

# UTAS sets the pace in mining worldwide

They're spread all over the world, from Africa to Canada and the Australian outback: the University of Tasmania's geology graduates are among the elite of the mining world. Having graduated from UTAS' Centre of Excellence in Ore Deposits (CODES), these people who populate mining companies consider they have elite professional skills because of the expertise of UTAS academics and their access, while studying, to the varied geology of Tasmania. In particular, UTAS' masters and PhD qualifications in economic geology are highly regarded in the mining industry – and according to seven graduates **Sharon Webb** spoke to, a CODES qualification is an entrée into a select mining network operating worldwide.

## NEIL MARTIN, Perth *PhD 2004*

**M**Y COMPANY, ZENITH MINERALS, is a junior exploration company. I've got to grow it and find new ore bodies, develop new mines. I'll be using the exploration skills I learnt at UTAS at CODES.

I was working as a geologist all over Australia from 1987-1999 in base metals and gold exploration. By 1999 the mining industry was in a downturn with a high unemployment rate.

Even though I was employed, I wanted a game-changer. I'd done a training

ODES and when I was offered a scholarship at UTAS my wife and I moved to Tasmania for four and a half years while I did my PhD.

That led to working in Mongolia for six months, then to a job as exploration manager at Jabiru Metals for seven years and exploration manager at Bauxite Resources for a year before I came to Zenith.

Doing a PhD at CODES gave me a different skill set, along with many academic and industry contacts in Australia and overseas.

I've met a lot of CODES graduates as I've travelled around the world; they're a tight network and we keep in contact. There's a fair amount of camaraderie as well as networking on the technical side.

I've used some of the CODES staff for consultancy work; CODES staff and graduates are like-minded in that there's a culture of getting on with the job and understanding the mining industry.



*Dr Neil Martin: Managing director, Zenith Minerals*

**DR VANESSA LICKFOLD**

Head of business development for West and Central Africa, Kumba Iron Ore, Pretoria, South Africa (PhD 2002)

*"At a youth group camp, a woman who was studying geology asked me: How do you think this rock got here? From then on I knew geology was what I was going to do. Not once have I thought I chose the wrong career."*

**TODD MCGILVRAY**

Principal exploration geologist, MMG, Melbourne (BSc Hons 2003)

*"Other CODES graduates and I had a knowledge of geology above colleagues with a similar qualification because we'd had extensive exposure to the geology of Tasmania and support from industry leaders at CODES."*

**TRACEY KERR**

Group head of exploration, Anglo American, London (M Econ Geol 1995)

*"I am responsible for greenfields mineral exploration for a variety of commodities including copper, nickel, iron ore, and thermal coal in more than 12 countries. I manage an annual budget of \$100m and a team of approximately 370 people."*

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Managing director, Zenith Minerals, Perth (PhD 2004)

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**DR JAMIE ROGERS**

Chief geologist, IAMGOLD, Canada (PhD 1997)

*"... the CODES network is widespread throughout the world. I was employed by a former graduate I know – it's almost a tick on the box if they know you graduated from CODES."*

**DR DARRYL CLARK**

Vice-president exploration, Cameco, Canada (PhD 2003)

*"CODES is recognised as one of the leading economic geology institutions in the world because the study is very applied. Some very successful mining explorers have come out of there."*

**ADRIAN PENNEY**

Principal geotechnical engineer, AMC Consultants, Melbourne (BSc Hons 1998)

*"I was working at Beaconsfield on Anzac Day 2006 when the mine collapsed. I worked with 50 or 60 others providing geotechnical input to aspects of the rescue and helping to figure out ways to rescue the trapped miners. It was one of the most trying and interesting times of my life."*

## TRACEY KERR, London Master of Economic Geology 1995

WORKING AS GROUP HEAD OF exploration for Anglo American, I am responsible for greenfields mineral exploration for a variety of commodities including copper, nickel, iron ore, and thermal coal in more than 12 countries. I manage an annual budget of up to \$100m and a team of approximately 370 people.

In my first degree from the University of Sydney I majored in geophysics (1987) and then went to work for BHP. But the main focus was on geophysics; if you want to be an exploration geoscientist you need to know about economic geology and exploration management.

So I did a masters degree at UTAS' Centre of Excellence in Ore Deposits (CODES) while I worked part-time for BHP.

After that I continued to work as an exploration geophysicist, initially in Russia and then as BHP's chief geophysicist. Later I switched to work as a geoscientist in BHP's global iron ore and coal exploration team. I then moved to work for Vale, in project generation, management of technical specialists and finally as director

of exploration for the Americas. From there I moved to my current role with Anglo American.

The broader background my masters degree gave me provided an important platform for me to move from initially specialist geophysical roles to increasingly broader roles in exploration management. Without my masters I would not be where I am today.

In terms of striking a work/life balance, I've been lucky my choices enabled me to work with different people in different countries; I've found my team members and managers very supportive throughout my career.

I've taken maternity leave twice – once while on an expatriate assignment. I was offered my role as chief geophysicist for BHP while I was on maternity leave.

Clearly being pregnant and then taking maternity leave as an exploration geoscientist placed some limitations on my travel and workload but my managers and team members willingly stepped in to help me out, for which I will always be grateful.



*Tracey Kerr: Group head of exploration, Anglo American.*

## JAMIE ROGERS, Toronto, Canada PhD 1997

MY WHOLE CAREER HAS BEEN IN mineral exploration, from the time I left UTAS in 1996 for the mining industry in Western Australia.

*I've lived and worked in Ghana and Botswana as well as Australia, and moved to Toronto in 2008. My wife and four children live here, too.*

My current job at IAMGOLD, a mid-tier Canadian gold mining and exploration company, is to provide technical and often moral support to our geologists in South America, Canada and Africa. My other major role is to look for research initiatives that can help the group.

My studies have had a major influence on my career. When I graduated the market was tough and there weren't a lot of jobs. Having a postgraduate degree helped; the CODES network is widespread throughout the world. I was employed by a former graduate I know – it's almost a tick on the box if they know you graduated from CODES.

In the future I see myself staying in this sort of role, building my team from my current position. Chief geologist is one of the most senior technical roles in a mining company.



*Dr Jamie Rogers: Chief geologist, IAMGOLD.*

## DARRYL CLARK, Saskatoon, Canada PhD 2003

IN MY CURRENT ROLE, I AM VICE-president of exploration at Cameco Corporation, leading the global uranium exploration program. Cameco is one of the world's largest uranium producers accounting for about 14 per cent of the world's production from its mines in Canada, the US and Kazakhstan.

My first degree was in science and economic geology from James Cook University and I've since earned a PhD in economic geology from the University of Tasmania.

During previous corporate roles with both Vale and BHP Billiton, and with consulting work at SRK, I've been responsible for focusing business development strategies and designing multi-commodity exploration programs. These roles include country manager with Vale Mongolia, general manager at Vale Minerals Exploration Australasia and geology manager at MinEx BHP Billiton.

There is no problem getting work when you're a CODES graduate from UTAS – they're highly sought-after.

CODES is recognised as one of the leading economic geology institutions in the world because the study is very applied. Some very successful mining explorers have come out of there.

For me the most valuable part of studying at CODES was the broad range of subjects that you're exposed to.

All aspects of the Earth's processes were covered with emphasis on how these led to the concentration of specific elements such as gold, copper, zinc, lead, silver, iron and manganese in certain places within the Earth's crust. This knowledge was also coupled with learnings from cutting-edge research on how to explore for these mineral deposits.

These are the fundamental concepts of the mining and exploration business I've built my career on. I dare say the same is true of many of the other CODES graduates.

In addition, the network of CODES graduates is extensive in the mining and exploration industry. This network is extremely useful and is a great advantage when dealing at the business end of our industry.



*Dr Darryl Clark: Vice-president of exploration, Cameco, Canada.*

## VANESSA LICKFOLD, Pretoria, South Africa PhD 2002

MY DAILY WORK IS IN MANAGING a team that evaluates new mining projects in Africa for Kumba Iron Ore. That includes technical and financial viability as well as assessing country risk. I get my hands dirty out in the field now and then, too!

I was born in England but my family emigrated to South Africa when I was young. My Australian husband now lives with me here in Pretoria.

*I came to CODES to do my PhD after I saw an advertisement for a particular project on a photocopier while I was at Rhodes University in South Africa, and I never looked back.*

It was the best choice for me – the real expertise the CODES guys have in their specialities means they challenge everything you put forward, make you justify yourself and in so doing give you extra credibility.

I came into geology as a career when I was 14 when I realised I couldn't do astronomy because I didn't have high enough maths marks and probably wouldn't get a good job.

At a youth group camp, a woman who was studying geology asked me: How do you think this rock got here?

From then on I knew geology was what I was going to do. Not once have I thought I chose the wrong career.

When I started out, at 23 years old, there were mining places I went to where there were no ladies' loos. That's changed.



*Dr Vanessa Lickfold: Head of business development for West and Central Africa, Kumba Iron Ore.*

## ADRIAN PENNEY, Melbourne *Bachelor of Science with Honours 1998*

I'VE BEEN WORKING FOR AMC Consultants in Melbourne for three years. My job is geotechnical engineering – understanding the mechanical properties and excavation principles of a rock mass for mining.

Typically we get involved in mining projects from conceptual studies through to feasibility studies and implementation. We also provide operational advice nationally and internationally on problematic mining situations. We work across all commodities and for all mining applications including underground and open pit mining. I specialise in hard rock underground mining.

The mining industry is fantastic to work in but it is cyclical. One year there may be huge demand for anyone with skills in particular areas then markets change, resulting in good jobs being harder to find.

I was working at Beaconsfield on Anzac Day 2006 when the mine collapsed. I was part of the 14-person emergency response team called out at the time of the rock fall. But I was quickly moved to the area of my technical expertise so that I could have input into forming rescue strategies. I worked with 50 or 60 others providing geotechnical input to aspects of the rescue

and helping with numerous projects to figure out ways to rescue the trapped miners – alternative extraction ideas, ground improvement techniques, blast and vibration monitoring and vent design.

It was one of the most trying and interesting times of my life. I pretty much lived at the mine site for two weeks. Like everyone I worked 14-hour days then went home, ate, slept and went back out. My wife was 39 weeks pregnant at the time as well.

The worst part was that I knew all three trapped miners well, including Larry Knight, who died. I still struggle with that today.

The rescue day was one of the most confusing days of my life; after Brant Webb and Todd Russell were rescued early in the morning everyone began celebrating – but Larry's funeral was also that day. There was joy but within hours we were burying Larry.

One memorable experience was to see a whole community coming together for that single common cause. It was heart warming and you'd think: "Maybe not everything is so bad in the world."

- Adrian also has a Master of Engineering S



*Adrian Penney: Principal geotechnical engineer, AMC Consultants, Melbourne.*

## TODD MCGILVRAY, Melbourne *Bachelor of Science with Honours 2003*

I WORK AS PRINCIPAL EXPLORATION geologist with MMG (Minerals and Metals Group), a mid-tier company mining and exploring for base metals around the world.

We operate the Century Mine in Queensland (lead, zinc and silver), the Golden Grove Mine in WA (copper and zinc), the Rosebery Mine (zinc, lead, silver, copper and gold) and Avebury Mine in Tasmania (nickel), and the Kinsevere Mine (copper) in the Democratic Republic of Congo. We recently gained approval to develop the Dugald River Mine (lead, zinc and silver) in Queensland.

My role is to manage exploration activities in Queensland, NSW, the Northern Territory and WA, and involves greenfield target generation through the use of geophysics, geochemistry and drilling, overseeing staff in day-to-day exploration activities and administering leases.

After I graduated, work in the mining industry was hard to get and I went to Queensland to work on short-term exploration contracts for a year, then exploration in the Northern Territory for two years, then mining and exploration at the Rosebery Mine for six years.

I was lucky with my degree; qualifications from CODES are very well regarded in the minerals industry.

When I started looking for work I was competing with guys who were 10-20 years older trying to get back into the industry. CODES study put me ahead of other candidates.

The degree itself is strong and broad. Other CODES graduates and I had a knowledge of geology above colleagues with a similar qualification because we'd had extensive exposure to the geology of Tasmania and support from industry leaders at CODES.

Mining as a career is rewarding but it makes family life difficult. You have to go to remote areas to make your way in the industry and the constant travelling is tough on families.

A lot of geologists end up marrying other geologists!

My aim is to continue in the minerals industry and gain more exposure to the financial side of the industry and markets. As a principal geologist, the next career step is an exploration manager.



*Todd McGilvray: Principal exploration geologist, MMG.*