

POSITION DESCRIPTION

Position Title:	Postdoctoral Research Fellow / Research Fellow
Organisation Unit:	Institute for Molecular Bioscience
Position Number:	
Type of Employment:	Full-time, Fixed-term
Classification:	Research Academic Level B

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.

Organisational Environment

The University of Queensland's Institute for Molecular Bioscience, located on the main University campus, is Australia's leading biosciences research institute. Established in 2000, the Institute is home to over 420 staff and is located in thriving Brisbane, a city consistently ranked as one of the world's most vibrant and liveable cities.

The Institute, ranked in the Top 20 globally for life sciences research, pursues a multidisciplinary approach to solving some of the world's most serious challenges in the fields of health, disease and sustainable solutions for our cities, fuels and foods. The Institute is housed in a single building and is organized into technological platforms (Divisions) and research themes (Centres). The Divisions support state-of-the art facilities including the Centre for Microscopy and Microanalysis, which houses new cryo-electron microscopes; the NMR facility containing 500, 600 and 900 MHz machines; the Mass Spectrometry Facility accommodating a wide array of instrumentation; suites for work with a variety of model organisms; a plethora of next generation DNA sequencing technologies and the southern hemispheres leading program in complex genetic traits. The Research Centres accommodate 36 groups using a combination of genomics, chemistry and cell biology to take life science discoveries from the genome to drug design and application in the areas of antimicrobial resistance, inflammation, pain, cardiovascular disease and rare and developmental diseases.

The quality of our internationally recognised researchers underpins our research excellence. Over the past five years, our group leaders have attracted nearly \$250 M in research funding. They have leveraged funding from over 40 different national and international research sponsors including significant support from federal and state government sources. The success rate in federal funding schemes is amongst the highest in all of Australia. The accomplishment of our staff is reflected by the consistent contribution they make to the prestigious Nature science index and by the fact five are listed in the prominent 2018 Clarivate Highly Cited Researchers List.

A corner stone of the Institute is the strong emphasis on ensuring our discovery science has impact by translating our research discoveries to meet industry, community and clinical needs. The Institute has generated more than 30 patent families and has spun out multiple companies. The impact of our work is illustrated by two biopharmaceutical companies founded in the Institute, Protagonist Therapeutics Ltd and Inflazome Ltd. The former company entered into a \$1 B worldwide agreement to co-develop a drug for inflammatory bowel disease and the latter recently received \$70 M to develop treatments for inflammatory diseases. Our ambition to strengthen our translational portfolio continues. For example, in the last 12 months researchers from the IMB:

- were part of a successful push to put endometriosis on the national agenda to improve understanding, treatment and support of this debilitating disease
- identified genetic factors contributing to the risk of developing diseases like endometriosis and motor neurone disease, advancing our understanding of these disorders on a global scale

- discovered a new type of cell in the brain that mops up cellular waste and may provide protection against stroke and dementia
- discovered a small protein in spider venom that could prevent the devastating brain damage caused by stroke
- discovered we could shrink brain tumours using existing breast cancer treatments
- found a promising potential treatment for breast cancer that blocked cancer spread and improved survival rates in models
- discovered a molecular trigger for inflammation that could lead to new treatments for rheumatoid arthritis, inflammatory bowel disease and neurodegenerative diseases
- furthered research in development of new medicines for treating inflammatory diseases, including allergies, by building molecular switches that can control immune response
- as part of a global team, identified a new gene behind a rare form of inherited childhood kidney disease
- combated superbugs by creating a new diagnostic, repurposing old drugs and continuing to crowdsource the next antibiotic
- developed the first new therapy in over 30 years to be used successfully in patients to treat antibiotic resistant infections
- helped an Australian family-owned company create the first mass-produced organic insecticide from peptides found in the Butterfly Pea plant
- initiated a program to use algae to produce clean water, livestock feeds, foods, fuels and medicines

IMB's research outcomes are protected and commercialised by UQ-owned technology transfer group UniQuest.

Details of the research interests of the Institute may be accessed on the Institute's website at: <https://imb.uq.edu.au/>

Information for Prospective Staff

The Institute recognises and values equity and diversity, and encourages applications from any individual who meets the requirements of this position irrespective of gender, sexuality, race, ethnicity, religion, disability, age or other protected attributes.

IMB strives to provide an inclusive working environment, and along with the University is committed to supporting staff with family and caring responsibilities by providing policies, programs and initiatives to help balance work and family responsibilities.

Specific initiatives at IMB can be found at (<https://imb.uq.edu.au/about/equity-and-diversity-imb>)

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.

DUTY STATEMENT

Primary Purpose of Position

A Research Fellow (Level B) is expected to engage in research to further their expertise and to grow their research profile in their discipline. At this level it is expected the incumbent will develop and run their own research projects and fulfil the necessary requirements to contribute to the effective supervision of Honour and Higher Degree by Research Students.

The Group is focused on applying quantitative live imaging approaches to understand the mechanobiology of tissue morphogenesis and cell fate. The Research Fellow will use their expertise in advanced microscopy approaches to conduct and direct research into how mechanical forces direct tissue formation and the acquisition of neural cell fates.

Duties

Duties and responsibilities include, but are not limited to:

Research

- Develop a coherent research program by conducting research in mechanobiology of development and publishing scholarly papers in academic peer-reviewed journals.
- Drive the application of quantitative live imaging techniques in live avian embryos and human stem cell models.
- Take on a leadership role in independent and/or team research programs and achieve national recognition and impact in the research area.
- Participate in applications for competitive research funding support.
- Work with colleagues and postgraduates in the development of interdisciplinary joint research projects.

Teaching and Learning

- Assist in the supervision of Honours students and Higher Degree by Research students (as appropriate).

Service and Engagement

- Begin to develop external links by cultivating relationships with industry, government departments, professional bodies and the wider community.
- Contribute to internal service roles and processes, including participation in decision-making and service on relevant committees.
- Perform a range of administrative functions as required.
- Any other duties as reasonably directed by your 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 Senior Research Fellow and Group Leader, Dr Melanie White.

SELECTION CRITERIA

- PhD with extensive post-doctoral experience or equivalent with demonstrated research productivity and a research portfolio consistent with this experience.
- Demonstrated expertise in the areas of:
 - quantitative live imaging techniques including FCS, FRAP, FDAP and FRET
 - image analysis including PIV and use of Imaris, Fiji and Ilastik/Icy
 - biophysics
 - embryology
 - mechanobiology
- Evidence of a contribution to research, including successful grant applications.
- Well-developed laboratory, communication, interpersonal and consultative skills and the ability to work collaboratively with colleagues from a multidisciplinary background.
- Demonstrated teaching skills at undergraduate and/or postgraduate levels.
- An ability to establish effective relationships and to represent and promote academic discipline at a university and wider community level, including industry, government and professional bodies.
- Commitment to upholding the University's values, and with the outstanding personal qualities of openness, respectfulness and integrity.

Seminar

Applicants invited for interview may be expected to present a seminar in conjunction with the selection interview process.

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.

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

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