

## DPhil Studentship 2022

<b>Award</b>	DPhil Studentship
<b>Department</b>	Department of Experimental Psychology
<b>College</b>	Wadham
<b>Studentship</b>	A tax-free stipend of no less than £27,889 (does not include course fees)
<b>Contract type</b>	Fixed term for 4 years
<b>Reporting to</b>	Prof. Bernhard Staresina
<b>Additional information</b>	Funded by the European Research Council
<b>Reference Code</b>	21EXPSY01WEB
<b>Closing date</b>	12 noon Friday 3 Dec 2021

### Introduction

The laboratory investigates the interactions between episodic memory formation and brain dynamics during sleep. How are memories strengthened ('consolidated') overnight? What is the role of specific brain rhythms during sleep? Can we use sleep to experimentally control the extent of forgetting? To tackle these questions, a range of techniques including intracranial EEG, scalp EEG, MEG, fMRI, non-invasive brain stimulation (NIBS), and behavioural testing are used.

<b>Research topic</b>	Sculpting memories during sleep
<b>Principal Investigator / supervisor</b>	Prof. Bernhard Staresina

### Overview of the role

The DPhil project will tackle the mechanisms underlying learning-related changes in brain structure during sleep. We will use a combination of structural and functional magnetic resonance imaging (MRI), Electroencephalography (EEG)/Polysomnography during sleep and non-invasive brain stimulation (NIBS).

### Responsibilities/duties

- Behavioural data collection and analysis

- EEG data collection and analysis
- Polysomnography (sleep recordings)
- Magnetic resonance image (MRI) data collection and analysis
- Non-invasive brain stimulation (NIBS) via transcranial electrical stimulation (tES)
- Recruiting participants and organizing testing schedules
- Handling and analysing large scale neuroimaging data sets
- Data analysis in MATLAB
- Contribute to scientific reports and journal articles and the presentation of data/papers at conferences

### **Communication**

- Ability to communicate with colleagues from other academic disciplines.
- Contributing to the preparation of scientific manuscripts based on research for publication in peer-reviewed journals.
- Produce and present posters and oral presentations to the local and broad scientific community and non-academic audiences, including social media activities related to the projects.
- Represent the research group at external meetings/seminars, either with other members of the group or alone
- Ability and interest in supervision of MSc/BSc students and teaching activities.

### **Education and training**

- Opportunities for training in cutting edge acquisition and analysis methods will be provided.
- Attending appropriate scientific conferences, meetings and seminars.

### **Other General Responsibilities**

- Participating in and contributing to various activities in the lab (journal clubs and discussion groups).

### **Selection Criteria**

#### **Essential**

As a minimum, applicants should hold or be predicted the equivalent of the following UK qualifications:

- a first-class or strong upper second-class undergraduate degree with honours in psychology or a related discipline that is relevant to your proposed research.

For applicants with a degree from the USA, the minimum GPA sought is 3.5 out of 4.0.

The applicant must also pass the English Language Requirement, for more information please visit: <https://www.ox.ac.uk/admissions/graduate/applying-to-oxford/application-guide/qualifications-languages-funding#content-tab--3>

Other essential criteria include:

- Evidence of experience in cognitive neuroscience research
- Experience of behavioural data collection and analysis
- Experience with conducting sleep/polysomnography studies
- Experience of MATLAB
- Willingness to work unusual hours (overnight sleep recordings)

Desirable

- Experience with structural/functional MRI analysis
- Applicants will be expected to demonstrate that they are independent, self-motivated, and able to work collaboratively
- Ability to manage own research and administrative activities

The DPhil studentship is associated with membership of Wadham College. Details of the College and its facilities are available on the College website at <https://www.wadham.ox.ac.uk>.

### How to apply

In addition to the submission of a completed application form and the application fee, the following materials are compulsory for all applications:

1. Three academic references
2. Transcript(s) of previous higher education
3. CV/résumé
4. Statement of purpose/personal statement (1-page max)
5. 1-2 pages research proposal. This should be on the topic of “Sleep and Memory” and can include figures and references

On the main University online graduate application form you need to apply for both the DPhil programme and this specific studentship, and pay the application fee. The application form, all supporting materials required for the DPhil programme (including references) and payment must be submitted by the **3 December 2021**. Further details, guidance notes and information about fees can be found here: <https://www.ox.ac.uk/admissions/graduate>.

Application details:

To submit your application access the official online application for University of Oxford Graduate Programmes: <https://www.ox.ac.uk/admissions/graduate/applying-to-oxford/application-guide>

On the application form you **must** quote the unique reference code quoted at the top of this job description in order to apply for the studentship.

You must also apply for the **DPhil in Experimental Psychology Course** using the course code: RD\_EP1.

You must select the applicable College: Wadham

**Closing date for applications is 3 December 2021**

## **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).

## **Department of Experimental Psychology**

The Department of Experimental Psychology at Oxford was founded in 1898 and has a long and prestigious history and is fortunate to be home to a number of current world-leading research groups, and continues to be among the top-ranked Psychology departments worldwide. In the 2014 Research Excellence Framework (REF) Exercise the Psychology, Neuroscience and Psychiatry REF submission from Oxford was ranked as first in the UK. Departmental turnover for 19/20 was almost £17 million. Research in the Department is organised into 5 research groupings roughly equal in size: Behavioural Neuroscience / Cognition and Perception / Developmental Psychology / Social Psychology / Psychological and Brain Health.

In 2018 the core of the Department relocated to the Radcliffe Observatory Quarter where we now occupy two floors of New Radcliffe House and the Anna Watts Building. The Anna Watts building houses the developmental research centre and facilities for EEG, TMS, and tDCS, along with multiple laboratories with eye-movement recording equipment. The Oxford Centre for Anxiety Disorders and Trauma (OXCADAT) is located at The Old Rectory and we also have some research groups located in the Tinsley Building in the Science Area of the city. Experimental Psychology has good access to a wide variety of special populations including: mothers and babies, schools, older participants, acquired and developmental neuropsychological patients, and individuals with psychological problems.

Research in the Department is supported by an extensive range of laboratory and IT facilities. The Department has a wide portfolio of research grants from UK and international

charities, Research Councils and government organizations, the EU Scientific Programme, NIHR, and industrial sources. Much of the work is collaborative with other Departments and often includes work in hospitals, schools and industrial settings both locally and further afield. Many researchers in the Department also have collaborative research programmes with leading institutions elsewhere in the UK, in Europe, North America, and Japan.

Through both the University and Colleges, Oxford places a high priority on teaching quality, recognised by the award of 24 points (the maximum possible) to Psychology in the Quality Assurance Agency's Subject Review in 2000, and was specifically sampled with positive reviews in the QAA Institutional audit of Oxford's teaching provision in 2004.

(QAA report for 2000: [http://www.qaa.ac.uk/reviews/reports/subjectLevel/q313\\_00.pdf](http://www.qaa.ac.uk/reviews/reports/subjectLevel/q313_00.pdf), QAA report for 2004: [http://www.qaa.ac.uk/reviews/reports/institutional/Oxford04/RG052\\_Oxford.pdf](http://www.qaa.ac.uk/reviews/reports/institutional/Oxford04/RG052_Oxford.pdf)).

At the undergraduate level, the Department is the focus for lectures, classes, practicals, and research projects. It is a centre used by the undergraduates from all colleges for the Experimental Psychology (EP), Psychology, Philosophy and Linguistics (PPL), and Biomedical Science (BMS) courses. The Department provides lecture rooms, IT facilities and laboratories for experimental and project work.

The Department also hosts two Masters level courses. MSc in Psychological Research and MSc in Neuroscience:

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

The Department of Experimental Psychology is strongly committed to equality and valuing diversity and we operate a flexible working policy for all staff. The Department holds a departmental **Silver** Athena award to recognise advancement of gender equality: representation, progression and success for all.

### **Medical Sciences Division**

The Medical Sciences Division is an internationally recognized 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)