UK GEOENERGY OBSERVATORIES PROJECT TRAINING OPPORTUNITIES: Activity 3 - Research Internship

Announcement of Opportunity

Issued on: 17 May 2019
Full Proposals deadline: 17:00 GMT on 1 July 2019

1. Summary

The Natural Environment Research Council (NERC) invites PhD students and Early Career Researchers (ECRs) to apply for a research internship that will provide an opportunity to carry out pilot-scale research projects relating to the UK Geoenergy Observatories.

Research internships funded under this activity must support an initial pilot phase of work that could inform and/or support future proposals for larger research or fellowship proposals using the UKGEOS facilities. Supported activities may include (but are not limited to) analysis and interpretation of samples from the UKGEOS Glasgow boreholes. Research internships that do not require samples, or analysis of materials from the site, are also welcome.

NERC anticipates the majority of internships will last for three months on a full time basis. Part time internships for up to six months will be accepted depending on project requirements or the applicant's personal circumstances.

Individual internships will be capped at £15k (at 100% of direct costs). We anticipate funding up to 4 applicants to this call. For PhD students, NERC will fund extension of the studentship at their current institution for the duration of the internship at standard stipend and fee rates. For ECRs, the researcher will remain employed by their academic institution and NERC will fund direct salary costs, plus NI and superannuation. For both PhD students and ECRs, funding is available for eligible travel and subsistence costs and minor directly incurred costs.

Internships must start between September and December 2019.

1 Defined as having up to a maximum of eight years of full-time equivalent post-doctoral research experience from PhD certificate date to the Full Proposals deadline.
2. Background

Geological resources are vital for society. In addition to providing us with sources of energy, they provide the water we drink and the raw materials we need to build infrastructure that we often take for granted, to manufacture the goods that we buy, and to grow the crops that we eat\(^2\). As we move into the post-fossil fuel era, the requirement for geological resources will become even more important, providing the raw materials needed to enable us to make the transition at the scale that is required.

Exploitation of geological resources can only be carried out with public consent. As novel resources come on stream\(^3\), it is essential that all stakeholders including those who regulate land use and resource extraction have improved understanding of the subsurface in order to support effective decision-making.

In this context, the NERC UK Geoenergy Observatories (UKGEOS) project aims to provide a world-leading observatory of the subsurface environment, and how it responds to human activities. The UKGEOS project will establish two new facilities (currently under construction in Glasgow and, subject to obtaining planning consent, to be constructed in Cheshire) that will help to deliver world-leading research into the subsurface environment. The knowledge generated will contribute to the responsible development of new energy technologies both in the UK and internationally, as well as furthering our understanding of subsurface processes.

The UKGEOS project will stimulate research on underground energy technologies that will answer vital questions about how they affect the environment through:

- Independent monitoring and observation - answering questions on how subsurface energy technologies interact with the environment.
- High-quality, scientific evidence - answering questions on new and established energy supply and storage technology, increasing efficiency and environmental sustainability.

The British Geological Survey (BGS) is delivering the research infrastructure on behalf of NERC and the academic community and will operate the facilities over their 15-year lifetime. Further information on UKGEOS is available on the UKGEOS website (details on the two sites can be found in the respective reports for the Glasgow site and the Cheshire site.)

3. Scope

3.1 Programme objectives

The UKGEOS training opportunities will be delivered through three activities:

1. Activity 1: Site visits
2. Activity 2: Ideas workshop
3. Activity 3: Research internships

The aim of these activities is to achieve the following objectives:

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\(^2\) In the UK, geological resources other than fuels and water directly support around 12% of the country’s GDP.

\(^3\) For example, Sirius Minerals’ polyhalite mine in Yorkshire is a £2.5 billion investment designed to produce 20 million tonnes/year for 100 years.
- Improve the awareness and understanding of the research opportunities that UKGEOS enables amongst the NERC research community (and wider), and stimulate research engagement and innovation relating to the newly created assets.
- Support the development of early career researchers through focussed training, which upskill the next generation of environmental scientists for long-term benefits and help maximise the value of the UKGEOS investment.

This Announcement of Opportunity is for Activity 3, which will provide PhD students or ECRs opportunities to carry out pilot-scale research projects within their current institutions relating to the UK Geoenergy Observatories.

Supported activities may include (but are not limited to) laboratory analysis and subsequent interpretation of samples from the UKGEOS Glasgow boreholes.

Applicants who have already or will have obtained access to samples of core and fluids from the UKGEOS Glasgow site can carry out pilot-scale research on the samples during their internship. In some cases, the data that will be generated are likely to be preliminary, providing information that will inform and strengthen future proposals. In other cases, the data will be obtained from samples that are unique (for example, those collected during drilling), and so may inform timely publications.

Research internships that do not require samples, or analysis of materials from the site, are also welcome. Such proposals are expected to be pilot-scale with a clear vision of where they might lead and potential relevance to the aims of UKGEOS and may include, for example, preliminary modelling to demonstrate the feasibility of a specific approach, or to highlight the need for specific data to support future research.

Successful applicants will be encouraged to engage and work with each other, and with researchers who already have samples from the UKGEOS Glasgow site, to network and build connections that enable team-based outputs during the internships and future research collaborations. There will also be opportunities for interaction with/direction from members of the current UKGEOS Science Advisory Group.

These internships will allow applicants to gain experience in developing and writing research proposals including articulation of research project ideas, costing of research projects, considerations of pathways to impact and data management. Panel feedback will be provided to all applicants following assessment of their application to enable further learning.

3.2 Proposal requirements

Research internships funded under this activity must support an initial pilot phase of work that could inform and/or support future proposals for larger research or fellowship proposals using the UKGEOS facilities[^4].

All applicants must consult with BGS (ukgeosenquiries@bgs.ac.uk) when preparing their internship applications to confirm the proposed activity is technically feasible for UKGEOS facilities.

[^4]: Note there is no guarantee of funding for future projects/applications leading on from these research internships.
Applicants requiring access to specific samples or materials from the UKGEOS Glasgow site for their proposed internship must separately submit an application to the UKGEOS sample call (closing date 31 May 2019), and clearly state the reference number and outcome to that submission in the internship application.

4. Programme requirements

4.1 Programme funding

Internships can be up to a maximum of £15k (at 100% of direct costs). NERC anticipate funding up to four applicants to this call.

Internships will be based at the applicant’s current host or employer research organisation. Funds will be awarded to successful applicants via subcontracts with Newcastle University on behalf of NERC.

For PhD students, NERC will fund extension of the studentship at their current institution for the duration of the internship at the standard stipend and fee rates under the same terms and conditions. The host institution and PhD supervisor should provide support and supervision on the same basis for the duration of the internship. It is the responsibility of the current lead supervisor of the PhD student to inform the relevant studentship funders to ensure additional time is added to the studentship.

For ECRs, NERC will fund direct salary costs, plus NI and superannuation. In order to allow these funds to be paid to individual ECRs, the applicants must be employed, for the duration of the internship, by an organisation eligible to receive NERC funding. Salary costs must be justified and in alignment with the host institution policy for the individual’s level of experience.

For both PhD students and ECRs, funding may be requested for eligible travel and subsistence costs and minor directly incurred costs e.g. laboratory consumables and costs associated with analysis including instrument time. All other direct or indirect costs such as estates, overheads or equipment are ineligible. All costs must be clearly justified and budgeted within the overall limit of the internship (£15k at 100% of direct costs).

4.2 Implementation and delivery

NERC anticipates the majority of internships will last for three months on a full time basis. However, we welcome applications from diverse applicants and will accept internship applications to be undertaken on a part time basis for durations of up to six months, if either project requirements, or the applicant’s personal circumstances, make this appropriate. For PhD students, part time internships will only be accepted if they are currently undertaking a part time PhD.

For all applicants, the time to be committed to the internship must be clearly indicated in the application form.

Internships must start between September and December 2019.

4.3 Knowledge Exchange and Impact

Knowledge exchange (KE) is vital to ensure that environmental research has wide benefits for society, and should be an integral part of any research. All applicants must consider how
they will or might achieve impact outside the scientific community and submit a brief Pathways to Impact statement in the application form. No costs associated with Pathways to Impact activities may be requested for this call. Further guidance on Pathways to Impact can be found on NERC website.

4.4 Data Management

The NERC Data Policy must be adhered to, and an outline data management plan produced as part of proposal development. NERC will pay the data centre directly on behalf of the programme for archival and curation services, but applicants should ensure they request sufficient resource to cover preparation of data for archiving by the research team. It is expected that all data obtained through this internship become part of the UKGEOS data repository. The National Geoscience Data Centre (NGDC) is the identified lead NERC data centre for the UKGEOS project and the primary point of contact for any data management issues.

4.5 NERC Facilities

Prior to submitting a proposal, applicants wishing to use a NERC service or facility must contact the facility to seek agreement that they could provide the service required. Please refer to the NERC services and facilities page on the NERC website for further information.

All applicants must consult with BGS (ukgeosenquiries@bgs.ac.uk) when preparing their proposals to confirm the proposed activity is technically feasible for UKGEOS facilities.

4.5 Reporting requirements

At the end of the internship, successful applicants will be required to complete a report detailing their work over the three months and the outcomes achieved. A report template will be provided and applicants should return the completed report via email to ukgeos@nerc.ukri.org. The report will be reviewed by NERC and UK Geoenergy Observatories Science Advisory Group (GSAG) as evidence for the quality of the internship experience and help inform future schemes. Any publications or theses that include data generated through participation in this internship must acknowledge the source of this funding.

5. Application process

5.1 How to apply

Closing Date: 17:00 BST on 1 July 2019

Applicants should submit a completed application form via email to ukgeos@nerc.ukri.org By the closing date of 1 July at 17:00 BST. It will not be possible to submit to the call after this time.

All applications must be checked and approved by the research office of the applicant’s research organisation.

The application form and the CV must be completed in single-spaced typescript of minimum font size 11 point (Arial or other sans serif typeface of equivalent size to Arial 11), with margins of at least 2cm. Please note that Arial narrow, Calibri and Times New Roman are
not allowable font types and any proposal which has used either of these font types within their submission will be rejected. References and footnotes should also be at least 11 point font and should be in the same font type as the rest of the document. Headers and footers should not be used for references or information relating to the scientific case. Applicants referring to websites should note that the panel may choose not to use them.

For PhD students
The application must be approved by the student’s primary supervisor and the training grant holder 5 prior to submission.

As part of the application, applicants must upload the following documents in Microsoft Word or PDF format:

- A signed Funding and Permissions Statement – this statement requires the signatures of the applicant, the applicant's lead supervisor and the training grant holder confirming the studentship will be extended for the duration of the internship;
- A signed Letter of Support from the Research Office of the applicant’s research organisation confirming the application has been checked for adherence to relevant institutional rules and approved for submission;
- A signed Feasibility Assessment Letter from BGS confirming the proposed activity is technically feasible (obtainable via email from ukgeosenquiries@bgs.ac.uk);
- Outline Data Management Plan (up to one side of A4)
- CV (up to two sides of A4).

For ECRs
As part of the application, applicants must upload the following documents in Microsoft Word or PDF format:

- A signed Letter of Support from the Head of Department of the applicant’s research organisation confirming approval and support for the applicant to work on the internship for its duration;
- A signed letter from Research Office confirming the application has been checked for adherence to relevant institutional rules and approved for submission;
- A signed Feasibility Assessment Letter from BGS confirming the proposed activity is technically feasible (obtainable via email from ukgeosenquiries@bgs.ac.uk);
- Outline Data Management Plan (up to one side of A4)
- CV (up to two sides of A4).

5.2 Eligibility
The opportunity is open to PhD students and Early Career Researchers currently working within NERC’s remit at approved UK Higher Education Institutions (HEIs), approved Research Council Institutes (RCIs) or approved Independent Research Organisations (IROs). Full details of approved RCIs and IROs can be found on the UKRI website.

ECRs are defined as having up to a maximum of eight years of full-time equivalent post-doctoral research experience from PhD certificate date to the closing date (specified in section 5.1). The eight-year window is based on full-time working. Where applicants have worked part-time or had career breaks, the window would be extended accordingly.

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5 The training grant holder is a member of staff at the student’s Research Organisation who is responsible for the grant that funds the studentship e.g. the named contact from a Doctoral Training Partnership or equivalent research council training structure.
6. Assessment Process

Applications will be considered by an independent assessment panel, which will comprise members of the NERC peer review college, UKGEOS Science Advisory Group, BGS staff involved in delivering the UKGEOS facilities, and representatives from NERC Head Office. Conflicts of interest in assessment will be managed in line with normal NERC policies.

The panel will consider the applications according to the following criteria:

- **Excellence** – potential of proposed activity to lead to excellent science including future funding applications;
- **Fit to Scheme** – alignment with the call’s objectives including the benefits of the research internship to applicant’s career, personal development and training.

NERC will use the recommendations of the assessment panel along with the overall call requirements and the available budget in making its final decision. Feedback will be provided to all applicants.

All applicants will be notified of the outcome of their application as soon as possible following the meeting of the assessment panel, and by 29 July 2019 at the latest.

7. Timetable

- Announcement published: 17 May 2019
- Deadline for submission of application: 1 July 2019
- Assessment panel meets: Mid July 2019
- Applicants notified: by 29 July 2019
- Internship commences: September – December 2019

8. Contact

For general and application enquiries:
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