

RESEARCH FELLOW

DEPARTMENT/UNIT	Department of Biochemistry and Molecular Biology, Biomedicine Discovery Institute
FACULTY/DIVISION	Faculty of Medicine, Nursing and Health Sciences
CLASSIFICATION	Level A
DESIGNATED CAMPUS OR LOCATION	Clayton campus

ORGANISATIONAL CONTEXT

At [Monash](#), work feels different. There's a sense of belonging, from contributing to something groundbreaking – a place where great things happen. You know you're part of something special and purposeful because, like Monash, your ambitions drive you to make change.

We have a clear purpose to deliver ground-breaking intensive research; a world-class education; a global ecosystem of enterprise – and we activate these to address some of the [challenges](#) of the age, Climate Change, Thriving Communities and Geopolitical Security.

We welcome and value difference and [diversity](#). When you come to work, you can be yourself, be a change-maker and develop your career in exciting ways with curious, energetic, inspiring and committed people and teams driven to make an impact – just like you.

Together with our [commitment to academic freedom](#), you will have access to quality research facilities, infrastructure, world class teaching spaces, and international collaboration opportunities.

We champion an [inclusive workplace culture](#) for our staff regardless of ethnicity or cultural background. We have also worked to improve [gender equality](#) for more than 30 years. Join the pursuit of our purpose to build a better future for ourselves and our communities – [#ChangeIt](#) with us.

The Faculty of **Medicine, Nursing and Health Sciences** is the largest faculty at Monash University, a global university with campuses across Victoria and international locations in Indonesia, Malaysia, China, India and Italy.

Our Faculty offers the most comprehensive suite of professional health training in Victoria, consistently ranked in the top 40 universities worldwide for clinical, pre-clinical and health sciences.

We want to improve the human condition. That is our vision - it has no expiration date. By educating the current and future healthcare workforce, and undertaking medical research, both discovery and clinical, our students, staff and alumni all work to directly improve people's quality of life, reduce health inequality and promote greater health and social outcomes.

We're globally recognised for our quality education of over 63,000 doctors, nurses, and allied health professionals and health researchers. The future health of our communities is underpinned by the sustained excellence of our education and research capabilities.

We are ambitious and committed to maintaining our position as a leading international medical research and teaching university. We're recognised for the quality of our graduates, the scale and depth of our research, our commitment to translational research, and as a thriving biotechnology hub. To learn more about the Faculty, please visit www.monash.edu/medicine.

Our Faculty includes four Sub-Faculties: Health Sciences, Clinical and Molecular Medicine, Biomedical Medicines, and Translational Medicine and Public Health.

The **Monash Biomedicine Discovery Institute (BDI)** is one of the largest and most dynamic biomedical research and teaching environments in Australia. The Institute and its cognate Departments of Anatomy and Developmental Biology, Biochemistry and Molecular Biology, Microbiology, Pharmacology and Physiology comprise over 120 research groups and deliver discipline-focused teaching into our flagship Bachelor of Biomedical Science Degree, the Bachelor of Science Degree, as well as the Medical School and various Health-related Degree Programs. We pride ourselves on an excellent and evolving teaching curriculum and provide world-class teaching and learning space for Biomedical Sciences.

The BDI comprises six inter-disciplinary health-focused research Programs, each led by a renowned leader in the field. The BDI programs include Infection and Immunity, Cancer, Cardiovascular Disease, Development and Stem Cells, Metabolism, Diabetes and Obesity and Neuroscience. The BDI works closely with clinical and drug development precincts at Monash and has a number of major industry partnerships to facilitate the translation of our research; and will be closely aligned with the Victorian Heart Hospital (VHH), which is being built on the Clayton Campus. For more information about the BDI please visit our website at www.monash.edu.au/discovery-institute.

The **Department of Biochemistry & Molecular Biology** is the largest of the five departments in the School of Biomedical Sciences. Biochemistry and molecular biology are closely-related disciplines which study the chemical components of living cells, including the genetic material, in order to understand biological processes and how these are altered in disease.

Research and teaching in the department encompasses six broad themes: cell biology, signal transduction, host/pathogen interaction, structural biology, immunology and developmental biology. Our research is highly relevant to major human diseases and pathological processes, including infection, inflammation, diabetes and obesity, developmental and degenerative disorders, cardiovascular disease, and cancer. The Department has been ranked as the premier Department in its discipline since the inception of ARC benchmarking of Australian Departments in 1998. Further details about the department can be found at www.monash.edu/discovery-institute/departments/biochemistry-and-molecular-biology.

POSITION PURPOSE

A Level A research-only academic is expected to contribute towards the research effort of the University and to develop their research expertise through the pursuit of defined projects relevant to the particular field of research.

The Flanagan Laboratory, headed by Dr Dustin Flanagan, studies the molecular regulation of gastrointestinal stem cells in homeostasis and disease states, including cancer and inflammation. cross-talk between stomach stem cells and the surrounding niche cells and how cellular communication is altered during disease states including cancer and inflammation. This project

involves characterising the function of the surrounding stem cell niche on normal and cancer stem cells using immunohistochemistry/fluorescence, mouse models and organoid cultures (mouse & human), co-culture systems, flow cytometry and transcriptional profiling (bulk RNA sequencing, scRNA sequencing and spatial transcriptomics). The Research Fellow will perform a range of complex research activities that include leading research projects, managing mouse colonies, student supervision, designing and executing experiments, grant writing, data analysis and manuscript preparation.

Reporting Line: The position reports to the Lab head

Supervisory Responsibilities: This position provides direct supervision to graduate and postgraduate students.

Financial Delegation: Not applicable

Budgetary Responsibilities: Not applicable

KEY RESPONSIBILITIES

Specific duties required of a Level A research-only academic may include:

1. The conduct of research under limited supervision from the lab head, either as a member of a team or, where appropriate, independently.
2. Contribution to the production of publications (manuscript writing, figure preparation), conference and seminar papers.
3. Involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise
4. Administrative functions primarily connected with the area of research of the academic – grant writing, writing animal ethics, student marking.
5. Development of a limited amount of research-related material for teaching or other purposes with appropriate guidance from other staff
6. Occasional contributions to teaching in relation to their research project(s)
7. Experimental design and operation of advanced laboratory and technical equipment or conduct of advanced research procedures eg. Animal surgery (orthotopic gastric injection, intrasplenic injection), advanced microscopy
8. Attendance at meetings associated with research or the work of the organisational unit to which the research is connected and/or at departmental, school and/or faculty meetings and/or membership of a limited number of committees
9. Graduate and postgraduate student training and supervision
10. Other duties as directed from time to time

KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
 - a doctoral qualification in the relevant discipline or a closely related field.

Knowledge and Skills

2. Demonstrated analytical and manuscript preparation skills; including a track record of refereed research publications

3. Ability to solve complex problems by using discretion, innovation and the exercise diagnostic skills and/or expertise
4. Well-developed planning and organisational skills, with the ability to prioritise multiple tasks and set and meet deadlines
5. Excellent written communication and verbal communication skills with proven ability to produce clear, succinct reports and documents
6. A demonstrated awareness of the principles of confidentiality, privacy and information handling
7. A demonstrated capacity to work in a collegiate manner with other staff in the workplace
8. Ability to mentor and advise research graduate students
9. Strong expertise in mouse genetics, animal models of disease and animal surgery.
10. Strong expertise in molecular & cell biology – cloning, vector design, CRISPR, lentiviral transduction.
11. Strong expertise in immunohistochemistry, immunofluorescence, confocal microscopy and image analysis (QuPath, ImageJ, IMARIS, CellProfiler)
12. Proficiency in tissue culture desired – organoid and primary culture (fibroblast/stromal cell culture).
13. Knowledge or experience analysing gene genomic (COSMIC, TCGA) and transcriptomic (RNAseq, scRNAseq) datasets.
14. Demonstrated computer literacy and proficiency in the production of high level work using software such as Microsoft Office applications and specified university software programs, with the capability and willingness to learn new packages (R Studio, Cell Ranger) as appropriate

OTHER JOB RELATED INFORMATION

- Travel to other campuses of the University may be required
- There may be a requirement to work additional hours from time to time
- There may be peak periods of work during which taking of leave may be restricted

GOVERNANCE

Monash University expects staff to appropriately balance risk and reward in a manner that is sustainable to its long-term future, contribute to a culture of honesty and integrity, and provide an environment that is safe, secure and inclusive. Ensure you are aware of and adhere to University policies relevant to the duties undertaken and the values of the University. This is a standard which the University sees as the benchmark for all of its activities in Australia and internationally.