



Post-Doctoral Research Associate

(Post Reference: PGH6:20)

WANTED: A Geomorphology-Remote Sensing/Geohazard specialist at post-doc level to work as a Research Associate in our Mountain Hazards Group.

Reynolds International Ltd is an established dynamic and growing consultancy company and is recognised as the UK's leading near-surface geological and geophysical consultancy. We specialise in near-surface engineering and environmental geophysics, offshore wind farm geophysics, earthquake preparedness, and geohazards (particularly glacial and landslide hazards). Our staff have been involved with designing, managing and/or interpreting some of the most prestigious geophysics projects in the UK over the last few years, including over-water surveys for Crossrail and Docklands Light Railway, the Thames Tideway Project and the London Gateway Project (all in London), other major road and rail schemes, plus site surveys for jack-up rig locations, dredging, marine aggregates, and increasingly for offshore wind farm/renewable energy developments in the UK and internationally. We have pioneered new methods of geophysical data processing and 2D/3D interpretation for over-water engineering projects and are a strong influence on how surveys are conducted for offshore structures. We are currently involved as specialist consultants to a company with plans to develop a major new 2.5 GW offshore tidal range project off the North Wales coast.

We are also recognised independently as world leaders in glacial and associated geohazard assessment and mitigation. We are playing a growing role in Climate Change Resilience and Disaster Risk Management in hydropower development especially in the South Asian Region, including advising The World Bank Group, investors, insurers, developers, *etc.*, on such matters. We have been involved in many major hydropower schemes in Pakistan, Bhutan, and Nepal, for example, as well as projects for The World Bank and the International Finance Corporation; in glacial hazards research in the Cordillera Blanca, Peru, and Patagonia, Chile, and for high-altitude mining operations in Chile and Kyrgyzstan; and in hurricane/typhoon triggering of landslides and sudden discharges of sediment in Puerto Rico, the Philippines, and Taiwan. We are increasingly being involved in forensic analysis of natural disasters for major international funders and for the insurance industry.

In response to growing opportunities internationally for Glacial Hazard and Integrated Geohazard Assessments, especially for the hydropower sector, we are now looking to recruit a Post-Doctoral Research Associate with expertise in landslide and glacial geomorphology and Remote Sensing to work predominantly in our Mountain Hazards Group.

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Job Description

The successful candidate will work as a Research Associate in our Geohazards team on a range of tasks associated with both glacial and geological hazards in high mountain environments for which Remote Sensing plays a significant role. Specific tasks will include but not be limited to:

- Continuing the development of the use of r.avaflow software for glacial hazard assessment and associated hazard assessment protocols;
- Compilation of an inventory of glacial lakes across the Himalayas, initially just the Nepal Himal but to extend to Northern India, Bhutan, and northern Pakistan, southern Tibet (ARC);
- Compilation of a list of historic Glacial Lake Outburst Floods (GLOFs) across the Himalayas from published literature and commercial reports, and checking of the validity of each event using geomorphological analysis of appropriate available remote sensing imagery;
- Updating the Company's Glacial Hazard Assessment protocols to reflect the current state of knowledge internationally for publication in early 2021;
- Assisting in undertaking Integrated Geohazard Assessments for specific catchments in, for example, Nepal and Tibet (ARC), and Pakistan, and including input on seismic risks;
- Assessing the use of InSAR for slope stability assessment in high mountain environments and developing appropriate analytical workflows;
- Reporting directly to the Managing Director or other senior member of the Company as directed;
- Assisting with the production of publication-quality graphics;
- Other tasks as required.

Essential Qualifications and Experience

The ideal candidate should possess and be able to demonstrate the following skills and knowledge:

- Good first degree in a cognate subject with a completed or nearly completed PhD relevant to the post;
- Practical research experience of working with geohazards internationally (*e.g.* landslides, earthquake-related geomorphic processes, debris/mud flows, Massive Rock Slope Failures, glacial lakes, periglacial landforms, seismic risk, *etc.*);
- High level of competence in using Remote Sensing imagery (optical and SAR), Remote Sensing image analysis software (*e.g.* ENVI), and Digital Elevation Models (DEMs);
- Competence in geospatial analysis using ESRI ArcGIS or equivalent/similar (*e.g.* QGIS, GRASS, TNTmips, ENVI);
- Experience in using CorelDraw or similar software for production of graphics.
- Strong communication skills with fluency in verbal and written English;
- Excellent inter-personal skills;
- Excellent planning and organising skills;
- Motivation to deliver high-quality projects and to programme and budget;

- Commitment to professional and personal development of self and others;
- Valid passport;
- Valid UK driving licence;
- A good sense of humour.

Candidates will be required to provide documentary evidence of the above requirements as appropriate.

Desirable Qualifications and Experience

- International experience, especially in the high mountain environments of the Himalayas-Hindu Kush-Karakoram, Andes, *etc.*
- Scientific publications in peer-reviewed journals (at least two papers published plus at least a further two papers in submission/review).
- Experience in the Python programming language, ideally with experience in one or more of: NumPy, Pandas, and ArcPy.
- Experience in the R software environment.
- Experience of field work in remote locations would be an advantage.
- No commercial experience is required but would be useful.
- Ability to provide technical support to other areas of the Company's activities as appropriate.

Application schedule

There is no closing date for applications and all submissions will be considered on their individual merits. All applications will be acknowledged on receipt.

Short-listed candidates will be invited to either a virtual or in-person interview, subject to prevailing Covid-19 restrictions, which will be held at our North Wales offices in Mold and will be required to give a 15-minute PowerPoint presentation on a technical subject to be mutually agreed in advance. The successful candidate will be expected to start as soon thereafter as possible, preferably in October or November 2020.

Location and Package

The post will be based predominantly in our northeast Wales office but travel within the UK and internationally may be required. A competitive and attractive remuneration package (including a relocation allowance) will be available based upon the successful candidate's experience, expertise, and potential, with an annual starting salary in the range £32,400 to £36,420. There will be a 3-month probationary period. Enrolment in the Government's Workplace Pension will be possible after three months' service (3% contribution from the employer, 5% contribution from employee). Annual leave will comprise 28 days paid absence including 8 days public holidays. A Relocation Allowance will be available for a successful candidate from outside the NE Wales/immediate NW England area.

Before making an application please ensure that you have considered all the practical implications of relocating to North Wales, if necessary, and that there are no barriers to you in doing so.

The small market town of Mold is continuing to buck the economic trend and has a thriving high street and lively twice-weekly outdoor market and nestles in the Alyn Valley surrounded by hills and Areas of Outstanding Natural Beauty. Its Theatr Clwyd is one of the best regional theatres outside London, and the larger shopping areas associated with Chester, Broughton, and Wrexham are easily accessible. The international airports of Liverpool and Manchester are within 45 minutes' drive of the office. London can be reached by train from Chester in just over 2 hours. Access to major arterial roads is easily achieved in less than 10 minutes' drive from Mold. The area hosts all the sporting amenities anyone could want and, if mainstream city life is your thing, Manchester and Liverpool are only an hour's drive away.

If you are interested in working in a small, lively, and dynamic consultancy that punches well above its weight internationally and leads its chosen fields, and feel that you can contribute to its ongoing success and growth, then send **your current CV** and **a covering letter** detailing why you should be considered for this post to Mrs Deborah Lee, Office Manager, via info@reynolds-international.co.uk; for further details call +44-(0)1352 756196.

Reynolds International Ltd is an equal opportunity employer and if any applicant wishes to receive a copy of our recruitment policy and procedure please indicate this when sending your application.

Further information about Reynolds International Ltd can be found on our website at www.reynolds-international.co.uk.



Suite 2, Broncoed House, Broncoed Business Park,
Wrexham Road, Mold, Flintshire, CH7 1HP, UK

Tel: +44-(0)1352 756196

Email: info@reynolds-international.co.uk

Web: www.reynolds-international.co.uk