Wednesday August 27th

09.00   *Technical Session 1- Technology Developments*
Chairmen: L.J. Kormos (Xstrata Process Support, Canada), G. Rollinson (Camborne School of Mines, UK), E. Donskoi (CSIRO Minerals, Australia) and C. Aldrich (University of Stellenbosch, South Africa)

09.00   **Development of optical image analysis techniques for better mineral and texture identification of iron ores**
E. Donskoi, A. Poliakov, J.R. Manuel and T.D. Raynlyn (CSIRO Minerals, Australia)

09.30   **Development of a QEMSCAN® coal analysis capability**
J. van Zyl and C. Pudmenzki (Intellection Pty Ltd, Australia)

10.00   **Estimation of mineral grain size using area scans**
D. Sutherland (Visiting Professor, Hacettepe University, Turkey)

10.30   Coffee

11.20   **Estimation of liberation distributions in separation plants**
S. Gay (JKMRC, Australia)

11.50   **Developing new quantitative applications in geometallurgy and diamond deposits**
K. Hoal, S. Appleby, J. Stammer (Colorado School of Mines, USA), P. Botha (Intellection Corporation, USA) and C. Palmer (CSIR Natural Resources and the Environment, and Gem Diamond Technical Services, South Africa)

12.20   **Comparison of the identification of minerals and mineraloids by XRD and Automated EIXE**
P. Gottlieb, A. Butcher (Intellection Pty Ltd, Australia), M. Power and S. Jones (Intellection UK Ltd, UK)

12.50   Lunch

14.00   **Automated cryptic variation through the Bushveld Complex, South Africa – a new tool for igneous petrologists**
P.W.S.K. Botha (Intellection Corp., USA) and A.R. Butcher (Intellection Pty Ltd, Australia)

14.30   **A review of online monitoring of froth flotation with machine vision systems**
C. Aldrich and C. Marais (University of Stellenbosch, South Africa)

15.00   **Automated analysis of aluminium bath electrolytes by the Rietveld method**
K. Knorr (Bruker-AXS, Germany and C. Kelaart (Bruker Biosciences Pty Ltd, Australia)

15.30   Coffee

16.00   **Rapid mineral concentration measurement over conveyors by NIR reflectance spectroscopy**
A.F.H. Goetz, B. Curtiss and D. Shiley (ASD Inc., USA)

16.30   **Real time mineralogical analysis for automated control and process optimisation**
C.G. Manias (FCT Group of Companies, Australia)

Thursday August 28th

09.00   *Technical Session 2- Case Studies*
Chairmen: M.I. Pownceby (CSIRO Minerals, Australia), R.A. Creelman (Ultrasystems Technology Pty Ltd, Australia), T. Wallmach (Exxaro, South Africa) and J. Blieffert (Bruker AXS, Germany)

09.00   **Automated mineralogy applied to chromite ore characterisation**
M.I. Pownceby, D.A. McCallum, W.J. Bruckard and C.V. Ly (CSIRO Minerals, Australia)

09.30   **Characterisation of the Antamina bornite zone for process mineralogy modelling**
L.J. Kormos, J. Oliveira, P.J. Whittaker (Xstrata Process Support, Canada) and E. Lipten (Antamina Operations, Peru)

10.00   **Studying crustal evolution processes by automated mineral analysis: an example from the Scottish late Caledonian granites**
S.K. Appleby, N.M. Kelly (Colorado School of Mines, USA), C.M. Graham (University of Edinburgh, UK) and M.R. Gillespie (British Geological Survey, UK)

10.30   Coffee

11.10   **Using QEMSCAN® to establish a classification scheme for mud-rich facies in drylands**
M.L. Sandstrom, C.B. Krapf, R.F. Daniel, K. Amos (University of Adelaide, Australia)

11.40   **Biological and environmental applications of quantitative mineral analysis**
J. Botha, K. Hoal (Colorado School of Mines, USA), H.C.W. Skinner (Yale University, USA) and P. Botha (Intellection Corporation, USA)

12.10   **Online analysis of coal on a conveyor belt by use of machine vision and kernel methods**
C. Aldrich, G.T. Jemwa and K.D. Keegan (University of Stellenbosch, South Africa)

12.30   **The role of quantitative mineralogy in assessing rock breakage characteristics at Bingham Canyon, Utah**
J. Ross, S. Appleby K. Hoal (Colorado School of Mines, USA) and P. Botha (Intellection Pty Ltd, Australia)

13.00   Lunch

14.00   **Applying QEMSCAN® to resolve leucoxene mineralogy in heavy mineral sands**
T. Wallmach and L Reyneke (Exxaro, South Africa)

14.30   **Using automated mineralogy as a tool to detect micron-sized gold in sediment-hosted Carlin- type deposits**
J.G. Stammer, M.W. Hitzman (Colorado School of Mines, USA) and R.P. Highsmith (Intuitive Exploration, USA)

15.00   **The characterisation of Ni-rich and Ni-poor goethite using QEMSCAN®**
J. Andersen, G. Rollinson, B. Snook, R. Fairhurst (Camborne School of Mines, UK) and R. Herrington (Natural History Museum, UK)

15.30   Coffee

16.00   **How automated mineralogy is revolutionising the analysis of soil**
A. Benedictus et al (Intellection Pty Ltd, Australia), T. Hoare (Hoare Consulting Pty Ltd, Australia), G. Dridan (Integrated Precision Viticulture, Australia), P. Fraser and M. Lane (Yangarra Estate, Australia)

16.30   **Using QEMSCAN® to identify and quantify the mineral matter in coal and applying QEMSCAN® to problems associated with coal utilization**
R.A. Creelman et al (Ultrasystems Technology Pty Ltd, Australia), T. Dixon (Tarong Energy, Australia) and J. Van Zyl (Intellection Pty Ltd, Australia)