THE UNIVERSITY OF WESTERN AUSTRALIA

POSITION DESCRIPTION

Position Title	Research Associate
Classification	Level A
School/Division	Engineering
Centre/Section	Structural Engineering
Supervisor Title	Associate Professor
Supervisor Position Number	314530
Position Number	321792

Your work area

The University of Western Australia (UWA) is ranked among the top 100 universities in the world and a member of the prestigious Australian Group of Eight research intensive universities. With a strong research track record, vibrant campus and working environments, supported by the freedom to innovate and inspire, there is no better time to join Western Australia's top university.

The School of Engineering is renowned for its award-winning researchers, teachers, and facilities. It is a multidisciplinary school offering education and research in several engineering disciplines, including automation and robotics, biomedical, civil, environmental, mining, chemical, mechanical, electrical, and electronic and engineering. UWA ranks in the world's top universities, as measured by key independent rankings, including QS World University Rankings for Mineral & Mining Engineering (7th) and Civil Engineering (top 100); and Shanghai Rankings for Mineral & Mining Engineering (4th) and Environmental Science and Engineering (21st).

Reporting structure

Reports to: Discipline Chair of Structural Engineering (Associate Professor Farhad Aslani)

Your role

Your contribution will play a crucial role in the $3.2M Structural Health Monitoring for Tubular Joints project, a collaboration with Fuze Group Pty Ltd and funded by The Sovereign Manufacturing Automation for Composites Cooperative Research Centre (The SoMAC CRC).

The objective of this project is to examine the structural performance of corroded tubular structural joints strengthened with fibre-reinforced polymer (FRP), employing solutions provided by structural health monitoring (SHM). The project aims to overcome certain limitations of SHM, enabling its effective implementation in offshore structures and thereby enhancing their safety and reliability. Moreover, the project aims to develop acceptance criteria for field repairs using composite materials and establish protocols for in-service inspections and also explore the optimal resin systems for bonding to metallic structures.

The appointee will be expected to undertake research on materials properties testing, steel tubes structural testing, ultrasonic testing of joints, experimentally and numerically study of steel tubular joints with structural health monitoring in air and under water, resin systems testing for bonding to metallic, in-field repairs and structural integrity assessment, and acceptance criterion and in-service inspection development. You will be expected work with the project team to target this research towards the objectives and outcomes of the project.

Your key responsibilities

Contributes to research outcomes within discipline or area of expertise

Join or develop a research team to initiate research in local, national and international arenas

Undertake independent and collaborative research to generate research outputs of high impact

Communicate research findings through scientific publications, reports, meetings and teaching

Engage with a network of contacts with local, national and international universities for the purposes of research collaboration and the enhancement of the reputation of the School and the University

Enhance the reputation of the School and the University by producing publications in highly ranked peer reviewed journals of international standing

Either as an individual or as part of a team, play a role in bids for major research funding from national and international competitive funding agencies, industry and government partners

Actively seek and attract funding for education research

Your specific work capabilities (selection criteria)

Qualifications and / or certifications

PhD in structural engineering, ideally with a specialisation in steel structures or rehabilitation and strengthening techniques or structural health monitoring.

Research

Demonstrated commitment in participating in high quality research evidenced by peer-reviewed journal articles published in respected scholarly journals

A demonstrable emerging track record of successful competitive funding application

Demonstrate evidence of successful supervision or co-supervision of HDR students, relative to opportunity

Position specific capabilities

Substantial research experience in designing, using and testing fibre reinforced polymers, as evidenced by a series of peer-reviewed journal articles published in high quality journals

Experience in Adhesion Science

Experience in Structural health monitoring – sensor selection, sensor placement, system setup, data analysis. (ie. Integration and implementation of systems)

Experience in code of practice development for structures (ISO and AS)

Experience in corrosion and accelerated life testing

Experience in structural systems, design and repairs, including experience with and knowledge of Australian Standards and International Codes of Practice

Experience in numerical modelling for the materials and the structural behaviour.

Excellent written and verbal communication skills

Excellent organisational skills with the demonstrated ability to set priorities and meet deadlines

The ability to work independently, show initiative and work productively as part of a team

Compliance

Ensure you are aware of and comply with legislation and University policy relevant to the duties undertaken, including:

The University's Code of Conduct Code of Ethics and Code of Conduct

Inclusion and Diversity web.uwa.edu.au/inclusion-diversity

Safety, health and wellbeing Safety and Health Policy