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## POSITION DESCRIPTION

<b>Position Title:</b>	Postdoctoral Research Fellow
<b>Organisation Unit:</b>	Queensland Brain Institute
<b>Position Number:</b>	3041137
<b>Type of Employment:</b>	Full-Time, Fixed Term
<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 Performance Ranking of Scientific Papers for World Universities (43), the US News Best Global Universities Rankings (52), QS World University Rankings (47), Academic Ranking of World Universities (55), and the Times Higher Education World University Rankings (65). UQ again topped the nation in the prestigious Nature Index and our Life Sciences subject field ranking in the Academic Ranking of World Universities was the highest in Australia at 20.

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 50,000-plus strong student community includes more than 13,000 postgraduate scholars and more than 12,000 international students from 144 countries, adding to its proud 240,000-plus alumni. The University has about 7,000 academic and professional staff and a \$1.8 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+ (see <http://uniquet.com.au/our-track-record>).

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 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 behavioural outcomes, and how dysfunction of these circuits leads to disorders such as dementia, Parkinson's disease 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 ([www.qbi.uq.edu.au](http://www.qbi.uq.edu.au)) 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 for Prospective Staff**

Information about life at UQ including staff benefits, relocation and UQ campuses is available at - <http://www.uq.edu.au/current-staff/working-at-uq>

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

## **DUTY STATEMENT**

### **Primary Purpose of Position**

The primary purpose of this position is to conduct research as part of a project investigating the development of neural coding in the larval zebrafish brain. You will be part of an interdisciplinary team; this position is primarily focused on computational analysis and modelling, but you will work very closely with the team members who generate the data. The data includes high-speed movies of zebrafish as they capture prey, and recordings of activity in the zebrafish brain via calcium imaging obtain from conventional 2-photon imaging and 2-photon light-sheet imaging. You will be responsible for performing a variety of analyses on these data, ranging from low-level image processing to calculating graph- and information-theoretic metrics. You will also be responsible for developing theoretical models which can explain the data produced. The position will also involve manuscript writing and occasional administrative support duties as directed by Professor Goodhill.

### **Duties**

Duties and responsibilities include, but are not limited to:

- Computational analysis of behavioural and calcium imaging data.

- Theoretical modelling.
- Manuscript writing
- Administrative support and other duties as directed by the supervisor

### **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 Geoffrey J Goodhill (QBI)

## **SELECTION CRITERIA**

### **Essential**

- A PhD in an appropriate discipline (examples include neuroscience, physics, mathematics, engineering, computer science or related disciplines)
- Relevant experience in both data analysis and mathematical modelling
- High-level programming skills in Matlab or Python
- Demonstrated ability to write scientific articles.
- Ability to work independently with limited supervision
- Good communication and interpersonal skills
- Ability to manage time effectively under conflicting demands
- Attention to detail and a methodical but expeditious approach to research work

### **Desirable**

- Training in neuroscience
- Previous experience in computational analysis of behavioural and/or calcium imaging data
- Understanding and knowledge of a University research environment

**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 (<http://www.uq.edu.au/equity>) for further information and points of contact if you require additional support.**