



Australian Government
Australian Research Council



PhD Opportunity in Intelligent Geoscience Data Use & Virtual Data Collection

A PhD project is available within the ARC Transforming the Mining Value Chain (TMVC) Industrial Transformation Research Hub, which is hosted at the University of Tasmania. The TMVC draws on expertise from personnel within CODES (Centre for Ore Deposit and Earth Sciences) and Engineering.

The Project:

Field-based geospatial data collection is usually an involved and costly undertaking. Even though it is possible to obtain large-scale distribution data remotely from satellites or other platforms, samples collected directly at depth and a variety of locations are considered necessary for many tasks. Due to various limitations, data collected may be sparse, statistically insignificant, and samples may not be evenly distributed in either space or time, causing errors in the application of commonly used technologies to approximate spatially constrained geophysical or geochemical models. Consequently, the accuracy of analysis results can be significantly impacted. On the other hand, domain expertise is often required to make individual interpretations based on available data and expert's personal experiences to plan for future data collection. Field data collection plans can be adjusted according to the results of hypothesis testing made in the interpretation, until a model is considered sufficiently supported.

It is desirable to develop a systematic approach to combine various data collected in a reasonable framework so as to make the best use of all available data and guide for future data collection with minimal cost.

This project is focused on the starting phase of such task. The main objective is to study temporal/spatial models and data mining methods for sparse and noisy geoscientific data.

Duration: 3 years, with the possibility of a six month extension.

Scholarship: The candidate will be required to be self-supporting, or to be successful in attaining a UTAS Scholarship (2017 rate of AUD 26,682 pa).

Closing Date: 30 April, 2018

Research Support: Funds to support the operational costs of the project will be provided by the ARC TMVC Research Hub.

The Applicant

Candidates from a variety of disciplinary backgrounds are encouraged to apply. Knowledge and skills that will be ranked highly include:

- Mineral deposit modelling and computation

- Programming skills

Applicants should make themselves aware of the costs associated with living and studying in Tasmania.

Working Environment

The PhD candidate will join the ARC TMVC Industrial Transformation Research Hub team which currently consists of 14 senior academics and industry professionals, six postdoctoral research fellows, four technical & administrative staff, as well as 14 PhD & 8 Honours students.

Enquiries to: Dr Danchi Jiang at Danchi.Jiang@utas.edu.au

More information: www.utas.edu.au/tmvc