Position Description – Research Fellow

Position Details

Position Title: Industry Research Fellow – Experimental Propulsion

College/Portfolio: STEM College **School/Group:** School of Engineering

Campus Location: Primarily based at Bundoora East campus, and the potential to work across other RMIT campuses as required.

Classification: Academic Level B **Time Fraction:** 1.0

Employment Type: Fixed Term

Fixed Term Reason: **Research**

Reporting Line: DSTG Joint Chair in Supersonic Propulsion & Flight Technologies

No. of Direct reports: 0

RMIT University

RMIT is a global university of technology, design and enterprise, committed to creating transformative experiences for students and making a meaningful impact through research, innovation, and engagement. For more information on RMIT University follow the links below.

https://www.rmit.edu.au/about
https://www.universitiesaustralia.edu.au/university/rmit-university/
https://www.rmit.edu.au/about/facts-figures

Our campuses in Melbourne (City, Brunswick, Bundoora, and Point Cook) are complemented by international campuses in Vietnam and a centre in Barcelona, Spain. We proudly acknowledge the Woi Wurrung and Boon Wurrung peoples of the eastern Kulin Nation on whose unceded lands our campuses are located.

We are deeply committed to reconciliation and Indigenous self-determination, embedding these values throughout our policies, culture and structures.

https://www.rmit.edu.au/about/our-locations-and-facilities

Why Join RMIT?

Our people are at the heart of everything we do. At RMIT, we value innovation, collaboration and impact. Our values are the heart (durrung) of who we are and what we stand for at RMIT. They guide what we do, how we make decisions, and how we treat each other.

Inclusion **Imagination** **Integrity** **Courage** **Passion** **Impact**

Learn more about our values: https://www.rmit.edu.au/about/our-strategy/values

Organisational Accountabilities

RMIT is committed to the safety, wellbeing and inclusion of all staff and students. As a staff member, you are expected to comply with all relevant legislation and RMIT policies, including those related to: Equal opportunity, Occupational health and safety, Privacy and trade practices & Child safety standards:

Appointees are responsible for completing all required training and ensuring that they and their team members remain up to date on relevant compliance obligations.

Staff are expected to understand and support RMIT's child safe practices as part of their professional responsibilities. More about our child safety commitment: https://www.rmit.edu.au/about/our-locations-and-facilities/facilities/safety-security/child-safety.

Leadership at RMIT

At RMIT, leadership is not defined by position or hierarchy—it is a shared responsibility demonstrated by all staff, regardless of role or title. Leadership is grounded in our six core values, which guide and shape how we work together, make decisions, and create impact.

Effective leadership means consistently integrating these values into everyday actions and interactions, whether influencing a project outcome, supporting a colleague, or leading a team. All staff are expected to embody the principles of the *Be–Know–Do* Leadership Model:

Be – We are open and authentic, inclusive and empowering. We are purpose driven role models and communicators.
Know – We are self-aware, and understand our stakeholders, our sector and priorities.
Do – We set clear direction and expectations, we develop ourselves and others and promote mutual accountability to deliver results.

At every level, leadership at RMIT is about influence, contribution, and mindset. It is reflected in how we empower others, foster collaboration, and drive positive change through capability-building and alignment to strategic goals.

The STEM College

The STEM College holds a leading position and expertise in the science, technology, engineering, mathematics and health (STEM) fields. We are uniquely positioned to influence and partner with industry, as never before.

STEM College is a community of exceptional STEM researchers, teachers, inventors, designers and game-changers, supported by talented professional staff. We offer higher education programs across all STEM disciplines at the Bachelor, Master and PhD levels, and ensure our students experience an education that is work-aligned and life-changing.

The College is renowned for its exemplary research in many STEM areas including advanced manufacturing and design; computing technologies; health innovation and translational medicine; nano materials and devices; and sustainable systems. Our brilliant researchers attract funding from government and industry sources.

Industry is at the heart of what we do. It ensures our research has real world impact, and our students are truly work-ready. Under the leadership of DVC STEM College & Vice President, Digital Innovation, we

have established new hubs of industry-connected digital innovation and endeavour and are engaging with global STEM organisations at scale.

Our diversity and shared values empower our work, and we are proud of the College's inclusive, caring culture. We offer a safe, dynamic work environment, and support every member of our community to achieve their potential. The College appointed Victoria's first ever Dean of STEM, Diversity & Inclusion in 2020, and this role drives gender equity, diversity and inclusion strategies across the College.

STEM College employs 1,000 staff who deliver onshore and offshore programs to approximately 20,000 students.

We are here to positively impact the world and create the next generation of STEM leaders.
www.rmit.edu.au/seh

Position Summary

The Research Fellow will work with research teams and partnerships in the School and Research Institutes. The Research Fellow is required to undertake research activities in line with the University's research strategy. The position will carry out independent and/or team research which has a significant impact in the area of their specialisation and be acknowledged at a national level as being influential in expanding the knowledge of their relevant discipline.

The Research Fellow's role is primarily to plan, develop and engage in high quality research projects that are aligned with the University's research focus areas. The Research Fellow will embed their research expertise into the life of the School through the development of high-quality, productivity-driven research networks across RMIT and with local and national, internal and external partners. Research Fellows will be expected to engage in high quality research projects, to achieve success in attracting research funding and to produce high quality outputs.

The Research Fellow will play a key role in advancing experimental research in next-generation rocket and air-breathing propulsion systems under the Joint Chair for Supersonic Propulsion & Flight Technologies. The role will focus on rotating detonation engine (RDE) technologies and related high-enthalpy propulsion concepts through the design, execution, and analysis of experimental campaigns in ground and flight tests. The successful candidate will work within a highly dynamic, multidisciplinary team comprising researchers, engineers, and technical specialists to deliver impactful outcomes supporting various parallel research programs. This position will suit a practical, outcome-driven researcher who thrives in a fast-paced, collaborative environment and seeks to make a substantial and real contribution to the future of high-speed flight and propulsion.

Key Accountabilities

1. Conduct high-quality research individually or as part of a team, including: managing research projects within timelines and budgets and ensuring compliance with quality and reporting requirements and supervising higher degree by research candidates.
2. Actively contribute to the development of research strategy within the research team, ensuring it aligns to University strategy.
3. Lead and contribute to the design, setup, and execution of experimental programs involving high-speed combustion and propulsion systems, with an emphasis on RDEs and related detonation phenomena.
4. Develop and implement diagnostic and measurement systems, including high-speed pressure, optical, and flow-field techniques.
5. Contribute to broader Assembly, Integration and Test (AIT) and flight test activities as required.
6. Conduct data reduction, post-processing, and analysis using established and custom computational methods.
7. Support the development and operation of ground test facilities, including safety documentation, test planning, and risk management.

8. Collaborate closely with internal and external partners to ensure research objectives are achieved.
9. Prepare technical reports, journal manuscripts, and presentations for both academic and defence audiences.
10. Undertake other duties as directed, consistent with the classification level and scope of the role.

Key Selection Criteria

1. Demonstrated experience in designing, conducting, and analysing high-enthalpy or reacting-flow experiments such as propulsion or combustion systems.
2. Evidence of hands-on experimental capability, including facility operation, instrumentation, and troubleshooting under high-pressure and high-temperature conditions.
3. Proficiency with data analysis tools and scientific programming languages (e.g., Python, MATLAB, LabVIEW).
4. Commitment to safe laboratory practices and familiarity with experimental risk management processes.
5. A practical, outcome-oriented mindset with a strong drive to translate experimental research into tangible impact.
6. Emerging track record and recognition for quality research outputs which will contribute to existing Discipline and School research areas, evidenced by publications, development of new research initiatives, competitive research funding, and industry links.
7. Ability to build effective networks with colleagues and generate alternative funding projects through effective liaison with industry and government.
8. Excellent interpersonal and communication skills appropriate for interacting with higher degree by research candidates, staff and industry, together with a strong commitment to teamwork and multidisciplinary collaboration.

Qualifications

Mandatory: PhD or equivalent in a relevant field

The holder of this role must be an Australian citizen and be able to obtain and maintain a Personnel Security Clearance at Negative Vetting Level 1.

Working with Children Check

Appointment to this position is subject to holding a valid Victorian Working with Children Check, National Police Check and other checks as required by the specific role. Maintaining a valid Working With Children Check is a condition of employment at RMIT.