

# Precious Metals '15



(Twitter #PreciousMetals15).

## Sunday May 10<sup>th</sup>

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

## Monday May 11<sup>th</sup>

08.00 Registration opens. Coffee/tea and light breakfast

### 09.00 **Welcome to Cornwall**

B.A. Wills (MEI, UK)

### 09.15 *Technical Session 1*

Chairmen: A. Cropp (ZEISS Natural Resources Lab, UK) and M. Tredoux (University of the Free State, South Africa),

### 09.15 **Keynote Lecture: Innovations in the processing of difficult and low grade gold ores**

J.J. Eksteen (Curtin University, Australia)

### 10.00 **Alkaline sulfide gold leaching kinetics**

C.G. Anderson (Colorado School of Mines, USA)

10.30 Coffee

### 11.00 **Coal-oil gold agglomeration assisted flotation to recover gold from refractory ore**

A. Otsuki (Université de Lorraine, France) and Y. Chen (Curtin University, Australia)

### 11.30 **Twenty years of development to commercial demonstration of the Aachen Reactor<sup>TM</sup>**

S. Flatman, M. Battersby, R. Imhof (Maelgwyn Mineral Services Ltd, UK), J. Batty and P. Lotz (Maelgwyn Mineral Services, South Africa)

### 12.00 **Recovery of Ilesa gold concentrate by froth flotation using alkaline salts of vegetable oils**

J.A. Ajayi (Federal University of Technology, Nigeria)

### 12.30 **The effect of temperature, contact time and agitation speed during pre-treatment on elution of gold**

T.P. Oladele, C.A. Snyders, S.M. Bradshaw and G. Akdogan (University of Stellenbosch, South Africa)

13.00 Lunch

### 14.00 *Technical Session 2*

Chairman: J. Vaughan (University of Queensland, Australia)

### 14.00 **Dissolution of gold during pyrite oxidation reaction**

M. Melashvili, C. Fleming, I. Dymov, D. Matthews (SGS Canada Inc., Canada) and D. Dreisinger (University of British Columbia, Canada)

### 14.30 **Gold extraction from a gold-copper concentrate in solutions containing caustic soda and low free cyanide**

E.A. Oraby and J.J. Eksteen (Curtin University, Australia)

### 15.00 **The application of deep eutectic solvent ionic liquids for environmentally-friendly dissolution and recovery of precious metal ores**

G.R.T. Jenkin, A.Z.M. Al-Bassam, R.C Harris, A.P. Abbott, D.J. Smith, D.A. Holwell (University of Leicester, UK) and C.J. Stanley (Natural History Museum, UK)

### 15.30 **Development of a fully hydrometallurgical process for the recovery of precious metals from copper electrorefining anode slimes**

S. Kurki, K. Lillkung and H. Virtanen (Outotec, Finland)

16.00 Coffee

- 17.00 Optional Guided Coast Path Walk, ending with a beer at the Chain Locker Pub, Old Falmouth.  
Accompanying partners welcome

## Tuesday May 12th

- 08.30 Coffee/Tea and light breakfast
- 09.00 *Technical Session 3*  
Chairmen: C.G. Anderson (Colorado School of Mines, USA) and D. Dreisinger (University of British Columbia, Canada)
- 09.00 **Precious metals in gossanous waste rocks, Angostura copper mine, Iberian Pyrite Belt, Spain**  
J. Hunt, B.G. Lottermoser, A. Parbhakar-Fox (University of Tasmania, Australia) and E. Van Veen (Camborne School of Mines, UK)
- 09.30 **Flowsheet development and comparison for the recovery of precious metals from low grade cyanide leach solutions**  
A.P. van Wyk, S.M. Bradshaw, G. Akdogan, C.A. Snyders (University of Stellenbosch, South Africa) and J.J. Eksteen (Curtin University, Australia)
- 10.00 **The recovery of precious metals and platinum group metals from spent catalysts and other secondary sources using plasma smelting technology**  
T.P. Johnson and D.E. Deegan (Tetronics International, UK)
- 10.30 Coffee
- 11.15 **Light microscope to automated mineralogy correlation using ZEISS Mineralogic Mining: a case study using BMS and PGM analysis of samples from a PGE-bearing chromitite prospect within the Berit ophiolite, Turkey**  
S.D. Graham, A. Cropp (ZEISS Natural Resources Lab, UK) and C. Brough (SRK Consulting, UK)
- 11.45 **Capture of PGM using innovative functional polymers containing phosphine groups**  
Q. Ricoux, J.P. Méricq, D. Bouyer, C. Faur, (Institut Européen des Membranes, France), A. Musina (Magpie Polymers, France and University Politehnica of Bucharest, Romania), V. Bocokić and S.v. Zutphen (Magpie Polymers, France)
- 12.15 **Froth flotation of a Merensky Reef platinum bearing ore using mixtures of SIBX with a dithiophosphate and a dithiocarbamate.**  
L. Kloppers, W. Maree, O. Oyekola and G. Hangone (Cape Peninsula University of Technology, South Africa)
- 12.45 Lunch
- 14.00 *Technical Session 4*  
Chairman: S. Ismail (Tetronics International, UK)
- 14.00 **Dissolution of platinum in catalyst materials using hydrochloric acid – a new route via complex oxides**  
R. Kasuya, T. Miki, H. Morikawa and Y. Tai (National Institute of Advanced Industrial Science and Technology, Japan)
- 14.30 **The state of platinum-group elements in ore forming systems: a report on recent evidence for nanoparticle involvement**  
M. Tredoux (University of the Free State, South Africa), C. Ballhaus and H. Helmy (Bonn University, Germany)
- 15.00 **Nanofibers for separation of rhodium(III) and iridium(IV) chlorido species**  
A. Majavu, E. Hosten and Z.R. Tshentu (Nelson Mandela Metropolitan University, South Africa)
- 15.30 **Application of direct electrowinning technology for the economic extraction of silver from a high grade polymetallic ore**  
A. Vathavooran (Tetra Tech WEI, UK) and T. Bergfeldt (Electrometals Technologies Ltd, Canada)

16.00 Closing remarks and invitation to Precious Metals '17  
A.J. Wills (MEI, UK)

16.15 Cornish cream tea