

## POSITION DESCRIPTION

<b>Position Title:</b>	Postdoctoral Research Fellow
<b>Organisation Unit:</b>	Advanced Water Management Centre
<b>Position Number:</b>	
<b>Type of Employment:</b>	Full Time, Fixed Term for 36 months
<b>Classification:</b>	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 CWTS Leiden Ranking (32), the Performance Ranking of Scientific Papers for World Universities (40), the US News Best Global Universities Rankings (42), QS World University Rankings (47), Academic Ranking of World Universities (54), and the Times Higher Education World University Rankings (66). Excluding the award component, UQ is now ranked 45<sup>th</sup> in the world in the ARWU, and is one of the only two Australian universities to be included in the global top 50.

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 53,000-plus strong student community includes more than 16,400 postgraduate scholars and more than 17,000 international students from 135 countries, adding to its proud 260,000-plus alumni. The University has more than 6,600 academic and professional staff (full-time equivalent) and a \$2.15 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+.

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 Advanced Water Management Centre (AWMC) is an internationally recognised centre of excellence in innovative water technology and management. The Centre has an outstanding worldwide reputation in urban water management and related fields, and an award winning multidisciplinary team delivers practical technological solutions underpinned by fundamental scientific discoveries.

The Centre has six interlinked programs namely, next generation urban water technologies, integrated urban water management, sewer corrosion and odour management, nexus of urban water, health and environment, resource efficient agri-industry and environmental biotechnology.

Collaborative linkages with industry are strong and solutions developed by the Centre have yielded quantifiable benefits in the order of hundreds of millions of dollars to the Australian water industry and other sectors. At the same time, the AWMC has an outstanding academic publication record, publishing on average more than 100 papers a year in high quality journals including the most prestigious multidisciplinary journals including Nature and Science, and top discipline journals such as Water Research and Environmental Science and Technologies.

The Centre has well-established process, microbiology and analytical labs. The direct collaboration with industry partners has also led to the creation of several field facilities including the Innovation Centre at Queensland Urban Utilities' Luggage Point Sewage Treatment Plant, supporting technology demonstration at larger scales and under practical conditions.

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 Centre, please visit: [www.awmc.uq.edu.au](http://www.awmc.uq.edu.au)

## **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>

The University of Queensland [Enterprise Agreement](#) outlines the position classification standards for Levels A to E.

## **DUTY STATEMENT**

### **Primary Purpose of Position**

The AWMC is undertaking research projects focusing on the development and demonstration of next generation wastewater treatment technologies. These projects aim to develop novel wastewater treatment technologies and integrated wastewater treatment processes that can increase the bioenergy and resources recovery from domestic and/or industrial wastewater and reduce the capital and operating costs. The key role of the postdoctoral research fellow would be to undertake research and development of a range of novel wastewater technologies based on the UQ patented Lodomat technology as part of a CRC-P project sponsored by the Commonwealth Government.

### **Duties**

Duties and responsibilities include, but are not limited to:

### **Teaching and Learning**

- Contribute to mentoring and training of students at honours and postgraduate levels.

### **Research**

- Assist in delivering research projects in the fields of wastewater treatment, renewable energy recovery and low-cost nutrient removal/recovery process applied to domestic and/or industrial wastes. This will include hands-on technology development; and chemistry and biological testing at laboratory to pilot-demonstration scale.
- Design, set-up and maintenance of bioreactors in laboratories.
- Assist in designing, commissioning and operating pilot plant facilities, where experiments will be performed.
- Bioreactors operations, sampling and routine laboratory analysis.
- Support the application for external and internal grant funding for research.
- Publish research outcomes in the form of scientific and technical reports to participating industries and in the form of high-quality refereed journal publications.
- Engage with external stakeholders.

### **Service and Engagement**

- Actively engage and collaborate internally within the AWMC and externally to foster the Centre's relationships with industry, government departments, professional bodies and the wider community. This will include meetings with industry partners.

- Be involved in the management of the Centre's laboratory facilities.
- Any other duties as reasonably directed by your supervisor.

### **Community Service**

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

### **Administration**

- Supervise research high degree students working on the projects.
- Liaise with industry sponsors.
- Performing a range of administrative functions around management of scope and budget for the research project.

### **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 Senior Research Fellow Dr Shihu Hu at AWMC.

## **SELECTION CRITERIA**

- PhD degree related to wastewater treatment in environmental or chemical engineering or a closely related field, with relevant wastewater treatment process experience.
- Demonstrated knowledge in the development and demonstration of cutting-edge wastewater treatment processes in both lab- and pilot- scales with a knowledge of next generation wastewater treatment technologies including (i) aerobic and anaerobic sludge digestion; (ii) mainstream and side stream nitrogen removal processes including partial nitrification, anammox and acidic nitrification.
- Ability to efficiently and independently learn new skills and gain knowledge within the scope of the position.
- Experience in publishing high quality research papers in high impact scientific journals, and technical reports to the participating industries.
- Experience in the development of new wastewater treatment technologies, including carbon and nitrogen removal processes and sludge digestion process.

- Ability to work collaboratively with colleagues and co-workers.
- Knowledge of Free nitrous acid (FNA) based Lodomat technologies patented by UQ is desirable.

### **Seminar**

Applicants invited for interview may be expected to present a seminar in conjunction with the selection interview process.

### **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.**