POSITION DESCRIPTION

Position Title: Postdoctoral Research Fellow
Organisation Unit: School of Mathematics and Physics
Position Number: 3039855
Type of Employment: Full time - Fixedterm for up to 12 months
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 (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**

UQ Physics is located in the School of Mathematics and Physics in the [Faculty of Science](http://www.maths.uq.edu.au/). 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/](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.

This open position is in the experimental program led by Professor Halina Rubinsztein-Dunlop in the Optical Micromanipulation group (alongside with Dr Timo Nieminen, Senior Lecturer). The group works closely with a number of international optical micromanipulation groups and biology and bioengineering groups.

The Discipline of Physics hosts a node of the ARC Centre of Excellence for Engineered Quantum Systems (led by Professor Andrew White), including the following research groups: Quantum Technology Laboratory (Professor Andrew White), Quantum Optics Laboratory (Associate Professor Warwick Bowen), Quantum Devices Laboratory (Dr Arakady Fedorov), and the Quantum Simulation with Cold Atoms group (Professor Matthew Davis and Professor Halina Rubinsztein-Dunlop). Physics hosts a number of other quantum science programs. These include a node of the new ARC Centre of Excellence in Quantum Computing and Communication Technologies (CQC2T) lead by Professor Tim Ralph, and the Condensed Matter Theory group (Professor Ross McKenzie and Associate Professor Ben Powell).

**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](http://www.uq.edu.au/current-staff/working-at-uq).

The University of Queensland [Enterprise Agreement](http://www.uq.edu.au/current-staff/working-at-uq) outlines the position classification standards for Levels A to E.

**DUTY STATEMENT**

**Primary Purpose of Position**

To actively contribute to an internationally recognized research program in the experimental area of Optical micromanipulation and optical tweezers, with a specific focus on force microscopy with arbitrary optically-trapped probes, application to internal mechanics of cells and on nono- and micro thermodynamics. The broad aim is to understand the processes
Duties

Duties and responsibilities include, but are not limited to:

Research
  • Develop a program of research in optical micromanipulation
  • Work with colleagues and postgraduates in the development of joint research projects.
  • Actively participate in collaboration with more experienced researchers, in applications for external research funding, eg. contract research
  • Develop an established record of publication in high quality outlets
  • Achieve national recognition in chosen research area

Service and Engagement
  • 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 Halina Rubinsztein-Dunlop, School of Mathematics and Physics.
SELECTION CRITERIA

- PhD in the area of experimental physics
- Demonstrated expert knowledge in the area of optical manipulation and Nano & Micro Thermodynamics.
- Strong knowledge of the theory of optical trapping and spatial light modulator technology
- Evidence of contributions to research, including peer-reviewed publications in leading multi-disciplinary journals and success in attracting external research grants and/or fellowships.
- An ability to establish effect relationships and to represent and promote academic discipline at a university and wider community level, including industry, government and professional bodies.
- Evidence of a contribution to research, including experience of applying for external grant applications.
- Ability to work collaboratively with colleagues.
- Developed industry liaisons and professional contacts will be highly regarded.

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 the contact person listed in the job advertisement.