

Job description

Job title	Laboratory Automation Software Engineer
Division	Medical Sciences Division
Department	Oxford Population Health (Nuffield Department of Population Health, University of Oxford)
Location	Old Road Campus, Headington, Oxford, OX3 7LF
Grade and salary	Grade 7: £36,024-£44,263 per annum
Hours	Full time (part-time considered)
Contract type	Fixed term for two years, in the first instance .
Reporting to	Nicholas Goodwin (LIMS Development Manager)
Vacancy reference	173839



About Oxford Population Health

Oxford Population Health (the Nuffield Department of Population Health) provides an excellent environment for multi-disciplinary research and teaching and for professional and support staff. We work together to answer some of the most important questions about the causes, prevention and treatment of disease.

The Department has around 750 staff, students and academic visitors working in a number of world-renowned population health research groups, including the Clinical Trial Service Unit and Epidemiological Studies Unit (CTSU), the Cancer Epidemiology Unit (CEU), the National Perinatal Epidemiology Unit (NPEU) and other groups working on public health, health economics, ethics and health record linkage. It is also a key partner in the Oxford University Big Data Institute.

In the 2021 Research Excellence Framework (REF), 96% of the research submitted to Unit of Assessment 2: Public Health, Health Services and Primary Care, was ranked either 4* (world-leading in terms of originality, significance and rigour) or 3* (internationally excellent in terms of originality, significance and rigour). This comprised research from Oxford Population Health and research from the Nuffield Department of Primary Care Health Sciences. We scored particularly well for having an environment that is conducive to producing research of world-leading quality and enabling outstanding impact, in terms of its vitality and sustainability.

In addition to its research activities, the Department is home to the [MSc in Global Health Science and Epidemiology](#), the [MSc in Clinical Trials](#), and a variety of short courses. Students also come to undertake research for [DPhil degrees](#). Teaching is provided for undergraduates reading for Medicine and for public health doctors in specialist training.

Our visual identity and brand name – Oxford Population Health – were introduced in 2021 to demonstrate our particular focus on population health science and our bold approach to preventing avoidable suffering and death around the world.

For more information please visit the [Oxford Population Health website](#).

About NDPH Wolfson Laboratories

The NDPH Wolfson Laboratories provide a dynamic environment concurrently supporting multiple large-scale clinical trials and other projects. They use state-of-the-art automated analysers for clinical chemistry, haematology and immunoassays, operate an NMR metabolomics facility and support automated liquid handling workstations for plate array assays and sample reformatting.

Sample analysis of blood and urine is supported by a Laboratory Information Management System (LIMS) developed in-house over the last fifteen years, integrating storage, retrieval and analysis. We currently use four automated liquid handling systems using Biomek software and eight clinical chemistry analysers driven by Roche Infinity middleware. Participant samples are held in cryogenic storage capable of storing 6,500,000 cryovials.

A quality management and technical system supports the laboratories ISO accreditation to 17025 as a testing laboratory, with records kept in an iPassport EDMS. The clinical and technical systems employed are wide-ranging and dynamic to evolve and meet the requirements of new studies.

For further detail and a short video, visit <https://www.ctsu.ox.ac.uk/research/laboratories>.

About the Medical Sciences Division

The Medical Sciences Division is an internationally recognised centre of excellence for biomedical and clinical research and teaching, and 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 the [Medical Sciences Division website](#).

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 and we rank first in the UK for university spin-outs, and in recent years we have spun out 15-20 new companies every year. 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 the [Oxford University website](#).

The Role

The successful applicant will contribute to the development and support of IT systems essential to the laboratory's accreditation to ISO 17025:2017. These systems support good laboratory practice and information delivery, covering functional areas including sample analysis and reformatting, storage management and event logging.

The post-holder will be a member of NDPH Wolfson Laboratories staff, reporting to the LIMS Development Manager, but is expected to work effectively with colleagues in the laboratory and the wider department. The role has technical and representational aspects, providing researchers with IT advice and support and building working relationships with instrument manufacturers and application specialists to ensure a continuous high level of service.

The successful applicant will work with the LIMS Support Analyst to troubleshoot IT problems and provide advice and training for staff using LIMS software. They will ensure laboratory IT systems maintain confidentiality of data and related information and that IT issues are recorded and users are advised on action to be taken.

As a member of the LIMS Development Team, they will support existing software (with applications created in Access, Excel and C++) and contribute to the design and deployment of new applications, providing updates to existing code, integrating commercial software and responding to new technology.

Part of their role will be the development of systems associated with automated liquid handling systems (Beckman-Coulter Biomek) and the central database infrastructure. Familiarity with automated liquid handling systems and laboratory middleware would be a distinct advantage but training will be provided by our in-house team.

Responsibilities

- Provide specialist technical support to Lab staff in their day-to-day activities using LIMS applications, trouble-shooting IT problems as they occur
- Liaise with Laboratory and IT staff to analyse user requirements
- Devise and develop bespoke software for use in the laboratory and work with laboratory staff to configure equipment, including automated liquid handling systems, so that they are suitable to the needs of the laboratory.
- Provide support to the Sample Management Team, overseeing maintenance of the storage inventory
- Participate in scientific discussion and in-house and external training for new technologies and applications.
- Assist with development and testing of applications written in C++, JavaScript and Visual BASIC for Applications
- Provide controlled documentation and technical reports
- Develop code to fix identified issues and meet new requirements, and devise and run tests on the resulting code.
- Work with the Laboratory Data Analyst and members of the LIMS Development Team to maintain the LIMS databases and confidentiality of data

- Work with users, researchers and data managers to ensure development activity considers the wider laboratory process and makes the best use of existing resources, complies with existing standards, and reflects emerging priorities. Contribute to team meetings with suggestions of new ways to tackle problems

The above list is not exhaustive and the role-holder is required to undertake such duties as may reasonably be requested within the scope of the post. All staff are required to act in a professional, cooperative and flexible manner, in line with the requirements of the post.

Selection criteria

Essential

- A relevant degree, recognised qualification or equivalent experience
- Broad knowledge of LIMS interfacing with laboratory equipment
- A mature and reliable attitude and good communication and problem-solving skills
- Good working knowledge of SQL and relational database design
- Proven aptitude for investigating and understanding requirements and willing to learn, support and develop new and existing software
- Proficient in at least one programming language
- Able to use Microsoft Access and Excel to automate the collection and processing of data to produce graphs and reports
- Experience of writing supporting documentation and designing and delivering training
- Able to work independently, contribute to a development team and liaise effectively with staff at different levels of computing experience

Desirable

- Practical experience working within a regulated environment
- Experience of liquid handling systems and associated method development, scripting and troubleshooting
- Experience of writing complete programs in a programming language such as Python, Visual BASIC, C++, or Java
- Experience of working directly with end users

Pre-employment screening

Standard checks

If you are offered the post, the offer will be subject to standard pre-employment checks. You will be asked to provide: proof of your right-to-work in the UK; proof of your identity; and (if we haven't done so already) we will contact the referees you have nominated. You will also be asked to complete a health declaration so that you can tell us about any health conditions or disabilities for which you may need us to make appropriate adjustments.

Please read the [candidate notes](#) on the University's pre-employment screening procedures.

Hazard-specific / Safety-critical duties

This job includes hazards or safety-critical activities. If you are offered the post, you will be asked to complete a health questionnaire which will be assessed by our Occupational Health Service, and the offer of employment will be subject a successful outcome of this assessment.

The hazards or safety-critical duties involved are as follows:

- Working with blood, human products and human tissues

How to apply

Applications are made through our e-recruitment system and you will find all the information you need about how to apply on our [Jobs website](#).

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

As part of your application you will be asked to provide details of two referees and indicate whether we can contact them now.

You will be asked to upload a CV and a supporting statement. The supporting statement must explain how you meet each of 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).

Please upload your CV and supporting statement **as PDF files** with your name and the document type in the filename.

All applications must be received by **midday** UK time 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).

If you need help

Help and support is available from the [HR Systems Recruitment support webpage](#). If you require any further assistance please [email the Recruitment Support team](#).

To return to the online application at any stage, please go to the [University's recruitment website](#). Please note that you will receive an automated email from our e-recruitment

system to confirm receipt of your application. **Please check your spam/junk mail** if you do not receive this email.

Important information for candidates

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](#). The University's Policy on Data Protection is available on the [University's Compliance webpages](#).

The University's policy on retirement

The University operates an Employer Justified Retirement Age (EJRA) for all academic posts and some academic-related posts. 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 on the [HR Support webpages](#).

For existing employees, any employment beyond the retirement age is subject to approval through [the procedures](#).

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

Employee benefits

University employees enjoy 38 days' paid holiday, generous pension schemes, travel discounts, and a variety of professional development opportunities. Our [range of other employee benefits and discounts](#) also includes free entry to the Botanic Gardens and University colleges, and discounts at University museums.

University Club and sports facilities

Membership of the [University Club](#) is free for all University staff. The University Club offers social, sporting, and hospitality facilities. Staff can also use the [University Sports Centre](#) on Iffley Road at discounted rates, including a fitness centre, powerlifting room, and swimming pool.

Information for staff new to Oxford

If you are relocating to Oxfordshire from overseas or elsewhere in the UK, the University's [Welcome Service website](#) includes practical information about settling in the area, including advice on relocation, accommodation, and local schools. There is also a [visa loan scheme](#) to cover the costs of UK visa applications for staff and their dependents.

Family-friendly benefits

With one of the most generous family leave schemes in the Higher Education sector, and a range of flexible working options, Oxford aims to be a family-friendly employer. We also subscribe to the [Work+Family Space](#), a service that provides practical advice and support for employees who have caring responsibilities. The service offers a free telephone advice line, and the ability to book emergency back-up care for children, adult dependents and elderly relatives.

The University has excellent childcare services, including 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 the [Childcare Services webpages](#).

Disabled staff

We are committed to supporting members of staff with disabilities or long-term health conditions. For further details, including information about how to make contact, in confidence, with the University's Staff Disability Advisor, see the [Disability Support webpages](#).

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 on the [Equality and Diversity at Oxford webpages](#).

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 settle into Oxford, and provides them with an opportunity to meet people and make connections in the local area.