POSITION DESCRIPTION

Position Title: Postdoctoral Research Fellow
Organisation Unit: Australian Institute for Bioengineering and Nanotechnology
Position Number: 3043203
Type of Employment: Full time, fixed term for 12 months
Classification: 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://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 Australian Institute for Bioengineering and Nanotechnology (AIBN) is a dynamic multi-disciplinary research institute dedicated to developing technology to alleviate societal problems in the areas of health, energy, manufacturing and environmental sustainability. AIBN brings together the skills of more than 450 world-class researchers complimented by an extensive suite of integrated facilities, working at the intersection of biology, chemistry, engineering and computer modelling. With a reputation for delivering translational science, AIBN conducts research at the forefront of emerging technologies, and has developed strong collaborations with leading members of industry, academia and government. AIBN goes beyond basic research to develop the growth of innovative industries for the benefit of the Queensland and Australian economies. Information about the Institute can be accessed on the Institute’s web site at http://www.aibn.uq.edu.au/.

AIBN is committed to supporting the career growth of female researchers and have a number of initiatives to support females in developing and achieving a fulfilling research career at the institute. For more information, please visit our AIBN Women in Science web site at http://www.aibn.uq.edu.au/women.

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

DUTY STATEMENT

Primary Purpose of Position

This position will focus on investigating the impact of metabolic dysfunction on the pathogenesis of motor neuron disease (MND). The Postdoctoral Research Fellow will primarily be responsible for using mouse models of MND for defining disease mechanisms, and for the pre-clinical testing of re-purposed and/or lead compounds. This position forms part of the Neurometabolism Laboratory within the AIBN, led by Dr Shyuan Ngo.

Duties

Duties and responsibilities include, but are not limited to:

Research

- Assess behavioural and metabolic phenotypes of mice, and bioenergetics/cellular metabolism/metabolic flux in tissues and/or cells from in mice in response to therapeutic intervention
- RT-PCR/qRT-PCR to assess gene expression profiles in mouse tissue
• Western blotting/ELISA/multiplexing to assess protein expression profiles in mouse tissue and biological samples
• Biochemical characterisation of mouse tissue (e.g. enzyme assays)
• Immuno- and histological characterisation of mouse tissue
• Publish high quality papers and contribute to the disciplined academic environment of the laboratory and the institute
• Contribute to the supervision of undergraduate and postgraduate research students and research projects

**Administration**
• Maintain an accurate and tidy laboratory notebook
• Maintain accurate manifest of samples, results, and data
• Participate and present at research and planning meetings
• Assist with the administrative and financial aspects of the preparation of research grant applications
• Complete relevant animal ethics documentation
• Generate risk assessments
• 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
• 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 Shyuan Ngo, head of the Neurometabolism Laboratory at AIBN.
SELECTION CRITERIA

Essential

- Postgraduate degree in Neuroscience or relevant discipline, and extensive knowledge of integrated physiology and metabolism
- Demonstrated experience with assessment of metabolic flux using a Seahorse Extracellular Flux Analyzer
- Experience with maintenance of, and behavioural and metabolic phenotyping in laboratory mice
- Experience with dissection of intact mouse tissue, particularly skeletal muscle
- Experience with molecular biology techniques (e.g. PCR, western blotting), histological sectioning of tissues (e.g. generation of brain, spinal cord, and muscle cryosections), and immunofluorescence techniques (e.g. confocal microscopy)
- Demonstrated ability to learn new techniques efficiently and effectively, and ability to work collaboratively within a research team/setting
- Excellent written and oral communication skills

Desirable

- Experience with assessing components of glucose and fatty acid oxidation (e.g. activities of enzymes regulating these pathways)
- Experience with teaching and/or supervision of research students
- Knowledge of mouse spinal cord anatomy and how to assess integrity of neuromuscular junctions
- Experience with use of the UQ risk assessment database

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.

Accessibility requirements and/or adjustments can be directed to the contact person listed in the job advertisement.