

Summary

<b>Job title</b>	Postdoctoral Research Associate in Single Cell Assay Development
<b>Division</b>	Medical Sciences Division
<b>Department</b>	Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences
<b>Location</b>	Botnar Research Centre, Windmill Road, Oxford, OX3 7LD Oxford Translational Myeloma Centre
<b>Grade and salary</b>	Grade 7: £36,024-£44,263 per annum
<b>Hours</b>	Full time
<b>Contract type</b>	Fixed-term (24 months, in the first instance)
<b>Reporting to</b>	Professor Udo Oppermann
<b>Vacancy reference</b>	171764

<b>Research topic</b>	Development of spatial multi-omic and novel single-cell assays in Multiple Myeloma
<b>Principal Investigator / supervisor</b>	Professor Udo Oppermann
<b>Funding partner</b>	The funds supporting this research project are provided by HEFCE



## The role

We are seeking an enthusiastic and highly motivated postdoctoral fellow to develop novel single cell multi-omics assays in multiple myeloma to study the tumour and its immune and stromal microenvironment in the bone marrow. Multiple Myeloma is the second most common haematological malignancy and - despite recent therapeutic advances- remains a disease that most often relapses, necessitating a better understanding of therapeutic response mechanisms. You will be working in an interdisciplinary team across the Medical Sciences (Old Road) Campus at Oxford University within the Oxford Translational Myeloma Centre (OTMC). The mission of the newly launched OTMC is to undertake internationally competitive research into the processes underlying multiple myeloma and related plasma cell diseases.

Professor Oppermann is leading the preclinical research at OTMC, which is located within the Botnar Research Centre at the Nuffield Dept. of Orthopaedics, Rheumatology and Musculoskeletal Sciences. You will join a highly collaborative interdisciplinary team of experimental and clinical scientists from diverse backgrounds working in the fields of chemical and cell biology (Oppermann, Botnar), imaging, transcriptomics (Fadi Issa, Joanna Hester, NDS; Stephen Taylor, NDM), proteomics (Roman Fischer, NDM) next generation sequencing/systems biology (Adam Cribbs, Botnar) and genomics (Rao Srinivasa, NDS). The team provides state of the art platforms and technologies in single cell and spatial biology.

The successful postholder will also work closely with academic and industry collaborators at institutions in Oxford, the UK, and abroad to develop assays to investigate the spatial interactions of the myeloma tumour and its immune and stromal environment.

The individual will have previous laboratory experience, the ability to work to a high standard, good communication skills, attention to detail, and an ability to work both independently and as part of a team. The research will involve a wide range of basic and advanced cellular/molecular biology and biochemical techniques, including (but not limited to) cell culture, genomic manipulation (e.g. CRISPR), protein biochemistry, FACS, sequencing (Illumina, Oxford Nanopore technologies), single cell and spatial transcriptomics as well as mass cytometry and fluorescence imaging.

The successful applicant will have been working in the areas of single cell assays and next-generation sequencing, and/or multiplexed imaging, or be highly motivated to move into these fields. Prior training in a range of the standard laboratory techniques for molecular and cell biology, and biochemistry is expected. Relevant experience with data analysis, as well as programming in R or Python, is highly desirable.

Training will be available in all aspects of the work. It is expected that applicants will have basic familiarity with the majority of the necessary biochemical and molecular or cellular biology techniques. The applicant must have an adaptable approach to work and an eagerness to tackle a variety of tasks. Support and troubleshooting guidance will be available. However, after induction, an ability to work without supervision, combining a structured and organised approach with enthusiasm will be important.

## Responsibilities

### Key duties

- Manage own academic research and administrative activities around the biochemical, molecular and functional characterisation of single cell assays. This involves small scale project management, to co-ordinate multiple aspects of work to meet deadlines.
- Adapt existing and develop new scientific techniques and experimental protocols around various microfluidics, cell-based systems, sequencing and imaging.
- Test hypotheses and analyse scientific data from a variety of sources, reviewing and refining working hypotheses as appropriate.
- Contribute ideas for new research projects.

- Develop ideas for generating research income, and present detailed research proposals to senior researchers.
- Collaborate in the preparation of scientific reports and journal articles and occasionally present papers and posters.
- Some supervisory roles to train junior staff in cell/molecular biology/biochemistry.
- Operate laboratory equipment used for all aspects of cell/molecular biology/biochemistry.
- Interpret results and present them to the team.
- Responsible for oversight of the daily housekeeping and biological safety of the laboratory area and performing any other comparable duties as may be required to ensure the efficient running of the laboratory.

### **Communication**

- Communicate with Prof. Oppermann and the other members of the team as required, ensuring that they are kept fully up to date with progress and difficulties in the research project.
- Participate in and contribute directly to scientific discussions with other members of the research group and collaborators on the project. Maintain confidentiality regarding research data when interacting with non-collaborating researchers.
- Assist in dissemination of findings of the research group by authorship of manuscripts, presentation of results at meetings, and contribution to the group web site.

### **Education and Training**

- Attend appropriate scientific seminars, training opportunities and meetings in the Department and University.
- Participate in the education and training of other staff as necessary and appropriate.
- Participate in and support the public engagement and widening access activities of the Department and the University.

### **Additional Duties**

- To undertake appropriate administration tasks.
- To collaborate with national and international partners to develop and maintain the research agenda.
- To give presentations to multidisciplinary groups and attend local, national and international conferences for the purpose of disseminating research results.
- To attend relevant meetings, including conferences and similar business meetings with collaborators from both national and international research centres.
- To contribute to drafting research grant proposals and scientific manuscripts.

## Selection criteria

### Essential selection criteria

- A Ph.D./DPhil degree (or near completion) in Cell/Molecular Biology, Biochemistry, or related discipline.
- Documented experience in single cell technologies including but not limited to next generation sequencing, spatial transcriptomics or proteomics, or multiplexed imaging such as immune mass cytometry or immune fluorescence.
- Evidence of ability to communicate results clearly and logically as part of a diverse research team.
- Experience in standard and advanced Cell/Molecular Biology and Biochemistry techniques.
- Publication/s in internationally recognised journals or on preprint servers (ideally at least one as first author).
- Experience in presenting at national/international conferences.
- A conscientious and enthusiastic working approach.
- Ability to work flexibly with regard to duties and hours worked, with the priority being meeting the team research goals.
- Willingness to travel in the UK and further afield on occasion. For some visits it may be necessary to stay overnight, normally within the working week.

## Desirable selection criteria

- Experience in processing and analysing samples and transcriptomic/proteomic datasets.
- Knowledge and experience in working in the myeloma field.
- Experience in cell-based assay development, organoid models and small molecule screening.
- Computational skills using command line, programming in R, Python or other languages.

## 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>

### 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
- Work with any substance which has any of the following pictograms on their MSDS:



## 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](http://www.ox.ac.uk/about/organisation).

### **Medical Sciences Division**

The Medical Sciences Division is an internationally recognised 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](http://www.medsci.ox.ac.uk)

### **Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences**

The Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences (NDORMS) is part of the Medical Sciences Division and is the largest European academic department in its field, running a globally competitive programme of research and teaching.

Our mission is to discover the causes of musculoskeletal and inflammatory conditions to deliver excellent and innovative care that improves people's quality of life. Our highly skilled teams have expertise in a broad range of areas, including orthopaedic surgery, inflammation, immunology, rheumatology, medical statistics, epidemiology, and clinical trials.

We currently have 480 staff, approximately 120 post-graduate students and have a grant portfolio worth over £180 million.

The **Botnar Research Centre** enables and encourages research and education into the causes of musculoskeletal disease and their treatment.



The Centre provides world-class facilities for scientists in the field of musculoskeletal research. It takes a multidisciplinary approach, encompassing orthopaedic, rehabilitation and rheumatology clinical scientists, bone oncologists, laboratory scientists, epidemiologists, engineers and statisticians. The Botnar also hosts the Oxford Clinical Trials Research Unit (OCTRU) and the Centre of Statistics in Medicine (CSM), providing excellent statistical support to all aspects of clinical research.

The Botnar opened in 2002, with a large annex completed in 2013. The Botnar is now home to around 300 staff and postgraduate students enjoying the international and friendly atmosphere of this workplace and benefits from the vast knowledge of leading experts in the field of musculoskeletal research.

To accommodate its rapid growth, the Centre has opened another wing in early 2022. The new space provides additional 1000m<sup>2</sup> of office and 1000m<sup>2</sup> of laboratory space. The laboratory space includes a GMP clean room facility suitable for the manufacturing of biomaterials for human implantation.

Sharing the site of the Nuffield Orthopaedic Centre, the largest specialist academic musculoskeletal hospital in the UK, puts the Botnar in a unique position to foster the collaboration between basic scientists and clinicians, which is essential to success in medical research.

**The Kennedy Institute** is a biomedical research centre uniquely bringing together discovery science and early-stage clinical research, to develop transformative new therapies for chronic inflammatory and musculoskeletal conditions.



Broadly focused on the thematic areas of immunity and microbiome, inflammation biology and tissue remodelling and repair, the Institute's research is relevant for a range of common diseases such as arthritis, inflammatory bowel disease, fibrosis and cancer.

The Institute has capacity for up to 260 staff and students who work collaboratively across 25 research groups. This enables a multidisciplinary approach of molecular and cellular biology, combined with analysis of disease models, patient tissue samples and longitudinal clinical data. Collectively, these studies seek to uncover the biological processes that maintain tissue health and how these pathways break down in disease.

Research at the Institute is supported by a suite of core technology platforms, as well as through strategic partnerships with other basic and clinical research centres in Oxford, across the UK and internationally. These state-of-the-art technologies include the Oxford-Zeiss Centre for Excellence and other advanced microscopy and imaging facilities, mass and flow cytometry, as well as capabilities for microbial genomics and functional microbiome studies made available through the Oxford Centre for Microbiome Studies.

Complementing a strong programme of lab-based research, the Institute has established a core of expertise and technologies in data science including single cell genomics, statistical genetics, computational biology, and research informatics. A recent extension to the Institute building with a new third floor creates additional space purposely designed for computationally intensive research.

A true trendsetter in innovative and transformational research, the Kennedy also boasts a relaxed and friendly atmosphere, revolving around its bright and airy atrium that provides a space for colleagues to meet over coffee and tea to talk about their research and beyond throughout the day.

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

## Athena Swan

The [Athena SWAN Awards](#) specifically recognise success in developing employment practices to further and support the careers of women in science, technology, engineering, maths and medicine (STEMM) departments in academia. In May 2015 the charter was expanded to recognise work undertaken in arts, humanities, social sciences, business and law (AHSSBL), and in professional and support roles. Within NDORMS, we feel that we have an established culture of equality but are using the process to spur on-going improvement that benefits everyone involved in the Department. Our on-going progress was rewarded in May 2014 with an Athena Swan Bronze Award and in October 2015 with a Silver Award.

Our development in this area has resulted in a number of commitments to our staff, central to which are:



- establishing an open, supportive and family-friendly research environment
- supporting career progression through teaching programmes, personal development reviews and mentoring
- proactive communication of support policies such as flexible working, provision of leave, promotion and career support schemes



NDORMS aims to actively promote the implementation of the University's family-friendly policies to help foster a family friendly working environment, including provision of family leave (such as policies for maternity, paternity, parental, carers and adoption leave), flexible/part-time working and scheduling inclusive meetings.



The University's childcare services support staff with a Childcare Voucher Scheme to help staff save tax and national insurance on childcare costs, offer information on nursery providers and a nursery fee Salary Sacrifice Scheme, work in partnership with playscheme providers to help support families during school holidays and signpost staff to parenting, local authority and other organisations that help support families and parents.



The Department is also committed to ensuring that staff undertaking part-time or flexible working receive the same access to benefits and entitlements as full-time staff, including the same opportunities for training and promotion, a pro-rata entitlement to leave including bank holidays and careful consideration of requests to work part-time (particularly for those by staff returning from maternity leave).

For more information please visit: <http://www.admin.ox.ac.uk/personnel/staffinfo/benefits/family/> and <http://www.admin.ox.ac.uk/personnel/during/flexible/>

We are also actively working to uphold the University's aim of providing an inclusive environment and equal career opportunities by promoting equality, valuing diversity and maintaining a working, learning and social environment in which the rights and dignity of all staff are respected. Separate University policies are also in place to ensure race, disability and gender equality. For more information, please visit: <http://www.admin.ox.ac.uk/eop/>

## Oxford Centre for Translational Myeloma Research

The mission of the newly launched Oxford Centre for Translational Myeloma Research is to undertake internationally competitive research into the processes underlying multiple myeloma and related plasma cell diseases. The investigators of the Centre are committed to translate this research into improved patient health by combining outstanding clinical research with excellent basic science in Oxford, thereby generating testable novel therapeutic options and advances. We are working together with the National Institute of Health Research, the



NHS, patient organisations as well as national and international public academic institutions and private companies with the aim of further and constantly improving the diagnosis, treatment and standard of care of myeloma.

For more information, please visit: <https://oxford-myeloma.org.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 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.

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## 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).

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## 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

[hr@ndorms.ox.ac.uk](mailto:hr@ndorms.ox.ac.uk).

To return to the online application at any stage, please go to: [www.recruit.ox.ac.uk](http://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**, which with effect from 1 October 2023 will be 30 September before the 70<sup>th</sup> 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, 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](http://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 [www.newcomers.ox.ac.uk](http://www.newcomers.ox.ac.uk).