POSITION DESCRIPTION - Academic Position

Position Title: Agent-based Modeller Level: B

Faculty/Division: Engineering & Information Department/Location: SMART

Primary Purpose of the Position:

This position is aimed at enhancing the research profile of SMART in the area of infrastructure system modelling and simulation. More specifically, the position will contribute to SMART's capacity to use massive multi-agent technology to simulate complex infrastructure systems for integrated planning and management purposes. The successful applicant is expected to work with other members of SMART's Research team to expand the profile of research in these areas through high-quality publications, national competitive grants and industry funds. Although this is a research-only position, the successful candidate is expected to contribute to inter-disciplinary teaching coordinated by SMART, supervise final-year research projects and higher-degree students. The position will report directly to the Research Director and will actively interact with the Research team, the Research Support team and clients.

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.

This new venture 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 Agent-based modeller is expected to conduct independent research as well as to contribute to major projects undertaken by SMART's Research team.

Major Accountabilities/Responsibilities:

Responsibilities		Outcome	Office Use Only
1.	Contribute to the development of massive agent-based modelling applied to the simulation of complex infrastructure systems for integrated planning and management.	To ensure research advancement and promotion of SMART outcomes through the Research Project	50%
2.	Develop personal research to enhance SMART's capacity in the domain of massive agent-based modelling.	International recognition of research conducted at SMART through publications and conferences	30%

3.	Maintain clear communication with Research Director, Project or Theme Leaders and relevant colleagues	To ensure effective communication and updates on project developments issues and milestones	20%
4.	Supervisory roles: Communicate and consult with staff on workplace and staffing matters.	To foster direct relationships with staff and enhance engagement with the organisation.	On-going
5.	Observe principles and practices of Equal Employment Opportunity	To ensure fair treatment in the workplace	On-going
6.	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.	On-going

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:	N/A
Other Key Contacts:	Chief Executive Officer Chief Operating Officer Executive Dean of Engineering and Information Services

Key Relationships:

Contact/Organisation:	Purpose & Frequency of contact
SMART's clients	Reporting or meeting points as stipulated in contractual documents or whenever needs be.
IT sub-contractors	Supervising IT services implementation and delivery as per contractual engagements.
ABM scientific community	Regular contacts with relevant ABM research groups in Australian and beyond to keep up with latest technology.

Key Challenges:

1. Contributing to SMART's international leadership in research on infrastructure systems.
2. Ensuring a balance of activities to maximise research quality and research outputs (e.g. publications)
3. Provide a robust high value solution by working with a variety of stakeholders from industry government and academia.
4. Working as part of a team to ensure positive communication and collaboration.

Knowledge:

Essential:

- Expertise in computer science, agent-based technologies and data mining.
- Expertise in applications of ABM to infrastructure systems, including social dimensions.
- Expertise in decision support system and complex system constraint modelling.

Skills & Experience:

- Experience as an independent researcher with excellent analytical skills.
- Teaching experience in higher education environment.
- Strong written and oral communication skills, including technical reports and scientific publications.
- Experience in engaging with clients for commissioned research projects.

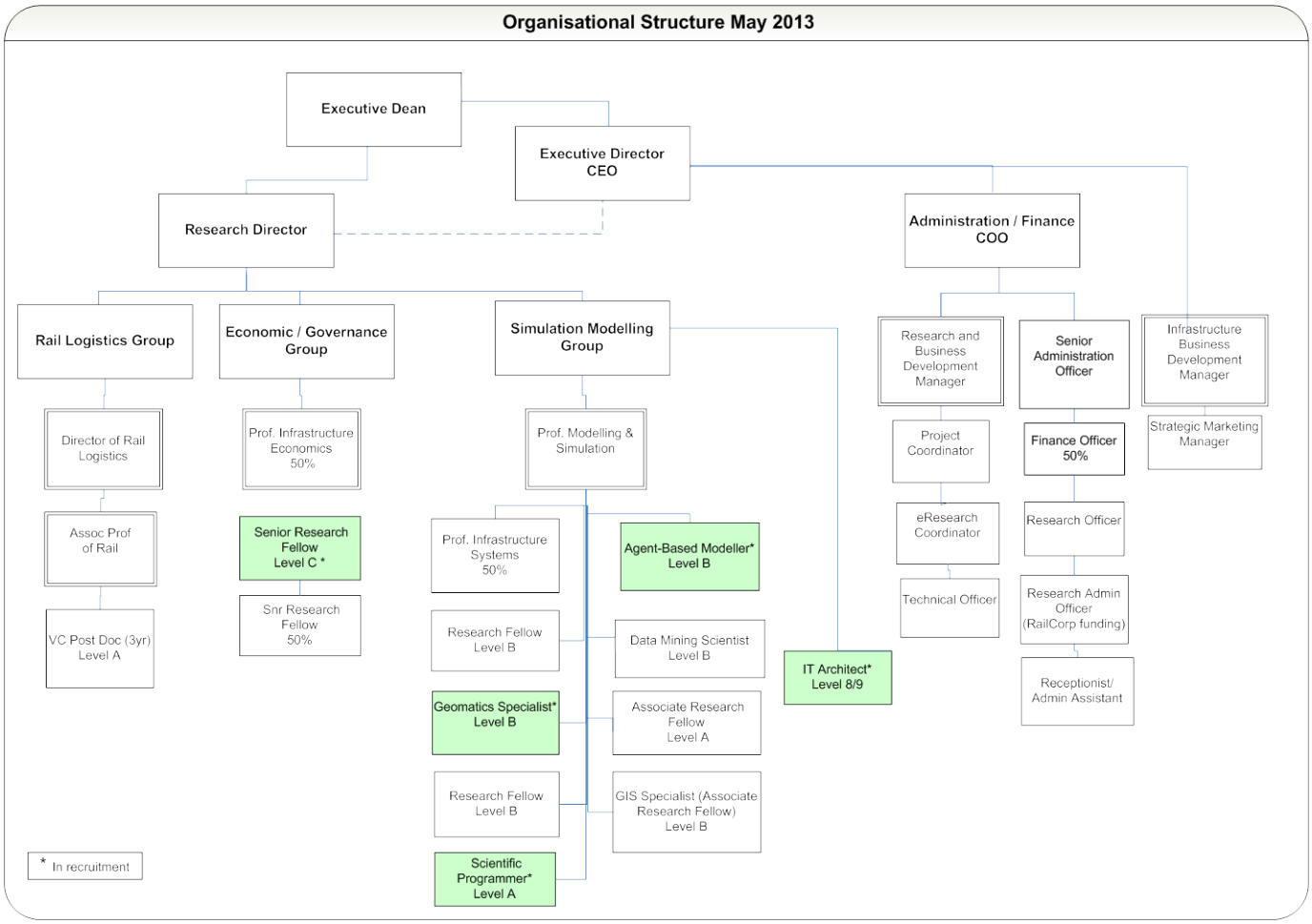
Education:

- PhD in Computer Science or Engineering.
- Demonstrated academic excellence and outstanding contribution to research.

Special Job Requirements:

N/A

Organisational Chart:



Approval:

Approved by Head of Unit: _____

Date: _____

Approved by Human Resources: _____

Date: _____

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.