



Solve real world problems with your geotechnical / cave engineering research

**2 x industry-focused, three-year PhDs offered by
The University of Adelaide's School of Civil, Environmental and Mining
Engineering together with OZ Minerals**

- Are you passionate about finding the answer to risk mitigation in Sub Level and Block Caving mining methods?
- Do you want to develop your skills and experience to undertake a rewarding project which uses your background in mine, civil or geotechnical engineering?
- Are you interested in advancing the understanding of key safety and business risks identified in Sub Level and Block Cave mining methods?
- Do you want your theoretical research to have tangible results that can impact the execution of one of the world's newest and exciting caving projects?
- Do you want to work alongside highly experienced technical cave professionals who are invested in your project and will support you in the delivery of your PhD?

If the answer is yes, we are seeking you!

Let us support your work with a three-year, AUD\$27,539 grant. We'll also give you access to the great caving team behind the development of one of Australia's largest undeveloped copper deposit, OZ Minerals' Carrapateena project.

The two projects on offer require you to:

- Explore the use of preconditioning to manage cave back propagation and rock burst risk.
- Investigate the mud rush phenomenon in the cave mining environment through scaled physical experiments, comparison with natural occurrences and numerical simulation.

You will also have:

The tech skills

- BSc (Hons) degree or a Master's degree in Mining Engineering, Civil Engineering, Geotechnical Engineering or similar.
- An inquisitive mind, enthusiasm and a desire to deliver something that has an impact in research but also real-world practice.
- Experience in experimental design, execution and data analysis, preferably in or related to rock mechanics.
- Numerical modelling experience is desirable.
- Expertise in computer programming, especially in Python and/or C++ is desirable.

The life skills

- A strong work ethic, and the ability to work well independently, and as a member of a broader team, including with industry partners.
- Fluency in written and spoken English, and an ability to communicate scientific ideas to an expert audience, both orally and written.
- If English is not your first language, you will be required to demonstrate English language proficiency in the form of an English test that has been undertaken within two years of the date of application.
 - IELTS (Academic) Overall Score 6.5; Writing & Speaking 6.5, Listening & Reading 6.0
 - TOEFL (Paper Based Test) Total score 575, TWE 4.5
 - TOEFL (Internet Based Test): Total score 79, Writing 24, Speaking 22, Listening & Reading 13

Successful applicants will:

- An APA worth tax-free AUD\$27,539 (if eligible).
- Undertake a collaborative project together with OZ Minerals' Carrapateena team in South Australia.
- Have regular contact and guidance from highly experienced mining professionals.
- Be encouraged to travel to Carrapateena mine site for research observation, data collection and engagement with site personnel.
- Develop new risk identification, elimination or mitigation tools.
- Experience and networks for a long-term, well-paid career, and a postgraduate qualification from a world-leading university.
- Be strongly placed to enter the competitive Resources Industry in Australia and abroad.

Learn more about OZ Minerals and the Carrapateena project by **Ctrl+Click** on the logo below



To start on this exciting journey, send a cover letter, CV and two referees to A/Prof Murat Karakus: murat.karakus@adelaide.edu.au.

Application deadline **30 September 2019** so apply today!

A/Prof Murat Karakus

Room N151, Engineering North
School of Civil, Environmental & Mining Engineering
The University of Adelaide
Adelaide, South Australia, 5005, Australia
Phone: +61 8 831 36471