Monday June 20th

09.10  *Technical Session 1*
Chairmen: C. Bryan (University of Exeter, UK) and A.H. Kaksonen (CSIRO, Australia)

09.10  **Keynote Lecture: Commercial heap biooxidation of refractory gold ores – revisiting Newmont’s successful deployment at Carlin**
F.F. Roberto (Newmont Mining Corporation, USA)....1

09.40  *In situ* bioleaching: an alternative approach of metal extraction from deep-buried sulfide ores
E. Pakostova, B.M. Grail and D.B. Johnson (Bangor University, UK)....9

10.00  **Selective bioleaching of uranium and phosphorus**
J. Mäkinen and P. Kinnunen (VTT Technical Research Centre of Finland, Finland)....30

10.20  Coffee

11.10  **Oxidative and reductive bioprocessing of cobalt bearing ores, and recovery of cobalt minerals via biosulfidogenesis**
S.L Smith, B.M. Grail and D.B. Johnson (Bangor University, UK)....49

11.30  **Bioleaching of metal sulfides by *Ferrimicrobiumacidiphilum* in the presence of chloride**
M. Kaszuba, S. Schopf, F. Giebner and M. Schlömann (TU Bergakademie Freiberg, Germany)....64

11.50  The effects of high voltage pulse comminution on bioleaching of whole ore
C.G Bryan, T.D. Sambrook, R. Bransgrove (University of Exeter, UK) and K.P. van der Wielen (Selfrag AG, Switzerland)....74

12.10  **Growth of mesophilic microorganisms on low-grade ore in a simulated heap bioleaching environment**
E. Govender-Opitz and S.T.L. Harrison (University of Cape Town, South Africa)....76

12.30  **Investigation of preservation methods for salt-tolerant chalcopyrite bioleaching mixed cultures**
A. Balfour-Cunningham, N.J. Boxall, C Morris (CSIRO Land and Water, Australia) and N.C. Banning (University of Western Australia, Australia)....87

12.50  Lunch

14.00  *Technical Session 2*
Chairman: S. Gaydardzhiev (University of Liege, Belgium)

14.00  **Using isothermal microcalorimetry to measure the metabolic activity of the mineral-associated microbial community in bioleaching**
D.X. Makaula, R.J. Huddy, M.A. Fagan-Endres and S.T.L. Harrison (University of Cape Town, South Africa)....107

14.20  **Comparative genomics on Acidithiobacillusferrooxidans**
S. Schopf, L. Bläsing and M. Schlömann (TU Bergakademie Freiberg, Germany)....128
14.40 Development of molecular assays to efficiently monitor and quantify microbial species during bioleaching of copper-rich ores
S. Hedrich, A. Schippers (Federal Institute for Geosciences and Natural Resources, Germany), A.-G. Guézennec, M. Charron and C. Joulian (Bureau de RecherchesGéologiquesetMinières, France).....143

15.00 Toxicity of leaching additives on respiration activity of Acidithiobacillusferrooxidans
F. Giebner, M. Roder, M. Schlömann and Schopf (TU Freiberg, Germany).....164

Tuesday June 21st

09.00 Technical Session 3
Chairmen: A. Parbhakar-Fox (University of Tasmania, Australia) and P. D'Hugues (BRGM, France)

09.00 Keynote Lecture: Current status and continued development of the BIOX Process
J. van Niekerk (Outotec, South Africa).....173

09.30 Influence of dissolved oxygen on the bioleaching efficiency of a mesophile to moderate thermophile consortium under oxygen enriched atmosphere
A.-G. Guezennec, P. d'Hugues (BRGM, France), D. Ibarra (Air Liquide, France) and A. Archane (Milton Roy Mixing, France).....186

09.50 The role of solution potential on the reductive leaching of Co(III) from oxide ore in the presence of mesophilic bacteria and added pyrite
L. Zeka, A.I. Ndala (University of Lubumbashi, DR Congo), S. Gaydardzhiev and J. Frenay (University of Liege, Belgium).....195

10.10 Selection of thermophiles for bioprocessing copper and nickel concentrates
P.R. Norris, L.Laigle, T.J. Ogden and O.J.P. Gould (University of Exeter, UK).....204

10.30 Coffee

11.10 Effect of bio-oxidation treatment time on gold recovery via cyanidation
S. Ahoranta, G. Zou, A.-M. Lakaniemi, J. Puhakka (Tampere University of Technology, Finland) and R. Neitola (Geological Survey of Finland, Finland).....216

11.30 Lithium recovery from lithium-containing micas using sulfur oxidizing microorganisms

11.50 Mobilisation of metals from Kupferschiefer in neutral to alkaline environment using bulk and biotechnologically produced organic acids
S. Kostudis, K. Bachmann, S. Kutschke, K. Pollmann and Jens Gutzmer (Helmholtz Institute Freiberg for Resource Technology, Germany).....254

12.10 Inhibition of Acidithiobacilluscaldosus and the potential for adaptation to thiocyanate present in cyanidation tailings waste water
C.J. Edward and S.T.L. Harrison (University of Cape Town, South Africa).....268

12.30 Microbial ecology and solution chemistry of interstitial and flowing liquid phases during bioleaching of low-grade sulfide ore
C.G. Bryan, S.M. Kay and V. Simov (University of Exeter, UK).....279

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Chairman: C. Brierley (BrierleyConsultancy, USA)

14.00  
The collaborative bioleaching of chalcopyrite by Alicyclobacillus and acidophilies  
M. Zhang, X. Liu, G. Wang, Z.Wang, W. Liu, J. Wen (General Research Institute for Nonferrous Metals, China) and C. Zhao (Weifang University of Science & Technology, China).....289

14.20  
Exploratory studies on the bioleaching of a pegmatite lithium ore  
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14.40  
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15.00  
Comparative study of S, Fe and Cu speciation transformation during chalcopyrite bioleaching by mixed mesophiles and mixed thermophiles  
H. Liu, J. Xia and Z. Nie (Central South University, China).....327

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Fungal biomineralization of pyromorphite and cerussite on the surface of lead metal  
C. Povedano-Priego, I.M. Sanchez, G. Tschuschke, I.S. Castro and L. M. Merroun (University of Granada, Spain).....353

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09.00  
Remediation of acidic metal-rich waste waters using sulfidogenic bioreactor sustained by algal biomass  
A.L. Santos and D.B. Johnson (Bangor University, UK).....379

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C. Falagan, D.B. Johnson (Bangor University, UK), F.J. Sánchez-España (Geological Survey of Spain, Spain) and I. Yusta (The University of the Basque Country, Spain).....391

09.40  
The effect of inoculum concentration on the biokinetic test for characterising acid rock drainage  
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10.00  
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10.20  
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S. Alam (University of Saskatchewan, Canada).....436

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11.20  
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11.40  
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S. Ghosh, S. Nayak and A.P. Das (Siksha O. Anusandhan University, India).....469
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A.H. Kaksonen (CSIRO Land and Water, Australia), S. Särkijärvi, J.A. Puhakka (Tampere University of Technology, Finland), E. Peuraniemi, S. Junnikkala (Boliden Harjavalta Oy, Finland) and O.H. Tuovinen (Ohio State University, USA).....481

12.20 **Bioleaching of steel slag for metal recovery**
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12.40 **Economic potential for reprocessing copper mine tailings in Chile**
M. Drobe, A. Schippers and J. Vasters (BGR Hannover, Germany).....522

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14.00 **Technical Session 6**
Chairman: S.T.L. Harrison (University of Cape Town, South Africa)

14.00 **Metal extraction from mine tailings using bioleaching at the Old Tailings Dam, Western Tasmania, Australia**
A. Parbhakar-Fox (University of Tasmania, Australia).....535

14.20 **Continuous tank bioleaching of mine tailings by a mesophilic bacterial culture**
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14.40 **Arsenic-binding siderophores from arsenic-resistant actinobacteria**
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**Dependence of tolerance to heavy metal ions of Acidianus manzaensis on extracellular polymer substance**
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N. Eisen, S. Schopf and M. Schlömann (TU Bergakademie Freiberg, Germany).....N/A