POSITION DESCRIPTION

Position Title: Postdoctoral Research Fellow – coal seam gas fines
Organisation Unit: School of Chemical Engineering
Position Number: NEW
Type of Employment: Part-time (0.6 FTE), Fixed Term appointment for 1 year with possible extension
Classification: Academic Level A

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 Chemical Engineering is an international leader in the chemical engineering field and has an excellent reputation, built over many decades at The University of Queensland.

We deliver quality programs and leadership in chemical engineering education, research and development, and expert consulting to support the process industries. Undergraduate teaching within the School focuses on the disciplines of chemical, biological, environmental and metallurgical engineering and postgraduate programs are available in growing fields including water, sustainable energy and petroleum engineering.

The School’s project-centered curriculum was recently recognised as an international exemplar of engineering education. Worldwide, UQ Chemical Engineering was ranked 33rd in the QS World University Rankings 2017 for chemical engineering. We also received the highest score for chemical engineering in Australia in the Excellence in Research for Australia study (2015). Central to the School’s success are our staff, specifically the academic, research and professional staff. They are engaged in pioneering teaching and research crossing traditional disciplinary boundaries, mindful of their role in addressing the big challenges that lie ahead.

As the School enters an exciting phase of building on recent successes in individual industry-linkages and international-research partnerships we are interested in new staff to join us on this journey to further increase our local and international impact in learning and discovery in chemical engineering.

Our people are our greatest asset. We offer collaborative, inclusive work and study places, which are enriched by the significant diversity of our staff, students and community. We genuinely believe that creativity and innovation flourishes in an environment where people feel supported, valued and empowered. Mutual respect, inclusivity and accountability are at the cornerstone of UQ’s culture.

The Centre is committed to supporting the career growth of women researchers and have a number of initiatives to support women in developing and achieving a fulfilling research career at the Centre.

For more information about the School, please visit: www.uq.edu.au/chemeng

Information for Prospective Staff

The Centre recognises and values equity and diversity, and encourages applications from any individual who meets the requirements of this position irrespective of gender, sexuality, race, ethnicity, religion, disability, age or other protected attributes. The Centre 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.

Further 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](http://www.uq.edu.au/current-staff/working-at-uq)

The University of Queensland [Enterprise Agreement](http://www.uq.edu.au/current-staff/working-at-uq) outlines the position classification standards for Levels A to E.

**DUTY STATEMENT**

**Primary Purpose of Position**

The primary role of the Postdoctoral Research Fellow will be to design and evaluate novel chemical technologies to mitigate swelling and breakage of clay-rich rocks in coal seam gas wells. The Fellow will be expected to liaise with industry and research partners.

**Duties**

Duties and responsibilities include, but are not limited to:

**Research**

- Conduct research to design and evaluate a polymer-based selective well bore coating technology, including selection of new environmentally friendly polymer-solvent systems.
- Engage in a team research program and liaise with the industry research partners.
- Prepare projects reports and present updates to industry partners and stakeholders, and publish impact papers in high quality outlets on applied clay science and petroleum engineering.
- Work with colleagues and postgraduates in the development of joint research projects.

**Teaching and Learning**

- As a ‘Research focussed’ position there is no formal requirement for undergraduate teaching. However it is encouraged that you actively seek teaching opportunities.

**Service and Engagement**

- Contribute to the processes that enable the academic team to manage the work of the School, including participate in School decision-making and serve on School committees.
- Actively engage within the School and the UQ Centre for Coal Seam Gas, and externally with industry partners to foster the School’s relations with industry (Santos, ArrowEnergy, Shell, APLNG) and professional bodies.
- Any other duties as reasonably directed by your supervisor
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 the Dr Tom Rufford.

SELECTION CRITERIA

- PhD (or progress towards PhD) in chemical engineering, petroleum engineering, or a related discipline, or a thesis submitted before the start date of the position.
- Knowledge and experience in materials characterisation including experience with XRD, FTIR, and SEM.
- Knowledge and experience in conducting laboratory-based research in clay stabilisers used in the oil and gas industry, and/or experience in phase inversion polymer synthesis.
- Track record of publication of research findings in peer reviewed journals and conferences.
- Ability to establish effective relationships and to represent and promote academic discipline at a university and wider community level, including industry, government and professional bodies.
- Demonstrated high-level communication and interpersonal skills including the ability to consult and negotiate with other stakeholders to ensure project objectives are met.
- Well-developed communication, interpersonal and consultative skills and the ability to work collaboratively with colleagues from a multidisciplinary background.
- Knowledge of clay mineralogy, coal geology, and/or petroleum drilling and completion practices.
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 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.

This role is a full-time position; however flexible working arrangements may be negotiated.

Accessibility requirements and/or adjustments can be directed to the contact person listed in the job advertisement.