

# PhD Opportunity @ JCU

## Embedded PhD researcher

The Economic Geology Research Centre (EGRU) at James Cook University (JCU), Townsville and Dugald River Mine, MMG, are offering a PhD project in Structural Geology/engineering geology/geotechnical engineering, focused on developing a model for the geotechnical behavior of the ore zone and immediate wall rock at Dugald River Mine, North of Cloncurry, Australia.

Dugald River, is a world-class Zn-Pb-Ag deposit (64.8Mt @ 12.0% Zn, 2.2% Pb, 31g/t Ag) in the Mt Isa district which commenced mining in 2013. The ore zone is structurally complex with a strongly sheared and faulted hanging wall, which affects mining and ore recovery.

During the project you will develop a structural model for the orebody based on face mapping and drill core logging using advanced digital mapping techniques (ADAM Tech) in combination with 3-D modelling (Leapfrog and Vulcan). The work is aimed at gaining an improved understanding of fault distribution patterns and rock mass behaviour along the ore zone, to improve the efficiency of ore recovery.

You will be based on the JCU campus in Townsville, but you are expected to work at the mine for 1 week each month, to collect data and interact with the geological and geotechnical teams at the mine. EGRU is currently building a team of students and researchers, working on mining and exploration related questions in the central part of the Mt Isa block, and you will be part of this team. This is a unique opportunity to advance your research career and learn new skills in one of the world's major mineral provinces. The PhD projects will benefit from state of the art analytical facilities hosted at JCU.

The successful applicants will have good 3-D skills with experience in structural geology, engineering geology and/or geotechnical engineering. Prior knowledge of Leapfrog, Vulcan and ADAM Tech software would be an advantage but is not a necessity. We are looking for candidates with an interest in solving practical geotechnical problems in a mining environment. A first class Honours or a Master by research are essential to be eligible for PhD studies at JCU, and be competitive for a scholarship.

More information about the Geoscience department and EGRU can be found at the following link:  
<https://www.jcu.edu.au/college-of-science-and-engineering/academic-groups/geoscience>

Information on post-graduate study at JCU – [Graduate Research School](#)

If you are interested please send an expression of interest and your CV with the names of 3 referees to:

Prof Paul Dirks on [paul.dirks@jcu.edu.au](mailto:paul.dirks@jcu.edu.au) or

Dr Ioan Sanislav on [ioan.sanislav@jcu.edu.au](mailto:ioan.sanislav@jcu.edu.au)