Job title	Postdoctoral Research Scientist - Neuroinflammation
Division	Medical Sciences
Department	Nuffield Department of Medicine
Location	Centre for Medicines Discovery, NDM Research Building, Old Road Campus, Headington, Oxford, OX3 7FZ
Grade and salary	Research Grade 7: Salary in range £38,674 - £46,913 per annum (pro rata). This is inclusive of a pensionable Oxford University Weighting of £1,500 per year (pro rata).
Hours	Full time
Contract type	Fixed-term contract until 30 April 2026 (in the first instance) Funding is provided by Alzheimer's Research UK
Reporting to	Katerina Gospodinova, Neuroimmune Team Leader
Vacancy reference	178524

Additional information	This role meets the eligibility requirements for a Skilled Worker Certificate of Sponsorship.
About us	• University of Oxford - www.ox.ac.uk/about/organisation • Nuffield Department of Medicine (NDM) - https://www.ndm.ox.ac.uk • Unit – www.cmd.ox.ac.uk
What we offer	https://hr.admin.ox.ac.uk/staff-benefits • An excellent contributory pension scheme • 38 days annual leave • A pensionable Oxford University Weighting allowance of £1,500 per annum (pro rata) • A comprehensive range of childcare services • Family leave schemes • Cycle loan scheme • Discounted bus travel and Season Ticket travel loans • Membership to a variety of social and sports clubs • A welcoming and diverse community

The role

An exciting opportunity is available in the Alzheimer's Research UK Oxford Drug Discovery Institute (ODDI) for an experienced cell/molecular Postdoctoral Research Scientist with an interest in neuroinflammation, particularly in the context of neurodegeneration. The post exists within our Neuroimmune team, offering an opportunity for a motivated and talented scientist to contribute to the ODDI drug discovery pipeline while flourishing as an individual scientist.

The ODDI sits at the interface between academic research and pharmaceutical drug discovery, based in an academic setting but projecting forward through interactions with pharma that help prosecute projects more efficiently. The Institute aims to consolidate the target validation for and test the druggability of targets, providing effective de-risking of novel therapeutic approaches. The Neuroimmune team is responsible for a portfolio of themed projects targeting different neuroinflammatory mechanisms that have been implicated in Alzheimer's disease, such as the TREM2 signalling pathway. We have had drug discovery programs focussed on TREM2 itself, SHIP1 and the inflammasome, and are currently working on developing therapeutic strategies for targeting PLCG2, GAL3 and ABI3. More recently, we have been also working on understanding the role of matrisome signalling in neurodegeneration, exploring different targeting strategies and developing novel assays for modelling this signalling system in vitro.

Most of the work in the Neuroimmune team relies on the use of different human iPSC-derived cell types, including neurons and macrophages/microglia. We use CRISPR/Cas9 and CRISPRi to introduce disease relevant variants or knock out/down gene of interest to explore their interaction within relevant signalling pathways and determine the optimal point of therapeutic intervention. We have also developed a novel hiPSC-derived brain triculture system, which we are starting to use as part of our target validation process but also for testing the efficacy of our therapeutics before progressing them to in vivo. Finally, we have developed a range of robust cell-based assays utilising high content imaging platforms, microelectrode arrays and quantitative biochemical techniques including SiMoA and HTRF.

Reporting to the Neuroimmune team leader, you will be responsible for carrying out research to investigate the role of neuroinflammation in the pathology of neurodegenerative disease. As an experienced cell biologist with a background in Alzheimer's or Parkinson's disease research, you will design and execute experimental plans supporting the validation of targets and the discovery of novel therapeutic agents. You will work closely with the Neuroimmune team leader to deliver the objectives of the team. The team members employ cutting edge research tools (human iPSC derived cells, genome editing, molecular targeting and quantitative endpoints) to validate novel targets and develop robust assays for drug discovery- you will already be an expert in several of these methodologies. You will provide scientific and workplace guidance to research assistants and students and will be familiar with working in a collaborative environment with academic and pharmaceutical partners.

Responsibilities

You will:

- Provide disease and biological mechanism of action expertise applicable to neuroimmune drug discovery projects.
- Design and conduct preclinical experimental work to identify and confirm the role of targets and pathways of interest, primarily using human iPSC-derived cultures (e.g., neurons and macrophages/microglia).
- Manage own academic research and admistrative activities which involves small scale project management.
- Develop new cell-based assays for determining target engagement of lead molecules in vitro.
- Collaborate with academic and industrial partners to progress basic science and drug discovery programmes.

- Develop ideas for generating research income, bring forward new techniques and innovative technologies to the lab.
- Conduct your own experimental work as well as train and support other members of the Neuroimmune team.
- Represent the ODDI at public meetings/seminars and in discussions with pharma, the drug discovery alliance and funders.
- Champion in the preparation of scientific reposts and journal articles and occasionally present papers and posters.
- Act as a source of information and advie to other members of the group.
- Participate in and support the public engagement and widening access activities of the Department and the University. This is anticipated to be not more than 2 days per year.
- Undertake mandatory training as required by the University, Division and Department. The specific list of training courses may change from time-to-time, in response to both legal and internal University requirements.

Job descriptions can never be comprehensive and you may be required to undertake other similar tasks and responsibilities.

Selection criteria

Essential

- Hold a PhD/DPhil (or close to completion) in Neuroscience, Cell Biology or a related subject.
- Previous relevant laboratory experience.
- Research experience in microglial/macrophage biology.
- Sufficient specialist knowledge in:
  - Cellular pathology of neurodegeneration, with a particular focus on neuroimmunology.
  - Cell culture, including human iPSCs maintenance and differentiation.
  - Innovative cell-based assay development, particularly microtitre plate and image- based assays.
- Must be engaged in and committed to laboratory work and able to train staff in the required technical disciplines.
- Evidence of a drive to progress science with a sense of urgency, exemplified through primary authorship of peer reviewed articles or industrial equivalents.
- Excellent communication skills, including the ability to write for publication, present research proposals and results, and represent the research team at meetings.
- Ability to manage own laboratory research and that of colleagues, with required attention to H&S and best practice.

Desirable

- Previous experience in neuronal biology.
- Previous experience in genome editing (e.g., CRISPR/Cas9 and CRISPRi), including experience with cloning.
- Previous post-doctoral research experience or experience in an industrial environment.

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:

- Lone Working
- Work in hot or cold environments
- Driving on University business
- Regular manual handling
- Working with category 3b or 4 lasers (laser safety class)
- Working with blood, human products and human tissues
- Work with allergens, Eg laboratory animals, pollen, dust, fish or insects etc.
- Work with any substance which has any of the following pictograms on their MSDS:

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 https://www.jobs.ox.ac.uk/how-to-apply.

If you would like to apply, **click on the Apply Now button** on the 'Job Details' page and follow the on-screen instructions to register as a new user or log-in if you have applied previously.

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

Please upload all documents **as PDF files** with your name and the document type in the filename. Please note using a long file name may prevent you from uploading your documents.

- http://www.ox.ac.uk/about_the_university/jobs/research/

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 recruitment@ndm.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**, which with effect from 1 October 2023 will be 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.