

Job Description



Job title	Postdoctoral Research Assistant in understanding the fingerprints of Large Igneous Provinces in the sedimentary record
Division	MPLS
Department	Earth Sciences
Location	South Parks Road, Oxford OX1 3AN
Grade and salary	Grade 7: £32,236 - £39,609 per annum
Hours	Full time - 37.5 hours per week
Contract type	Fixed-term for up to 48 months
Reporting to	Tamsin Mather
Vacancy reference	141255
Additional information	Interviews are planned for Monday 30 September 2019

The role

The successful candidate will work closely with Professor Tamsin Mather and an international team to further our understanding of the traces left by large igneous provinces (LIPs) in the sedimentary record. The role will have a specific focus on the element mercury (Hg) that has received widespread recent attention. This post is part of the ERC-funded ***'Revealing hidden volcanic triggers for global environmental change events in Earth's geological past using mercury (Hg) (V-ECHO)'*** project, whose principal aim is to understand the role of prolonged large-scale volcanism in periods of major environmental change throughout Earth's geological past. The PDRA will contribute to an improved understanding of the environmental processing of volcanic-related emissions between outgassing and deposition and their chemistry within the sediments themselves. This approach will allow us to unlock more information from these volcanic proxies and elucidate the interplay between LIP volcanism and global environmental change.

The post-holder, based at the Department of Earth Sciences, University of Oxford, will make systematic measurements of sections and sediment cores of both Neoproterozoic and Phanerozoic age, and undertake aqueous experiments to understand key geochemical pathways. The research will involve close collaboration with scientists from many other universities especially the Universities of Toronto (Canada) and Royal Holloway (UK), as well as an extensive network of international project partners. The post is funded for up to 48 months and we wish to fill it at the earliest opportunity.



Responsibilities

- Undertake measurements on a series of carbon-isotope excursion events and other records of major environmental change throughout the geological record in order to understand the role of LIP volcanism in triggering such changes. These measurements will include: Hg concentrations, total organic carbon (TOC) and C isotopes (in Oxford with Tamsin Mather and Hugh Jenkyns); Os isotopes (at Royal Holloway University of London with Alex Dickson) and Hg-isotope measurements (at the University of Toronto with Bridget Bergquist).
- Adapt existing and develop new scientific techniques and experimental protocols (for example, exploratory development of techniques such as sequential extraction and synchrotron measurements) to improve understanding of Hg processing and preservation.
- Work with Nick Tosca at the University of Oxford to undertake low-temperature experiments in the aqueous geochemistry laboratory followed by analyses to understand key, but poorly understood, diagenetic pathways of Hg in seawater both in Mesozoic oceans and under the 'ferruginous conditions' thought to characterize the marine environment during much of the Precambrian.
- Lead and collaborate in the preparation of scientific reports and journal articles, present papers and posters and represent the research group at external meetings/seminars, either with others or alone.
- Manage own academic research and administrative activities, undertaking small-scale project management to co-ordinate multiple aspects of work to meet deadlines. Undertaking coordination roles across the V-ECHO project as needed will also be expected.
- Act as a source of information and advice to other members of the group on scientific protocols and experimental techniques
- Contribute ideas for new research projects including those for Masters students

There is scope for the PDRA to undertake some teaching, either in taught courses, field courses, or in the supervision of Masters projects.

Selection criteria

Essential

- Must hold or be close to completion of a PhD/DPhil in a relevant field
- Must have experience of generating and interpreting carbon-isotope excursions and/or other geochemical signatures of major environmental change encoded in the stratigraphic record, together with an appreciation of the syn- and post-depositional processes potentially surrounding the far-field sedimentary fingerprints of LIPs.
- Must show evidence of research ability including publications and presentations at international conferences
- Must have excellent written and oral communication skills
- Must have the ability to work in a multi-disciplinary team of researchers in sedimentology and volcanology and to network and set up new contacts

Desirable selection criteria

- Experience making Hg-concentration and isotope measurements in sediments
- Experience making Os-isotope measurements in sediments
- Experience making synchrotron measurements
- Experience undertaking low-temperature aqueous experiments and analysing the products
- Knowledge of the volcanic degassing process and its application to LIPs
- Experience of supervising PhD or Masters students
- Experience of project coordination

About the University of Oxford

Welcome to the University of Oxford. We aim to lead the world in research and education for the benefit of society both in the UK and globally. Oxford's researchers engage with academic, commercial and cultural partners across the world to stimulate high-quality research and enable innovation through a broad range of social, policy and economic impacts.

We believe our strengths lie both in empowering individuals and teams to address fundamental questions of global significance, while providing all our staff with a welcoming and inclusive workplace that enables everyone to develop and do their best work. Recognising that diversity is our strength, vital for innovation and creativity, we aspire to build a truly diverse community that values and respects every individual's unique contribution.

While we have long traditions of scholarship, we are also forward-looking, creative and cutting-edge. Oxford is one of Europe's most entrepreneurial universities. Income from external research contracts in 2014/15 exceeded £522.9m and we rank first in the UK for university spin-outs, with more than 130 companies created to date. We are also recognised as leaders in support for social enterprise.

Join us and you will find a unique, democratic and international community, a great range of staff benefits and access to a vibrant array of cultural activities in the beautiful city of Oxford.

For more information please visit www.ox.ac.uk/about/organisation

Department / Faculty

The Department of Earth Sciences conducts research across a broad range of disciplines. This work can be loosely divided into the following themes:

- Geophysics and geodynamics
- Planetary evolution and materials
- Oceanography, climate and palaeoenvironment
- Palaeobiology and evolution
- Geodesy, tectonics, volcanology and related hazards
- Earth resources

The department has a national and international reputation for research excellence. It ranked top in the UK for Earth and Environmental Sciences during the 2014 REF exercise (based both on overall grade, or on the fraction of research judged to be 4*).

The department presently consists of 28 academics (i.e. Associate Professors and Professors), a further 48 research scientists, and 32 support staff.

Thirty-five undergraduate students are admitted each year to read for a BA (3 years) or M. Earth Sci. (4 years) in Earth Sciences. The course provides a broad overview of the earth sciences and requires A-levels (or equivalent) in maths and either physics or chemistry to enter. It attracts students of a very high calibre with A-level grades of AAA* or higher. The final year of the M. Earth Sci. course includes a substantial research project during which students are embedded in department research groups.

Between 15 and 20 graduate students join the department every year to study for a D. Phil. They can be admitted directly to the department, or through the cross-University NERC Doctoral Training Centre in Environmental Research (<http://www.environmental-research.ox.ac.uk/>) or the national NERC Doctoral Training Centre for Oil and Gas (<http://www.nerc-cdt-oil-and-gas.ac.uk/>).

The department is housed in specialist new Earth Sciences building completed in late 2010. The building features a wing with four floors of dedicated serviced laboratories that contain a wide range of analytical equipment enabling cutting-edge research in a broad range of earth science disciplines. Of these laboratories, five are designated as Small Research Facilities (SRFs):

- Stable isotope SRF
- Trace-metal analysis SRF
- Microanalysis SRF
- Rock-preparation SRF
- Workshop SRF

Each of these SRFs is run by at least one full-time permanent member of staff.

The Microanalysis SRF consists of two new electron beam instruments. A field-emission gun (FEG) scanning electron microscope, and a FEG electron probe (to be delivered in September 2015). The SRF provides support for imaging and analysis of rock, mineral and fossil samples to support the research of the department. It also provides a service for users from elsewhere in the university or from other institutes.

For more information about the department please visit: www.earth.ox.ac.uk

The Department of Earth Sciences holds a Bronze Athena Swan award to recognise advancement of gender equality: representation, progression and success for all.

How to apply

Before submitting an application, you may find it helpful to read the 'Tips on applying for a job at the University of Oxford' document, at www.ox.ac.uk/about/jobs/supportandtechnical/.

If you would like to apply, click on the **Apply Now** button on the 'Job Details' page and follow the on-screen instructions to register as a new user or log-in if you have applied previously. Please provide details of two referees and indicate whether we can contact them now.

You will also be asked to upload a CV and a supporting statement. The supporting statement must explain how you meet each of the selection criteria for the post using examples of your skills and experience. This may include experience gained in employment, education, or during career breaks (such as time out to care for dependants

Your application will be judged solely on the basis of how you demonstrate that you meet the selection criteria stated in the job description.

Please upload all documents **as PDF files** with your name and the document type in the filename.

All applications must be received by **midday** on the closing date stated in the online advertisement.

Information for priority candidates

A priority candidate is a University employee who is seeking redeployment because they have been advised that they are at risk of redundancy, or on grounds of ill-health/disability. Priority candidates are issued with a redeployment letter by their employing departments.

If you are a priority candidate, please ensure that you attach your redeployment letter to your application (or email it to the contact address on the advert if the application form used for the vacancy does not allow attachments)

Should you experience any difficulties using the online application system, please email recruitment.support@admin.ox.ac.uk. Further help and support is available from [www.ox.ac.uk/about the university/jobs/support/](http://www.ox.ac.uk/about_the_university/jobs/support/). To return to the online application at any stage, please go to: www.recruit.ox.ac.uk.

Please note that you will be notified of the progress of your application by automatic emails from our e-recruitment system. **Please check your spam/junk mail** regularly to ensure that you receive all emails.

Important information for candidates

Pre-employment screening

Please note that the appointment of the successful candidate will be subject to standard pre-employment screening, as applicable to the post. This will include right-to-work, proof of identity and references. We advise all applicants to read the candidate notes on the University's pre-employment screening procedures, found at:

www.ox.ac.uk/about/jobs/preemploymentscreening/.

The University's policy on retirement

The University operates an Employer Justified Retirement Age (EJRA) for all academic posts and some academic-related posts. From 1 October 2017, the University has adopted an EJRA of 30 September before the 69th birthday for all academic and academic-related staff in posts at grade 8 and above. The justification for this is explained at:

www.admin.ox.ac.uk/personnel/end/retirement/revisejdeira/revaim/.

For **existing** employees, any employment beyond the retirement age is subject to approval through the procedures: www.admin.ox.ac.uk/personnel/end/retirement/revisejdeira/revproc/

From 1 October 2017, there is no normal or fixed age at which staff in posts at **grades 1–7** have to retire. Staff at these grades may elect to retire in accordance with the rules of the applicable pension scheme, as may be amended from time to time.

Equality of Opportunity

Entry into employment with the University and progression within employment will be determined only by personal merit and the application of criteria which are related to the duties of each particular post and the relevant salary structure. In all cases, ability to perform the job will be the primary consideration. No applicant or member of staff shall be discriminated against because of age, disability, gender reassignment, marriage or civil partnership, pregnancy or maternity, race, religion or belief, sex, or sexual orientation.

Benefits of working at the University

University Club and sports facilities

The University Club provides social, sporting and hospitality facilities. It incorporates a bar, café and sporting facilities, including a gym. Staff can also use the University Sports Centre on Iffley Road at discounted rates, including a fitness centre, powerlifting room, and swimming pool.

See: www.club.ox.ac.uk and www.sport.ox.ac.uk/oxford-university-sports-facilities.

Information for international staff (or those relocating from another part of the UK)

If you are relocating to Oxfordshire from overseas, or elsewhere in the UK, the University's International Staff website includes practical information related to moving to and settling in Oxford such as advice on immigration, relocation, accommodation, or registering with a doctor.

See: www.internationalstaffwelcome.admin.ox.ac.uk/

The University of Oxford Newcomers' Club

The University of Oxford Newcomers' Club is an organisation run by volunteers that aims to assist the partners of new staff to settle into Oxford and to provide them with an opportunity to meet people in the area. See www.newcomers.ox.ac.uk/

Childcare

The University has excellent childcare services with five University nurseries, as well as University-supported places at many other private nurseries.

For full details including how to apply and the costs, see www.admin.ox.ac.uk/childcare.

Family-friendly benefits

The University subscribes to My Family Care

(www.admin.ox.ac.uk/personnel/staffinfo/benefits/family/mfc/) and staff are eligible to register for emergency back-up childcare and adultcare services, a 'speak to an expert' phone line and a wide range of guides and webinars through a website called the Work + Family space.

Disabled staff

We are committed to supporting members of staff with disabilities or long-term health conditions. Please visit www.admin.ox.ac.uk/eop/disab/staff for further details including information about how to make contact, in confidence, with the University's Staff Disability Advisor.

Staff networks

The University has a number of staff networks including the Oxford Research Staff Society, BME staff network, LGBT+ staff network and a disabled staff network. You can find more information at www.admin.ox.ac.uk/eop/inpractice/networks/

Other benefits

Staff can enjoy a range of other benefits such as free visitor access to the University's colleges and the Botanic Gardens as well as a range of discounts.

See www.admin.ox.ac.uk/personnel/staffinfo/benefits