



Fully funded PhD Opportunity

Fault Analysis Group
School of Earth Sciences, University College Dublin

Understanding crustal extension in the Porcupine Basin in 3 dimensions

Applications are invited from suitably qualified candidates for a full-time PhD (Structured PhD programme) on “Understanding crustal extension in the Porcupine Basin in 3 dimensions”. The project is fully funded for 4 years by iCRAG, the SFI Research Centre in Applied Geosciences. The Fellowship covers University fees, a stipend of €18,500 per annum and project costs.

Project background and description

This project will examine the relationship between crustal structure, patterns of extensional faulting and magma supply during rifting. Rifted margins have traditionally been identified as magma rich and magma poor. Recently it has been recognised that rifts may have both magma rich and magma poor segments and may change in character over short distances and times. This project will investigate how this magma input is controlled by evolving crustal structure and fault systems. The Porcupine Basin, with lateral changes in magnitude of extension, magma rich and poor segments and extensive state of the art 3D seismic reflection coverage, provides the ideal opportunity for furthering our understanding of the rifting process. Combining previous work with analysis of previously unstudied, seismic reflection surveys, the researcher will study the rifting process from a fully 3D perspective.

The successful candidate will:-

- Conduct mapping of 2D and 3D seismic reflection surveys to build up a picture of the 3D geometry of the high strain parts of the Porcupine Basin.
- Compile existing, extensive mapping of the Porcupine Basin to provide the detailed regional setting for their study.
- Evaluate models for magma input, fault system development and crustal structure in the light of their 3D analysis of the Porcupine Basin.
- Present their results in international conferences and journals.

Requirements: Applicants must have a BSc or MSc in a relevant geoscience area and a strong interest in crustal extension. Some previous experience of seismic interpretation would be beneficial but is not required.

Start date: No later than 1st January 2023

Application Procedure: To apply send a full CV, contact details for 2 academic referees and a letter of motivation. Applications or requests for further information should be sent to Conrad Childs at conrad.childs@ucd.ie.

Closing date: Review of applications will begin on August 21st and continue until the position is filled.