Position Description – Postdoctoral Fellow – DIAMETER Project

Position Details

Position Title: Postdoctoral Fellow – DIAMETER Project

College/Portfolio: International and Engagement

School/Group: RMIT Europe

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

Classification: Academic Level B

Time Fraction: 1.0 FTE

Employment Type: Continuing

Reporting Line: Senior Lecturer, School of Engineering & Research Director, Infrastructures

No. of Direct reports: N/A

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.

RMIT Europe

RMIT Europe is the University's European Innovation Hub located in Barcelona, Spain, serving as the gateway for European research, industry, government and enterprise to innovation and talent in Australia and Asia.

Led by RMIT Europe's Executive Director on behalf of the RMIT Europe Board, our objectives include:

- Make an impact in the region through research and innovation and lifelong learning.
- Increase research capacity and capability for RMIT in Europe, with a focus on high impact European partnerships leveraging funding from the European Commission and other national and international sources.
- Develop collaborative opportunities for education with European partners.
- Facilitate international experiences for RMIT staff and students with European partners and grow opportunities for global work integrated learning for RMIT students.
- Leverage and grow industry partnerships to support the quality and relevance of our education and to ensure the impact of our research.
- Strengthen RMIT's reputation and profile in Europe and globally.

Position Summary

The Postdoctoral Fellow will be based at RMIT Europe and their primary focus will be to deliver on RMIT Europe's objectives under the DIAMETER project (Demonstration of a sustainable circular-by-design manufacturing system based on additive manufacturing) funded by the EU's Horizon Europe Funding Programme (https://www.diameter-eu.org/).

DIAMETER aims to facilitate the implementation of a circular economy within the metal manufacturing sector through the development of hybrid manufacturing systems based on additive manufacturing. The Consortium is developing a set of digital tools to improve the design, optimising the manufacturing process and facilitating the implementation of circularity strategies (remanufacturing, refurbishing, repairing and recycling) in the additive manufacturing industry. To support the development of those tools, we are creating a novel AI-assisted algorithm capable of calculating both the ecological and economic impacts of a process to assess its sustainability. This AI-assisted algorithm relies on experimental data, from process monitoring and part characterisations, and process simulation, covering preprocessing machining, additive manufacturing and post-processing machining. We will integrate these tools into a first platform, called DIAgonal, to facilitate the uptake by the industry. This platform will integrate the European Digital Product Passport by enabling the use of supplier data for more accurate ecological impact estimations and allowing the upload of experimental data to enrich product transparency on origin, materials, and recyclability. We will also develop a second platform, DIAdemia, to support the upskilling of the workforce through interactive training courses, workshops, and exercises. Overall, DIAMETER will contribute to reducing the manufacturing sector's carbon footprint, enhancing recycling, developing a greener Industry 4.0 and promoting local production.

RMIT Europe (under the coordination of RMIT University, Australia, and with support from other partners) is working on a specific work package with the primary aim of developing AI-assisted tools to drive the decision-making in additive manufacturing (AM) towards more circular manufacturing, from part design to part end-of-life. This will be achieved through a comparison of engineering design and life cycle analysis (LCA) impacts across various scenarios (such as alterative AM process selection for near-net and net-shape part manufacture as well as repair/refurbishment/reuse/recycling options), coupled with an evaluation of economic feasibility. The tool development is supported by experimental and simulated AM process and LCA test case data obtain from other work packages within the DIAMETER project. Project partners are supporting the development of the AI-assisted algorithm and providing input regarding AM process capability including part repair possibilities.

The selected Postdoctoral Fellow will coordinate RMIT Europe’s contribution on this project work package and deliver on the tasks we are responsible for. They will also work with RMIT colleagues and DIAMETER consortium partners to develop international exposure of the project results.

Key Accountabilities

As directed by the DIAMETER academic leads at RMIT University (Mazur and Molotnikov) and in consultation with the project coordinator and other project partners:

- Assume responsibility for day-to-day oversight of DIAMETER work package and task implementation, delivery and reporting
- Liaise with project partners including the lead for all project deliverables and reporting
- Develop a tool to drive the decision-making in additive manufacturing (AM) towards more circular manufacturing, from part design to part end-of-life.
- Prepare documentation and materials around coordination, governance and progress reports.
- Collate results of project activities and assist in the preparation of project deliverables and publications within agreed timeframes.
- Disseminate DIAMETER research outcomes to other team members, clients and the broader research community internal and external to RMIT University, through high quality papers/journal articles, seminars, and conference attendance.
- Participate in periodic project meetings at various locations in Europe
- Contribute to the efficient delivery of all the required technical deliverables and reports in due time.

As directed by the Research Director, Infrastructures:

- Support in the reporting to the EU
- Contribute to the development of new funding applications, leveraging subject matter expertise, networks and the experiences and knowledge generated through the project
- Participate in the compulsory annual work planning and performance management processes.
- Perform other duties that may be required for the efficient operations of the RMIT Europe team.

Key Selection Criteria

Essential:

1. Demonstrated ability to develop computational models for engineering decision making, ideally in manufacturing and engineering scenarios
2. Familiarity with metal additive manufacturing processes and design for additive manufacturing principles.
3. Experience with machine learning methods and integration into hybrid modelling systems
4. Demonstrated ability to clearly communicate research concepts and results in high-quality journal publications and to research stakeholders.
5. Demonstrated project management skills, and ability to deliver project outcomes on time.
6. Demonstrated critical thinking and problem-solving skills in multi-disciplinary research teams.
7. Ability to work in a team

Qualifications

- PhD in Materials/Manufacturing/Mechanical Engineering or related discipline
- High level proficiency in English (essential) and Spanish (beneficial)
- Eligibility to work legally in Spain