

POSITION DESCRIPTION

Position Title:	Senior Research Engineer (Internal Applicants Only)
Organisation Unit:	Mining3 / School of Mining and Mechanical Engineering
Position Number:	TBA
Type of Employment:	Full Time / Fixed Term (<i>12 months with possibility of extension</i>)
Classification:	HEW Level 7

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 (40), the US News Best Global Universities Rankings (42), QS World University Rankings (47), Academic Ranking of World Universities (54), and the Times Higher Education World University Rankings (66). 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 53,000-plus strong student community includes more than 16,400 postgraduate scholars and more than 17,000 international students from 135 countries, adding to its proud 260,000-plus alumni. The University has more than 6,600 academic and professional staff (full-time equivalent) and a \$2.15 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+.

UQ has a rapidly growing record of attracting philanthropic support for its activities and this will be a strategic focus going forward.

Organisational Environment

With an excellent reputation for quality graduate training and research performance, the School of Mechanical and Mining Engineering delivers a comprehensive range of programs in aerospace, materials, mechanical, mechatronic and mining engineering.

Boasting strong student enrolments in professionally accredited programs, combined with world-class researchers and facilities, we are focused on strengthening our position in the engineering community. We will develop global solutions to contemporary issues and mentor the leaders of tomorrow by attracting the brightest minds and fostering a truly innovative and collaborative work environment.

The School recognizes and values equity and diversity, and encourages applications from any individual who meets the requirements of this position, regardless of gender, sexuality, race, ethnicity, religion, disability, age or other protected attributes. The School strives to provide an inclusive working environment, and along with the University, is committed to supporting staff with family and caring responsibilities by providing policies, programs and initiatives to help balance work and family responsibilities.

For more information about the School, please visit: <http://www.mechmining.uq.edu.au/>

Mining3

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 for Prospective Staff

Information about life at UQ including staff benefits, relocation and UQ campuses is [available online](#).

DUTY STATEMENT

Primary Purpose of Position

The primary purpose of this position is to provide high level mechanical / mechatronic or similar engineering support for projects involving the development of new technologies relevant to the strategic objectives of Mining3.

Duties

Duties and responsibilities include, but are not limited to:

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.
- Provide technical & scientific input for research projects.
- Write research reports and participate in writing quality technical publications, as required by project leaders.
- Ensure laboratory notebook is maintained in accordance with Research Standards.
- Where appropriate, disseminate results in high quality internal publications in collaboration with colleagues.

Project Management / Leadership

- Manage research projects under the direction of the program or project leaders.
- Take on project leadership roles where it fits with skillset. This involves taking full responsibility for the delivery of project outcomes and milestones.
- Work with Work Area Leader / Program Director to scope out project plans, and plan / allocate project resources.
- Consistently track and manage project budget and generate periodical project reports to management.

Lead Engineer

- Take leadership in the development of high-quality engineering systems and experimental apparatus in support of research projects. This includes taking the role of lead engineer within multidisciplinary engineering teams, in addition to working within these projects as an experienced design engineer/team member.
- Contribute to system design and development with electrical and electronic engineers in developing bespoke instrumentation and data acquisition systems.
- Ensure that all engineering systems being developed comply with the appropriate engineering and safety standards. Where field deployments are involved, ensure that apparatus being developed comply with the mine-specific requirements and safety standards.

Field Deployment Specialist

- Actively participate in field deployment activities as and where required. Where the field activities fit in with skill set, take a leading role in the field research program.

- 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).
- Take a leading role in managing the field deployment process, including coordinating and planning of logistics, keeping line of communication with mine management open and clear, organizing necessary re-deployment due diligence (medicals, random drug tests, on-site inductions), and proper planning of the field trial schedule of events (to maximize productivity at the mine and minimize “waiting” time).
- Work to ensure the project Safety Management Systems and processes (SOPs, RAs) are aligned with the host-site guidelines and are approved by the host site.

Service and Engagement

- 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

Business Development

- Develop and progress innovative ideas for new/seed projects
- Work with program director in writing proposals for internal seed funding and external funding.
- Initiate contacts with vendors, suppliers, end users, miners, clients, university researchers in order to facilitate discussion and bouncing of ideas on potential new projects of high value to Members and the mining industry.

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 Mining3
 - 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 however may work on projects outside of this work area.

SELECTION CRITERIA

Essential

- Bachelor level degree in a relevant engineering discipline along with at least five years' experience; or extensive experience and specialist expertise or broad knowledge in technical fields; or an equivalent combination of relevant experience and/or education training.
- Demonstrated thorough understanding of mechanical design, from concept stage through to deployment.
- Strong 3D CAD experience (Solidworks preferred) with FEM analysis
- Demonstrated experience and ability in research or relevant industry experience in an area aligned with current research activities of Mining3, including experience in developing innovative apparatus compliant to industry standards. Experience in a mining research environment would be highly regarded.
- Familiarity with industry standard Safety Management Systems. (*Safety is a top priority for Mining3 and is a must in order to operate and thrive within the mining industry*)
- Familiarity with mine standards and requirements around deployment of equipment to site.
- Ability to develop effective professional relationships, including industry liaisons and professional contacts as well as demonstrated high level interpersonal, written and verbal communication skills
- Demonstrated high level of drive and enthusiasm, with the ability to provide creativity and imagination in developing innovating solutions to engineering problems.
- Demonstrated ability to work collaboratively with colleagues from different disciplines as well as with administrative and technical staff.
- An enjoyment of, and interest in, contributing to high quality research.

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](#) for further information and points of contact if you require additional support.

Accessibility requirements and/or adjustments can be directed to recruitment@uq.edu.au.