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Sunday November 7th

16.00-18.00 Wine reception and registration

Monday November 8th

08.00 Registration desk opens

09.00 Opening Remarks
J. Wills (MEI, UK) and S.T.L. Harrison (University of Cape Town, South Africa)

09.20 *Technical Session 1*
Chairmen: A. Kaksonen (CSIRO, Australia) and P. d'Hugues (BRGM Environnement & Procédés, France)

09.20 **The bioleaching of six nickel sulphide ores with differing mineralogies in stirred-tank reactors at 30 °C**
R.A. Cameron, K.J. Kennedy (University of Ottawa, Canada), R. Lastra et al (Natural Resources Laboratories, Canada)

09.40 **Bioleaching and recovery of metals from final slag waste of copper smelting industry**
A.H. Kaksonen, L. Lavonen, M. Kuusenaho, A. Kolli, H. Närhi, J.A. Puhakka (Tampere University of Technology, Finland), E. Vestola (VTT Technical Research Centre, Finland) and O.H. Tuovinen (Ohio State University, USA)

10.00 **The generation of toxic reactive oxygen species from mechanically activated sulfide concentrates**
G.C. Jones, R.P. van Hille and S.T.L. Harrison (University of Cape Town, South Africa)

10.20 **The efficiency of indigenous and designed consortia in bioleaching stirred tank reactors**
C.G. Bryan (University of Cape Town, South Africa) C. Joulain, P. Spolaore, S. Challan-Belval, H. El Achbouni, D. Morin, and P. d'Hugues (BRGM Environnement & Procédés, France)

10.40 Coffee

11.20 **Bioleaching strategies for the treatment of nickel-copper sulfide concentrates**
M. Gericke and Y. Govender (Mintek, South Africa)

11.40 **Respirometry studies of bioleaching of low grade chalcopyrite ore using six acidophilic strains**
J. Song, P.D. Franzmann, A.H. Kaksonen (CSIRO Land and Water, Australia), J. Lin and J. Lin (Shandong University, China)

12.00 **Non-traditional operating conditions for a copper concentrate continuous bioleaching**
P. Spolaore, C. Joulain, Y. Ménard and P. d'Hugues (BRGM, Service Environnement et Procédés, France)

12.20 **Fluoride ion effects on the kinetics of ferrous iron oxidation by *sulfobacillus thermosulfidooxidans***
L.C. Sicupira, T.C. Veloso, I.C.B. Rodrigues, V.A. Oliveira and V.A. Leão (Universidade Federal de Ouro Preto, Brazil)

12.40 Lunch

14.00 *Technical Session 2*
Chairman: S. Ndlovu (Wits University, South Africa)

14.00 **Microbial growth rates of mesophilic acidophiles on low grade whole ore containing chalcopyrite**
S. Minnaar, O.V. Tupikina, R. van Hille, N. van Wyk, S.T.L. Harrison (University of Cape Town, South Africa), S.J. van Rensburg (Mintek, South Africa), D. Rautenbach and D. Dew (BHP Billiton, South Africa)

14.20 **Inhibition of the bioleaching organism *acidithiobacillus thiooxidans* by SDS addition**
H.-M. Siebert, R. Marmulla and K.-P. Stahmann (University of Applied Science Lausitz, Germany)

14.40 **Laboratory simulation and optimisation of stope leaching of low-grade uranium ore**
K.M. Penman, D.J. Sapsford (Cardiff University, UK), R.J. Bowell and M. Dey (SRK Consulting, UK)

- 15.00 **Large particle effects in chemical/biochemical heap leach processes - A review**
Y. Ghorbani, J. Petersen, M. Becker, A. Mainza and J.-P. Franzidis (University of Cape Town, South Africa)
- 15.20 **Performance evaluation of the Skorpion Zinc pinned bed clarifiers**
S. Dowling, B. Plaatjies (Skorpion Zinc, Namibia), H. Fuls (Anglo American Asset Optimisation, South Africa) and M. Langton (Roymec Technologies, South Africa)
- 15.40 **Gas phase metal extraction case study: the extraction of iron from iron(III) oxide**
L.D. van Dyk, E. Mariba (University of the Witwatersrand, South Africa), Y. Cheng (University of Nottingham, UK) and J.H. Potgieter (Manchester Metropolitan University, UK)
- 16.00 Coffee

Tuesday November 9th

- 09.00 *Technical Session 3*
Chairmen: L.D. van Dyk (Wits University, South Africa) and C. Bryan (University of Cape Town, South Africa)
- 09.00 **High pressure acid leaching of Turkish laterites**
Y.A. Topkaya and Ş. Kaya (Middle East Technical University, Turkey)
- 09.20 **Profiling of bioleaching organisms in BIOX[®] reactors from different locations**
R.P. Van Hille, S.T.L. Harrison and N. Van Wyk (University of Cape Town, South Africa)
- 09.40 **Interaction of microorganisms in a hematite-quartz flotation system**
N.A. Abdel-Khalek et al (CMRDI, Egypt), H. Rao (Luleå Technical University, Sweden) and A.-H. Kandel (Helwan University, Egypt)
- 10.00 **Extracellular polymeric substances (EPS) from bioleaching systems and its application in bioflotation**
Y. Govender and M. Gericke (Mintek, South Africa)
- 10.20 **Control of bacterial metal sulfide leaching processes**
B.M. Florian, N. Noël, C. Thyssen, I. Felschau and W. Sand (University of Duisburg-Essen, Germany)
- 10.40 Coffee
- 11.20 **The effect of temperature on the attachment of *metallosphaera hakonensis* to a copper sulphide concentrate with application to heap bioleaching**
L. Bromfield, C.-J. Africa, S.T.L. Harrison and R.P. van Hille (University of Cape Town, South Africa)
- 11.40 **Bioleaching of gold and copper from waste mobile phone PCBs by using a cyanogenic bacterium**
T.D. Chi (University of Science and Technology, Korea), J.-C. Lee, J. Jeong (KIGAM, Korea), B.D. Pandey (National Metallurgical Laboratory, India) and K. Yoo (Korea Maritime Museum, Korea)
- 12.00 **Bioleaching of printed circuit board by *acidithiobacillus ferrooxidans***
L.Harue Yamane and J.A.S. Tenório (Polytechnic School of São Paulo University, Brazil)
- 12.20 **Getting more out of end-of-life vehicles – a bio hydrometallurgical approach**
G. Lewis, S. Gaydardzhiev, D. Bastin (University of Liege, Belgium) and P.-F. Bareel (Comet Traitement SA, Belgium)
- 12.40 Lunch
- 14.00 *Technical Session 4*
Chairman: S.T.L. Harrison (University of Cape Town, South Africa)
- 14.00 **Commercialisation of the ASTER Process**
N. Makhotla, J.W. Olivier and C. van Buuren (Gold Fields Limited, South Africa)
- 14.20 **Sequential precipitation of Cu and Fe using a three-stage sulfidogenic fluidized-bed reactor system**
D. Ucar, E. Sahinkaya (Harran University, Turkey) and A.H. Kaksonen (CSIRO Land and Water, Australia)
- 14.40 **Bioprocessing of coal tailings for the production of the coagulant ferric sulfate**
A.V. Colling, J.C.S.S. Menezes and I.A.H. Schneider (Universidade Federal do Rio Grande do Sul, Brazil)
- 15.00 **Reduction of uranium(VI) by a consortium from Limpopo grown in three different carbon sources**
S. Chabalala and E.M.N. Chirwa (University of Pretoria, South Africa)

- 15.20 **Biosorption of yttrium, lanthanum, cerium, and neodymium from apatite leaching aqueous solution using platanus orientalis leaf powder**
E. Jorjani and S.H. Amirshahi (Islamic Azad University, Iran)
- 15.40 **Molecular characterisation of the microbial community of a full-scale bioreactor treating Bayer liquor organic wastes**
N.J. McSweeney, D.C. Sutton (University of Western Australia, Australia), A.H. Kaksonen, P.D. Franzmann (CSIRO Land and Water, Australia), A.L. Tilbury, H.J. Nyeboer and A.J. McKinnon (Alcoa World Alumina, Australia)
- 16.00 Closing Remarks
S.T.L. Harrison (University of Cape Town, South Africa) and A.J. Wills (MEI, UK)
- 16.10 Coffee and Wine

Posters

Some aspects of the effect of pH and acid stress in heap bioleaching

O.V. Tupikina, I.E. Ngoma, S. Minnaar and S.T.L. Harrison (University of Cape Town, South Africa)

Adaptation of *acidithiobacillus ferrooxidans* to printed circuit board from scrap computer

L.Harue Yamane and J.A.S. Tenório (Polytechnic School of São Paulo University, Brazil)

Influence of temperature and microorganisms upon copper dissolution during waste electric cables recycling

F. Lambert, G. Lewis, S. Gaydardzhiev, D. Bastin (University of Liege, Belgium) and P.-F. Bareel (Comet Traitement SA, Belgium)

Hydrometallurgical reclamation of Cu, Ag and Sn from waste Pb-free solder using nitric acid

J.-c Lee, E.-y, Kim, S.-k. Kim, J. Jeong (Korea Institute of Geoscience & Mineral Resources, Korea) and K. Yoo (Korea Maritime University, Korea)

Can active bioleaching accelerate sulphide removal from dump rock to mitigate ongoing risk of AMD formation?

A.K.B. Opitz, C.G. Bryan and S.T.L. Harrison (University of Cape Town, South Africa)

Biohydrometallurgical production of hepta-hydrated iron sulfate crystals from the pyrite present in coal tailings

E.M. Vigânico, A.V. Colling and I.A.H. Schneider (Universidade Federal do Rio Grande do Sul, Brazil)

Finite difference simulation of biological Cr(VI) removal in aquifer microcosm reactors

P.J. Mtimunye, Z.M. Mboweni, D. Manyisi and E.M.N. Chirwa (University of Pretoria, South Africa)

Biosorption of heavy metals by algae communities in water streams impacted by the acid mine drainage in the coal mining region of Santa Catarina - Brazil

A.P.P. Freitas, I.A.H. Schneider and A. Schwartzbold (Universidade Federal do Rio Grande do Sul, Brazil)

Thermodynamic modelling of concentrated sulphuric acid solutions

H. Sippola (Aalto University, Finland)

The conversion of celestite to SrCO₃ in ammoniacal solution containing ammonium carbonate/bicarbonate

M. Zoraga and C. Kahruman (Istanbul University, Turkey)

Investigating microbial colonisation in bioheaps with varying irrigation rate

R. Chiume, S. Minnaar, E. Ngoma and S.T.L. Harrison (University of Cape Town, South Africa)

Bio-desorption of lithium isotope (⁷Li⁺) from a degraded lithiated mixed-bed ion-exchange resin using *Acidithiobacillus caldus*

M. Basitere, S.K.O. Ntwampe and M.S. Sheldon (Cape Peninsula University of Technology, South Africa)

Separation of zirconium and hafnium using electrical field

A. Sadigzadeh, H. Shokri (Atomic Energy Organisation of Iran, Iran) and S.H. Tabaian (Amirkabir University of Technology, Iran)

The effect of temperature and pH on the biosorption of heavy metals onto sea algae

Z.Harber (University of Stellenbosch, South Africa)