A postdoctoral position funded by the BBSRC is available in the laboratory of Miguel Maravall to study neuronal codes and their plasticity in the somatosensory cortex of mice. Work on this project will investigate neuronal responses and connectivity as a mouse learns a whisker-based sensory discrimination task, and will involve mouse training, two-photon imaging, and optogenetic manipulation.

Candidates should either have a recent PhD degree in neuroscience or a related field and experience in quantitative data analysis, or have a background in a quantitative discipline such as physics or computer science and research experience in experimental neuroscience. Expertise in the specific techniques highlighted above is desirable but not essential. Programming experience in Python, Matlab or a similar language is important.

We are looking for candidates who will drive the project forward, are positive, eager to think creatively, and keen to work as a team in our highly collaborative lab (http://www.sussex.ac.uk/lifesci/maravallab/). Ongoing dialogue with other members of the close-knit Sussex Neuroscience community (http://www.sussex.ac.uk/sussexneuroscience/) provides opportunities for learning new approaches and skills; areas of strong local expertise directly relevant to the project include open science hardware, in vivo two-photon imaging, and computational techniques.

Our lab welcomes applicants from all backgrounds. We strive to foster an inclusive environment and we actively work on an ongoing basis to improve equity and fairness both within and outside our institution. We are committed to supporting and mentoring our members throughout their time in the lab and beyond.

The position is offered for 1 year initially, renewable up to 31 August 2024. Please attach a
CV (2-3 pages) and a statement of research interests (1 page) to the application, and provide contact details for 2-3 referees. Informal enquiries are strongly encouraged; please contact Prof Miguel Maravall (m.maravall@sussex.ac.uk).

The University of Sussex campus is located just outside the lively city of Brighton on the coast of South East England, one hour away from London. It is surrounded by the South Downs National Park. The School of Life Sciences is at the forefront of research in the biological sciences in the UK, coming in the top 10 in the REF 2014. Sussex Neuroscience offers a vibrant intellectual environment and resources for mentorship and career development.

The School is committed to equality and valuing diversity, and currently holds an Athena SWAN Silver Award. Applications are particularly welcomed from women and black and minority ethnic candidates, who are under-represented in academic posts in Science, Technology, Engineering, Medicine and Mathematics (STEMM) at Sussex.

*Please note that this position may be subject to ATAS clearance if you require visa sponsorship.*

For full details and how to apply see our [vacancies page](#).

*The University of Sussex values the diversity of its staff and students and we welcome applicants from all backgrounds.*

2. **The School / Division**

The School of Life Sciences is the largest School in the University in terms of research activity with an annual research income of over £13m, and one of the largest in terms of student and staff population. The School has a teaching and research faculty of nearly 80, over 150 research fellows and technicians, and a small professional services team. Life Sciences have played a major role in the research and teaching of the University of Sussex since 1961. The original School of Biological Sciences (BIOLS), founded by John Maynard Smith FRS, trained some of the world’s leading biologists and biomedical scientists, and was a beacon of innovation and creativity in its integrated approach to research and teaching.

The current School of Life Sciences was formed in 2009 when Professor Laurence Pearl FRS was appointed as founding Head of the new School. Under his leadership the School adopted a unified structure with no formal departments. Instead there are six research Subject Groups – Neuroscience; Evolution, Behaviour and Environment; Genome Damage and Stability; Biochemistry and Biomedicine; Chemistry and the Sussex Drug Discovery Centre. Each research subject group is chaired by a prominent scientist, who is responsible for research leadership in their subject. The School currently has six Fellows of the Royal Society (FRS) and seven Fellows of the Academy of Medical Sciences (FMedSci) on its Faculty.

Professor Sarah Guthrie was appointed Head of School in September 2017, and the School will continue to develop under her leadership.

The School admits nearly 600 undergraduates each year on to a range of BSc and MSci degrees, with around 75 students on post-graduate taught degrees in Genetic Manipulation
and Cell Biology, Cancer Cell Biology and Neuroscience. Taught programmes are firmly based on our research excellence, and offer students substantial opportunities for personal research experience along with conventional lecture, seminar and tutorial teaching. We offer 3-year BSc and 4-year integrated Masters degrees (MSci) in Biochemistry, Biomedical Science, Biology, Ecology, Genetics, Neurosciences, and Zoology, and Royal Society of Chemistry accredited BSc and MChem degrees in Chemistry and Chemistry and Drug Design. We also offer a Foundation Year in Biological Sciences which is ideally suited for students whose A-level (or equivalent) qualifications don’t meet the requirements for direct entry on to our BSc/Masters degrees.

We have a large and vigorous post graduate research community with over 170 PhD students undertaking cutting-edge research across all our areas of interest. As well as standard PhD programmes in all the Subject Groups, we also offer a highly interdisciplinary 4-year Neurosciences PhD incorporating a first year with laboratory rotations, run in partnership with the Schools of Psychology and Engineering and Informatics, and the Brighton and Sussex Medical School.

In the REF2014 more than 96% of the School's research was rated as ‘world leading’, ‘internationally excellent’, or ‘internationally recognised’. Our Biological Sciences research in particular was ranked 10th in the UK overall, and 8th on quality of our research outputs – putting us comfortably above the majority of Russell Group institutions.

3. Job Description

Job Description for the post of: Research Fellow

Department: Neuroscience

Section/Unit/School: Life Sciences

Grade: 7.1 to 7.7 depending on experience

Responsible to: Professor Miguel Maravall

PRINCIPAL ACCOUNTABILITIES

1. To engage in individual and/or collaborative research activity resulting in high-quality publications; and to develop research funding and knowledge exchange income individually or in collaboration with others, as appropriate, depending on the size and scope of the bid.

KEY RESPONSIBILITIES

1. Research, Scholarship & Enterprise

1.2 Develop research objectives and proposals for own or joint research, at acceptable levels, with assistance if required.

1.3 Conduct research projects individually and in collaboration with others.

1.4 Analyse and interpret research findings and draw conclusions on the outcomes.
1.5 Produce high-quality research outputs for publication in monographs or recognised high-quality journals, or performance/exhibition, as appropriate.

1.6 Contribute to the preparation of proposals and applications to external bodies, for example for funding purposes.

1.7 Individually or with colleagues, explore opportunities for enterprise activity, knowledge exchange income and/or consultancy, where permissible.

1.8 Build internal contacts and participate in internal networks and relevant external networks in order to form relationships and collaborations.

1.9 Continually update knowledge and understanding in field or specialism, and engage in continuous professional development.

2. Teaching & Student Support

2.1 Undertake teaching duties, if required.

2.2 Assist in the assessment of student knowledge and supervision of student projects if required.

2.3 Assist in the development of student research skills, for example as part of a postgraduate supervision team.

3. Contribution to School & University

3.1 Attend and contribute to relevant School and project meetings.

3.2 Undertake additional duties, as required by the Principal Investigator and/or Head of School.

4. Role-specific duties

4.1 To undertake research aimed at understanding sensory processing in mice.

4.2 To identify, develop, troubleshoot and apply techniques to pursue the research objectives.

4.3 To present scientific work at seminars within the Laboratory and at external meetings.

4.4 To contribute to lab-wide discussions on developments within the field.

4.5 To draft scientific papers, and contribute to the overall preparation of research for publication.

4.6 To assist in the training of PhD students and other members of the laboratory where necessary.
This Job Description sets out current duties of the post that may vary from time to time without changing the general character of the post or level of responsibility entailed.

**INDICATIVE PERFORMANCE CRITERIA**

- A PhD or equivalent scholarly or relevant professional activity.
- Pursuing a line of independent research within a research group.
- Publishing research (either from a recently completed PhD or new original research).
- Other forms of externally recognised professional practice of creative output of a standing equivalent to regular publication of original research.
- Initiating, developing or participating in links between the University and external bodies such as business and industry, the professions, community organisations and policymakers, or in the delivery of outreach activities involving the wider public.
- Evidence of successful engagement in teaching or supervision.

4. **Person Specification**

**ESSENTIAL CRITERIA**

1. Normally educated to doctoral level, or other equivalent qualification, or appropriate level of experience, as appropriate to the discipline (see role-specific criteria below).
2. Evidence of engagement in high-quality research activity.
3. Excellent presentation skills, with the ability to communicate effectively, both orally and in writing, with students, colleagues and external audiences.
4. Ability to work individually on own initiative and without close supervision, and as part of a team.
5. Ability to exercise a degree of innovation and creative problem-solving.
6. Excellent organisational and administrative skills.
7. Ability to prioritise and meet deadlines.
8. Excellent IT skills.

**ESSENTIAL ROLE-SPECIFIC CRITERIA**

1. PhD in Neuroscience or related discipline.
2. Strong work ethic.
3. Commitment to carrying out research of high quality and standards.

DESIRABLE CRITERIA

1. Emerging track record of high-quality publications in reputable journals and other appropriate media of similar standing.

2. Experience of generating research or knowledge exchange income.

3. Experience in the use of mice for research, e.g. mouse training and husbandry.

4. Experience in molecular biology, e.g. techniques for expression of optical reporters and actuators of neuronal activity.

5. Experience with multiphoton imaging of neuronal activity.

6. Experience with computational analysis of neuronal data including programming in languages such as Matlab, Python or similar.

7. Experience in analysing neural circuits.