POSITION DESCRIPTION

Position Title: Research Engineer (Mechanical / Mechatronics Engineering)
Organisation Unit: Mining3
Position Number: 3027311
Type of Employment: Full Time   Fixed term (12 months with possibility of extension)
Classification: Hew Level 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 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 $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

Mining3 is a world leading research organisation directed by the global mining industry to develop and deliver transformational technology to improve the productivity, sustainability, and safety of the mining industry.

Our world-class researchers and engineers develop tangible solutions to industry-identified challenges, using both fundamental and applied research while leveraging our extensive history and acquired knowledge.

By bringing industry and research expertise together, we collaboratively accelerate the delivery of real-world solutions from our research, ensuring they are available to the market as rapidly and effectively as possible.

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

DUTY STATEMENT

Primary Purpose of Position

To provide specialist engineering support to projects involving the development of new technologies relevant to the strategic objectives of Mining3

Duties

Duties and responsibilities include, but are not limited to:

Technical

- Set up and test experimental apparatus, and assist with experimental procedures as required.
- Provide specialist engineering support for projects involving development of new technologies relevant to the strategic objectives of Mining3. This includes but is not limited to:
  - Innovative control algorithms and source code to meet the requirements of research projects.
  - Software for systems such as:
    - Embedded application for interfacing to high speed ADC and DAC modules
- communication protocols

- Manage the design and construction of equipment according to project schedules, ensuring that apparatus being developed comply with industry requirements and safety standards.
- Test equipment in laboratory and field environment and attend field trials.

**Research**
- Engage in independent and/or team research by conducting quality research projects relevant to Mining3 mission, either under supervision or independently.
- Collect, process and analyse field and simulation data.
- Travel to mine sites to conduct field experiments and to provide support for installation, commissioning and running of research equipment (this may involve longer than usual work days).
- Write research reports and participate in writing quality technical publications, as required by projects.
- Ensure laboratory notebook is maintained in accordance with Research Standards.
- Where appropriate, publish results in high quality outlets in collaboration with colleagues.

**Service and Engagement**
- Provide technical & scientific input for research projects.
- Engage with Mining3 member companies, small to medium enterprises (SME’s), original equipment manufacturers (OEM’s) and other research institutions to assist or lead in the development of potential research opportunities.
- Make a strong contribution to ensure the science conducted in projects is of a high standard and is relevant to client and stakeholder needs
- Maintain strong and continuous communication links with your supervisor ensuring that reporting is of the highest quality and that there is a clear understanding of project outcomes and deliverables

**Project Management**
- Manage research projects under the direction of the program or project leaders.

**Other**
- Take reasonable care of, and cooperate with actions taken to protect, the health and safety of both themselves and others.
- Do whatever is reasonably practical to ensure that both the workplace and the work itself is safe.
- Understand the Mining3 online Safety Register and update where / when necessary as requested by the WH&S Coordinator.
- Demonstrate a proactive approach to health and safety by challenging unsafe behaviour/attitude.
- 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 Work Area Leader (Data Acoustic Systems) however may work on projects outside of this work area.

### SELECTION CRITERIA

**Essential**

- Bachelor level degree in an engineering discipline with subsequent relevant experience; or extensive experience and specialist expertise or broad knowledge in technical or administrative fields; or an equivalent combination of relevant experience and/or education training.
- Demonstrated knowledge and experience in a suit of computer programming and design languages.
- Demonstrated experience and the ability to undertake research in an area aligned with current research activities of Mining3.
- Ability to develop effective professional relationships.
- Demonstrated high level of drive and enthusiasm.
- Demonstrated ability to work collaboratively with colleagues from different disciplines as well as with administrative and technical staff.
- Demonstrated high-level interpersonal, written and verbal communication skills.
- An enjoyment of, and interest in, contributing to high quality research.

**Desirable**

- Postgraduate qualification or progress toward a postgraduate qualification
- Ability to develop effective industry liaisons and professional contacts.
- Desire to contribute to the publication of high quality research papers in relevant industry journals.

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](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 (insert details of HR contact assisting with recruitment).