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Tuesday 9th November

16.30-18.30 Wine reception and registration

Wednesday 10th November

07.30 Registration desk opens

08.40 Opening Remarks
B.A. Wills (MEI, UK) and M. Becker (University of Cape Town, South Africa)

09.00 **Keynote Lecture- Developments in mineralogical techniques – what about mineralogists?**
R.P. Schouwstra and A. Smit (Anglo Research, South Africa)

09.30 *Technical Session 1*
Chairmen: H. Kahn (University of Sao Paulo, Brazil) and E. Wightman (JKMRC, Australia)

09.30 **The metallurgical interpretation of automated mineralogical data**
P. Gottlieb and A.R. Butcher (FEI, Australia)

09.50 **Improved automated mineral identification using a new EDS analysis algorithm – implications for process mineralogy applications**
M. Owen, P. Gottlieb, P.W.S.K. Botha, and M. Barnes (FEI, Australia)

10.10 **A new SEM-EDS based automated mineral analysis solution for PGM-bearing ores and flotation products**
C. Bushell (Mintek, South Africa)

10.30 Coffee

11.00 **Using high-resolution X-ray Computed Tomography to investigate the internal structure of geological specimens**
A. Ramsey (Nikon Metrology, UK)

11.20 **Use of X-ray computed tomography to investigate crack distribution and mineral dissemination in sphalerite ore particles**
Y. Ghorbani, M. Becker, J. Petersen, S.H. Morar, A. Mainza and J.-P. Franzidis (University of Cape Town, South Africa)

11.40 **HyLoggingTM as a quantitative mineralogical tool for geometallurgy**
K. Yang, P. Mason, M. Cardy, J. Huntington, L. Whitbourn (CSIRO Earth Science and Resource Engineering, Australia), K. Ehrig, C. Lower and E. von Furt (BHP_Billiton, Australia)

12.00 **Silver process mineralogy and implications in metallurgy**
X. Liu (JKTech Pty, Australia)

12.20 **In-line quantification of aluminium bearing minerals with Raman spectroscopy**
F.E. du Plessis (Blue Cube Systems (Pty) Ltd, South Africa)

12.40 **X-ray diffraction in iron and steel industries – grade control, process optimization and minimizing energy consumption and CO₂ emissions**
U. König (PANalytical B.V., The Netherlands) and L. Gobbo (PANalytical, Brazil)

13.00 Lunch

- 14.00 *Technical Session 2*
Chairman: K. Yang (CSIRO, Australia)
- 14.00 **Sossego copper ore types definition and characterization by X-ray diffraction cluster analysis and SEM image analysis**
V.K. Shimizu and H. Kahn (University of Sao Paulo, Brazil)
- 14.20 **X-ray diffraction cluster analysis in exploration and geometallurgy**
H. Kahn, C. Ulsen, M.M.M. L  Tassinari (University of Sao Paulo, Brazil) and L.A. Gobbo (Spectris do Brasil, Brazil)
- 14.40 **High voltage selective fragmentation for detailed mineralogical and analytical information, case study: Oiva's gold-quartz-dyke, in the Lapland granulite belt, Laanila, Northern Finland**
T. Chernet (Geological Survey of Finland (GTK), Finland)
- 15.00 **Element distributions of geological samples with high sensitivity in SuperSpeed**
M. Haschke, U. Waldschl ger and R. Tagle (Bruker Nano GmbH, Germany)
- 15.20 **2D mineral liberation analysis for a Brazilian iron ore**
I.D. Delbem, R. Galery, P.R.G. Brandao and A.E.C. Peres (Federal University of Minas Gerais, Brazil)
- 15.40 **Process mineralogy and automated phase identification in mixed copper ores at Kansanshi (Zambia)**
A. K ttgen, D. Bastin, F. Dufrane, E. Pirard (Universit  de Li ge, Belgium), F.-X. Paquot (First Quantum, Zambia) and L. Perez-Barnuevo (Universidad Polit cnica de Madrid, Spain)
- 16.00 Coffee
- 17.45 Coach leaves for Groot Constantia Wine Estate

Thursday 11th November

- 08.40 **Keynote Lecture- Modern process mineralogy: an integrated multi-disciplined approach to flowsheeting**
N.O. Lotter (Xstrata Process Support, Canada)
- 09.10 *Technical Session 3*
Chairmen: N.O. Lotter (Xstrata Process Support, Canada) and H. Horsch (Hazen Research Inc., USA)
- 09.10 **Characterising chalcopyrite liberation and flotation potential from Ernest Henry Ore**
J. Hunt (University of Tasmania, Australia), R. Berry and D. Bradshaw (JKMRC, Australia)
- 09.30 **Characterising mineral flotation behaviour by size and liberation**
E. Amini, D.J. Bradshaw and E. Wightman (JKMRC, Australia)
- 09.50 **The role of mineralogy in the formulation and use of mixed collectors in sulphide flotation – an update at Eland Platinum**
N.O. Lotter, J. Oliveira (Xstrata Process Support, Canada) R. Monnapula (Xstrata Alloys Eland Platinum Concentrator, South Africa) and D.J. Bradshaw (JKMRC, Australia)
- 10.10 **The relationship between bubble-particle attachment time and ore mineralogy in the development of a tool to characterize flotation performance**
B. Albijanic, O. Ozdemir, A.V. Nguyen (University of Queensland, Australia), E. Amini, E. Wightman and D.J. Bradshaw (JKMRC, Australia)
- 10.30 Coffee
- 11.10 **Geological variations in the Merensky Reef at Bafokeng Rasimone Platinum Mine and its influence on milling and flotation performance**
A.J.B. Smith, K.S. Viljoen (University of Johannesburg, South Africa), R. Schouwstra, J. Roberts, C. Schalkwyk (Anglo Research, South Africa) and J. Gutzmer (Technische Universit t Bergakademie Freiberg, Germany)
- 11.30 **The use of mineral liberation data with property-based models in simulating mineral processes**
P. Lamberg (Outotec Research, Finland)
- 11.50 **Comparison of the effect of grinding device on mineral liberation and flotation behavior in PGM ores**
N. Solomon, M. Becker, A. Mainza, J. Petersen, J-P Franzidis (University of Cape Town, South Africa) and V. Ross (Lonmin Western Platinum, South Africa)

- 12.10 **Partitioning of PGEs in nickel converter matte phases: direct observations by electron microscopy and electron probe microanalysis**
E.L. Thyse, G. Akdogan (University of Stellenbosch, South Africa), J.H. Neethling, E.J. Olivier (Nelson Mandela Metropolitan University, South Africa), P. Taskinen (Aalto University, Finland) and J.J. Eksteen (Lonmin plc, South Africa)
- 12.30 **4D characterization of Cu leach residue samples**
M. Knackstedt, M. Turner, J. Middleton (ANU/Digital Core, Australia), P. Shrestha (BHP Billiton, Australia), A. Butcher, P. Jaime and P.W.S.K. Botha (FEI Australia)
- 12.50 Lunch
- 14.00 *Technical Session 4*
Chairman: S. Williams (GeoMet Tech Ltd, Canada) and M. Haschke (Bruker Nano GmbH, Germany)
- 14.00 **Profiling of base metal refineries leaching process using the Mineral Liberation Analyser**
V. Mafada and P. Dinham (Anglo American, South Africa)
- 14.20 **Smelter feed quality control**
L. Andrews and B. Mkhize (Anglo Research, South Africa)
- 14.40 **The influence of phyllosilicate mineralogy on the rheology of mineral slurries**
B. Ndlovu, M. Becker, D. Deglon (University of Cape Town, South Africa) and E. Burdukova (University of Melbourne, Australia)
- 15.00 **Beneficiation and mineralogical control of iron content in nepheline concentrate, Franspoort nepheline syenite, South Africa**
L. Gryffenberg, R.M.W. Merkle (University of Pretoria, South Africa) and L. Coney (Mintek, South Africa)
- 15.20 Coffee
- 15.50 **Technological characterization of fines of manganese ore from Morro Da Mina Mine, Brazil**
R.M.F. Lima, E. Esper, H. Jordet-Evanjelista, E.L. Reis and G.R. Silva (Federal University of Ouro Preto, Brazil)
- 16.10 **Optical analysis of particle size and chromite liberation from pulp samples of a UG2 ore regrinding circuit**
S. Leroy, D. Bastin, E. Pirard (Université de Liège, Belgium) and G. Dislaire (Occhio Instruments, Belgium)
- 16.30 **A sample preparation technique to study gold ores containing carbonaceous matter using MLA**
R.H. Tabatabaei and S.M S.M. Vianna (JKMRC, Australia)
- 16.50 **New developments in quantitative coal characterisation**
G. O'Brien (CSIRO Earth Science & Resource Engineering, Australia), Y. Gu, B.J.I. Adair (JKMRC, Australia) and B. Firth (CSIRO Energy Technology, Australia)

Friday 12th November

- 08.40 *Technical Session 5*
Chairmen: R. Neumann (CETEM - Centre for Mineral Technology, Brazil) and E. Pirard (Université de Liège, Belgium)
- 08.40 **Advances in quantitative X-ray mineralogy**
K. Knorr (Bruker AXS, Germany)
- 09.00 **Development of a new tool for process mineralogy**
D.J. Bradshaw, JKMRC, Australia
- 09.20 **An alternative to traditional iron-ore sinter phase classification**
I. Tonžetić (Anglo Research, South Africa) and A. Dippenaar (Kumba Iron Ore Ltd, South Africa)
- 09.40 **Fe-ore recovery from iron-oxide-copper-gold ore body**
S. Bramdeo (Anglo Research, South Africa)
- 10.00 **Mineralogical-textural characterisation of different apatite-iron ore bodies, Malmberget deposit, Sweden, treated in a sorting process in laboratory scale**
C. Lund, O. Martinsson (Luleå University of Technology, Sweden) and T. Lindberg (LKAB, Sweden)

- 10.20 **Mineralogy and texture of some low-grade iron ores from eastern India and their implication on beneficiation**
B. Nayak, S. Mohanty, R.K. Rath, R. Singh and K.K. Bhattacharyya (National Metallurgical Laboratory, India)
- 10.40 Coffee
- 11.20 **Automatic recognition of hematite grains under polarized reflected light microscopy through image analysis**
J.C.A. Iglesias, S. Paciornik (Catholic University of Rio de Janeiro, Brazil) and O.F.M. Gomes (CETEM, Brazil)
- 11.40 **Digital image analysis system applied to the recognition of iron oxide phases**
I.D. Delbem, R. Galery, P.R.G. Brandao and A.E.C. Peres (Federal University of Minas Gerais, Brazil)
- 12.00 **The emerging study of geometallurgy – what is it and where might it go?**
S. Williams (GeoMet Tech Ltd, Canada) and C. Smyth (Georeference Online Ltd, Canada)
- 12.20 **Practical geometallurgy- the Namakwa Sands chronicles**
C. Philander and A. Rozendaal (University of Stellenbosch, South Africa)
- 12.40 **Geometallurgy of uranium deposits**
R.J. Bowell, M. Dey, M. Hutton-Ashkenny (SRK Consulting, UK), K. Penman and D.J. Sapsford (Cardiff University, UK)
- 13.00 Lunch
- 14.00 *Technical Session 6*
Chairman: M. Becker (University of Cape Town, South Africa)
- 14.00 **Development of a Textural ARD Index for predicting acid formation**
A. Parbhakar-Fox (University of Tasmania, Australia), M. Edraki (University of Queensland, Australia), D. Bradshaw and S. Walters (JKMRC, Australia)
- 14.20 **Investigation of the potential for mineral carbonation of South African PGM tailings**
J. Vogeli, D.L. Reid, M. Becker, J. Broadhurst and J-P. Franzidis (University of Cape Town, South Africa)
- 14.40 **Application of process mineralogy as a tool in sustainable processing**
C.L. Evans, E. M. Wightman, D. Bradshaw and E.V. Manlapig (JKMRC, Australia)
- 15.00 **The mineral phase quantification of vermiculite- and interstratified clay minerals-bearing ores by X-ray diffraction and Rietveld method after K cation exchange**
R. Neumann, G.E.L. Costa (CETEM - Centre for Mineral Technology, Brazil), J.C. Gaspar (Universidade de Brasilia, Brazil), Matheus Palmieri and S.E. e Silva (Anglo American Group, Brazil)
- 15.20 **X-Ray diffraction with Rietveld refinement applied to bauxite ores from Porto Trombetas, Brazil**
J.L. Antoniassi, H. Kahn and L.M. Sant'Agostino (Sao Paulo University, Brazil)
- 15.40 Closing Remarks
M. Becker (University of Cape Town, South Africa) and A.J. Wills (MEI, UK)
- 16.00 Coffee and wine