



Job title	Postdoctoral Research Assistant in Metamorphic Geochemistry
Division	The Mathematical, Physical, and Life Sciences (MPLS)
Department	Earth Sciences
Location	South Parks Road, Oxford, OX1 3AN
Grade and salary	Research Grade 7: Salary in range £39,424 - £43,984 per annum (pro rata). This is inclusive of a pensionable Oxford University Weighting of £1,730 per year (pro rata).
Hours	Full time
Contract type	Fixed-term contract for 36 months - The post is expected to commence in July 2026
Reporting to	Associate Professor Richard Palin
Vacancy reference	185943
Additional information	Closing date for applications is 12 midday on 8th May 2026 Interviews are planned for late May 2026

About us	<ul style="list-style-type: none"> University of Oxford - www.ox.ac.uk/about/organisation MPLS - https://www.mpls.ox.ac.uk Earth Sciences Department – https://www.earth.ox.ac.uk
What we offer	https://hr.admin.ox.ac.uk/staff-benefits <ul style="list-style-type: none"> An excellent contributory pension scheme 38 days annual leave A pensionable Oxford University Weighting allowance of £1,730 per annum (pro rata) A comprehensive range of childcare services Family leave schemes Cycle loan scheme Discounted bus travel and Season Ticket travel loans Membership to a variety of social and sports clubs A welcoming and diverse community



Research topic	The PDRA will investigate how nitrogen is stored in, cycled between, and released from metamorphic and magmatic rocks in the continental crust, and how plate tectonic processes have affected biogeochemical nitrogen cycles through geological time.
Principal Investigator / supervisor	Richard Palin (Oxford), Jon Wade (Oxford), Bob Hilton (Oxford)
Project team	Anna Bird (Hull), Sami Mikhail (St Andrews), Eva Stüeken (St Andrews) Cees-Jan De Hoog (Edinburgh), and Ralf Halama (Martin-Luther-Universität Halle)
Funding partner	The funds supporting this research project are provided by the NERC 'Pushing the Frontiers of Environmental Research' grant " <i>NITRO-MET: Reactive Nitrogen Supply Driven by Orogenic Metamorphism</i> "

The role

The post-holder will join an active research group led by Assoc. Prof. Palin at the Department of Earth Sciences, University of Oxford, conducting projects related to fluid–melt–rock interactions in various metamorphic environments and geodynamic settings, Early-Earth evolution, and secular changes in metamorphism, magmatism, and tectonic styles since through geological time, the genesis of critical metal-bearing magmas in the crust, and machine learning-focused research related to improving models of ore deposit formation and discovery. The successful applicant will have the opportunity to engage with all group members and their research.

The post-holder will undertake work supported by a NERC 'Pushing the Frontiers of Environmental Research' grant entitled "NITRO-MET: Reactive Nitrogen Supply Driven by Orogenic Metamorphism", which includes collaborators and project partners at the universities of Hull, St Andrews, Edinburgh, and Halle (Germany). This project seeks to quantify the behaviour of nitrogen and its isotopes during orogenesis within the continental crust, specifically focusing on the role of mica and feldspar in pelitic sediments undergoing regional metamorphism and partial melting. This will be achieved through field sampling, laboratory analyses, and petrological modelling of metamorphic phase equilibria in orogenic environments. Nitrogen retention and degassing rates during burial, exhumation, and later erosion will be determined using time-dependent thermal–tectonic models of collisional orogenesis. As the flux of bio-essential elements from continental landmasses to the oceans plays a major role in the development of Earth-surface habitability, these data will be used to test broader hypotheses about how plate tectonic and surface processes associated with the supercontinent cycle are related to marine productivity and greenhouse–icehouse periodicity throughout geological time. The project's core objectives are therefore:

- Determine the fluxes, species, and main mineral hosts of nitrogen during orogenesis within the continental crust
- Develop isotopic–geochemical models that can predict nitrogen behaviour during metamorphism in crustal environments
- Quantitatively link the marine sediment isotope record ($\delta^{15}\text{N}_{\text{sed}}$) to global tectonic–climatic box models

The post-holder will be based at the Department of Earth Sciences, University of Oxford, but will conduct fieldwork in British Columbia, Canada, to collect samples, and undertake several short visits to the NERC Ion Microprobe Facility, University of Edinburgh, to perform secondary ion mass spectrometry (SIMS) analyses. They will liaise with team members from the project across Oxford and partner institutions to ensure that all work packages are completed on schedule.

Responsibilities

- Manage their own academic research and administrative activities, which involves small-scale project management to co-ordinate multiple aspects of work to meet deadlines
- Carry out collaborative projects with colleagues in partner institutions and research groups
- Contribute to the adaptation and development of new scientific techniques and analytical protocols
- Test hypotheses and analyse scientific data from a variety of sources, reviewing and refining working hypotheses as appropriate
- Lead the preparation of scientific reports and journal articles, and engage in internal research showcases and virtual progress meetings with all team members
- Act as a source of information and advice to other members of the research group on scientific protocols and experimental techniques
- Represent the research group at external meetings/seminars by presenting papers and/or posters, either with other members of the group or alone

The successful applicant will have an option to engage in teaching. This may include lectures and small-group teaching of undergraduates and graduate students and demonstrating on undergraduate fieldwork. There is also scope for the PDRA to supervise Masters projects.

Selection criteria

Essential

- Hold a PhD/DPhil (or close to completion) in metamorphic geology or isotope geochemistry, together with relevant experience
- Possess sufficient specialist knowledge in the discipline to work within established research programmes.
- Have demonstrated research experience of:
 - Fieldwork, mapping, and sample collection in metamorphic terranes
 - Chemical and petrological analysis (XRF/SEM/EMPA) of metamorphic rocks
 - Petrological modelling of metamorphic phase equilibria using software such as THERMOCALC, Perple_X, Theriak-Domino, or MageMin
- Ability to manage own academic research and associated activities
- Excellent communication skills, including the ability to write for publication, present research proposals and results, and represent the research group at meetings

*Please note that 'close to completion' means that you must have submitted your PhD thesis at the time an offer is made.

Desirable

- Experience of independently managing a discrete area of a research project
- Familiarity with stable isotope behaviour in metamorphic and magmatic systems
- Experience using micro-analytical trace element techniques such as secondary ion mass spectrometry (SIMS), laser ablation ICP-MS or micro-XRF for the chemical analysis of small volumes of solid material
- Experience generating and/or applying geochemical or biogeochemical box models of element fluxes between Earth reservoirs

Pre-employment screening

All offers of employment are made subject to standard pre-employment screening, as applicable to the post.

If you are offered the post, you will be asked to provide proof of your right-to-work, your identity, and we will contact the referees you have nominated. You will also be asked to complete a health declaration (so that you can tell us about any health conditions or disabilities so that we can discuss appropriate adjustments with you), and a declaration of any unspent criminal convictions.

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/.

Hazard-specific / Safety-critical duties

This job includes hazards or safety-critical activities. If you are offered the post, you will be asked to complete a health questionnaire which will be assessed by our Occupational Health Service (OHS), and the offer of employment will be subject a successful outcome of this assessment.

The hazards or safety-critical duties involved are as follows:

- Fieldwork in cold environments
- Travel outside of Europe or North America on University Business

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 which 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 2016/17 exceeded £564m 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 of Earth Sciences

The Department of Earth Science 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 highly in the UK for Earth and Environmental Sciences during the 2021 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) 47 research staff, 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 Programme in Environmental Research (<http://www.environmental-research.ox.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 services laboratories. These contain a wide range of analytical equipment enabling cutting-edge research in a broad range of earth science disciplines. Of these laboratories, six are designated as Small Research Facilities (SRFs):

- Cleansuite SRF
- Electron Microanalysis SRF
- Geofacilities SRF
- Stable Isotope SRF
- Trace Metal Analysis SRF
- Workshop SRF

Each of these SRFs are run by at least one full time permanent member of staff

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.

For further information about working at Oxford, please see:

www.ox.ac.uk/about_the_university/jobs/research/

<http://www.careers.ox.ac.uk>

MPLS Division

The Mathematical, Physical, and Life Sciences (MPLS) Division is one of the four academic divisions of the University. Oxford is widely recognised as one of the world's leading science universities and the MPLS Division is home to our non-medical sciences, with 10 academic departments that span the full spectrum of the mathematical, computational, physical, engineering and life sciences, and undertake both fundamental research and cutting-edge applied work. Our research tackles major societal and technological challenges – whether developing new energy solutions or improved cancer treatments, understanding climate change processes, or helping to preserve biodiversity, and is increasingly focused on key interdisciplinary issues. We collaborate closely with colleagues in Oxford across the medical sciences, social

sciences and humanities, and with other universities, research organisations and industrial partners across the globe in pursuit of innovative research geared to address critical and fundamental scientific questions.

REF 2021 comprised 34 Units of Assessment in total and the University submitted to 29 of them, 7 of these within Mathematical, Physical and Life Sciences Division (MPLS). The REF 2021 results show that Oxford's submission had the highest volume of world leading research*.

MPLS is proud to be the home of some of the most creative and innovative scientific thinkers and leaders working in academe. Our senior researchers have been awarded some of the most significant scientific honours and we have a strong tradition of attracting and nurturing the very best early career researchers who regularly secure prestigious fellowships and faculty positions. MPLS continues in its work to support diversity in its staffing, seeing that it will bring benefits to all, and we are pleased to note that all academic departments in the Division hold Athena Swan Awards.

We have around 7,000 full and part-time students (including approximately 3,500 graduate students) and play a major role in training the next generation of leading scientists. Oxford's international reputation for excellence in teaching is reflected in its position at the top of the major league tables and subject assessments. MPLS academics educate students of high academic merit and potential from all over the world. Through a mixture of lectures, practical work and the distinctive college tutorial system, students develop their ability to solve diverse mathematical, scientific and engineering problems.

MPLS is dedicated to bringing the wonder and potential of science to the attention of audiences far beyond the world of academia. We have a strong commitment to supporting public engagement in science through initiatives including the Oxford Sparks portal (www.oxfordsparks.ox.ac.uk) and a large variety of outreach activities; these are crucial activities given so many societal and technological issues demand an understanding of the science that underpins them. We also bring the potential of our scientific efforts forward for practical and beneficial application to the real world and our desire, aided by the work of Oxford University Innovation and Oxford Sciences Innovation, is to link our best scientific minds with industry and public policy makers.

For more information about the MPLS division, please visit: www.mpls.ox.ac.uk

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. **Please do not attach any manuscripts, papers, transcripts, mark sheets or certificates as these will not be considered as part of your application.**

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

Please note that 'close to completion of' a PhD means that you need to have submitted your thesis at the time of an offer being made.

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 department(s).

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/. To return to the online application at any stage, please go to: www.recruit.ox.ac.uk.

Please note that you will receive an automated email from our e-recruitment system to confirm receipt of your application. **Please check your spam/junk mail** if you do not receive this email.

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/.

Data Privacy

Please note that any personal data submitted to the University as part of the job application process will be processed in accordance with the GDPR and related UK data protection legislation.

For further information, please see the University's Privacy Notice for Job Applicants at: www.admin.ox.ac.uk/councilsec/compliance/gdpr/privacynotices/job/.

The University's Policy on Data Protection is available at: www.admin.ox.ac.uk/councilsec/compliance/gdpr/universitypolicyondataprotection/.

The University's policy on retirement

There is no normal or fixed age at which staff in posts at **Grades 1-10** 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. The University may not request staff at these grades to take retirement at a particular age, nor suggest that they consider doing so. It is for individual members of staff to decide when they wish to retire.

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

Employee benefits

University employees enjoy 38 days' paid holiday, generous pension schemes, travel discounts, and a variety of professional development opportunities. Our range of other employee benefits and discounts also includes free entry to the Botanic Gardens and University colleges, and discounts at University museums. See www.admin.ox.ac.uk/personnel/staffinfo/benefits.

University Club and sports facilities

Membership of the University Club is free for all University staff. The University Club offers social, sporting, and hospitality facilities. 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 staff new to Oxford

If you are relocating to Oxfordshire from overseas or elsewhere in the UK, the University's Welcome Service website includes practical information about settling in the area, including advice on relocation, accommodation, and local schools. See www.welcome.ox.ac.uk. There is also a visa loan scheme to cover the costs of UK visa applications for staff and their dependents. See www.admin.ox.ac.uk/personnel/permits/reimburse&loanscheme/.

Family-friendly benefits

With one of the most generous family leave schemes in the Higher Education sector, and a range of flexible working options, Oxford aims to be a family-friendly employer. We also subscribe to My Family Care, a service that provides practical advice and support for employees who have caring responsibilities. The service offers a free telephone advice line, and the ability to book emergency back-up care for children, adult dependents and elderly relatives. See www.admin.ox.ac.uk/personnel/staffinfo/benefits/family/mfc/.

Childcare

The University has excellent childcare services, including 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/.

Disabled staff

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

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/.

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 settle into Oxford, and provides them with an opportunity to meet people and make connections in the local area. See www.newcomers.ox.ac.uk.