

Physical Separation '13

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Updates will be alerted at <http://tinyurl.com/cldzyyt> (#PhysicalSeparation13)
Presenters underlined

Wednesday 19th June

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

Thursday 20th June

- 07.45 Registration opens
- 08.40 Opening Remarks and presentation of MEI Young Person's Award
B.A. Wills (MEI, UK)
- 09.00 *Technical Session 1*
Chairmen: B. Pålsson (Luleå University of Technology, Sweden) and D. Amariei (COREM, Canada)
- 09.00 **Modelling and simulation of physical separation processes**
D. Wiseman (David Wiseman Pty Ltd, Australia)
- 09.20 **Coarse waste rejection through size based separation**
D.J. Bowman, R.A. Bearman (Bear Rock Solutions, Australia) and A.S. Logan (Newcrest Mining, Australia)
- 09.40 **An overview of microwave applications in mineral processing and extractive metallurgy**
S. Suresh and N.N. Viswanathan (Indian Institute of Technology, India)
- 10.00 **FDTD simulation of microwave heating of variable feed**
V. Jokovic, V. Rizmanoski, N. Djordjevic and R. Morrison (University of Queensland, Australia)
- 10.20 Coffee
- 11.00 **Physical separation of secondary waste from the decommissioning of nuclear facilities**
M. Brandauer, M. Haist, J.-D.Eckhardt and S. Gentes (Karlsruhe Institute of Technology, Germany)
- 11.20 **Evaluating separation behaviour of coarse and fine textures within a disseminated, siliceous ore type**
V. Rizmanoski, R. Morrison, V. Jokovic, B. Adair, and J. Tucker (University of Queensland, Australia)
- 11.40 **Recent advances in iron ore beneficiation**
J.M.F. Clout (John Clout and Associates, Australia)

- 12.00 **Implications of next generation ore sorting for definition of an ore deposit**
B. Adair, R. Morrison and S. Kanchibotla (University of Queensland, Australia)
- 12.20 **Chromite processing using XRT-based sensor sorting**
J.-M. Bergmann (TOMRA Sorting GmbH, Germany)
- 12.40 **The development of indices to assess both the sorting potential of an ore and the performance of any sorting process when treating that ore**
 J. Tucker, R. Morrison (University of Queensland, Australia) and G. Wellwood (Rio Tinto Technology and Innovations, Australia)
- 13.00 Lunch
- 14.00 *Technical Session 2*
 Chairman: F. Betancourt (Universidad de Concepción, Chile)
- 14.00 **Approximate analytical method for calculating the non-monotonic partition curve (fish-hook effect) of a hydrocyclone**
J. Dueck, T. Neesse (Friedrich-Alexander-Universität, Germany) and M.G.F. Aly (Al-Azhar University, Egypt)
- 14.20 **Flow visualization in hydrocyclones using Positron Emission Particle Tracking**
J. Radman, R. Langlois, K. Waters, J.A. Finch (McGill University, Canada), N. Rowson and T. Leadbeater (University of Birmingham, UK)
- 14.40 **Numerical analysis of hydrocyclones with different cone section designs**
M. Ghodrat, S.B. Kuang, A.B. Yu (University of New South Wales, Australia), A. Vince (Elsa Consulting Group, Australia), G.D. Barnett and P.J. Barnett (Minco Tech Australia Pty Ltd, Australia)
- 15.00 **Modeling of a two-step air classifier**
R. Johansson and M. Evertsson (Chalmers University of Technology, Sweden)
- 15.20 **Seal technology enhances physical separation as key to saving 25 billion gallons of water**
C. Rehmann (AESSEAL, Inc, USA)
- 15.40 Coffee
- 16.30 Optional Guided Coast Path Walk, ending with a beer at the Chain Locker Pub, Old Falmouth. Accompanying partners welcome

Friday 21st June

- 09.00 *Technical Session 3*
 Chairmen: A. Surowiak (AGH University of Science and Technology, Poland) and J.M.F. Clout (John Clout and Associates, Australia)
- 09.00 **The use of a reflux classifier for iron ore testing: assessment of iron fines recovery at pilot scale**
D. Amariei, D. Michaud (COREM, Canada), G. Paquet (AMEM, Canada) and M. Lindsay (Rio Tinto IOC, Canada)
- 09.20 **How to optimize design and operation of dense medium cyclones in coal preparation**
J. Chen, K. Chu, R. Zou, A. Yu (University of New South Wales, Australia), A. Vince (Elsa Consulting Group, Australia), G.D. Barnett and P.J. Barnett (Minco Tech, Australia)
- 09.40 **PEPT applied to study heavy mineral particle flow on spiral concentrator**
D. Boucher, K. Waters, R. Langlois (McGill University, Canada), T. Leadbeater (University of Birmingham, UK) and M. Renaud (COREM, Canada)

- 10.00 **Validation of a predictive model for industrial scale Falcon concentrators**
J.-S. Kroll-Rabotin and R. S. Sanders (University of Alberta, Canada)
- 10.20 Coffee
- 11.00 **Describing segregation and dispersion in jigging beds in terms of the bed porosity distribution**
E.F. Crespo (Daytal Resources, Spain)
- 11.20 **Comparative assessment of separation efficiency in jigging**
A. Surowiak and M. Brozek (AGH University of Science and Technology, Poland)
- 11.40 **Processing a rare earth mineral deposit using gravity and magnetic separation**
A. Jordens, K.E. Waters (McGill University, Canada), R.S. Sheridan and N.A. Rowson (University of Birmingham, UK)
- 12.00 **Evaluation of the applicability of ultrasonic velocity profiling in conditions related to wet low intensity magnetic separation**
J. Stener, J.E. Carlson, B. Pålsson and A. Sand (Luleå University of Technology, Sweden)
- 12.20 **Investigation of the radiofrequency properties of conductive minerals**
G. Genn and R. Morrison (University of Queensland, Australia)
- 12.40 **Applying the dual-frequency inversion method to settling suspensions**
H. Rice, T. Hunter, S. Biggs, J. Peakall and M. Fairweather (University of Leeds, UK)
- 13.00 Lunch
- 14.00 *Technical Session 4*
Chairman: R. Morrison (University of Queensland, Australia)
- 14.00 **A novel acoustic backscatter system application: characterising sludges and suspensions *in situ***
J. Bux, T.N. Hunter, J. Peakall and S.R. Biggs (University of Leeds, UK)
- 14.20 **Continuous sedimentation of suspensions with time-varying feed properties**
F. Betancourt, R. Bürger (Universidad de Concepción, Chile), S. Diehl and S. Farås (Lund University, Sweden)
- 14.40 **Microwave drying of a sub-bituminous coal**
F. Gao, C.A. Pickles and S. Kelebek (Queen's University, Canada)
- 15.00 Closing remarks and invitation to Physical Separation '15
A.J. Wills (MEI, UK)
- 15.10 Coffee and briefing on mine visit. Accompanying guests welcome
- 16.15 Coaches leave for visit to Camborne-Redruth historic mining area
Accompanying guests welcome

Posters

Numerical studies of the effect of aperture shape on a vibrating screen

K.J. Dong, A.H. Esfandiary and A.B. Yu (University of New South Wales, Australia)

Computational investigation of the “breakaway” effect in dense medium cyclones

B. Wang (Lanzhou University, China), K.W. Chu, A.B. Yu (University of New South Wales, Australia) and A. Vince (Elsa Consulting Group, Australia)

Numerical computing of the fish-hook-effect

L. Minkov (Tomsk State University, Russia), J. Dueck and T. Neesse (Friedrich-Alexander-Universität, Germany)

Calculation of liberation factor on the basis of multidimensional coal characteristics

A. Surowiak and T. Niedoba (AGH University of Science and Technology, Poland)

CFD modeling and analysis of multiphase flow in dense medium cyclone

S.B. Kuang, Z. Qi, A.B. Yu (University of New South Wales, Australia), A. Vince (Elsa Consulting Group, Australia), G.D. Barnett and P.J. Barnett (Minco Tech Australia Pty Ltd, Australia)

Infrared thermography for iron ore grading

A. Ghosh, B. Nayak, S.P. Sagar (CSIR-National Metallurgical Laboratory, India), A.K. Sharma (National Institute of Technology, India) and T.K. Ghosh (Tata Steel Ltd, India)

STOICISM project and physical separation methods

F. Jouffret (IMERYYS Talc Europe, France), D. Moseley, M. Baricot, A. Coe, P. Chauhan and S. Moradi (IMERYYS Minerals Ltd, UK)