

<b>Job title</b>	Postdoctoral Research Assistant in Data Visualization
<b>Division</b>	Mathematical, Physical and Life Sciences Division
<b>Department</b>	Engineering Science
<b>Location</b>	7 Keble Road, Oxford, OX1 3QG.
<b>Grade and salary</b>	Grade 7: £36,024 - £44,263 per annum (Whilst the role is a grade 7 position, we would be willing to consider candidates with potential but less experience who are seeking a development opportunity, for which an initial appointment would be at grade 6 (£32,332 - £38,205 p.a.) with the responsibilities adjusted accordingly. This would be discussed with applicants at interview/appointment where appropriate.)
<b>Hours</b>	Full time or part time
<b>Contract type</b>	Fixed-term (12 months, may start from 1 June 2024).
<b>Reporting to</b>	Dr. Sarah Sparrow and Professor Min Chen (University of Oxford)
<b>Vacancy reference</b>	171294

<b>Research topic</b>	Data visualization for Supporting Dengue Outbreak Prediction and Monitoring'
<b>Principal Investigator / supervisor</b>	Dr. Sarah Sparrow (PI) and Professor Min Chen (Supervisor)
<b>Project team</b>	Oxford e-Research Centre in Department of Engineering Science
<b>Project web site</b>	<a href="http://www.ox.ac.uk/">www.ox.ac.uk/</a>
<b>Funding partner</b>	The funds supporting this research project are provided by UKRI and EPSRC
<b>Recent publications</b>	M. Chen et al. RAMPVIS: Answering the challenges of building visualisation capabilities for large-scale emergency responses. <i>Epidemics</i> , 39:100569, 2022.

## The role

The successful candidate will be working as a research officer in a pressing R&D project "Dengue Advanced Readiness Tools (DART) - integrated digital system for dengue outbreak prediction and monitoring", which is funded by Wellcome Trust. The DART project is composed of research activities a several aspects including climate, biological, and epidemiological modelling, infrastructure development, and data visualization. This post focuses on the



development of visualization tools as part of an integrated digital system for dengue outbreak prediction and monitoring.

The post-holder (or post-holders if two or more persons share the position) will be based at *Department of Engineering, University of Oxford*, be line-managed by Dr. Sarah Sparrow (the Oxford PI of the project), and be supervised by Professor Min Chen.

Within the project, there will be several researchers and developers working on different parts of the DART project. Some are based at Oxford and others are based in Vietnam. The post-holder(s) will be working in collaboration with these researchers and developers.

## **Responsibilities**

### **Specific Tasks**

The main technical tasks of the post-holder (or post-holders if two or more persons share the position and responsibilities) include:

1. To design, develop, and test visualization tools for supporting the modelling activities in the DART project, including the modelling activities at Oxford and in Vietnam.
2. To ensure that the visualization tools developed will be deployed the infrastructure developed at Oxford and to assist in their deployment in a DART platform in Vietnam.
3. To document the visualization software developed and make the software and its documentation available as open-source software.
4. To establish close collaboration with other researchers and developers in the DART project, especially during the R&D phases for requirements analysis and software evaluation.
5. To research into different visualization solutions for supporting modelling activities, including commonly-used statistics graphics, dashboards, and advanced visual designs and visual analytics techniques (e.g., for supporting uncertainty analysis and sensitivity analysis).

### **Additional Tasks**

- To attend DART project meetings and seminars.
- To participate in the preparation of scientific and technical reports on the work carried out by the post-holder(s), including publications for academic or industrial audience.
- To make contribution to the public engagement activities of the DART project.
- To act as a source of information about data visualization and provide advice to other members of the project team.
- To provide appropriate support to other software developers who design, develop, and maintain various DART infrastructure and software.
- To engage with other groups in the University of Oxford when opportunities arise.
- To carry out any other duties appropriate for the post.

### *Underfill adaptations:*

Whilst the role is a grade 7 position, we would be willing to consider candidates with potential but less experience or qualification who are seeking a development opportunity, for which an initial appointment would be at grade 6 where the individual will undertake all the duties but with increased supervision and/or less responsibility. Where a post is underfilled a development plan will be put in place which will state clear milestones (such as completion of PhD) which must be met by the individual in order to be promoted to the substantive grade.

*This job description should be viewed as a guide to the role and is not intended as a definitive list of duties. It may be reviewed in light of changing circumstances with consultation with the post holder.*

## **Selection criteria**

### **Essential**

- Hold a relevant PhD/DPhil (or be near completion\*) (with the possibility to underfill if candidate holds a relevant university degree and is working towards PhD/DPhil), together with relevant experience or equivalent experience,
- Significant knowledge and experience of data visualization and visual analytics,
- Demonstrable knowledge and experience of software engineering,
- Demonstrable experience of programming,
- Demonstrable ability to manage work plan and schedule,
- Ability to work in collaboration,
- Ability to learn and explore new technologies,
- Ability to manage own R&D and associated activities,
- Good communication skills, including the ability to write reports and give presentations.

*\* Please note that 'near completion' means that you must have submitted your PhD thesis.*

### **Desirable**

- Previous experience of developing deployable industrial-quality software,
- Previous experience of developing any technical components of an infrastructural software system, such as web-based UI, ontology, search engine, agent, service, etc.
- Previous experience of contributing to research publications, giving conference/seminar presentations, or organising meetings,
- Experience of working in an industrial environment.

## **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)

## Engineering Science Department

Engineering teaching and research takes place at Oxford in a unified Department of Engineering Science whose academic staff are committed to a common engineering foundation as well as to advanced work in their own specialities, which include most branches of the subject. We have especially strong links with computing, materials science and medicine. The Department employs about 90 academic staff (this number includes 13 statutory Professors appointed in the main branches of the discipline, and 25 other professors in the Department); in addition there are 9 Visiting Professors. There is an experienced team of teaching support staff, clerical staff and technicians. The Department has well-equipped laboratories and workshops, which together with offices, lecture theatres, library and other facilities have a net floor area of about 22,000 square metres. The Department is ranked third in the world in the latest *Times Higher Education World University Rankings*, behind Caltech and Stanford, but ahead of MIT (4<sup>th</sup>), Cambridge (5<sup>th</sup>), Princeton (6<sup>th</sup>) and Imperial (7<sup>th</sup>).

### *Teaching*

We aim to admit 160-170 undergraduates per year, all of whom take a 4-year Engineering Science course leading to the MEng degree. The course is accredited at MEng level by the major engineering institutions. The syllabus has a common core extending through the first two years. Specialist options are introduced in the third year, and the fourth year includes further specialist material and a major project.

### *Research*

The Department was ranked the top engineering department in the UK, as measured by overall GPA, in the Research Excellence Framework 2014 exercise. We have approximately 350 research students and about 130 Research Fellows and Postdoctoral researchers. Funding for research grants and contracts, from a variety of sources, generates an annual turnover of approximately £34m in addition to general turnover of about £24m. The research activities of the department fall into seven broad headings, though there is much overlapping in practice: Thermofluids; Materials and Mechanics; Civil and Offshore; Information, Control and Vision; Electrical and Optoelectronic; Chemical and Process; Biomedical Engineering.

For more information please visit: <http://www.eng.ox.ac.uk/>

The Department of Engineering Science holds a bronze Athena Swan award to recognise advancement of gender equality: representation, progression and success for all.

### **Oxford e Research Centre**

With a staff of over 50 researchers the Centre is home to a wide portfolio of research projects in the sciences, social sciences, humanities, technology and research infrastructure development, with collaborators coming from within the university, the UK and globally across the academic, public and private sectors. The centres current grant portfolio totals over £9.75M in 48 projects with funding coming from a hugely diverse set of funding sources. For more information please visit <http://www.oerc.ox.ac.uk/>

## **The Mathematical, Physical, and Life Sciences Division**

The Mathematical, Physical, and Life Sciences (MPLS) Division is one of the four academic divisions of the University. In the results of the six-yearly UK-wide assessment of university research, REF2014, the MPLS division received the highest overall grade point average (GPA) and the highest GPA for outputs. We received the highest proportion of 4\* outputs, and the

highest proportion of 4\* activity overall. More than 50 per cent of MPLS activity was assessed as world leading.

The MPLS Division's 10 departments and 3 interdisciplinary units span the full spectrum of the mathematical, computational, physical, engineering and life sciences, and undertake both fundamental research and cutting-edge applied work. Our research addresses major societal and technological challenges and is increasingly focused on key interdisciplinary issues. MPLS is proud to be the home of some of the most creative and innovative scientific thinkers and leaders working in academe. We have a strong tradition of attracting and nurturing the very best early career researchers who regularly secure prestigious fellowships

We have around 6,000 students and play a major role in training the next generation of leading scientists. Oxford's international reputation for excellence in teaching is reflected in its position at the top of the major league tables and subject assessments.

MPLS is dedicated to bringing the wonder and potential of science to the attention of audiences far beyond the world of academia. We have a strong commitment to supporting public engagement in science through initiatives including the Oxford Sparks portal (<http://www.oxfordsparks.net/>) and a large variety of outreach activities. We also endeavour to bring the potential of our scientific efforts forward for practical and beneficial application to the real world and our desire is to link our best scientific minds with industry and public policy makers.

For more information about the MPLS division, please visit: <http://www.mpls.ox.ac.uk/>

## 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/jobs/supportandtechnical/](http://www.ox.ac.uk/about/jobs/supportandtechnical/).

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 two referees and indicate whether we can contact them now.

You must 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.

## References

Please give the details of people who can provide a reference for you. If you have previously been employed, your referees should be people who have managed you, and at least one of them should be your formal line manager in your most recent or current job. Otherwise they may be people who have supervised you in a recent college, school, or voluntary experience. It is helpful if you can tell us briefly how each referee knows you (e.g. 'line manager', 'college tutor'). Your referees should not be related to you.

We will assume that we may approach them at any stage unless you tell us otherwise. 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 you are called to interview) you must state this explicitly alongside the details of the relevant referee(s).

Please upload all documents **as PDF files** with your name and the document type in the filename.

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](mailto:recruitment.support@admin.ox.ac.uk). Further help and support is available from [www.ox.ac.uk/about\\_the\\_university/jobs/support/](http://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](http://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/](http://www.ox.ac.uk/about/jobs/preemploymentscreening/).

### **Data Privacy**

Please note that any personal data submitted to the University as part of the job application process will be processed in accordance with the GDPR and related UK data protection legislation. For further information, please see the University's Privacy Notice for Job Applicants at: [www.admin.ox.ac.uk/councilsec/compliance/gdpr/privacynotices/job/](http://www.admin.ox.ac.uk/councilsec/compliance/gdpr/privacynotices/job/). The University's Policy on Data Protection is available at:

[www.admin.ox.ac.uk/councilsec/compliance/gdpr/universitypolicyondataprotection/](http://www.admin.ox.ac.uk/councilsec/compliance/gdpr/universitypolicyondataprotection/).

### **The University's policy on retirement**

The University operates an Employer Justified Retirement Age (EJRA) for all academic posts and some academic-related posts. From 1 October 2017, the University has adopted an EJRA of 30 September before the 69<sup>th</sup> birthday for all academic and academic-related staff in posts at



grade 8 and above. The justification for this is explained at:  
[www.admin.ox.ac.uk/personnel/end/retirement/revisedejra/revaim/](http://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/](http://www.admin.ox.ac.uk/personnel/end/retirement/revisedejra/revproc/)

From 1 October 2017, there is no normal or fixed age at which staff in posts at **grades 1–7** have to retire. Staff at these grades may elect to retire in accordance with the rules of the applicable pension scheme, as may be amended from time to time.

## 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

### University Club and sports facilities

The University Club provides social, sporting and hospitality facilities. It incorporates a bar, café and sporting facilities, including a gym. Staff can also use the University Sports Centre on Iffley Road at discounted rates, including a fitness centre, powerlifting room, and swimming pool. See: [www.club.ox.ac.uk](http://www.club.ox.ac.uk) and [www.sport.ox.ac.uk/oxford-university-sports-facilities](http://www.sport.ox.ac.uk/oxford-university-sports-facilities).

### Information for international staff (or those relocating from another part of the UK)

If you are relocating to Oxfordshire from overseas, or elsewhere in the UK, the University's International Staff website includes practical information related to moving to and settling in Oxford such as advice on immigration, relocation, accommodation, or registering with a doctor. See: [www.internationalstaffwelcome.admin.ox.ac.uk/](http://www.internationalstaffwelcome.admin.ox.ac.uk/)

### The University of Oxford Newcomers' Club

The University of Oxford Newcomers' Club is an organisation run by volunteers that aims to assist the partners of new staff to settle into Oxford and to provide them with an opportunity to meet people in the area. See [www.newcomers.ox.ac.uk/](http://www.newcomers.ox.ac.uk/)

### Childcare

The University has excellent childcare services with five University nurseries, as well as University-supported places at many other private nurseries. For full details including how to apply and the costs, see [www.admin.ox.ac.uk/childcare](http://www.admin.ox.ac.uk/childcare).

### Family-friendly benefits

The University subscribes to My Family Care ([www.admin.ox.ac.uk/personnel/staffinfo/benefits/family/mfc/](http://www.admin.ox.ac.uk/personnel/staffinfo/benefits/family/mfc/)) and staff are eligible to register for emergency back-up childcare and adultcare services, a 'speak to an expert' phone line and a wide range of guides and webinars through a website called the Work + Family space.

## Disabled staff

We are committed to supporting members of staff with disabilities or long-term health conditions. Please visit [www.admin.ox.ac.uk/eop/disab/staff](http://www.admin.ox.ac.uk/eop/disab/staff) for further details including information about how to make contact, in confidence, with the University's Staff Disability Advisor.

## Staff networks

The University has a number of staff networks including the Oxford Research Staff Society, BME staff network, LGBT+ staff network and a disabled staff network. You can find more information at [www.admin.ox.ac.uk/eop/inpractice/networks/](http://www.admin.ox.ac.uk/eop/inpractice/networks/)

## Other benefits

Staff can enjoy a range of other benefits such as free visitor access to the University's colleges and the Botanic Gardens as well as a range of discounts. See [www.admin.ox.ac.uk/personnel/staffinfo/benefits](http://www.admin.ox.ac.uk/personnel/staffinfo/benefits)