<table>
<thead>
<tr>
<th><strong>Job title</strong></th>
<th>Landscape Modeller for Pesticides</th>
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<tbody>
<tr>
<td><strong>Division</strong></td>
<td>Medical Sciences</td>
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<tr>
<td><strong>Department</strong></td>
<td>Big Data Institute</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td>Big Data Institute, Old road campus, Headington</td>
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</tbody>
</table>
| **Grade and salary** | Grade 8: £39,324 to £46,924 p.a with a discretionary range to £51,260 p.a.  
An appointment at Grade 7: £31,076 to £38,183 p.a with a discretionary range up to £41,709 p.a with appropriate adjustment in the duties, will be considered based on the applicant’s skills and experience |
| **Hours**     | Full time                         |
| **Contract type** | Fixed-term to 31 December 2018 |
| **Reporting to** | Group Leader                       |
| **Vacancy reference** | 129114                             |
| **Additional information** | Funded by the Wellcome Trust |

<table>
<thead>
<tr>
<th><strong>Research topic</strong></th>
<th>Landscape modelling of pesticides in the environments inhabited by mosquitoes</th>
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<tbody>
<tr>
<td><strong>Principal Investigator / supervisor</strong></td>
<td>Dr Catherine Moyes and Prof. Peter Gething</td>
</tr>
<tr>
<td><strong>Project team</strong></td>
<td>Malaria Atlas Project and Moyes Group</td>
</tr>
<tr>
<td><strong>Project web site</strong></td>
<td><a href="http://www.map.ox.ac.uk/map">www.map.ox.ac.uk/map</a></td>
</tr>
<tr>
<td><strong>Funding partner</strong></td>
<td>The funds supporting this research project are provided by the Wellcome Trust</td>
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<tr>
<td>Paper</td>
<td>Authors</td>
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See [http://www.map.ox.ac.uk/publications/](http://www.map.ox.ac.uk/publications/)
The role

Controlling the Anopheles mosquitoes that transmit malaria using insecticides (impregnated on bednets, via indoor spraying, or by treating larval habitats) is a critical component of efforts to control and eliminate malaria worldwide. The evolution in some Anopheles of resistance to the main classes of insecticide currently in use represents an enormous threat to recent successes in driving down malaria burden.

The Malaria Atlas Project, in collaboration with the Liverpool School of Tropical Medicine, has recently been awarded funding from the Wellcome Trust to develop geospatial modelling approaches to capture the geographic patterns of resistance and investigate potential landscape drivers. These drivers include insecticides used in public health and pesticides used in agriculture. The pesticides of interest are primarily pyrethroids and organophosphates, with a secondary interest in organochlorines and carbamates. We need measures of variation in the levels of these pesticides in environments where mosquitoes are found, namely the water bodies where larvae are found, surfaces where adults rest and, potentially, the atmospheric zones where mosquitoes fly. No data layers exist for absolute quantities of these pesticides in these environments globally so our approach will be to generate data layers for variables and combinations of variables that most closely correlate with pesticide levels. These may include crop coverage, topography, soil type and so on. How these layers are combined will be informed by existing models for predicting pesticide residues and by the geospatial surfaces that are available from satellite data and other sources.

This new role in the group will lead the programme of geospatial work on pesticide-related variables and construct fine scale (~5 km) regional or global data surfaces for parameters that are associated with variation in pesticide residues. The post-holder will provide expertise on pesticides in the environment as well as high-level geoprocessing skills. The data layers constructed will be used by mathematicians in the group as potential predictors of insecticide resistance in mosquitoes and tested in a spatial model of resistance.

Responsibilities/duties

- Lead the design and construction of data layers linked to pesticide use and residues for global regions, particularly the tropics and subtropics.

- Contribute to decision-making processes within the project and take an active role in the management of the ultimate project deliverables and timelines.

- Develop the infrastructure and documentation required to support this work, including software library installation and updating, version control, and backup.

- Liaise with and provide conceptual support to scientists within the wider MAP group.

- Lead the preparation of scientific reports and journal articles for publication of research findings from this work.

- Represent the project and research findings from this work at external meetings and selected international conferences.

- Manage any short-term posts employed on this project from time to time.
Additional Responsibilities/duties for appointment at grade 8

- Project manage this work to co-ordinate it with the other work streams in the wider programme of research.
- Contribute ideas for new research projects and for generating research income.
- Agree clear task objectives, organise, and delegate work to other members of the team, particularly in the context of others gathering data to feed into this work.

Selection criteria

Essential

- First or upper second class Bachelor degree
- PhD in geographical science or a related discipline, or equivalent work experience
- Extensive expertise constructing and processing geospatial data layers
- Demonstrable knowledge of pesticide residues in the environment
- Evidence of clearly communicating and relating to others (oral and written)

For appointment at grade 8 the candidate should also have:

- Proven ability to manage research projects, meeting defined milestones on time
- Very competitive publication record
- Evidence of project planning and organising skills
- Experience of leading a programme of work

Desirable for both grades

- Knowledge and experience of insecticides used in public health
- Experience of managing junior researchers
- Experience writing software for others to use
- A postgraduate GIS qualification

About the University of Oxford

Welcome to the University of Oxford. We aim to lead the world in research and education for the benefit of society both in the UK and globally. Oxford’s researchers engage with academic, commercial and cultural partners across the world to stimulate high-quality research and enable innovation through a broad range of social, policy and economic impacts.

We believe our strengths lie both in empowering individuals and teams to address fundamental questions of global significance, and in providing all of our staff with a welcoming and inclusive workplace that supports everyone to develop and do their best work. Recognising that diversity is a great strength, and vital for innovation and creativity, we aspire to build a truly diverse community which values and respects every individual’s unique contribution.

While we have long traditions of scholarship, we are also forward-looking, creative and cutting-edge. Oxford is one of Europe's most entrepreneurial universities. Income from external
research contracts in 2014/15 exceeded £522.9m and ranked first in the UK for university spin- 
outs, with more than 130 spin-off companies created to date. We are also recognised as 
leaders in support for social enterprise.

Join us and you will find a unique, democratic and international community, a great range of 
staff benefits and access to a vibrant array of cultural activities in the beautiful city of Oxford.

For more information please visit [www.ox.ac.uk/about/organisation](http://www.ox.ac.uk/about/organisation)

**Medical Sciences**

The Medical Sciences Division is an internationally recognized centre of excellence for 
biomedical and clinical research and teaching. We are the largest academic division in the 
University of Oxford

World-leading programmes, housed in state-of-the-art facilities, cover the full range of scientific 
endeavour from the molecule to the population. With our NHS partners we also foster the 
highest possible standards in patient care.

For more information please visit: [www.medsci.ox.ac.uk](http://www.medsci.ox.ac.uk)

**Nuffield Department of Clinical Medicine (NDM)... fostering your 
career in science**

The Nuffield Department of Clinical Medicine (NDM) is one of the largest departments of the 
University of Oxford and is part of the Medical Sciences Division, with responsibility for a 
significant part of the teaching of clinical students within the Medical School.

NDM has significant financial turnover and complexity, resulting from its diverse research 
portfolio, its geographical spread and its close links with NHS funding and strategic teams 
involved in the development and delivery of increasingly integrated clinical research platforms. 
For more information please visit: [http://www.ndm.ox.ac.uk/home](http://www.ndm.ox.ac.uk/home)

The Nuffield Department of Clinical Medicine has been presented with a Departmental Athena 
SWAN Silver award in recognition of the commitment made to promote gender equality through 
our organisational and cultural practices and our efforts to improve the working environment for 
both men and women. For more information please see our Departmental Athena SWAN 
pages: [http://www.ndm.ox.ac.uk/athena-swan](http://www.ndm.ox.ac.uk/athena-swan).

**Big Data Institute**

The Big Data Institute (OBDI) is a new, interdisciplinary research centre, located within Oxford’s 
Old Road Campus, currently under construction and opening in late 2016. The institute will 
combine researchers from genomics, epidemiology and infectious disease alongside those from 
computer science, statistics and engineering to develop the field of big data as applied to 
biomedical research. Scientists working in the institute will form an analytical hub, deeply 
connected to the wider experimental and clinical community in Oxford and beyond, working to 
solve some of the major challenges in medical research. The Institute will provide core facilities 
in high performance computing and house about 350 researchers drawn from a wide range of 
departments.
The Malaria Atlas Project

The Malaria Atlas Project was founded in 2005 to use sophisticated medical information to help policy-makers as part of a global effort to tackle infectious diseases. The MAP team has already assembled a unique spatial database of linked information related to malaria which is the largest ever data archive of its kind. These data have been assembled and analysed by a diverse group of scientists including geographers, statisticians, epidemiologists, biologists and public health specialists.

How to apply

Before submitting an application, you may find it helpful to read the ‘Tips on applying for a job at the University of Oxford’ document, at www.ox.ac.uk/about_the_university/jobs/research/

If you would like to apply, click on the Apply Now button on the ‘Job Details’ page and follow the on-screen instructions to register as a new user or log-in if you have applied previously. Please provide details of referees and indicate whether we can contact them now.

You will also be asked to upload a CV and a supporting statement. The supporting statement should explain how you meet the selection criteria for the post using examples of your skills and experience. This may include experience gained in employment, education, or during career breaks (such as time out to care for dependants).

Your application will be judged solely on the basis of how you demonstrate that you meet the selection criteria stated in the job description.

All applications must be received by midday on the closing date stated in the online advertisement.

Information for priority candidates

A priority candidate is a University employee who is seeking redeployment because they have been advised that they are at risk of redundancy, or on grounds of ill-health/disability. Priority candidates are issued with a redeployment letter by their employing departments.

If you are a priority candidate, please ensure that you attach your redeployment letter to your application (or email it to the contact address on the advert if the application form used for the vacancy does not allow attachments).

Should you experience any difficulties using the online application system, please email recruitment.support@admin.ox.ac.uk. Further help and support is available from www.ox.ac.uk/about_the_university/jobs/support/. To return to the online application at any stage, please go to: www.recruit.ox.ac.uk.

Please note that you will be notified of the progress of your application by automatic emails from our e-recruitment system. Please check your spam/junk mail regularly to ensure that you receive all emails.
Important information for candidates

Pre-employment screening

Please note that the appointment of the successful candidate will be subject to standard pre-employment screening, as applicable to the post. This will include right-to-work, proof of identity and references. We advise all applicants to read the candidate notes on the University’s pre-employment screening procedures, found at:

www.ox.ac.uk/about/jobs/preemploymentscreening/.

The University’s policy on retirement

The University operates an employer justified retirement age for all academic and academic-related posts (grade 6 and above), for which the retirement date is the 30 September immediately preceding the 68th birthday. The justification for this is explained at:

www.admin.ox.ac.uk/personnel/end/retirement/revisedejra/revaim/.

For existing employees any employment beyond the retirement age is subject to approval through the procedures: www.admin.ox.ac.uk/personnel/end/retirement/revisedejra/revproc/

There is no normal or fixed age at which support staff in posts at grades 1–5 have to retire. Support staff may retire once they reach the minimum pension age stipulated in the Rules of the pension scheme to which they belong.

Equality of Opportunity

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. No applicant or member of staff shall be discriminated against because of age, disability, gender reassignment, marriage or civil partnership, pregnancy or maternity, race, religion or belief, sex, or sexual orientation.
Benefits of working at the University

**Training and Development**
A range of training and development opportunities are available at the University. Further details can be found at [www.ox.ac.uk/staff/working_at_oxford/training_development/index.html](http://www.ox.ac.uk/staff/working_at_oxford/training_development/index.html).

**For research staff only: Support for Research Staff**
There is a particularly wide range of support for career development for research staff. Please visit [www.ox.ac.uk/research/support-researchers](http://www.ox.ac.uk/research/support-researchers) to find out more.

**Pensions**
The University offers generous occupational pension schemes for eligible staff members. Further details can be found at [www.admin.ox.ac.uk/finance/epp/pensions/pensionspolicy/](http://www.admin.ox.ac.uk/finance/epp/pensions/pensionspolicy/).

**Information for international staff (or those relocating from another part of the UK)**
A wealth of information is available on the University’s International Staff website for staff who are relocating to Oxford from abroad, at [www.admin.ox.ac.uk/personnel/staffinfo/international/](http://www.admin.ox.ac.uk/personnel/staffinfo/international/).

**The University of Oxford Newcomers’ Club**
The Newcomers’ Club is aimed at helping partners of newly-arrived visiting scholars, graduate students and academic members of the University to settle in and to meet people in Oxford.

**Transport schemes**
The University offers a range of travel schemes and public transport travel discounts to staff. Full details are available at [www.admin.ox.ac.uk/estates/ourservices/travel/](http://www.admin.ox.ac.uk/estates/ourservices/travel/).

**University Club and University Sports Facilities**
The University Club provides social, sporting and hospitality facilities. It incorporates a Club bar, a cafe and sporting facilities, including a gym. See [www.club.ox.ac.uk](http://www.club.ox.ac.uk) for all further details.

University staff can use the University Sports Centre at discounted rates, and have the chance to join sports clubs. Please visit [www.sport.ox.ac.uk/oxford-university-sports-facilities](http://www.sport.ox.ac.uk/oxford-university-sports-facilities).

**Childcare and Childcare Vouchers**
The University offers quality childcare provision services at affordable prices to its employees. For full details about the services offered, please visit [www.admin.ox.ac.uk/childcare/](http://www.admin.ox.ac.uk/childcare/). **NB: Due to the high demand for the University’s nursery places there is a long waiting list.**

The University also offers nursery fee payment schemes to eligible staff as an opportunity to save tax and national insurance on childcare costs. Please visit [www.admin.ox.ac.uk/childcare](http://www.admin.ox.ac.uk/childcare).

**Disabled staff**
The University is committed to supporting members of staff with a disability or long-term health condition and has a dedicated Staff Disability Advisor. Please visit [www.admin.ox.ac.uk/eop/disab/staff](http://www.admin.ox.ac.uk/eop/disab/staff) for further details.

**BUPA - Eduhealth**
Bupa Eduhealth Essentials private medical insurance offers special rates for University of Oxford staff and their families [www.eduhealth.co.uk/mini-site/](http://www.eduhealth.co.uk/mini-site/).

**All other benefits**
For other benefits, such as free entry to colleges, the Botanic Gardens and staff discounts offered by third party companies, please see [www.admin.ox.ac.uk/personnel/staffinfo/benefits/](http://www.admin.ox.ac.uk/personnel/staffinfo/benefits/).