

1 Advertisement

Post Title: Research Fellow

School/department: School of Life Sciences

Hours: Full time. Requests for [flexible working](#) options will be considered (subject to business need).

Contract: fixed term for 12 months

Reference: 10361

Salary: starting at £35,333 to 42,155 per annum

Placed on: 11 January 2023.

Closing date: 06 February 2023. Applications must be received by midnight of the closing date.

Expected interview date: Shortly thereafter

Expected start date: 1st January 2024

The [School of Life Sciences](#) at the University of Sussex is at the forefront of research in the UK. In the recent Research Excellence Framework assessment (REF 2021), 100% of our [Impact cases](#) in Biological Sciences and Chemistry were rated as world-leading or internationally excellent. The School has received substantial recent University investment and is embarking on an exciting and extensive, multi-million pound refurbishment and improvement project.

A Research Fellow position is available in the laboratory of Tom Baden to work on establishing expression of fluorescent reporters of neural activity in avian retina using viruses.

We will adapt the adeno-associated viral (AAV) vector approach (widely used in mammalian studies) to express calcium indicators in bird retinal neurons. It will be followed by 2-photon imaging and recording from neurons in isolated avian retina.

The project will involve both experiments and computer-based analysis.

We are a very active research group located in the Neuroscience Centre, which also houses a number of other groups using imaging to study neural circuits involved in sensory processing (<http://www.sussex.ac.uk/sussexneuroscience/>).

More about the laboratory and our previous work can be found at <https://badenlab.org>.

Informal enquiries are encouraged and should be made to Tom Baden (t.baden@sussex.ac.uk).

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

The School of Life Sciences is committed to increasing the diversity of its staff and providing an inclusive working environment. The School currently holds an Athena SWAN Silver Award, has developed a Race Equity Action Plan and hosts an active Equality, Diversity and Inclusion working group.



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Applications are particularly welcomed from Black and minority ethnic candidates, and women, trans and non-binary candidates, who are under-represented in the School of Life Sciences.

Applications to posts from candidates who wish to work part-time or as job-sharers are welcome.

The University offers various schemes to provide real benefits to parents, these can be found at [Family Friendly Policies](#)

*Applications should be accompanied by a full CV, a statement of research interests and aspirations (not more than 4 pages), and the names of three academic referees.
[Optional]*

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

2. The School of Life Sciences

The [School of Life Sciences](#) has a mission statement to understand the mechanisms that drive biological and chemical processes; to develop innovative and diverse approaches to enhance human health, technology and the environment. It undertakes research, teaching and engagement across a wide range of the Life Sciences, from Chemistry through a range of biological and medically-related areas to Conservation Biology. The breadth and depth of cutting-edge research and innovative teaching practice requires a diverse community who work across boundaries to deliver excellence. Multidisciplinarity is a key strength at Sussex, and the School of Life Sciences is part of two collaborative cross-School funded Strategic Research Programmes: Sussex Neuroscience (SN) and the Sussex Sustainability Research Programme (SSRP). Sussex Neuroscience brings together broad-ranging neuroscience approaches from the Schools of Life Sciences, Psychology, Engineering and Informatics, as well as the Brighton and Sussex Medical School. SSRP brings together Life Sciences, Global Studies and the University of Sussex Business School to address the United Nations sustainable development goals.

The School of Life Sciences is the largest in the University in terms of research activity, with an annual research income of around £13 million. The School has a teaching and research faculty of around 90, over 140 research staff, and an administrative team of around 20. The School is structured into five Departments led by a Head of Department. These are Biochemistry & Biomedicine, Genome Damage and Stability Centre, Neuroscience, Evolution, Behaviour & Environment and Chemistry, working closely with the Sussex Drug Discovery Centre. The Head of School Professor Sarah Guthrie leads the Head of School Executive, which includes two Deputy Heads of School (one focussed on research and enterprise, the other on education), the School Administrator and the Director of Technical Services. Wider School organisation and administration is overseen by the School Management Committee, which includes the Heads of Departments and others in Directorship roles.

Our School aims to develop scientists that are able to connect with global issues and develop innovative solutions to the challenges that face the planet. We therefore work to ensure that our research positively impacts our local community, the economy and society as a whole. We have and continue to develop relationships with business, policy and



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community partners ranging from local SMEs to large scale multinational organisations. Academics, researchers, and students at all levels are encouraged to engage with non-academic partners through activities such as technology and skills sharing, licencing IP, contract research or consultancy, working closely with colleagues in the Sussex Innovations and Business Partnership team.

In the recent Research Excellence Framework (REF2021), 90.6 % of our Biological Sciences outputs and 84.8% of our Chemistry outputs were rated as world-leading or internationally excellent. In both areas, 100% of our [Impact cases](#) were rated as world-leading or internationally excellent. We are proud that our research has diverse impact that includes enabling and enhancing diagnosis of cancer and rare genetic diseases, using novel chemical methods to produce new medicines, saving endangered species, influencing policy and practice in pesticide use to protect bees and establishing conservation, economic and health initiatives in Papua New Guinea and Ecuador.

Our vibrant post-graduate research community is made up of around 130 PhD students who are key to our success, undertaking cutting-edge research across all our areas of interest in the Life Sciences. We are part of a number of cross-School and multi-partner PhD programmes: the Sussex Neuroscience PhD programme, 2 Leverhulme-funded Doctoral Scholarship programmes (*Sensation and Perception to Awareness* and *Biomimetic Embodied AI*), the UKRI funded *UK Food Systems Centre* for Doctoral Training and the BBSRC *South Coast Biosciences (SoCoBio)* Doctoral Training Partnership.

The School's teaching is firmly based on our research excellence and offers students an intellectually stimulating and supportive experience, with opportunities for personal research experience and use of modern technology to enhance learning. The School has a population of around 1500 undergraduates studying a [range of subjects](#) across the School's expertise. For each degree we offer a 3-year BSc and a 4-year integrated Masters (MSci or MChem). We also offer a Life Sciences Foundation Year, which is ideally suited for students whose A-level (or equivalent) qualifications don't meet the requirements for direct entry on to our BSc/MSci degrees. We have a population of around 85 postgraduate taught students undertaking [MSc or MRes courses](#) across our subject expertise.

The School is committed to the [University's core values](#) of kindness, integrity, inclusion, collaboration and courage. The Equality, Diversity and Inclusion Committee (with representation on the School Management Committee) promotes and encourages our values across the School, [championing initiatives](#) that meet the [University's goals](#) of being Equal, Diverse, Accessible and Flexible. We currently hold an Athena SWAN Silver Award and have a BAME Awarding Gap Committee who closely liaise with the University's Race Equality Charter committee. The School also hosts a wellbeing room and a multi-faith prayer room within its estate and the University supports the [Trans Rights are Human Rights](#) UK initiative. We believe that equality, diversity and inclusion is everyone's business and aim to provide a friendly and supportive environment for all who work, study and visit the School of Life Sciences.

3. Job Description

You will use an intravitreal injection method for avian retinal transduction using AAVs to transduce chick retinal cells for establishing expression of fluorescent reporters of neural activity.



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Once established, you will use reporters such as GCaMP in conjunction with 2-photon imaging to record from neurons in isolated avian retina.

You will be responsible to analyse and interpret research findings from this data.

As well as contributing to research for publication, you will be asked to present scientific work at internal and external seminars/meetings. You will also contribute to lab-wide discussion about developments in the research field of vision.

4. Person Specification

Essential criteria

- The applicant will have or be near the completion of the PhD in biological sciences, molecular biology, or neuroscience.
- A strong interest in visual neuroscience combined with keen interest in viral vectors and their use for gene manipulation.
- Demonstrated experience for use of viruses in bird retina research.
- Experience in cell culture, molecular/cellular biology techniques.
- Experience in fluorescence and confocal microscopy.
- Commitment to high-quality research.
- The ability to effectively communicate scientific work, both orally and in writing, with students, colleagues and external audiences are essential.
- The ideal candidate has excellent organisational and administrative skills, and the ability to prioritise and meet deadlines.
- Excellent IT skills are essential.

Desirable criteria

Experience in following is highly desirable:

- multiphoton imaging of neuronal activity
- analysis of neuronal recordings

For Research only adverts - please check [Appendix ATAS CAH03-01-01](#) - Biosciences (non-specific) and confirm if the subject of research is included on the list? not declaring it on the ad could lead to issues with recruiting further down the line.

“Please note that this position may be subject to [ATAS clearance](#) if you require visa sponsorship.”