POSITION DESCRIPTION

Position Title: Postdoctoral Research Fellow
Organisation Unit: School of Mathematics and Physics
Position Number: 3025798
Type of Employment: Fixed Term for one year (with possible extension)
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 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 $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 School of Mathematics and Physics is part of the Faculty of Science at the University of Queensland. The Discipline of Mathematics is located in the School of Mathematics and Physics. It is the leading provider of tertiary mathematics and statistics education in Queensland. Undergraduate programs offered are BMath, BSc and BSc with Honours, BA and BA with Honours. Coursework degrees (MSc, MDataSc, MFinMath) and research degrees (MPhil and PhD) are offered at postgraduate level.

The Discipline is internationally recognised for its research excellence and hosts a number of first class research centres. Research is carried out at the cutting edge across a broad spectrum of areas in mathematics and statistics.

The position will be located within University of Queensland Quantum Optics Laboratory and The University of Queensland Precision Sensing Initiative (PSI), and is associated to the Australian Centre for Engineered Quantum Systems. The PSI is a joint initiative between the Schools of Mathematics and Physics and Information Technology and Electrical Engineering (http://www.smp.uq.edu.au/psi). It aims to translate next generation sensing research at The University of Queensland into industry-ready technologies for the biomedical, aerospace, resources and defence industries; and to strengthen the University’s engagement with industry partners.

Information about the Faculty and the School may be accessed on the Faculty’s web site at https://www.smp.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

The purpose of this position is to contribute to the development, integration and packaging of precision photonic sensors and other course materials at the secondary/tertiary interface, to assist in the teaching of such courses, and to carry out related administrative duties.
Duties

Duties and responsibilities include, but are not limited to:

Research

- Develop packaging, integration and prototyping techniques for precision optical sensors.
- Develop micro- and nanofabrication techniques for precision optical sensors.
- Train and assist researchers in the UQ Precision Sensing Initiative to use above techniques.
- Work with colleagues and postgraduates in the development of joint research projects.
- Participate in the supervision of postgraduate students.
- Communicate research and development outcomes, in the form of oral and written presentations, at meetings, in reports, conferences, and in peer-reviewed publications.
- Apply for external and internal funding opportunities.
- Actively contribute to an internationally recognised research program in experimental nanomechanical and photonic sensing.
- Conduct research and publish scholarly papers.
- Contribute ideas and projects in the areas of optical and precision sensing and micro/nano-fabrication.
- Develop a program of applied and contract research in the area of optics, optomechanics and sensing.
- Work with colleagues and postgraduates in the development of joint research projects.

Service and Engagement

- Perform a range of administrative functions in the School.
- 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.

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 the Professor Warwick Bowen.

SELECTION CRITERIA

• Degree in Experimental Physics.
• Direct experience in the dissipation engineering of on-chip micromechanical devices.
• Demonstrated expert experience in the area of micromechanics and microfabricated devices and with finite element modelling.
• High level interpersonal skills, including the ability to work collaboratively with colleagues.
• High level written and oral communication skills with demonstrated creativity, productivity and high level of imitative.
• An ability to establish effect relationships and to represent and promote physics at a university and wider community level, including industry, government and professional bodies.
• Experience in liaising and collaborating with external agencies to develop co-operative research initiatives.
• Demonstrated ability to collaborate with experimentalists/theorists.

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. Applications are particularly encouraged from women.

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.