

Position Title	Research Associate - Environmental Fluid Mechanics
Classification	Level A
School/Division	Oceans Graduate School
Centre/Section	
Supervisor Title	Associate Professor
Supervisor Position Number	FSR
Position Number	FSR

Your work area

The [Oceans Graduate School](#) engages in fundamental and applied research to find solutions to global challenges facing our oceans, coasts and estuaries. Our School comprises state-of-the-art facilities around Western Australia for world-class oceans research.

Through the [Oceans Institute](#) and Oceans Graduate School, UWA provides an outstanding multi-disciplinary and collaborative environment for this project and ranked 13th and 21st in the world (and 1st in Australia) in the fields of Marine/Ocean and Environmental Engineering.

The Oceans Graduate School ([LinkedIn](#)) engages with partners around the world, including other universities, governments and research institutions, so more can be done in the pursuit of solving global oceans challenges. The Indian Ocean Marine Research Centre (IOMRC) at UWA was built to house the research our School undertakes with partners such as the CSIRO, Australian Institute of Marine Science and the Fisheries Division of the Department of Primary Industries and Regional Development (Western Australia).

Reporting structure

Reports to: Associate Professor

Your role

As the appointee you will be a member of the UWA Oceans Graduate School and Oceans Institute. You will work under the supervision of Associate Professor Marco Ghisalberti and Emeritus Professor Greg on an Australian Research Council Discovery Project. You will conduct experimental fluid mechanics research, communicate research outcomes to stakeholders, and contribute to project deliverables (including academic publications).

The project can be summarised as follows:

Environmental flows are characterised by their interaction with living roughness, including vegetation (seagrass, kelp, mangroves), coral reefs & porous sediment beds in aquatic environments and forests, crop canopies and cities in atmospheric environments. This project will use an innovative experimental fluid mechanics campaign (using PIV, ADV and PLIF) to define how living roughness controls flow, turbulence and mass transport processes, which will help transform best practice in our understanding, management and protection of these critical ecosystems.

Your key responsibilities

Design and conduct high-fidelity experimental fluid mechanics campaigns, using state-of-the-art instrumentation (e.g. PIV, PLIF), to define the impact of living roughness on mean and turbulent flow fields

Integrate experimental results with existing literature to define a classification regime for flows over living roughness

Generate coupled measurements of turbulent flow and concentration to characterise vertical mass transport in these systems

Communicate research outcomes through publications in high-impact journals and international conference presentations

Aid in the supervision of undergraduate/Masters students working to achieve the outcomes of this project

Other duties as required

Your specific work capabilities (selection criteria)

A fluid-mechanics-related PhD (completed or near completion) in the fields of environmental, civil, mechanical, ocean or coastal engineering (or related fields)

Demonstrated ability to generate outcomes from experimental research in order to better understand and predict environmental fluid mechanics processes

Publications in experimental fluid mechanics research is desirable

Ability to analyse experimental data sets in Python or MATLAB environments

Ability to work independently, show initiative, problem solve and work productively as part of a team

Excellent written and verbal scientific communication skills

Ability to supervise research students at undergraduate and Masters levels.

Organisational skills with the demonstrated ability to set priorities and to meet deadlines

Special requirements (selection criteria)

There are no special requirements.

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 hr.uwa.edu.au/policies/policies/conduct/code/conduct

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

Safety, health and wellbeing safety.uwa.edu.au/