PhD students get resourceful with broader learning

Postgraduate students at the Sustainable Minerals Institute are also earning graduate certificates, writes Rachel Leblan.

A PhD and a graduate certificate are at opposite ends of the spectrum of postgraduate study. A PhD is an elite research qualification. Postgraduate students at the University of Queensland’s Sustainable Minerals Institute (SMI) are undertaking both simultaneously as part of the centre’s quest to train the future workforce of the global resource industry.

Many of the students in the Institute’s 100-strong multidisciplinary postgraduate cohort are from non-mining backgrounds. While many come from discipline backgrounds that are relevant to the Institute’s sustainability focus such as social science, science, or environmental science – they don’t fully know the mining context in which their institute director, Chris Moran says.

“So we decided, if we were going to send them out there to change the world of mining and minerals and to improve the way that things are done, they had to have a credible understanding of that industry,” Moran adds.

“We are actually creating a discipline here at the Institute – and that’s the discipline around the concept of sustainable mining, sustainable minerals – so what we want to make sure that our students graduate with a good understanding of the context and that we are not just producing experts in the traditional sense of a PhD in a discipline, but people who are resourceful, they can work across disciplines,” he adds.

The graduate certificate in sustainable development, which is being piloted by 10 students this year, is designed to equip students with a holistic and integrated understanding of the industry.

The first course covers the basics of research training. An introduction to sustainable development follows. Another course, called tools and integration, aims to integrate students' knowledge across all disciplines within the Institute. The last course examines a group sustainability project.

Isabel Buitrago-Franco was a consultant for the Colombian government prior to undertaking her PhD as the Institute’s Centre for Social Responsibility in Mining, part of her brief was to promote educational programs for communities affected by mining.

Buitrago-Franco began her PhD at the beginning of this year. Her research focus is enabling multi-sector partnerships to build capacity in mining-affected communities in Latin America.

The graduate certificate is a great opportunity to get a broader understanding of the industry at all levels, including the operational level, Buitrago-Franco says.

She has been able to incorporate several components of the graduate certificate into her PhD, so it doesn’t feel like an additional workload.

“Just now has to find the applicability of all the subjects we take in the certificate and see the way in which you can incorporate them into your PhD,” she says. For example, students are encouraged to include a chapter in their PhD on their contribution to sustainable development.

“This graduate certificate gave me the tools to be able to start working on the chapter and now I’ve already finished the chapter on my contribution to sustainability,” Buitrago-Franco says.

Armin Golev is an economist, then a lecturer, at Perm State Technical University in Russia before arriving in Australia in November 2009. In Russia, he was involved in environmental projects and looking to continue his research.

He began his PhD in December 2009 at the Institute’s Centre for Social Responsibility in Mining. His research focus is industrial ecology and sustainable development at the regional level.

“Telling the story of the impacts and refineries were definitely helpful as they provided an opportunity to see the operations and processes in the refineries and sands and to meet the people from the industry are directly involved with them to discuss the issues,” Golev says.

He says the opportunity to spend time with his PhD colleagues and the wider community of the Australian mining industry is invaluable.

“At my centre we have sociologists, anthropologists, geologists, chemical engineers, and economists and we all have the opportunity to work together,” Golev says.

“Doing a PhD you don’t communicate much with each other. Through the graduate certificate we can set each other aside every week. It’s an additional opportunity to communicate and collaborate.”

Golev says the program has helped students gain a fundamental understanding of sustainable development theory.

He believes the qualification will also be valuable in terms of career opportunities as it will provide “additional proof of general knowledge of the industry.”

Students participating in the certificate took a five-day field trip to Townsville earlier this year to tour mine sites, processing plants, and metal refineries. There were exposed to environmental and mine rehabilitation issues, and the strong occupational health, safety, and risk management culture of the industry.

Anand Datar, a geologist based at the Institute’s Centre for Mine Land Rehabilitation, believes the site trip was a crucial component of the program.

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