POSITION DESCRIPTION
Academic Positions
(In addition to the Position Classification Standards)

Position Title:	Research Associate RA4 - Steel Research Hub	Level: A/B
Faculty/Division:	Engineering and Information Sciences	
Department/Location:	Sustainable Buildings Research Centre (SBRC), UOW Innovation Campus	

Primary Purpose of the Position:

The primary purpose of the position is to drive the design and delivery of the Steel Research Hub Project B2.2 entitled "Innovative Cladding and Ventilation Solutions for Mid-Rise Residential Buildings". The project will focus on the development and improvement of advanced multi-functional steel-intensive wall and roof cladding systems, and develop systems and strategies to improve the indoor environmental quality and health of the occupants (IEQ) and reduce building running costs and life-cycle greenhouse emissions.

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 be a member of the Sustainable Buildings Research Centre (SBRC) team. The SBRC is a new and unique research facility (see http://sbrc.uow.edu.au/). You will be located in the SBRC building, one of the most sustainable buildings in Australia, which is not only targeting a 6 Star Green Star sustainability rating (equivalent to LEED Platinum) but also to be the first ever building in Australia to win "Living Building Challenge" accreditation. The building includes a 160kW PV array and will be both net-zero energy and net-zero water.

The SBRC building itself has recently been completed and is now in the process of being fitted out with significant experimental equipment capabilities for a wide range of research on sustainable buildings. Examples of equipment that is either already in place or is planned to be situated within the SBRC include: indoor environmental test chamber; bench-top thermo-physical properties measurement equipment (e.g. thermal conductivity, DSC, etc.); refrigeration test facility; flow visualization facility; large building component test facility; construction area; rooftop solar test area; small wind turbine test facilities; green roof and green wall test equipment; micro-grid research facility; ground source heat pump research system.

One of the special highlights of recent work at the SBRC was the win by Team UOW in the Solar Decathlon China 2013 competition in August 2013 (http://www.illawarraflame.com.au/). The SBRC was pivotal in providing research leadership and coordinating the Team UOW campaign. Many of the students involved in the development of the 'Illawarra Flame' house (a demonstration of how to retrofit a classic Australian 1960's 'fibro' home to become a net-zero energy home of the twenty-first century) are enrolled in research degrees at the SBRC.

Major Accountabilities/Responsibilities:

Responsibilities		Outcome	Office Use Only
1.	Liaison and collaboration with key Steel Research Hub partners including BlueScope; Cox Architecture; and with other Hub research teams (particularly re. Program A and Projects B2.1 and B2.3)	Strong collaborative research engendered within the project team.	
2.	To lead the continuing development of Building Integrated Photovoltaic Thermal (BIPVT) systems.	New products and systems, designed, tested and demonstrated.	
3.	Optimise building cladding systems in respect of regulatory/liveability issues including: fire protection; acoustics; indoor environmental quality; etc.	Optimised building cladding products and systems.	
4.	Life Cycle Analysis evaluation of economic and environmental costs of the new steel-intensive products and systems for mid-rise buildings.	Reports and academic outputs on LCA of new multi-functional cladding systems.	
5.	Delivery of academic research outputs including: articles in high quality journals; papers/presentations at high profile conferences; etc.	High quality and significant quantity of research outputs.	
6.	Contribute to academic and industry presentations, guest lectures, seminars, etc.	Knowledge transfer and raising of profile of Steel Research Hub.	
7.	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
8.	Assistance with mentoring and training students, and supervision of student projects.	Research students associated with the Hub are properly mentored/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:	Prof Paul Cooper Day-to-day supervisor is Dr Zhenjun Ma
Other Key Contacts:	Lloyd Niccol (Project Leader); Dr Zhenjun Ma; Oscar Gregory (Hub Director)

Key Relationships:

Contact/Organisation:	Purpose & Frequency of contact
Professor Paul Cooper (SBRC)	Supervisor, fortnightly
Lloyd Niccol (Bluescope)	Project B2.2 Leader, weekly
Dr Zhenjun Ma (SBRC)	Day-to-day supervisor
Mark Eckermann (BlueScope)	Program B2 Industry Leader, fortnightly
Dr David Nolan (BlueScope)	Hub Research Manager, quarterly
Julie Matarczyk (Hub Manager)	Quarterly reporting

Key Challenges:

1. Development of a coherent and broad ranging program of research activities in an area of rapid change and great interest to the construction and manufacturing industries.
2. Undertaking a rapid assessment of national and international research and industry activity and translating this to a set of clear and achievable objectives.
3. Maintaining a high level of research productivity with large numbers of publications in high impact factor journals and assisting with research student completions.
4. Working with a wide range of stakeholders in an exciting project in the early stages of development.

SELECTION CRITERIA - Knowledge & Skills:

Essential:

- High quality research experience and capability in thermodynamics, fluid dynamics and energy modelling applied to buildings and/or the built environment.
- Experience in development and use of experimental research systems at laboratory and/or demonstration scale.
- A strong track record of publications relative to opportunity.
- Ability to win external competitive research grants (such as ARC grants).
- Expertise in the use of CFD packages (e.g. ANSYS CFX and/or Fluent) or equivalent modelling tools.
- Demonstrated strong skills in project and time management.

Desirable

- Research experience in applications of photovoltaic technologies.
- Experience and capability in thermal modelling of buildings, LCA, etc. (e.g. using software packages such as Energy Plus, DesignBuilder, IES, AccuRate, etc.).
- Experience in development of decision support tools.
- Demonstrated Building Information Modelling (BIM) experience and capability using software tools such as Revit and tools to model manufacturing and construction logistics.
- Demonstrated in-depth experience in research on the design of buildings, building elements and/or building construction systems.

SELECTION CRITERIA - Education & Experience:

Essential:

- A PhD completed in a relevant field, e.g. computational fluid dynamic analysis of thermal systems, solar thermal systems, energy efficiency in buildings, etc.
- Bachelor degree in an appropriate discipline such as: Engineering, Science, Building Physics, etc.

Desirable:

- Industrial experience or substantial engagement with industry (e.g. through academic/commercial research) in an area related to sustainable building design/construction.

Personal Attributes:

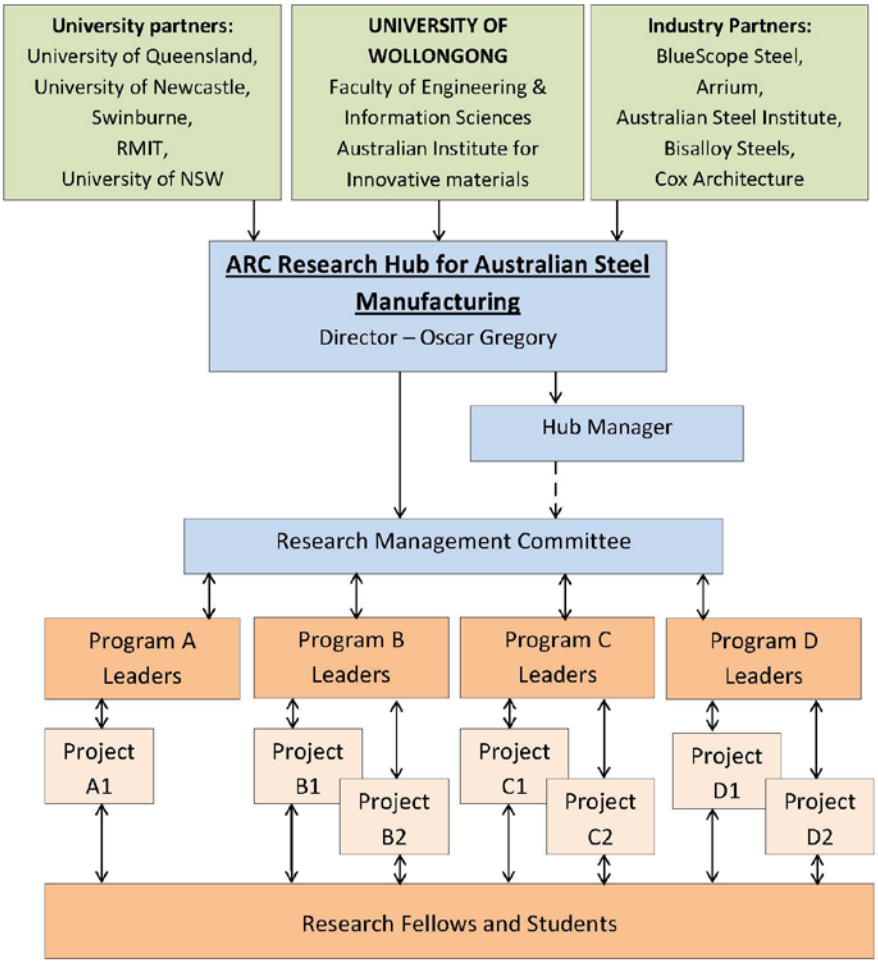
Essential:

- Team player and independent worker.
- Excellent interpersonal and communication skills.
- Flexibility and adaptability in a wide range of research situations.
- Capacity to develop or use existing links, professional networks and the industrial community.
- A strong motivation to increase the economic, social and environmental sustainability of our built environment.

Special Job Requirements:

- You will be required to work closely with partner organizations and may need to spend a fraction of their work time away from UOW embedded within partner teams, at BlueScope and Cox Architecture, for example.
- May be required to occasionally work during week-ends and out of normal work hours.
- Will need to undertake travel when required to case study buildings, conferences, etc.

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.

POSITION CLASSIFICATION STANDARD - Research Only

Level: B

Title: 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 B research-only academic is expected to carry out independent and/or team research within the field in which he/she is appointed and to carry out activities to develop his/her research expertise relevant to the particular field of research

Specific Duties

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

- The conduct of research either as a member of a team or independently, and the production of conference and seminar papers and publications from that research.
- Supervision of research-support staff involved in the staff members' research.
- Guidance in the research effort of junior members of research-only academic staff in his/her research area.
- Contribution to the preparation, or where appropriate individual preparation, of research proposal submissions to external funding bodies.
- Involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise.
- Administrative functions primarily connected with his/her area of research.
- Occasional contributions in the teaching program within the field of the staff member's research.
- Co-supervision, or where appropriate supervision, of major honours or postgraduate research projects within the field of the staff member's area of research.
- 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.

Skill Base

A Level B research-only academic will normally have completed a doctoral qualification or have equivalent qualifications or research experience. In addition he/she may be expected to have had post-doctoral research experience which has resulted in publications, conference papers, reports or professional or technical contributions which give evidence of research ability.