



**University College Dublin  
UCD School of Geological Sciences  
Fault Analysis Group**

**Structural Geology - Post-doctoral researchers (Ref. 007084)**

We require two post-doctoral researchers specialising in Structural Geology to join the Fault Analysis Group, University College Dublin ([www.fault-analysis-group.ucd.ie](http://www.fault-analysis-group.ucd.ie)), an established research group working on geological faults. The successful candidates will each take responsibility for research components of a new multi-company funded project (Quaff2) which aims to improve our understanding of the structure of fault zones and use this knowledge to define ways of constraining fault zone structure in the subsurface for a range of application areas. The scope of the project ranges from detailed mapping of fault zones from outcrop and seismic reflection data to the design of algorithms for implementing project findings. While the precise roles of the new group members within the project will depend largely on their individual skills and experience they will contribute to:-

- Fundamental research into the geometry of fault zones and developing an improved understanding of the main controls on the nature and variability of fault zone structure.
- Examining the geometry and growth of faults from seismic, outcrop and model data, investigating the principal associated processes and controlling factors on their kinematics.
- Investigating the impact of fault zone structure on the cross-fault juxtaposition and trapping potential of faults.

The successful candidates will have a PhD in Geology/Earth Sciences with advanced expertise and field experience in Structural Geology. Experience of seismic interpretation would be an advantage.

Positions are for 3 years and, depending on experience, appointment will be at Post doctoral or Research Fellow level on a salary range from €33,000 – 61,000 pa.

The closing date for applications is **23<sup>rd</sup> January 2015, 17:00 (GMT)**.

Full job descriptions and application procedures are available on the UCD website [www.ucd.ie/vacancies](http://www.ucd.ie/vacancies) under the Research Category (Ref. 007084). Informal enquiries to Conrad Childs ([conrad.childs@ucd.ie](mailto:conrad.childs@ucd.ie)).

Keywords: Structural Geology, fault analysis, fault kinematics, geologist, fieldwork.



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**Programmer - 3D geological modelling (Ref. 007083)**

The Fault Analysis Group in the UCD School of Geological Sciences is looking for a programmer. The successful candidate will join a world-leading applied geology research group with a track record of developing hydrocarbon reservoir modelling methods that have been embedded within the software workflows of operating petroleum companies. Along with new post-doctoral and PhD level scientists, you will be working on a three-year oil industry-funded research project with the overall aim of improving the inclusion of geological faults in reservoir modelling. Working closely with structural geologists, reservoir modellers and other programmers, your focus within the team will be on developing commercial quality software implemented as both standalone products and plug-ins for the leading industry reservoir modelling package. Starting from already prototyped modelling algorithms the varied work will range from development of the computational core to the user interface. Though useful, no prior geological modelling experience is necessary, but geometrical aptitude and an ability to think three-dimensionally are crucial.

The appointment is for three years, with a salary in the range €31,500 - €50,500 per annum, depending on qualifications and experience.

Principal duties and responsibilities include:

- Creation of commercial quality C# and/or C++ reservoir modelling software, based on prototyped algorithms.
- Implementation of the software as plugins for Schlumberger's Petrel modelling system, using their Ocean software development framework.
- Software documentation.
- Engagement in the dissemination of the results to the sponsoring companies.
- Testing the software and approaches with real-world cases.
- Potentially, development of new modelling approaches and algorithms for improving the representation of geological structure in reservoir modelling practice.

The closing date for applications is **23<sup>rd</sup> January 2015, 17:00 (GMT)**.

Full job descriptions and application procedures are available on the UCD website [www.ucd.ie/vacancies](http://www.ucd.ie/vacancies) under the Research Category (Ref.007083). Informal enquiries to Tom Manzocchi ([tom.manzocchi@ucd.ie](mailto:tom.manzocchi@ucd.ie))

Keywords: Programmer, C#, C++, reservoir modelling, Petrel plugin, geological fault, geological modelling