

## POSITION DESCRIPTION

<b>Position Title:</b>	Postdoctoral Research Fellow
<b>Organisation Unit:</b>	Queensland Brain Institute
<b>Position Number:</b>	NEW
<b>Type of Employment:</b>	Full-time, Fixed-term for 1 year initially
<b>Classification:</b>	Academic Research Level A

### THE UNIVERSITY OF QUEENSLAND

The University of Queensland (UQ) contributes positively to society by engaging in the creation, preservation, transfer and application of knowledge. UQ helps shape the future by bringing together and developing leaders in their fields to inspire the next generation and to advance ideas that benefit the world. UQ strives for the personal and professional success of its students, staff and alumni. For more than a century, we have educated and worked with outstanding people to deliver **knowledge leadership for a better world.**

UQ ranks in the world's top universities, as measured by several key independent ranking, including the CWTS Leiden Ranking (32), the Performance Ranking of Scientific Papers for World Universities (40), the US News Best Global Universities Rankings (42), QS World University Rankings (47), Academic Ranking of World Universities (54), and the Times Higher Education World University Rankings (66). Excluding the award component, UQ is now ranked 45<sup>th</sup> in the world in the ARWU, and is one of the only two Australian universities to be included in the global top 50.

UQ has an outstanding reputation for the quality of its teachers, its educational programs and employment outcomes for its students. Our students remain at the heart of what we do. The UQ experience – the UQ Advantage – is distinguished by a research enriched curriculum, international collaborations, industry engagement and opportunities that nurture and develop future leaders. UQ has a strong focus on teaching excellence, winning more national teaching excellence awards than any other in the country and attracting the majority of Queensland's highest academic achievers, as well as top interstate and overseas students.

UQ is one of Australia's Group of Eight, a charter member of edX and a founding member of Universitas 21, an international consortium of leading research-intensive universities.

Our 53,000-plus strong student community includes more than 16,400 postgraduate scholars and more than 17,000 international students from 135 countries, adding to its proud 260,000-plus alumni. The University has more than 6,600 academic and professional staff (full-time equivalent) and a \$2.15 billion annual operating budget. Its major campuses are at St Lucia, Gatton and Herston,

in addition to teaching and research sites around Queensland and Brisbane city. The University has six Faculties and four University-level Institutes. The Institutes, funded by government and industry grants, philanthropy and commercialisation activities, have built scale and focus in research areas in neuroscience, biomolecular and biomedical sciences, sustainable minerals, bioengineering and nanotechnology, as well as social science research.

UQ has an [outstanding track-record](#) in commercialisation of our innovation with major technologies employed across the globe and integral to gross product sales of \$11billion+.

UQ has a rapidly growing record of attracting philanthropic support for its activities and this will be a strategic focus going forward.

### **Organisational Environment**

The **Queensland Brain Institute (QBI)** works to understand the development, organisation and function of the brain. We aim to understand the neural circuits in the brain, how their function results in behavioral outcomes, and how dysfunction of these circuits leads to disorders such as dementia, depression and schizophrenia. We aim to (1) Develop novel therapeutic approaches to treat disorders of neural function and (2) Use our understanding of brain function to improve learning in classrooms and in the workplace.

Established in 2003, QBI is housed on the St Lucia campus of UQ. It is home to more than 450 staff and students, including 41 group leaders.

Over the past decade QBI has become known as one of the world's leading neuroscience research institutes. It played a key role in contributing to UQ attaining the highest possible score of 5 for neuroscience, in both the 2010, 2012, and 2015 Excellence in Research for Australia (ERA) reviews, one of only two universities in Australia to achieve this.

Information about the Faculty and the School may be accessed on the Faculty's web site at [www.qbi.uq.edu.au](http://www.qbi.uq.edu.au)

### **Information for Prospective Staff**

Information about life at UQ including staff benefits, relocation and UQ campuses is [available online](#).

The University of Queensland [Enterprise Agreement](#) outlines the position classification standards for Levels A to E.

### **Neural Migration Laboratory**

The Neural Migration Laboratory is headed by Professor Helen Cooper. Professor Cooper's research focuses on the molecular signaling systems (guidance receptors and their ligands) governing neural stem cell activity, neuronal differentiation and axon pathfinding in the embryonic brain. A major research theme, and the focus of this position, is understanding the molecular mechanisms underpinning synapse formation and synaptic activity. The goal of the Cooper laboratory is to identify the molecular mechanisms contributing to cortical malformations and neuropsychiatric disorders such as autism and schizophrenia. To address these questions the laboratory uses developmental mouse models, in vitro culture systems and state-of-the-art molecular and imaging approaches, including super-resolution microscopy.

## **DUTY STATEMENT**

### **Primary Purpose of Position**

Abnormal synapse formation leads to diminished synaptic transmission and impaired cognitive function. Delineating the molecular pathways that govern synaptic connectivity will not only provide key insights into the fundamental principles guiding the establishment of complex neural circuits, but will also shed light on the aberrant processes contributing to autism and schizophrenia. This project will investigate the molecular mechanisms regulating synapse formation. The incumbent will be responsible for experimental design, data analyses, and manuscript preparation, and will also be expected to apply for both independent and collaborative funding to support their research focus.

### **Duties**

Duties and responsibilities include, but are not limited to:

- Conduct research to delineate the molecular mechanisms regulating synapse formation and activity using mouse models and super-resolution microscopy.
- Publish high quality papers and contribute to the disciplined academic environment of the laboratory and the institute.
- Apply for both independent and collaborative research funding.
- Acquire and maintain familiarity with relevant scientific literature and contribute to the academic environment of the laboratory and institute.
- Present results of research at meetings at all levels – laboratory, institutional, national and international as appropriate.
- Contribute to safe laboratory working environment.
- Contribute to supervision of junior members and students within the laboratory and to the smooth running of the laboratory.

### **Other**

Ensure you are aware of and comply with legislation and University policy relevant to the duties undertaken, including but not exclusive to:

- the [University's Code of Conduct](#)
- requirements of the Queensland occupational health and safety (OH&S) legislation and related [OH&S responsibilities and procedures](#) developed by the University or Institute/School
- the adoption of sustainable practices in all work activities and compliance with associated legislation and related University [sustainability responsibilities and procedures](#)
- requirements of the Education Services for Overseas Students Act 2000, the National Code 2007 and associated legislation, and related [responsibilities and procedures](#) developed by the University

### **Organisational Relationships**

The position reports to Professor Helen Cooper (QBI).

## SELECTION CRITERIA

### Essential

- PhD in the area of neuroscience or cell or developmental biology, with a proven track record;
- Demonstrated and published experience in molecular or cell biology.
- Experience in the use of mouse models.
- Experience in the application of high-end microscopy.
- Ability to work independently with limited supervision and manage time effectively under conflicting demands;
- Ability to work responsibly, accurately and independently;
- Ability to interpret experimental data to plan subsequent experiments and troubleshoot techniques;
- Ability to bring the work to completion so as to obtain publishable results.

### Desirable

- Experience in in vitro cell culture techniques
- Experience in mouse behavioural paradigms

## Qualification Verification

An appointment to this position is subject to the verification of the highest academic qualification from the conferring institution.

## Vaccinations and Immunisation

It is a condition of employment for this role that if you are required now or in the future, to work or interact in Queensland Health clinical facility; or in an equivalent clinical health facility; or health care role; or will be required to perform work tasks that put you at risk of exposure to vaccine-preventable disease you are required to be immunised against, and remain immunised against, certain vaccine preventable diseases (VPDs) in accordance with the University's Vaccinations and Immunisation Guidelines (PPL 2.60.08). The employee is required to provide evidence of immunisation against VPDs.

*The University of Queensland values diversity and inclusion and actively encourages applications from those who bring diversity to the University. Please refer to the [University's Diversity and Inclusion webpage](#) for further information and points of contact if you require additional support.*

*Accessibility requirements and/or adjustments can be directed to [recruitment@uq.edu.au](mailto:recruitment@uq.edu.au).*