Monday November 16th

07.30  Registration desk opens. Light breakfast of filled croissants, tea, coffee and fruit juice

08.30  Fundamentals Symposium Opening Remarks and Presentation of MEI Award for 2014
        B.A. Wills (MEI, UK)

08.45  Setting the scene
        J.A. Finch (McGill University, Canada)

09.00  Technical Session 1
        Chairmen: P. Brito-Parada (Imperial College, UK) and E. Forbes (CSIRO Mineral Resources Flagship, Australia)

09.00  Keynote Lecture: What have models and measurements ever done for us?
        J.J. Cilliers (Imperial College, UK)

The history of flotation has key moments when there were significant advances in understanding. It is notable that these moments are punctuated by advances in the theory or the experiment of flotation. These new techniques in modelling and measurement did not develop independently, but advances in one led directly to advances in the other. Subsequent application of these techniques resulted in improve industrial operation. This will be illustrated with a number of specific examples.

Flotation models with rate constants and bubble surface area flux gave a scientific basis to comparisons of conditions and prediction of mineral recovery. Measuring \( S_B \) has now become routine. Distributed rate constants gave better industrial flotation models, and the availability and use of MLA data, lately, integrated liberation and size. Entrainment models for gangue recovery, and elegant experiments to measure it, led to grade prediction. Froth recovery completed the model, and a number of techniques to measure \( R_f \) were developed. Extending the models into a plant simulator subsequently allowed plant design and optimisation.

Computational Fluid Dynamics is used to predict pulp flow patterns and attachment zones. Validation has required difficult flow visualisation and the use of Positron Emission Particle Tracking. Pulp CFD has been used successfully to design impellers and tanks. Similarly, froth CFD required measurement of air recovery and froth stability. Advances in on-line image analysis and the use of video images and their interpretation are now used as diagnostic and control tools.

Currently, advances in macro- and high-speed photography allow observation of bubble-particle interactions never seen before. These images and videos are compared with 3-D physical visualisations to understand the underlying mechanisms. These new measurements and their interpretation are forcing us to question long-held assumptions on particle and bubble behaviour in flotation, attachment and detachment and bubble film failure. These techniques are yet to be widely applied to industrial problems.

It is clear that advances in theory and experiment take some time to move from the laboratory to the literature and on to the plant. It is also clear that while some advances have made a significant impact on industrial flotation, there is still much potential for further application.
Sunday November 15th

14.00 Elsevier Author Workshop; exhibition booth and poster set-up

16.30-18.00 Registration and wine reception, with hot and cold canapés (accompanying persons welcome)

Monday November 16th

07.30 Registration desk opens. Light breakfast of filled croissants, tea, coffee and fruit juice

08.30 Fundamentals Symposium Opening Remarks and Presentation of MEI Award for 2014 B.A. Wills (MEI, UK)

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Chairmen: P. Brito-Parada (Imperial College, UK) and E. Forbes (CSIRO Mineral Resources Flagship, Australia)

09.00 Keynote Lecture: What have models and measurements ever done for us? 1
J.J. Cilliers (Imperial College, UK)

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Registration desk opens. Light breakfast of filled croissants, tea, coffee and fruit juice

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17.45 Coaches leave for conference dinner at Kirstenbosch Botanical Gardens

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07.45 Registration desk opens. Light breakfast of filled croissants, tea, coffee and fruit juice

08.50 Applications Symposium Opening Remarks
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<th>Session</th>
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<td>09.00</td>
<td>Technical Session 5</td>
<td>Chairmen: R. Kappes (Newmont Mining Corp., USA) and Y.H. Tan (McGill University, Canada)</td>
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<tr>
<td>09.00</td>
<td>Keynote Lecture: Evolution of flotation chemistry research: a century of innovations and the emerging challenges</td>
<td>D.R. Nagaraj and R.S. Farinato (Cytec Industries Inc., USA)</td>
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<td>09.40</td>
<td>Clariant collectors for use as alternatives to xanthate collectors in traditional sulphide flotation applications</td>
<td>M. Mbonambi, L. Mahlangu (Clariant, South Africa) and J. Bezuidenhout (Clariant, Germany)</td>
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<td>10.00</td>
<td>Continuous, real time pulp chemistry measurements and what they tell us about metallurgical performance</td>
<td>C.J. Greet and K. Selga (Magotteaux Australia Pty Limited, Australia)</td>
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<td>10.20</td>
<td>Coffee, posters and exhibition viewing</td>
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<td>11.10</td>
<td>Gas dispersion properties of collector/frother blends</td>
<td>X. Zhou, J.A. Finch, K.E. Waters (McGill University, Canada) and F. Cappuccitti (Flottec LLC, USA)</td>
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<td>11.30</td>
<td>An impedance study of mitigation effect of electrolytes on clay minerals slime coating</td>
<td>S. Zhao (ALS Metallurgy, Australia), B. Guo and Y. Peng (University of Queensland, Australia)</td>
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<td>11.50</td>
<td>The selective separation of fluorite, barite and calcite with valonea extract and sodium fluosilicate as depressants</td>
<td>Z. Ren, H. Gao and F. Yu (Wuhan University of Technology, China)</td>
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<td>12.10</td>
<td>The effect of biopolymers on copper flotation in the presence of kaolinite</td>
<td>R.A. Lauten (Pionera, Norway), Y. Wang and Y. Peng (University of Queensland, Australia)</td>
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<td>12.30</td>
<td>Impact of seawater salts with calcium and magnesium removal on floatability of copper-molybdenum ores</td>
<td>R.I. Jeldres, (CSIRO, Chile), D. Calisaya and L.A. Cisternas (Universidad de Antofagasta, Chile)</td>
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<td>12.50</td>
<td>Lunch</td>
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<td>14.00</td>
<td>Technical Session 6</td>
<td>Chairmen: K. Heiskanen, Outotec, Finland and J.E. Dickinson (University of Newcastle, Australia)</td>
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<td>14.00</td>
<td>Beneficiation of the Nechalacho rare earth deposit: froth flotation</td>
<td>A. Jordens, C. Marion and K.E. Waters (McGill University, Canada)</td>
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<td>14.20</td>
<td>A practical process mineralogy approach to advancing the flowsheet for the Kamoa Project</td>
<td>E. Whiteman, N.O. Lotter (XPS Consulting &amp; Testwork Services, Canada) and S.R. Amos (Tvanhoe Mines Ltd, South Africa)</td>
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<td>14.40</td>
<td>Investigating the recovery of ultrafine cassiterite from tailings disposals using oil-assisted flotation methods</td>
<td>T. Leistner, S.C. Chelgani, M. Rudolph (Helmholtz-Institute Freiberg for Resource Technology, Germany) and U.A. Peuker (TU Bergakademie Freiberg, Germany)</td>
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<td>15.00</td>
<td>Coffee</td>
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<td>15.40</td>
<td>Development of an automated sample transport system for mining flotation plants</td>
<td>B. de Jong and P. Hofmeyr (IMP, South Africa)</td>
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<td>16.00</td>
<td>Flotation control incorporating DMC and image analysis</td>
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<td>16.20</td>
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Thursday November 19th

07.30 Registration desk opens. Light breakfast of filled croissants, tea, coffee and fruit juice

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15.20 Evaluation of pneumatic flotation applied to iron ores 849 N.P. Lima (Vale SA, Brazil), A.E.C. Peres (UFMG, Brazil), L.C. Aquino and G. Niekerk (MBE, Brazil)

15.40 Conference Summary D.J. Bradshaw (JKMRC, Australia)

16.00 Closing remarks and invitation to Flotation ‘17 A.J. Wills (MEI, UK)

16.10 Coffee and Farewell wine function, Vineyard Gardens Accompanying guests welcome

Friday November 20th

14.15 Optional guided hike to the top of Table Mountain All invited, but this is undertaken at your own risk

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