



UNIVERSITY OF LEEDS

## CANDIDATE BRIEF

Research Fellow in Antarctic Seismology, Faculty of Environment



**Salary: Grade 7 (£33,797 – £40,322 p.a.)**

**Reference: ENVEE1374**

**Fixed-term for 2 years due to external funding**

**We will consider job share / flexible working arrangements**

## Research Fellow in Antarctic Seismology School of Earth and Environment

**Are you an ambitious seismologist looking for your next challenge? Could your experience play a part in predicting the evolution of Antarctica's ice masses? Do you want to further your career in one of the UK's leading research-intensive Universities?**

We are seeking a Research Fellow with experience of seismic reflection analysis who will play a pivotal role in determining the seismic properties of Thwaites Glacier, West Antarctica. As a member of the [TIME project](#), itself part of the [Thwaites Glacier International Collaboration](#) (ITGC), you will work closely with [Dr Adam Booth](#) to acquire, process and interpret seismic data from the shear margin of Thwaites Glacier.

Understanding the seismic character of Thwaites' shear margins, and the geological controls on their position, is a fundamental requirement for forecasting regional ice sheet evolution under warming climate scenarios. As part of the ITGC, you join a research network of over 60 scientists and students, combining the logistic capabilities of the USA's National Science Foundation and the UK's Natural Environment Research Council.

Within this role, you will contribute to two field deployments (in 2021 and 2022) lasting up to 3 months each on Thwaites Glacier. The post involves data acquisition and analysis using the first nodal 3-D seismic surveys in Antarctica. These data will provide rich insight into the basal and englacial properties of the Thwaites shear margin. Using quantitative interpretation techniques, you will explore the variation of seismic reflectivity to determine the hydrological and anisotropic condition of this climate-sensitive site.

You will have, or be close to obtaining, a PhD in Geophysics with a proven background in seismic reflection analysis. You will also have experience of deploying seismic systems, and be able to undertake remote Antarctic deployments. An ability to conduct independent research and a developing publication record is also desirable. In addition, you will have excellent communication and teamworking skills.

### What does the role entail?

As a Research Fellow, your main duties will include:



- Processing and analysing 3D reflection seismic data from Thwaites Glacier;
- Deriving basal, subglacial and englacial seismic properties from the seismic dataset;
- Contributing to the logistical planning of, and undertaking, two field deployments to Antarctica in 2021 and 2022;
- Generating and pursuing independent and original research ideas in the appropriate subject area;
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;
- Preparing papers for publication in leading international journals and disseminating research results through other recognised forms of output;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training of postgraduate students, in particular a studentship linked to the TIME ITGC project.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

## What will you bring to the role?

As a Research Fellow you will have:

- A PhD or near completion - i.e. the initial thesis needs to have been handed in at the point of application in Geophysics, Physics or a closely allied discipline;
- An ability and willingness to travel to Antarctica for up to 3 months in 2020 and up to 3 months in 2021 in order to work;
- Experience with the processing and quantitative analysis of geophysical data;
- Good time management and planning skills, with the ability to meet tight deadlines, manage competing demands and work effectively under pressure without close support;



- A proven track record of peer-reviewed publications in leading international journals;
- Excellent written and verbal communication skills, including presentation skills;
- A proven ability to work well both individually and in a team;
- A strong commitment to your own continuous professional development.

You may also have:

- Fluency with seismic processing software (e.g., *SeisSpace*, *Reveal*) and/or competence with programming languages (e.g., *Matlab*, *Python*, etc.);
- Experience with deriving quantitative subsurface properties specifically from seismic data within the glaciological field;
- A familiarity of the importance of these properties for glacier dynamics;
- Experience of the field logistics and fieldwork, potentially within the glacier setting;
- Experience of pursuing external funding to support research.

## How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

## Contact information

To explore the post further or for any queries you may have, please contact:

[Dr Adam Booth](#), Associate Professor in Applied Geophysics

Telephone +44 (0)113 3439743, email [a.d.booth@leeds.ac.uk](mailto:a.d.booth@leeds.ac.uk)

## Additional information

Find out more about the [School of Earth and Environment](#)

Find out more about our [Institute of Applied Geophysics](#)



## **A diverse workforce**

The Faculty of Environment has received a prestigious Athena SWAN silver award from [Advance HE](#), the national body that promotes equality in the higher education sector. This award represents the combined efforts of all schools in the Faculty and shows the positive actions we have taken to ensure that our policies, processes and ethos all promote an equal and inclusive environment for work and study.

## **Working at Leeds**

Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on our [Working at Leeds](#) information page.

## **Candidates with disabilities**

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our [Accessibility](#) information page or by getting in touch with us at [disclosure@leeds.ac.uk](mailto:disclosure@leeds.ac.uk).

## **Criminal record information**

### **Rehabilitation of Offenders Act 1974**

A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our [Criminal Records](#) information page.

