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 (60). 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 School of Mathematics and Physics is a School within 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 education in Queensland. Undergraduate programs offered are BMath, BSc, BA (each with an Honours year) and BAdvSci; Coursework degrees (MSc, MFinMath, MDataSc) 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 is based at the St. Lucia campus of The University of Queensland, one of the most spacious and attractive university campuses in Australia. The campus is centrally located near major public transport routes.

Details of the research interests of academic staff may be accessed on the school’s web site at http://www.smp.uq.edu.au/

Information about the Faculty and the School may be accessed on the Faculty’s web site at http://www.uq.edu.au/faculty-school.

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 ARC Centre of Excellence in Engineered Quantum Systems (EQuS) has been funded for 7 years, for the period 2018-2024. This position is available within the UQ Quantum Theory Group, working with Prof Tom Stace, for an initial period of 2 years, with a possible extension of 12 months.

Our research covers a range of theoretical areas including quantum sensing, open quantum systems, implementations of quantum processors and quantum error correction. Members of the group have close working collaborations with other theorists and experimentalists in a variety of different platforms.
The primary purpose of this position is to conduct theoretical research relevant to the goals of EQuS. This includes work on open quantum systems including optical, mechanical or electronic devices, quantum information theory, implementations of quantum technology and quantum metrology. There is scope for research into quantum measurement, feedback and control; quantum error correction and suppression; and quantum enabled sensors.

**Duties**

Duties and responsibilities include, but are not limited to:

**Research**
- Actively contribute to an internationally recognized research program in theoretical physics of engineered quantum systems.
- Actively participate in the activities of the ARC Centre of Excellence for Engineered Quantum Systems, including timely and accurate reporting as requested by the Centre Director and the Chief Operating Office.
- Participate in the academic life of the School of Mathematics and Physics, including presenting regular seminars on his/her research.
- Contribute ideas and projects in the area of Engineered Quantum Systems
- Participate in the supervision of postgraduate students.
- Communicate research 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 when the opportunity becomes available.
- Comply with the University’s Code of Conduct (see the University’s web site at http://www.uq.edu.au/staff/employment/).

**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 Prof Thomas Stace.
SELECTION CRITERIA

Qualifications
Essential
- Applicants will possess (or be in the process of obtaining) a PhD or equivalent in theoretical physics with experience in the fields of quantum optics or condensed matter physics.

Experience
Essential
- Demonstrated capacity for research in theoretical physics

Desirable
- Experience in theoretical physics of: open quantum systems, quantum electronics, or quantum error correction.
- Demonstrated ability of collaborate with experimentalists and other theorists.

Knowledge and Skills
Essential
- Demonstrated creativity, productivity and high level of initiative.
- Demonstrated expert knowledge in theoretical quantum optics or condensed matter physics

Desirable
- Ability to supervise postgraduate students.

Personal Qualities
Essential
- High level interpersonal skills including the ability to work collaboratively with colleagues.
- High level written and oral communication skills including the ability to research and write reports.
- Ability to work effectively both independently and as a member of a team.

Please refer to the Criteria for Academic Performance policy PPL 5.70.17 when developing the duties and selection criteria for academic roles

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.

Applications are particularly encouraged from Aboriginal and Torres Strait Islander peoples. For further information please contact our Australian Indigenous Employment Coordinator at: atsi_recruitment@uq.edu.au
Applications are particularly encouraged from women.
This role is a full-time position; however flexible working arrangements may be negotiated.