

POSITION DESCRIPTION

Job Title:	Postdoctoral Fellow in Civil Engineering
Organisation Unit:	School of Civil Engineering
Position Number:	
Type of Employment:	Full time – Fixed Term 3 Years
Classification:	Level A/B

BACKGROUND

Organisational Environment

The Federal Government's 2012 Excellence in Research for Australia survey confirmed The University of Queensland as one of the nation's top two universities, measured on a combination of research quality and breadth. ERA reported that research at UQ is above world standard in more broad fields than at any other Australian university: this reflects UQ's leading global role in many areas of discovery. More researchers at UQ are working in research fields that ERA has assessed above world standard than at any other Australian university. UQ's outstanding critical mass offers researchers significant interdisciplinary capability.

UQ integrates its research strengths with excellent teaching and learning and has won more national teaching awards than any other Australian university. The Times Higher Education-QS table ranks UQ in the top 100 universities globally, and the Shanghai Jiao Tong University World Rankings names UQ as a top 20 Asia-Pacific institution. UQ is one of Australia's Group of Eight, and a founding member of Universitas 21, an international consortium of leading research-intensive universities.

UQ's 44,000-strong student community includes 10,000 postgraduate scholars and almost 10,000 international students from 134 countries. The University has 6300 academic and professional staff and a \$1.4 billion annual operating budget. Its major campuses are at St Lucia, Ipswich, Gatton and Herston, in addition to teaching and research sites around Queensland and Brisbane city. The University has six faculties and eight institutes. The institutes — funded by government and industry grants, philanthropy and commercialisation activities — have built scale and focus in research areas that UQ regards as strategically important.

The Faculty of Engineering, Architecture and Information Technology

The Faculty of Engineering, Architecture and Information Technology comprises the Schools of Chemical Engineering, Civil Engineering, Information Technology and Electrical Engineering, Chemical Engineering and Architecture and the Advanced Water Management Centre. The Faculty has more than 300 academic and research staff and over 5,000 students, including 3,500 undergraduate engineering students and 500 PhD students. The high student demand and lower than average attrition rates reflect the quality of our teaching and learning initiatives. The Bachelor of Engineering program is one of the leading engineering degrees in Australia with almost 1,000 high quality students enrolling in first year. With over \$40 million in research income, the Faculty has a substantial reputation for research excellence. Engineering at UQ was one of only three universities to

receive the highest ranking in the recent national Excellence for Research in Australia assessment, with all disciplines assessed at being above or well above world standard. The Faculty invests significant resources in attracting and retaining the best staff and students and ensuring that they are provided with the appropriate infrastructure and support. An unprecedented investment in building and refurbishment has seen upgrades to much of the Faculty's precinct over the last few years, including a new floor on the Mansergh Shaw Mechanical Engineering Building. The centrepiece is the \$130 million Advanced Engineering Building which is due for completion in early 2013.

The School of Civil of Engineering

The School of Civil Engineering has a long and proud record of academic achievement and involvement with the profession and industry and is among the leaders in civil engineering education and research in Australia and has world standing in several research areas. Its mission is to provide a cohesive learning environment enabling quality education, leadership with a desire to meet technological challenges and an ability to work with a wide range of people.

The School currently employs 17 full time academic staff who contribute to its teaching and research programs. The School's total income is approximately \$20M.

The School contributes to teaching in the Bachelor of Engineering (BE) with over 800 students enrolled in years 2, 3 and 4 of the BE in the fields of Civil Engineering, Environmental Engineering. There are also approximately 80 students enrolled in research higher degrees. The School has extensive concrete, steel and soils laboratory facilities that are used for teaching, research and commercial testing.

The School is located at the St Lucia Campus and has offices and facilities in the Hawken Engineering Building and the Seddon Buildings. The School will be moving into a new state of the art Advanced Engineering building in 2013.

Further information and details of the research interests of academic staff may be accessed on the school's web site at http://www.uq.edu.au/academic_discipline/index.html.

Information for Prospective Staff

Information can be found at <https://www.uq.edu.au/uqjobs>.

Schedule 10 of The University of Queensland Enterprise Agreement 2010 – 2013 outlines the position classification standards for Levels A to E.

DUTY STATEMENT

Primary Purpose of Position

To conduct active and rigorous research within a team on an Australian Research Council Linkage project: "Multi-scale, two-phase flow in complex coal seam systems".

Duties

Duties and responsibilities include, but are not limited to:

Research

- Conduct research, including field investigations (designing/refining and executing the field experiment/monitoring program) and numerical modelling (model development, validation, calibration and application), to achieve the research objectives within the project;

- Participate in supervising research work of PhD students involved in the project;
- Assist chief investigators in managing the project (including liaison with industry partners);
- Publish scholarly papers in high quality refereed international journals and conference proceedings;
- Develop joint research projects with team members to further the research work;

Community Service

- Foster the School's relations with industry, government departments, professional bodies and the wider community.

Administration

- Comply with the University's Code of Conduct (see the University's web site at <http://www.uq.edu.au/hupp/?page=24987>)
- Adopt sustainable practices in all work activities and comply with associated legislation and related sustainability responsibilities and procedures developed by the University (see the University's web site at <http://www.uq.edu.au/sustainability/responsibilities>)

Occupational Health and Safety

- Comply with requirements of Queensland occupational health and safety (OH&S) legislation and related OH&S responsibilities and procedures developed by the University or School. (see the University's web site at <http://www.uq.edu.au/ohs/index.html?page=133956>)

Reporting Relationships

The position reports to the head of School via the project leader, Professor Ling Li.

SELECTION CRITERIA

Qualifications

Essential

- PhD in the area of Hydrogeology or Civil/Environmental Engineering (with a strong hydrogeological background)..

Knowledge and Skills

Essential

- Demonstrated expert knowledge in hydrogeology and porous media flow;
- Demonstrated skills in modelling porous media flow and transport processes;
- Established record of publication in high ranking refereed journals; and
- Demonstrated capacity for independent research including contribution as a quality researcher.

Desirable

- Experience in modelling multi-phase flow in porous media involving fracture zones; and
- Experience in field investigation of hydrogeological systems.

Experience

Essential

- Evidence of a contribution to research, including successful external grant applications.

Desirable

- Experience in liaising and collaborating with external agencies to develop co-operative research initiatives.

Personal Qualities

Essential

- A high level of drive and enthusiasm;
- Demonstrated ability to work collaboratively with colleagues including those from different disciplines as well as with administrative and technical staff; and
- Demonstrated high-level interpersonal, written and verbal communication skills.

The University of Queensland is an equal opportunity employer.

Smoking is prohibited in all University buildings.