POSITION DESCRIPTION

Position Title: Electrophysiologist
Organisation Unit: Institute for Molecular Bioscience
Position Number: 3039538
Type of Employment: Full time or Part time, fixed term, 2 years
Classification: HEW Level 5 or 6

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 (60). 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 $11 billion+ (see http://uniquest.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 University of Queensland’s Institute for Molecular Bioscience (IMB) is a leading global life sciences research institute committed to improving quality of life through research. IMB was established in 2000 as UQ’s first research institute and is the cornerstone of one of the largest bioscience research precincts in Australia.

The Institute is home to more than 450 researchers, postgraduate students and support staff from more than 40 countries who work in partnership with their academic, industry and clinical colleagues around the world to advance knowledge in areas including pain, rare diseases, inflammation, superbug infection, cardiovascular disease, environmental research, drug discovery and development, cancer, diabetes and obesity, and reproductive health. Our mission is to drive the bioeconomy and create better health; our vision is to be a life sciences institute with global impact.

By investigating how we grow and develop at the genetic, molecular, cellular and organ levels, IMB researchers can better understand the development processes and pathways involved in human and animal health and disease. The institute also has the technical capacity to translate its new knowledge into drugs, diagnostics and technologies to more effectively prevent, detect and treat disease; and pursue opportunities in a range of biotechnology applications for health, industry and the environment.

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: http://www.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 (http://www.imb.uq.edu.au/equity-and-diversity)

Further 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
DUTY STATEMENT

Primary Purpose of Position

The successful candidate will contribute to a range of projects characterising the peripheral mechanisms of pain and the neuropharmacology of sensory neurons within the Centre for Pain Research at the Institute for Molecular Bioscience, University of Queensland. The candidate will support students and postdoctoral researchers through advanced technical skills; designing, setting up, executing and analyzing complex experiments; and managing the research laboratory. The candidate will be involved in the in vitro and in vivo pharmacological characterisation using imaging, microscopy, electrophysiological as well as behavioural techniques. The candidate will also provide administrative support to the research group. The candidate will be required to interact strongly with other pharmacologists, biologists and chemists and will contribute to the projects of postdoctoral and/or postgraduate researchers within the group.

Duties

Duties and responsibilities include, but are not limited to:

**Laboratory**

- Develop and implement suitable assay methodologies to characterize pharmacological activity of toxins, venom-derived peptides and small molecules across selected ion channels and receptors.
- Develop and implement electrophysiological protocols using whole-cell manual patch clamp approaches and extracellular recordings to characterize the mode of action and selectivity of selected compounds.
- Establish and optimize protocols for the recombinant expression of ion channels and peptide- and protein-based compounds.
- Develop and implement novel in vivo and cellular models of pain, novel behavioural assays and delineate pain pathways using fluorescent probes.
- Analyze, interpret and distribute data in a timely manner.
- Interact with other pharmacologists, electrophysiologists, biologists, biochemists, and chemists both within academia and private industry researching in related fields as appropriate.
- Contribute to the research projects of undergraduate and postgraduate researchers and assist with training in advanced techniques.
- In-depth literature research and preparation of advanced research reports.
- Organization of and participation in maintenance schedules for specialized equipment.
- Any other duties as reasonably directed by your supervisor.

**Administration**

- Organization of and maintenance of laboratory purchasing, accounts, ethics, travel requests and reconciliations.
- Provide assistance for other researchers and laboratory members with administrative duties.
- Drafting of and organisation of all certifications and approvals (PC2 training etc.)
• Drafting and maintenance of risk assessments when and 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 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 Group Leader, Dr Irina Vetter.
SELECTION CRITERIA

**Essential**

- Qualifications and experience equivalent to at least an undergraduate degree in Science, Pharmacology, Medicine or a related field; or an equivalent combination of relevant experience and/or education/training.
- Expertise in manual patch-clamp electrophysiology using mammalian cells.
- Experience with cell and tissue culture techniques.
- Experience in modern laboratory practices, and a capacity to design, perform and document tasks in a safe, precise and organized fashion.
- Excellent written and verbal communication skills, together with a high level of computer literacy, and sound organizational and problem-solving skills.
- Ability to meet deadlines.
- Ability to work both independently and collaboratively as part of a team.

**Desirable**

- Experience with isolation, dissociation and culture of primary neurons
- Experience with *in vivo* nociceptive behavioural assays; rodent models of disease and administration of test compounds by the intraperitoneal, intravenous, and intrathecal routes.
- Expertise in molecular biology techniques and recombinant expression of proteins or peptides.
- Expertise in advanced imaging and microscopy techniques.
- Expertise with proteomic techniques including mass spectrometry and Western blotting.
- Expertise with advanced *in vitro* signalling assays including cAMP, calcium and membrane potential assays.
- Practical experience with extracellular recordings and preparation of advanced tissue dissections
- Sound knowledge of, or the ability to gain such knowledge, processes relating to financial and regulatory management of a research laboratory

The University of Queensland values diversity and inclusion. Applications are particularly encouraged from Aboriginal and Torres Strait Islander peoples. For further information please contact our Australian Indigenous Employment Coordinator at: atsi_recruitment@uq.edu.au

Applications are also encouraged from women. This role can be filled as a full-time or part-time position; flexible working arrangements may be negotiated.

V5. October 2016