UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Modelling Climate-Ice Sheet Interactions, School of Earth and Environment

Salary: Grade 7 (£33,199 – £39,609 p.a.)

Reference: ENVEE1356

Closing date: 17 September 2019

Interviews are expected to be held on 30 September 2019

Fixed-term for 2.5 years with option to extend

We encourage applications for job share / part time / flexible working arrangements

Research Fellow in Modelling Climate-Ice Sheet Interactions
School of Earth and Environment, Faculty of Envrionment

Are you an ambitious climate scientist or glaciologist looking for your next challenge? Do you want to work with world leaders in climate-ice sheet science and artificial intelligence to tackle future sea level rise? Do you want to further your career in one of the UK's leading research-intensive Universities?

You will join a team of scientists led by Dr Lauren Gregoire as part of the prestigious UKRI Future Leaders Fellowship project "Constraining projections of ice sheet instabilities and future sea level rise". The ambitious and exciting aim of the project is to provide robust estimates of 'worst case' sea level rise in the 21st century and beyond using information from past events when ice sheets became unstable. You will create a large ensemble of coupled climate-ice sheet simulations on High Performance Computing facilities at the University of Leeds. This ensemble will provide us with a unique opportunity to comprehensively investigate the climatic triggers of ice sheet instabilities. You will collaborate with the project statistician to develop an efficient statistical model of ice sheet surface mass balance and evaluate the likelihood of rapid sea level rise. You will also work with MetOffice project partners, government agencies and energy and transport industries, as well as with colleagues from the Priestley International Centre for Climate on the co-production of knowledge on the policy implications of 'worst-case' sea level rise. You will have opportunities for training, including travel and secondments to Grenoble, the University of Reading, the University of Exeter as well as government and industrial partners. For a suitably ambitious researcher, funding is available to extend this position for an additional year to work on further applications of the tools developed.

You will have, or be close to obtaining, a PhD in Climate Science, Meteorology or Glaciology and have extensive experience of using models and observations to study climate and/or ice sheet processes. You may potentially be familiar with methods for quantifying model uncertainty or have insight into how analyses of past climate can inform future projections. Applications for part-time work, job-share or other flexible working arrangements are encouraged.

What does the role entail?

As a Research Fellow, your main duties will include:

- Creating and analysing large ensembles of climate-ice sheet simulations to investigate past and future abrupt (century-scale) climate, ice sheet and sea level changes (using the FAMOUS and BISICLES models).
- Working in collaboration with Dr Gregoire (glaciologist; UKRI Future Leaders Fellow), Dr Williamson (statistician; Fellow of the Alan Turing institute), Dr Ivanovic (climatologist; Leader of the Paleoclimate Model Intercomparison Project Deglacial Working Group) and a research fellow in statistics, to develop a statistical model of climate and ice sheet surface mass balance.
- Generating and pursuing independent and original research ideas related to the project goals;
- Contributing to setting the direction of the research project and forging new relationships with international scientific collaborators and industrial project partners to draw wider expertise into the project;
- Evaluating existing methods, techniques and results and applying the most appropriate to your own research;
- Publishing papers in leading international journals and disseminating research results through conference presentations;
- Working both independently and also as part of a larger team of researchers;
- Engaging in knowledge-transfer activities and in the co-production of knowledge on the policy implications of 'worse case' sea level rise with project partners and members of our impact advisory board;
- Making use of the extensive opportunities available for continuing professional development and mentoring to less experienced colleagues as appropriate;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects relevant to your research.

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. initial thesis to be handed in before the start date) in climate, ocean or atmospheric science, glaciology or a closely allied discipline;
- A strong background in climate science;
- Demonstrated expertise in setting up and running climate (or ice-sheet) model simulations on high performance computers;
- Extensive experience in managing, processing, visualising and analysing complex and multi-dimensional climate data;
- Excellent experience in scientific programming (e.g. in FORTRAN, R or Python);
- 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 internationally recognised 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:

- Knowledge of quaternary changes in climate and ice sheets and how these are reconstructed;
- Knowledge of ice sheet processes;
- Experience in model development;
- Expertise in performing model sensitivity analysis, calibration or uncertainty quantification.

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 Lauren Gregoire, Lecturer in Earth System Modelling
Tel: +44 (0)113 343 4945
Email: l.j.gregoire@leeds.ac.uk

Additional information

Find out more about Dr Lauren Gregoire's Future Leaders Fellowship

Find out more about the Priestley International Centre for Climate

Find out more about the Centre for Polar Observation and Modelling

Find out more about our School of Earth and Environment

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.



Criminal record information

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.