

Research Associate in Volcano Deformation Modelling

1 JOB DESCRIPTION

Faculty / School or Division: School of Earth Sciences

Faculty/School or Division Address: Wills Memorial Building, Queens Road, Bristol, BS8 1RJ.

Job Family:	Research and Teaching		
Grade/Pathway:	Grade I/Pathway One	Salary range:	£39,906 - £44,746 per annum
Hours of work:	35 hours/week	Contract type:	Fixed term from 04/01/2027 – 30/09/2027
Work pattern:	Full time	Vacancy Reference Number: ACAD108744	

1.1 Main Job Purpose

The School of Earth Sciences seeks to appoint a 9-month postdoctoral researcher as part of the MAST ERC grant to systematically model the spatio-temporal patterns of volcano deformation using the rapidly growing global archive of satellite imagery.

1.2 Main Statement of Responsibilities

Research Responsibilities

- Apply systematic modelling approaches to a global dataset of InSAR datacubes at volcanoes and build a systematic catalogue of source parameters, ensuring the results are consistent with other geophysical and petrological constraints.
- Collaborate with the processing team to integrate modelling with the high-resolution workflow and provide feedback on the dataset development.
- Analyse the catalogue using statistical and physics-based approaches to explore the implications for volcano monitoring and the behaviour of magmatic systems.
- Contribute to project meetings, liaise with project partners and assist in project reporting.
- Disseminate results at conferences, workshops, outreach events and peer-reviewed journals.

Administration Responsibilities

- The PDRA will be expected to take on some small administrative responsibility within the school or research group (for example, organization of seminars, mentoring interns,

organising a session at a meeting, outreach event or social media, guest lectures etc)

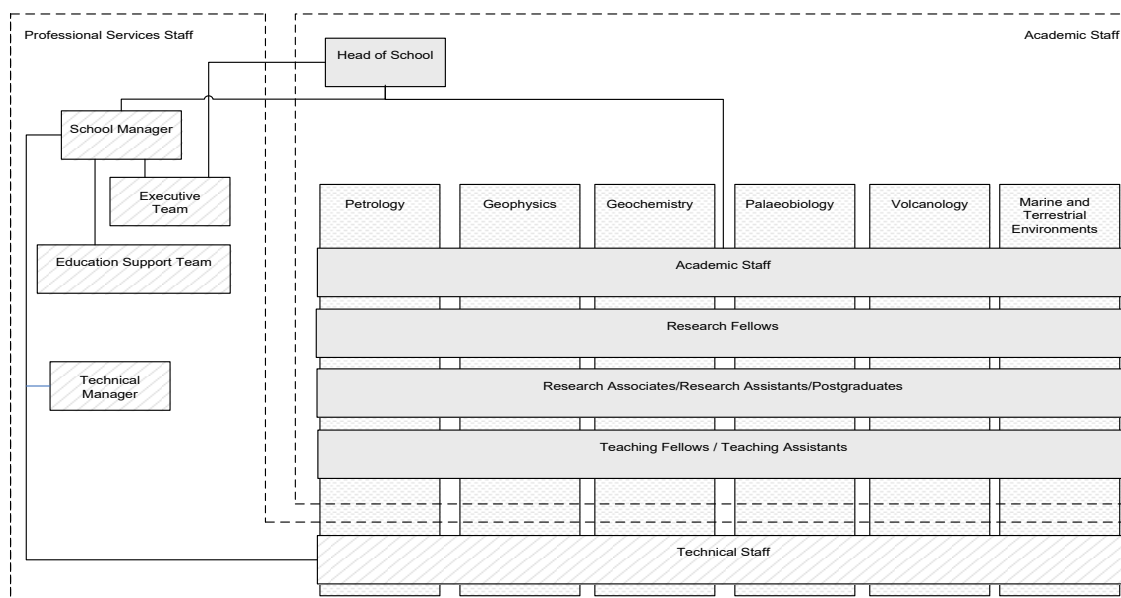
Teaching Responsibilities

As this role is a Pathway 2 (Research) role, there are no formally specified teaching duties required of the role-holder. However, other commitments permitting, the role-holder may be given development opportunities to undertake activities such as teaching on Masters and Doctoral programmes and/ or supervising MSc dissertations within the School of Earth Sciences, as appropriate.

1.3 Relationships

Line manager: Professor Juliet Biggs

1.4 Organisation Charts



1.5 Job Hazards/Safety Critical Duties (Pre-employment health screening)

Not applicable

2 PERSON SPECIFICATION

2.1 Relevant Experience, Skills and Knowledge

Essential

- Experience in modelling InSAR data at volcanoes
- Experience in analysing large datasets of model parameters using statistical and/or physics based approaches.
- Strong background in volcanology, specifically using models of volcano deformation to

understand magmatic systems within the context of wider geophysical and petrological evidence.

- Ability to work closely in a team on joint research and publications
- Ability to write up and publish scientific results in the international peer-reviewed literature
- Willingness to contribute to publications, project reports, project meetings and open-access datasets.

Desirable

- Experience in developing systematic approaches to InSAR modelling at a regional or global scale.
- Experience working in or with volcano observatories

2.2 Relevant Qualifications

Essential

- A PhD or near completion, or equivalent research experience in an academic, industrial or clinical setting equivalent to a PhD.

2.3 Communication and Interpersonal Skills

Essential

- Capacity to thrive in team working environments
- Effective time management, and ability to work independently as required
- Commitment to open access and inclusive scientific working practices
- Ability to communicate and share ideas with diverse disciplinary groups
- Excellent written communication skills in English.
- Demonstrated ability to write high-quality journal publications

Desirable

- Experience of international collaboration, particularly with volcano observatories.

2.4 Additional Criteria

Essential

- Strong research background demonstrating innovation and relevant contributions towards your field, evidenced in publications in leading international journals and conferences
- Willingness and motivation to learn new techniques
- A motivated, positive, pro-active approach to research and to problem solving
- A commitment to data-sharing and willingness to develop open access datasets.

3 CAREER PATHWAY AND OTHER RELEVANT INFORMATION

3.1 Career Pathways

All members of academic staff have a clear career pathway involving a series of levels with distinct role profiles, each with its unique requirements. Each profile sets out what is expected of an academic at the particular level. The role profiles also set out a collection of competencies expected for each level. Promotion to the next level may occur after these competencies have been attained in conjunction with the expectations outlined in the Promotions Process and Academic Promotions Framework (APF) applicable to the role. .

The academic pathways are as follows:

Career Pathway One - academic roles that combine teaching, research and administrative duties.

Career Pathway Two - academic roles focusing on research and associated administrative duties.

Career Pathway Three – academic roles focusing on teaching and associated administrative pathways

This post is located on Pathway Two. Role Summaries setting out what is expected of an academic at each particular profile level on pathway two can be found below. Please note that an appointment may be made at any level of the pathway.

A schematic diagram of the career pathways can be found at <http://www.bristol.ac.uk/hr/grading/academic/>.

The University has two procedures for promotions depending on the level of promotion being applied for as follows:

Promotion up to Senior Lecturer / Senior Research Fellow
Promotion to Associate Professor or Professor

The procedure for Promotion up to Senior Lecturer / Senior Research Fellow describes the process for anyone on the academic career pathways and is based on the concept of readiness as determined with managers using the Academic Promotions Framework (APF). Eligibility for making a case for promotion is subject to:

1. Having a contractual expectation and meeting the performance requirements described in the Promotion up to Senior Lecturer / Senior Research Fellow process
2. Completion of a full year of service following appointment and successful completion of their Initial Service Review (ISR)
3. Meeting the expectations set out in the CREATE policy for those with teaching responsibilities (pathway 1 and 3), e.g. those seeking promotion to Senior Lecturer should achieve and have been formally notified of their Fellowship (ratified outcome) through the University's CREATE scheme before applying

The procedure for Promotion to Professor covers staff for promotion to profile level d2 (Associate Professor) and profile level e (Professor) on all pathways in the [Academic Career Pathway](#) framework.

3.1.1 Role Summaries

Research Associate (Level a)

Role holders at this level are concerned with *assisting* an individual research leader or team to conduct a particular study (or group of studies). They will generally be involved in data generation and/or collection using standard and well-defined methods developed by others. They will be working under close supervision by, and direction from, a more senior researcher, who will be ultimately responsible for the project. This may be the entry level for some staff who are expected to train and/or develop to take on more senior researcher roles. Role holders will be provided with academic and pastoral support within the department (including counselling on realistic career opportunities) and training will be available designed to develop their competences and to prepare them to take on more responsibilities associated with a higher grade.

Senior Research Associate (Level b)

Role holders at this level will be experienced and professional researchers (or have considerable professional experience) and will be specialists in a particular area or methodology, drawing upon knowledge gained from postgraduate research and/or working within a Level a role. They will be *associated* with a particular project (or projects) and will contribute ideas, and/or enhancement of techniques or methodologies. They will be expected to do some writing for dissemination outside the Department. They will still be working under supervision, but will be expected to take significant initiatives in their work and consult with the Principal Investigator over the details of the project. They may, where practical, contribute to the department's teaching, through supervision of projects, overseeing practical classes, or taking small group classes. They will be provided with academic and pastoral support within the department and training will be available designed to develop their competences (including counselling on realistic career opportunities) and prepare them to take on more responsibilities associated with a higher grade.

Research Fellow (Level c)

Role holders at this level will have substantial experience of research (normally not less than six years). They will initiate and take responsibility for some research projects and may be Principal Investigators or, where a Research Council does not permit this, act as though they were Principal Investigators. They will be involved in administration relevant to their projects (e.g. helping to prepare bids for research funding), managing other researchers and monitoring research budgets. They will be expected to be undertaking research individually and/or collectively and to be advancing the state of knowledge and understanding within their particular area of expertise. They will be publishing regularly in high quality outlets. They are likely to provide some teaching support for the department (consonant with the terms of their funding). They will be expected to be establishing a growing reputation within their particular research field and academic discipline and to be developing and demonstrating intellectual independence.

Senior Research Fellow (Level d)

Role holders at this level will have extensive experience in research and research management. They will normally be Principal Investigators, leading collaborative research bids and research teams, or driving forward innovative research themselves. They will be involved in scholastic projects (e.g. editing journals and academic books), and be making a significant leadership and/or management

contribution within their department or the wider university, to be participating in national/international academic networks and conferences. They may be transferring their knowledge through some teaching and/or supervision to undergraduate or graduate students (consonant with the terms of their funding). Role holders at this level will be independent researchers and will have an established national and growing international reputation within their academic discipline generally and research field in particular.

Professorial Research Fellow (Level e)

Role holders at this level will have very extensive experience of research leadership and related management/administration. They will enjoy a wide recognition for their expertise within the academic community internationally (as evidenced by conference invitations, journal editorships, office holding in specialist groupings, associations with appropriate Research Councils etc.). They will have made recognised and significant contributions to the developing knowledge and understanding of their research area. They will already have responsibilities for the creation, initiation, development and overall management of significant research programmes. They will 'profess' their discipline within the Department, as appropriate and consonant with the terms of their funding. They may also carry significant leadership roles within the Faculty or University.

3.2 Additional Statistical Information. This can also include any other relevant contextual or specific role or team information not included elsewhere

3.3 Relevant Physical and Environmental Information

3.4 Key Contacts

Contact Type	Purpose of Contact
•	