POSITION DESCRIPTION

Position Title: Postdoctoral Research Fellow in Mineral Processing
Organisation Unit: School of Chemical Engineering
Position Number: TBA
Type of Employment: Fulltime, Fixed term for 12 months
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 $11 billion+ (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 Metallurgy and Minerals Processing Program in the School of Chemical Engineering has long-standing education and research strength in minerals and mining. The establishment of hydrometallurgy, mineral processing and pyrometallurgy is unique in the world and the recognition of the importance of this program to its research profile. ERA reported that Resources Engineering and Extractive Metallurgy in the University of Queensland is one of the best in Australia and the leader in the world. Strong links between the Metallurgy and Minerals Processing Program and the industry have brought about many strategic industry partnerships such as UQ-RioTinto Alcan Centre providing funding to progress research priorities. In the new Academic Ranking of World Universities UQ is number one in the world for minerals and mining engineering.

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

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

The University of Queensland Enterprise Agreement outlines the position classification standards for Levels A to E.

DUTY STATEMENT

Primary Purpose of Position

Recently we have established new research areas to attack the problems in the minerals industry addressing low quality ores, low quality and saline water and complicated base metal and precious minerals. The fundamental feature in these research areas is the application of colloid, interfacial and solution chemistry as well as electrochemistry in the mineral processing. These research areas are very successful and have secured sufficient research funding from the minerals and coal industry, reagent companies and the Australian Research Council with national and international collaborations.
Recently, we have secured sufficient funding from the minerals and coal industry and the Australian Research Council with national and international collaborations. The research fellow will play a key role in developing innovative solutions to some major problems during the processing of low quality ores. The person will work within a large research team consisting of a number of research high degree students, research assistants and project leaders, and be primarily responsible for developing applied research to enhance the delivery of industry-involved research projects.

We aim to produce high quality conference and journal papers to communicate our research outcomes and deliver high quality oral presentations and reports to industry sponsors. The research fellow will actively participate in this publication process.

**Duties**

Duties and responsibilities include, but are not limited to:

**Research**
- Contribute to Research by designing and conducting experiments in the laboratory to define problems, formulate research questions and develop solutions.
- Operate and maintain laboratory equipment to match the industry operation and sophisticated instruments to probe interfacial phenomena.
- Publish scholarly papers in high quality conferences and international journals and deliver high quality reports and oral presentations to industry sponsors.
- Work with colleagues and postgraduates in the development and carrying out of 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.
- Contribute to supervision of honours and postgraduate students.

**Service and Engagement**
- Participate in the management of the project.
- Contribute to the processes that enable the research team to manage the work of the school, including participate in decision-making and serve on committees
- Foster the School’s relations with industry, government departments, professional bodies and the wider community
- Perform a range of administrative functions in the School
- 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 Project Leader, Professor Yongjun Peng.

SELECTION CRITERIA

Essential
- PhD in mineral processing or a relevant field, or thesis submitted before the start date of the position.
- Advanced knowledge in mineral flotation and electrochemistry.
- Experience in the flotation of coal, base metal and precious minerals.
- Knowledge and experience in using advanced solution and surface analysis and electrochemical analysis.
- Ability to generate high-impact research publications and oral presentations.
- Ability to rigorously design experiments, formulate research problems and identify solutions.
- Ability to work in a multidisciplinary team consisting of research high degree students, research assistants, industry senior technical experts and project leaders.
- Demonstrated problem-solving skills.

Desirable
- Knowledge of flotation chemistry.
- Experience in supervising research high degree students.
- Potential for contributing to research proposals, including competitive grant applications.
- Demonstrated capability in project management.
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.

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