



Position Description – Postdoctoral Fellow (DIAMETER Project)

Position Details

- Position Title:** Postdoctoral Fellow (DIAMETER Project)
- College/Portfolio:** International & Engagement Portfolio
- School/Group:** RMIT Europe
- Campus Location:** Based at RMIT Europe in Barcelona (Spain), travel may be required
- Classification:** Academic Level B
- Employment Type:** Continuing/Ongoing contract
- Time Fraction:** Full Time (37 hours per week)
- Expected starting date:** 1 November 2024, coinciding with the start of the project.

RMIT University

RMIT is a multi-sector university of technology, design and enterprise with more than 96,000 students and close to 10,000 staff globally. The University's mission is to help shape the world through research, innovation and engagement, and to create transformative experiences for students to prepare them for life and work.

<https://www.rmit.edu.au/about>

<https://www.universitiesaustralia.edu.au/university/rmit-university/>

Our three main campuses in Melbourne are located in the heart of the City, Brunswick and Bundoora. Other locations include Point Cook, Hamilton and Bendigo, two campuses in Vietnam (Hanoi and Ho Chi Minh City) and a centre in Barcelona, Spain. RMIT is a truly global university.

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

We are also committed to redefining our relationship in working with, and supporting, Indigenous self-determination. Our goal is to achieve lasting transformation by maturing our values, culture, policy and structures in a way that embeds reconciliation in everything we do. We are changing our ways of knowing, working and being to support sustainable reconciliation and activate a relationship between Indigenous and non-Indigenous staff, students and community. Our three campuses in Melbourne (City, Brunswick and Bundoora campuses) are located on the unceded lands of the people of the Woi Wurrung and Boon Wurrung language groups of the eastern Kulin Nation.

Why work at RMIT University

Our people make everything at the University possible. We encourage new approaches to work and learning, stimulating change to drive positive impact. Find out more about working at RMIT University, what we stand for and why we are an Employer of Choice.

<https://www.rmit.edu.au/careers>

We want to attract those who will make a difference. View RMIT's impressive standings in university rankings.

<https://www.rmit.edu.au/about/facts-figures/reputation-and-rankings>

RMIT Europe

RMIT Europe is a creative and dynamic hub of RMIT university based in the heart of Barcelona. It is a centre that is successfully extending RMIT University's international engagement in Europe and strategically growing the university's collaborative research and education activity in Europe. RMIT Europe is led by the Executive Director on behalf of the RMIT Europe Board. It facilitates RMIT's collaboration in the development of innovative pan-European projects attracting global knowledge from Europe, Australia and Asia to deliver local impact.

The objectives for RMIT Europe are to:

- Act as a gateway between Europe and Australia and make an impact in the region through research and innovation and lifelong learning
- Strengthen RMIT's reputation and profile in Europe and globally
- Increase capacity and capability, 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

For more information, visit: <https://www.rmit.eu/> and click [here](#) for a list of current research projects

Position Summary

The Postdoctoral Fellow will work based at RMIT Europe and the 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 Horizon Europe Funding Programme.

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 will develop a set of digital tools to improve the design, optimise the manufacturing process and ease the implementation of circularity strategies (remanufacturing, refurbishing, repairing and recycling) by the additive manufacturing industry. To support those tools, we will develop a novel AI-assisted algorithm able to calculate both the ecological and economic impacts of a process to assess its sustainability. This AI-assisted algorithm will rely 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. The 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 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) will be leading the following tasks:

- Simulation of the Additive Manufacturing (AM) and machining processes. Provide data for the Life Cycle Assessment (LCA), on the power, feedstock and gas consumption, and gas emissions. Development of volumetric simulations of the manufactured parts and simulations of the processes by the finite element method.
- Development of a tool to help manufacturer in their design-for-manufacturing to increase the circularity of the manufacturing system. Using the circularity-driven LCA algorithm, the AI-assisted tool will evaluate the design that will affect the repair/refurbishment/reuse/recycling possibilities and compare impacts using the AI-assisted circularity-driven algorithm.

The post-holder will coordinate RMIT Europe's contribution on this project and deliver on the tasks assigned to us. RMIT will work with DIAMETER consortium partners to develop international exposure of the project results and thus reaching beyond the EU will be achieved.

Reporting Line

Reports to:

- Prof. Ivan Cole, Senior Researcher at School of Engineering (RMIT University)
- Clara Caminal, Senior Manager, Research Projects Office (RMIT Europe) for day-to-day operational and stakeholder engagement activities.

Direct reports: Nil

Organisational Accountabilities

RMIT University is committed to the health, safety and wellbeing of its staff. RMIT and its staff must comply with a range of statutory requirements, including equal opportunity, occupational health and safety, privacy and trade practice. RMIT also expects staff to comply with its policy and procedures, which relate to statutory requirements and our ways of working.

RMIT is committed to providing a safe environment for children and young people in our community. Read about our commitment and child safe practices. <https://www.rmit.edu.au/about/our-locations-and-facilities/facilities/safety-security/child-safety>.

Appointees are accountable for completing training on these matters and ensuring their knowledge and the knowledge of their staff is up to date.

Key Accountabilities

As directed by the DIAMETER academic lead and in consultation with the project coordinator and other relevant partners:

- Assume responsibility for day-to-day oversight of DIAMETER project implementation, delivery and reporting
- Liaise with project partners including the lead for all project deliverables and reporting
- Develop a tool to help manufacturer in their design-for-manufacturing to increase the circularity of the manufacturing system
- Simulation of the Additive Manufacturing (AM) and machining processes including a knowledge of circularity
- 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.
- Communicate 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.

As directed by the Senior Manager, Research Projects Office:

- Contribute to the efficient delivery of all the required technical deliverables and reports in due time.
- Contribute to the development of grant applications building one's own area of expertise and the experiences and knowledge generated through the project
- Participate in 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

- Demonstrated ability to develop computational models of manufacturing processes with a preference for additive manufacturing
- Experience in machine learning methods and integration into hybrid modelling systems Demonstrated ability to clearly communicate research concepts and results in high-quality research outlets, in grant applications, and to research stakeholders.
- Demonstrated project management skills, and ability to deliver project outcomes on time.
- Demonstrated critical thinking and problem-solving skills in multi-disciplinary research teams.
- Ability to work in a team

Qualifications

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

Endorsed:	Signature: Name: Title: Date:	Approved:	Signature: Name: Title: Date:
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