledo, N. Mora *Jetti Services Canada, Canada*
09:20-09:40	Extractive Metallurgy | Hydrometallurgy	**Overcoming Oxygen Transfer Limitations with the Aachen™ High Shear Reactor** R Weidemana [1]Maelgwyn Mineral Services Africa, South Africa
09:45-10:05	Extractive Metallurgy | Hydrometallurgy	**A fluorine-free acid mist suppressant for copper electrowinning compatible with solvent extraction** K.B. Amoafo[1], C. Hight[1], F. Ikram[1], F. Garcia[2], N. Makhotla[1], S.Z. Ahmed[1], J. Ruiz[2] *[1]Innospec Limited, [2]Innospec Performance Chemicals, [1]Uited Kingdom, [2]USA*
10:10-10:30	Extractive Metallurgy | Hydrometallurgy	**High-level techno-economic evaluation of steam condensing versus venting in autoclave pressure let-down circuits** J.A. Strauss, J. Scheepers, R. van Rooyen, *DRA Global, South Africa*
10:30-11:00	Break	Mid-Morning Refreshments
		Session Chair: *T. Punt, University of Pretoria. South Africa*
11:00-11:20	Extractive Metallurgy | Hydrometallurgy	**Contribution of vinyl esters-based composite materials to hydrometallurgical plants** G. Schneidera, *ALTA Performance Materials, Germany*
11:25-11:45	Extractive Metallurgy | Hydrometallurgy	**Selective removal of silica from base metal waste streams: A comparative study of ion exchange, activated carbon, and flocculation methods** E. Chiyangwa, M. Dworzanowski, S. Ndlovu, *University of the Witwatersrand South Africa*
11:50-12:10	Extractive Metallurgy | Hydrometallurgy	**The removal of colloidal silica using DEHSCOFIX® SC12 in hydrometallurgical operations** D. Verwey, W.A Ngobeni *(BME Metallurgy, South Africa), N. Makhotla (Innospec, South Africa)*
12:15-12:35	Extractive Metallurgy | Hydrometallurgy	**Concentration and separation of rare earth elements from rare earth magnet process sludge leachate using solvent extraction** Y. Jang, S. Lee, H.S. Yoon, C.J. Kim, R. Kim *Korea Institute of Geoscience and Mineral Resources (KIGAM), Republic of Korea*

12:40-13:00	Extractive Metallurgy | Hydrometallurgy	**Thermo-modified low-grade ore for selective rare earth element leaching** T. Amos-Judge[1,2,4], X. Wang[1,2,3], R. Asamoah[1,2,4] *[1]Future Industries Institute, Adelaide University, South Australia, [2]School o Chemical Adelaide University, Australia. [3]University of College London, United Kingdom, [4]Australia - India Strategic Research Fund (ASIRF), Adelaide University, South Australia*
13:00-14:00	Break	Lunch
		Session Chair: *J. Christie, CM Solutions Metlab, South Africa*
14:00-14:20	Extractive Metallurgy | Hydrometallurgy	**Sustainable solvent extraction pathways for the co-recovery and selective separation of uranium and thorium from rare earth mineral leachates** A. Kanojia, J.K. Nyembye, C. Ekberg, *Chalmers University of Technology, Sweden*
14:25-14:45	Extractive Metallurgy | Hydrometallurgy	**Pilot-scale Continuous Leaching Study of REE-rich Slag** H.E. Obuz, B. Yagmurlu *TU Clausthal Institute of Geotechnology and Mineral Resources, Germany*
14:50-15:10	Extractive Metallurgy | Hydrometallurgy	**Sodium silicate production from iron ore flotation tailings,** D.C.C Onofre[1,2], I.D. Santos[2], R.M. Ribeiro[1], P.P.M. Ribeiro[1], A.J.B. Dutra[1] *[1]University of Rio de Janeiro, [2]Vale Institute of Technology (ITV), Brazil*
15:15-15:35	Extractive Metallurgy | Hydrometallurgy	**High-energy ball milling as a low-temperature route for hematite-to-magnetite conversion** N. Athanasakis[1], L. Kriskova[1], G. Pilla[2], E. Balomenos[3], P.N. Gamaletsos[4], Y. Pontikes[1] [1]KU Leuven, [2]ElementUSA, [3]National Technical University of Athens, [4]Technical University of Crete, [1]Belgium, [2]USA, [3,4]Greece
15:35-17:00	Exhibition Hall	Refreshments and Poster Session
17:00	Programme Close	
19:00-21:00		Cultural Evening – CTICC Halls 5 & 6

Parallel Session 6:
Plant Design
Venue: 2.61-2.63

Time	Theme / Session	Presentation
		Session Chairs: W. Broodryk, Impala Platinum Limited, South Africa
08:55-09:15	Plant Design | Integrated Flowsheets	**Investigation of Innovative Technologies for the Efficient Mineral Processing of Lithium Ores from European Deposits** P. Eitz, M. Mezzetti, A. Duriagina, H. Lieberwirth *Institute for Mineral Processing Machines and Recycling Systems Technology, Deutschland*

09:20-09:40	Plant Design | Integrated Flowsheets	**Integrated physical beneficiation and chemical/thermo-chemical purification of low-grade flaky natural graphite of indian origin for high-purity graphite production** S.D. Barma, P.K. Senapati, M. Padhy, C. Parida, D. Nayak, M. Mohapatra, S.N. Sahu, B. Umapathi *CSIR-Institute of Minerals and Materials Technology, Bhubaneswar, Odisha -751013, India India*
09:45-10:05	Plant Design | Integrated Flowsheets	**Evaluating high-pressure slurry ablation and hydrofloat® flotation for coarse particle recovery: A comparative study against conventional milling and flotation in copper processing** *S. Timbillah[1], J. Flock2, M.M. Elseyh[1], C. Dickinson[2], R. Letkiewicz[1], T. Lunquist[2], E. Dohm[1], A. Luke[1], B. Berg[2], A. Rhem[1], M. Hlahane[1]* *[1]Eriez Manufacturing Company, USA, [2]DISA Technologies, USA*
10:10-10:30	Plant Design | Integrated Flowsheets	**Flowsheet Development: Integrating detailed mineralogy and investigative test work to develop a bespoke PGM concentration process** G.C. Betty[1], F.K. Crundwell[1], G. Humphries[2] [1]CM Solutions (Pty) Ltd, South Africa, [2]Podium Minerals Limited, Australia
10:30-11:00	Break	Mid-Morning Refreshments
		Session Chair: G. Betty, CM Solutions Metlab, South Africa
11:00-11:20	Plant Design | Integrated Flowsheets	**Redefining Flotation Flowsheets with Metso plus technologies** E. Özdemir, E. Kuronen, H. Vauhkonen,, X.P. Lavado, V. Takalo *Metso Finland Finland*
11:25-11:45	Plant Design | Integrated Flowsheets	**Improving Copper Recovery at the Kamoa Kakula Concentrator Through Flowsheet Optimisation** G.S.S. He, D. Mbay, J.B. Vangu *Kamoa Copper S.A, K. Site, Territory of Mutshatsha, Province of Lualaba, DRC Congo (DRC)*
11:50-12:10	Plant Design | Integrated Flowsheets	**Investigation of the Optimization of Jalalabad Iron Ore Beneficiation Plant to Increase Capacity** M. abolhassani, A. dehghani, M. zare, M. saghaeian, V. sheikhzadeh Fakoor Sanat Tehran Company Tehran Iran, Iran
12:15-12:35	Plant Design | Complex Ores	**Statistical investigation of flotation parameters and advanced mineralogy for copper and gold recovery from the Flin Flon Snow Lake Belt Ores** GOF, PAA, CHS *UPC España*
12:40-13:00	Plant Design | Integrated Flowsheets	**Comminution Circuit Design for High-Magnetite Ores: Lessons Learned and Strategies to Mitigate Risk** R. Serafim[1], P. Rosario[1], C. Nunes[1], C. Nicholson[1], K. Visnovec[1], O. Júnior[1], S. Liu[1], W. Silva[2] [1]Vale Base Metals Limited, [2]Vale S.A., Brazil
13:00-14:00	Break	Lunch
14:00-14:20	Plant Design | Integrated Flowsheets	**Improving metallurgical performance & operational reliability at zhairem PB-ZN flotation circuit** L. Pyle, S. Vianna, W.V. Niekerk, K. Collins, L. Brennan, M. Richter *Hatch Australia*

14:25-14:45	Plant Design | Integrated Flowsheets	**Leveraging simulation tools for crushing circuit optimization in polymetallic ore processing** K. Kiangi, A. Mabiza *Hatch South Africa*
14:50-15:10	Plant Design | Complex Ores	**Experimental process flow research on comprehensive mineral processing recovery of li-containing mineral from hard rock lithium mine** X.Gao, Y.Zhu, Z.S.U.N. L.Wang, X.Zhang *State Key Laboratory of Mineral Processing, BGRIMM Technology Group, China*
15:15-15:35	Plant Design | Integrated Flowsheets	**A comprehensive investigation of factors leading to the valuable minerals loss in plant operation and beneficiation flowsheet optimization for a Ni-Cu sulphide mine** Z.G. Song, K.K.C.H.E.N.X.X. Hu, W.Q. Xiao, Y.G. Zhu State Key Laboratory of Mineral Processing, BGRIMM, China
15:35-17:00	Exhibition Hall	Refreshments and Poster Session
17:00	Programme Close	
19:00-21:00		Cultural Evening – CTICC Halls 5 & 6

Parallel Session 7:
Process Modelling and Control
Venue: 2.64-2.66

Time	Theme / Session	Presentation
		Session Chairs: A. Higginson, The university of the Witwatersrand, South Africa
08:55-09:15	Process Modelling & Control | Simulation and Modelling	**Towards predictive geometallurgical optimisation using particle-based separation and mineral liberation modelling** M. Hilden, M. Yahyaei *Julius Kruttschnitt Mineral Research Centre, University of Queensland, Australia*
09:20-09:40	Future Mining & Processing | Disruptive & Step-change Technologies	**Meso-scale Interactions between Minerals and a Reticulated Foam Block: a CFD-DEM Study** Z. Peng, N. Weerasekara, J. Hanhiniemi, M. Holdsworth *The Weir Group PLC, Australia*
09:45-10:05	Future Mining & Processing | Space & Ocean Mining	**In-situ fuel production in space: An experimental study on laser mining of c-type asteroid simulants** C. Liu[1,2], M. Wu[1,2], Z. Pan[1,2], R. Zhao[2], C. Duan[1,2], H. Yang[3], R. Li[2], L. Dong[1,2] *[1]International Joint Laboratory of Minerals Efficient Processing and Utilization, Ministry of Education, [2]China University of Mining and Technology, [3]National Key Laboratory for Deep Space Exploration, China*

10:10-10:30	Future Mining & Processing | Space & Ocean Mining	**Vibration Induced Size Classification for Lunar ISRU: Geometry, Regolith Texture, and Gravity Effects** J.N. Rasera, L.E. Salinas-Farran, R. Franks, S. Wang, M. Albino, G. Paneiro, J.J. Cilliers *Department of Earth Science and Engineering, Imperial College London United Kingdom*
10:30-11:00	Break	Mid-Morning Refreshments
		Session Chairs: T. de Almeida, Geopyörä, South Africa
11:00-11:20	Future Mining & Processing | AI	**Laboratory validation and integration of a digital twin camera system for real-time particle size monitoring in autonomous mobile crushing** V. SkosarevaÂ[1], M. EggerÂ[2], P. PangerlÂ[3], H. FlachbergerÂ[1]
11:25-11:45	Future Mining & Processing | AI	**Comminution circuit optimization using artificial intelligence** Sharma, Dalmia None India
11:50-12:10	Future Mining & Processing | AI	**Tuning the Control system for a complex SABC comminution circuit to maximise production and produce** V.S. Rulie[1], A.R. Febrian[1], J. Willyam[1], L. Gurieff [1], A.N. Sumadipradja[1], E. Yap2, A.N. Mainza[3] *[1]Amman Mineral Nusa Tenggara, [2]Metso, [3]University of Cape Town, [1]Indonesia, [2]USA, 3South Africa*
12:15-12:35	Process Modelling & Control | Simulation and Modelling	**Dynamic simulation and optimization of an iron ore crushing circuit** R.A. Prates, A.M. Frade, L.M. Tavares, R.M. Carvalho *Federal University of Rio de Janeiro, Brazil*
12:40-13:00	Process Modelling & Control | Simulation and Modelling	**Optimizing ore recovery with quality-based reclaimer strategies** A.M. Lemos; G.P. Oliveira; F.O. Boechat; F.Q.G. Góes; T.C. Santos *Vale S.A., Brazil*
13:00-14:00	Break	Lunch
		Session Chair: L. Auret, Stone Three, South Africa
14:00-14:20	Future Mining & Processing | Disruptive & Step-change Technologies	**Metso coarse particle flotation at industrial scale – lessons learnt from the demonstration plant** Ç. Emer[1], M. Durán[2], M. de Avila Carvalho[2], N. Kupka[2], A. Rinne[2] 1Metso Maden Teknolojileri A.Ş., Turkey, [2]Metso Finland Oy, 1Turkey, [2]Finland
14:25-14:45	Process Modelling & Control | Simulation and Modelling	**Depressant dosing on Jameson flotation cells using model predictive control** L.E. Olivier[1], T. Hosha[2], M. Van Rhyn[2] *[1]Analyte Control, [2]Valterra Platinum, South Africa*
14:50-15:10	Process Modelling & Control | Simulation and Modelling	**A physics-based attachment model for turbulent fine particle froth flotation handling particle structure, hydrodynamics and flotation chemistry** G. ktem, K.G. van den Boogaart *Helmholtz-Zentrum Dresden-Rossendorf, Helmholtz Institute Freiberg Germany*

15:15-15:35	Future Mining & Processing | AI	**Surrogate-accelerated inverse modelling for gangue acid dissolution: A multi-objective framework for parsimonious chemistry calibration** K.M. Lim, V. Yordanov, R. Varty, C. Biley *Anglo American, United Kingdom*
15:35-17:00	Exhibition Hall	Refreshments and Poster Session
17:00	Programme Close	
19:00-21:00		Cultural Evening – CTICC Halls 5 & 6

Parallel Session 8:
Sustainability
Venue: 1.41-1.42

Time	Theme / Session	Presentation
		Session Chair: S. Gaydardzhiev
08:55-09:15	Sustainable Development | Environmentally Responsible Processing	**The Influence of sulfate-adapted mixed cultures and microbial metabolites on chalcopyrite leaching in recycle solutions** A.N. Nikoloski, G.P. O'Malley, R. Dunne *Extractive Metallurgy Hub, Harry Butler Institute (Centre for Water, Energy and Waste), Murdoch University, Western Australia*
09:20-09:40	Sustainable Development | Environmentally Responsible Processing	**Recovery of precious metals using a novel sulfur-impregnated carbonaceous adsorbent** T. Wajima
09:45-10:05	Sustainable Development | Environmentally Responsible Processing	**Combining mineral liberation analysis and falcon gravity separation testing for reprocessing an ultrafine scheelite tailings** K. Bru[1], B. M. Guy[2], F. Bourgeois[3], M. Boucheron[1], S. Touzé[1] *[1]BRGM, France [2]Helmholtz Institute Freiberg for Resource Technology, , Germany, [3]Univ Toulouse, [1,2]France, [3]Germany*
10:10-10:30	Sustainable Development | Environmentally Responsible Processing	**Circular novel pyrometallurgical processing of waste PCBs to recover base and precious metals** O.V.G.S. Lekha, Mahizabin, A. Bahipalle, M. Yashwanth
10:30-11:00	Break	Mid-Morning Refreshments
		Session Chair: D. Mesa, Imperial College London, London
11:00-11:20	Sustainable Development | Environmentally Responsible Processing	**Process optimization doing more with less** A. House *Paterson and Cooke, USA*

11:25-11:45	Sustainable Development | Environmentally Responsible Processing	**Reimagining depressant handling: a safer, smarter bulk handling solution using an integrated bulk silo and mixing system** C.J. Bezuidenhout, D. Stylianou, G. Roux, S. Engelbrecht *AECI Mining Chemicals, South Africa*
11:50-12:10	Sustainable Development | Environmentally Responsible Processing	**Towards CO^2-neutral cement clinker production: Bridging laboratory research and industrial implementation** W. Waldl[1], C. Bauer[2], F. Gomernik[3], H. Flachberger[4] [1]Montanuniversitaet Leoben, [2]Vereinigung der Österreichischen Zementindustrie, [3]Alpacem Zement Austria GmbH, Austria
12:15-12:35	Sustainable Development | Environmentally Responsible Processing	**Minimising energy, maximising reactivity: X-Ray diffraction mapping of serpentinite calcination windows for carbon sequestration** R. Visagie[1], K.C. Sole[1], S. Ramjee[1], S. Verryn[2] *[1]University of Pretoria, [2]XRD Analytical and Consulting cc, South Africa*
12:40-13:00	Sustainable Development | Environmentally Responsible Processing	**How dry is dry? Defining moisture thresholds for dry sizing and dry-processing readiness** *J.N. Rasera, L.E. Salinas-Farran, G. Larrabure, T. Powell, S. Neethling, J.J. Cilliers, Imperial College*
13:00-14:00	Break	Lunch
		Session Chair: K. Bhadani, Chalmers University of Technology, Sweden
14:00-14:20	Sustainable Development | Environmentally Responsible Processing	**Dry separation concepts for advancing circular minerals in the refractory industry** C. Pölzl[1], M. Naves[2] *[1]RHI Magnesita, [2]RHI Magnesita, R&D Center, Contagem, [1]Austria, [2]Brazil*
14:25-14:45	Sustainable Development | Environmentally Responsible Processing	**Indirect mineral carbonation of phosphogypsum: A preliminary investigation of valorisation route toward circularity in phosphate fertiliser production** M.A. Pablo[1], J. Pocaan[1,2,3], J.I. Garces[3], J.L.R. Paulo[1], C.M. Pausta,[1,2], A. Beltran[1,2], M.A. Promentilla[1,2], J.F. Tapia[1,2], A. Orbecido[1,2] *[1]University, Malate, Manila 1004, [2]De La Salle University, Manila, 1004, [3]Department of Science and Technology – Science Education Institute, Philippines*
14:50-15:10	Sustainable Development | Circular Economy	**Green Economy and Mineral Resources – How Fostering Materials Flow for Sustainable Development** B.N. Keevil *Institute of Mining Engineering, University of British Columbia, Sweden*
15:15-15:35	Sustainable Development | Environmentally Responsible Processing	**Impact of feed composition and technology choices on CO^2 emissions during reprocessing of secondary zinc materials** N. Uys, M. Becker, S. Grund, J. Petersen *University of Cape Town, South Africa*
15:35-17:00	Refreshments and Poster Session	Refreshments and Poster Session
17:00	Programme Close	
19:00-21:00		Cultural Evening – CTICC Halls 5 & 6

Parallel Session 9:
Future Mining
Venue: 1.43-1.44

Time	Theme / Session	Presentation
		Session Chair: M. Safari, Mintek, South Africa
08:55-09:15	Future Mining & Processing | Urban Mining	**Pretreatment strategies to enhance the efficiency of froth flotation in lithium-ion battery recycling** I. de Amores, S. Seiler, G. Sánchez *Universidad de la República, Uruguay*
09:20-09:40	Future Mining & Processing | Urban Mining	**Development of a physicochemical treatment and flotation process for recovering lithium and cathode/ anode materials from EOL lithium-ion batteries** K. You[1,2], K. Kim[1,2], G. Hong[2], C. Yang[1], Y. Lee[1] *[1]Korea Institute of Geoscience and Mineral Resources (KIGAM), [2]University of Science and Technology (UST), Republic of Korea*
09:45-10:05	Future Mining & Processing | Urban Mining	**Comparison of two bio-based solvents pretreatment for separating black mass from spent lithium-ion batteries by froth flotation** M. Pourmohammad, J. Oliva, H. Anticoi, C.H. Sampaio, M. Reigb, C. Valderram, J.L. Cortin *Universitat Politècnica de Catalunya-Barcelona Tech (UPC), Spain*
10:10-10:30	Future Mining & Processing | Urban Mining	**The influence of spodumene grain size on mineral surface chemistry and flotation performance** P. Berin-Costain,[1] B.K. Cook[2], M. Aghamirian[3], C Gibson[1] *[1]Queen's University, [2]SGS Canada Inc., Canada*
10:30-11:00	Break	Mid-Morning Refreshments
		Session Chair: A. Wali, University of Cape Town, South Africa
11:00-11:20	Future Mining & Processing | Urban Mining	**Recovery of critical metals from spent batteries via a mechanochemically assisted process** J. Choi, J. Gamutan, R. Alorro *Curtin University, Australia*
11:25-11:45	Future Mining & Processing | Urban Mining	**Lithium recovery from wastewater using graphene oxide: a high-performance nanocollector approach** M. Safari, M. Sadatipour, F.S. Hoseinian *Mintek, South Africa*
11:50-12:10	Future Mining & Processing | Urban Mining	**Removal of microplastics from beach sands** S. Pilz, P. Zietlow Mechanical Process Engineering & Circular Economy, Germany
12:15-12:35	Future Mining & Processing | Urban Mining	**Review - Critical assessment of mineral processing in recycled concrete aggregates** P.T. Barros de Lima[1], R. dos Santos Macedo[1], M.G. Bergerman[1], A. Müller[2], C. Ulsen[1] *[1]Universidade de São Paulo, [2]Weimar Institute of Applied Construction Research, [1]Brazil, [2]Germany*

12:40-13:00	Future Mining & Processing | Urban Mining	**Competitive effects of ferric and cobalt ions on neodymium recovery through ion flotation** T. Phengsaart[1], W. Khwathichak[1], P. Srichonphaisarn[1], C.B. Tabelin[2] *[1]Chulalongkorn University, [2]Mindanao State University—Iligan Institute of Technology, [1]Thailand, [2]Philippines*
13:00-14:00	Break	Lunch
14:00-14:20	Sustainable Development | Circular Economy	**Mine tailings as a substitute for graphite in Li-ion batteries: tailoring performance via mineralogy and particle size using froth flotation** J.D. Morley, K. Hadler, C. George, P.B. Brito-Parada, *Imperial College London, United Kingdom*
14:25-14:45	Sustainable Development | Circular Economy	**From Extraction to Regeneration: The Circular Economy as Mining's New Strategic Imperative** K.N. Ngobeni
14:50-15:10	Sustainable Development | Circular Economy	**Development of a module-scale battery recycling process using crushing and air classification for efficient material recovery** K. Kim, K. Lee, J. Choi, H. Lee
15:15-15:35	Sustainable Development | Circular Economy	**Valorisation of Iron Silicate Fines from Copper Smelter as a Geopolymer Mortars** J. Thaels, Y. Muy, L. Courard , M. Kadiyski, V. Stoilov, S. Gaydardzhiev
15:35-17:00	Exhibition Hall	Refreshments and Poster Session
17:00	Programme Close	
19:00-21:00	Cultural Evening – CTICC Halls 5 & 6	