POSITION DESCRIPTION

THE UNIVERSITY OF MELBOURNE

School of Mathematics and Statistics
Faculty of Science

Melbourne School of Population and Global Health
Faculty of Medicine, Dentistry and Health Sciences

Research Fellow - Infectious Disease Dynamics (x4 Multiple Positions)

POSITION NO	0064264
CLASSIFICATION	Level A / Level B
SALARY	Level A: $83,468 - $113,262 p.a. (pro rata for part-time) Level B: $119,231 - $141,581 p.a. (pro-rata for part-time) Level of appointment is subject to qualifications and experience
SUPERANNUATION	Employer contribution of 17%
WORKING HOURS	Full-time (1.0 FTE) or part-time (negotiable)
BASIS OF EMPLOYMENT	Fixed-Term positions from 3 to up to 5 years. **FLEXIBLE EMPLOYMENT** The University of Melbourne is strongly committed to supporting diversity and flexibility in the workplace. Applications for part-time or other flexible working arrangements will be welcomed and will be fully considered subject to meeting the inherent requirements of the position.
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.
CONTACT FOR ENQUIRIES ONLY	Professor James McCaw Tel +61 3 8344 9145 Email jamesm@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

Acknowledgement of Country

The University of Melbourne acknowledges the Traditional Owners of country throughout Australia. The University recognises the unique place held by Aboriginal and Torres Strait Islander peoples as the original custodians of country and their continued connection to the land, waterways, songlines and culture. The University respects all Aboriginal and Torres Strait Islander People and warmly embrace those students, staff, Elders and collaborators who identify as First Nations.

Position Summary

The Faculty of Science in conjunction with the Faculty of Medicine, Dentistry and Health Sciences are looking for Research Fellows with the ability and passion to undertake collaborative research in infectious diseases dynamics. Multiple positions exist and successful applicants will be appointed at Academic Level A or Academic Level B, depending on the level of previous experience and accomplishment.

Each Research Fellow in Infectious Disease Dynamics will undertake a program of research in the mathematical sciences to study the infection and transmission dynamics of infectious diseases of humans, as part of an Australian Research Council Laureate Fellowship research program led by Professor James McCaw. Areas of research will include foundational theory in mathematical, statistical and computational modelling, and application of infectious disease dynamics methods to applied problems in infectious disease research; within-host dynamics with a focus on acute viral infections and malaria; epidemiological transmission dynamics with a focus on pathogens with epidemic or pandemic potential; multi-scale methods and applications linking within-host to epidemiological scale dynamics; and public health oriented research including pandemic preparedness and response.

Findings will deliver new foundational knowledge in the mathematical sciences for the study of infectious diseases, and new biological and epidemiological knowledge on pathogens of global importance.

Research Fellows will work as part of a larger team, led by Professor James McCaw and Dr Freya Shearer, situated across Melbourne Mathematical Biology in the School of Mathematics and Statistics and the Infectious Disease Dynamics Unit in the Melbourne School of Population and Global Health. Existing members of the team include staff with expertise in mathematical modelling, Bayesian computational statistics, and applied focal areas including influenza and malaria within-host dynamics, epidemiological modelling, and pandemic preparedness and response.

Successful applicants will have an established track record in high-quality research in the mathematical sciences or a closely related discipline (e.g., physics), and a desire and aptitude to work at the interface between disciplines, bridging between pure and applied research. They will have either a track-record in or demonstrable appetite for working on problems in infectious diseases research. They will hold a PhD in infectious disease dynamics, mathematics or statistics, or a closely related field of research, with an established profile in research as a member of a team and a track-record in publishing high-quality scientific research.

The appointee(s) will report to either Professor James McCaw or Dr Freya Shearer, depending upon the agreed focal area for research and primary location for employment across the distributed team. As a member of the School of Mathematics and Statistics and/or the Melbourne School of Population and Global Health's academic team, the appointee will be expected to support the broad ethos of the School(s) and the School(s)'s compliance with University policies and procedures, including environmental health and safety.

We encourage applicants from under-represented groups, including Aboriginal and Torres Strait Islander people. To allow us to consider performance relative to opportunity, we also invite applicants to provide a brief statement (up to 1 page) that describes circumstances that may have affected their career development or progression, including career interruptions or delays, periods of part time work, or forms of bias they have experienced.

1. Key Responsibilities

As with all positions, career achievements will be interpreted relative to opportunity, including career disruptions due to caring responsibilities, time in industry, illness etc.

The position description should be read alongside Academic Career Benchmarks and Indicators.

- A level A academic is acquiring skills and building academic achievements (oriented towards the benchmarks).
- A level B academic has well developed academic skills and strong academic performance (approaching or progressing towards the benchmarks).

1.1 RESEARCH AND RESEARCH TRAINING

The appointee will be expected to:

- Significantly contribute towards the research effort of the team and develop your research expertise with an increasing degree of autonomy.
- Under the guidance of (Level A) or in collaboration with (Level B) Senior Academic staff, conduct internationally competitive research, resulting in high-quality publications.
- Lead the development of novel mathematical models of infectious disease systems, working on problems in within-host, epidemiological or multi-scale dynamics.
- Pursue research on foundational theory in infectious disease dynamics, in one or more of the areas of mechanistic modelling, computation and simulation, and statistical inference.
- Apply models to open problems of national and global importance in infectious disease research, in collaboration with team members and partners.
- Report on research findings at regular meetings, and through formal presentations at Centre, School and Faculty seminars, national and international conferences and to partner organisations.
- Draft manuscripts for publication in peer-reviewed journals reporting study findings.
- Contribute to day-to-day training and support of graduate research students and research assistants associated with the research program.
- Contribute to and participate in teaching and learning activities (e.g. occasional lectures) as requested.

1.2 EDUCATION AND LEARNING

The appointee will be expected to:

- Contribute to teaching, training, scientific mentoring and supervision of students.
- Contribute to the effective supervision of junior research staff in the appointee's area of expertise.

1.3 LEADERSHIP AND SERVICE

The appointee will be expected to:

- Provide service to the University and actively participate in meetings and committees as requested.
- Undertake other research duties commensurate with the position as directed by the supervisor.
- Actively participate in activities within the School and Faculty to support Diversity and Inclusion.
- Contribute to, or present research to the public to elevate public awareness of educational and scientific developments and promote critical enquiry and public debate within the community where appropriate.
- Effectively demonstrate and promote University values including diversity and inclusion and high standards of ethics and integrity.
- Actively contribute to School activities such as Open Day to promote student engagement.

1.4 OTHER DUTIES

The appointee will be expected to:

- Perform other tasks as requested by the supervisor or the Head of School
- Actively participate in the University Professional Development Framework
- Ensure an up-to-date record of University compliance courses, such as, but not limited to, Appropriate Workplace Behaviour, PDF for Staff and Supervisors, OH&S training courses.
- Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in section 4.

2. Selection Criteria

In order to be considered for interview by the Selection Panel, applicants must address the following Criteria in their application. Please visit the University website how to address Essential Selection Criteria

ESSENTIAL

- Completion of a PhD in infectious diseases dynamics, mathematics, or a related area.
- Demonstrated ability to use modelling and/or statistical computing programs and languages such as R, python, MATLAB or C/C++.

- An established profile in research as a member of a team, as evidenced by the production of research publications, including literature searchers, and drafting manuscripts and presentations at conferences.
- Sound written and verbal communication skills, including the ability to communicate technical material to a range of less- or non-technical stakeholders from both a research and policy environment.
- Excellent ability to work co-operatively and positively in a multi-disciplinary research-based team environment and liaise with people from diverse backgrounds.
- Demonstrated excellent organisational skills to meet deadlines and bring projects to a timely completion.
- Demonstrated ability to develop, administer and see through to completion appropriately designed research projects with limited supervision.

2.1 DESIRABLE

- Demonstrated excellence in the field of within-host dynamics, and/or epidemiological modelling.
- Demonstrated potential for a career in multi-disciplinary research as evidenced by active contribution to research projects or other professional activities with multiple and diverse stakeholders.
- Undergraduate and/or graduate teaching and/or tutoring experience.

For appointment at Level B the candidate must also address the following:

- Demonstrated evidence of successful supervision of graduate research student(s) and/or research assistant(s).
- Demonstrated evidence of independence in (post-PhD) research in terms of problem formulation, developing an approach to solving the problem, and successful dissemination (typically through peer-reviewed publication) of the findings of research.

2.2 OTHER JOB-RELATED INFORMATION

- This position requires the incumbent to hold a current and valid Working with Children Check.
- Occasional work out of ordinary hours, travel, etc.

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:

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 FACULTY OF SCIENCE

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

Science at Melbourne is a global leader across fundamental and impactful scientific research and education. Science begins with curiosity, and we are dedicated to understanding the universe from the level of sub-atomic particles to the solar system. We aim to be leaders who positively impact the community locally and globally, addressing major societal issues from climate change to disease. Our discoveries help build an understanding of the world around us.

Our strength is our breadth of expertise. We are the second largest faculty in the University comprising seven schools: Agriculture, Food & Ecosystem Sciences, BioSciences, Chemistry, Geography, Earth & Atmospheric Sciences, Mathematics & Statistics, Physics and Veterinary Science.

This depth of knowledge positions the faculty to better understand, explore and impact our world and humanity, within a truly comprehensive Faculty of Science.

We have more than 150 years of experience in pioneering scientific thinking and analysis, leading to outstanding teaching and learning and offer a curriculum based on highly relevant research. We aim to train students with the knowledge and intellectual flexibility to drive the industries of tomorrow and lead across all levels of society.

We offer a range of undergraduate, honours, graduate and research degrees, enrolling more than 11,500 undergraduate and 3,750 graduate students.

We are dedicated to delivering leading transformative educational outcomes, underpinned by research, and an inclusive and inspiring student experience.

Excellence comes in many forms and diversity of thought, perspective and disciplines is essential to deliver globally leading science. At the core of our success is our focus on an inclusive environment for all in our community. Our Faculty's focus on equity, inclusion

and belonging is grounded in our endeavour to ensure we are best placed to advance research, teaching and serve diverse national and global communities.

As a Science community we sit across five of the University's campuses – Parkville, Dookie, Burnley, Creswick and Werribee. This reach provides us with a unique perspective that is beneficial to our teaching and research. It also means we can offer our students a greater variety of learning experiences and internships to engage with industry partners to solve real-world issues.

The Faculty is custodian of the Bio21 Molecular Science and Biotechnology Institute, Melbourne Energy Institute, Melbourne Biodiversity Institute, Oceania Institute, Office for Environmental Programs, Australian Mathematical Sciences Institute (AMSI) and the Indigenous Knowledge Institute and home to numerous Centres.

5.2 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.

5.3 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.

5.4 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.

5.5 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