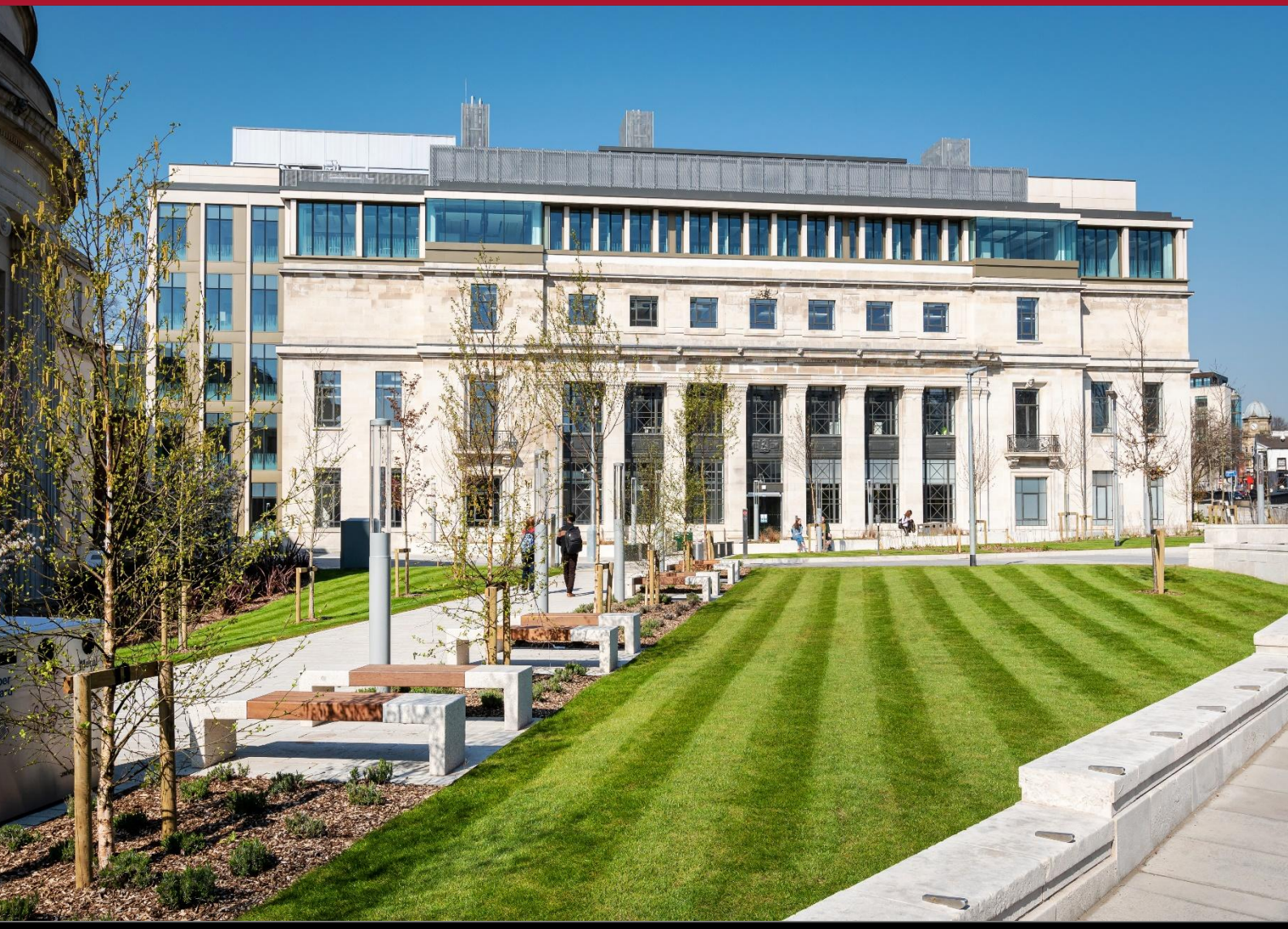
UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Stratospheric Climate Modelling of Solar Radiation Modification, Faculty of Engineering and Physical Sciences



Salary: Grade 7 (£41,064 – £48,822 p.a.)

Reporting to: Professor Dan Marsh

Reference: EPSPA1132

Closing date: Monday 19 January 2026

Fixed-term (until 31 October 2027 - to complete specific time limited work)

Location: Leeds Main Campus (with scope for hybrid working)

We are open to discussing flexible working arrangements

Research Fellow in Stratospheric Climate Modelling of Solar Radiation Modification,
School of Physics and Astronomy.

Are you a researcher looking for your first challenge? Do you have a background in climate research or numerical modelling? Do you want to further your career in one of the UK's leading research-intensive universities?

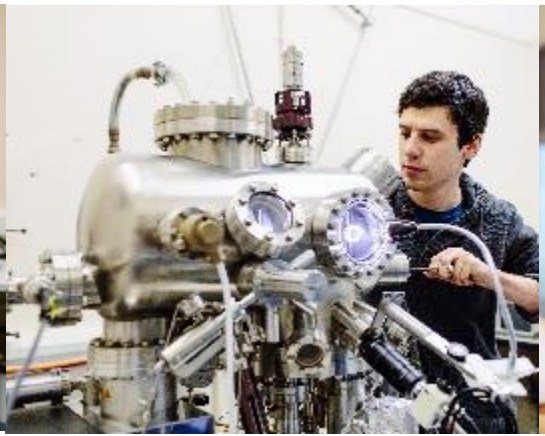
Overview of the Role

The project will develop state of the art climate tools to accurately predict the dispersal and climate impact of proposed hypothetical stratospheric aerosol injection strategies. You will be working as part of an international interdisciplinary team to reduce some of the fundamental climate modelling uncertainties around solar radiation modification (SRM). This is a 24-month fixed term contract.

This role will entail simulating the distribution of radiatively active aerosol tracers injected into the stratosphere within the Whole Atmosphere Community Climate Model (WACCM). Working with Prof Dan Marsh, you will setup, run and analyse a variety of simulations to simulate the radiative and climate effects of aerosol injection. You will be part of a project team to design, implement and analyse data from a series of sensitivity experiments. With Prof. Piers Forster, you will estimate the effective radiative forcing from injecting stratospheric aerosols. Liaising with a wider international team, you will contribute to project report writing and dissemination of scientific results at conferences and in peer-reviewed literature.

It is clear that SRM is a controversial subject, and our desire is to be as transparent as possible, as no such confidentiality agreements will need to be signed, and all the work conducted under this project will be communicated openly, entering the public domain through peer reviewed publications.

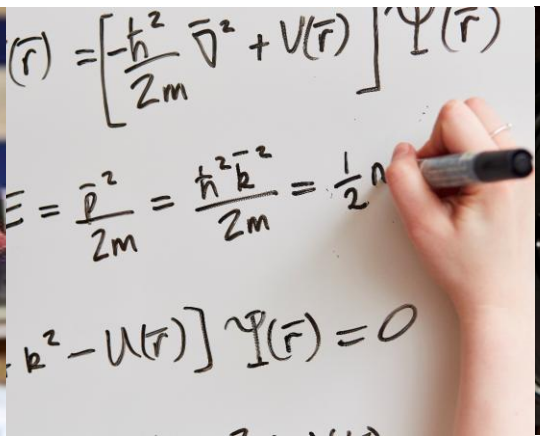
You will have a PhD (or have submitted your thesis before taking up the role) in the field of Physics or Atmospheric, Ocean or Climate Science, or Computing and have extensive experience of using and analysing data from climate models. Prior experience with the WACCM or similar model will be a strong advantage. Experience communicating your science to policy makers is desirable.


Main duties and responsibilities

- Working with Prof Dan Marsh (School of Physics and Astronomy), Prof Piers Forster (Priestely Centre for Climate Futures) and project team to plan climate modelling strategies and investigations;
- Running and analysing the WACCM climate model simulations;
- Performing radiative forcing calculations under the guidance of Prof Piers Forster;
- Work with the Priestley Centre team to manage the project and its deliverables;
- Appropriately balancing demands and prioritising tasks and deadlines across the project;
- 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 research;
- Making a significant contribution to the dissemination of research results by publication in leading peer-reviewed journals and by presentation at national and international meetings;
- Working independently and as part of a larger team of researchers, both internally and externally, to develop new research links and collaborations and engage in knowledge transfer activities where appropriate;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects in areas relevant to the 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.



Qualifications and skills

Essential:

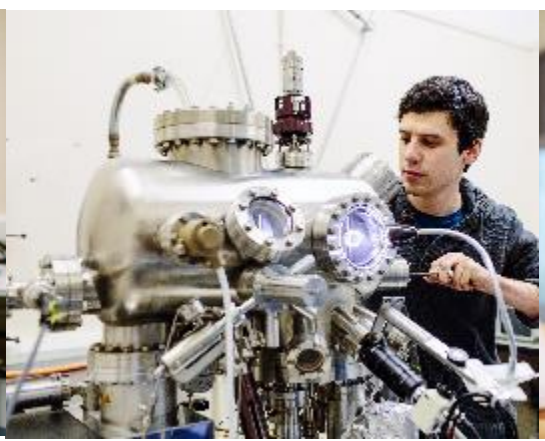
- A PhD (or have submitted your thesis before taking up the role) in atmospheric or climate science or a related discipline;
- A background in climate modelling, climate data analysis or radiative transfer;
- The ability to work independently on challenging problems;
- A demonstratable level of high numerical literacy;
- Familiarity with unix and python;
- Good time management and planning skills, with the ability to meet tight deadlines and manage competing demands effectively without close support;
- A developing track record of peer reviewed publications in international journals;
- Excellent communication skills both written and verbal, and the ability to communicate your research at national and international conferences;
- A proven ability to work well both individually and in a team;
- A strong commitment to your own continuous professional development.

Desirable:

- Experience of pursuing external funding to support research;
- Experience of developing or working with the WACCM model;
- A background in atmospheric physics or chemistry at the scales relevant for the stratosphere and global mean climate;
- Knowledge of solar radiation modification research;
- An interdisciplinary approach.

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:

Professor Dan Marsh, Priestley Chair in Comparative Planetary Atmospheres
Tel: +44 (0)113 343 3885
Email: D.Marsh@leeds.ac.uk

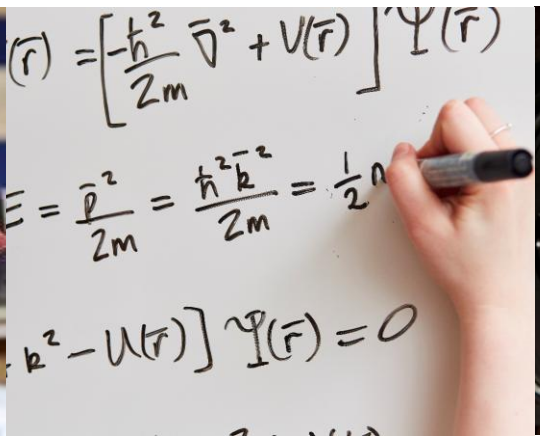
Additional information

Faculty and School Information
Further information is available on the research and teaching activities of the Faculty of Engineering & Physical Sciences, and the School of Physics and Astronomy.

Working at Leeds
We are a campus-based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our Working at Leeds information page.

A diverse workforce
As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. Within the Faculty of Engineering and Physical Sciences we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian and ethnically diverse people; people who identify as LGBT+; and people with disabilities. Candidates will always be selected based on merit and ability.

The Faculty of Engineering and Physical Sciences are proud to have been awarded the Athena SWAN Silver Award from the Equality Challenge Unit, the national body that promotes equality in the higher education sector. Our equality and inclusion webpage provides more information.



Information for disabled candidates
Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found under the 'Accessibility' heading on our How to Apply information page or by getting in touch by emailing HR via hr@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.

Salary Requirements of the Skilled Worker Visa Route
Please note that this post may be suitable for sponsorship under the Skilled Worker visa route but first-time applicants might need to qualify for salary concessions. For more information, please visit the Government's Skilled Worker visa page.

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information, please visit the Government's page, Apply for the Global Talent visa.