

Position Description

Position Title: ARC Postdoctoral Fellow
in Surface Engineering of Advanced Materials

Classification: Level A6 plus 17% super

Faculty: Faculty of Science, Engineering and Technology

Department: Surface Engineering of Advanced Materials

Position Purpose

We are seeking a highly motivated Postdoctoral Fellow with a competitive research track record and a demonstrated ability of building relationships with industry partners, with demonstrated experience and ability to work across disciplines, contexts and sectors. The Postdoctoral Fellow will work closely with industry partners to develop new projects, lead development of a major research program, and assist in building SEAM into a world-class initiative focused on surface engineering. The Postdoctoral Fellow will work on a specific research focus to provide research outcomes that deliver significant real impact to our industry partners and to the research community in line with the University and the Centre's objectives and strategic vision.

The appointees will be responsible for conducting research to ensure that the project achieves its milestones. The Postdoctoral Fellow will be involved in the development of resources for the project, training new research team members, liaison with the industry partners, and other project duties as directed by the Project Leaders in the Centre. The position also involves reporting current research results in both written and oral form as well as authoring scientific research publications in leading international journals.

About the Centre

Swinburne's ARC Training Centre in Surface Engineering for Advanced Materials (SEAM), led by Swinburne Distinguished Professor Christopher Berndt, with an additional 18 Chief Investigators, will be the first ARC funded Training Centre of its kind in Australia, delivering commercial benefits for industry.

The Centre will integrate industry-university cooperation for applied training within an industrial setting, cover a spectrum of important research themes and applications including biomaterials, graphene layering, high temperature coatings, laser metal deposition for materials repair and Industry 4.0 manufacturing processes, and aspires to provide pathways for job creation and a high-quality workforce in manufacturing.

Surface engineering for advanced materials is a core need in all manufacturing sectors and controls the efficiency, productivity and sustainability of Australian industry. The Centre strives to provide an excellent environment for carrying out research, explores projects with industry, government and other organisation, targets the training of early career researchers in an industrial context, aims to build an international research collaborative network and pursues ambitious outcomes that are reflected in terms of industry-fit researchers and commercial benefits for industry. The outcomes of the applied research and IP creation will promote new commercial ventures for entrepreneurs.

About the Partnership

Swinburne University of Technology will lead the Centre, in partnership with the University of South Australia and RMIT University. Fifteen core industry partners together with another fourteen industry organisations, professional bodies and research organisations will support SEAM through intellectual input, knowledge sharing and staff/student exchanges.

Location

This position is located at the Hawthorn campus. The incumbent will be required to travel to industry partner sites.

Key Responsibility Areas

Research	Work towards research objectives, ensuring close liaison with Chief Investigators, Partner Investigators and industry Partner Organisations; Planning and execution of relevant experimental work and data analyses, including laboratory works and analytical equipment relevant to surface engineering. Execution of appropriate research at Partner Organisations; Maintain a high-quality record of regular and original research publications of high international standing including peer reviewed journal papers; Joint supervision and mentoring of students.
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Supervision	Joint supervision and mentoring of students.
Administration	Prepare technical reports and progress meeting reports for industry partners.
Build relationships	Preparation of progress reports, project reports and presentations. • Presentations at progress meetings, industry meetings, seminars to industry, stakeholders and university students.
Swinburne Behaviours	Commitment to the Swinburne Behaviours of: • Communicate – Say it – have the conversation, respect each other's differences, give meaningful feedback and share honestly and openly • Listen and Learn – Hear it, learn from it – learn from one another, actively listen to each other, resolve conflict and be innovative • Collaborate – Share it – work constructively together with a common purpose to achieve the university's goals • Trust – Trust it – be open to and with others, act with fairness and respect, inspire positive expectations and communicate effectively • Act – Do it – have a strong sense of immediacy, take practical action and see it through
Other	Other duties as directed

Key Selection Criteria

		Essential / preferable
Qualifications	PhD degree in materials science, chemistry, physical chemistry, mechanical engineering, biomedical engineering or related disciplines.	Essential
Experience/ Knowledge/ Attributes	Demonstrated success in contributing to high-impact research of national or international significance, and capacity to conduct high-quality research (publications in internationally leading journals).	Essential
	Proven experience in coatings, and thermal spray, and/or chemical analysis and materials characterisation techniques, such as SEM, TEM, EDS, XPS, XRD, AFM, Raman, and Nano-indentation.	Essential
	Strong written and verbal communications skills, including preparation of progress and technical reports, and presenting research outcomes at conferences, seminars.	Essential

	High level interpersonal skills and demonstrated ability to work independently as well as collaboratively in a research team.	Essential
	Demonstrated ability to contribute to supervision of higher degree research students and to assist in the preparation of competitive grant applications.	Preferable
	Demonstrated ability to work with industry partners and/or Government organisations.	Preferable
Other	A valid driver's licence.	Preferable
	A valid working with children's check card (or ability to obtain prior to or upon commencement).	Essential