



16-17 AUGUST 2021

# WORLDGOLD

## ONLINE CONFERENCE 2021

### Final Programme

#### Conference Day 1– 16 August 2021

09:00–09:00 **Zoom login open**

09:00–09:05 **Zoom Logistics**  
SAIMM

09:05–09:15 **Welcome and Opening by Conference Chairperson**  
M. Barnard

09:15–09:30 **SAIMM Presidential Address**  
I.J. Geldenhuys

#### Session 1: ESG

**Session Chairperson:** P. Lind, *EldoradoGold, USA*

09:30–09:50 **Good carbon management - the importance of carbon inventory replenishment**  
K. Barbetti<sup>1</sup>, A. Cranley<sup>2</sup>, W.P. Staunton<sup>2</sup>, and T.D. McGrath<sup>1</sup>,  
<sup>1</sup>*Curtin University* and <sup>2</sup>*Newmont Tanami Operation, Australia*

09:50–10:10 **Forty years of carbon-in-pulp technology - what have we learnt, what has changed, and what has remained the same**  
W.P. Staunton, K. Barbetti, and T.D. McGrath, *Gold Technology Group, Curtin University, Australia*

10:10–10:30 **Optimization and design of CIC adsorption circuits**  
A.R. Bax and T.D.H. McGrath, *Curtin University, Australia*

10:30–10:40 **Break**

#### Session 2: Processing

**Session Chairperson:** T. McGrath, *Curtin University, Australia*

10:40–11:00 **Reviewing the use of peroxide in gold cyanidation**  
E.F. Drake, K. Barbetti, T.D. McGrath, and W.P. Staunton, *Curtin University, Australia*

11:00–11:20 **Dithionocarbamate flotation of auriferous arsenian pyrite from refractory gold ore**  
P. Forson, W. Skinner, and R. Asamoah, *University of South Australia, Australia*

11:20 – 11:40 **Optimization of gold-copper sulfide ore processing at Yanacocha's Gold Mill Plant**  
J.Y. Baron<sup>1</sup> and G. Guzman<sup>2</sup>, <sup>1</sup>*Newmont Mining Corp, US*  
<sup>2</sup>*Minera Yanacocha SRL, Peru*

11:40–11:50 **Break**

#### Session 3: Geometallurgy

**Session Chairperson:** G. Nwaila, *The University of the Witwatersrand, South Africa*

11:50–12:20 **Keynote 2: Embedding mineralogy into the process flow chain – what's next?**  
M. Becker, *University of Cape Town, South Africa*

12:20–12:40 **The effect of pH and collector dosage on the flotation performance of arsenopyrite and pyrite**  
E. Avelar<sup>1</sup>, C. Evans<sup>2</sup>, R. Dunne<sup>1</sup>, K. Runge<sup>2</sup>, and E. Manlapig<sup>2</sup>,  
<sup>1</sup>*Curtin University*, <sup>2</sup>*University of Queensland, Newmont Mining Corporation, Australia*

12:40–13:00 **Processing options for the recovery of refractory gold in Zimbabwe**  
O. Bazhko<sup>1</sup>, J. Mungoshi<sup>2</sup>, and J.A. Strauss<sup>3</sup>, <sup>1</sup>*Mintek*, <sup>2</sup>*Manhize Mineral Consultants*, <sup>3</sup>*Outotec, BIOMIN, South Africa*

13:00–13:30 **Lunch Break**

13:30–13:50 **Improved industrial-scale cyanide analysis for sulphide containing ores in the Mintek cynoprobe cyanide analyser**  
N. Anthony, *Mintek, South Africa*

13:50–14:10 **Distillation of biogenic cyanide generated by bacillus megaterium for efficient gold dissolution**  
F. Faraji, H. Mahandra, and A. Ghahreman, *Queen's University, Canada*

14:10–14:30 **Role of selected leach aids in the leaching of bio-oxidize flotation concentrate**  
P. Forson and R. Asamoah, *University of South Australia, Australia*

14:30–14:40 **Break**

14:40–15:00 **Evaluation of oxygen requirements of ore precursors in the effective hydrometallurgical leaching of gold**  
S. Gostu and T. Murray, *Air Liquide Innovation Campus Delaware, USA*

15:00–15:20 **Solvent extraction of gold from thiosulphate solution using phosphonium ionic liquid**  
H. Mahandra, F. Faraji, and A. Ghahreman, *Queen's University, Canada*

15:20 **Day 1 Conference Close**



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## ONLINE CONFERENCE 2021

### Final Programme

#### Conference Day 2 – 17 August 2021

09:00–09:00 **Zoom login open**

09:00–09:05 **Zoom Logistics**  
SAIMM

09:05 – 09:15 **Welcome and Opening by Conference Chairperson**  
M. Barnard

#### Session 4: Tailings

**Session Chairperson:** H. Holthumer, *Anglogold Ashanti, South Africa*

09:15–09:45 **Keynote 3: Tailings management after the global industry standard on tailings management**  
J. Wates, *John Wates Consulting, South Africa*

09:45–10:05 **A sustainability-based decision-making framework for mine waste management options**  
E.R. Manjengwa, C. Dorfling, and M. Tadie, *Stellenbosch University, South Africa*

10:05–10:25 **Elikhulu 'The Big One' gold tailings retreatment project – The journey to success**  
V. Howell<sup>1</sup>, A. Groenewald<sup>1</sup>, V.E. Coetzee<sup>1</sup>, A. Naidoo<sup>1</sup>, and <sup>2</sup>O. Shikwambana, <sup>1</sup>*DRA Projects, <sup>2</sup>Pan African Resources, South Africa*

10:25–10:45 **Value from fine waste: Gas-phase extraction of gold from mine dumps**  
I.A. Ali<sup>1</sup>, J.T. Wainer<sup>1</sup>, J.H. Potgieter<sup>1,2</sup>, and J. Conradie<sup>3</sup>, <sup>1</sup>*University of the Witwatersrand, South Africa, Manchester Metropolitan University, UK, <sup>3</sup>University of the Free State, South Africa*

10:45 – 11:05 **Break**

#### Session 5: Tailings

**Session Chairperson:** C. Dorfling, *Stellenbosch University, South Africa*

11:05–11:25 **Washing gold from a brownfield: a case for the leaching option in gold processing from waste circuit boards**  
I.O. Otunniyi, *Vaal University of Technology, South Africa*

11:25– 11:45 **A desktop study to understand the fundamental reasons for reduced gold extraction from gold tailings containing electrum**  
S.X. Makamu<sup>1,2</sup> and S. Ndlovu<sup>2,3</sup>, <sup>1</sup>*Mintek, <sup>2</sup>University of the Witwatersrand, Johannesburg, South Africa and <sup>3</sup>DST/NRF SARChI: Hydrometallurgy and Sustainable Development; University of the Witwatersrand, Johannesburg, South Africa*

11:45–12:05 **Exploration of the thiosulphate process for the dissolution of gold from electronic waste and its recovery through ion-exchange**  
D. Maharaj, T. Moyo, and J. Petersen, *University of Cape Town, South Africa*

12:05– 12:25 **Lunch Break**

#### Session 6: Ecominics

**Session Chairperson:** J. Wilkens, *DRA*

12:25–12:55 **Keynote 4: Mineral economics – probably an economics look at how to factor risk into cashflow modelling for short, medium and long-life gold assets**  
E. Lilford, *Curtain University, Australia*

12:55–13:15 **A study of alternative methods for gold extraction and challenges faced in the artisanal and small-scale gold mining sector**  
A.N. Manzila, J. Petersen, T. Moyo, *University of Cape Town, South Africa*

13:15–13:35 **Modular approach solution to small scale gold mining projects**  
N.C. Steenkamp, B.N. Scott, and G. Bezuidenhout, *Bowline Professional Services, South Africa*

13:35–13:55 **Evaluation of technological advancements in non-intrusive fragmentation analysis and blast-induced dilution control in hard rock mines**  
P.R. Netshapapame, *Hexagon Mining, Customer Success, South Africa*

13:55–14:15 **Operational value engineering**  
J.T.M. Wilkens, *DRA, South Africa*

14:15–14:25 **Break**

#### Session 7: ESG

**Session Chairperson:** C. Smith, *GSSA, South Africa*

14:25–14:55 **Keynote 1: ESG and Gold mining**  
C. Ramon, *AngloGold Ashanti, South Africa*

14:55–15:15 **Modelling of preg-robbing sorption for the optimization of gold recovery processes**  
P.J. Pieterse<sup>1</sup>, R.F. Sandenbergh<sup>1</sup>, and C. van Buuren<sup>2</sup>, <sup>1</sup>*University of Pretoria, <sup>2</sup>Metso Outotec, South Africa*

15:15–15:35 **Extraction of gold from preg-robbing ores using gold selective DuPont™ AmberSep™ 91419 and DuPont™ AmberSep™ 91419XL ion exchange resin**  
J. Bester<sup>1</sup> and T. Thulare<sup>2</sup>, <sup>1</sup>*DuPont Water Solutions, the Netherlands, <sup>2</sup>DuPont Water Solutions, South Africa*

15:35– 15:55 **Interstage screening evolution, retrofitting oceanagold's haile gold mine's cil interstage screens with urethane screening surfaces -the increased savings and performance**  
J. Rozelle<sup>1</sup>, E.R. Mortensen<sup>2</sup>, A. Nicosia<sup>3</sup>, and P.L. Stasio<sup>3</sup>, <sup>1</sup>*OceanaGold, Haile Gold Mine, Kershaw, USA, <sup>2</sup>Process Machinery Associates, Reno, Nevada, USA and <sup>3</sup>Derrick Corporation, Buffalo, New York, USA*

15:55– 16:15 **Bridging the gap between theory and implementation of underground environmental sensors at South Deep Mine**  
A.K. Ngcibi<sup>1</sup> and M. Mochubele<sup>2</sup>, <sup>1</sup>*The University of the Witwatersrand; Research intern at South Deep Gold Mine and <sup>2</sup>The University of the Witwatersrand, South Africa*

16:15–16:35 **Remotely controlling underground ventilation devices to realize Ventilation on Demand**  
A.K. Ngcibi<sup>1</sup>, M. Mochubele<sup>2</sup>, S Berg<sup>3</sup>, <sup>1</sup>*The University of the Witwatersrand; Research intern at South Deep Gold Mine, <sup>2</sup>The University of Witwatersrand and <sup>3</sup>The University of the Witwatersrand; Howden Representative*

16:35 **Conference Close**