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## MEA wins national education award

In November MEA received a prestigious Australian Learning and Teaching Council Award for outstanding "Educational Partnerships and Collaborations with Other Organisations". Representatives from each MEA partner university attended a ceremony in Canberra to celebrate "outstanding efforts and achievements of

higher education teachers and programs" from institutions around the country. As part of the award, \$25,000 prize money was received, and will be spent on enhancing the collaborative document support platform (Equella) that MEA uses to interface with Learning Management Systems at MEA member universities.

## Adelaide and Curtin now part of DETCRC

The mining engineering research group from Adelaide University is now part of the \$112M Deep Exploration Technologies CRC officially launched in November. The CRC is an eight year program funded by \$28M cash from the Australian Government's CRC Program, \$21M cash (and \$12M in-kind) from industry participants, and \$50M in-kind from its research providers. The inaugural participants in the CRC are: Barrick, BHP Billiton, Boart Longyear, CSIRO, Curtin University, Geoscience Australia, Gold Fields, Newcrest, South Australian Government (PIRSA), The University of Adelaide, The University of Western Australia and Vale Exploration.

There are currently five research projects run by the Mining Research Group for the CRC, and they are:

- Acoustic emission monitoring during drilling/rock cutting for optimising drilling performance
- Experimental investigation of failure criteria related to borehole stability
- Numerical modelling of borehole stability
- Geotechnical characterisation of the Brukanga drilling site.
- Rock cutting dynamic modelling



## MEA academics contribute to mining knowledge

MEA academic staff have contributed a number of chapters to two important reference books. Bruce Hebblewhite, Basil Beamish and Brian White contributed to chapters on Rock Mechanics, Spontaneous Combustion and Mine Planning to the recently published 3rd edition of *AusIMM Monograph 12 AustralAsian Coal Mining Practice*. Roger Thompson, Paul Lever, Peter Knights and Mahinda Kuruppu have contributed chapters on Haul Road Design, Mining

Automation and Mine Infrastructure Maintenance to the newly published 3rd edition of the *SME Mining Engineering Handbook* published by the Society of Mining, Metallurgy and Exploration in the USA.

MEA staff at two member Universities have been successful in recent Australian Research Council (ARC) grant rounds. Dr Serkan Saydem and Prof Bruce Hebblewhite at The University of New

South Wales won an ARC linkage grant to investigate new ground support methods for underground coal mines.

Professor Peter Dowd and Dr Chaoshui Xu from the University of Adelaide won an ARC Discovery grant for a research project "stochastic modeling of fractures in crystalline rock masses for hot dry rock enhanced geothermal systems" that will be completed at the end of 2013.

# A message from the executive

As we head into a new year it is pertinent to both reflect on the achievements of the past year and look forward to the challenges of the coming year.

Without doubt, the highlight of 2010 was the national recognition of the MEA program by the Australian Learning and Teaching Council. In a ceremony held in Canberra in November, MEA won an award for "enhancing educational partnerships and collaborations with other organizations". We should be justifiably proud of the unique collaborative model that we have established and of the many innovations that we have introduced into our teaching materials and delivery of courses. A big thanks goes to all staff and collaborators affiliated with MEA.

The skills shortage affecting the minerals sector has, if anything, intensified. In 2010, a total of 199 mining engineers graduated from the MEA program. As evident from the large number of mining engineers residing in Australia on 457 visas, this is still not sufficient to meet demand.

As such, at an MEA strategic planning day held recently at The University of

Queensland, it was agreed that, in 2011 we should work on:

- Building a student focus to our programs
- Continuing to drive a focus on quality of materials
- Encouraging collaborative research opportunities
- Improving communications with stakeholders
- Increasing student entry into MEA through alternative pathways (Associate Universities and international articulation agreements).

Towards these ends, I am delighted to announce that former Executive Director, Prof Bruce Hebblewhite, has been appointed as the inaugural Director of Research for MEA. I look forward to working with Bruce and all other MEA staff members towards taking the MEA program from good to great over the course of this next year.



**Peter Knights,**  
MEA Executive Director

**"Adelaide strengthens the MEA collaboration"**  
**Peter Knights**  
**Executive Director**

## Adelaide Full Member

Adelaide was voted in as a full member university of MEA in October this year. "This means that MEA benefits from Adelaide's strengths in Geomechanics and Geostatistics, that MEA graduate numbers increase by some 40 per year and that The University of Adelaide benefits through the support of MEA income and collaborative assistance, said Peter Knights.

## MEA best practice

Interview with Dr Kevin Tuckwell  
Director Higher Education MTEC

### Why is the MEA model considered best practice?

It's a collaborative effort between four Australian universities, that collectively are the four largest providers of mining engineering education in Australia. They work collaboratively with each other and the industry to deliver the best mining education available in Australia.

*There are other unique aspects on the MEA program that are not available anywhere else. Can you explain further about what graduates get from MEA?*

Let me just mention a few of these unique aspects. The most important is that not only do the students have an opportunity of working with industry professionals who have real experience working in the mining industry, but also they have the opportunity to meet and work with their student peers at the other three universities. These students may be their workmates in the companies they join when they leave university or in the future as their career develops. This is a particularly unique aspect of the program - that students can begin to build their working relationships whilst still at university. Industry is very closely involved with this program. They have guided the development of the subject material in the courses to ensure that what the students are being taught is relevant to the modern Australian/ Global mining industry; to ensure that there are subjects, not only of a hard technical nature (eg geo-mechanics or mine planning) but also subjects, some would say, of a softer nature such as sustainability, community relations and how to engage with indigenous people who may be impacted by the operations of the mining industry. As a result of the MEA programme, students are graduating with a much better working knowledge of the mining industry. When I was studying, most students were focussed on their discipline (e.g. mining engineering, geology or metallurgy) but without the depth of context about the industry that we are seeing now. This is the biggest contribution of this type of programme.

## SNAPSHOT UQ students on 2010 Moranbah Field trip





## Welcome Steve Hall new director of WASM

***“The desire to travel got me into the mining industry”***

**What has been your involvement in the mining industry?**

I am a career academic having taught and researched in Australia, the UK and Canada; combined with short periods of working and consulting around the mining world, that included uranium and gold in South Africa; base metals in the UK; iron and titanium in Canada; plus industrial minerals in the Former Soviet Union.

**What discipline did you study?**

Minerals Engineering from the UK, followed by Masters in Metallurgy by research at WASM. I was the first! I then completed my PhD in metallurgical engineering at McGill University in Montreal, Canada.

**What was your position prior to Director of WASM?**

For three years, I was a Professor of Engineering at Laurentian University in Sudbury, Ontario, Canada, seconded

to lead a mining research centre with groups in mine planning, geomechanics and environmental monitoring. I was also Director of the Elliot Lake Research Centre that included a low-level radiation analytical facility. I was on the national advisory committee for Natural Resources Canada Green Mining Initiative.

**What excites you about your new role?**

The challenge of providing well-educated graduates to the global mining boom. WASM is unique in having mining, metallurgy and geosciences in one School across two campuses and the strong support of multiple stakeholders. Our research – often collaborative and with industry – is internationally-recognised.

**What are your thoughts on MEA?**

It has achieved what “Back from the Brink” aimed to do by maintaining mining departments through collaborative funding. Industry, through the Minerals Council of Australia, should be proud of this when you look at the situation in the US and elsewhere. It is important to keep in place (or even increase) the support to allow student-staff ratios to move back downwards, hence improving graduate quality.

“WASM is unique in that we benefit from being a member of all MTEC-supported programs and plan to stay so.”

## Introducing... Dr Penny Stewart



You could say that Penny Stewart has brown blood running through her veins and a career in engineering was virtually destined from birth. Her father and grandfather were both Mining Engineers. She was born in Kalgoorlie and started her first few years of schooling in Mt Isa. Her favourite toys were cars and a pink jeep for which she made dirt roads under the house.

Now she is the first female lecturer in Mining Engineering at the University of Queensland, where she first studied Mining Engineering and did her PhD in Rock Mechanics.

Between those points in her career, Penny has worked in mine sites around Australia, from her first vacation jobs to working at Kambalda Nickel mines, Renison Tin and the Henty Gold mine among others. She has also consulted widely in the industry.

Given her wide experience Penny also knows what it is to be a woman in what was traditionally seen as men’s work. “Gender wasn’t really an issue when you are underground. You all look the same,” Penny said. However, Penny has also seen the industry change in the way it has embraced diversity and introduced measures to become more flexible and inclusive, partly driven by the demand for skilled workers which has meant that they look for talent above all.

During her career Penny has enjoyed the variety that the mining industry has brought her. She also believes that unlike other engineering disciplines, mining offers almost immediate feedback on your work on a site which is very rewarding.

However, she wanted to get back into research and teaching and is delighted to be working with UQ and MEA. She particularly appreciates the MEA’s supportive network for new academics and the sharing of resources across the four universities. She also believes that the contact students have with other universities and industry professionals will enhance their understanding of the demands of a mining engineering career. “I encourage students to follow what you’re good at, as in the long run you will succeed in what you do and enjoy it in the process,” Penny said. “Mining is a great industry, full of down-to-earth, straight-talking people.”

# Student Profiles

## MEA online

*"I enjoy meeting people through the group projects"*

*"Good community, tight knit group"*

*"Like the standardised assessment"*

*"Get to meet other MEA students on excursions or Vacwork point of connection"*

*"Other engineering students are jealous of the common curriculum of MEA"*

Visit [mea.edu.au](http://mea.edu.au) to hear more thoughts on MEA from students and why these students chose mining engineering.



1.



2.



3.



4.



5.

1. Alexis Holland
2. Emma Kameniar
3. Jason Hatwell and Nicholas O'Loughlin
4. Jamie Boffo
5. Dylan Delcampo



Mining Education Australia



## First indigenous Mining Engineer Graduate at WASM

Western Australian School of Mines graduated their first indigenous student in Mining Engineering last year. **Jerry Frewen** is one of only three indigenous students to graduate from the historic mining school and the first ever in Mining Engineering. Jerry is currently working at BHP's open cut Yandi operation in the Pilbara.

Extend your reach!

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MEA is an initiative of the Minerals Council of Australia