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 HyLogging™ as a quantitative mineralogical tool for geometallurgy

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. Lé 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. Waldschläger 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. Köttgen, D. Bastin, F. Dufrane, E. Pirard (Université de Liège, Belgium), F.-X. Paquot (First Quantum, Zambia) and L. Perez-Barnuevo (Universidad Politécnica de Madrid, Spain)

16.00 Coffee

17.45 Coach leaves for Groot Constantia Wine Estate

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**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. Albijać, 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 Universität 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)
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)

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. Kuhn 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