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://uniquest.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 Advanced Water Management Centre (AWMC) is an internationally recognised centre of excellence in innovative water technology and management. AWMC has established an outstanding worldwide reputation in the fields of biological wastewater treatment and resource recovery, based on delivering practical technologies underpinned by fundamental scientific discoveries. An award winning multidisciplinary team and research portfolio covers the breadth of the urban industrial water cycle, achieving sustainable outcomes for the global water industry. Collaborative linkages with industry are strong, including the sewer management and sewerage treatment sector, where key applied research projects have targeted development of technologies for to sustainably manage solid and liquid waste and fully benefit from water, carbon energy and nutrient resources. Solutions developed by AWMC have yielded quantifiable benefits in the order of hundreds of millions of dollars to the Australian water industry. At the same time, the AWMC has an outstanding academic publication record including papers in the most prestigious journals Nature and Science.

The AWMC has strong research capability, with over 35 academic and research staffs including three IWA Fellows and more than 50 research students working on various research topics. The AWMC has established links with UQ's extensive molecular biology laboratories and microscopy facilities, enabling the successful candidate to expand their research activities in a number of directions. Many projects by the Centre are conducted jointly with very successful UQ research Centres, including the Australian Centre for Ecogenomics.

Information about the Faculty and the School may be accessed on the Faculty's web site at http://www.uq.edu.au/ The Faculty of Engineering, Architecture and Information Technology.

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

Prof Zhiguo Yuan, Director of the Advanced Water Management Centre, has recently been awarded an Australian Laureate Fellowship project. This fellowship scheme has the following objectives (http://www.arc.gov.au/australian-laureate-fellowships):

- attract and retain outstanding researchers and research leaders of international reputation
- support ground-breaking, internationally competitive research
- provide an excellent research training environment and exemplary mentorship to nurture early-career researchers
• forge strong links among researchers, the international research community and/or industry
• expand Australia's knowledge base and research capability
• enhance the scale and focus of research in the Science and Research Priorities.

Prof Yuan’s Laureate Fellowship project aims to develop a suite of leading-edge biotechnology solutions to enable the cost-effective production of liquid chemicals from biogas. This will create a much stronger economic driver for biogas production from organic wastes, by significantly increasing the value of biogas compared to its current use for power generation. With a multi-disciplinary approach, the project will substantially advance the fundamental science in the exciting and highly valuable area of anaerobic microbial conversion of methane, the least understood process in the global carbon cycle. The project will support the establishment of a methane-based biotechnology sector creating high-value products from biogas or small, distributed natural gas sources.

This position is a member of a multi-disciplinary team that will be established. A high-calibre researcher is sought to undertake ground-breaking research leading to the discovery and understandings of the microbial processes responsible for the bioconversions of methane, along with other associated reactions. The position will also play an important role in the development of novel technologies based on the fundamental discoveries.

Duties

Duties and responsibilities include, but are not limited to:

Teaching and Learning
• Mentoring and training of research staff and supervising students at honours and postgraduate levels.

Research
• Undertaking high quality research and publishing high impact papers.
• Developing biotechnologies, based on scientific discoveries that will lead to significant impact on the industry.
• Designing and conducting experiments in laboratory and/or field.
• Design, set up and operate lab-scale bioreactors
• Enrichment and characterisation of the microorganisms responsible for the conversions of methane and other relevant compounds in natural and engineered systems
• Dissemination of knowledge to the scientific community and industry through conferences and industry workshops
• Developing project proposals and applying for internal and external funding
• Engaging external stakeholders

Administration
• Participating in project management
• Playing a leading role in management of relevant laboratories
• Contributing to Centre’s operation as necessary
• Liaise with projects sponsors

Service and Engagement
• Actively engaging and collaborating internally within the AWMC and externally to foster the Centre's relationships with industry, professional bodies and the wider community.
• Managing laboratory operation and safety training and monitoring

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 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 Prof Zhiguo Yuan, the Laureate Fellow, Advanced Water Management Centre.

SELECTION CRITERIA

Essential
• PhD degree in environmental biotechnology, environmental engineering, chemical engineering or a closely-related field

Knowledge and Skills

Essential
• Demonstrated expert knowledge of the microbial processes underpinning methane bioconversion in natural and engineering environments
• Excellent knowledge of environmental microbiology
• Demonstrated skills of bioreactor operation, and enrichment and characterisation of novel microorganisms
• A good understanding of the cutting-edge molecular technologies including metagenomic and metatranscriptomic analysis
• Demonstrated skills in undertaking stable isotopic labelling tests
• Demonstrated skills in high-quality scientific writing
• Demonstrated skills in laboratory management

Desirable
• Demonstrated knowledge of wastewater treatment processes

Experience

Essential
• Strong experience in bioprocess engineering
• Experience in publishing papers in high quality scientific/engineering journals
• Experience in designing experiments to simulate field conditions in the laboratory
• Experience in managing laboratories
• Experience in working collaboratively with researchers from different disciplines
Desirable
- Experience in statistical analysis
- Experience in funding application
- Experience in managing research projects

Personal Qualities

Essential
- Excellent communication (written and oral) skills to work effectively with team members from different backgrounds and cultures
- Strong commitment to top-quality research
- Good time management skills and the ability to meet deadlines
- Demonstrated ability to work with minimum supervision

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.

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.