Research Officer – Microbial Bioinformatics

POSITION NO 0062486

CLASSIFICATION Research Officer (Level A)


SUPERANNUATION Employer contribution of 17%

WORKING HOURS Full-time

BASIS OF EMPLOYMENT Fixed term position for 1 year

FIXED TERM REASON EXTERNALLY FUNDED

OTHER BENEFITS https://about.unimelb.edu.au/careers/staff-benefits

HOW TO APPLY Online applications are preferred. Go to http://about.unimelb.edu.au/careers, select the relevant option ('Current Opportunities' or 'Jobs available to current staff'), then find the position by title or number.

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Please do not send your application to this contact

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

The University of Melbourne acknowledges the Traditional Owners of the unceded land on which we work, learn and live: the Wurundjeri Woi Wurrung and Bunurong peoples (Burnley, Fishermans Bend, Parkville, Southbank and Werribee campuses), the Yorta Yorta Nation (Dookie and Shepparton campuses), and the Dja Dja Wurrung people (Creswick campus).

The University also acknowledges and is grateful to the Traditional Owners, Elders and Knowledge Holders of all Indigenous nations and clans who have been instrumental in our reconciliation journey.

We recognise the unique place held by Aboriginal and Torres Strait Islander peoples as the original owners and custodians of the lands and waterways across the Australian continent, with histories of continuous connection dating back more than 60,000 years. We also acknowledge their enduring cultural practices of caring for Country.

We pay respect to Elders past, present and future, and acknowledge the importance of Indigenous knowledge in the Academy. As a community of researchers, teachers, professional staff and students we are privileged to work and learn every day with Indigenous colleagues and partners.

Position Summary

The University of Melbourne seeks a Research Officer to join the research group of Dr Mark Davies within the Department of Microbiology and Immunology at the Peter Doherty Institute for Immunity and Infection. The Davies lab combines genomic, epidemiological, modelling, and immunological approaches to understanding the disease burden and transmission of bacterial infectious diseases, with an aim to ultimately reduce the burden of disease.

The Research Officer will report to Dr Mark Davies and will work closely with other research groups at the Doherty Institute. The incumbent will lead research directives within the Davies laboratory which will involve undertaking work as part of research collaborations with national partners. The applicant should have a Masters or PhD (awarded or near completion) in computer science, bioinformatics, microbiology or another relevant discipline. Previous experience in either microbial populational genomics, multi-omics, computational biology or bioinformatics is essential. The Research Officer will be skilled in the organization and analysis of genome sequence data in a Unix environment. The individual should have an understanding of microbiology and be a team player. It is expected that they will develop their research career pathway and be involved in the preparation of manuscripts and presentations reporting on research activity, assist with the development of funding submissions as indicated and contribute to supervision and mentoring within the Doherty Institute. The position is initially for 12 months, with the opportunity for an ongoing role anticipated.

The School of Biomedical Sciences and its Departments foster a values-based culture of innovation and creativity to enhance the research performance of the University and to achieve excellence in teaching and research outcomes.

We invest in developing the careers and wellbeing of our students and staff and expect all to live by our Faculty Values of:

- Collaboration and teamwork
- Compassion
- Respect
1. Key Responsibilities

1.1 Research and Research Training

- Contribute to the development of a strong program of research in bioinformatics and multi-omics.
- Independently plan and carry out experiments focused on completion of research project aims.
- Maintain accurate and detailed records of all experiments conducted.
- Develop effective timelines and milestones based on goals of the research programme.
- Assist other researchers in carrying out experiments in order to work as a team and further the laboratory’s research output.
- Perform other duties as requested by the appointee’s immediate supervisors.

1.2 Teaching and Learning

- Contribute to teaching, training, scientific mentoring and supervision of students.
- Assist other researchers in carrying out experiments in order to work as a team and further the department’s research output.

1.3 Engagement

- Assist with the preparation of manuscripts for publication.
- Attend and contribute to lab meetings.
- Present experimental results at local, national and international forums.
- Attend and actively participate in departmental seminars, meetings and/or committee memberships.

1.4 Leadership and Service

- Perform other duties as requested by the appointee’s immediate supervisor consistent with responsibilities of the funding bodies and the Department.
- Undertake Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in Section 4 and take responsibility for routine reviews of laboratory practice.

2. Selection Criteria

2.1 Essential

- A PhD or Masters equivalent (awarded or near completion) in Microbiology, Bioinformatics, Computer Science, or population genomics, (or other related field).
Experience in working in bacterial genome sequence data or other multi-omics data.
Experience with Unix/Linux command line, and capacity to work with Python and/or R.
Proven ability to work with senior researchers and experience in design, performance and analysis of experiments.
Demonstrated experience in using initiative, working with minimal supervision and ability to prioritise tasks to achieve project objectives within timelines.
Excellent written and verbal communication skills, demonstrated by presentation of research results at conferences, internal forums and through manuscript submissions.
Demonstrated ability to work as a member of a research team and interact in a courteous and effective manner with academic, administrative and support staff.

2.2 DESIRABLE

Strong publication track record relative to career stage.
Experience in managing bioinformatics workflows using pipeline frameworks.
Experience in applying data visualisation approaches, particularly in genomics.
Demonstrable working knowledge of Git and GitHub.
Experience in microbial bioinformatics of high throughput sequencing data.
Ability to write BASH, R and/or Python scripts.
Experience using high-performance computing (HPC) clusters.
Proven ability to convert genome data into biological meaning.
Experience with molecular microbiology techniques such as PCR, mutagenesis, metabolomics, cellular growth kinetics and/or cell culture.
Demonstrated ability to apply for and be competitive for grant or fellowship support.

3. 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 Advancing Melbourne strategy that addresses 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 Advancing Melbourne.

4. **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:

https://safety.unimelb.edu.au/people/community/responsibilities-of-personnel

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

5. **Other Information**

5.1 **DEPARTMENT OF MICROBIOLOGY & IMMUNOLOGY**

https://biomedicalsciences.unimelb.edu.au/departments/microbiology-Immunology

The Department of Microbiology & Immunology is one of the departments within the School of Biomedical Sciences in the Faculty of Medicine, Dentistry and Health Sciences.

5.2 **THE PETER DOHERTY INSTITUTE FOR INFECTION AND IMMUNITY**

www.doherty.edu.au

The Doherty Institute is a world-class institute combining research in infectious disease and immunity with teaching excellence, reference laboratory diagnostic services, epidemiology and clinical services. It is a joint venture between the University of Melbourne and Melbourne Health.

A new, purpose-built building for the Doherty Institute was completed in early 2014. The members of the Doherty include the Department of Microbiology and Immunology and the Microbiological Diagnostic Unit Public Health Laboratory of the University of Melbourne, the Victorian Nosocomial Infection Surveillance System, The Victorian Infectious Diseases Reference Laboratory, The Victorian Infectious Diseases Service, and The World Health Organisation Collaborating Centre for Reference and Research on Influenza.

5.3 **SCHOOL OF BIOMEDICAL SCIENCES**

https://biomedicalsciences.unimelb.edu.au/

As part of the Faculty of Medicine, Dentistry and Health Sciences since 2015, the School comprises three Departments, Departments of Anatomy and Physiology, Biochemistry and Pharmacology, and Microbiology and Immunology. It has 85 research groups across the three departments, awarding-winning teachers and more than 2500 equivalent full-time student enrolments each year.

Our Mission
Create an innovative and inclusive academic environment building on a strong legacy of world-class excellence and lay the foundation for new generations of biomedical researchers to create new knowledge and lead the revolution in biomedicine, and realise their dream of advancing human health locally and globally.

Our Vision

- Promote collegiality and an inclusive academic environment through the engagement of partners, institutes, hospitals, industries, government and the community at large.
- Cultivate the highest level of excellence in research and education.
- Attract and develop a diverse and talented academic workforce.
- Lead the revolution in biomedicine and translate research outcomes into life transforming healthcare.
- Strengthen our intellectual and technological environment through interdisciplinary interactions, integration of resources and creative thinking.
- Seize all opportunities to create the conditions for sustainability.
- Observe the highest standards of ethics and integrity.

5.4 FACULTY OF MEDICINE, DENTISTRY AND HEALTH SCIENCES

www.mdhs.unimelb.edu.au

The Faculty of Medicine, Dentistry and Health Sciences (MDHS) is Australia’s pre-eminent medical, health sciences and biomedical faculty and is recognised for its research, teaching, training, and policy leadership across all these fields.

The Faculty employs more than 3,000 staff, attracts more than 8,300 students each year and comprises six schools; 37 departments, centres and institutes; and 160 courses.

A large portion of our workforce work in hospital-based departments. We also have over 5,000 honorary staff including hospital-based staff and those in partner research institutes. Our people publish more than 10,000 peer reviewed publications every year and more than 50% of these include an international co-author.

In 2021 our research income was approximately 400M, comprising over 62% of research income for the University of Melbourne and conducting approximately 47% of all research across the University.

We are Australia’s overall leader in clinical and health, ranked 14th globally in 2022 by the Times Higher Education World University Rankings. The 2023 Academic Ranking of World Universities ranks the University of Melbourne as first in Australia in clinical medicine (14th internationally), public health (12th internationally), human biological sciences and medical technology.

The University educates more health professionals, graduates, research and higher degree students and attracts more national competitive funding than any other Australian university. The Faculty offers a suite of professional entry masters level graduate programs, including the Doctor of Medicine (MD), the Doctor of Dental Surgery (DDS), and the Doctor of Physiotherapy (DPT) in addition to a range of graduate level programs such as the Master of Public Health, Master of Primary Health Care, Master of Social Work, Master of Clinical Audiology, Master of Speech Pathology, Master of Clinical Optometry, and many more in nursing, social work, health sciences and psychology.
Over 1,400 graduate research students conduct research supervised by over 2,300 staff and honoraries across the Faculty’s six schools and in affiliated health services and research institutes. University departments are embedded in a range of health services including the Austin Hospital, Northern Hospital, Royal Melbourne Hospital, St Vincent’s Hospital, The Royal Women’s Hospital, Royal Children’s Hospital, Western Hospital, Mercy Hospital and rural partners such as Goulburn Valley Health.

Our strategic plan, Advancing Health 2030, sets out a unifying vision for the Faculty to meet the challenges of a changing world and continue to make an impact on the health and wellbeing of our communities. The strategy has been designed to support and bring to life the University’s overall Advancing Melbourne strategy. Read more at: https://mdhs.unimelb.edu.au/advancing-health-2030

5.5 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

5.6 ADVANCING MELBOURNE

The University’s strategic direction is grounded in its purpose. While its expression may change, our purpose is enduring: to benefit society through the transformative impact of education and research. Together, the vision and purpose inform the focus and scale of our aspirations for the coming decade.

Advancing Melbourne reflects the University’s commitment to its people, its place, and its partners. Our aspiration for 2030 is to be known as a world-leading and globally connected Australian university, with our students at the heart of everything we do.

- We will offer students a distinctive and outstanding education and experience, preparing them for success as leaders, change agents and global citizens.
- We will be recognised locally and globally for our leadership on matters of national and global importance, through outstanding research and scholarship and a commitment to collaboration.
- We will be empowered by our sense of place and connections with communities. We will take opportunities to advance both the University and the City of Melbourne in close collaboration and synergy.
- We will deliver this through building a brilliant, diverse and vibrant University community, with strong connections to those we serve.

The means for achieving these goals include the development of the University of Melbourne’s academic and professional staff and the capabilities needed to support a modern, world-class university. Those means require a commitment to ongoing financial sustainability and an ambitious infrastructure program which will reshape the campus and our contribution to the communities we engage with. This strategy, and the priorities
proposed, is centred around five intersecting themes; place, community, education, discovery and global.

5.7 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 https://about.unimelb.edu.au/strategy/governance