

Summary

Job title	Computational Biologist in Single Cell Genomics
Division	Medical Sciences
Department	Radcliffe Department of Medicine
Location	MRC Weatherall Institute of Molecular Medicine, MRC WIMM Centre for Computational Biology, John Radcliffe Hospital, Headington, Oxford, OX3 9DS.
Grade and salary	Grade 7: £38,674 - £46,913 per annum
Hours	Full time (37.5 hours per week)
Contract type	Fixed-term until 31 March 2026, funded by the Wellcome Trust
Reporting to	Professor David Sims
Vacancy reference	176481

The role

[Professor David Sims](#) (MRC WIMM Centre for Computational Biology) and [Professor Stephen Goodwin](#) (Centre for Neural Circuits and Behaviour (CNCB)) have secured funding to investigate the regulation of gene expression that underlies the specification of cell fate in the brain of the fruit fly, *Drosophila melanogaster*.

The computational biologist will lead the analysis of single-cell RNAseq and ATACseq profiles from hundreds of thousands of neurons, representing the entire fly midbrain, from flies at different developmental stages. They will work closely with experimental collaborators within the CNCB to answer important questions in neuroscience; investigating how the transcriptomes of individual cells change over the course of development, and how sex-specific neuronal identity emerge from transcriptional programmes.

Responsibilities

- Conduct detailed analysis of large biomedical datasets, tailoring analytical tools and pipelines appropriate to the scientific question;
- Identify and troubleshoot technical or scientific problems, working collaboratively with other members of the team;
- Contribute to discussions planning the overall aims and objectives of the research;
- Contribute to the production of scientific reports and publications for high profile journals, including taking leadership in publications on novel aspects of bioinformatics;

- Act as a source of information and advice to other members of the group;
- Attend appropriate scientific seminars, training opportunities and meetings, presenting work as required;
- Continuously broaden, deepen and consolidate scientific and technical knowledge and skills;
- Manage own academic training, research and administrative activities. This includes small scale project management, to co-ordinate multiple aspects of work to meet deadlines.

Selection criteria

Essential selection criteria

- A PhD or MSc in a quantitative discipline (e.g. bioinformatics, computational biology, physics, statistics, engineering or mathematics);
- A publication record in peer-reviewed journals demonstrating core contribution to the work;
- Experience in the analysis of large biological data sets;
- Demonstrable proficiency in the use of the Python programming language;
- Demonstrable proficiency in the use of the R statistical programming language;
- Experience of working in a Unix/Linux environment;
- Excellent interpersonal skills to interact with other scientists and administrative staff;
- Excellent communication skills to be able to convey concepts to other scientists in different fields of research;
- Ability to plan, organise own work and troubleshoot problems.

Desirable selection criteria

- Experience of working in a high-performance computing environment;
- Proficiency in software engineering practices including version control, testing and continuous integration;
- Proficiency in statistical analysis of large datasets including machine learning approaches;
- Experience in the analysis of single-cell gene expression data;
- Experience in managing scientific software using Conda and/or Singularity

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 enhanced Disclosure and Barring Service or overseas security check due to working in a research environment where the postholder may have knowledge or information concerning animal research and/or other knowledge of pathogens and toxins.

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.

Radcliffe Department of Medicine (RDM)

The Radcliffe Department of Medicine (RDM) within the Medical Sciences Division is one of the largest departments in the University of Oxford. Headed by Professor Keith Channon, RDM is a multi-disciplinary department which aims to tackle some of the world's biggest health challenges by integrating innovative basic biology with cutting edge clinical research. The Department was formed in 2012 and comprises:

- The Division of Cardiovascular Medicine (CVM)
- The Investigative Medicine Division (IMD)
- The Nuffield Division of Clinical Laboratory Sciences (NDCLS)
- The Oxford Centre for Diabetes, Endocrinology and Metabolism (OCDEM)
- The majority of research groups from the MRC Weatherall Institute of Molecular Medicine (WIMM)

The Department has internationally renowned programmes in a range of areas, including cardiovascular sciences, diabetes and endocrinology, immunology, haematology and pathology. Our work is underpinned by excellence in molecular medicine, stem cell biology, genomics and clinical laboratory science.

The Department employs in the region of 535 staff, has around 140 postgraduate research students and has an annual turnover of around £63m of which £42m is externally funded grants and contracts.

RDM supports a culture that is inclusive and supportive of all members, including those with caring responsibilities and those who work flexibly for other reasons. We are proud to be a family friendly department, and are committed to creating a working environment that offers opportunities for working parents/carers to achieve their professional goals and develop their careers without having a detrimental effect on family life. To support this, we have a range of family friendly policies and practices including maternity, paternity and adoption leave, shared parental leave and unpaid parental leave, flexible/part-time working and scheduling meetings within core hours (9.30am - 2.30pm). Many of our staff work flexibly, with arrangements managed informally or formally.

The University of Oxford is a member of the Athena Swan Charter and holds an institutional Silver Athena Swan award. The Department of RDM holds a silver Athena Swan award to recognise advancement of gender equality: representation, progression and success for all.

For more information on the Department please visit: www.rdm.ox.ac.uk

Nuffield Division of Clinical Laboratory Sciences (NDCLS)

Led by Professor Deborah Gill, the Nuffield Division of Clinical Laboratory Sciences brings together all of the clinical laboratory-based disciplines within the Oxford Medical School (Microbiology, Genetics, Cellular Pathology, Haematology and Clinical Biochemistry). The original Nuffield Departments date from Lord Nuffield's original benefaction to the Oxford Medical School in 1938.

As well as the teaching of Undergraduate and Clinical Medical Student courses, NDCLS has an active research programme, holding more than £5.3m per annum (£25m in total) of research grants from Research Councils and charities.

For more information please visit www.ndcls.ox.ac.uk

MRC Weatherall Institute of Molecular Medicine

The MRC Weatherall Institute of Molecular Medicine (MRC WIMM) at the University of Oxford was founded in 1989 by Sir David Weatherall to foster research in molecular and cell biology, with the aim of improving human health. Through our excellent basic and applied research, we have become leaders in translational medicine. Our research has resulted in improved understanding, diagnosis and treatment of a wide range of human diseases.

The Institute hosts staff and students from seven different departments within the Medical Sciences Division. We bring together over 500 researchers, staff and students with a passion for translational science and who share an interest in our five core research areas: rare diseases, haematology, immunology and infection, stem cells and developmental biology and cancer biology.

Our interaction with clinical departments at the Oxford University Hospitals Foundation NHS Trust, is a vital aspect of our work. A third of our faculty are clinically qualified and many are practicing clinicians. Half our groups have productive collaborations with biotech and pharma and we collaborate extensively with researchers and clinicians across the UK and further afield. Our international collaborations in the US, China, Vietnam, Thailand, Sri Lanka, East and West Africa form a major aspect of our clinical programmes directed towards progress in global health.

We also centrally provide excellent, state-of-the-art core Facilities to support our researchers and work with them to develop and apply new technologies to current scientific and clinical problems.

MRC WIMM Centre for Computational Biology

At the MRC WIMM Centre for Computational Biology (CCB), we work alongside scientists and clinicians to realise the potential of 'big data' in biology by enabling them to exploit complex information to make discoveries that benefit human health. Our Centre encompasses an international team of over 40 computational biologists, working closely with 500 lab-based scientists and clinicians at the MRC Weatherall Institute of Molecular Medicine (University of Oxford) and the John Radcliffe Hospital (NHS). This is a new and exciting initiative that is helping to shape how computational biology can enhance basic and translational research, and located in a purpose-built facility at the MRC WIMM.

We have an informal culture, and international working environment that brings together a wide range of expertise in computational biology, including bioinformatics, computational genomics, mathematical modelling, data visualisation, cell and molecular imaging, and machine learning.

As a member of the University of Oxford, you will benefit from a generous holiday allowance, flexible working options and an excellent pension scheme. There are extensive opportunities for personal development and training, as well access to the University's sports facilities, gardens, libraries and museums. More information on benefits can be found [here](#).

The MRC WIMM provides a vibrant and diverse community of scientists, clinicians and support staff. The Institute runs a variety of seminars, has an active student and postdoc associations, and regularly engages the public with our research. Our location at the John Radcliffe Hospital places us at the centre of collaborations with other clinical and scientific campuses across Oxford. For more information please visit: <https://www.imm.ox.ac.uk/mrc-computation-centre>.

Medical Sciences Division

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: <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 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 – please email recruitment@imm.ox.ac.uk

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 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: <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, flexible working options, 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 University staff. It 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 dependants. 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 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>