NUFFIELD DEPARTMENT OF
CLINICAL NEUROSCIENCES
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Job title	**Postdoctoral Research Associate: Neurophysiologist**
Division	Medical Sciences Division
Department	Nuffield Department of Clinical Neurosciences (NDCN)
Location	Dorothy Crowfoot Hodgkin Building, South Parks Road, Oxford, OX1 3QU *Lab based work onsite, but hybrid working possible*
Grade and salary	Research Grade 7: £38,674 – £45,628 per annum A less experienced candidate may be appointed at Research Grade 6 (£34,982 to £40,855) per annum, with a commensurate adjustment in either the essential criteria, responsibilities or duties.
Hours	Full time
Contract type	Fixed-term until 31st December 2028
Reporting to	Prof Stuart Peirson and Prof Mark Hankins
Vacancy reference	178406
Additional information	Flexible working hours are possible given the nature of the project

Research topic	Visual neuroscience
Principal Investigator / supervisor	Prof Stuart Peirson and Prof Mark Hankins
Project team	Circadian and Visual Neuroscience Group
Project web site	www.ox.ac.uk/ https://www.ndcn.ox.ac.uk/news/a-multidisciplinary-team-of-scientists-aims-to-solve-the-mystery-of-magnetoreception https://www.ndcn.ox.ac.uk/research/circadian-and-visual-neuroscience-peirson

	https://www.ndcn.ox.ac.uk/research/retinal-neurobiology-optogenetics-group
Funding partner	The funds supporting this research project are provided by a Wellcome Discovery award.
Recent publications	https://pubmed.ncbi.nlm.nih.gov/36630957/ https://pubmed.ncbi.nlm.nih.gov/39825567/ https://pubmed.ncbi.nlm.nih.gov/36813962/

The role

We are seeking a neuroscientist with a strong background in visual and/or circadian biology to work as part of the Sleep and Circadian Neuroscience Institute (SCNi) within the Nuffield Department of Clinical Neurosciences (NDCN). The successful candidate will be responsible for leading a specific research project entitled '***Investigating the multiple roles of cryptochromes in animal magnetoreception***' which will be based within the SCNi. They will work with Prof Stuart Peirson (https://www.ndcn.ox.ac.uk/team/stuart-peirson) and Mark Hankins (https://www.ndcn.ox.ac.uk/team/mark-hankins). This project is part of a Wellcome Discovery Award, in collaboration with the University of Leicester (Profs Ezio Rosato, Bambos Kyriacou), Manchester (Prof Richard Baines) and the National Physics Laboratory (Dr Alex Jones).

Many animal species are reported to be magnetosensitive. Indeed, some animals navigate using the weak magnetic field (MF) of Earth. Others do not, but there are accounts of MF effects and the concern that exposure to low frequency MFs may affect health. Whether the same or different mechanisms may be involved, is currently unknown. One mechanism has acquired experimental prominence. Cryptochromes (CRYs), best known for their role in circadian rhythmicity, may mediate magnetosensitivity via a photochemical quantum reaction involving CRY-bound flavin adenine dinucleotide (FAD) and a chain of tryptophan residues within CRY that generate a radical pair (RP). Unexpectedly, we have demonstrated that the CRY C-terminal (CRY-CT), without the canonical FAD binding site or tryptophan chain, elicits behavioural and cellular responses to MFs in Drosophila melanogaster. Our results do not necessarily contradict the RP model but urge a fundamental revision of its canonical interpretation. We propose a multidisciplinary programme of work examining each level of the sensory chain, including detection, signal transduction and amplification, cellular and behavioural responses. Our combined expertise includes quantum physics, computational chemistry, protein biophysics, electrophysiology, molecular genetics, and behaviour. We are thus uniquely positioned to address and move towards solving this fascinating and fundamental biological question.

Laboratory work will involve the use of electrophysiological, transgenic and behavioural techniques including multielectrode array electrophysiology, activity monitoring and behavioural testing. Experience in the analysis of complex datasets is essential. The candidate must have or be close to completing a Phd/DPhil. A Home Office Licence (A-C) or equivalent experience would be an advantage. The post is full-time. The post holder will be expected to contribute to the training and mentoring of some junior staff.

Flexible working

Flexible working hours are likely to be necessary due to the nature of the laboratory work involved. Hybrid working is possible though onsite laboratory work is essential.

Responsibilities

- Decision-making, problem-solving, planning and organising
- Manage own academic research and administrative activities. 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
- 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
- Use specialist scientific equipment in a laboratory environment
- Act as a source of information and advice to other members of the group on scientific protocols and experimental techniques
- Represent the research group at external meetings/seminars, either with other members of the group or alone
- Carry out collaborative projects with colleagues in partner institutions, and research groups

Other Duties

- Participate in a regular project meetings
- Undertake any necessary training identified and continuing professional development in order to stay up-to-date professionally including annual Information Governance training.
- Comply with Health and safety regulations.
- Comply with the policies and procedures set out in the Handbook for University Support staff (or) Academic-Related staff.
- Any other duties that may be required from time to time commensurate with the grade of the job.
- Undertake other duties in the department from time to time as determined commensurate with the grade and responsibilities of this post, and any other reasonable request

This job description should be regarded only as a guide to the duties required and is not intended to be definitive. It may be reviewed in the light of a change in circumstances following consultation with the post holder. The Job Description does not form part of the contract. Please note that the appointment of the successful candidate will be subject to standard compulsory pre-employment screening, such as right to work checks.

Selection criteria

Essential selection criteria

- Completed, or close to completion of a PhD/DPhil
- Experience with electrophysiology (using multielectrode arrays or similar)
- Analysis of complex datasets (e.g. using MATLAB or similar packages)
- Contribution to publications/presentations
- Management of own research activities
- Decision-making, problem-solving, planning and organising

Desirable selection criteria

- Hold a Home Office personal licence (A-C)
- Experience in home-cage activity monitoring or behavioural testing
- Has experience in managing transgenic colonies
- A background in retinal physiology would be an advantage

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:

- Lone Working

- 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:

Additional security pre-employment checks

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

- University security screening (e.g. identity 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.

Medical Sciences Division

The Medical Sciences Division is an internationally recognized centre of excellence for biomedical and clinical research and teaching, and 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 visit: www.medsci.ox.ac.uk

The Nuffield Department of Clinical Neurosciences

The Nuffield Department of Clinical Neurosciences (NDCN), led by Prof Kevin Talbot, has over 400 staff and 150 postgraduate students. NDCN has an established research and teaching portfolio with a national and international reputation for excellence.

NDCN is based in high quality research and clinical facilities in the West Wing of the John Radcliffe Hospital, alongside the Department's world-class Wellcome Centre for Integrative Neuroimaging (WIN) and the Weatherall Institute of Molecular Medicine (which houses 3 of our research groups), and provides the ideal facilities to translate research from bench to bedside. In

keeping with the award of NIHR Comprehensive Biomedical Research Centre status, to a partnership between Oxford University and the Oxford Radcliffe Hospitals NHS Trust, we have developed a highly integrated and interdisciplinary environment in which research, teaching, clinical training and clinical care interact. This enables us to establish new approaches to the understanding, diagnosis and treatment of brain diseases. To this end the Department fosters collaborations worldwide and warmly welcomes visiting scientists, clinical fellows and students.

For more information visit: www.ndcn.ox.ac.uk

The Department comprises six sections:

Medical Research Council Brain Network Dynamics Unit

The MRC BNDU is directed by Professor Peter Magill and is exceptionally multidisciplinary, integrating research programmes that span clinical, experimental and computational neuroscience. The Unit's collective goal is to understand and exploit the moment-to-moment interactions between nerve cells that are critical for brain functions, with a special focus on the brain circuits underlying movement and memory.

For more information visit: www.mrcbndu.ox.ac.uk

Nuffield Division of Anaesthesia

NDA is led by Associate Professor Andrew Farmery. The NDA is committed to the development and maintenance of internationally competitive research programmes in pain and consciousness; respiration and hypoxia; adult and neuro-intensive care; simulation and human factors training.

For more information visit www.nda.ox.ac.uk

Division of Clinical Neurology

DCN is led by Professor David Bennett. DCN is committed to the development of research programs that improve understanding of the nervous system in health and disease.

For more information visit www.dcn.ox.ac.uk

The Wellcome Centre for Integrative Neuroimaging (WIN)

WIN is a multi-disciplinary neuroimaging research facility led by Heidi Johansen-Berg. WIN aims to bridge the gap between laboratory neuroscience and human health, by performing multi-scale studies spanning from animal models through to human populations. It focuses on the use of Magnetic Resonance Imaging (MRI) for neuroscience research, along with related technologies such as Transcranial Magnetic Stimulation, transcranial Direct Current Stimulation, MEG and EEG. WIN has core locations at the John Radcliffe Hospital (FMRIB), Warneford Hospital (OHBA) and University Science area (BSB).

For more information visit www.win.ox.ac.uk

Nuffield Laboratory of Ophthalmology

NLO is led by Professor Russell Foster, who leads the Sleep & Circadian Neuroscience Institute. NLO pursues scientific and clinical research into a range of areas related to vision, the eye and circadian neuroscience.

For more information visit www.nlo.ox.ac.uk

Centre for the Prevention of Stroke & Dementia

CPSD is led by Professor Peter Rothwell. The centre carries out research that increases understanding of the causes of cerebrovascular disease. Its aims are to improve prevention of stroke and dementia by earlier diagnosis, more reliable prognostication, and more effective use of existing preventive treatments in routine clinical practice.

For more information visit www.cpsd.ox.ac.uk

Working at NDCN

NDCN actively promotes a healthy work life balance amongst employees through a number of family friendly policies. See https://hr.admin.ox.ac.uk/staff-benefits for further information.

The University of Oxford is a member of the Athena SWAN Charter and holds an institutional Bronze Athena SWAN award. The Department of Clinical Neurosciences holds a departmental Silver Athena award in recognition of its efforts to introduce organisational and cultural practices that promote advancement of gender equality: representation, progression and success for all.

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 (cover letter). 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. Please do not upload PDFs of publications in support of your application.

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@ndcn.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 at 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 at 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 at https://www.ox.ac.uk/research/support-researchers/connecting-other-researchers/oxford-research-staff-society