

# CSRP'o8 Program

[ delivering sustainable solutions to the minerals and metals industries ]

## TUESDAY 18 NOVEMBER 2008

**8:30 Welcome, OHS, Introduction and Summary of CSRP Highlights**  
Stevan Green (CEO, CSRP) and Erica Smyth (Independent Director, CSRP)

**8:45 Keynote Speaker**  
Dr John Cole (General Manager, Queensland Office of Clean Energy)

### 09:15 [1] ZERO WASTE & MINOR ELEMENTS

Chair: Warren Bruckard (Q&A to follow each session 1 presentation)

**Developing SUSOP® – a structured, methodical mechanism for incorporating sustainability principles into the design and operation of minerals processing plants**

Ben McLellan (Sustainable Minerals Institute, University of Queensland)

**Overview of the Early Removal Process – Small Scale Development Work**

Warren Bruckard (CSIRO Minerals)

**Thermodynamics of Selective Roasting of Arsenic from Tennantite Containing Copper Concentrates**

Steven Wright (CSIRO Minerals)

**Techno-Economic Assessment of Early Arsenic Removal from Copper Ores**

Nawshad Haque (CSIRO Minerals)

### 10:30 morning tea

### 11:00 [2] CO2 BREAKTHROUGH IN METAL PRODUCTION

Chair: Sharif Jahanshahi

**Water Conservation in the Mining Industry – case study of gold mining and refining**

Goen Ho (Murdoch University)

**Overview of the CO2 Breakthrough Program and Linkage to IISI**

Sharif Jahanshahi (CSIRO) and John Mathieson (BlueScope Steel Research)

**Survey of Sustainable Biomass Resources for Iron and Steel Industry**

Nawshad Haque (CSIRO Minerals)

**Demonstration of Recarburisation of Liquid Steel Using Renewable Carbon at OneSteel**

Michael Somerville (CSIRO Minerals)

**Piloting the Integrated Dry Granulation and Heat Recovery Process at CSIRO**

Dongsheng Xie (CSIRO Minerals)

**Value of the Projects – Industry Perspective**

Phillip Ridgeway (OneSteel)

**Panel Discussion** (All session 2 speakers available for Q&A)

### 12:40 networking lunch

### 1:30 [3a] ENERGY EFFICIENT LIBERATION & COMMINUTION

Chair: Malcolm Powell

**Minerals, Metals and Sustainability – a text book for earth resources graduates of the future**

John Rankin (CSIRO Minerals)

**Demand-Supply Interaction on Future Mining Resource Production: The Coal Model**

Geoffrey Evans (University of Newcastle)

**Overview of Eco Efficient Liberation**

Malcolm Powell (JKMRC, University of Queensland)

**Energy Efficient Circuits and Progressive Liberation**

Zeljka Pokrajcic (PhD Student, JKMRC, University of Queensland)

**Fair Measures of Energy Usage**

Fiesal Musa (PhD Student, JKMRC, University of Queensland)

**Improving Grinding Efficiency with the IsaMill™**

Rob Morrison (JKMRC, University of Queensland)

**Panel Discussion** (All session 3a speakers available for Q&A)

program current at 17 November

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2:45 afternoon tea

3:00 **[3b] ENERGY EFFICIENT LIBERATION & COMMINUTION**

**High Pressure Grinding Rolls Multiple Pass**

Marko Hilden (JKMRC, University of Queensland)

**Update on the JK Rotary Breakage Tester**

Toni Kojovic (JKMRC, University of Queensland)

**Improvement of Energy Efficiency of Rock Comminution through Reduction of Thermal Losses**

Nenad Djordjevic (JKMRC, University of Queensland)

**Towards a Virtual Comminution Machine**

Rob Morrison (JKMRC, University of Queensland)

**The New Energy Logging from the Discrete Element Method**

Nirmal Weerasekara (JKMRC, University of Queensland)

**Progress on the Unified Comminution Model**

Malcolm Powell (JKMRC, University of Queensland)

**Panel Discussion** (All session 3b speakers available for Q&A)

4:30 end presentation sessions

4:30 **[4] PARTICIPANTS' FORUM**

Chair: Philip Bangerter (Hatch Australia)

The purpose of the Participants' Forum is to provide a forum for consultation among the CSRP Participants.

5:30 day one close

7:30 **Conference Dinner @ Customs House**

399 Queen Street, Brisbane

**Guest Speaker**

Professor Peter Andrews (Queensland Chief Scientist)

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## WEDNESDAY 19 NOVEMBER 2008

**08:30 Welcome and Information on CSRP2**  
Stevan Green (CEO, CSRP)

### **09:00 [5] INDUSTRY PANEL SESSION**

Chair: Erica Smyth (CSRP)

Panel: Bruce Fraser (AMIRA), Evan Jamieson (Alcoa) and Joe Pease (Xstrata)

This is an opportunity for our industry participants to tell us what we can do to better serve their needs and to provide an opportunity to respond to day 1 of the conference.

**10:00 morning tea**

### **10:30 [6] GEOPOLYMERS**

Chair: Arie van Riessen (Q&A to follow each session 6 presentation)

#### **Australian Life Cycle Initiative (AusLCI) and CSRP database: Australian data**

Damien Giurco (Institute for Sustainable Futures, University of Technology Sydney)

#### **Highly Sensitive Quantitative Phase Analysis of Fly Ashes for Use as Geopolymer Source Materials**

Ross Williams (Centre for Materials Research, Curtin University)

#### **Synthesis Paths and Performance Evaluation of Geopolymer Binder Systems Derived from Major Mineral Processing and Mining Waste Feedstock Materials**

Kwesi Sagoe-Crentsil (CSIRO Materials Science & Engineering)

#### **Managing Coal-Fired Power Station Solid By-Products**

Terry Gourley (Geopolymer Alliance)

#### **Thermal Character of Geopolymers Synthesised from Class F Fly Ash Containing High Concentrations of Iron and $\alpha$ -Quartz**

William Rickard (Centre for Materials Research, Curtin University)

#### **Rational Utilisation of Fly Ash for Geopolymer Processing**

Temuujin Jadambaa (Centre for Materials Research, Curtin University)

**12:15 networking lunch**

### **1:15 [7] EDUCATION**

Dan Churach (CSRP) and Jim Avraamides (CSRP)

### **1:45 [8] BAUXITE RESIDUE**

Chair: Evan Jamieson (Q&A to follow each session 8 presentation)

#### **Development of a Sustainability Roadmap for the Kwinana Industrial Area (WA)**

Karin Schianetz (Centre of Excellence in Cleaner Production, Curtin University)

#### **Production and Application of Red Sand™ as ReSand®**

Evan Jamieson (Alcoa)

#### **Understanding Bauxite Residue from a Community Perspective: A review of community consultation in the Peel-Harvey Catchment**

Catherine Pattenden (Sustainable Minerals Institute, University of Queensland)

#### **Using LCA to Compare the Environmental Performance of Bauxite Residue, Lime and Bauxsol™ in the Treatment of Acid Mine Drainage at Mt Morgan Mine**

Daniel Tuazon (University of Queensland)

**Panel Discussion** (All session 8 speakers available for Q&A)

**3:00 Conference Close** (Stevan Green, CEO, CSRP)