Big Data Institute

Job title	Malaria Atlas Project (MAP) Senior Analyst/Programmer
Division	Medical Sciences
Department	Nuffield Department of Medicine
Location	Big Data Institute, Old Road Campus, OX3 7FZ
Grade and salary	Grade 8: £39,992 - £47,722 per annum discretionary range up to £52,132 p.a
Hours	Full-time
Contract type	Fixed-term until August 2020 in the first instance
Reporting to	Mike Thorn, MAP Programme Manager
Vacancy reference	135900
Additional information	Funded by the Bill and Melinda Gates Foundation

The role

This role is for a very experienced developer who has gained considerable technical and development expertise and is able to use their experience to make a positive contribution at a senior level within the team. The post holder will take a lead role in developing and supporting the systems that fall within the Malaria Atlas Project Team's responsibility. The Senior Analyst/Programmer will be a source of technical expertise to the team and will lead the design, coding and testing of developments.

The Senior Analyst/Programmer will take a key role in taking forward project development work, working as part of the project team. They will be good communicators and work closely with academics and researchers across the world in understanding user requirements. They will communicate directly with users on support and technical issues and present options for technical solutions, using software demonstrations, walkthroughs and prototypes where appropriate.

As a technical specialist lead, Senior Analyst Programmers will take on a number of specific responsibilities that support coherent development policy and procedures within the MAP Team, such as:

- Source control and release management
- Standards and code reviews

- Code optimisation and performance tuning
- Reporting
- Development technologies
- Technical infrastructure

In these areas of technical specialism, the post holder will be responsible for agreeing, implementing, reviewing, managing and maintaining common approaches for the MAP Team. They will provide leadership, training and supervision, where appropriate, to other developers. The post holder will be expected to act as a role model in ensuring best practice in software development and the application of correct procedures and standards across the MAP Team.

This is a full-stack developer role, providing an opportunity to work with a range of Open Source technologies, with a particular focus on the Angular (TypeScript/JavaScript) and Spring Boot (Java). Other Open Source technologies used include GeoServer, PostgreSQL/PostGIS, GitLab and Docker. You should be enthusiastic about working with these technologies.

Responsibilities/duties

- Understand the technical issues and data challenges of the MAP Team and provide technical input as to how these may be met.

- Maintain an understanding of database models and technical designs of applications being developed.

- Take a lead role in the design, coding, testing and documentation of developments, working from functional specifications or detailed change requests.

- Provide support and maintenance for production systems.

- Extend and develop expertise, technical skills and knowledge through self-development and formal training courses, thereby becoming a source of knowledge and expertise to the team, colleagues and users.

- Take the lead in establishing, implementing, maintaining, managing and reviewing specific cross-team specialisms.

- Provide training, technical advice, mentorship or coaching to colleagues and supervision of less experienced developers where appropriate.

- Manage operational activities of development projects, attending project meetings and providing planning estimates and updates on progress to project leads.

- Manage own workload and work effectively with others to deliver new developments, support and enhancements to meet required timescales.

- Contribute to and apply MAP Team procedures and documentation and coding standards to all development work.

- Liaise with the academics, researchers, and other system users through all stages of design, development and testing to ensure that developments meet user requirements.

- Communicate directly with users on support and technical issues and present options for technical solutions using software demonstrations, walkthroughs and prototypes where appropriate.

- Review and make suggestions for improving MAP Team development processes and procedures.

- Undertake other duties commensurate with the role and the grade as may be required by the Malaria Atlas Project Manager from time to time.

Core Competencies

- Manage day-to-day operational aspects of the software development lifecycle - design, build, testing, installation and release.

- Develop appropriate and effective technical solutions.

- Ensure best practice and adherence to coding standards and recommended development guidelines for packaged software applications.

- Maintain a good functional and technical understanding of the IT systems being developed.

- Maintain and develop expertise, technical skills and knowledge of the development techniques and technologies used within the MAP Team.

- Provide technical expertise to the team.

- Ensure technical documents are complete, current, and stored appropriately.

- Provide input to the project plans.

- Communicate development and technical information effectively to relevant parties within and outside of the MAP Team.

- Identify opportunities for improvement and make constructive suggestions for change.

- Contribute to helping the team to work together in the most efficient manner and share lessons learned.

Selection criteria

- Education to degree level in a computing or IT related subject or able to offer the equivalent in terms of professional training and experience.

- Advanced skills in bespoke application development using object-oriented programming languages such as Java or C# with the ability to take a lead role in designing and creating new APIs, user interfaces, system integrations and reports.

- Experience of using systems analysis and relational database design to extend existing database models or create new database structures.

- Experience of developing web services or clients consuming web services.

- Some knowledge of web front-end technologies: HTML, CSS and JavaScript.

- Experience of directing the work of junior programmers.

- Proven experience of supporting, customising and extending applications.

- Experience of testing frameworks.

- A creative approach to problem-solving.

- Careful attention to detail and an ability to demonstrate an understanding of the need for programming and documentation standards in development work.

- The ability to meet tight deadlines.

- An adaptable and flexible attitude towards the demands of the job.

- The ability to work within, and contribute to, a team environment and build and maintain effective working relationships with academics, researchers, users and colleagues within the wider project team and across the world.

- The ability to manage, plan and take responsibility for a range of tasks involving interaction with other developers, business analysts or users.

- The ability to communicate effectively with both technical and non-technical colleagues at all levels in both verbal and written communications.

- The ability to coordinate and direct the work of others when the need arises.

- Experience of using Source Control.

Desirable

- Experience working with Typescript/Javascript/Angular.

- Experience working with Spring Boot.

- Experience with Postgres and PostGIS.

- Experience of working with spatial (vector and raster) data.

- Experience with Git.

- Experience with Docker.

- Experience with CI/CD.

- Experience designing or implementing microservice-based architectures.

- Apache Kafka.

- Elasticsearch.

- Experience using the Yeoman generator JHipster.

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, while providing all our staff with a welcoming and inclusive workplace that enables everyone to develop and do their best work. Recognising that diversity is our strength, 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 2016/17 exceeded £564m and we rank first in the UK for university spin-outs, with more than 130 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

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

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

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: https://www.ndm.ox.ac.uk/working-for-ndm/aboutndmatheneswan/

The Oxford Big Data Institute

The Oxford Big Data Institute (https://www.bdi.ox.ac.uk/) is an interdisciplinary research centre focussing on the analysis of large, complex, heterogeneous data sets for research into the causes and consequences, prevention, and treatment of disease. To this end, BDI researchers develop, evaluate and deploy efficient methods for acquiring and analysing information for large clinical research studies. These approaches will be invaluable in identifying the associations between lifestyle exposures, genetic variants, infections and health outcomes around the globe.

The Malaria Atlas Project

The Malaria Atlas Project (MAP, http://www.map.ox.ac.uk), led by Professor Peter Gething, is based in the Oxford Big Data Institute.

The Malaria Atlas Project (MAP) brings together researchers based around the world with expertise in a wide range of disciplines from public health to mathematics, geography, and epidemiology. We work together to generate new and innovative methods of mapping malaria risk. Ultimately our goal is to produce a comprehensive range of maps and estimates that will support effective planning of malaria control at national and international scales.

Currently, the MAP group is engaged on two flagship programmes: the creation of global prediction maps of malaria prevalence and incidence in collaboration with the Institute of Health Metrics and Evaluation, Washington (led by Professor Peter Gething), and the creation of a suite of databases and online applications to enable effective curation of malariometric data (led by the MAP Programme Manage, Mike Thorn).

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 two 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/.

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/. The University's Policy on Data Protection is available at:
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 69th 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/acrelretire8+/.

For **existing** employees, any employment beyond the retirement age is subject to approval through the procedures: www.admin.ox.ac.uk/personnel/end/retirement/acrelretire8+/.

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 and 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/

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/

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.

Family-friendly benefits

The University subscribes to My Family Care (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 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/

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