



POSITION DESCRIPTION

Academic Positions

(In addition to the Position Classification Standards)

Position Title: Associate Research Fellow on thermoelectric modules

Level: A

Faculty/Division: AIIM

Department/Location: ISEM

Primary Purpose of the Position:

The appointee will play a critical role in delivering key research milestones as set by Auto CRC, ARC Linkage Project and Baosteel research programs. The Associate Research Fellow will actively work on the development, simulation, and performance evaluation of in-house thermoelectric power modules. He/she will be expected to carry out extensive research work in aforementioned research fields, actively collaborate with ISEM personnel and students, prepare and complete quarterly progress reports, as specified in the project funding rules. He/she will participate in postgraduate student supervision, equipment maintenance, delivery of high level publications and dissemination of results through participation in top class conferences.

Position Environment:

ISEM seeks to stimulate the technological and commercial development to advance technologies including batteries for electric vehicles and energy storage; applied superconductivity for electrical and medical devices; energy conversion and transmission; spintronic and electronic materials for applications; terahertz science; and nano structured materials.

The Institute is located at the Australian Institute for Innovative Materials, at the University of Wollongong's Innovation Campus, Australia's first multifunctional materials facility that has the capacity to develop the processes and devices needed to scale-up lab-based breakthroughs in preparation for commercialisation. ISEM has extensive infrastructure, with close to 20 specialized laboratories, including some of the top of the line scientific equipment such as scanning tunnelling microscopes, battery testing and management systems, single crystal growth equipment, and magnetic/electric properties measurement systems.

ISEM has been extremely successful in attracting competitive research funding from Australian Research Council and other funding agencies. It has substantially contributed to overall publications and citations at the university for a number of years. With more than 80 PhD students, ISEM is one of the main hubs in postgraduate student training at UOW.

Major Accountabilities/Responsibilities:

Responsibilities		Outcome	Office Use Only
1.	Design and simulate thermoelectric modules	This will allow investigation of various thermoelectric module architectures	
2.	Manufacturing of thermoelectric modules	Fabrication of actual working modules that will be further investigated	
3.	Performance evaluation of thermoelectric power modules	Comprehensive analysis of thermoelectric modules for estimation of power conversion efficiency and feedback to further development	
4.	Postgraduate Students Supervision	Successful completions of PhD programs.	



5.	Quarterly research progress reports	Delivery of research progress reports as required by funding guidelines.	
6.	Observe principles and practices of Equal Employment Opportunity	To ensure fair treatment in the workplace	
7.	Have OH&S responsibilities, accountabilities and authorities as outlined in the OHS Roles and Responsibilities Document	To ensure a safe working environment for self & others	

Reporting Relationships:

Position Reports to:	<u>Professor S. X. Dou</u>
The position supervises the following positions:	<u>PhD students</u>
Other Key Contacts:	<u>Other related ISEM personnel</u>

Key Relationships:

Contact/Organisation:

List of collaborators if available:

ISEM academic staff

Purpose & Frequency of contact

Purpose of such collaborations

Collaborative work with researchers working on materials

Key Challenges:

1. To be a world class scientist in a rapidly transforming and expanding research field. To be up to date with latest developments in the field.
2. To deliver outcomes of highest merits with potential commercialization prospects and to maintain research productivity with large number of publications.
3. To provide knowledge and skills needed for industrial applications
4. To help maintain an enthusiastic and productive collegial environment.

Knowledge & Skills:

Essential:

- Strong background and knowledge thermoelectric power generation.
- Industry experience in thermoelectric module design/manufacturing/testing.
- Experience in programming languages such as C++, LabView.
- Outstanding analytical skills.

Education & Experience:

Essential:

- At least Masters degree in materials/electrical/mechanical engineering (PhD preferable).
- Demonstrated industry experience in the field of thermoelectrics.



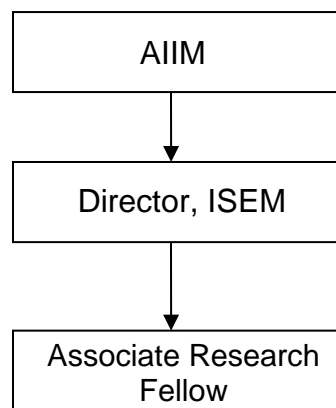
Personal Attributes:

- Excellent time management skills
- Excellent interpersonal skills
- Outstanding written and oral communication skills
- Ability to work under supervision and independently

Special Job Requirements:

May be required to perform duties as equipment or laboratory supervisor, undergo/provide trainings if necessary.

Organisational Chart:



Roles and Responsibilities in Relation to Workplace Health and Safety:

The University of Wollongong is committed to providing a safe and healthy workplace for its workers, students and visitors. All members of the University community have a collective and individual responsibility to work safely and be engaged in activities to help prevent injuries and illness.

In addition to the major accountabilities/responsibilities required for your position, you also hold the following roles and responsibilities in relation to Workplace Health and Safety:

All Staff

- Take reasonable care for your health and safety as well as others.
- Comply with any reasonable instruction by the University.
- Cooperate with any reasonable policies and procedures of the University including reporting of hazards or incidents via the University reporting process.
- Certain staff have specific responsibilities for Work Health and Safety (WHS), further information is available in the document [Roles And Responsibilities for WHS](#) and [WHS Management System](#).
- Ensure work area, equipment and practices are compliant with applicable legislation, standards, codes of practice and University guidelines.
- Ensure risk management activities are undertaken to minimise WHS risk including hazard and incident reporting, risk assessment and safe work procedures.
- Provide the necessary instruction, information, induction, training and supervision to enable work to be carried out safely.



- Ensure Work Health and Safety (WHS) activities and requirements are implemented for area as outlined in the [Roles And Responsibilities for WHS](#) and [WHS Management System](#).

Inherent Requirements:

This position description outlines the major accountabilities/responsibilities and the selection criteria against which you will be assessed as suitable for the position. As such there will be specific job requirements that we refer to as Inherent Requirements.

Inherent Requirements refer to your ability to:

- Perform the essential duties and functional requirements of the job;
- Meet the productivity and quality requirements of the position;
- Work effectively in the team or other type of work organisation concerned; and
- Do the job without undue risk to your own or others health, safety and welfare at work.

If you have any injuries, illness, disorder, impairment, condition or incapacity that may affect your ability to perform the inherent requirements of the position, we encourage you to discuss this with the University to assist in the process of identifying reasonable adjustments to enable you to perform the duties of the position. The University wants to place you in the best situation to use your skills effectively in the position you are applying for at the University.