

Summary

Job title	Postdoctoral Researcher: Imaging Neuroscience Technology
Division	Medical Sciences
Department	Psychiatry
Location	Warneford Hospital
Grade and salary	Grade 7: £36,024-£44,263 per annum
Hours	Full-time
Contract type	Fixed-term (funded for 24 months)
Reporting to	Professor Mark Woolrich
Vacancy reference	172476

The role

The post holder will be based at the Oxford Centre for Human Brain Activity (OHBA), in the Department of Psychiatry, University of Oxford. Reporting to Mark Woolrich, the post holder will be a member of the OHBA Analysis Group. They will also work in close collaboration with Matt Brookes at the Sir Peter Mansfield Imaging Centre, School of Physics and Astronomy, University of Nottingham and Cerca Magnetics Ltd.

OHBA is part of the Wellcome centre for Integrative Neuroimaging (WIN) at the University of Oxford (including FMRIB) housing a suite of MRI, MEG, EEG and stimulation technologies, alongside associated research experts. WIN-OHBA is installing a new, state-of-the-art magnetoencephalography (MEG) scanner for imaging brain function that uses the new technology of Optically Pumped Magnetometers (OPMs). OPM-MEG offers a new way to image brain function noninvasively at-scale, with high ease of use and high signal strength compared to existing technologies. The post holder will primarily help develop and apply machine learning methods for analysing data from the OPM-MEG scanner.

Responsibilities

- Research and develop new machine (deep) learning methods for inferring brain networks and their dynamics from OPM-MEG data
- Work as part of the OHBA analysis group to help develop, improve, and document tools and pipelines for analysing MEG data
- Analyse OPM-MEG and standard MEG data from translational cognitive neuroscience studies, investigating changes in neural activity associated with dementia



- Assist in the acquisition of OPM-MEG data
- Liaise with collaborators at the University of Nottingham and Cerca Magnetics Ltd
- Help supervise and train research assistants, research interns, and students
- Present and disseminate findings, including at local research meetings as well as in national and international conferences and symposia
- Collaborate in the preparation of scientific reports and journal articles and present papers and posters
- Ensure all work is carried out according to good clinical practice, data security and ethical requirements
- Other tasks on an ad hoc basis relating to the research as required

Selection criteria

Essential selection criteria

- Have or be close to the completion of a PhD in Neuroscience/Engineering/Physics/Maths/Computer Science or a relevant area
- Experience in data analysis, particularly using machine learning
- Experience in statistics or Bayesian probability
- Experience in computer programming skills
- Demonstrable ability to mentor and supervise research students and assistants
- Demonstrable ability to work independently and to work collaboratively as part of a team
- Flexibility to work on different projects and with different individuals
- Excellent oral and written communication skills, including the ability to communicate with clarity on complex information.

Desirable selection criteria

- Experience in deep learning
- Experience in the analysis of multi-dimensional data (e.g., space/time)
- Experience in Python, Pytorch or Tensorflow.
- Experience analysing MEG/EEG or other brain imaging technology
- Experience acquiring MEG/EEG or other brain imaging data
- Experience in managing a research project

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>

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:

- Work in clinical areas with direct contact with patients (NOT administrative roles)

Additional security pre-employment checks

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

- A satisfactory enhanced Disclosure and Barring Service check due to regulated activity involving 'at risk' adults

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 250 staff including 41 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 of over £10 million with more than 130 research grants.

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

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 <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.

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 vacancies@psych.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, 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 which is 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

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 have excellent childcare services, including five University nurseries as well as places at many other private nurseries. See <https://childcare.admin.ox.ac.uk/>

We also subscribe to the Work+Family Space, a service that provides practical advice and support for employees who have caring responsibilities for dependants of all types. See <https://hr.admin.ox.ac.uk/my-family-care>

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>