

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: School of Engineering Physics – Centre for Medical Radiation Physics (CMRP)

Primary Purpose of the Position:

The position has been established to fulfil research in the field of radiation therapy, in particular developing network research and training links between the University of Wollongong and other Universities in Australia. The position is partially supported by a Better Access to Radiation Oncology (BARO) (Commonwealth) Grant.

Position Environment:

The position is within the Centre for Medical Radiation Physics (CMRP).

The main research directions at CMRP are:

- Dosimetry and modelling related to cancer patient radiation therapy
- Semiconductor radiation detectors for medical and HEP applications
- Semiconductor radiation dosimetry for different oncology modalities including diagnostic radiology
- Radiation instrumentation development for medicine and other applications (clinical radiotherapy semiconductor dosimetry, film dosimetry and imaging, PET, SPECT, security)
- Monte Carlo radiation transport simulations based on different radiation transport codes
- Microdosimetry and nanodosimetry for space radiation and hadron therapy
- Microbeam Radiation Therapy on Synchrotron and Magneto-Radiotherapy
- Targeted Nano-Therapies

CMRP has radiation physics detector and imaging laboratories and is equipped with IDL and dose planning PINNACLE computers. It also has a CT scanner and a gamma camera on the campus for teaching and research.

CMRP is involved in extensive research collaborations with leading radiation medical physics centres and radiation facilities in the USA, Europe and Asia. Industrial collaboration is integral to CMRP.

This position is partially funded via a successful BARO grant through strong collaboration between CMRP and other University groups in Australia. In particular the University of Sydney is the administering university for this grant (i.e. Prof David Thwaites). The Post Doctoral Fellow is expected to be part of the Network Leaders program and this will include quarterly meetings with other university members of this group. This research will result in better solutions in providing standardised and efficient lecture and research material for radiation medical physics students in Australian Universities.

Major Accountabilities/Responsibilities:

Responsibilities	Outcome	Office Use Only
1. <ul style="list-style-type: none"> To develop relevant information systems. To develop innovative collaborative approaches to teaching and training, including novel e-learning and virtual reality teaching/learning methods. To develop elements of a virtual training centre. 	Evidence of web based and e-learning material developed for medical radiation physics students	
2. <p>To establish a sustainable network for continuation after the project.</p> <p>To develop and provide an integrated web-based e-information network.</p>	Evidence of appropriate archival material that links the training material at each University. Committee structure to maintain and enhance medical radiation physics learning material.	
3. <p>Take active part in experimental phantom studies with silicon beam monitoring system and high resolution silicon detectors on Radiotherapy modalities</p>	To carry out experiment with a prototype of dosimetry instrumentation for dose measurements in IMRT VMAT and brachytherapy	
4. <p>Participation in preparation of technical reports and scientific articles related to the project.</p>	Active contribution in preparation of joint grant applications and publication preparation as a results of joint research.	
5. <p>Assist in the drafting of ethics and research applications</p>	Preparation of application for national and international granting bodies.	
6. <p>Observe principles and practices of Equal Employment Opportunity</p>	To ensure fair treatment in the workplace	
7. <p>Have OH&S responsibilities, accountabilities and authorities as outlined in the http://staff.uow.edu.au/ohs/commitment/responsibilities/ document</p>	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:	The Radiation Oncology Medical Physics theme leader Prof P. Metcalfe and Director of CMRP, Prof A. Rozenfeld.
The position supervises the following positions:	N/A
Other Key Contacts:	CMRP Administration Officer, Karen Ford kford@uow.edu.au.

Key Relationships:

Contact/Organisation:

Staff of School of Engineering Physics, CMRP

Purpose & Frequency of contact

Research and Development 100%

Key Challenges:

1. To actively conduct research on development of the Network link between University of Wollongong medical radiation physics training and research programs and those programs provided by other Universities in Australia. This work will be carried out in the laboratories of CMRP at the University of Wollongong, in collaboration with other researchers on the project. Work will also be carried out in collaboration with key challenges will be: Taking part in development of phantoms with built in detectors and investigation of their characteristics:
 - To establish an efficient and effective framework to support increases in numbers and capacity of the ROMP workforce in Australia, including regional centres.
 - To establish a sustainable network for continuation after the project.
 - To develop relevant information systems.
 - To develop innovative collaborative approaches to teaching and training, including novel e-learning and virtual reality teaching/learning methods.
 - To develop elements of a virtual training centre.
2. Collate, analyse and present results of study at relevant scientific meetings and in peer-reviewed journal publications

SELECTION CRITERIA - Knowledge & Skills:

Essential:

- Radiation Detection and Dosimetry and or radiation transport modelling in Radiation Therapy.
- Research in Multidisciplinary environment.
- Knowledge of web based learning and information systems.

Desirable:

- Previous experience in Radiotherapy Physics, Treatment Planning Systems.
- Previous experience in medical radiation physics research.
- Previous experience in development of radiation detection instrumentation.

SELECTION CRITERIA - Education & Experience:

Essential:

- Hold a relevant PhD degree (submitted PhD thesis) in Physics/Engineering in Medical Physics related topic.
- Ability to work in experimental radiation physics research and detectors.
- Experience in advanced scientific computer programming.
- Experience in working as part of a team including in an accelerator environment.

Desirable:

- Excellent written and oral communication skills.
- Experience in Dosimetry analysis software development.
- Experience in advanced programming and statistical analysis.
- Demonstration of relevant publications in medical radiation physics discipline.

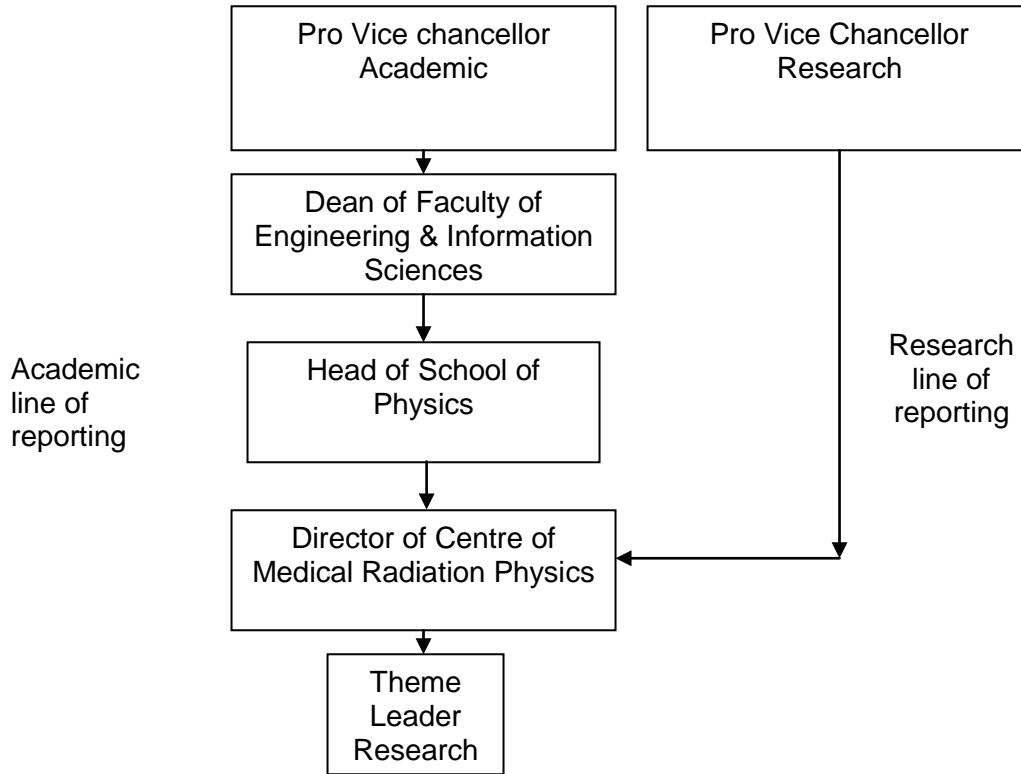
Personal Attributes:

- Ability to work independently to a deadline
- Ability to work co-operatively with all members of the collaborative group at UOW, and other University Network leaders and the University medical physics course coordinators group.
- Ability to develop relationships with other group members regarding research activity to provide an environment which fosters collaboration and cross fertilisation of ideas, resource sharing and achievement.

Special Job Requirements:

- Comply with relevant Occupational Health & Safety policies and procedures
- Participate, when relevant, in recruitment of required data from clinical centres including involvement in obtaining informed consent and/or ethics approval
- Comply with the smoke free environment policy
- Comply with all conditions as set down in the code of conduct

Organisational Chart:



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.