POSITION DESCRIPTION

THE UNIVERSITY OF MELBOURNE

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

Epidemiologist – Genomic Epidemiology, infectious diseases (MDU PHL)

POSITION NO	0050775
CLASSIFICATION	UOM 6
SALARY	$85,134 – $92,154 p.a.
SUPERANNUATION	Employer contribution of 9.5%
WORKING HOURS	Full-time
BASIS OF EMPLOYMENT	Fixed term for 24 months Fixed term contract type: Externally Funded contract
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, select the relevant option ('Current Staff' or 'Prospective Staff'), then find the position by title or number.
CONTACT FOR ENQUIRIES ONLY	Professor Benjamin Howden Tel: +61 3 8344 5701 Email: bhowden@unimelb.edu.au *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

Position Summary

The Microbiological Diagnostic Unit Public Health Laboratory (MDU PHL) provides reference laboratory services for the state, national and regional public health community. Working closely with public health authorities and diagnostic laboratories MDU PHL conducts and advises on the detection and characterisation of bacterial, viral and fungal pathogens for the identification, surveillance and control of infectious diseases, and is a leader in the implementation of public health genomics globally. MDU PHL is committed to remaining on the forefront of public health and microbiological practice, leading and participating in translational research activities, national and international collaborations and training programs.

The Epidemiology Section is responsible for performing analyses, interpretation and reporting of epidemiological, genomic, and other laboratory data to enable public health action. Working closely with the MDU Bioinformatics Section, state, national and regional health authorities and healthcare facilities the Section works across a wide range of infectious diseases and pathogens, conducting both routine surveillance activities and ad hoc outbreak and infection control investigations. Notable activities include the investigation of foodborne disease outbreaks; coordination of state and national genomic surveillance programs including Salmonella Enteritidis, Listeriosis, Hepatitis A and COVID-19; and coordination of state epidemiological and genomic surveillance programs for organisms with critical antimicrobial resistances. The Epidemiology Section also participates in World Health Organisation programs and provides international training through The UK Government's Fleming Fund.

The Epidemiologist, reporting to the Epidemiology Section lead, will work primarily within a multi-disciplinary team conducting state and national genomic surveillance of COVID-19. The epidemiologist will be responsible for coordinating and conducting requested analyses, preparing reports for state and national health authorities and maintaining and managing associated data and records. The Epidemiologist may also be required to perform similar duties for other programs coordinated by the Epidemiology Section.

1. Key Responsibilities

- Perform analysis of epidemiological, genomic and other laboratory data using defined protocols in a variety of software applications, including R.
- Prepare reports for external partners, including state and national health departments, for COVID-19 and other genomic surveillance activities undertaken at MDU PHL using prepared templates within requested timeframes and appropriate record management.
- Interpret genomic data for COVID-19 and other pathogens as required, with support from Epidemiology, Bioinformatics and other sectional staff.
- Liaise with external partners, including state and national health departments, regarding reporting requirements and requests, for COVID-19 and other activities.
- Maintain, manage and clean data held at MDU PHL for COVID-19 and other surveillance activities, with support from data management staff.
- Perform visualisation of epidemiological and genomic data using a variety of software applications with support from Epidemiology, Bioinformatics and other sectional staff, as required.

- Working with the Epidemiology Section Lead and other MDU PHL Epidemiologists contribute to the development of protocols, templates and methodologies for COVID-19 genomic surveillance and other activities undertaken by the Epidemiology Section.
- Provide advice and training to data entry staff in the performance of their role.
- Assist with the preparation of presentations, research papers and other documents to showcase MDU PHL surveillance activities
- Assist the Director and Epidemiology Section Lead to contribute to regional engagement opportunities and training services.
- In consultation with the Director and Epidemiology Section Lead, assist the Translational Research Lead, with undertaking collaborative research relevant to the goals of MDU PHL, which may include developing study protocols or performing data collection, management, cleaning and analysis.
- Maintain and develop continued understanding in relevant fields.
- Observe all relevant policies, procedures and legal obligations regarding the use and handling of sensitive and confidential data, including those related to data access, storage, and release.
- Maintain familiarity with and observe the relevant policies and procedures in the MDU Quality System, work in line with MDU PHL objectives and observe all relevant legal obligations.
- Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in section 5.

2. Selection Criteria

2.1 ESSENTIAL

- A tertiary qualification or higher in Epidemiology, Public Health, Biostatistics or similar together with relevant epidemiological and public health experience.
- Training and experience in epidemiological study design and data management, analysis and interpretation.
- Demonstrated ability to undertake, communicate and report data analyses.
- Experience using relevant data analysis statistical methods and familiarity with statistical software packages
- Experience in data management and cleaning.
- Strong communication, interpersonal skills, and time management skills
- Ability to work independently within a multidisciplinary team
- Ability to apply initiative and problem solve in a rapidly emerging and evolving field
- Ability to build relationships and work effectively with collaborators in a range of environments, including government, public health laboratories, research organisations and other professional colleagues
- Commitment to observe the requirements of working with confidential and sensitive data and within a regulated environment subject to third-party audits.
- Commitment to observe MDU'PHL's: confidentiality, safety and security requirements, procedures, and ethos.

2.2 DESIRABLE

- Background in human infectious disease and/or public health research or surveillance.
- BSc (Honours) and Master of Applied Epidemiology/Master of Public Health/PhD (or equivalent).
- Background in a relevant field of laboratory-based biomedical science.
- Knowledge of infectious disease surveillance systems in Australia.
- Experience with data analysis and visualisation in R, or advanced statistical skills. Experience in preparing reports for government partners, publications for peer-reviewed journals and grant/funding applications.
- Demonstrated ability to design and implement study, analysis and reporting protocols.
- Experience in bioinformatic analysis and command line operations in Linux/Unix environments and/or familiarity with creating or interpreting phylogenomic analyses.

2.3 SPECIAL REQUIREMENTS

- Sign and abide by confidentiality and information use agreement
- Flexibility in work patterns in the face of pressing needs and requirement to perform out of hours work when the need arises.
- Short-term interstate or international travel may be required
- Undergo police and security checks as a condition of employment with the University of Melbourne
- Vaccination against relevant infectious diseases is recommended and provided.

3. Job Complexity, Skills, Knowledge

3.1 LEVEL OF SUPERVISION / INDEPENDENCE

The Epidemiologist will report to the Epidemiology Section Lead and work collaboratively with other Epidemiologists and staff from other sections. They will have responsibility for maintaining appropriate standards of analysis, data management and reporting in a hands-on-role. Within existing protocols and guidelines, the incumbent will have general independence in the application of best practices in data analysis, in day to day decision making and will have the authority to direct data entry staff to achieve all required tasks.

3.2 PROBLEM SOLVING AND JUDGEMENT

The position will be required to exercise judgement in the analysis and interpretation of data results and to trouble shoot in the event of programming failure or unexpected result. This position is expected to keep abreast of new analysis methods and MDU protocols and may be expected to develop and implement new protocols with support and supervision. The incumbent will be required to take corrective action, where possible, in the event of data mismanagement and advise senior staff accordingly.

3.3 PROFESSIONAL AND ORGANISATIONAL KNOWLEDGE

The position requires a qualification in epidemiology, public health, biostatistics or similar and will further develop from both specific workplace training and a practical experience in performing analyses. Central to this knowledge acquisition will be a parallel understanding of good scientific practice, linking theoretical knowledge with practical capability. The incumbent is expected to understand and adhere to MDU PHL Standard Operating Procedures and other relevant protocols, and perform in a professional environment that is subject to independent audit practices. Active membership in relevant professional organisations is desirable.

3.4 RESOURCE MANAGEMENT

The position will provide status reports on the progress of analyses to the Epidemiology Section Lead and others, as directed. The position will provide advice and training to data entry staff, and liaise with staff across all sections, including the Bioinformatics and Molecular Sections.

3.5 BREADTH OF THE POSITION

The position covers the Epidemiology Section and any other epidemiological activities performed at MDU PHL. This involves the performance of analyses, interpretation, and reporting. The position will also require participation in evaluations, acquisition of competence in new procedures and maintaining quality systems and documentation that will meet third party audit requirements This position will be required to liaise external partners including State and National health authorities, health services and diagnostic laboratories.

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/people/community/responsibilities-of-personnel

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

6. Other Information

6.1 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/.

6.2 THE MICROBIOLOGICAL DIAGNOSTIC UNIT PUBLIC HEALTH LABORATORY

The Microbiological Diagnostic Unit (MDU PHL) is a public health laboratory for the Department of Health, Victoria situated within the Department of Microbiology and Immunology at the University of Melbourne. The MDU has been established for over 100 years on External State Government funding.

The MDU PHL is concerned with provision of services for the laboratory diagnosis of diseases of public health importance, the application of typing methods, the use of computer-based data collection systems for epidemiological purposes, and provision of expert opinion. In addition, the Unit undertakes the microbiological examination of foods and water for compliance with regulatory and voluntary codes and standards. MDU PHL is NATA accredited for Biological testing, including Forensic Operations, NATA/RCPA accredited for Medical testing and performs selected veterinary testing.

6.3 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 Nososcomial 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

6.4 FACULTY OF MEDICINE, DENTISTRY AND HEALTH SCIENCES

The Faculty of Medicine, Dentistry and Health Sciences (MDHS) plays a vital role in the delivery of the University of Melbourne's Strategic Plan 2015-2020: Growing Esteem by providing current and future generations with education and research equal to the best in the world. It is Australia's largest and leading biomedical research faculty. It employs more than 1,700 members of staff, has more than 8,000 students, and total revenue of $607 million for 2015. Reflecting the complexity of today's global health landscape, the Faculty is made up of six different Schools and four Strategic Research Initiatives, and draws together all areas of human health, ranging from the most basic to the most applied areas of research. The Faculty contributes close to 50 per cent of research conducted at the University.

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.

Further information about the Faculty is available at:

http://www.mdhs.unimelb.edu.au

6.5 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.

6.6 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.

6.7 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