POSITION DESCRIPTION

Position Title: Postdoctoral Research Fellow  
Organisation Unit: School of Mathematics and Physics  
Position Number: 3041943  
Type of Employment: Full time – Fixed term for 3 years  
Classification: 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 (43), the US News Best Global Universities Rankings (42), QS World University Rankings (48), Academic Ranking of World Universities (55), and the Times Higher Education World University Rankings (69). 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 52,000-plus strong student community includes more than 16,400 postgraduate scholars and more than 15,400 international students from 135 countries, adding to its proud 250,000-plus alumni. The University has more than 6,600 academic and professional staff (full-time equivalent) and a $1.75 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

UQ Physics is located in the School of Mathematics and Physics in the Faculty of Science. The Discipline is internationally recognised for its research excellence, and hosts a number of world-class research centres. Details of the research interests of academic staff may be accessed on the School's web site at http://www.smp.uq.edu.au/

Physics is one of the University of Queensland’s top 30 research strengths, and the School of Mathematics and Physics is proud to support a major research effort in condensed matter physics. In the recent Excellence in Research for Australia 2015 assessment, the University of Queensland was rated “well-above international standard” in 02 Physical Sciences, as well as in the sub-categories 0204 Condensed Matter Physics and 0206 Quantum Physics.

The School of Mathematics and Physics has a total of 110 full-time academic staff members, and 21 professional staff who provide professional, technical and administrative support. The School teaches a comprehensive undergraduate program in physics, as well as performing service teaching for students of engineering and the life sciences. There is also an extensive postgraduate research program, which currently has more than one hundred Research Higher Degree students enrolled.

Information about the Faculty and the School may be accessed on the Faculty's web site at http://www.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 develop new approaches to cavity opto-electromechanics and superfluid optomechanics based on whispering gallery mode microcavities as well as performing research, administrative and other activities associated with the School and the Centre for Engineered Quantum Systems.

Duties

Duties and responsibilities include, but are not limited to:
Research
- Conduct research in the areas of superfluid optomechanics and optomechanical sensing
- Publish scholarly papers in high quality journals that contribute to the research group's strategic research strengths
- Develop a leadership role in the research program including national recognition in the research area
- Apply for external funding and take on the role as a Chief Investigator
- Work with colleagues and postgraduates in the development of joint research projects.

Service and Engagement
- Supervise and mentor students at honours and postgraduate level
- Perform a range of administrative functions in the School of Maths and Physics
- Contribute to the processes that enable the academic team to manage the work of the School, including participate in School decision-making and serve on School committees
- Foster the School's relations with industry, government departments, professional bodies and the wider community.
- 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 Professor Warwick Bowen.
SELECTION CRITERIA

Essential
- PhD in the area of academic discipline.
- Demonstrated expert knowledge in the areas of superfluid optomechanics, cavity optomechanics and optomechanical sensing.
- Ability to theoretically model optical systems relevant to the research area and experimental optics.
- Demonstrated creativity, productivity and high level of initiative along with team work.
- High level interpersonal skills including the ability to work collaboratively with colleagues and develop research and technical report writing.
- Direct experience in microfabrication of whispering gallery mode resonators.
- Direct experience with cryogenic systems, including dilution refrigerators.
- Experience with finite element modelling and/or other computational modelling tools
- Demonstrated ability to collaborate with experimentalists/theorists.
- An ability to establish effective relationships and to represent and promote physics at a university and wider community level, including industry, government and professional bodies.

Qualification Verification
An appointment to this position is subject to the verification of the highest academic qualification from the conferring institution.

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 recruitment@uq.edu.au