Job description and selection criteria

Job title	Bioinformatician/ Data scientist
Division	Medical Sciences
Department	Paediatrics
Location	Oxford Vaccine Group, CCVTM, Churchill Hospital, Oxford
Grade and salary	Grade 7: £38,674 - £46,913 per annum (with a discretionary range to £51,059 per annum)
Hours	Full time
Contract type	Fixed term for two years or until 31/07/2027 (whichever is earliest)
Reporting to	Head of Bioinformatics, Professor Daniel O'Connor
Vacancy reference	176549
Additional information	*Applications are to be made online, please see the advert for the closing date.*

Principal Investigator / supervisor	Professor Daniel O'Connor
Project team	Oxford Vaccine Group
Project web site	http://www.ovg.ox.ac.uk/
Funding partner	The funds supporting this research project are provided by Ineos Oxford Institute and Rosetrees

The role

The post holder will join a large group of statisticians and researchers at the Oxford Vaccine Group, conducting major national and international studies of vaccines for children and adults. We seek a self-motived data scientist/bioinformatician, to join our team of clinicians, immunologists, bioinformaticians, and statisticians. The post holder will be focus on delivering computational analysis of large datasets (transcriptomics, cytokines, clinical data etc.) to elucidate immunological correlates of protection following vaccination or infection. Specifically,

we have accumulated multi-omic datasets reflecting human responses to several vaccines and a multitude of infections including RSV, enteric fever, and pneumococcus. The incumbent will conduct computational research and support bioinformatics activities within the group. This post requires excellent communication skills and a commitment to writing high quality manuscripts that present important scientific findings with clarity. Strong analytical skills, an enquiring and flexible attitude, and an interest in working collaboratively with researchers from different disciplines will also be important components for success.

Candidates should have a PhD in a relevant discipline. However, candidates with relevant experience but no PhD are encouraged to apply also. Candidates who perform well in the post can complete a PhD within the department as part of their role, with an 80% reduction in fees, subject to departmental approval.

Responsibilities

- Use suitable methodologies for big-data data analysis in collaboration with members of the research team.
- Manage databases with large datasets including gene expression/antigen arrays, next-gen sequencing data, proteomics, metabolomics.
- Supervision and training of PhD students in bioinformatics and computational biology analysis, as well as statistical concepts of big data analysis.
- Identify and troubleshoot technical (computational/statistical) or scientific problems.
- Contribute to discussions planning the overall aims and objectives of the Systems Vaccinology/Systems Biology group at OVG.
- Contribute to the production of scientific reports and publications for high profile journals, including taking leadership in more specialised publications on novel aspects of bioinformatics.
- Identify, define and plan new projects, which contribute to the overall aims of studies and clinical trials.
- Provide bioinformatics input into outline and full grant proposals, as a co-applicant.

Selection criteria

Essential

- Hold, or be close to completion of, a Ph.D/D.Phil in statistics, mathematics, or bioinformatics or hold a MSc with relevant experience.
- Proficiency in statistical programming languages including R and/or Python.
- Excellent knowledge in statistical modelling and big data analysis approaches.
- Ability to manage research projects, and develop novel computational algorithms/analysis methodology.
- Ability to develop new research objectives, projects, and proposals within a discrete area of a wider research programme.

- Ability to assess and evaluate the outcomes of research, monitor and manage a research budget.
- Research experience and familiarity with the existing literature and research in the field.
- Good organisational and interpersonal skills.
- Proven ability to work under tight timelines.

Desirable

- Track record of and ability to contribute to raising research funds through grant applications.
- Strong publication record with evidence of first author publications.
- Experience analysing data from vaccine studies or infectious diseases.
- Experience with machine learning algorithms and artificial intelligence.
- Knowledge of high throughput technologies including genome sequencing, RNA-sequencing, and MassSpec.
- Management of databases and internal servers, experience with cluster computing.
- Experience of providing academic supervision and delivering teaching.

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. If you have previously worked for the University we will also verify key information such as your dates of employment and reason for leaving your previous role with the department/unit where you worked. 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 at: https://www.jobs.ox.ac.uk/pre-employment-checks

Additional security pre-employment checks

This job includes duties that will require additional security pre-employment checks:

- A satisfactory basic Disclosure and Barring Service check due to working with sensitive data
- University security screening (e.g. identity checks)

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 www.ox.ac.uk/about/organisation.

Department of Paediatrics

The Department of Paediatrics is a world leader in child health research and hosts internationally renowned research programmes in drug development, gastroenterology, haematology, HIV, immunology, neuroimaging, neuromuscular diseases and vaccinology. Our work spans from early proof-of concept fundamental science, all the way up to its application in clinical settings.

We continue to shape the landscape of medical science through positively impacting the lives of millions of children from our global research programmes, academic resources, and commitment to success. Our broad research base positions the department in a pivotal role and subsequently a world leader in child health. With research facilitates in the UK and abroad, we work on a global scale, building a paediatric network in the medical science community. We are committed to inform and inspire external audiences worldwide through our public engagement and outreach activities.

In 2021, we successfully administered a grant value of £130,895,28 obtained through 168 projects. Our strong relationship with funding bodies have also been a contributor to the successes and milestones in children's health research. With strong support from the Wellcome Trust, NIH, Cancer Research UK, UKRI, MDUK, Bill & Melinda Gates Foundation, Academy of Medical Sciences and the NIHR, we have employed 360+ staff, researchers, and students. These figures continue to grow as we expand our activities to overcome the multitude of challenges within children's research health.

For more information please visit: http://www.paediatrics.ox.ac.uk/

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

Medical Sciences Division

We are an internationally recognized 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: http://www.medsci.ox.ac.uk/

How to apply

Applications are made through our online recruitment portal. Information about how to apply is available on our jobs website https://www.jobs.ox.ac.uk/how-to-apply.

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/three 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 all documents **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.

If you currently work for the University please note that:

- as part of the referencing process, we will contact your current department to confirm basic employment details including reason for leaving
- although employees may hold multiple part-time posts, they may not hold more than the equivalent of a full time post. If you are offered this post, and accepting it would take you over the equivalent of full-time hours, you will be expected to resign from, or reduce hours in, your other posts(s) before starting work in the new post.

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 department(s).

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

Application FAQs, including technical troubleshooting advice is available at: https://staff.web.ox.ac.uk/recruitment-support-faqs

Non-technical questions about this job should be addressed to the recruiting department directly at recruitment@paediatrics.ox.ac.uk or using the contact details in the online advertisement.

To return to the online application at any stage, please go to: www.recruit.ox.ac.uk.

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 at: https://compliance.admin.ox.ac.uk/job-applicant-privacy-policy. The University's Policy on Data Protection is available at: https://compliance.admin.ox.ac.uk/data-protection-policy.

The University's policy on retirement

The University operates an Employer Justified Retirement Age (EJRA) for very senior research posts at **grade RSIV/D35 and clinical equivalents E62 and E82** of 30 September before the 70th birthday. The justification for this is explained at: https://hr.admin.ox.ac.uk/the-ejra.

For **existing** employees on these grades, any employment beyond the retirement age is subject to approval through the procedures: https://hr.admin.ox.ac.uk/the-ejra.

There is no normal or fixed age at which staff in posts at other grades 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 including salary sacrifice schemes for bicycles and electric cars and other discounts. Staff can access a huge range of personal and professional development opportunities. See https://hr.admin.ox.ac.uk/staff-benefits.

Employee Assistance Programme

As part of our wellbeing offering staff get free access to Health Assured, a confidential employee assistance programme, available 24/7 for 365 days a year. Find out more https://staff.admin.ox.ac.uk/health-assured-eap.

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. See www.club.ox.ac.uk and https://www.sport.ox.ac.uk/.

Information for staff new to Oxford

If you are relocating to Oxfordshire from overseas or elsewhere in the UK, the University's Welcome Service includes practical information about settling in the area, including advice on relocation, accommodation, and local schools. See https://welcome.ox.ac.uk/.

There is also a visa loan scheme to cover the costs of UK visa applications for staff and their dependents. See https://staffimmigration.admin.ox.ac.uk/visa-loan-scheme.

Family-friendly benefits

We are a family-friendly employer with one of the most generous family leave schemes in the Higher Education sector (see https://hr.web.ox.ac.uk/family-leave). Our Childcare Services team provides guidance and support on childcare provision, and offers a range of high-quality childcare options at affordable prices for staff. In addition to 5 University nurseries, we partner with a number of local providers to offer in excess of 450 full time nursery places to our staff. Eligible parents are able to pay for childcare through salary sacrifice, further reducing costs. See https://childcare.admin.ox.ac.uk/.

Supporting disability and health-related issues (inc menopause)

We are committed to supporting members of staff with disabilities or long-term health conditions, including those experiencing negative effects of menopause. Information about the University's Staff Disability Advisor, is at https://edu.admin.ox.ac.uk/disability-support. For information about how we support those going through menopause see https://hr.admin.ox.ac.uk/menopause-guidance.

Staff networks

The University has a number of staff networks including for research staff, BME staff, LGBT+ staff, disabled staff network and those going through menopause. Find out more at https://edu.admin.ox.ac.uk/networks.

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. See www.newcomers.ox.ac.uk.

Research staff

The Researcher Hub supports all researchers on fixed-term contracts. They aim to help you settle in comfortably, make connections, grow as a person, extend your research expertise and approach your next career step with confidence. Find out more https://www.ox.ac.uk/research/support-researchers/researcher-hub.

Oxford's Research Staff Society is a collective voice for our researchers. They also organise social and professional networking activities for researchers. Find out more https://www.ox.ac.uk/research/support-researchers/connecting-other-researchers/oxford-research-staff-society.