POSITION DESCRIPTION

Position Title: Senior Professional Officer in Precision Sensing and Nanoscience

Organisation Unit: School of Mathematics & Physics

Position Number: 3038049

Type of Employment: Full time, fixed term for 2.5 years

Classification: Hew Level 8

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 (45), the US News Best Global Universities Rankings (52), QS World University Rankings (51), 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 secured a greater share of Australian Research Council grants in 2016 ($24.5 million) than any other university nationally.

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 230,000-plus alumni. The University has about 7,000 academic and professional staff and a $1.7 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 will have further success in this area as an important strategic aim going forward.

Organisational Environment

The School of Mathematics and Physics is a dynamic School within the Faculty of Science at The University of Queensland. We are committed to excellence in learning, discovery and engagement. The School's disciplines of mathematics, statistics and physics are internationally recognised and members of its academic staff are leaders in their respective fields. The School is also home to four ARC Centres of Excellence and numerous other research groups.

Presently the School has approximately 110 academic staff and 21 professional staff who provide professional, technical and administrative support. Undergraduate programs offered include Bachelor of Science to honours level as well as double degrees, with postgraduate coursework and research degrees also offered. Some 120 students are presently enrolled in the School's research higher degree program.

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

The position will be located within the University of Queensland Precision Sensing Initiative (PSI), a joint initiative between the Schools of Mathematics and Physics and Information Technology and Electrical Engineering (http://www.smp.uq.edu.au/psi). The PSI aims to translate next generation sensing research at the University of Queensland into industry-ready technologies for the biomedical, aerospace, resources and defence industries; to develop new partnerships with industry; and to strengthen the Universities engagement with existing partners such as Lockheed Martin, NASA and Boeing Australia.

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

DUTY STATEMENT

Primary Purpose of Position

Manage the PSIs Optoelectronic Integration Facility, providing operational, technical and strategic support to researchers in the fabrication, integration and prototyping of precision sensing devices, and engaging as appropriate with relevant industry stakeholders.
Duties

Duties and responsibilities include, but are not limited to:

**Technical**

- Aid in the establishment of an Optoelectronic Integration Facility within the School of Mathematics and Physics, including a key role in the procurement of equipment.
- Provide a high level of operational and technical support, and training to scientists accessing equipment within the Optoelectronic Integration Facility.
- Provide advice and support on micro/nanofabrication and microanalysis to Initiative researchers accessing University of Queensland facilities, such as the Australian National Fabrication Facility Queensland Node and the Centre for Microscopy and Microanalysis.
- Manage, maintain and operate fibre pigtailing and wafer bonding equipment within the Optoelectronic Integration Facility.
- Provide high level advice and expertise to researchers and clients with respect to the capabilities of, and potential for further research utilising, the equipment.

**Administrative and Organisational**

- Manage the ongoing operations of the Optoelectronic Integration Facility.
- Organise and administer access to equipment within the Optoelectronic Integration Facility, including: providing training and certifying new users; tracking equipment and consumables usage and user access; organising user feedback; notifying the Director of the Precision Sensing Initiative of usage of facilities.
- Liaise with Precision Sensing Initiative researchers across the Schools of Mathematics and Physics and Information Technology and Electrical Engineering to ensure awareness of the full capabilities of the Optoelectronic Integration Facility, to identify research that has industry potential, and to aid in the translation of said research.
- Liaise with industry/defence in Queensland, Australia and internationally to raise awareness of the capabilities of researchers within the Precision Sensing Initiative, and to strengthen ties between researchers and appropriate industry partners.
- Promote the Precision Sensing Initiative and Optoelectronic Integration Facility throughout the University to ensure maximal usage of the facility and to grow ties between Precision Sensing Initiative researchers and other researchers at the University.
- Train users on a full range of techniques for all equipment to enable expanded research possibilities and to enable users to utilise the full potential of the equipment’s capabilities.
- Keep up to date with new advances in techniques and research by literature searching, and other relevant sources of information.
- Ensure correct OH&S procedures are maintained for users.
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 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. Warwick Bowen, the Director of the Precision Sensing Initiative.

SELECTION CRITERIA

Essential

- Graduate or postgraduate qualifications in the area of material science, biomedical science, chemistry, physics, photonics, engineering or similar or; an equivalent combination of relevant experience and/or education/training.
- Demonstrated expert knowledge in some of the following areas: micro/nano fabrication and characterisation, integrated photonics, optoelectronic integration/packaging, wafer bonding, and fibre pigtailig.
- Expert knowledge and extensive experience across some of the following areas: micro- and nano-fabrication and characterisation, photolithography techniques, integrated photonics, optoelectronic integration/packaging, wafer bonding, and/or fibre pigtailig.
- An ability to establish effective relationships and to represent and promote the Precision Sensing Initiative and Optoelectronic Integration Facility at a university and wider community level, including industry, government and professional bodies.
- Evidence of a contribution to research relating to essential knowledge and skills listed above.
- Demonstrated ability to learn new skills and use new technologies and train clients in scientific techniques.
- Sound organizational, problem-solving skills and ability to work collaboratively with colleagues.
- Excellent time management skills and demonstrated ability to work within deadlines.
- High level communication and inter-personal skills, with a high degree of professionalism essential for dealing with external clients.
- Ability to keep detailed records and author technical reports
**Desirable**

- PhD in the area of material science, biomedical science, chemistry, physics, photonics, engineering or similar
- Developed industry liaisons and professional contacts
- Experience in liaising and collaborating with external agencies to develop co-operative research initiatives
- Experience in the translation/commercialisation of academic research

The University of Queensland values diversity and inclusion.

Applications are particularly encouraged from Aboriginal and Torres Strait Islander peoples.