RESEARCH FELLOW

DEPARTMENT/UNIT	Electrical and Computer Systems Engineering
FACULTY/DIVISION	Faculty of Engineering
CLASSIFICATION	Level A
DESIGNATED CAMPUS OR LOCATION	Clayton campus

ORGANISATIONAL CONTEXT

At Monash, work feels different. There's a sense of belonging, from contributing to something groundbreaking – a place where great things happen. You know you're part of something special and purposeful because, like Monash, your ambitions drive you to make change.

We have a clear purpose to deliver ground-breaking intensive research; a world-class education; a global ecosystem of enterprise – and we activate these to address some of the challenges of the age, Climate Change, Thriving Communities and Geopolitical Security.

We welcome and value difference and diversity. When you come to work, you can be yourself, be a change-maker and develop your career in exciting ways with curious, energetic, inspiring and committed people and teams driven to make an impact – just like you.

Together with our commitment to academic freedom, you will have access to quality research facilities, infrastructure, world class teaching spaces, and international collaboration opportunities.

We champion an inclusive workplace culture for our staff regardless of ethnicity or cultural background. We have also worked to improve gender equality for more than 30 years. Join the pursuit of our purpose to build a better future for ourselves and our communities – #ChangeIt with us.

The Faculty of Engineering is the #1 Engineering School in Australia*, renowned worldwide for the quality and calibre of our teaching, research and graduates. We offer a comprehensive selection of undergraduate, graduate, postgraduate and higher-degree by research programs in a wide range of engineering disciplines. Our research activities provide a platform for establishing a thriving educational enterprise and our staff are committed to creating a dynamic learning environment. The research activities range from fundamental studies to research with a strong application orientation. To learn more about the Faculty of Engineering, please visit our website.

POSITION PURPOSE

A Level A research-only academic is expected to contribute towards the research effort of the University and to develop their research expertise through the pursuit of defined projects relevant to the particular field of research.

Monash robotics has an exciting opportunity for a Postdoctoral Research Fellow to join the team. Monash Robotics is Australia's leading human-centred robot research facility, comprising 9 full-time faculty members and over 60 PhD students and postdoctoral research fellows.

This position will contribute to the research activities of the recently awarded ARC Linkage Grant titled "Intelligent Robotics for Pharmaceutical Experimental Development" project, a collaboration between CSL Behring and Monash. The objectives of the project are to: (1) develop a robotic lab assistant that can learn to perform experimental procedures to help with automating laborious experimental tasks, (2) develop and implement an interactive task and motion planner to optimally schedule experimental procedures, and (3) develop the necessary interfaces to enable successful collaboration between the proposed intelligent robotic system and biochemists. Working closely with Prof. Kulic and Dr Burke, the research fellow will develop robot simulators and human-in-the-loop digital twin models of laboratory robots and experimental equipment, develop robot algorithms for task and motion planning, and deploy the developed algorithms in simulation, user studies and hardware, in collaboration with our industry partner.

Reporting Line: This position will report to senior academics within the Department.

Supervisory Responsibilities: Not applicable

Financial Delegation: Not applicable

Budgetary Responsibilities: Not applicable

KEY RESPONSIBILITIES

Specific duties required of a Level A research-only academic may include:

1. The conduct of research under limited supervision either as a member of a team or, where appropriate, independently and the production or contribution to the production of conference and seminar papers and publications from that research
2. Involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise
3. Limited administrative functions primarily connected with the area of research of the academic
4. Development of a limited amount of research-related material for teaching or other purposes with appropriate guidance from other staff
5. Occasional contributions to teaching in relation to their research project(s)
6. Experimental design and operation of advanced laboratory and technical equipment or conduct of advanced research procedures
7. Attendance at meetings associated with research or the work of the organisational unit to which the research is connected and/or at departmental, school and/or faculty meetings and/or membership of a limited number of committees
8. Advice within the field of the staff member's research to postgraduate students
9. Other duties as directed from time to time

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:

- a doctoral qualification in Engineering, Computer Science or related field

Knowledge and Skills

2. Demonstrated analytical and manuscript preparation skills; including a track record of refereed research publications

3. Ability to solve complex problems by using discretion, innovation and the exercise diagnostic skills and/or expertise

4. Well-developed planning and organisational skills, with the ability to prioritise multiple tasks and set and meet deadlines

5. Excellent written communication and verbal communication skills with proven ability to produce clear, succinct reports and documents

6. A demonstrated awareness of the principles of confidentiality, privacy and information handling

7. A demonstrated capacity to work in a collegiate manner with other staff in the workplace

8. Demonstrated computer literacy and proficiency in the production of high level work using software such as Microsoft Office applications and specified university software programs, with the capability and willingness to learn new packages as appropriate

9. Demonstrated research experience in an area of robotics, automation or software engineering; exemplifying hands-on, practical problem solving and debugging skills.

10. Familiarity with robotics programming environments and libraries such as ROS, along with digital twin and simulation environments (eg. Gazebo, Isaac Sim, CoppeliaSim, PyBullet).

OTHER JOB RELATED INFORMATION

- Travel to other campuses of the University may be required
- There may be a requirement to work additional hours from time to time
- There may be peak periods of work during which taking of leave may be restricted

GOVERNANCE

Monash University expects staff to appropriately balance risk and reward in a manner that is sustainable to its long-term future, contribute to a culture of honesty and integrity, and provide an environment that is safe, secure and inclusive. Ensure you are aware of and adhere to University policies relevant to the duties undertaken and the values of the University. This is a standard which the University sees as the benchmark for all of its activities in Australia and internationally.