POSITION DESCRIPTION

Position Title: Research and Development Engineer
Organisation Unit: Australian Institute for Bioengineering and Nanotechnology
Position Number: 3034629
Type of Employment: Fixed term (12 months), part-time (0.7 FTE)
Classification: Level HEW 6

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://unquest.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 University of Queensland's Australian Institute for Bioengineering and Nanotechnology (AIBN) is a dynamic multi-disciplinary research institute dedicated to developing technology to alleviate societal problems in the areas of health, energy, manufacturing and environmental sustainability. AIBN brings together the skills of more than 450 world-class researchers complimented by an extensive suite of integrated facilities, working at the intersection of biology, chemistry, engineering and computer modelling. With a reputation for delivering translational science, AIBN conducts research at the forefront of emerging technologies, and has developed strong collaborations with leading members of industry, academia and government. AIBN goes beyond basic research to develop the growth of innovative industries for the benefit of the Queensland and Australian economies. Information about the Institute can be accessed on the Institute’s web site at http://www.aibn.uq.edu.au/.

AIBN is committed to supporting the career growth of female researchers and have a number of initiatives to support females in developing and achieving a fulfilling research career at the institute. For more information, please visit our AIBN Women in Science web site at http://www.aibn.uq.edu.au/women.

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

To assist in establishing, operating and managing the processing capabilities of the Spinifex Nanocellulose Downstream Facility located at Long Pocket. The Research and Development Engineer will be responsible for developing and optimising scalable processing methods to convert spinifex grass feedstock into high-performance nanomaterials as well as assisting in managing the day-to-day operations of the pilot plant to produce various grades of Spinifex cellulose nanofibers (CNF) for commercial trials. In addition, this position will assist in meeting the milestones and other requirements of the Queensland Biofutures Commercialisation Project.

Duties

Duties and responsibilities include, but are not limited to:
**Long Pocket Spinifex Nanocellulose Downstream Pilot Facility**

- Conduct technical development for the processing of spinifex fibre into Cellulose Nanofibres (NFC) including process optimisation and production scale-up.
- Develop standard operating procedures for the production of various grades of spinifex CNF
- Assist as required with operational tasks necessary for processing the spinifex in the Downstream Facility
- Manage the day to day activities of the Technician and assist the Technician as required
- Provide problem solving and technical services
- Assist with the commissioning of new equipment and the general maintenance of current equipment
- Brief the Lead Project Officer and Chief Investigator on progress to allow adjustment of the plan and prioritisation of activities
- Assess needs for equipment or consumables to support the technical development

**Product development**

- Conduct polymer processing, nanocomposite preparation and materials testing
- Conduct data analysis and prepare presentation and reports;

**Documentation and quality systems:**

- Accomplish excellent record keeping and maintenance of detailed lab book
- Help with developing quality systems and databases
- Provide work diaries

**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
- 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 Senior Group Leader, Professor Darren Martin.
SELECTION CRITERIA

**Essential**
- Bachelor of Engineering in Materials or Chemical Engineering with subsequent relevant experience; or an equivalent combination of relevant experience and/or education/training;
- Experience with polymers, processing techniques and associated material testing;
- Relevant experience in the preparation of cellulose nanofibers;
- Experience in operating laboratory and processing equipment;
- Ability to manage time effectively, work independently and meet deadlines;
- High level of interpersonal skills including the ability to communicate effectively and work collaboratively with colleagues;
- Attention to detail and a methodical but efficient approach to research and development work;
- Excellent record keeping and maintenance of detailed lab book;
- A can-do, entrepreneurial attitude;
- Ability to interpret experimental data and troubleshoot techniques;
- Excellent laboratory hygiene and safe laboratory practice;
- Willingness to help other team members with production or other operations.

**Desirable**
- Experience in collaborating with external industry partners

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.