

# Job Description

POST DOCTORAL RESEARCH ASSISTANT  
Climate Modelling



Smith School  
of Enterprise and  
the Environment



**SMITH SCHOOL OF ENTERPRISE AND THE ENVIRONMENT  
UNIVERSITY OF OXFORD**

**Post Doctoral Research Assistant – Climate Modelling**

**Grade 7: Salary £28,839 to £35,469 (with a discretionary range to £38,757)**

**Post Reference LD-09-004**

## **Job Description**

### **Introduction**

Applications are invited for the post of Post Doctoral Research Assistant in the newly established Smith School of Enterprise and the Environment, in the Social Sciences Division of the University of Oxford. This is a joint appointment between the Smith School and the Department of Physics. The post holder will be based 50% in the Smith School offices and 50% in the Atmospheric, Oceanic and Planetary Physics (AOPP) sub-Department within Physics. Both departments are located in the centre of Oxford, within walking distance of each other.

The primary task of the post-holder is to design and conduct climate modelling experiments using the Met Office's Unified Model on linux systems within the university and setting up ensemble experiments for the distributed computing infrastructure provided by the *climateprediction.net* project, coordinated by the Oxford e-Research Centre. Most of the work of this PDRA would be setting up new experiments to explore a much wider range of scenarios than are traditionally considered with general circulation models (GCMs). The successful applicant will also provide modelling advice and limited support for climate modelling activities in other parts of the University, such as the School of Geography and the Environment, Earth Sciences, and the Oxford e-Research Centre, . The post-holder is also expected to collaborate with other climate modellers, especially those at the Met Office Hadley Centre and National Centre for Atmospheric Science.

### **Duration and Funding**

The post is funded in part by a grant from the Natural Environment Research Council, awarded to the Climate Dynamics Group within the Dept of Physics, and in part from Smith School core funding.

The post is for three years starting as soon as possible.

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## The Smith School of Enterprise and the Environment

[www.smithschool.ox.ac.uk](http://www.smithschool.ox.ac.uk)

Founded by a benefaction from the Smith Family Educational Foundation, the Smith School will be the foremost institution of its kind in the world. It will provide an interdisciplinary centre for research, business and government leaders to seek solutions to the most pressing issues of the 21<sup>st</sup> century. The academic programme covers the sciences and social sciences including environmental economics, finance, international development, law, politics, engineering, chemistry and all areas relevant to the response of the private and public sectors to environmental challenges. It will build upon the University's existing strength, with units such as the School of Geography and the Environment, the Environmental Change Institute, and the Saïd Business School actively involved in the creation and ongoing life of the new School.

The three key objectives of the Smith School are to:

Produce world-class research generating a new body of knowledge on critical issues at the intersection of business, government and academe.

Enable and inform active dialogue with senior opinion-formers in the environmental field.

Create a community of graduates working in the private and public sectors around the world, with a thorough understanding of the latest thinking in this vital area.

### Atmospheric, Oceanic and Planetary Physics

<http://www-atm.physics.ox.ac.uk/main/AOPP/index.html>

The sub-department's research focuses on the study of physical processes in the atmospheres and oceans of the Earth and other planets, using experimental and theoretical techniques.

We are an important centre for theoretical atmospheric and oceanic modelling. Our climate dynamics group studies the large-scale behaviour of the atmosphere-ocean system and its response to external drivers such as the increases in greenhouse gas levels responsible for anthropogenic climate change. Other modelling of the Earth's atmosphere focuses on large-scale dynamical and chemical-transport processes relevant to climate, and on the interpretation of our satellite data.

### Climateprediction.net

<http://climateprediction.net/index.php>

Climateprediction.net is an exciting research project aiming to distribute large numbers of climate models around the world to be run on personal computers in homes, offices, and schools, in the style of SETI@home. The results of the models will be used to assess uncertainty in the predictions of 21<sup>st</sup> century climate change. Climateprediction.net represents an unprecedented opportunity for public

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involvement in climate science and public education on the issues involved in climate change. The experiment is also an ideal test bed for distributed and Grid computing.

## The Research Assistant

### Reports to:

Dr Dave Frame, Deputy Director of the Smith School and  
Dr Myles Allen, Head of the Climate Dynamics Group in Atmospheric, Oceanic and Planetary Physics.

### Responsible for:

The post holder will have no line management responsibilities, but will act in an advisory capacity to researchers across the University on the climate modelling software, the design of experiments and the results obtained.

### Key Responsibilities and Duties

Management of own academic research and administrative activities. This involves:

- Managing the submission of jobs to climateprediction.net
- Co-ordinating GCM (general circulation model) climate modelling activities across the University
- Designing climate modelling experiments
- Implementing experiments on the CPDN distinctive model architecture
- Writing research papers
- Building relationships between University departments, in particular between the Smith School and Atmospheric Physics, the School of Geography and the Environment, the Environmental Change Institute and the Oxford e-Research Centre
- Taking responsibility for liaising with other UK institutions such as the UK Met Office, University of Reading, National Centre for Atmospheric Science, Imperial and with overseas institutions such as the University of Cape Town, NIWA (New Zealand), University of Melbourne, University of Washington and Carnegie Mellon University
- Representing the research group at meetings and seminars, including presentation of research findings and papers at conferences.
- Developing ideas for generating research income, and presenting detailed research proposals to senior researchers.
- There may also be opportunities for a role as a graduate student advisor

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### Essential Selection Criteria

- PhD or equivalent in a relevant discipline
- A good first degree or equivalent in meteorology, atmospheric physics or oceanography
- GCM climate modelling experience
- Excellent programming skills
- Ability to work on own initiative as well as on collaborative projects

### Desirable Selection Criteria

- Experience with the use of the Met Office modelling framework
- Database skills
- e-Science experience
- Distributed computing experience

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### **How to Apply**

Letters of application, together with a detailed *curriculum vitae* should reach Karen Eveleigh, Administrator, Smith School of Enterprise and the Environment, Hayes House, 75 George Street, Oxford, OX1 2BQ, **by no later than noon on Friday 15<sup>th</sup> May 2009** Applications may be sent by email to [personnel@smithschool.ox.ac.uk](mailto:personnel@smithschool.ox.ac.uk) All applications should quote reference LD-09-004.

The list of duties and the selection criteria for this job describe the sort of skills, experience, knowledge or abilities which we are looking for. We will interview those whose applications best meet these criteria, so it is very important that you should use your application to explain how you can match them.

Please give the names, addresses and telephone numbers of two people who are prepared to give you a reference for this job. If you have previously been employed, your referees should be people who have direct experience of your work through working closely with you for a considerable period, and at least one of them should be your formal line manager in your most recent job. Your referees will be asked to look at the job details and tell us if, in their opinion, you could do the job. We will assume that we can approach them at any stage unless you tell us otherwise when you apply. So, if you wish us to ask for your permission before approaching a particular referee, or to contact them only under certain circumstances (for example if we are calling you for interview, or if we have made you a conditional offer), *you must state this explicitly alongside the details of the relevant referee(s)*.

Your appointment will be subject to (i) the return of a completed medical questionnaire which is acceptable to the University, (ii) the provision of original documentation which indicates your right to work in the UK, and (iii) the completion of an initial probationary period of twelve months.

The University reserves the right to screen individuals for employment. Any such screening would be discussed with you in advance of it taking place.

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## **Further Particulars**

### **The University of Oxford**

The University of Oxford employs over 7,000 academic, research and support staff across a wide range of academic disciplines. Its mission is to achieve and sustain excellence in every area of its teaching and research, maintaining and developing its historical position as a world-class university, and enriching the international, national, and regional communities through the fruits of its research and the skills of its graduates.

The University has four academic divisions (Humanities; Social Sciences; Mathematical, Physical and Life Sciences; and Medical Sciences) through which its academic administration is conducted. Each division is led by a full time Head of Division who chairs the Divisional Board and major committees. The Smith School is a collaborative and interdisciplinary initiative based in the Social Sciences Division and managed by a management committee chaired by the Head of Division.

Full information on the University is available at <http://www.ox.ac.uk>.

### **General conditions of employment**

#### **Salary**

Annual salary will be in the range: £28,839 to £35,469 (with a discretionary range to £38,757). The starting salary of the successful applicant will be fixed according to qualifications and experience. If you are appointed at a salary below the top of this range, your salary will automatically be increased each year until you have reached the top point. If appointed within the discretionary range, no automatic incremental progression should be expected during this appointment. There is also an annual 'cost-of-living' salary review, which normally takes place in summer each year.

#### **Holidays**

Annual leave entitlement will be 38 days of personal leave, including 8 public holidays.

#### **Term**

The appointment is initially for a fixed-term of three years. Extension of this period would be conditional on funding available.

#### **Probationary period**

Appointment is subject to an initial probationary period of twelve months, during which the appointment may be terminated by one month's notice on either side. Following successful completion of the probationary period, the length of notice the

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University undertakes to give to terminate your employment is three months and the length of notice you are required to give to terminate your employment is three months.

### **Pension**

The University's normal retirement age is 31 July preceding the 66th birthday. The post is pensionable and the post holder eligible for membership of the Universities Superannuation Scheme (USS), a contributory scheme to which members pay 6.35 per cent of annual salary. Subject to the Statement of Pensions Policy, which will be issued to the successful candidate, the appointee will be deemed to be in membership of the above pension scheme until such time as he/she gives notice in writing to exercise the right not to be a member of the scheme.

### **Smoking**

The University operates a no-smoking policy.

### **University staff benefits**

#### **Maternity leave and childcare facilities**

The University has a generous maternity leave scheme and also offers paternity leave to expectant fathers and partners, and adoption leave. It offers subsidised nursery places, a childminding network, a holiday playscheme, and tax and National Insurance savings schemes. For further information see [www.admin.ox.ac.uk/eop/child](http://www.admin.ox.ac.uk/eop/child).

#### **Travel arrangements**

The University offers an interest-free season ticket loan scheme for bus or train season tickets. Annual passes for Oxford Bus Company routes are available at discounted rates. There is no parking on site at the Smith School premises and staff are encouraged to use the Park and Ride scheme. Located in central Oxford the Smith School is within easy reach of the railway and bus stations and many bus routes.

#### **University facilities**

All University staff can use the study facilities provided by University libraries and museums; join the University Club, a sports and social club which has its own bar, café, and reading room; and make use of the University Sports Complex and the Pulse fitness centre.

#### **Cultural and religious needs**

We respect the cultural and religious lives of our staff. If you need time away from work, or special facilities, and can give plenty of notice for arrangements to be made, this will always be considered.

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The range of benefits is continuously reviewed and extended. For further information see [www.admin.ox.ac.uk/ps/staff/benefits/](http://www.admin.ox.ac.uk/ps/staff/benefits/)

### **Equal opportunities at the University of Oxford**

As an Equal Opportunity employer, we positively encourage applications from people of different backgrounds. All our jobs are filled in line with our equal opportunities code of practice, which helps us make sure that men and women, people of different religions or beliefs, ages, racial groups, and those with disabilities are all treated fairly.

### **POLICY STATEMENT**

The policy and practice of the University of Oxford require that all staff are afforded equal opportunities within employment. Entry into employment with the University and progression within employment will be determined only by personal merit and the application of criteria which are related to the duties of each particular post and the relevant salary structure. In all cases, ability to perform the job will be the primary consideration. Subject to statutory provisions, no applicant or member of staff will be treated less favourably than another because of his or her gender, marital or civil partnership status, sexual orientation, religion or belief, racial group, age or disability.

If you have any questions about equal opportunities at the University of Oxford, please visit our web-site at [www.admin.ox.ac.uk/eop](http://www.admin.ox.ac.uk/eop).

### **Data protection**

All data supplied by applicants will be used only for the purposes of determining their suitability for the post, and will be held in accordance with the principles of the Data Protection Act 1998 and the University's Data Protection Policy.