Research Fellow

Department/Unit	Department of Biochemistry and Molecular Biology
Faculty/Division	Faculty of Medicine, Nursing & Health Science/School of Biomedical Science
Classification	Level A
Work location	Clayton campus
Date document created or updated	30 January 2018

Organisational context

Everyone needs a platform to launch a satisfying career. At Monash, we give you the space and support to take your career in all kinds of exciting new directions. You'll have access to quality research, infrastructure and learning facilities, opportunities to collaborate internationally, as well as the grants you'll need to publish your work. We're a university full of energetic and enthusiastic minds, driven to challenge what's expected, expand what we know, and learn from other inspiring, empowering thinkers. Discover more at www.monash.edu

The **Faculty of Medicine, Nursing & Health Sciences** is the University's largest research faculty. World-class researchers work across disciplines including laboratory-based medical science, applied clinical research, and social and public health research. The Faculty is home to a number of leading medical and biomedical research institutes and groups, and has contributed to advances in many crucial areas. Our expertise in life sciences and biomedicine is recognised both nationally and internationally.

From a teaching perspective, our education curriculum covers a range of disciplines, including medicine, nursing, radiography & medical imaging, nutrition & dietetics, paramedic studies, biomedical sciences, physiotherapy, occupational therapy, behavioural neurosciences and social work. We take pride in delivering outstanding education in all courses, in opening students to the possibilities offered by newly discovered knowledge and in providing a nurturing and caring environment.

To learn more about the Faculty, please visit www.med.monash.edu.au/

The **sub-Faculty of Biomedical and Psychological Sciences (FBPS)** is a unique discovery research precinct of the Faculty of Medicine, Nursing and Health Sciences. The Discovery Precinct is a partnership between (i) Monash Biomedicine Discovery Institute; (ii) Australian Regenerative Medicine Institute: and (iii) Monash Institute of Cognitive and Clinical Neuroscience. The mission is to carry out world-class discovery research that translates to the clinical and commercial sectors. The FBPS Discovery Precinct is home to two ARC Centres of Excellence, namely, (1) Advanced Molecular Imaging and (2) Integrative Brain Function.

We are committed to an inclusive working environment with a particular focus on gender equity. Please visit www.med.monash.edu.au/biomed-psych/index.html for more information on FBPS.

The **School of Biomedical Sciences and Monash Biomedicine Discovery Institute** is one of the largest and most dynamic biomedical research and teaching environments in Australia. The School 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 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 our teaching space is about to be transformed by a new $80 million dollar biomedical teaching building. Opening in 2019, the new building will provide world-class teaching and learning space for Biomedical Sciences.

All research staff in the School are also a member of the **Monash Biomedicine Discovery Institute (BDI)**. The BDI comprises six inter-disciplinary health-focused research Programs, each led by a research leader in the field. The BDI Programs include, Infection and Immunity, Cancer, Cardiovascular Disease, Development and Stem Cells, Metabolic Disease 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.

The School and BDI comprise over 120 research teams that publish over 700 papers in international journals every year. Annual research income is over $50 million, the vast majority of which comes from the NHMRC and ARC. For more information about the School of Biomedical Sciences, please visit our website at www.monash.edu/discovery-institute and www.med.monash.edu.au/sobs/.

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.med.monash.edu.au/biochem/.

The **Rossjohn Laboratory**, as part of a broad collaborative network that includes lead national and international researchers, has provided profound insight into T-cell immunology, specifically defining the basis of key immune recognition events by T-cells. The laboratory has notably pioneered our understanding of lipid-based immunity by the innate Natural Killer T-cells (NKT) and the role of MAIT cells in recognizing vitamin B metabolites. The laboratory is also now exploring opportunities with industry, specifically Janssen, for the development of new therapies to treat rheumatoid arthritis.

Janssen, a global pharmaceutical company, specialises in the discovery, development, manufacturing and commercialisation of therapies for autoimmune disease. Janssen brings overall project oversight through the involvement of senior leaders, Dr. Daniel Baker (Disease Area Leader, RA), Dr. Anish Suri (Senior Director, Janssen Immunosciences) and Kathy Connell (Director of New Ventures, Australia and NZ). They will be responsible for integrating research and business strategies, directing development strategy in RA and developing project outcomes to commercialisation.

For more details on Janssen see: http://www.janssen.com/australia/

To learn more about the Rossjohn laboratory, please visit

http://research.med.monash.edu.au/rossjohn/index.php

Position purpose

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

The incumbent will be required to undertake translational research in Immunity that is supported by Janssen Pty Ltd.

The position purpose is to explore opportunities in early disease interception including fundamental mechanisms related to breakdown of tolerance. These objectives are strategically aligned with the Immunology Therapeutic Area (TA) of Janssen R&D.

The incumbent with expertise either in protein chemistry, molecular biology of T cell biology, will work in the field of Rheumatoid Arthritis.

Reporting Line: The position reports to the Head of the Infection and Immunity Laboratory, Prof Jamie Rossjohn

Supervisory responsibilities: Not applicable

Financial delegation and/or budget responsibilities: Not applicable

Key responsibilities

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.

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

1. 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
2. Involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise, perform experiments off campus, locally such as in the Australian Synchrotron and overseas such as Stanford University
3. Limited administrative functions primarily connected with the area of research of the academic
4. Development of a limited amount of research-related material for teaching or other purposes with appropriate guidance from other staff
5. Occasional contributions to teaching in relation to her/his research project(s)
6. Experimental design and operation of advanced laboratory and technical equipment or conduct of advanced research procedures
7. 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
8. Advice within the field of the staff member's research to postgraduate students

Key selection criteria

Education/Qualifications

1. The incumbent should possess:
    - a PhD in in Biochemistry or Molecular Biology or a related discipline from a recognised university or equivalent qualifications and research experience in the area of protein chemistry
    - an equivalent combination of relevant experience and/or education/training

Knowledge and Skills

2. Experience with production, purification and analysis of *E. coli*, yeast, insect cells and/or mammalian expression systems (including cell culture techniques), chromatography, crystallography, proteomics (particularly mass spectrometry) will be highly regarded
3. Knowledge in tissue culture, flow cytometry and autoimmune-based animal models of human diseases
4. The ability to work independently in a research environment (with limited supervision) as well as the to work as part of a team
5. The ability to prepare and communicate the aims and outputs of research projects in a range of formats including formal and informal oral presentations, refereed research papers and reports
6. Well-developed computer literacy (i.e. word processing and use of databases)
7. A strong research track record including papers (in the field of protein biochemistry or proteomics or mass spectrometry) published as first author in internationally well-regarded journals
8. Knowledge and experience in Molecular biology techniques, Protein expression and purification techniques, Mammalian cell culture, baculovirus and E. coli expression systems, X-ray Crystallography, Fluorescence Spectrometry and Circular Dichroism, and/or Structural biology techniques
9. Ability to meet project timelines and deadlines
10. Proven ability to mentor and advise research graduate students

Other job related information

- Travel (e.g. to other campuses of the University) may be required
- There may be peak periods of work during which the taking of leave may be restricted
- Possession of a current Victorian driver licence is desirable

Legal compliance

Ensure you are aware of and adhere to legislation and University policy relevant to the duties undertaken, including: Equal Employment Opportunity, supporting equity and fairness; Occupational Health and Safety, supporting a safe workplace; Conflict of Interest (including Conflict of Interest in Research); Paid Outside Work; Privacy; Research Conduct; and Staff/Student Relationships.