

POSITION DESCRIPTION

Academic Positions

(In addition to the Position Classification Standards)

Position Title: Associate Research Fellow Level: A
 Faculty/Division: Engineering and Information Sciences
 Department/Location: Civil, Mining & Environmental. Engineering

Primary Purpose of the Position:

To research and develop new sections and/or structural systems for more cost efficient, functional and desirable, cold-formed steel intensive mid-rise apartments

Position Environment:

You will be a member of ARC Research Hub for Australian Steel Manufacturing, hosted by the University of Wollongong (UOW), Faculty of Engineering and Information Sciences. The Steel Research Hub has 5 core Industry Partners (BlueScope, Arrium, the Australian Steel Institute, Bisalloy Steels and Cox Architecture), with BlueScope providing a major investment. In addition, the Steel Research Hub partners with 5 Australian Universities (the University of Queensland, University of Newcastle, Swinburne, RMIT and the University of NSW).

The Steel Research Hub aims to develop breakthrough process and product innovations to enable the Australian steel industry to improve its global competitiveness. It is based on an integrated, value chain-wide approach to innovation in the steel sector, including projects on innovation strategy and management, customer-focused product development, innovation in coating and surface engineering technology, and economic and environmental sustainability of iron and steelmaking. By ensuring sector-wide industry representation and collaboration with leading Universities, the Hub will deliver tangible and lasting economic and environmental benefits, and ensure the nation's future research capacity in the field.

You will also help establish the School of Civil, Mining and Environmental Engineering as a leading research institution in the development of sustainable buildings made of cold-formed steel products. The international profile of both the school and the Hub will be increased through presentations and publications of the research results in international conferences and prestigious academic journals.

Major Accountabilities/Responsibilities:

Responsibilities		Outcome	Office Use Only
1.	Consulting with key stakeholders and other Hub participants on the construction systems that will drive a market transformation towards cold-formed steel intensive mid-rise apartments..	Relevance of research activities to the Hub's objectives.	
2.	Literature review on the state-of-the-practice in cold formed steel	A comprehensive report to the	

	and competing products/systems, including issues of cost and constructability in the Australian context.	supervisor within 2 months.	
3.	Assessing the robustness and functional merit of the existing cold-formed steel multi-storey building systems through intensive computer simulation.	A paper that is presentable in a fully refereed international conference within 9 months.	
4.	Establishing the design guidelines for robust multi-storey buildings composed of cold-formed steel products.	A paper that is publishable in a peer reviewed journal.	
5.	Develop new sections and/or structural systems to suit the building archetypes determined in Hub Project B2.1	New sections and/or structural systems that are cost competitive.	
6.	Conduct laboratory tests of the new sections/systems to verify their structural responses, and develop their design procedure.	A paper that is publishable in a peer reviewed journal.	
7.	Supervising technical officers in setting up laboratory tests.	Safe and successful experimental program.	
8.	Supervisory roles: Communicate and consult with staff on workplace and staffing matters.	To foster direct relationships with staff and enhance engagement with the organisation.	Ongoing
9.	Assistance with mentoring and training students, and supervision of student projects.	Students working in the area of developing new sections/systems for the Hub are properly supported.	
9.	Observe principles and practices of Equal Employment Opportunity	To ensure fair treatment in the workplace	
10.	Have WH&S responsibilities, accountabilities and authorities as outlined in the http://staff.uow.edu.au/ohs/commitment/responsibilities/ document	To ensure a safe working environment for self & others.	

Reporting Relationships:

Position Reports to:	Dr. Lip Teh
The position supervises the following positions:	PhD 3 – B2.3
Other Key Contacts:	Prof. Paul Cooper; Oscar Gregory (Hub Director)

Key Relationships:

Contact/Organisation:

Dr. Lip Teh/School of CME
 Prof. Paul Cooper/SBRC
 Mr. Trevor Clayton (Bluescope)
 Mr. Mark Eckermann (BlueScope)
 Dr. David Nolan (Bluescope)
 Julie Matarczyk (Hub Manager)

Purpose & Frequency of contact

Day-to-day supervisor
 Program Leader, fortnightly
 Industry consultation and reporting, weekly
 Quarterly reporting

Key Challenges:

- Existing structural systems between cold-formed steel members are not generally amenable to structural integrity, and new systems will have to be developed.
- The computer simulation involves not only nonlinear inelastic dynamic analysis, but also contact and impact problems, with extra-ordinarily large numbers of degrees of freedom.
- New laboratory test set-ups will have to be designed and built.

4. The timelines are quite tight and do not allow for significant leeway.

Knowledge & Skills:

Essential:

- Advanced knowledge of nonlinear dynamic behaviour of structures at PhD level.
- Proven finite element modelling skills covering contact and impact problems.
- Ability to work both independently and in a team environment.
- Highly developed written and verbal communication skills in English, as evidenced by research publications and presentations at conferences.
- A strong record of publications in 2010 ERA A* journals, relative to opportunity.
- Demonstrated ability to complete research projects in a timely manner.

Desirable:

- Knowledge of collapse behaviour of building structures.
- Knowledge of optimisation techniques such Genetic Algorithm and Ant Colony.

Education & Experience:

Essential:

- A PhD in structural engineering, specialising in structural dynamics.
- Experience in laboratory tests of cold-formed steel components.
- Proven familiarity with cold-formed steel structures including bolted connections.

Desirable:

- Research experience in cold-formed steel structures.
- Experience or understanding of prevailing materials and construction practices of mid rise residential buildings.
- Experience in training students and co-supervising student projects.

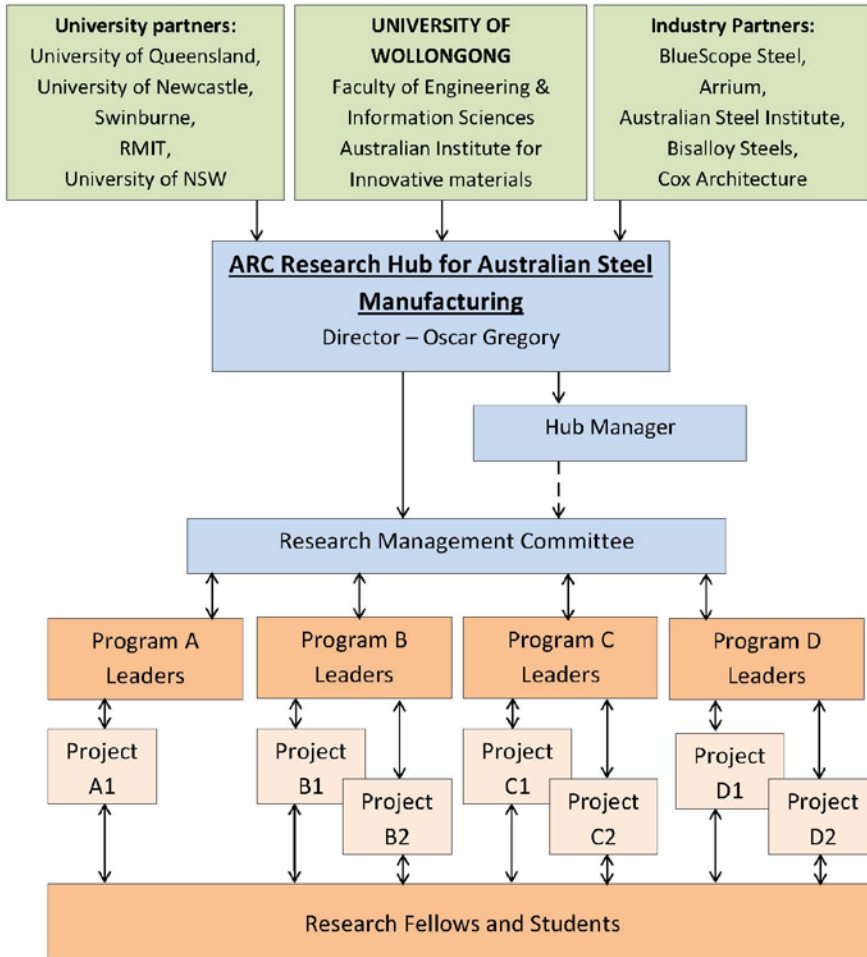
Personal Attributes:

The position calls for someone who is tenacious in getting the right results, visionary, creative, likes new challenges and willing to listen to alternative views offered by others. It also requires the research associate to have good communication and inter-personal skills to liaise with all stakeholders and supervise the laboratory technicians.

Special Job Requirements:

- OH&S inductions to workplace and laboratory procedures.
- Working closely with partner organizations and spending a fraction of their work time away from UOW embedded within partner teams, at BlueScope and Cox Architecture, for example.
- Must be able to travel interstate or overseas.
- May be required to work during weekends and out of normal working hours.

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](#).

Additional Responsibilities for Staff with supervisory responsibilities

- 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.

POSITION CLASSIFICATION STANDARD - Research Only

Level: **A**
Title: **Associate Fellow**

Description

A position classification standard describes the broad categories of responsibility attached to research-only academic staff at different levels. The standards are not exhaustive of all tasks in research-only academic employment, which is by its nature multi-skilled and involves an overlap of duties between levels. The standards provide an adequate basis to differentiate between the various levels of employment and define the broad relationships between classifications.

Progression through an academic career will normally be based on research, teaching, administrative functions and contribution to the profession. The balance of functions will vary according to level and position over time. It is only in exceptional circumstances that promotion would be solely on the research only position classification standards.

- General Standard
- Specific Duties
- Skill Base

General Standard

A Level A research-only academic is expected to contribute towards the research effort of the institution, and to develop her/his research expertise through the pursuit of defined properties relevant to the particular field of research.

Specific Duties

Specific duties required of a Level A research-only academic may include

- The conduct of research under limited supervision either as a member of a team or, where appropriate, independently, and the production or contribution to the production of conference and seminar papers and publications from that research.
- Involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise.
- Limited administrative functions primarily connected with the area of research of the academic.
- Development of a limited amount of research-related material for teaching or other purposes with appropriate guidance from other staff.
- Occasional contributions to teaching in relation to his/her research project(s).
- Experimental design and operation of advanced laboratory and technical equipment or conduct of advanced research procedures.
- Attendance at meetings associated with research or the work of the organisational unit to which the research is connected and/or at departmental and/pr faculty meetings and/or membership of a limited number of committees.
- Advice within the field of the staff member's research to postgraduate students.
- A Level A research-only academic shall work with support, guidance and/or direction from staff classified at Level B and above and with an increasing degree of autonomy as the research academic gains in skill and experience.

Skill Base

A Level A research-only academic will normally have completed four years of tertiary study in the relevant discipline or have equivalent qualifications or research experience. In many cases a position at this level will require an honours degree or higher qualifications or equivalent research experience. Research experience may have contributed to or resulted in publications, conference papers, reports or professional or technical contributions which give evidence of research potential.