

SRCR '14



Wednesday 11th June

16.30-18.00 Registration, wine and cheese reception. Accompanying partners welcome

Thursday 12th June

08.00 Registration opens

09.00 **Introduction to Cornwall and to SRCR '14**
J. Wills (MEI, UK)

09.10 *Technical Session 1*
Chairmen: R.P. van Hille (University of Cape Town, South Africa) and C.P. Brough (SRK Consulting Ltd, UK)

09.10 **Keynote Lecture: UNEP Report- Metal recycling: opportunities, limits, infrastructure**
M.A. Reuter (Outotec Oyj and Aalto University, Finland)

09.40 **Translating global knowledge on industrial ecology to enhance uptake of metals recycling in an Australian context**
G. Corder, A. Golev (University of Queensland, Australia) and D. Giurco (University of Technology Sydney, Australia)

10.00 **Coupling life cycle assessment and process simulation to evaluate the environmental impacts of plastic waste management: application to PET bottles recovery**
A. Botton (Laboratoire de Génie des Procédés Plasmas et Traitements de Surface, France), A. Jean-Marie, H.-A. Billaudot, L. Jacquemin and V. Archambault (Altran Research, France)

10.20 Coffee

11.10 **10 design for recycling rules – a product centric approach**
A. van Schaik (MARAS, The Netherlands) and M.A. Reuter (Outotec Oyj/Aalto University, Finland)

11.30 **Coupling sustainability with innovation for enhanced minerals industry outcomes**
G.D. Corder (University of Queensland, Australia)

11.50 **Environmental analysis of mining operations: dynamic tools for impact assessment**
J. Castilla-Gómez and J. Herrera-Herbert (Madrid School of Mines, Spain)

12.10 **Life cycle assessment of the desulfurisation flotation process for ARD mitigation and resource recovery**
M.C. Kunene, J.L. Broadhurst, H. von Blottnitz, J-P Franzidis (University of Cape Town, South Africa) and P. Dicks (Senmin International, South Africa)

12.30 Lunch

- 14.00 *Technical Session 2*
Chairman: M.L. Torem (Catholic University of Rio de Janeiro, Brazil)
- 14.00 **Proposal of methodology for characterization of plastics issued of WEEE. Case study in France**
E. Maris, D. Froelich (Institut de Chambéry, France), P. Botané (CASPEO, France) and P. Wavrer (BRGM, France)
- 14.20 **Thermodynamic analysis on the extraction of titanium from Ti-bearing BF slag**
Liang Li, Kai-hua Li, Qin-dong Miao (Pangang Group Research Institute, China)
- 14.40 **Worth of metal-gleaning in mining and recycling for mineral conservation**
H. Hatayama, K. Tahara (National Institute of Advanced Industrial Science and Technology, Japan) and I. Daigo (The University of Tokyo, Japan)
- 15.00 **Durability of Pb-tailings based renders used in Moroccan constructions**
R. Argane, A. Bouamrane (Université de Lyon, France), M. Benzaazoua (UQAT, Canada) and R. Hakkou (Université Cadi Ayyad, Morocco)
- 15.20 Coffee
- 16.20 Optional Guided Coast Path Walk, ending with a beer at the Chain Locker Pub, Old Falmouth.
Accompanying partners welcome

Friday 13th June

- 09.00 *Technical Session 3*
Chairmen: J.L. Broadhurst (University of Cape Town, South Africa) and G.D. Corder (University of Queensland, Australia)
- 09.00 **The reprocessing and treatment of waste from the former Bicapa-Tarnaveni chemical plant in Judet Mures, Romania**
M. Dey, C.P. Brough (SRK Consulting Ltd, UK), D. Runciman and V. Turea (SC Wastes Ecotech Srl, Romania)
- 09.20 **Utilization of tailings from abandoned Pb-Zn Mine sites as aggregates for cement mortars**
R. Argane, A. Bouamrane (Université de Lyon, France), M. Benzaazoua (UQAT, Canada) and R. Hakkou (Université Cadi Ayyad, Morocco)
- 09.40 **Optimisation of a semi-passive process for acid mine drainage treatment with sulphur recovery**
N. Mooruth and R.P. van Hille (University of Cape Town, South Africa)
- 10.00 **Valorisation of acid mine drainage treatment sludge as remediation component to control acid generation from mine wastes, part 1: material characterization and laboratory testing**
I. Demers, M. Bouda, M. Benzaazoua, M. Mbonimpa, D. Bois and M. Gagnon (Université du Québec en Abitibi-Témiscamingue, Canada)
- 10.20 Coffee
- 11.00 **Valorisation of acid mine drainage treatment sludge as remediation component to control acid generation from mine wastes, part 2: field experimentation**
I. Demers, M. Bouda, M. Benzaazoua, M. Mbonimpa, D. Bois and M. Gagnon (Université du Québec en Abitibi-Témiscamingue, Canada)
- 11.20 **The rehabilitation of acid mine drainage at an abandoned mining site by utilizing egg-shell as adsorbent**
G. Kalyoncu Erguler (MTA, Turkey) and Z.A. Erguler (Dumlupinar University, Turkey)

- 11.40 **The effect of particle size on acid mine drainage and mass release rates of kinetic column tests**
Z.A. Erguler (Dumlupinar University, Turkey) and G. Kalyoncu Erguler (MTA, Turkey)
- 12.00 **Characterisation of the complex microbial community associated with the ASTER™ thiocyanate biodegradation system**
R.J. Huddy, W. van Zyl, R.P. van Hille and S.T.L. Harrison (University of Cape Town, South Africa)
- 12.20 **Evaluation of the ASTER™ process in the presence of suspended solids**
A.W van Zyl, R. Huddy, S.T.L. Harrison and R.P van Hille (University of Cape Town, South Africa)
- 12.40 **The effect of hydrogen peroxide addition on the citric acid leaching of Pb from contaminated soil**
K. Yoo, K. Jung and D. Kim (Korea Maritime and Ocean University, Korea)
- 13.00 Lunch
- 14.00 *Technical Session 4*
Chairmen: M.A. Reuter (Outotec Oyj, Finland) and R. Kuyvenhoven (IMPC 2014, Chile)
- 14.00 **Leaching of rare earths from red mud**
C.R. Borra, K. Binnemans and T. Van Gerven (Katholieke Universiteit Leuven, Belgium)
- 14.20 **Impact of Ni²⁺ on denitrification of mining waters in fluidized-bed reactors**
G. Zou, S. Papirio and J.A. Puhakka (Tampere University of Technology, Finland)
- 14.40 **The use of biohydrometallurgy to recover zero-valent copper from scrap electric cables**
F. Lambert, D. Bastin, S. Gaydardzhiev (University of Liege, Belgium), Gregory Lewis and P.-F. Barel (Comet Traitements SA, Belgium)
- 15.00 **Enhancement of biosorption of lead and cadmium ions from aqueous solution by microorganisms**
G.A. H. Pino and M.L. Torem (Catholic University of Rio de Janeiro, Brazil)
- 15.20 Coffee
- 16.00 **Rare-earth (Ce, La, Nd) and rare-metal (Nb, Sn, W) recovery from wastes of a kaolin production plant, Cornwall**
Q. Dehaine and L.O. Filippov (Université de Lorraine, France)
- 16.20 **Process optimization in vacuum distillation for titanium sponge preparation and magnesium recycling**
Kai-hua Li, Liang Li, Qin-dong Miao, Xiao-zhe Chen (Pangang Group Research Institute, China)
- 16.40 **Mineralogical characteristics of nickel and copper values in waste refractory bricks and their upgrading**
I. Southern (Vale Manitoba Operations, Canada), U. Demir and S. Kelebek (Queen's University, Canada)
- 17.00 Conference summary
M.A. Reuter (Outotec Oyj, Finland) and A.J. Wills (MEI, UK)

Posters

The evolution of pH and mass release rates of main oxidation and neutralization products during kinetic column tests

G. Kalyoncu Erguler (MTA, Turkey), Z.A. Erguler, H. Akcakoca and A. Ucar (Dumlupinar University, Turkey)

The empirical models for upscaling hydro-geochemical behavior of acid mine drainage to the field

G. Kalyoncu Erguler (MTA, Turkey), Z.A. Erguler, H. Akcakoca and A. Ucar (Dumlupinar University, Turkey)

Influence of the amount of Na₂O on crystallization and properties of tailings glass ceramic

L. Jing, L. Bing and W. Qi (LiaoNing School Of Materials and Metallurgy, China)

Enhanced dissolution of alkali metal platinates by addition of calcium chloride in diluted hydrochloric acid

R. Kasuya, T. Miki, H. Morikawa and Y. Tai (National Institute of Advanced Industrial Science and Technology, Japan)

Analysis of removal of unburned carbon from bottom ashes

O. Şahbaz (Dumlupınar University, Turkey), M. Çınar (Canakkale 18 Mart University, Turkey) and Ş. Kelebek (Queen's University, Canada)

The removal of unburned carbon from fly ash by kerosene extraction

K. Yoo and H. Sung (Korea Maritime and Ocean University, Korea)

Recycling of shell by-products as an aggregate for artificial reefs

T. Sawyer, E. van Veen, J. Andersen, J. Coggan, G. Rollinson, B. Lottermoser (Camborne School of Mines, UK), H. Cuadrado, N. Sebaibi, M. Boutouil (ESITC Caen, France) and B. Boudart (Université de Caen Basse-Normandie, France)

Coal mine waste: a recycling proposal through fabricated soils

B.A.F. Vasquez and I.A.H. Schneider (Universidade Federal do Rio Grande do Sul, Brazil)