



POSITION DESCRIPTION

Department of Microbiology and Immunology
Faculty of Medicine, Dentistry and Health Sciences

Research Officer – Bioinformatics

POSITION NO	0049106
CLASSIFICATION	Research Officer Grade 1, Level A or Research Officer Grade 2, Level B Level of appointment is subject to qualifications and experience.
SALARY	\$73,669 - \$99,964 p.a. (Level A) \$105,232 - \$124,958 p.a. (Level B)
SUPERANNUATION	Employer contribution of 9.5%
BASIS OF EMPLOYMENT	Fixed term for 3 years Fixed term contract type: Externally funded contract employment
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	Professor Lachlan Coin Tel +61 3 8344 3831 Email lachlan.coin@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 website:
about.unimelb.edu.au/careers

Position Summary

We are seeking a highly motivated Research Fellow to join the research group of Prof Lachlan Coin within the Department of Microbiology and Immunology at the Doherty Institute. The applicant should have a PhD in computer science, bioinformatics or another relevant discipline. Previous experience in genetics, genomics, computational biology or bioinformatics is essential and strong programming skills are required. This Research Fellow will be expected to develop a research program in computational and statistical analysis of multi-omics datasets, including single-molecule long-read RNA and DNA sequencing data, with application to the area of infectious disease. The candidate will develop a strong program of collaborative projects with other researchers in the Doherty Institute. A significant number of COVID related research projects are in progress and the candidate will develop and apply research tools in this area. The incumbent will be self-motivated, conduct independent and collaborative research and develop a strong publication record, including primary papers in leading specialist journals. They will be responsible for initiating new areas of investigation and developing an independent program of research.

1. Key Responsibilities

1.1 RESEARCH AND RESEARCH TRAINING

- ▶ Contribute to the development of a strong program of research in bioinformatics and transcriptomics
- ▶ 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
- ▶ Be responsible for qualitative and statistical analysis of research data and to communicate this information to the Chief Investigators and collaborators
- ▶ 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 ENGAGEMENT

- ▶ Write up experimental results for publication in peer-reviewed journals
- ▶ 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

1.3 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

1.4 SERVICE AND LEADERSHIP

- ▶ Undertake other duties as requested by the supervisor and the Head of the Department
- ▶ Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in section 4.

1.5 IN ADDITION TO THE ABOVE, A LEVEL B APPOINTMENT WILL BE REQUIRED TO

- ▶ Provide leadership in the supervision of research graduate students, post-doctoral fellows and/or research assistants.
- ▶ Oversee training of staff and students in laboratory, safety and research methods as required.
- ▶ Lead the preparation of manuscripts related to the research project
- ▶ Lead the preparation and submission of fellowships and competitive grant applications.

2. Selection Criteria

2.1 ESSENTIAL

- ▶ Completion of a PhD in bioinformatics, mathematics, computer science or a related field
- ▶ Experience in running bioinformatics workflows on high performance computing clusters
- ▶ Experience in analysis of high dimensional datasets, ideally those arising from high throughput molecular assays such as RNA or DNA sequencing projects
- ▶ Strong organisation skills and accurate recording and analysis of data generated from research undertaken
- ▶ 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, inclusive of manuscripts posted to preprint servers
- ▶ 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 IN ADDITION TO THE ABOVE, ESSENTIAL CRITERIA FOR A LEVEL B APPOINTMENT ARE:

- ▶ Demonstrated experience in supervising students or research staff.
- ▶ Strong publication track record relative to career stage.
- ▶ Strong record of presentation at scientific meetings

2.3 DESIRABLE

- ▶ Experience in analysing single cell RNA seq datasets and/or long-read sequencing
- ▶ Experience in cloud computing
- ▶ Experience in developing biomarkers for disease from high dimensional datasets

- ▶ Experience in developing bioinformatics software
- ▶ Experience in machine learning or statistics
- ▶ Demonstrated ability in attracting grant or fellowship support

2.4 SPECIAL REQUIREMENTS

- ▶ N/A

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 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 service for excellence and reach the targets of Growing Esteem.

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:

<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.

5. *Other Information*

5.1 DEPARTMENT OF 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.

Further information is available at <http://www.microbiol.unimelb.edu.au/> and <http://bsac.unimelb.edu.au/>.

5.2 THE PETER DOHERTY INSTITUTE FOR INFECTION AND IMMUNITY

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.

Further information about the Doherty Institute is available at: <http://www.doherty.unimelb.edu.au>

5.3 SCHOOL OF BIOMEDICAL SCIENCES

www.biomedicalsciences.unimelb.edu.au

The School of Biomedical Sciences is part of the Faculty of Medicine Dentistry and Health Sciences. It was established on 1 January 2015 and comprises the Departments of Anatomy and Neuroscience, Biochemistry and Molecular Biology, Microbiology and Immunology, Pharmacology and Therapeutics, and Physiology.

Situated on the University's Parkville Campus in a rich medical practice and research precinct the School has much to offer research and teaching staff alike.

5.4 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.

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 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.

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 <http://www.unimelb.edu.au/governance>