



POSITION DESCRIPTION

Department of Biochemistry and Pharmacology
Faculty of Medicine, Dentistry and Health Sciences

Research Fellow in Biochemistry and Molecular Biology

POSITION NO	0051719
CLASSIFICATION	Level A
WORK FOCUS CATEGORY	Research Focused
SALARY	\$73,669 - \$93,830 p.a.
SUPERANNUATION	Employer contribution of 9.5%
WORKING HOURS	Full-time (1.0 FTE)
BASIS OF EMPLOYMENT	Fixed term contract available for 12 months with possibility of extension
OTHER BENEFITS	http://about.unimelb.edu.au/careers/working/benefits
HOW TO APPLY	Online applications are preferred. Go to http://about.unimelb.edu.au/careers , under 'Job Search and Job Alerts', select the relevant option ('Current Staff' or 'Prospective Staff'), then find the position by title or number.
CONTACT FOR ENQUIRIES ONLY	Associate Professor Isabelle Rouiller Tel +61 3 90354902 Email isabelle.rouiller@unimelb.edu.au <i>Please do not send your application to this contact</i>

For information about working for the University of Melbourne, visit our websites:
about.unimelb.edu.au/careers

1. *Position Summary*

An experienced researcher (postdoctoral fellow) is required to investigate the structure and function of membrane proteins in the Rouiller lab at the University of Melbourne.

Your primary project will focus on the study of the structure and the mechanism of activation of TACAN, a recently identified ion channel that defines a novel and uncharacterised class of channels. TACAN is specifically involved in sensing mechanical pain and contributes to mechanosensitive currents in the pain-receptor type of neurons. You will combine several biophysical and structural biology techniques (including single particle cryo-EM). As a member of the Rouiller lab, you will be expected to advise and assist junior researchers with sample preparation and cryo-EM data collection. The successful candidate will also be given the opportunity to develop an independent research project. Candidates with a strong background in biochemical expression, purification and characterisation of membrane proteins and with experience in structural biology (cryo-EM, NMR and/or X-ray crystallography)/ computational biology/biophysics are encouraged to apply.

The Rouiller lab is housed in the Bio21 Molecular Science & Biotechnology Institute at The University of Melbourne, which provide an vibrant research environment. The Bio21 Institute is home of several world-class technology platforms that provide access to leading-edge instruments for biochemical and structural biology studies. These include the Ian Holmes Imaging Center (hosting a Titan Krios G4, a Talos Artica and several other cryo-TEMs), the Melbourne Mass Spectrometry and Proteomics Facility (with a stable of 40 mass spectrometers including the automated Waters Synapt-G2Si HDX mass spectrometer), the Melbourne Protein Characterisation and the Melbourne Magnetic Resonance platforms.

2. *Key Responsibilities*

For Minimum Standards for Academic Staff Level A view

<http://www.policy.unimelb.edu.au/schedules/MPF1157-ScheduleB.pdf>

2.1 RESEARCH AND RESEARCH TRAINING

- ▶ Undertake original research in biochemistry and structural biology to determine the structure and to understand the mechanism of activation of the TACAN ion channel.
- ▶ Undertake original research that combine structural biology approaches including single particle cryo-EM and biophysical methods.
- ▶ Contribute to, and drive when appropriate, data collection and analysis, using specialised programs for single particle cryo-EM and structure interpretation, such as Relion, Phenix and Coot.
- ▶ Collaborate with other researchers to apply single particle cryo-EM to study molecular machines and their interaction with membranes.
- ▶ Participate in research independently and as a member of a research team.
- ▶ Supervise or co-supervise of major honours or postgraduate research projects within research area.
- ▶ Contribute to publications arising from scholarship and research, such as publication of books and in peer reviewed journals.
- ▶ Present work at conferences and seminars where appropriate.
- ▶ Contribute occasionally to teaching within research field

2.2 LEADERSHIP AND SERVICE

- ▶ Identify sources of funding to support individual or collaborative projects, relating to teaching, research and engagement practice in the discipline.
- ▶ Coordinate the preparation and submission of a fellowship application for the project.
- ▶ Effective training of students and research support staff where required
- ▶ Participate in community and professional activities related to the relevant disciplinary area.
- ▶ Effective demonstration and promotion of University values including diversity and inclusion and high standards of ethics and integrity.
- ▶ Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in section 5.

3. *Selection Criteria*

3.1 ESSENTIAL

- ▶ PhD or substantial progress towards PhD in Structural Biology (cryo-EM and/or X-ray crystallography and/or NMR)/Computational Biology/Biophysics with basic knowledge of Linux platform in order to utilize structural biology software.
- ▶ Advanced hands-on research experience in Protein Science and Biochemistry of membrane proteins.
- ▶ Strong evidence of ability and desire to build an academic career trajectory.
- ▶ Evidence of emerging local academic standing through research contributions.
- ▶ Demonstrated abilities to conduct independent and/or team-based research
- ▶ Demonstrated ability to articulate research through presentation in a public forum including conferences.
- ▶ Demonstrated excellent verbal and written communication skills for effective research collaboration and engagement.
- ▶ Demonstrated ability to operate sensitive and precise scientific equipment.

3.2 DESIRABLE

- ▶ Experience in sample optimisation for single particle cryo-EM.
- ▶ Experience in high-resolution cryo-EM data collection.
- ▶ Ability to identify research grants and procurement.
- ▶ Experience in the supervision or co-supervision and mentoring of honours and postgraduate students and other staff.
- ▶ Ability to initiate and complete independent, self-motivated research with limited supervision (previous postdoctoral experience).

3.3 SPECIAL REQUIREMENTS

- ▶ Not applicable

4. *Equal Opportunity, Diversity and Inclusion*

The University is an equal opportunity employer and is committed to providing a workplace free from all forms of unlawful discrimination, harassment, bullying, vilification and victimisation. The University makes decisions on employment, promotion and reward on the basis of merit.

The University is committed to all aspects of equal opportunity, diversity and inclusion in the workplace and to providing all staff, students, contractors, honorary appointees, volunteers and visitors with a safe, respectful and rewarding environment free from all forms of unlawful discrimination, harassment, vilification and victimisation. This commitment is set out in the University's People Strategy 2015-2020 and policies that address diversity and inclusion, equal employment opportunity, discrimination, sexual harassment, bullying and appropriate workplace behaviour. All staff are required to comply with all University policies.

The University values diversity because we recognise that the differences in our people's age, race, ethnicity, culture, gender, nationality, sexual orientation, physical ability and background bring richness to our work environment. Consequently, the People Strategy sets out the strategic aim to drive diversity and inclusion across the University to create an environment where the compounding benefits of a diverse workforce are recognised as vital in our continuous desire to strive for excellence and reach the targets of Growing Esteem.

5. *Occupational Health and Safety (OHS)*

All staff are required to take reasonable care for their own health and safety and that of other personnel who may be affected by their conduct.

OHS responsibilities applicable to positions are published at:

<http://safety.unimelb.edu.au/topics/responsibilities/>

These include general staff responsibilities and those additional responsibilities that apply for Managers and Supervisors and other Personnel.

6. *Other Information*

6.1 ORGANISATION UNIT

<http://biomedsciences.unimelb.edu.au/departments/biochemistry>

<http://biomedsciences.unimelb.edu.au/>

6.2 FACULTY OF MEDICINE, DENTISTRY AND HEALTH SCIENCES

www.mdhs.unimelb.edu.au

The Faculty of Medicine, Dentistry & Health Sciences has an enviable research record and is the University of Melbourne's largest faculty in terms of management of financial resources, employment of academic and professional staff, teaching of undergraduate and postgraduate (including research higher degree) students and the conduct of basic and

applied research. The Faculty's annual revenue is \$628m with approximately 55% of this income related to research activities.

The Faculty has a student teaching load in excess of 8,500 equivalent full-time students including more than 1,300 research higher degree students. The Faculty has approximately 2,195 staff comprising 642 professional staff and 1,553 research and teaching staff.

The Faculty has appointed Australia's first Associate Dean (Indigenous Development) to lead the development and implementation of the Faculty's Reconciliation Action Plan (RAP), which will be aligned with the broader University – wide plan. To enable the Faculty to improve its Indigenous expertise knowledge base, the Faculty's RAP will address Indigenous employment, Indigenous student recruitment and retention, Indigenous cultural recognition and building partnerships with the Indigenous community as key areas of development.

6.3 THE UNIVERSITY OF MELBOURNE

Established in 1853, the University of Melbourne is a leading international university with a tradition of excellence in teaching and research. The main campus in Parkville is recognised as the hub of Australia's premier knowledge precinct comprising eight hospitals, many leading research institutes and a wide-range of knowledge-based industries. With outstanding performance in international rankings, the University is at the forefront of higher education in the Asia-Pacific region and the world.

The University employs people of outstanding calibre and offers a unique environment where staff are valued and rewarded.

Further information about working at The University of Melbourne is available at <http://about.unimelb.edu.au/careers>.

6.4 GROWING ESTEEM, THE MELBOURNE CURRICULUM AND RESEARCH AT MELBOURNE: ENSURING EXCELLENCE AND IMPACT TO 2025

Growing Esteem describes Melbourne's strategy to achieve its aspiration to be a public-spirited and internationally-engaged institution, highly regarded for making distinctive contributions to society in research and research training, learning and teaching, and engagement. <http://about.unimelb.edu.au/strategy-and-leadership>

The University is at the forefront of Australia's changing higher education system and offers a distinctive model of education known collectively as the Melbourne Curriculum. The new educational model, designed for an outstanding experience for all students, is based on six broad undergraduate programs followed by a graduate professional degree, research higher degree or entry directly into employment. The emphasis on academic breadth as well as disciplinary depth in the new degrees ensures that graduates will have the capacity to succeed in a world where knowledge boundaries are shifting and reforming to create new frontiers and challenges. In moving to the new model, the University is also aligning itself with the best of emerging European and Asian practice and well-established North American traditions.

The University's global aspirations seek to make significant contributions to major social, economic and environmental challenges. Accordingly, the University's research strategy *Research at Melbourne: Ensuring Excellence and Impact to 2025* aspires to a significant advancement in the excellence and impact of its research outputs.

<http://research.unimelb.edu.au/our-research/research-at-melbourne>

The strategy recognises that as a public-spirited, research-intensive institution of the future, the University must strive to make a tangible impact in Australia and the world, working across disciplinary and sectoral boundaries and building deeper and more substantive engagement with industry, collaborators and partners. While cultivating the fundamental enabling disciplines through investigator-driven research, the University has adopted three grand challenges aspiring to solve some of the most difficult problems facing our world in the next century. These Grand Challenges include:

- ▶ Understanding our place and purpose – The place and purpose grand challenge centres on understanding all aspects of our national identity, with a focus on Australia's 'place' in the Asia-Pacific region and the world, and on our 'purpose' or mission to improve all dimensions of the human condition through our research.
- ▶ Fostering health and wellbeing – The health and wellbeing grand challenge focuses on building the scale and breadth of our capabilities in population and global health; on harnessing our contribution to the 'convergence revolution' of biomedical and health research, bringing together the life sciences, engineering and the physical sciences; and on addressing the physical, mental and social aspects of wellbeing by looking beyond the traditional boundaries of biomedicine.
- ▶ Supporting sustainability and resilience – The sustainability and resilience grand challenge addresses the critical issues of climate change, water and food security, sustainable energy and designing resilient cities and regions. In addition to the technical aspects, this grand challenge considers the physical and social functioning of cities, connecting physical phenomena with lessons from our past, and the implications of the technical solutions for economies, living patterns and behaviours.

Essential to tackling these challenges, an outstanding faculty, high performing students, wide collaboration including internationally and deep partnerships with external parties form central components of Research at Melbourne: Ensuring Excellence and Impact to 2025.

6.5 GOVERNANCE

The Vice Chancellor is the Chief Executive Officer of the University and responsible to Council for the good management of the University.

Comprehensive information about the University of Melbourne and its governance structure is available at <http://www.unimelb.edu.au/governance>