Computational Modelling ‘17

(Twitter #ComputationalModelling17)

Monday June 12th
16.30-18.00 Registration, wine and cheese reception. Accompanying partners welcome

Tuesday June 13th

08.00 Registration opens. Coffee and light breakfast

09.00 Opening Remarks
J. Wills (MEI, UK)

09.20 Technical Session 1
Chairmen: P. Brito-Parada (Imperial College, UK) and L.A. Cisternas (Universidad de Antofagasta, Chile)

09.20 Keynote Lecture: Modelling Multi-phase Minerals Processing Systems
S. Neethling (Imperial College, UK)

09.50 Decoupling the impact of rock properties and operational settings on minerals processing performance: a data-driven approach
S. Suriadi, S.J.J. Leemans, K. Burrage, A. Hofstede, M.T. Wynn (Queensland University of Technology, Australia), C. Carrasco (BHP Billiton, Australia), L. Keeney and P. Walters (CRC ORE, Australia)

10.10 Statistical considerations for the modelling of comminution processes in mining
A. Hinde (Independent Consultant, South Africa)

10.30 Coffee

11.20 What can we learn from single spherical particle breakage: a deeper look from test and numerical study
H. Jiang, J. Sun and Y. D. Zhou (Tsinghua University, China)

11.40 Numerical analysis of vertical stirred mills scale-up using discrete element method
D.B. Mazzinghy, R.M. Carvalho, V.A. Rodriguez, L.M. Tavares, C.E. Teixeira Jr., R. Galéry, (Universidade Federal de Minas Gerais and Universidade Federal do Rio de Janeiro, Brazil)

12.00 Attritor mill- grinding media dynamics
D. Daraio, H.E. Stitt (Johnson Matthey Technology Centre, UK), M. Marigo, A. Alexiadis and A. Ingram (University of Birmingham, UK)

12.20 Using DEM to add value to a laboratory stirred media mill test work program
E. Ford and Q. Reynolds (Mintek, South Africa)

12.40 Lunch

14.00 Technical Session 2
Chairmen: G. Gustafsson (Luleå University of Technology, Sweden)

14.00 Improving milling operation using uncertainty and global sensitivity analyses
F. Lucay, L.A. Cisternas (Universidad de Antofagasta, Chile), E.D. Gálvez (Universidad Católica del Norte, Chile), M. Salez-Cruz (Universidad Autónoma Metropolitana, Mexico)

14.20 A novel method for efficient modelling of interactions between pulp, charge and mill structure in tumbling mills
P. Jonsén, S. Hammarberg, B.I. Pålsson and G. Lindkvist (Luleå University of Technology, Sweden)
14.40 Experimental and numerical study of granular flow using particle methods: application in handling of potassium chloride
S. Larsson, G. Gustafsson, H.Å. Häggblad and P. Jonsén (Luleå University of Technology, Sweden)

15.00 Numerical simulation of cation exchange in fine-coarse seawater slurry pipeline flow
C. Reyes and C.F. Ihle (Universidad de Chile, Chile)

15.20 Enhancement of collection of fine particles in a cyclone by ultrasonic nebulizer
B. Wang, S. Li, R. Xin, Y. Zhang and C. Wang (Lanzhou University, China)

15.40 Coffee

16.45 Optional Guided Coast Path Walk, ending with a beer in Old Falmouth. Accompanying partners welcome

Wednesday June 14th

08.15 Coffee and light breakfast

09.00 Technical Session 3
Chairmen: E. Ford (Mintek, South Africa) and D.B. Mazzinghy (Universidade Federal de Minas Gerais, Brazil)

09.00 Discrete element modelling of vibrating screens
A.A. Harzanagh, E.C. Orhan and S.L. Ergun (Hacettepe University, Turkey)

09.20 A continuum based numerical modelling approach for the simulation of WHIMS
R. Rasool and H. Lieberwirth (Institute of Mineral Processing Machines, Germany)

09.40 Simplify modelling of particle magnetic induction field based on finite element analysis
J. Ku (Fuzhou University, China)

10.00 A review of flotation design methods based on computational optimization
L.A. Cisternas, F. Lucay, R. Acosta (Universidad de Antofagasta, Chile) and E.D. Gálvez (Universidad Católica del Norte, Chile)

10.20 Coffee

11.00 A three-dimensional numerical framework for the modelling of the pulp phase in froth flotation
G. Bhutani, J.J. Cilliers and P.R. Brito-Parada (Imperial College, UK)

11.20 Numerical prediction of fracture in iron ore pellets during handling and transportation
G. Gustafsson, H.Å. Häggblad, S. Larsson and P. Jonsén (Luleå University of Technology, Sweden)

11.40 Advances in the modelling of pyrometallurgical processes
C. A. Pickles (Queen’s University, Canada)

12.00 FEM modelling of the stress and strain behaviour of a DC smelting furnace lining
A.H. Kotze, J.H. Zietsman and S. Kok (University of Pretoria, South Africa)

12.20 MI-CFD modelling of parallel flow regenerative kiln
N. Kandamby, T. Abbas, M. Akritopoulos (CINAR Ltd, UK) and Z.G. Habib (LHOIST Group, Belgium)

12.40 A hybrid simulation methodology for rotary kilns including granular flow and heat transfer
M.P. Schwarz, P.J. Witt (CSIRO Mineral Resources, Australia, M.Sinnott, and P.W. Cleary (CSIRO Data 61, Australia)

13.00 Lunch
14.00  **Technical Session 4**  
Chairman: A. Hinde (Independent Consultant, South Africa)

14.00  **Development of hydrometallurgical reactor leaching with modeling and simulation: atmospheric direct leaching of zinc concentrates**  
M. Lampinen (Lappeenranta University of Technology, Finland)

14.20  **Multiple species leaching simulator at the particle scale**  
F. Reyes, D. Barker, Q. Lin and S.J. Neethling (Imperial College, UK)

14.40  **Simulation of a high-pressure base metal leaching operation, including control layers and abnormal event detection**  
J.J. Strydom, J.J. Miskim, J.T. McCoy, L. Auret and C. Dorfling (Stellenbosch University, South Africa)

15.00  Closing remarks and invitation to Computational Modelling '19  
A.J. Wills (MEI, UK)

15.10  Cornish cream tea