Position Description – Research Associate in Maritime Autonomy

Updated 10 October 2024

POSITION DETAILS

College	**College of Science and Engineering**
Organisational Unit	**Engineering**
Supervisor	**Professorial Research Fellow in Engineering**
Classification	**Research (Academic) Level A**
Employment Type	**Fixed-term, full-time**

POSITION SUMMARY

The ARC Training Centre for Biofilm Research and Innovation is the leading Australian research and training centre tackling biofilm related challenges. Led by Flinders University, the Centre has a 5-year research and training program, bringing together 5 universities (3 Australian) and 10 industry partners across four Australian states to deliver innovative biofilm research in collaboration with industry partners in the maritime, water and other industries. The Training Centre will build on local and international expertise to mentor and train the next generation of interdisciplinary scientists and engineers to develop solutions to improve efficiency in the maritime and defence industries and in water quality monitoring, and health and safety issues related to biofilms.

The Research Associate will undertake research under the direction of the Chief Investigator and the guidance of our partner industry investigators. The incumbent will assist the team by developing specialised automated liquid sampling systems and instrumentation equipment required for the research project.

The primary aim of the work is the development of an autonomous liquid sampling system for analysing ship bilge water. The project has a fixed 2-year turn-around making it essential that the incumbent has a relevant track record of working on mechatronic activities and possesses the key position capabilities prior to commencing work.

The incumbent may assist in supervising and training students involved in the project, according to the University's policies, practices and standards.

UNIVERSITY EXPECTATIONS AND VALUES

All staff at Flinders are responsible for understanding their obligations and responsibilities as set out in the University's code of conduct and are expected to:

- demonstrate commitment to the University's values of Integrity, Courage, Innovation, Excellence and the underlying ethos of being Student Centred;
- contribute to the efficient and effective functioning of the team or work unit in order to meet the University's objectives. This includes demonstrating appropriate and professional workplace behaviours, providing assistance to team members if required and undertaking other key responsibilities or activities as directed by one's supervisor;
- promote and support an inclusive workplace culture which values diversity and embraces the principles of equal opportunity;
- perform their responsibilities in a manner which reflects and responds to continuous improvement; and
- familiarise themselves and comply with the University's Work Health and Safety, Injury Management and Equal Opportunity policies.

KEY POSITION RESPONSIBILITIES

The Research Associate is accountable for:

- Assisting the Research Team to successfully deliver project milestones and Key Performance Indicators.
- Contribute to the planning and execution of research by offering new ideas, reviewing relevant literature and other sources of information, developing, constructing, and testing the instrumentation systems, actively participating in the production of data and documentation, attending seminars, meetings and conferences.
- Contributing to the coordinating, planning and executing the project tasks required to collaborate with industry partners.
- Contributing to ethical, high quality and innovative research and evaluation through activities such as scholarship, quality publication, external grant acquisition and presentations that aligns with the College areas of research strength and focus.
- Assisting principal supervisors with supervision of postgraduate and honours students, where involved.
- Establishing and maintaining collaborations as instructed within the University, and at State, national and international levels in order to improve research outputs, patents and publications.
- Some out of hours work (including weekends) as well as rural SA, interstate and overseas travel, may be required.
- Any other responsibilities in line with the level of the position as assigned by the Supervisor and/or the University.

A successful candidate is required to be:

- *An Australian Citizen, eligible to gain an Australian Defence Clearance and meet International Traffic in Arms Regulations (ITAR);*
- *Ability to provide a National Police Clearance obtained within the last 3 months;*
- *And potentially attain, and maintain, an Australian Security clearance level NV1 as determined under the Australian Government Protective Security Policy Framework (PSPF).*

KEY POSITION CAPABILITIES

- Completion of an Honours or higher degree in Engineering with specialisation in Mechatronics/Robotics or Mechanical Engineering.
- Established expertise in developing and constructing mechatronic systems.
- Demonstrated experience in developing and fielding instrumentation systems.
- Ability to organise and conduct field work.
- Capability to deliver project targets on time.
- Well-developed interpersonal skills and the capacity to collaborate and engage with diverse stakeholders and industry partners.
- Demonstrated ability to critically review the literature in relevant fields.
- Demonstrated emerging research experience in terms of peer-reviewed publications and presentations at a national and/or international level.
- Ability to undertake collaborative research and establish and maintain effective relationships with university staff and industry partners.
- Demonstrated excellent oral and written communication skills in an academic environment.

Desired skills

- Expertise in using mechanical and electronic CAD design tools, microcontroller systems, C++ or Python programming, 3D printing, Laser cutting, and mechanical systems construction.