

University of St Andrews

School of Earth & Environmental Sciences

Research Fellow in Petrology – AR3096LS

Further Particulars for Applicants

The successful candidate will be an igneous or metamorphic petrologist and will join the **Petrology at St Andrews (PASTA)** research group within the **Planets and Life** research theme and work on our NERC-funded project "***Quantifying changes in biomass burial over geological time***". The project will study several migmatite complexes to determine what happens to sedimentary-hosted nitrogen when the crust melts. The big-picture purpose of this work is to enable a quantitative assessment for how plate tectonics and changes in biomass burial have co-contributed to shaping Earth's present-day environmental conditions, with the bolder aim of charting the co-evolution of Earth's atmosphere, biosphere, and geosphere. The position is based in the School of Earth & Environmental Sciences at the University of St Andrews, which hosts 20 permanent academic faculty, a cohort of roughly 20 postdoctoral scholars, 35 PhD students and 7 administrative and technical support staff. Research topics in the School span the formation of terrestrial planets to the origin and evolution of life, modern and future climate change, and the exploration of sustainable resources.

The job description for this role is attached below.

Job Description

Job Title: Research Fellow	Working Hours: Full time / 36.25 hours per week
School: School of Earth & Environmental Sciences	Grade/Salary Range: Grade 6 / £37,999 <i>per annum</i>
Reporting to: Reader in Earth Sciences	Reference No: AR3096LS
Job Family: Academic Research	Start Date: June 2025, but negotiable
Duration of Post: 4-years	Interview date: 24 April 2025

Main Purpose of Role

We aim to hire an igneous or metamorphic petrologist on a 4-year fixed-term contract. The successful Post-doctoral Researcher will plan and conduct sampling expeditions in Scotland, France, Italy, and Spain with members of the project team. The aim will be to determine the petrogenesis of igneous and metamorphic samples from migmatite complexes using field observations and laboratory analysis. We will sample the melt and the residuum in anatectic zones to allow us to determine the partitioning behaviour and stable isotope fractionation of nitrogen (among other systems) during crustal melting. The post-doctoral research fellow would be responsible for sampling and characterisation, data interpretation, petrological and geochemical model development, the writing up of results for publication in peer-reviewed journals and presenting results at national and international conferences. The post-doctoral research fellow will work alongside the international team of scientists and the dedicated laboratory technician who will take responsibility for the analysis of nitrogen using our bespoke analytical setup.

Key Duties and Responsibilities

1. Plan and conduct own research activities within the project to meet deadlines and deliverables. Note, this position will involve national and international travel to attend meetings, and work with collaborators. This includes:
 - I. Co-leading field expeditions
 - II. Petrographic analysis of metamorphic and igneous samples
 - III. Process and analyse data
 - IV. Curate analytical results and metadata
 - V. Determine the petrogenesis of samples via phase equilibria modelling and major and trace element data (EPMA, LA-ICP-MS)
 - VI. Interpret new results and integrate with complementary data
2. Understand and convey technical material to the research team through presentations, discussions, and progress reports.
3. Write up results and implications for publication in peer-reviewed journals (as principal and co-author).
4. Write and present research presentations (oral and/or poster) at conferences and workshops.
5. Engage in networking activities to make internal and external contacts, to develop knowledge and to form relationships for future research collaboration.
6. Develop specialist knowledge in the research area to deal with problems affecting the achievement of research objectives and deadlines, devising solutions to unexpected challenges in collaboration with the PI.

7. Troubleshoot instrument/analytical issues with help of supervisor and full-time laboratory managers
8. Proactively engage and work collaboratively with other members of the research group and engage with the research environment within the School.
9. Supervise, train and provide support and guidance to research team members and assigned project student(s) as appropriate.
10. Use initiative and creativity to identify areas for research, develop new research methods and extend the research portfolio.
11. Ensure compliance with all legal and regulatory requirements including equality and diversity, data protection, copyright and licensing, security, financial, health and safety and other University policies, procedures and codes as appropriate.

Please note that this job description is not exhaustive, and the role holder may be required to undertake other relevant duties commensurate with the grading of the post. Activities may be subject to amendment over time as the role develops and/or priorities and requirements evolve.

Person Specification

This section details the attributes e.g. skills, knowledge/qualifications and competencies which are required in order to undertake the full remit of this post.

Attributes	Essential	Desirable	Means of Assessment (i.e. application form, interview, test, presentation etc)
Education & Qualifications <i>(technical, professional, academic qualifications and training required)</i>	Hold or be close to submission of PhD in relevant Earth Sciences subdiscipline (e.g., Igneous or Metamorphic Petrology)	Hold a bachelor degree in Geology, or equivalent	Application form, Interview
Experience & Knowledge <i>(examples of specific experience and knowledge sought)</i>	Experience in the science of geological fieldwork, petrographic analysis, and geochemical microanalysis Knowledgeable of how empirical data are incorporated into theoretical models (geochemical or petrological)	Experience working collaboratively as part of an international research team A basic understanding of stable isotope geochemistry A basic understanding in any coding language (R, MATLAB, Python)	Application form, Interview
Competencies & Skills <i>(e.g. effective communication skills, initiative, flexibility, leadership etc)</i>	Data management and curation skills Effective communicator (orally and in writing) Collegiality/willingness to	Ability to publish results in high quality research publications	Application form, Interview

	<p>work in a collaborative environment</p> <p>Ability to work autonomously and to be proactive in identifying and resolving issues</p> <p>Well-developed time management skills with the ability to meet deadlines</p>		
--	--	--	--

Essential Criteria – requirements without which a candidate would not be able to undertake the full remit of the role. Applicants who have not clearly demonstrated in their application that they possess the essential requirements will normally be rejected at the short-listing stage.

Desirable Criteria – requirements which would be useful for the candidate to hold. When short listing, these criteria will be considered when more than one applicant meets the essential requirements.

Other Information

This contract is fixed term as it is dependent on external funding.

Interviews will be held on **24 April 2025**

We encourage applicants to apply online at www.vacancies.st-andrews.ac.uk/welcome.aspx, however if you are unable to do this, please call +44 (0)1334 462571 for a paper application form.

For all applications, please quote ref: AR3096LS

Equality, diversity and inclusion are at the heart of the St Andrews experience and form a central pillar of the University Strategy. We strive to create a fair and inclusive culture demonstrated through our commitment to diversity awards (Athena Swan, Carer Positive, Race Charters). We celebrate diversity by promoting profiles of BAME, LGBTIQ+ Disabled and Neurodiverse staff and supporting networks including the Staff BAME Network; Staff with Disabilities or Neurodiversity Network; Staff LGBTIQ+ Network; and the Staff Parents & Carers Network. Full details available online: <https://www.st-andrews.ac.uk/hr/edi/>

The University of St Andrews is a charity registered in Scotland (No SC013532).

Obligations as an Employee

You have a duty to carry out your work in a safe manner in order not to endanger yourself or anyone else by your acts or omissions.

You are required to comply with the University health and safety policy as it relates to your work activities, and to take appropriate action in case of an emergency.

You are required to undertake the Information Security Essentials computer-based training course and adhere to its principles alongside related University Policy and Regulations.

You are responsible for applying the University's equality and diversity policies and principles in your own area of responsibility and in your general conduct.

You have a responsibility to promote high levels of customer care within your own area of work/activities.

You should be adaptable to change and be willing to acquire new skills and knowledge as applicable to the needs of the role.

You may, with reasonable notice, be required to work within other Schools/Units within the University of St Andrews.

You have the responsibility to engage with the University's environmental sustainability strategy, committing the University to reach net-zero by 2035.

You are required to engage with the technology, systems and communication channels necessary for you to undertake your work and must update your personal details via HR Self Service whenever there is a change.

Employees with staff management responsibilities must familiarize themselves with appropriate policies.

Who Are We? St Andrews At a Glance

- The third oldest university in the English-speaking world.
- Ranked top UK university in the [Guardian University Guide 2024](#).
- Ranked number one in the UK in the [Times and Sunday Times Good University Guide 2024](#).
- Students at the University of St Andrews are more positive about their education than students at any other mainstream university in the [National Student Survey 2023](#).
- The University of St Andrews is Scotland's top university and one of the top four universities in the UK in [The Complete University Guide 2024](#).
- The University is top in the UK for Teaching Quality in the [Daily Mail University Guide 2024](#).
- Research-intensive, more than 88% of research carried out by the University of St Andrews is world-leading or internationally excellent (Research Excellence Framework 2021).
- Athena SWAN [Bronze Award holder](#)
- A [Strategy](#) founded on ambition to be World-Leading, Diverse, Global, Entrepreneurial and Sustainable all underpinned by a commitment to social responsibility.
- A community of 10,000 students and 3000 staff.
- Highly international – more than 30% of students and staff are from outwith the UK
- A non-campus university, closely integrated with the ancient town of St Andrews
- Top quality [sports](#), [music](#) and [nursery](#) facilities for staff and students

University of St Andrews

Founded in the 15th century, St Andrews is Scotland's first university and the third oldest in the English-speaking world. The University of St Andrews is one of Europe's most research-intensive seats of learning. It is one of the top-rated universities in Europe for research, teaching quality, and student satisfaction.

Today, under the leadership of Principal and Vice-Chancellor Professor Dame Sally Mapstone FRSE, the University's strategy is to broaden its global influence, with a focus on diversity, building a culture of entrepreneurship, research excellence, and social responsibility.

St Andrews is committed to broadening our digital education, enhancing the experience of our on-campus students, while bringing a St Andrews education to much wider global community.

From climate science and sustainable development to energy ethics and grass-roots level action across all the communities in which it operates, sustainability is at the heart of the University's Strategic vision. World-leading research on sustainability is taking place across the breadth of the University, with researchers addressing key questions on the defining issue of our generation.

The University has set an ambitious target of carbon net zero by 2035, ten years ahead of the Scottish Government's 2045 target.

St Andrews is ranked as the top university in the UK in *The Guardian Guide 2024*, and *The Times and Sunday Times University Guide 2024*. The *Complete University Guide 2024* ranks St Andrews as the top university in Scotland, and fourth in the UK.