

# Job Description

## Research Fellow/Senior Research Fellow

**Department:** Sainsbury Wellcome Centre

**Grade:** 7/8

**Salary:** G7: £42,099 to £60,521 per annum inclusive of London Allowance

**G8:** £51,474 to £58,895 per annum inclusive of London Allowance

**Hours:** 36.5 per week (full-time, 1.00 FTE)

**Reports to:** Dr Stephenson-Jones



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### Context

We are looking for an excellent Post-Doctoral Research Fellow, who has experience with *in vivo* electrophysiology, to join the Stephenson-Jones Lab at the SWC.

The goal of this project is to combine theory and experiments to study how neural replay contributes to multimodal learning. The applicant will use large scale *in vivo* recordings (Neuropixel 2.0 probes), optogenetic perturbations and circuit dissection tools to understand how replay contributes to learning in multi-sensory tasks. Novel unsupervised methods will be applied for replay detection during different stages of sleep.

The overall project aims to test several theoretical models of systems consolidation. Recordings will focus primarily on the hippocampus, cortex, and striatum.

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### Main purpose of the job

Plan and execute key experimental tests of theoretical predictions, together with state-of-the-art behavioural models and analysis methods.

The successful candidate will have the opportunity to collaborate closely with theorists in the Gatsby Computational Science Unit (GCNU) and draw on

the experimental resources of multiple labs at SWC and the broader neuroscience community at UCL and beyond.

A strong background in quantitative neuroscience and experience with rodent behavioural training and analysis are essential. Strong quantitative skills and computer programming expertise (MATLAB or Python) are also required for this role.

We are looking for an excellent communicator with a collaborative approach and the ability to write for publication, present research proposals and results, and represent the research group at meetings.

Candidates wishing to be appointed at Senior Research Fellow level should demonstrate experience of guiding and supervising a small team.

You will perform large-scale electrophysiological experiments in mice across periods of awake behaviour and sleep.

This post is funded for two years in the first instance.



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## Duties and responsibilities

- To design and conduct an experimental programme of research to test specific theories of neural circuit changes during sleep, and to carry out this program expertly, rigorously and in accordance with ethical guidelines.
- To work closely with Marcus Stephenson-Jones and other lab members, to set up, gather, and collect relevant behavioural and neural data to test theoretical predictions.
- To analyse collected data, stay informed about new developments in relevant analytical techniques (e.g. spike sorting), and maintain shareable data formats and code.
- To write research articles for peer-reviewed platforms, and present papers and posters at national and international conferences and give seminars to disseminate research findings.
- To act as a source of information and advice to other members of the group on methods and techniques.
- To maintain lab equipment, lab supplies and databases to ensure that they function at the correct levels, and to ensure that all work is carried out in accordance with statutory and UCL regulations as appropriate.
- To engage actively with the neuroscience community at SWC and Gatsby specifically, and UCL more broadly, including giving presentations in lab meetings and journal clubs where appropriate.
- To manage their own academic research and administrative activities. This involves small scale project management, including co-ordinating multiple aspects of work to meet deadline.
- To contribute to the scientific development of PhD students in the lab
- To represent the research group in outreach activities involving the wider public

- To contribute to an open and inclusive lab environment.
- To adhere to good laboratory practice at all times, follow host lab policies and best practices, and observe all required health and safety procedures.
- To observe all required Data Protection and Security requirements.

## General

- Carry out any other duties within the scope, spirit and purpose of the job as requested by the line manager.
- Actively follow and promote all UCL policies including those on Equality, Diversity and Inclusion.
- Maintain an awareness and observation of Fire and Health & Safety Regulations.
- There may, on occasion, be a requirement to work extended hours.
- Actively participate in UCL networks, meetings and committees relevant to the role, as required.
- All staff are expected to act professionally, co-operatively and flexibly in line with the post.
- UCL's Sustainability policies and objectives, attend management meetings and undertake such training and development as may be required for the post.
- The post holder, like all academic, research and teaching staff, is expected to demonstrate their ongoing commitment to excellence in line with the [Academic Career Framework](#).
- Meet UCL's expectations set out in UCL's [Core Behaviours Framework](#).
- The above description is not exhaustive, and the post-holder will be required to undertake any other duties as may reasonably be requested within the scope, spirit, and purpose of the post.

# Person Specification

Applicants should copy and paste the following essential criteria (which are assessed on the application form) into the “Statement in support of your application” and describe underneath each criterion how they meet it, giving examples.

Essential Criteria	Assessment method (Application/ Interview/Practical Test)
<b>Qualifications, experience and knowledge</b>	
PhD in neuroscience or closely related discipline or have submitted your thesis before commencing in post.	Application
Proven track-record of publishing work in neuroscience or a related field.	Application
Experience with in vivo electrophysiology.	Application/Interview
Experience with animal handling or behavioural training.	Application/Interview
Experience with building experimental setups and development of software/hardware for experiments.	Application/Interview
Experience analysing neurophysiological data.	Application/Interview
Computer programming expertise (e.g. MATLAB or Python).	Application/Interview
Grade 8 only: Experience of supervising / mentoring a small team of scientists or PhD students.	Application/Interview
<b>Skills and abilities</b>	
Excellent communication skills, including the ability to write for publication, present research proposals and results, and represent the research group at meetings.	Application/Interview
Strong quantitative and programming skills.	Application/Interview
Strong organisational skills and independence, but also willingness to be part of a team, asking for help when needed and freely providing help to other lab members.	Application/Interview
<b>UCL Ways of Working</b>	
Personal Excellence: Delivering work to agreed standards	Application/Interview
Working Together: Knowing your key stakeholders and keeping them informed	Application/Interview
Achieving our Mission: Take responsibility for your work	Application/Interview
<b>Desirable Criteria</b>  Applicants should copy and paste the following desirable criteria into the “Statement in support of your application” under the Desirable criteria section and describe underneath each criterion how they meet it, giving examples.	<b>Application</b>

Experience in surgical methods.	Application
Experience with neuropixels / extracellular recordings.	Application
Experience with multi-sensory learning tasks in rodents	Application
Experience working with sleep paradigms and analysis.	Application

# Apply

**To apply for this position visit:**

[ucl.ac.uk/work-at-ucl/search-ucl-jobs](https://www.ucl.ac.uk/work-at-ucl/search-ucl-jobs)

Please complete the online application form and use the supporting statement section to outline your interest in joining SWC and how you meet the essential and desirable criteria for the role.

If you have any queries regarding the application process, please email: [swc.hr@ucl.ac.uk](mailto:swc.hr@ucl.ac.uk)

For informal enquiries about the role please contact: [m.stephenson-jones@ucl.ac.uk](mailto:m.stephenson-jones@ucl.ac.uk)

All candidates will be notified of the outcome of their application.

## **Probation**

Appointments are subject to receipt of satisfactory references and a probationary period of 9 months.

## **Annual leave**

Annual leave is 27 working days for a full-time member of staff + 6 UCL closure days in addition to 8 Bank Holidays.

## **Pension**

Post-holders will be eligible to join the Universities Superannuation Scheme (USS), subject to the Scheme's rules and eligibility conditions.

## **Hours of Work**

UCL's full time working week is 36.5 hours per week. SWC is willing to consider flexible-working arrangements, subject to discussion and agreement with your line manager.

## **Other benefits**

UCL is a dynamic, global university based in one of the most exciting capital cities in the world. Not only does working at UCL offer the opportunity to work with some of the greatest intellects in the world, it also offers competitive terms, conditions and benefits to its staff.

As part of the UCL community you can access free lunch hour lectures, exhibitions and museums and collections. On campus UCL has the Bloomsbury theatre hosting a range of performances and a series of bars, cafes, and other facilities, which UCL staff can use.

In addition to 41 days annual leave (inclusive of public holidays and closure days) and generous pension schemes, UCL provides a number of other

staff benefits which are linked from the page below:

✓ <https://www.ucl.ac.uk/human-resources/pay-benefits/staff-benefits>

UCL benefits and policies apply equally, whatever the sexual orientation and/or gender identity of employees. Benefits and policies relating to employees partners, includes both different sex and same sex partners.