



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Atmospheric Halogen Modelling, Faculty of Environment



Salary: Grade 7 (£39,355 – £46,735 p.a. depending on experience)

Reporting to: Professor Martyn Chipperfield

Reference: ENVEE1810

Fixed term until 30 September 2026 to complete specific time-limited work

Location: University of Leeds (with scope for hybrid working)

We are open to discussing flexible working arrangements

Research Fellow in Atmospheric Halogen Modelling School of Earth and Environment, Faculty of Environment

Overview of the Role

Are you an ambitious researcher with an interest in atmospheric ozone? Do you have an established background in atmospheric modelling and a passion for climate science? Do you want to further your career in one of the UK's leading research-intensive Universities?

The School of Earth and Environment (SEE) is seeking to appoint a research scientist in atmospheric modelling, who will focus on improving our understanding of halocarbons in the atmosphere, and their impact on stratospheric ozone. You will be working state-of-the-art models as part of large UK collaboration on understanding the emissions and atmospheric impacts of chlorine, bromine and iodine-containing species. You will investigate the complex relationships between emissions of different chemical species, atmospheric transport and chemical processes. Your research will contribute to the range of halocarbon work which will inform future ozone-related policy decisions.

In this role, you will join an experienced and productive team within the department with a long track record of producing high-impact research relating to the physics and chemistry of the atmosphere. You will have a PhD in a related discipline, with experience of using atmospheric models in tandem with empirical data relating to atmospheric species such as halocarbons. You will have a track record of publishing your research and the ability to work as part of a dynamic research group. This role provides an exciting opportunity to contribute significantly to improvements in our ability to monitor of impact on the Earth's ozone layer and to inform future policy decisions to reduce that impact.

Main duties and responsibilities

- Forward and inverse global and regional atmospheric modelling with the aim of quantifying halocarbon emissions;



- Leading the collation and analysis of satellite-based, surface and aircraft observations of relevant halocarbons;
- Developing novel analysis of the ability of halocarbons (including short-lived substances) to deplete stratospheric ozone;
- 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 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 near completion - i.e. the initial thesis needs to have been handed in at the point of application in atmospheric science or a closely allied discipline;
- A strong background in the use of the Leeds TOMCAT chemical transport model (CTM) in forward and inverse model to simulate atmospheric composition;
- A track record in the study of atmospheric halocarbon emissions and quantifying their impact on stratospheric ozone;
- Experience in using ground, aircraft and satellite-based observations of atmospheric constituents;



- Expertise in one or more coding languages as used in our group (e.g. IDL, Python, Fortran) to perform model development and data analysis and visualisation and experience of running complex parallel models on HPC systems;
- Good mathematical ability for understanding and analysing trends, correlations and uncertainties with large datasets such as those produced by models and satellite-based instruments;
- 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 developing track record of peer-reviewed publications in 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.

Desirable

- Experience of pursuing external funding to support research.

Additional information

Please note: If you are not a British or Irish citizen, from 1 January 2021 you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen and resident in the UK before 31 December 2020, this may be your passport or status under the EU Settlement Scheme.

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: www.gov.uk/skilled-worker-visa

For research and academic posts, we will consider eligibility under the Global Talent visa. For more information please visit: <https://www.gov.uk/global-talent>

Find out more about the [Faculty of Environment](#)

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



Find out more about our [Research and associated facilities](#)

Find out more about Equality and Inclusion in the [faculty](#)

Working at Leeds

We are a campus-based community and regular interaction on 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.

Our University

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 Environment 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, people who belong to a minority ethnic community; people who identify as LGBT+; and disabled people.

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.

Information for disabled candidates

Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found on our [Accessibility](#) information page or by getting in touch with us at 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.

