



POSITION DESCRIPTION - Academic Position

Position Title: Scientific Programmer Level: A
 Faculty/Division: Engineering & Information Department/Location: SMART

Primary Purpose of the Position:

The scientific programmer position aims to contribute to the development of enterprise-strength coding for various modelling projects conducted at the SMART Infrastructure Facility (SMART), University of Wollongong (UoW). The successful candidate will be part of SMART's Research team and will be responsible for translating conceptual models into implementation programs, code prototyping (in particular, machine learning algorithms) and supervising code development performed by sub-contractors. The successful candidate will also assist with the migration of machine-based workflows to SMART's new cloud computing facility. In close collaboration with SMART's IT architect (Research Support team) and sub-contractors, the successful candidate will assist the Research team in developing adequate and robust models and producing high quality scientific publications. The position will report directly to the Research Director and will become the technical interface between the Research team, the Research Support team and IT sub-contractors.

Position Environment:

The SMART Infrastructure Facility is a world-class comprehensive research and teaching facility of integrated laboratories that will address the way that infrastructure related disciplines are taught and researched. SMART is the first of its kind in Australia, and one of the very few in the world. It will promote research collaboration across traditional disciplines, increase and expand research capacity, stimulate collaboration with industry, government and research institutions and provide an independent, comprehensive, multi-disciplinary facility for holistic and evidence-based evaluation of infrastructure. SMART is the largest infrastructure research facility in the world and will lead the University of Wollongong in the development and expansion of the national infrastructure data network. The Facility will support research and commercial programs that are nationally significant and that will impact government, industry and communities in infrastructure management.

SMART provides an exciting opportunity for a highly motivated, flexible and multi-skilled individual to work as part of a committed and outcomes-oriented team that will shape and build SMART as a strategic priority for the University over the next few years. The position environment will be dynamic with changing demands and emphasis as the Facility develops and grows. This environment will suit team members who are adaptable, happy to take on new challenges, are prepared to assist across functions to achieve demanding deadlines and common goals. The scientific programmer will have an essential role in ensuring the enterprise-strength of computer models designed by the Research team.

Major Accountabilities/Responsibilities:

Responsibilities		Outcome	Office Use Only
1.	Translating conceptual models into implementation programs, code prototyping and supervising IT sub-contractors.	Enterprise-strength software products	40%
2.	Contributing to high quality scientific publications	Publications in referenced scientific journals	40%

3.	Assisting with migration of existing software platforms to a cloud environment.	Scalability of SMART's simulation and modelling platforms to enable rapid research outputs.	20%
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 http://staff.uow.edu.au/ohs/commitment/responsibilities/ document	To ensure a safe working environment for self & others.	

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.

Reporting Relationships:

Position Reports to:	Research Director
The position supervises the following positions:	NA
Other Key Contacts:	Chief Executive Officer Chief Operating Officer Executive Dean of Engineering and Information Services

Key Relationships:

Contact/Organisation:

SMART's clients

IT sub-contractors

IT scientific community

Purpose & Frequency of contact

Reporting or meeting points as stipulated in contractual documents or whenever needs be.

Supervising IT services implementation and delivery as per contractual engagements.

Regular contacts with relevant IT research groups in Australian and beyond to keep up with latest technology.

Key Challenges:

1. Translating conceptual models into appropriate code prototyping
2. Conducting through code testing and model validation
3. Supervising IT sub-contractor's service delivery
4. Contributing to SMART's scientific excellence and publications

Knowledge:

- Programming experience in areas relevant to scientific modelling and simulation (incl. machine learning).
- Web (html+Javascript) programming experience.
- Experience in collaborating with peers to achieve modelling and data analysis outcomes.

Skills & Experience:

- Demonstrated capacity to work in scientific environment and to engage with IT sub-contractors.
- Strong experience with LINUX environment.
- Expertise in machine learning algorithms.
- Good written and oral communication skills, including technical reports and scientific publications.

Education:

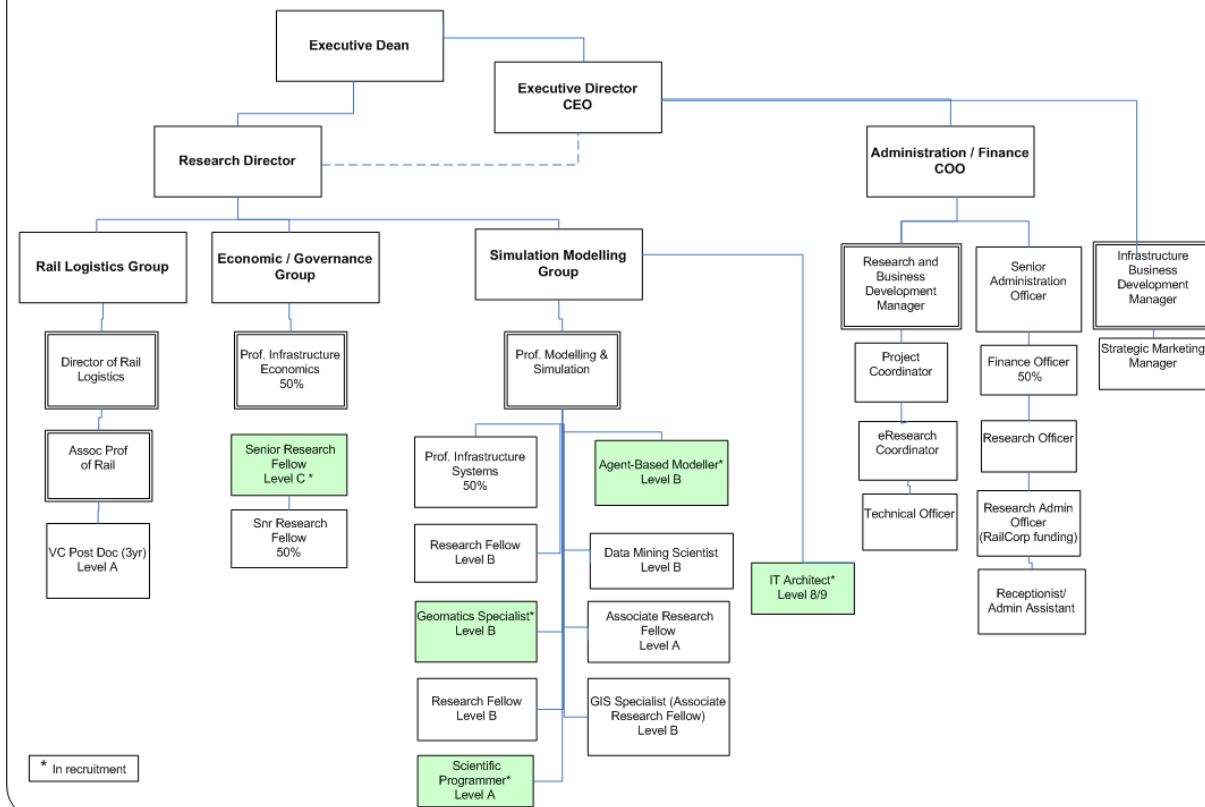
- Doctoral qualification or equivalent with subsequent research experience in Computer Programming, Information Science or related field.
- Demonstrated academic excellence and outstanding contribution to research.

Special Job Requirements:

NA

Organisational Chart:

Organisational Structure May 2013



Approval:

Approved by Head of Unit: _____

Date: _____

Approved by Human Resources: _____

Date: _____



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.