

FACULTY OF SCIENCE, MEDICINE AND HEALTH
SCHOOL OF CHEMISTRY
POSITION DESCRIPTION

Academic Position *(in addition to the Position Classification Standards)*

Position Title: Associate Research Fellow
Level: A
Faculty/Division: Faculty of Science, Medicine and Health (SMAH)
School/Unit: School of Chemistry & Molecular Bioscience (SCMB)
Location: Wollongong Campus

Position Environment:

The University of Wollongong's Faculty of Science, Medicine and Health (SMAH) is positioned to be a major force in connected and science-embedded education and translational science, medical and health research in Australia. Empowered by first-class teaching and driven by active research and discovery towards being in the top 1% of Universities in the world, this Faculty combines the very best of science, with strong capacity for translation to our global communities' needs and aspirations.

The Molecular Horizons institute, serving as the primary research environment for this position, occupies a central role within UOW's Faculty of Science, Medicine and Health, in terms of location as well as strategic positioning. Molecular Horizons acts as the centrepiece of UOW's Science Precinct, neighbouring the Illawarra Health and Medical Research Institute, the Science Teaching Facility and UOW's SMART Infrastructure Facility. Molecular Horizons houses researchers from the newly established School of Chemistry and Molecular Bioscience and will provide a world-class environment for research on mechanistic, structural, and functional aspects of the molecular processes that underlie life, as they relate to model organisms as well as mechanisms of disease.

Dr. Ellis's group within Molecular Horizons and the School of Chemistry and Molecular Bioscience develops high resolution mass spectrometry imaging technologies and methods to study the molecular processes occurring within tissues and cells, as well as to classify diseased tissues based on their local chemical compositions. This includes fundamental research on mass spectrometry instrumentation, ionisation processes and biomolecular structure elucidation, as well as the application of these technologies to relevant problems in biochemistry and medicine. In addition, these tools support research performed in other groups at Molecular Horizons and the Illawarra Health and Medical Research Institute.

Primary purpose of the position:

The position will focus on the development of mass spectrometry imaging applications having translational benefits, with a focus on clinically-relevant research questions.

The University of Wollongong is investing \$80 million in the establishment of a multidisciplinary research institute, Molecular Horizons, focused on the visualisation of the molecular mechanisms of life. By co-locating talented researchers with backgrounds in the physical, chemical and biological sciences and by providing them with cutting-edge infrastructure, the University is committed to making an impact in the molecular life sciences.

Molecular Horizons is positioned within a University that actively supports interdisciplinary research and within a region with opportunities to collaborate with clinical and industry partners. The appointee will play a key role in leveraging those interactions into successful research outcomes that balance high-quality basic molecular research with strong translational outcomes.

Major Accountabilities/Responsibilities:

Responsibilities		Outcome
1.	The conduct of research as a member of the Ellis group, and the production or contribution to the production of conference and seminar papers and publications from that research.	High-impact scientific papers
2.	Experimental design and operation of advanced laboratory and technical equipment for conduct of advanced research procedures; primarily the high quality operation and maintenance of MALDI-Orbitrap and supporting MSI infrastructure, including sample preparation and data analysis approaches	Establishment of state-of-the-art experimental and analytical workflows
2.	Involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise.	Attendance (and scientific presentations) at conferences (national and international)
3.	Limited administrative functions primarily connected with the area of research of the academic; primarily ordering of equipment and consumables.	Efficient execution of scientific research projects
4.	Co-supervision of undergraduate research projects	Research students are well supported
5.	Development of experimental approaches and reporting of results to project partners. Adaptation of experimental work plans as necessary to answer evolving research questions	Establishment of suitable MSI workflows
6.	Advice within the field of the staff member's research to postgraduate students.	High-quality training of post-graduate students
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.
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 and others.

Reporting Relationships:

Position Reports to:	Dr. Shane R. Ellis
The position supervises the following positions:	None
Other Key Contacts:	

Key Relationships

Contact/Organisation

Purpose and Frequency of Contact

Dr. Shane R. Ellis	Supervisor; daily
D/Prof Antoine van Oijen	Director Molecular Horizons; weekly

Key Challenges

- Development of mass spectrometry imaging workflows for a variety of analyte classes (metabolites, lipids, tryptic peptides) targeted towards the specific research question, including from FFPE tissues
- Successful analysis and interpretation of data from experiments described above
- Correlation of MSI data with relevant clinical data
- Dissemination of results in high-impact venues (scientific journals, national/international conferences)

Selection Criteria:

Essentials

- PhD in analytical chemistry, biomedical science or related discipline
- Experience in mass spectrometry imaging, including sample preparation and data analysis
- Experimental skills in mass spectrometry imaging and in particular MALDI-MSI, including tissue preparation, data acquisition and data analysis.
- Independent; pro-active in making day-to-day decisions on experimental strategy.
- Hands on approach to the up-keep and continued optimisation of mass spectrometry imaging equipment
- Ability to establish strong collaborative links with researchers from other disciplines
- High-level abstract thinking; ability to recognize patterns in complex data and information and adapt experimental approach accordingly.
- Good teacher: able to mentor and advise postgraduate and honours students
- Ability to communicate results to different audiences
- Preparation of high quality scientific publications and presentations.

Desired

- Experience with preparation of clinical tissues, including FFPE tissues, for mass spectrometry imaging analysis, including on-tissue digestion approaches.
- Knowledge on tissue staining approaches widely used in pathology
- Can recognise potentially useful new methods based on recent literature and apply them.

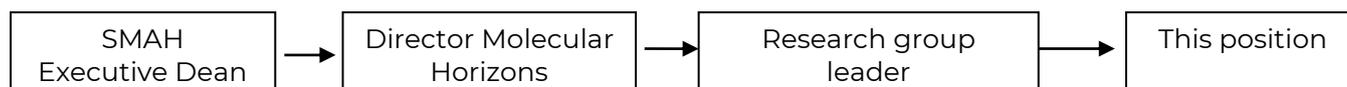
Personal Attributes:

- Creativity, abstract thinking, analytical mind, independence, desire to work in a multidisciplinary research environment encompassing both fundamental and applied research

Special Job Requirements:

- May be required to work outside of standard business hours or across campuses and research partner facilities.

Organisational Chart:



Roles and Responsibilities in Relation to Workplace Health and Safety:

For all positions

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:

For all positions

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 Research 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.