POSITION DESCRIPTION

Position Title: Research Fellow in Geostatistics and Subsurface Flow

Organisation Unit: School of Earth and Environmental Sciences

Position Number: NEW

Type of Employment: Full time, Fixed Term for 3 years

Classification: Research Academic Level B

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://university.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 Earth and Environmental Sciences is a vibrant, multidisciplinary School with extensive teaching and research programs covering the fields of Geology, Geography, Environmental Management, Occupational Health and Safety Sciences and Planning. The School offers a wide range of undergraduate programs including Bachelor’s degrees in Arts (Geography) and Science (Geological and Geographical Science), a Bachelor of Environmental Management and Environmental Science, Occupational Health and Safety Science and a Bachelor of Regional and Town Planning. Honours in Geology, Geography, Geophysics, and Computational Earth Sciences. Coursework masters degrees are offered in Mineral Resources, Environmental Management, Geographic Information Science, Occupational Health and Safety Science and Urban and Regional Planning and the School also contributes to the multi-school Master of Development Practice. The School offers postgraduate training in research via the Master of Philosophy and Doctor of Philosophy and currently has over 150 students enrolled in these degrees. The School has a strong research profile and enjoys an excellent success rate in nationally competitive grants and has a strong record of high quality publications.

Staff and Resources
The School of Earth and Environmental Sciences is part of the Faculty of Science and is located on the St Lucia campus (Brisbane) of the University. The School has 104 academic staff, and 23 administrative and technical staff. There is a large contingent of research appointments and the School has been active in establishing a range of adjunct positions in order to promote engagement with leaders in government and the professions.

The School hosts world-class facilities which include a state-of-art planning studio, GIS computer laboratories and extensive analytical infrastructure. Our facilities include high-end sample preparation facilities and a laboratory complex that includes radiogenic and stable isotopes, major and trace element geochemistry, noble gas geochemistry and geochronology, coal petrology and organic geochemistry, geomicrobiology and fluid inclusion facilities. Its Centre for Geoscience Computing conducts research on the mechanics and physics of solid earth processes, on all scales, using supercomputer simulation. Advanced computational technologies and simulation software development are applied to a wide range of industrial and environmental fields and provide a driver for innovation in the general area of simulation-assisted design, specifically in the sustainable energy, earth resources, mass mining and geotechnical sectors. Further information and details of the research interests of academic staff may be accessed on the School’s web site at http://www.sees.uq.edu.au/.

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

The Industrial Foundation CMG Chair in Unconventional Gas Reservoir Modelling has recently been established in the School of Earth and Environmental Sciences. This Chair will create a research program relevant to the development of onshore gas projects within the School and in close collaboration with UQ’s Centre for Coal Seam Gas.

The primary role of the selected candidate will be to engage as a Research Fellow within the School of Earth and Environmental Sciences associated with the Foundation CMG Chair’s research program. This position aims also to build and enhance the Fellow’s capabilities in industry engagement and ensure they can work effectively at the research-industry interface or in industry-based positions. It is expected that the Fellow spends 20% of their time on this industrial aspect.

The research work will include significant consultation with experts in the School of Earth Sciences, School of Chemical Engineering and the UQ Centre for Coal Seam Gas, and will be conducted often in partnership with technical experts in the Gas Industry and Government.

Duties

Duties and responsibilities include, but are not limited to:

Research

- Establish a research program in Geostatistics sensu-latue applied to spatial modelling at a range of scales, subsurface multi-phase flow and gas/water production.
- Develop and design appropriate research methodologies to improve subsurface representation of properties relevant to flow.
- Write up papers, academic reports and support the Chair with communications and reports to the Foundation CMG.
- Make presentations to team members, industrial partners and the wider research community (including national and international conferences) on current projects.
- Engage effectively with industry to develop applied research proposals.
- Take an active role in attracting external competitive funding and expanding the existing research scopes and programs.
- Attract RHD students and contribute to training, scientific mentoring and supervision of students.
- Develop effective timelines and milestones based on goals of the research and development program.
- Work effectively with other staff and students.
- Attend and assist in organising School based meetings and Seminars.

Service and Engagement

- Foster the School’s relations with industry, government departments, professional bodies and the wider community.
- Establish and maintain close working relationships with stakeholders within the community, petroleum industry companies and all levels of government where relevant.
- Engage with fellow researchers in the University of Queensland faculties and collaborating research institutions.
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 Foundation CMG Chair.
SELECTION CRITERIA

Essential

- PhD in the area of Geostatistics or applications thereof with an emerging or established track record of research in these areas.
- In depth knowledge of geostatistical techniques, in particular new non-linear techniques.
- Track record of publications in this field.
- Track record of developing research proposals in this area.
- Detailed knowledge of multi-phase flow.
- Well-developed oral and written communication skills.
- Experience in collating, analysing and interpreting quantitative and qualitative research data or other similar information.
- Theoretic and applied research experiences in Geostatistics.
- Experience in running flow models.
- The ability to work both collaboratively in a team and independently to a high level of professionalism.
- Experience in liaising and collaborating with external agencies to develop co-operative research initiatives.
- Strong inter-personal communication skills and an ability to relate to stakeholders with competing interests and views.
- Demonstrated ability to manage a program of work to meet milestones.
- Commitment to following safe work practices.
- High levels of personal integrity and transparency, particularly in contentious settings.

Desirable

- Experience with multi-phase flow simulator.
- Experience with coding (Python, Fortran or other).
- Ability to grow and develop personal research expertise, demonstrated by an emerging profile in research with an increasing degree of autonomy.
- Knowledge of groundwater flow modelling.
- Knowledge of reservoir engineering for petroleum applications.
- Developed industry liaisons and professional contacts.
- Experience in liaising and collaborating with external agencies and/or overseas partners to develop co-operative research initiatives.

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.

Applications are particularly encouraged from Aboriginal and Torres Strait Islander peoples. For further information please contact our Australian Indigenous Employment Coordinator at: atsi_recruitment@uq.edu.au

Applications are also encouraged from women.

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