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Job title	Computational Biologist (bioinformatician)
Division	Medical Sciences
Department	Psychiatry
Location	Warneford Hospital
Grade and salary	Grade 8: £45,585-£54,395 (discretionary range to £59,421) per annum The University has introduced a pensionable Oxford University Weighting of £1,500 a year (pro rata) for all staff on grades 1–10 of the main salary and grading structure which will be implemented in the September 2024 payroll.
Hours	Full time - consideration would be given to candidates wishing to work part time (minimum 50% FTE), on a pro rata basis, with a commensurate reduction in duties.
Contract type	Fixed-term (funded to 30 November 2027)
Reporting to	Professor Paul Harrison
Vacancy reference	174372
Additional information	Whilst the role is a Grade 8 position, we would also consider candidates with potential but less experience who ae seeking a development opportunity, for which an initial appointment would be at Grade 7 (£36,204-£44,263) with the responsibilities adjusted accordingly. Responsibilities/selection criteria marked * are required for a Grade 8 role.

The role

The postholder will lead the bioinformatics component of a highly collaborative and exciting project between the University of Oxford and the Earlham Institute (Norwich). The post is funded by the Molecular Targets theme of the NIHR Oxford Health Biomedical Research Centre (BRC).

Many risk genes for psychiatric disorders have been identified, but how, where, and when they confer risk is not known. Recent findings from several groups, including our own, suggest that altered gene expression and splicing is key, but also show that existing data and annotations in human brain are seriously inadequate. We are combining wet-lab with computational approaches to improve this understanding and have already made notable discoveries



regarding several genes. The overarching aim of the work is to enable the development of genomically-informed novel therapeutic targets for neuropsychiatric disorders.

To achieve this goal, the project will expand our previous findings to characterise better the regulation of expression and splicing of major candidate genes across development and ageing in brain and other tissues, and to explore effects of genotype and diagnosis. Most work thus far has been limited to transcript isoforms, but the project will also take advantage of the rapid technology and protocol developments to assess the impact of expression and splicing variation at the proteomic level. The postholder will take the lead in designing, conducting, and integrating data analyses, as well as developing and maintaining collaborations between the various partners.

The postholder will be based in the Department of Psychiatry, Warneford Hospital, Oxford (supervised by Professor Paul Harrison), and will liaise closely with the Earlham Institute in Norwich (supervised by Dr Wilfried Haerty). They will also work with relevant staff in other University of Oxford departments and institutes: the Centre for Medicines Discovery; Centre for Human Genetics; Big Data Institute; the Department of Chemistry; and the Department of Physiology, Anatomy and Genetics, as well as with external collaborators (e.g., the Lieber Institute for Brain Development, Baltimore).

Responsibilities

- Analyse transcriptomic and proteomic data from tissue samples and cell models (e.g. iPSCs, organoids).
- Mine and integrate publicly available transcriptomic and proteomic data to characterise the functional implications of splicing variation.
- Develop and maintain computational pipelines to facilitate integration and interpretation of genomic, transcriptomic, and proteomic data. There is a particular focus on a pipeline for analysing targeted and long-read RNA sequencing data
- Investigate the impact of genetic variation on transcripts and proteins.
- Contribute to research projects by acting as a 'go to' person to clarify issues, opportunities and help troubleshoot problems.
- Supervise undergraduate and Masters' projects, and *co-supervise doctoral students (subject to qualifications)
- Prepare results, reports and manuscripts for publication in journals and other media.
- Assist in developing research proposals and grant applications
- *Develop novel research ideas and take a major role in research proposals and grant applications
- *Line manage junior post-doctoral researchers
- Disseminate research findings though presentations at internal, national and international meetings
- Ensure research and record keeping is carried out in accordance with good practice, scientific integrity, and in compliance with local policies and any legal requirements.

Selection criteria

Essential selection criteria

- Have* (or be close to completion of) PhD in computational biology, bioinformatics, computer science, or related subject
- *Significant post-doctoral experience
- *At least two peer-reviewed data publications in a relevant field
- Experience of working bioinformatically on large-scale 'omics' data

- Demonstrated skills in at least one of the following programming languages: Python (preferable), Java, C++, R
- Experience in Linux and in shell scripting
- Solid understanding of statistics for biology
- Excellent organizational skills, record-keeping and time management
- Evidence of good oral and written communication skills
- *Experience of supervision of students or research assistants

Desirable selection criteria

- At least one peer-reviewed scientific publication in a relevant field
- Experience in neuroscience or health sciences
- Experience with next-generation sequencing or mass spectrometry
- Evidence of working collaboratively across disciplines
- Evidence of presenting research findings to internal and external audiences
- Able to travel and work flexibly across sites

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 at: https://www.jobs.ox.ac.uk/pre-employment-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 Psychiatry

The Department of Psychiatry based on the Warneford Hospital site in Oxford has an international reputation for excellence. The Head of Department is Professor Belinda Lennox. The Department has a substantial research programme, with major funding from Medical Research Council (MRC), Wellcome Trust and National Institute for Health Research (NIHR) and provides highly rated medical training in psychiatry. There are approximately 220 staff including 33 principal investigators leading research groups investigating applying a wide range of approaches from translational neuroscience, experimental medicine, epidemiology, clinical trials and health services research to developmental disorders, mood disorders, cognitive disorders and self-harm and suicide. There are strong links with other departments and institutes both within and outside Oxford: these links ensure that we can apply the best scientific methods to psychiatric and cognitive disorders. The Department has an annual turnover approaching £10 million with more than 130 research grants.

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

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

Medical Sciences Division

For more information please visit: https://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 <u>https://www.jobs.ox.ac.uk/how-to-apply</u>.

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 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.

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: vacancies@psych.ox.ac.uk

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

Please note that you will receive an automated email from our online recruitment portal 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: <u>https://compliance.admin.ox.ac.uk/job-applicant-privacy-policy</u>. The University's Policy on Data Protection is available at: <u>https://compliance.admin.ox.ac.uk/data-protection-policy</u>.

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, which with effect from 1 October 2023 will be 30 September before the 70th birthday. The justification for this is explained at: <u>https://hr.admin.ox.ac.uk/the-ejra.</u>

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

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, 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. See https://hr.admin.ox.ac.uk/staff-benefits

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 website 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

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. See https://hr.admin.ox.ac.uk/my-family-care

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 https://childcare.admin.ox.ac.uk/

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 https://edu.admin.ox.ac.uk/disability-support

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 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 <u>www.newcomers.ox.ac.uk</u>.