

Dr Scott Bryan from BRC was featured in the September issue of *UQ News* for his work in volcanic research.

Competition

The SMI would like to embark on a unifying research initiative that reflects the cross discipline skills within the centres. Minimising the impact of mining operations is a large portion of the work that the SMI centres actually do for industry.

SMI needs an appropriate name for this unified approach and an internal competition has been set-up for the best name put forward by SMI staff or students.

An example of a name would be ‘Key Hole Mining’ but this has been use by the CSIRO.

- Prize: A lovely bottle of wine.
- Send entries to Charlie Ackerly (c.ackerly@uq.edu.au) by Tuesday 7 October.

New Staff Profiles

Marcin Ziemski joined the BRC as an energy and efficiency expert in September. His background is a mix of management consulting, engineering, project management and energy efficiency.

Marcin graduated from the Australian National University in 1995 with degrees in Engineering (Systems) and Science (IT). He spent several years with Accenture as a management consultant before embarking on a minerals industry PhD at the JKMRC. After completing his doctorate in 2002, he initiated and managed energy efficiency projects for major mining operations in Australia through a role at University of Queensland’s School of Engineering. He was also involved in the development and provision of UQ’s minerals engineering curriculum, and represented Queensland in the Australia wide education projects sponsored by the Minerals Council of Australia.

In 2006 he joined JKTech as a senior consultant, working with minerals companies in the USA, Europe, South East Asia, Africa and Australia to help improve their operating performance. He also provided commercial training courses in process optimisation for clients around the world. Through his work at JKTech he developed an expertise in flotation to complement his energy efficiency background.

Before joining the SMI he spent a year in London and Europe as a senior energy consultant working in energy trading and efficiency with The Structure Group (Europe). He was one of a team of four consultants that developed the implementation strategy for Europe’s largest energy trading floor (E.On Energy), and gained skills in international energy and emissions trading. His roles at The Structure Group also involved the development of energy consumption reporting and energy efficiency assessment tools.

Marcin’s involvement with the BRC includes projects in Sustainable Energy and Extraction (SEE) and AMSRI. His role aims to develop tools and methodologies to improve the level of sustainability performance in metaliferous mining operations.





Dr Trang Huynh is a Postdoctoral Research Fellow with CMLR who commenced in August 2008. Trang is working with Dr Barry Noller on research regarding the Whole of Contaminants Project at Mt Isa supported by Xstrata Copper. The project examines the pathways of contaminants, particularly lead, via air, water and soil to biota and human at Mt Isa. Trang has recently completed her PhD degree under supervision of Prof. Alan Baker (Phytotechnology Research Group) at The University of Melbourne. Her PhD project investigated the effects of plants on the dynamic of heavy metals in contaminated soils during phytoextraction. Trang's research interests are principally in biogeochemistry, environmental and soil chemistry, plant-soil interaction and the behaviour of heavy metals in the environment. She is also interested in understanding and applying advanced techniques such as Diffusion Gradient in Thin-film (DGT) and Synchrotron X-ray analysis to measure and monitor heavy metal speciation in the environment.

Call For Papers

Water in Mining 2009

**From Concentrator to Community - protecting our licence to operate
Perth, 15-17 September 2009**

The organising committee of WIM09 now invites interested parties to submit abstracts for consideration for publication and presentation at WIM09. Papers will be considered on any aspect of water management in mining, minerals processing and refining. Focus area for priority selection of papers are:

1. Minerals Processing and Refining
2. Community and stakeholder expectations for/on water systems design, implementation, operation and closure.
3. Cumulative impacts/effects.

Closing date for submission of abstracts is 14 November 2008.

Please see Lucinda for more details.

Enviromine 2009

**Environmental Issues in the Mining Industry
Chile, 30 September to 2 October 2009**

The organising committee now invites interested parties to submit abstracts in the following areas:

- Criteria for environmental design, operations and closure of mining activities
- Design for the environment (DFE) of mining projects
- Environmental impact assessment in mining projects
- Environmental costs
- Legal and regulatory requirements
- Mining waste management
- Hazardous waste management
- Dust control in mining operations
- Sulfate and metal removal in mining and metallurgical effluents
- Predication, prevention and control of acid mine water

Closing date for submission of abstracts is 22nd December 2008.

Please see Lucinda for more details

Upcoming Events

11 - 13 November 2008 – Dialogue Skills for Community Engagement - A People Centred Approach.

This ACMER workshop explores the principles and practice of dialogue, demonstrating how authentic and skilled dialogue feeds the community engagement and development process. For more information, go to:

<http://www.acmer.uq.edu.au/training/trainingdetails/CommunityEngagementDetails.html>

November 2008 – Life of Mine Planning and Management; From Impact Assessment to Mine Completion. ACMER training course. For more information, go to:

<http://www.acmer.uq.edu.au/training/trainingdetails/LifeofMineDetails.html>

SMI holds free weekly internal seminars at both the St Lucia and Indooroopilly sites. To be alerted to upcoming seminars, subscribe to the mail-out by emailing Charlie Ackerly (c.ackerly@uq.edu.au).

Research Committee awards

One of the functions of the SMI Research Committee is to oversee funding applications and to distribute funds under a new initiative; SMI Academic Excellence Funding. The two types of funding granted under this initiative are internal SMI funding and UQ Central funding. UQ RIF is the UQ Central funding scheme connected to minor infrastructure grant funding, and the assistance that is granted goes to partial funding for projects.

First round of funding grants were awarded in September, and the winning proposals were:

- Sue Vink from CWiMI for *Upgrading SMI water quality instrumentation to include continuous monitoring total and blue-green algae.*
- Daniel Franks from CSRSM for *Surrounded by change: collective strategies for managing the cumulative impacts of multiple mines.*
- Warwick Browne from CSRSM for *Exploring practical solutions in CD for mining companies in East Kalimantan.*
- Andrew Fletcher, Peter Erskine, and David Mulligan from CMLR for *Contribution towards purchase of unmanned aerial mapping system for monitoring dynamic surficial environments.*
- Deanna Kemp from CSRSM, who will use the funding for a two-week visit to Harvard's Kennedy school of Business for the CSRI-Oxfam seminar.
- Cath Pattenden and Janine Lay from CSRSM for *Concept study: Attraction, retention & diversity in the minerals industry workforce - longitudinal study 1997-2008.*
- Nick Bainton from CSRSM, who will use the funding for travel for his new book publication.

The next round for SMI discretionary funding closes 22nd October. For more information, please contact SMI Research Committee.

Developing a Risk - Cost - Benefit (RCB) Decision Support Tool for the Mining Industry by Using the Bow Tie Analysis Technique

A collaboration of two SMI Centres: MISHC & BRC

Potential solutions to both financial and personnel risk in the mining industry are delivered by technology and applied research. These solutions are often expensive and both the risk improvement levels and financial benefit are poorly quantified. How then does a mining company make reliable decisions to implement these expensive technologies?

Last year, MISHC and the BRC applied for ACARP (Australian Coal Association research Program) funding to address this issue. The project was funded by ACARP and project work started in February 08. The project team consists of G Kizil (MISHC), A Bye (BRC) and J Joy (MISHC).

This joint initiative between MISHC and the BRC has developed a "Risk - Cost - Benefit (RCB) Decision Support Tool" so that a quantitative assessment of the complex risks, costs and benefits associated with safety interventions can be determined. The project is scheduled to carry out four case studies to demonstrate the practical application of the Tool and they are as follows: 1) Truck Collisions 2) Highwall failures 3) Gas outburst & 4) Subsidence. The first case study was focussed on available Collision Avoidance and Fatigue Technology. The study is completed now and its findings are going to be presented as a part of the weekly SMI seminars on October 16th.

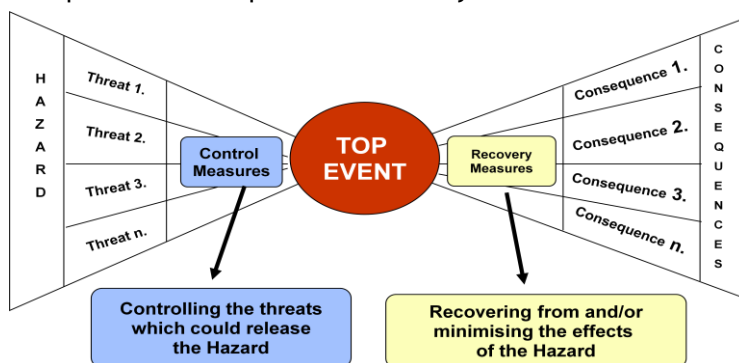


Figure 1: Bow Tie Diagram

The RCB Tool is used to select and motivate the most appropriate safety solution. The semi-quantitative "Bow Tie Analysis" risk assessment technique is utilised.

This project has developed a generic RCB approach and the project team believes that the RCB Tool could readily be implemented on Social Responsibility, Water and Environment Management related issues.

Travellers' tales



SMI was represented at this year's Sustainable Development Conference (SD08) in Darwin, held from the 15th to 19th September. The MCA's Sustainable Development Conference is a leading minerals industry forum for communicating sustainable development and its practical implementation through cooperative partnerships with industry, government and community. The Conference theme was "Solutions Through Collaboration", highlighting tangible examples of the minerals industry's partnerships with government, the community and other stakeholders in delivering sustainable outcomes.

Preceding the conference ACMER organised a workshop on the "Socio-Economic Dimensions of Mine Closure" in cooperation with CSRM. David Brereton (Director-CSRM) was one of the key presenters in this highly interactive workshop attended by 37 delegates. Participants were drawn from Alcoa, BHP Billiton, Newmont, URS, Rio Tinto and OZ Minerals to name a few.

Chris Moran, David Brereton and Peter Erskine (CMLR) were presenters during the SD08 conference. David presented a talk on "Cumulative impacts: what are they and how can they be better understood and managed" together with Chris whose presentation was focused on "Quantitative assessment of cumulative visual impacts of coal mining in the upper Hunter Valley". Peter's presentation was on "Removing and rehabilitating Australian ecosystems - do mining companies know what is expected for closure?" Roger Barnes from CSRM also co-authored a paper on "Uranium mining - information strategy for aboriginal stakeholders".

Chris also led an interactive water workshop on "A water accounting framework for the minerals industry" to receive feedback from the industry on the developed framework. This was an opportunity for mining companies and consultants to understand the government and industry contexts for a water accounting system and to comment on it. Participants noted that having a conference session that was based on participation was a welcome break from the "stand and deliver" format of most of the sessions.

While the conference was well attended, ~400 registrations, there was some discussion about whether the MCA SD conference needs to rethink its aims and format to ensure that registrations remain high, that the delegates are a good representation of industry (corporate and site) and that the most important and challenging issues are raised and debated. It clearly meets the aim of providing a venue to connect consulting services to the delegates. The minor presence of mining and minerals processing papers, sessions or forums indicates that there is insufficient engagement with people involved in these core aspects of the industry and the issues being raised as priorities in the sustainable development arena. This is an area where SMI could choose to lead. The opening address by Mitchell Hooke from MCA indicated, indirectly, a similar lack expressed as a muted signal from the "economic" pillar of SD.

SMI's new booth display was unveiled at the conference. Bruce Barrie and Brigitte Braddock from ACMER manned the booth and had a great opportunity to promote the overall capabilities of the institute to a broad audience and to create new contacts within the industry.

Overall, the SMI dominated research institution presence at the conference with the CSIRO Minerals Downunder Flagship and the CSRP also having more than one delegate. However, only SMI had multiple delegates presenting and running workshops as well as our booth.

Brigitte Braddock & Chris Moran

Recent travel:

- David Mulligan from CMLR went to the Christmas Islands, as well as Manila, Davao, and general Santos area.
- Ben Adair from JKMRC went to UK, Europe, USA, and Canada.