



POSITION DESCRIPTION – General Staff
For levels 6/7 and above

Position Title: Fabrication Technician Level: 6/7
 Faculty/Division: Australian Institute for Innovative Materials (AIIM)
 Department/Location: Intelligent Polymer Research Institute (IPRI)

Primary Purpose of the Position:

The successful applicant will be required work as a part of a team, specifically to work in collaboration with staff and students in the realisation 3D structures through the development of CAD drawings, including translation of MRI and CT scan data to printable models. In addition, the position will operate a range of commercial and customised additive fabrication and coating systems to produce 3D objects from the associated drawings. In association with staff and students, the position will identify and prepare practical solutions for the required, processes, devices and components, communicate design brief(s) to commercial partners, and be involved in system commissioning, maintenance, validation, and general operation.

Position Environment:

This is a position within the Materials Node of the Australian National Fabrication Facility (ANFF) hosted at the UOW Intelligent Polymer Research Institute (IPRI), which is a lead node of ARC Centre of Excellence for Electromaterials Science (ACES). The ANFF Materials Node and IPRI/ACES is based at the state-of-the-art Australian Institute for Innovative Materials (AIIM) at the University of Wollongong's Innovation Campus.

Major Accountabilities/Responsibilities:

Responsibilities		Outcome	Office Use Only
1	Preparation of device design and CAD (including MRI and CT scan translation) for ongoing ANFF Materials Node based projects based on verbal and written interactions with researchers and commercial clients	High quality solutions for manufacture through Additive Fabrication or Conventional Fabrication techniques.	
2	Maintenance and General Operation of commercial and custom designed additive fabrication and materials deposition/printing equipment.	Equipment maintained to excellent operating standard ensuring continued high quality component production.	
3	Development, production and implementation both through hardware and control software of custom attachments for additive fabrication systems	Enablement of increased system functionality	
4	Direct liaison with ANFF clients	To plan and deliver outcomes in a timely, accurate manner to the satisfaction of clients.	
5	Assistance with project management and administration, including preparation of quarterly reports, assisting with workshops and preparation of newsletter items.	To ensure proper functioning of the project.	

6	Support for ANFF/IPRI/ACES clients, Academic: Assist in preparing laboratory demonstrations	Laboratory demonstrations, ensuring that research and projects in the area of additive fabrication are supported.	
7	Perform other duties as required	Duties performed	
8	Observe principles and practices of Equal Employment Opportunity	To ensure fair treatment in the workplace	
9	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.	

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:	Prof Gordon Wallace
The position supervises the following positions:	Nil.
Other Key Contacts:	Assoc Prof Peter Innis & Dr Stephen Beirne

Key Relationships:

Contact/Organisation:

Prof Gordon Wallace
Assoc Prof Peter Innis
Dr Stephen Beirne

Purpose & Frequency of contact

Monthly technical meeting
Technical meetings and project tasking
Daily Supervision in the Laboratory

Key Challenges:

1. Translation of researcher concepts to viable CAD representation for design validation, including MRI and CT scan data.
2. Production and testing of designed components and devices via additive fabrication technologies to meet the standards required by researchers and commercial clients.
3. Meeting end-users requirements

Selection Criteria - Knowledge & Skills:

Essential:

- Experience of CAD design, knowledge of Solidworks, Materialise MAGICS & CT/MRI translation software (such as OSIRIX or Materialise MIMICS) packages.
- Demonstrated operational experience and knowledge of additive fabrication systems.
- Demonstrated ability to train, clients, staff and students on additive fabrication design strategies including; CAD modelling and reverse engineering software, additive fabrication equipment operation and best practice, and post processing/ finishing techniques.
- Demonstrated experience of screening, testing and adaptation of additive fabrication print materials and structures in a research environment.
- Ability to communicate with and respond to research/industry partner(s).

Desireable:

- Demonstrated knowledge of WH&S regulations and procedures in handling of micron scale metal particles and their potential risks
- Demonstrated operational experience of OBJET (Eden and/or Connex) additive fabrication systems, or REALIZER SLM50 and/or DIMENSION uPRINT.
- Knowledge of and experience in Additive Fabrication techniques, including;
 - Knowledge and experience with Stereolithography.
 - Knowledge and experience with Polyjet printing
 - Knowledge and experience with fused deposition modelling.
 - Knowledge and experience with selective laser melting and laser patterning techniques.
- Knowledge of and experience in complimentary polymer/metal machining and coating techniques.

Selection Criteria - Education & Experience:

Essential:

- Degree in relevant field such as in Engineering, Information Technology
- Demonstrated experience in CAD/CAM design software, modeling and animation.
- Knowledge and experience of translation of medical images (CT/MRI) into STL formats.
- Ability to write technical and final project reports.

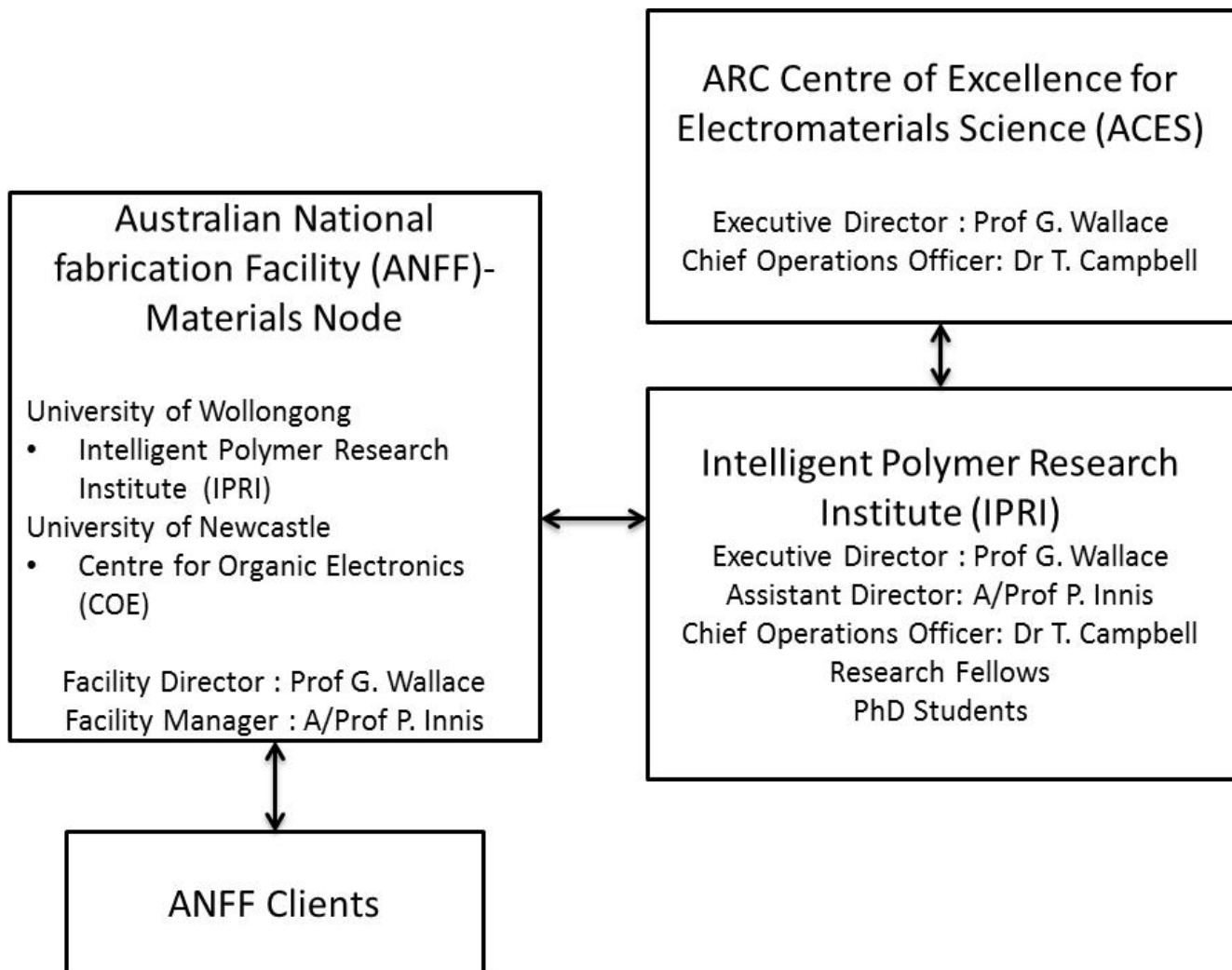
Desireable:

- Knowledge of microcontroller systems and software / programme and interface development particularly for device prototypes.
- Demonstrated experience in providing exceptional customer service and support.

Personal Attributes:

- Result and target focused.
- Enthusiasm for design, problem solving and team work.
- Geared towards cooperation, enthusing and educating others.

Organisational Chart:



Special Job Requirements:

- WH&S inductions to workplace and laboratory procedures. Must adhere to safe laboratory practices of AIIM /IPRI.

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:

For all positions

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