

Position description

Research Fellow

Department/Unit	Department of Biochemistry and Molecular Biology
Faculty/Division	Faculty of Medicine, Nursing and Health Sciences
Classification	Level B
Work location	Clayton campus
Date document created or updated	27 October 2016

Organisational context

Monash is a university of transformation, progress and optimism. Our people are our most valued asset, with our academics among the best in the world and our professional staff revolutionising the way we operate as an organisation. For more information about our University and our exciting future, please visit www.monash.edu

The Faculty of Medicine, Nursing and 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 also home to a number of leading medical and biomedical research institutes and groups, and has contributed to advances in many crucial areas: *in vitro* fertilisation, obesity research, drug design, cardiovascular physiology, functional genomics, infectious diseases, inflammation, psychology, neurosciences and mental health.

Courses offered by the faculty include medicine, nursing, radiography and medical imaging, nutrition and dietetics, paramedic studies, biomedical sciences, physiotherapy, occupational therapy, behavioural neurosciences and social work. A range of research and coursework postgraduate programs is also offered. The faculty takes 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. Further information can be found at: <http://www.med.monash.edu.au/about.html>

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, Medical Imaging and Radiation, Microbiology, Pharmacology and Physiology comprise over 100 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 100 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 Biological 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 six 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/.

Position purpose

A Level B research-only academic is expected to carry out independent and/or team research within the field in which he/she is appointed and to carry out activities to develop her/his research expertise relevant to the particular field of research.

This presents an opportunity to join a dynamic academic-industry partnership within the ARC Centre of Excellence in Advanced Imaging, led from Monash University and the Whisstock Laboratory. The incumbent will be required to crystallise and solve the structures of a range of biomedically relevant proteins including ligand:receptor complexes and antibody:receptor complexes. Further, the incumbent will be required to oversee and assist in the production of recombinant proteins for detailed functional testing in cell-lines and animal models. Knowledge in a range specialised techniques is required (not all are essential) including production of recombinant protein from bacterial, insect and mammalian sources for X-ray crystallography and functional assays, expertise in Biacore, tissue culture, molecular biology, protein chemistry, and common endotoxin testing techniques. Experience, or a willingness to learn single-particle cryo-electron microscopy would be advantageous. The incumbent will be required to work in a collaborative environment to solve challenging problems in structural biology and molecular medicine.

Reporting line: The position reports to the applicable Lab Head

Supervisory responsibilities: supervision of undergraduate, PhD students, and junior staff will be required from time-to-time

Financial delegation and/or budget responsibilities Nil

Key result areas and responsibility

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

- 1 the conduct of research either as a member of a team or independently and the production of conference and seminar papers and publications from that research
- 2 supervision of research-support staff involved in the staff member's research
- 3 guidance in the research effort of junior members of research-only Academic staff in her/his research area
- 4 contribution to the preparation or, where appropriate, individual preparation of research proposal submissions to external funding bodies
- 5 involvement in professional activities including, subject to availability of funds, attendance at conferences and seminars in the field of expertise
- 6 administrative functions primarily connected with her/his area of research
- 7 occasional contributions to the teaching program within the field of the staff member's research

- 8 co-supervision or, where appropriate, supervision of major honours or postgraduate research projects within the field of the staff member's area of research
- 9 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

Key selection criteria

- 1 The appointee will have:
 - Successful completion of PhD in Biochemistry or a related field, from a recognised university
 - subsequent post-doctoral research experience

Knowledge and Skills

- 2 Demonstrated experience in the crystallisation of challenging proteins or protein complexes
- 3 Experience with the production of recombinant proteins from insect and mammalian expression systems
- 4 Experience with Biacore or ITC to measure protein-protein interactions
- 5 Proven experience with common techniques in molecular biology
- 6 Demonstrated track record of report writing and publishing to a high standard
- 7 Demonstrated ability to work both independently and within a team
- 8 Excellent organisation and record keeping skills
- 9 Ability to analyse and communicate research outcomes
- 10 Demonstrated self-motivation, creativity and problem solving skills
- 11 Ability to meet project timelines and deadlines

Other job related information

- Travel (eg. to other campuses of the University) may be required
- Peak periods of work during which the taking of leave may be restricted

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