POSITION DESCRIPTION

Position Title: Postdoctoral Research Fellow – Molecular Biology / Structural Virology
Organisation Unit: School of Chemistry and Molecular Biosciences
Position Number: 3064010
Type of Employment: Fixed-term until 31/12/2021
Classification: Academic 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 (45), QS World University Rankings (48), Academic Ranking of World Universities (55), and the Times Higher Education World University Rankings (69). UQ again topped the nation in the prestigious Nature Index, and our Academic Ranking of World Universities result in the field of Life and Agricultural Sciences is 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 Faculty of Science is recognised as a powerhouse for some of the world’s leading scientists, teachers, science programs and commercial outcomes. The Faculty is one of the largest Science groupings in Australia, with approximately 1100 (equivalent full-time) staff, and about 7500 (equivalent full-time) students.

Throughout its Schools and Centres, the Faculty unites the disciplines of agriculture and animals, biomedical and biological sciences, chemistry, earth sciences, food sciences, geography, marine science, maths and physics, the environment and veterinary science.

With strong links between the enabling and applied sciences, UQ researchers and graduates are working on a wide range of groundbreaking projects from the molecular characterisation of drug resistant bacteria that affect piglets through to finding better treatments for illness and rehabilitation of the environment.

Information about the Faculty may be accessed on the Faculty’s web site: http://www.science.uq.edu.au/

School of Chemistry and Molecular Biosciences

The School of Chemistry and Molecular Biosciences (SCMB) combines the disciplines of Chemistry, Biochemistry & Molecular Biology, Microbiology and Parasitology into a single academic unit. The School has modern research laboratories with state-of-the-art equipment and research infrastructure. The School includes over 50 academic staff, who are widely published internationally and have extensive research backgrounds. Information about the School and research interests of academic staff may be found on the web site http://www.scmb.uq.edu.au.

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

To engage as a Postdoctoral Research Fellow within a research team focusing on resolving the structure of whole virions, viral proteins and complexes by Cryo-electron microscopy (Cryo-EM).

Duties

Duties and responsibilities include, but are not limited to:

**Research Management**

- Plan and conduct high quality research as part of a team to achieve project goals
- Work collaboratively with other researchers and students to maximise research output
- Present research at meetings as appropriate
- Analyze and write up research data for publication in leading international journals

**Technical**

- Insect virus culture and purification including ultracentrifuge based physical separation of large macromolecules and viruses
- Cloning, expression and purification of recombinant monoclonal antibodies
- De novo generation of viruses in vitro using reverse genetics and synthetic biology techniques
- Negative Stain TEM analysis
- Cryo-EM imaging of viruses, viral proteins and complexes
- Single particle analysis based reconstruction of viruses, viral proteins and complexes
- Investigating viral protein immunogenicity in animal models

**Service and Engagement**

- Begin to develop external relationships with industry, government departments, professional bodies and the wider community.
- Perform a range of administrative functions.
- Contribute to activities that benefit the organisational unit, including participation in decision-making and serving on internal committees.
- 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 Dr Daniel Watterson, Senior Research Fellow, School of Chemistry and Molecular Biosciences.

SELECTION CRITERIA

- Completed PhD (or near completion of PhD) in the area of Molecular or Structural Virology.
- Demonstrated expert knowledge of, and a contribution to research, including published journal articles, in the areas of Virology and Structural Biology
- A high degree of experience cryo-EM and single particle analysis including hands on experience with relevant software pipelines (Eg RELION)
- Experience with the general techniques of molecular biology including cloning, protein expression, purification, and biophysical analysis
- Experience with viral research including virus propagation and neutralisation assays
- Experience with reverse genetics systems for recombinant virus recovery
- Well organised with demonstrated attention to detail
- Well-developed communication, interpersonal and consultative skills and the ability to work collaboratively with colleagues from a multidisciplinary background
- Commitment to upholding the University’s values, and with the outstanding personal qualities of openness, respectfulness and integrity

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.

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

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