



Job description and selection criteria

Job title	Postdoctoral Research Scientist
Division	Medical Sciences Division
Department	Nuffield Department of Clinical Neurosciences
Location	John Radcliffe Hospital, Headington, Oxford
Grade and salary	Grade 8: £37,750 - £45,053 per annum
Hours	Full time (37.5 hours per week)
Contract type	Fixed-term: 2 years
Reporting to	Professor Irene Tracey and Dr Katharina Wulff
Vacancy reference	
Additional information	Appointment is held in conjunction with a Knoop Junior Research Fellowship at St Cross College, University of Oxford

Introduction

The University

The University of Oxford is a complex and stimulating organisation, which enjoys an international reputation as a world-class centre of excellence in research and teaching. It employs over 10,000 staff and has a student population of over 22,000.

Most staff are directly appointed and managed by one of the University's 130 departments or other units within a highly devolved operational structure - this includes over 6,500 'academic-related' staff (postgraduate research, computing, senior library, and administrative staff) and over 2,700 'support' staff (including clerical, library, technical, and manual staff). There are also over 1,600 academic staff (professors, readers, lecturers), whose appointments are in the main overseen by a combination of broader divisional and local faculty board/departmental structures. Academics are generally all also employed by one of the 38 constituent colleges of the University as well as by the central University itself.



Our annual income in 2012/13 was £1,086.9m. Oxford is one of Europe's most innovative and entrepreneurial universities: income from external research contracts exceeds £436.8m p.a., and more than 80 spin-off companies have been created.

For more information please visit www.ox.ac.uk/staff/about_the_university.html

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 please visit: www.medsci.ox.ac.uk

The Nuffield Department of Clinical Neurosciences

The Nuffield Department of Clinical Neurosciences (NDCN), led by Prof Christopher Kennard, was created in November 2010 by a federation of the Nuffield Department of Anaesthetics (NDA), the Department of Clinical Neurology (DCN) and the Nuffield Laboratory of Ophthalmology (NLO). The Department has over 320 staff and 100 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 Oxford Centre for Functional MRI of the Brain (FMRIB), the Wetherall 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. The Department comprises 4 sections:

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

Nuffield Division of Anaesthesia

NDA is led by Professor Irene Tracey (see also FMRIB). The NDA is committed to the development and maintenance of internationally competitive research programmes in pain and consciousness; respiration and hypoxia; adult and neurointensive care; simulation and human factors training.

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

Division of Clinical Neurology

DCN is led by Professor Christopher Kennard. 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

Centre for Functional Magnetic resonance Imaging of the Brain

FMRIB is led by Professor Irene Tracey (see also NDA). FMRIB is an internally recognised human neuroimaging centre housing both 3T and 7T scanners. The Centre has strong programmes of research in MR physics, image analysis and the applications of neuroscience in health and disease.

For more information visit www.fmrib.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

Job description

Research topic	Neuroimaging the interactions between light, circadian rhythms and sleep
Principal Investigator / supervisor	Professor Irene Tracey and Dr Katharina Wulff.
Project team	Sleep and Circadian Neuroscience Institute (SCNi), Nuffield Laboratory of Ophthalmology (NLO), Nuffield Division of Anaesthetics (NDA) and the Centre for Functional Magnetic Resonance Imaging of the Brain (FMRIB)
Project web site	www.ox.ac.uk/reseachproject
Funding partner	The funds supporting this research project are provided by the Knoop Trust and Professor Irene Tracey
Recent publications	van Diepen HC1, Ramkisoensing A, Peirson SN, Foster RG, Meijer JH. Irradiance encoding in the suprachiasmatic nuclei by rod and cone photoreceptors. FASEB J. 2013; 27(10):4204-12.
Technical skills	Neuroimaging, electroencephalographic, electroocular, electromyographic acquisition and image/spectral analysis. Programming and statistical competence. Experience working with human subjects.

Overview of the role

The post-doctoral research scientist would work as part of the newly established Sleep and Circadian Neuroscience Institute (SCNi) within the NDCN at the University of Oxford. The SCNi is the first institute in the world dedicated to the neuroscience of sleep and was set up to advance our understanding of how sleep and circadian rhythm disruption (SCRD) impacts upon health. It aims to understand the neural mechanisms that generate and regulate sleep and circadian physiology, and define the mechanistic links between SCRD and disorders of the brain and eye.

This role is to expand the ongoing activities in ocular and sleep research within the SCNi. The successful candidate will build a collaborative program of human systems neuroscience research, harnessing the state-of-the-art neuroimaging facilities at the FMRIB Centre. The candidate would be responsible for establishing the systems neuroscience research program that studies the interaction between light and SCRD using both EEG and MR based neuroimaging.

Responsibilities/duties

The successful candidate will be required to perform high-impact neuroimaging based systems neuroscience research in humans exploring the links between light, sleep and their relationship to mechanisms of consciousness. This candidate would bring together techniques for eliciting non-image forming responses to light, neuro-ophthalmology, sleep-wake monitoring and human neuroimaging, specifically simultaneous EEG and functional magnetic resonance imaging/spectroscopy. The candidate will investigate how the brain integrates information relating to light and how this can modulate activity within sleep/arousal brain regions. Investigation of potentially aberrant responses in clinical populations will further our understanding of the role that the eye has in sleep and conscious awareness.

We are seeking an individual with a proven track record of collaborative research and the skill to work flexibly across the relevant sections of the NDCN (namely the SCNi, the FMRIB Centre and the NDA) to establish this area of cutting-edge research. They will be expected, with the support of Professor Tracey and Dr Wulff, to lead this area of research by building a group and securing funding to establish a strong presence and base in this area. The post would suit an enthusiastic scientist who is keen to strengthen collaborations between the SCNi and FMRIB by taking forward an innovative program of research focused on neuroimaging the interactions between light, circadian rhythms and sleep.

Selection criteria

Essential

- PhD qualification in related scientific discipline
- Experience working with human subjects in a related research area
- Neuroimaging and EEG expertise (both paradigm design and image/spectral analysis)
- Proven expertise related to sleep and other altered states of consciousness
- Strong quantitative background, statistics and programming abilities
- Experience establishing collaborations and developing new projects
- Good oral and written communication skills
- Good time management, decision making and problem-solving skills
- A good rapport with junior and senior staff and ability to work as a team

Desirable

- Supervisory or training experience of students/clinicians in research

- Evidence of obtained grant support
- Experience with ethics applications
- Experience in anaesthesia research

Working at the University of Oxford

For further information about working at Oxford, please see: (relevant link to be inserted here, please select from one of the three below):

http://www.ox.ac.uk/about_the_university/jobs/professionalandmanagement/

Working at NDCN

NDCN actively promotes a healthy work life balance amongst employees through a number of family friendly policies. See <http://www.admin.ox.ac.uk/personnel/staffinfo/benefits/> for further information.

How to Apply

Applications (marked Knoop JRF 2014), in the form of a full and detailed CV together with a supporting statement of research interests and list of publications should be sent to the Master, St Cross College, Oxford OX1 3LZ. Applicants should ask their referees to send references directly to the Master by that date. For informal enquiries about the post, please contact Dr Katharina Wulff at the NDCN.