

POSITION DESCRIPTION

Position Title:	Research Assistant
Organisation Unit:	Queensland Brain Institute
Position Number:	New
Type of Employment:	Full Time, Fixed Term until 31 December 2021 with the possibility of renewal subject to funding
Classification:	HEW Level 5

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 45th 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.

Queensland Brain Institute (QBI)

The Queensland Brain Institute (QBI) was established in 2003 on the St Lucia campus of UQ, and is home to more than 450 staff and students, including 41 Group Leaders. The researchers work to understand the development, organisation and function of the brain. This is done by exploring the neural circuits in the brain, how information is processed in these circuits, how their function results in behavioural outcomes, and how dysfunction of these circuits leads to disorders such as dementia, stroke, motor neurone disease, Parkinson's disease, anxiety and depression, and schizophrenia. Ultimately, researchers aim to develop novel therapeutic approaches to treat disorders of neural function, and to improve learning in classrooms and in the workplace.

Over the past decade QBI has become known as a world-leading neuroscience research institute. It played a key role in contributing to UQ attaining the highest possible score of 5 for neuroscience, in all four of the Excellence in Research for Australia (ERA) reviews (in 2010, 2012, 2015 and 2018), one of only two universities in Australia to achieve this.

Details of the Institute may be accessed from the website: www.qbi.uq.edu.au.

Clem Jones Centre for Ageing and Dementia Research (CJCADR)

In 2011 the Queensland Brain Institute (QBI) established the Clem Jones Centre for Ageing Dementia Research (CJCADR), focusing on understanding pathogenic mechanisms at a molecular and cellular level and using this insight to develop therapeutic strategies for the prevention and treatment of ageing dementia as well as better diagnostic tools.

Working with Animals

Working with laboratory animals is an inherent requirement of some positions. Appointment to these positions may therefore be subject to, and conditional upon, satisfactory medical clearance(s) (including disclosure of relevant medical history) to undertake such work without unreasonable risk to your health and to fully comply with necessary ongoing health monitoring procedures and control measures associated with the position.

Information for Prospective Staff

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

DUTY STATEMENT

Primary Purpose of Position

The candidate will be involved in projects towards the understanding of the role of extracellular vesicles known as exosomes implicated in the spreading and induction of Alzheimer's pathology, using molecular, biochemical and microscopy techniques applied to *in vitro* and *in vivo* models. He/she will have an active role in making and designing experiments, optimisation of techniques, the analysis of data, the critical discussion and presentation of the data, as well as helping in preparing manuscripts.

Duties

Duties and responsibilities include, but are not limited to:

- Perform experiments with cultured cells and mouse models aimed at dissecting the role of exosomes in the spreading and induction of tau pathology in Alzheimer's disease.
- Use molecular biology, biochemical and histological techniques for the experiments of the project.
- Contribute to the generation and analysis of transgenic mouse models of Alzheimer's disease.
- Perfuse mice, dissect organs, and analyse brain tissue.
- Maintain accurate laboratory records and data.
- Acquire and maintain familiarity with relevant scientific literature and contribute to the academic environment of the laboratory and institute.
- Present results of research at lab meetings.
- Contribute to safe laboratory working environment.
- Contribute to manuscript preparations.
- May be required to work after hours, including weekends.

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 Dr Juan Carlos Polanco and Professor Jürgen Götz

SELECTION CRITERIA

Essential

- Qualifications and training equivalent to an undergraduate degree in the area of biomedical science/neuroscience; or an equivalent combination of relevant experience and/or education/training.
- Demonstrated experience with mouse handling/surgery and manipulation procedures.
- Expertise in performing five or more of the following techniques:
 - Histology and immunohistochemistry;
 - Microscopy and image analysis;
 - Molecular biology and cloning techniques;
 - Transgenic methods in mice;
 - Cell culture, transfection and genetic manipulation of cells;
 - Dissection of brains and primary mouse neuronal culture;
 - Western blots and protein quantification;
 - Virus production and purification;
 - Subcellular fractionation and sucrose-gradient centrifugation;
 - Stereotaxic brain injections.
- High level written and verbal communication skills.
- Evidence of good record keeping and reporting skills.
- Ability to work collaboratively with colleagues.
- Willingness to learn new techniques and scientific methods.
- Ability to prioritise own workload, work independently and meet deadlines.

Desirable

- Experience with CRISPR-Cas9 technology
- Experience with exosome biology.

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.

This role is a part-time position; flexible working arrangements may be negotiated.

Accessibility requirements and/or adjustments can be directed to recruitment@uq.edu.au.