

Flotation '13



(Twitter #Flotation13)

Sunday November 17th

- 14.00 Elsevier Author Workshop; exhibition booth and poster set-up
- 16.30-18.00 Registration and wine reception, with hot and cold canapés (accompanying persons welcome)

Monday November 18th

- 07.15 Registration desk opens
Light breakfast of filled croissants, tea, coffee and fruit juice
- 08.20 Fundamentals Symposium Opening Remarks
B.A. Wills (MEI, UK) and D.J. Bradshaw (JKMRC, Australia)
- 08.40 **Keynote Lecture: Flotation research, does advancement require a paradigm shift?**
K. Heiskanen (Aalto University, Finland)
- 09.10 *Technical Session 1*
Chairmen: J. Wiese (University of Cape Town, South Africa) and M.G. Nelson (University of Utah, USA)
- 09.10 **The effect of energy input on flotation kinetics of sulfide minerals in an oscillating grid flotation cell**
M. Safari, M.C. Harris, D.A. Deglon (University of Cape Town, South Africa)
- 09.30 **Fluidized bed desliming in fine particle flotation – Part III flotation of difficult to clean coal**
K.P. Galvin, N. Harvey, J.E. Dickinson (The University of Newcastle, Australia)
- 09.50 **Developments in positron emission particle tracking measurements of froth flotation**
K. Cole, K. Hadler and J.J. Cilliers (Imperial College, UK)
- 10.10 Coffee and poster viewing
- 11.00 **Influence of particles on the formation of bubbles from a submerged capillary**
K.Y. Ng, E. Law, M. Lim and S. Ata (University of New South Wales, Australia)
- 11.20 **3D, or not 3D? – CFD modelling of flotation froths**
P.R. Brito-Parada and J.J. Cilliers (Imperial College, UK)

- 11.40 **Numerical and experimental investigation of air-water flow in a flotation machine**
A. Sachajdak, I. Szczygieł, A. Fic, M. Rojczyk, Z. Buliński (Silesian University of Technology, Poland) and A. Mańka (Institute of Non-Ferrous Metals, Poland)
- 12.00 **Froth transport characterization in a two-dimensional flotation cell**
I. Rojas, L. Vinnett and J. Yianatos (Universidad Técnica Federico Santa María, Chile)
- 12.20 **Development of an effective froth controlling collector in silicate flotation**
O.A. Lima, K.I.P. Albino (Akzo Nobel Surface Chemistry, Brazil), M. Svensson and J.-O. Gustafsson (Akzo Nobel Surface Chemistry, Sweden)
- 12.40 **Investigating froth stability: A comparative study of ionic strength and frother dosage**
K.C. Corin and J.G. Wiese (University of Cape Town, South Africa)
- 13.00 Lunch
- 14.00 *Technical Session 2*
Chairmen: P. Amelunxen (Aminpro, Peru) and S. Ata (University of New South Wales, Australia)
- 14.00 **Behaviour of a galena particle in a thin film, revisiting Dippenaar**
G.D.M. Morris and J.J. Cilliers (Imperial College, UK)
- 14.20 **Surface energy of minerals – applications to flotation**
S. Mohammadi-Jam and K.E. Waters (McGill University, Canada)
- 14.40 **Zeta potential and floatability studies of iron minerals**
A.B.Henriques, O.M.S. Rodrigues and A.E.C. Peres (Universidade Federal de Minas Gerais, Brazil)
- 15.00 **Optimization of flotation cell pH for the reverse flotation of an African low grade BIF hematite ore**
A. Fouchee, N. Naudé, K. Schommarz (University of Pretoria, South Africa) and S. Naik (Anglo American, South Africa)
- 15.20 **Investigation of the hydrophobization of silicate ore minerals using a Force Mapping Method combining Non contact Atomic Force Microscopy and Raman Spectroscopy**
M. Rudolph (Helmholtz-Institute Freiberg for Resource Technology, Germany) and U.A. Peuker (TU Bergakademie Freiberg, Germany)
- 15.40 Coffee
- 16.10 **Effect of oxidation time on the floatability of tennantite and chalcopyrite; surface characterization using X-Ray Photoelectron Spectroscopy (XPS) and Atomic Force Microscopy (AFM)**
H.T.B.M. Petrus (Gadjah Mada University, Indonesia), T. Hirajima, K. Sasaki (Kyushu University, Japan) and H. Okamoto (Sumitomo Metal Mining Co. Ltd, Japan)
- 16.30 **The effect of saline water on mineral flotation**
Bo Wang and Yongjun Peng (University of Queensland, Australia)
- 16.50 **The influence of water hardness on the sulphidisation and xanthate flotation of malachite**
W.Rivera and D. Bastin (University of Liège, Belgium)
- 17.15 Happy Hour, Vineyard Gardens. Accompanying guests welcome

Tuesday November 19th

- 07.45 Light breakfast
- 08.40 *Technical Session 3*
Chairmen: G. Sandoval (Aminpro, Chile) and P.R. Brito-Parada (Imperial College, UK)
- 08.40 **Modeling flotation with a flexible approach – integrating different models to the Compartment Model**
N.A. Santos (Eriez Flotation Division, Brazil), O. Savassi (SGS Geosol, Brazil), A.E.C. Peres and A.H. Martins (UFMG, Brazil)
- 09.00 **Effect of operating conditions and machine parameters on the flotation kinetics in a new laboratory cell**
T. Mattsson, R.A. Grau (Outotec Research Center, Finland), J. Leppinen (Outotec, Finland) and K. Heiskanen (Aalto University, Finland)
- 09.20 **Measurement of froth phase bubble sizes**
C. Bhodayi and M.H. Moys (University of the Witwatersrand, South Africa)
- 09.40 **Distributed flotation kinetics models- a new implementation approach for coal flotation**
P. Ofori, G. O'Brien, P. Hapugoda and B. Firth (CSIRO Energy Technology, Australia)
- 10.00 **A thermochemical study of thiol collector-galena surface reactions**
B. McFadzean and C.T. O'Connor (University of Cape Town, South Africa)
- 10.20 Coffee
- 11.00 **Effect of particle breakage mechanisms during regrinding on surface chemistry and mineral flotation**
X. Chen, and D. Bradshaw (JKMRC, Australia), Y. Peng (University of Queensland, Australia)
- 11.20 **Virtual sizing: the wrong way to complete liberation analysis**
C.J. Greet (Magotteaux Pty Limited, Australia)
- 11.40 **Presence of inorganic electrolytes valence state for electrochemical potential and pure chalcopyrite flotation and complex sulphur ore flotation**
F. Göktepe (Balıkesir University, Turkey), G. Bulut, Ü. Yenial (İstanbul Technical University, Turkey) and A. Ceylan (Park Electric Production Mining and Industry A.Ş., Turkey)
- 12.00 **Voltammetric study of the interaction between PGMs and sodium ethyl xanthate**
M. Tadie, K. Corin, J. Wiese and C. O'Connor (University of Cape Town, South Africa)
- 12.20 **Impact of plate type minerals on flotation performance assessed using rheological measurements**
T. Bhambhani, M. Vasudevan, D.R.Nagaraj (Cytec Industries, USA), P. Patra and P.Somasundaran (Columbia University, USA)
- 12.40 Lunch
- 14.00 *Technical Session 4*
Chairman: J. Aston ((Huntsman Performance Products, Australia)
- 14.00 **Selective flotation of chalcopyrite and molybdenite with plasma pre-treatment**
T. Hirajima, M. Mori, O. Ichikawa, K. Sasaki, H. Miki (Kyushu University, Japan) and M. Sawada (Sumitomo Metal Mining Co. Ltd, Japan)
- 14.20 **Froth flotation of bastnäsite**
A. Jordens and K.E. Waters (McGill University, Canada)

- 14.40 **Synthesis of 2-ethyl-2-hexenal oxime and its flotation performance for copper ore**
H.-F. Xu, H. Zhong, S. Wang, Y.-N. Niu and G.-Yi Liu (Central South University, China)
- 15.00 **Effect of electrolytes on the flotation of a copper ore in the presence of clay minerals**
S. Zhao (ALS Metallurgy, Australia) and Y. Peng (University of Queensland, Australia)
- 15.20 **Improving floatability of fine chalcopyrite particles in the concentration of complex sulphide ore**
H. Kumar, H. Rautjärvi, J. Ruuska and H. Kuopanportti (University of Oulu, Finland)
- 15.40 **Synergetic effect with a mixture of anionic and nonionic reagent: Ca-mineral contrast separation by flotation at neutral pH**
 I.V. Filippova, L.O. Filippov, A. Duverger and V.V. Severov (Université de Lorraine, France)
- 16.00 Coffee
- 18.30 Coaches depart for conference dinner at Cape Town Waterfront

Wednesday November 20th

- 07.00 Registration desk opens
 Light breakfast of filled croissants, tea, coffee and fruit juice
- 08.10 Applications Symposium Opening Remarks
 J. Wills (MEI, UK) and J.-P. Franzidis (University of Cape Town, South Africa)
- 08.20 **Keynote Lecture: True value added in flotation**
D. Lelinski (FLSmidth, USA)
- 08.50 *Technical Session 5*
 Chairmen: N.O. Lotter (XPS Consulting and Testwork Services, Canada) and C.T. O'Connor (University of Cape Town, South Africa)
- 08.50 **Strategies for increasing coarse particle flotation in conventional flotation cells**
 E. Tabosa and K. Runge (Metso Process Technology & Innovation, Australia)
- 09.10 **Fluizided-Bed Flotation: from industrial minerals to sulfides**
 J. Kohmuench (Eriez Flotation Division, USA) and H. Thanasekaran (Eriez Flotation Division, Australia)
- 09.30 **The effect of machine hydrodynamics on the flotation rate constant**
G.J. Jameson and T. Payne (University of Newcastle, Australia)
- 09.50 **Large flotation cells in the copper processing industry - recent experiences and future considerations (Part 1)**
 D. Govender, D. Meadows, D. Lelinski and F. Traczyk (FLSmidth, USA)
- 10.10 Coffee and poster viewing
- 11.00 **Test programs for modern flotation flow sheet development**
P. Amelunxen (Aminpro, Peru), T. McCord, P. Lan and L. Hill (Freeport McMoRan Copper & Gold, USA)
- 11.20 **Modern practice of sampling and flotation testing for flowsheet development**
N.O. Lotter, E. Whiteman (XPS Consulting and Testwork Services, Canada) and D.J. Bradshaw (JKMRC, Australia)

- 11.40 **A probabilistic model for evaluation of flotation performance**
A. Richins (FLSmidth, USA) and M.G. Nelson (University of Utah, USA)
- 12.00 **Incorporating interfacial properties into particle-based industrial kinetic flotation models**
C.F. Vos, D.J. Bradshaw and W. Stange (JKMRC, Australia)
- 12.20 **A comparison of laboratory batch and mini pilot plant flotation testing**
R. Newell, I. Ametov, A. Kaplun, K. Quast and P. Moore (Ian Wark Research Institute, Australia)
- 12.40 **Evaluation of the response of valuable and gangue minerals on a recovery, size and liberation basis for a low grade silver ore**
J. Quinteros-Riquelme, D. Bradshaw, E. Wightman (JKMRC, Australia) and N.W. Johnson (Mineralogy Pty Ltd, Australia)
- 13.00 Lunch
- 14.00 *Technical Session 6*
Chairmen: M. Mbonambi (Clariant, South Africa) and R. Kappes (Newmont Mining Corp., USA)
- 14.00 **Recent advances in the application of AERO® 7260HFP as greener alternative to NaSH/Nokes in Cu-Mo separation**
M. Peart (Cytec Industries Inc., UK), D.R. Nagaraj, M. Vasudevan, P. Gupta and A. Lawrence (Cytec Industries Inc., USA)
- 14.20 **Improving performance and efficiency of copper and copper gold circuits with POLYFROTH® W22 frother**
J. Aston, S. Boskovic, G. Tindall and G. Tsatouhas (Huntsman Performance Products, Australia)
- 14.40 **Development and introduction of a new selective collector for copper sulphide ore at FQML, Kansanshi Mine**
M. Kalichini, C. Ngulube (First Quantum Minerals Ltd, Zambia), M. Peart (Cytec Industries Inc., UK) and L. Hoffmann (Cytec Industries, South Africa)
- 15.00 **A practical guide for operation, characterisation and performance prediction of industrial flash flotation cells**
B. Newcombe (Barrick Gold Corporation, Australia)
- 15.20 Coffee
- 15.50 **Overview of gold flash flotation at the Tongon Gold Mine in Côte d'Ivoire**
B. Connellan, C. Cronje (Randgold Resources, South Africa), M. Sorgho (Randgold Resources, Côte d'Ivoire) and B. Kgaswane (Outotec, South Africa)
- 16.10 **The removal of arsenic bearing minerals from Rosebery copper concentrate**
G. Long (MMG Rosebery, Australia), Y. Peng (University of Queensland, Australia) and D. Bradshaw (JKMRC, Australia)
- 16.30 **Optimisation of air and froth depth in PGM flotation using a CCRD factorial design**
L. Venkatesan, A. Harris and M. Greyling (Anglo American Platinum, South Africa)
- 16.50 **The implementation of regrinding-flotation pre-treatment of the CIL feed in a copper-gold plant**
F. Burns, D. Seaman (Newcrest Mining Ltd, Australia), Y. Peng and D. Bradshaw (JKMRC, Australia)
- 17.15 Happy Hour, Vineyard Gardens. Accompanying guests welcome

Thursday November 21st

- 07.50 Light breakfast
- 08.40 *Technical Session 7*
Chairmen: E. Tabosa_ (Metso Process Technology & Innovation, Australia) and M. Peart (Cytec Industries Inc., UK)
- 08.40 **Progress in flotation cell level control and determination of froth bed thickness using Outotec LevelSense™ technology**
C. Cruickshank, M. Tirkkonen, T. Soini and J. Kourunen (Outotec Oy, Finland)
- 09.00 **FloatStar FloCam visual monitoring system used to reduce diminished flow occurrence on industrial flotation cells**
C. Subramany and M. Ramonotsi (Mintek, South Africa)
- 09.20 **Froth image analysis methods for online prediction of platinum flotation grades**
M. Kistner, L. Auret (Stellenbosch University, South Africa) and C. Aldrich (Western Australian School of Mines, Australia)
- 09.40 **Online optimisation of the froth phase in industrial flotation cells with the portable froth sensor**
J.J. Burchell, L. van der Bijl (Stone Three Mining, South Africa), A. Harris, L. Venkatesan and N. Plint (Anglo American Platinum, South Africa)
- 10.00 **Improving flotation grade recovery using operational data at Southern Peru Copper**
O.A. Bascur (OSIsoft LLC, USA) and N. Benavides (Southern Peru Copper, Peru)
- 10.20 **The on-line measurement of flotation cells performance**
R.A. Pax (RAP Innovation and Development Pty Ltd, Australia)
- 10.40 Coffee
- 11.20 **Application of daily onsite automated mineralogical analysis to track controls on flotation recovery**
R. Dobbe, S. Bajic (FEI, Australia), T. Martin (Hecla Greens Creek, USA), C. Martin, R. Thorpe (Blue Coast Metallurgy Ltd, Canada), M. Kalstrom (FEI, USA) and D. van der Wal (FEI, The Netherlands)
- 11.40 **Application of Positive Matrix Factorization and model development of size-by-liberation recovery at fixed chemistry**
G. Sandoval (Aminpro, Chile), E. Wightman, D. Bradshaw (JKMRC, Australia) and G. Montes (Universidad de Chile, Chile)
- 12.00 **Bank profiling as a means of controlling entrainment**
N. Singh and J.A. Finch (McGill University, Canada)
- 12.20 **On the collection of valuable minerals along rougher flotation banks**
J. Yianatos, L. Bergh, I. Rojas and L. Vinnett (Universidad Técnica Federico Santa María, Chile)
- 12.40 Lunch
- 14.00 *Technical Session 8*
Chairmen: D.J. Bradshaw (JKMRC, Australia) and J.-P. Franzidis (University of Cape Town, South Africa)
- 14.00 **A few aspects of connection between ore mineralogy and flotation results at Hitura nickel mine, Finland**
H. Miettunen (Belvedere Mining Oy, Finland), K. Heiskanen (Aalto University, Finland) and R. Keiski (University of Oulu, Finland)

- 14.20 **A study of the application of controlled potential sulfidization to oxidized copper sulfide ores**
R. Kappes and J. Meikle (Newmont Mining Corp., USA)
- 14.40 **Selective flotation optimization of galena and sphalerite from lead and zinc ore complex (sulfide-oxide)**
 M.Kashani, H. Zarei (Islamic Azad University, Iran), Z.D. Shafae (Tehran University, Iran) and M. Safari (University of Cape Town, South Africa)
- 15.00 **Effect of free and weak acid dissociable cyanide in process water on gold and silver flotation**
 B. Guo, Y. Peng (University of Queensland, Australia) and R. Espinosa-Gomez (Newcrest Mining Ltd, Australia)
- 15.20 **Understanding the effect of CO₂ on apatite flotation from Catalão's siliceous carbonate phosphate ore**
 E. Matiolo, E. Ferreira, A. Avelar, K. Gonçalves (Vale S.A., Brazil), J.D. Miller, X. Wang (University of Utah, USA) and L.A.F. Barros (Vale Fertilizantes S.A., Brazil)
- 15.40 **Potash flotation practice for carnallite resources in the Qinghai Province, PRC**
Xuming Wang, J.D. Miller (University of Utah, USA), Fangqin Cheng and Huaigang Cheng (Shanxi University, China)
- 16.00 **Conference summary**
 D.J. Bradshaw (JKMRC, Australia) and J.-P. Franzidis (University of Cape Town, South Africa)
- 16.15 **Closing Remarks and Invitation to Flotation '15**
 A.J. Wills (MEI, UK)
- 16.20 Coffee and Wine (accompanying persons welcome)

**Posters- Fundamentals Symposium
 On display November 18th and 19th**

Importance of oxidation during regrinding of rougher concentrate with a high content of sulphides
X. Chen, D. Bradshaw (JKMRC, Australia), D. Seaman (Newcrest Mining Limited, Australia) and Y. Peng (University of Queensland, Australia)

Measuring turbulence in flotation cells with piezoelectric vibration sensor
J. Meng, W. Xie, M. Brennan, D. Bradshaw (JKMRC, Australia), K. Runge and E. Tabosa (Metso Process Technology & Innovation, Australia)

Removal of copper from waters by ion flotation method
 G. Bulut, Ü. Yenial, E. Albayrak (İstanbul Technical University, Turkey) and F. Göktepe (Balıkesir University, Turkey)

Investigating the selective separation of very fine magnetite and quartz particles using two-liquid flotation
T. Leistner, M. Rudolph (Helmholtz-Institute Freiberg for Resource Technology, Germany) and U.A. Peuker (TU Bergakademie Freiberg, Germany)

Using positron emission tomography to validate liquid content in CFD models of froth motion
K. Cole, P. Brito-Parada, A. Morrison, K. Hadler, J.J. Cilliers (Imperial College, UK), I. Govender and A. Buffler (University of Cape Town, South Africa)

Verification of the model size distribution air bubbles in the pneumatic-mechanical flotation machine by using methods CFD and UCT
 A. Młynarczykowska, M. Brożek (AGH University of Science & Technology, Poland), A. Sachajdak, I. Szczygieł (Silesian University of Technology, Poland) and A. Mańka (Insitite of Non-Ferrous Metals, Poland)

The ultrasound effect on bubble-particle interaction in a flotation process

D. Lyubimov, T. Lyubimova (Perm State University, Russia), L. Filippov (Université de Lorraine, France) and L. Klimenko (Institute of Continuous Media Mechanics UB RAS, Russia)

Sulphide self-heating: heat release coefficient QA for Ni-and Cu-concentrates and sulphide mixtures

B. Ngabe and J.A. Finch (McGill University, Canada)

A qualitative study of the relationship between bubble burst rate and water recovery in the investigation of froth stability

T. Shumba, J. Wiese, B. McFadzean (University of Cape Town, South Africa)

Comparative study of the flotation performance of ores treated in an IsaMill and a ball mill

J. Wiese, T. Khonthu and C. O'Connor (University of Cape Town, South Africa)

Cyanide chemistry and its effect on mineral depression and activation in flotation

B. Guo, Y. Peng (University of Queensland, Australia) and R. Espinosa-Gomez (Newcrest Mining Ltd, Australia)

Study of the activation of Pb⁺ in wolframite and scheelite flotation

G. Zhao, S. Wang, H. Zhong and G. Liu (Central South University, China)

Synthesis of a novel dithiocarbamate and its flotation performance for lead sulfide ores

S. Wang, Y. Hu, X. Ma, H. Zhong, Z. Cao and G. Liu (Central South University, China)

Floatability of activated quartz by CaCl₂ using Amazon collectors

J.E.J.C. Oliveira, M.S. Gonçalves, M.C.P. Cardoso, D.S. Costa (Universidade Federal do Pará, Brazil) and A.E.C. Peres (Universidade Federal de Minas Gerais, Brazil)

Influence of the hydrocarbon chain of collectors obtained from Amazonian species on the floatability of minerals

A.S. Alves, D.S. Costa (Universidade Federal do Sul e Sudeste do Pará, Brazil), P.R.G. Brandão and A.E.C. Peres (Universidade Federal de Minas Gerais, Brazil)

Influence of the saponification method of Amazonian oils from Buriti and Babaçu on the floatability of apatite

P.S. Oliveira, A.C. Oliveira, J.K.S. Pinto, D.S. Costa (Universidade Federal do Sul e Sudeste do Pará, Brazil) and A.E. C. Peres (Universidade Federal de Minas Gerais, Brazil)

The effect of substitution of iron for chromium on the ζ-potential of chromite and magnetite

R.F.Souza (Universidade Federal do Rio Grande do Norte, Brazil) and P.R.G. Brandão (Universidade Federal de Minas Gerais, Brazil)

The collision efficiency for interaction of small bubbles with large particles

P. Basařová, M. Hubička and J. Vejražka (Prague Institute of Chemical Technology, Czech Republic)

Numerical and experimental study of glass-water flow within a laboratory flotation machine

J. Smolka, A. Manka (Silesian University of Technology, Poland, Z. Bulinski, M. Rojczyk, A. Fic, I. Szczygiel and A. Sachajdak (Institute of Thermal Technology, Poland)

Dynamics of bubbles at small Reynolds numbers

D.V. Strunin and Y.A. Stepanyants (University of Southern Queensland, Australia)

Prediction of Cu grade using bubble-particle attachment time and collector dosage

B. Albjanic (Curtin University, Australia), D.J. Bradshaw (JKMRC, Australia) and A.V. Nguyen (University of Queensland, Australia)

Modelling flotation recovery in geometallurgical programmes

C.L. Evans (University of Queensland, Australia) and D.J. Bradshaw (JKMRC, Australia)

Posters- Applications Symposium On display November 20th and 21st

Experimental investigation of the velocity field inside the laboratory scale flotation cell

Z. Buliński, I. Szczygieł, A. Fic, A. Sachajdak (Silesian University of Technology, Poland) and A. Mańka (Institute of Non-Ferrous Metals, Poland)

The implications of the froth recovery at the laboratory scale

P. Amelunxen (Aminpro, Peru), G. Sandoval, D. Barriga and R. Amelunxen (Aminpro, Chile)

Pyrite recovery mechanisms in rougher flotation circuits

C. Carrasco, J. Yianatos, I. Rojas and L. Vinnett (Universidad Técnica Federico Santa María, Chile)

HF-free flotation method for separation of feldspar from quartz using combination of cationic and nonionic reagents

L.O. Filippov and I.V. Filippova (Université de Lorraine, France)

Application of automated mineral analysis to the study of ore samples; an example on tantalum-niobium-tin pegmatites and its residual soil

V. Králová, S. Hönig and D. Motl (TESCAN, a.s., Czech Republic)

Valve performance is affected by flotation plant design

R. Rule and N. Sessions (eDART Slurry Valves (Pty) Ltd, South Africa)

Improved metallurgical performance of flotation machine with proper maintenance

C. Botes, K. Benadie and P. Tolvanen (Outotec Oy, Finland)

Seawater as process water for flotation of high clay ores - a catalyst or setback?

J. John, N.W. Johnson, D. Bradshaw (JKMRC, Australia), K. Stewart (Newcrest Mining Ltd, Australia) and D. Turner (Core Resources Pty Ltd, Australia)

The impact of FloatSil[®] on the metallurgical performance of PGMs and gold during beneficiation by froth flotation

B. Gwavava (Suntech Geomet Laboratories, South Africa)

Effect of saline water on the flotation of fine and coarse coal particles in the presence of clay minerals

Bo Wang, Yongjun Peng and S. Vink (University of Queensland, Australia)

The interactive effects of chemical and process parameters on the flotation performance of a UG2 ore

B. McFadzean, S. Pani, J. Wiese and C.T. O'Connor (University of Cape Town, South Africa)

The effect of gangue mineralogy on the recovery of chalcopyrite in batch flotation experiments – a case study using two ores, one rich in siliceous gangue and another rich in siliceous + carbonaceous gangue

N. Sterbik, M. Nasraoui (LaSalle Institute Polytechnique, France), J. Bezuidenhout and G. Lipowsky (Clariant Produkte GmbH, Germany)

Validation of using laboratory test results to predict plant scale flash flotation performance

B. Newcombe (Barrick Gold Corporation / JKMRC, Australia)

Process scale-up for sulphide poor PGE ores (Prosu)

T. Korhonen, A. Taskinen, P. Mörsky (Geological Survey of Finland, Finland), T. Maksimainen (FQM Kevitsa Mining Oy, Finland) and S. Luukkanen (Pöyry Finland Oy, Finland)

Graphite flotation: case study to provide decision criteria for the restart of operations

R. Amelunxen (Amelunxen Mineral Processing Ltd, Canada) H. Sáez, L. Flores and G. Sandoval (Aminpro, Chile)

Kaolinite removal from bauxite by flotation

O.M.S. Rodrigues (Universidade Federal de Ouro Preto, Brazil), A.E.C. Peres and A.B Henriques (Universidade Federal de Minas Gerais, Brazil)

Effective processing of iron ore slime using column flotation

S. Dey, G.M. Paul, R. Singh (National Metallurgical Laboratory, India) and S. Pani (University Of Cape Town, South Africa)