POSITION DESCRIPTION

THE UNIVERSITY OF MELBOURNE

School of Electrical, Mechanical and Infrastructure Engineering
Melbourne School of Engineering

Research Fellow in Integrated Computational Materials Engineering

In line with the special measure H103/2014 provided for under section 12 of the Equal Opportunity Act 2010 (VIC), the Melbourne School of Engineering strongly encourages applications from suitably qualified female candidates.

POSITION NO	0042718
CLASSIFICATION	Research Fellow (Level A)
SALARY	$66,809* – $90,657 p.a. (*PhD entry Level A.6 $84,458 p.a.)
SUPERANNUATION	Employer contribution of 17%
EMPLOYMENT TYPE	Full-time, fixed-term position available for 2 years Fixed term contract type: Research The Melbourne School of Engineering is strongly committed to supporting diversity and flexibility in the workplace. Applications for part-time or other flexible working arrangements will be welcomed and will be fully considered subject to meeting the inherent requirements of the position.
OTHER BENEFITS	http://about.unimelb.edu.au/careers/working/benefits
CURRENT OCCUPANT	New
HOW TO APPLY	Online applications are preferred. Go to http://about.unimelb.edu.au/careers, under 'Job Search and Job Alerts', select the relevant option ('Current Staff' or 'Prospective Staff'), then find the position by title or number.
CONTACT FOR ENQUIRIES ONLY	Professor Graham Schaffer Tel +61 3 8344 6863 Email graham.schaffer@unimelb.edu.au *Please do not send your application to this contact*

For information about working for the University of Melbourne, visit our websites:
about.unimelb.edu.au/careers
joining.unimelb.edu.au

Position Summary

You will be part of a new team developing a comprehensive program in integrated computational materials engineering with particular emphasis on the design of metals in order to rapidly focus the search for new, optimised alloys in the most promising regions of multidimensional materials space and provide decision support to reduce empiricism. This particular project will focus on powder injection moulding of stainless steel as a relatively simple alloy system where the necessary thermodynamic and physical property databases are available and which are widely used commercially. The project will use genetic algorithms to find global optima coupled to sintering models to simulate the development of microstructure and constitutive models for the development of properties. The expected outcomes include an integrated computational model for the design of alloys for sintering and prospective stainless steel compositions for industrial applications.

You will conduct independent research, leading to the preparation and publication of research outcomes in conferences and journals. You will be located in the Department of Mechanical Engineering, School of Electrical, Mechanical and Infrastructure Engineering in the Melbourne School of Engineering and will be expected to be an active member of the Department, collaborating with other researchers. You may undertake small amounts of teaching and research supervision directly related to your area of research, as required.

The University plan seeks to increase the diversity of the workforce and the representation of women in areas they have been traditionally under-represented. Consistent with this the School is seeking to increase the representation of women in the academic workforce across engineering disciplines. Under a Special Measure, under Section 12 (1) of the Equal Opportunity Act 2010 (Vic) the School is seeking to lift the representation of women from 20% in 2014 to at least 25% over the next 5 years, and strongly encourages applications from suitably qualified female candidates.

1. Selection Criteria

1.1 ESSENTIAL

- A PhD in materials engineering, or a closely related discipline;
- A record of high quality research as evidenced by publications in journals and at conferences commensurate with opportunity;
- Experience in computational materials engineering and the use of materials databases, particularly as applied to alloy design;
- Excellent written and verbal communication skills, demonstrated by presentation of research results at conferences, internal forums and published papers;
- Excellent interpersonal skills and the ability to work both independently and as part of a team.

2. Key Responsibilities

2.1 RESEARCH

- Working with the Chief Investigator, develop the research plan based on the goals of the research programme, including effective timelines and milestones;
- Independently carry out research on the nominated research project and work towards completion of the aims of the project;

- Maintain accurate and detailed records of all research conducted;
- Contribute to the analysis of the research data;
- Regularly write technical reports on the research conducted;
- Participate in the preparation of manuscripts for publication in peer-reviewed journals;
- Liaise effectively with collaborators and a variety of internal and external stakeholders;
- Contribute to the development of the Department's and the School's strong research programs in materials engineering and computational engineering;
- Work towards building an independent research project.

2.2 TEACHING AND LEARNING

- Contribute to teaching, training, scientific mentoring and supervision of students.

2.3 ENGAGEMENT

- Active participation in outreach activities relating to research and scholarship;
- Effective liaison with external networks to foster collaborative partnerships;
- Involvement in professional activities;
- Present results at local and national forums;
- Attend and actively participate in departmental seminars, meetings and/or committee memberships.

2.4 SERVICE AND LEADERSHIP

- Active participation in the communication and dissemination of research;
- Identify sources of and apply for funding to support individual or collaborative projects relating to research in the discipline.

2.5 OTHER

- Perform other tasks as requested by the supervisor or the Head of the Department;
- Undertake Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in Section 5.

3. Equal Opportunity, Diversity and Inclusion

The University is an equal opportunity employer and is committed to providing a workplace free from all forms of unlawful discrimination, harassment, bullying, vilification and victimisation. The University makes decisions on employment, promotion and reward on the basis of merit.

The University is committed to all aspects of equal opportunity, diversity and inclusion in the workplace and to providing all staff, students, contractors, honorary appointees, volunteers and visitors with a safe, respectful and rewarding environment free from all forms of unlawful discrimination, harassment, vilification and victimisation. This commitment is set out in the University's People Strategy 2015-2020 and policies that address diversity and inclusion, equal employment opportunity, discrimination, sexual harassment, bullying and appropriate workplace behaviour. All staff are required to comply with all University policies.

The University values diversity because we recognise that the differences in our people's age, race, ethnicity, culture, gender, nationality, sexual orientation, physical ability and background bring richness to our work environment. Consequently, the People Strategy sets out the strategic aim to drive diversity and inclusion across the University to create an environment where the compounding benefits of a diverse workforce are recognised as vital in our continuous deserve to service for excellence and reach the targets of Growing Esteem.

4. Occupational Health and Safety (OHS)

All staff are required to take reasonable care for their own health and safety and that of other personnel who may be affected by their conduct.

OHS responsibilities applicable to positions are published at:

http://safety.unimelb.edu.au/topics/responsibilities/

These include general staff responsibilities and those additional responsibilities that apply for Managers and Supervisors and other Personnel.

5. Other Information

5.1 DEPARTMENT OF MECHANICAL ENGINEERING

www.mech.unimelb.edu.au

The Department of Mechanical Engineering is one of the largest in Australia. It provides teaching into subjects in the three-year undergraduate degrees of Science, Design and Commerce, which can be followed by a two-year professional Master of Engineering.

The Departmental philosophy is to attract and retain the highest quality staff available in order to maintain a vigorous research effort. Our strategy addresses the most urgent contemporary problems of our rapidly developing industrial society, with investigations into biomechanical engineering, fluids, thermal sciences, manufacturing, materials and design.

5.2 MELBOURNE SCHOOL OF ENGINEERING

www.eng.unimelb.edu.au

The Melbourne School of Engineering is one of Australia's leading Engineering Schools and aims to be the school of choice for the highest performing students and research staff in Australia and within the Time Higher Education Supplement top twenty Schools of Engineering internationally by 2020.

5.3 THE UNIVERSITY OF MELBOURNE

The University of Melbourne is a leading international university with a tradition of excellence in teaching and research. The University offers staff many benefits and prospective staff are encouraged to view the following web links:

www.unimelb.edu.au

www.growingesteem.unimelb.edu.au

www.unimelb.edu.au/careers

5.4 EQUITY AND DIVERSITY

Another key priority for the University is access and equity. The University of Melbourne is strongly committed to an admissions policy that takes the best students, regardless of financial and other disadvantage. An Access, Equity and Diversity Policy Statement, included in the University Plan, reflects this priority.

The University is committed to equal opportunity in education, employment and welfare for staff and students. Students are selected on merit and staff are selected and promoted on merit.

5.5 GOVERNANCE

The Vice Chancellor is the Chief Executive Officer of the University and responsible to Council for the good management of the University.

Comprehensive information about the University of Melbourne and its governance structure is available at http://www.unimelb.edu.au/unisec/governance.html.