Centre for Epidemiology and Biostatistics
Melbourne School of Population and Global Health
Faculty of Medicine, Dentistry and Health Sciences

Research Fellow in Epidemiology and Housing Intervention Simulation Modelling

POSITION NO	0057810
CLASSIFICATION	Research Fellow Grade 1, Level A
	Or:
	Research Fellow Grade 2, Level B
	Level of appointment will be commensurate with the qualifications and relevant experience of the successful appointee.
SALARY	Level A - $77,171 - $104,717 p.a. (pro rata)
	Level B - $110,236 - $130,900 p.a. (pro rata)
SUPERANNUATION	Employer contribution of 17%
WORKING HOURS	Full-time (1.0 FTE)
BASIS OF EMPLOYMENT	Fixed-term position available for 24 months.
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	Name: Prof Tony Blakely
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	Email: ablakely@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

SHINE

Healthy Housing
NHMRC Centre of Research Excellence

Acknowledgement of Country

The University of Melbourne would like to acknowledge and pay respect to the Traditional Owners of the lands upon which our campuses are situated, the Wurundjeri and Boon Wurrung peoples, the Yorta Yorta Nation, the Dja Dja Wurrung people. We acknowledge that the land on which we meet and learn was the place of age-old ceremonies, of celebration, initiation and renewal, and that the local Aboriginal peoples have had and continue to have a unique role in the life of these lands.

Position Summary

Housing is a social determinant that we can intervene on to improve health – with environmental and other social co-benefits. To better prioritise housing interventions, we need estimates of the health, health inequality, health expenditure and income productivity impacts of multiple interventions – to then rank them and recommend the top ranked interventions to policy makers. The housing interventions the successful candidate will evaluate include:

- Interventions that improve indoor temperature (i.e. mitigating against both cold and hot indoor temperature)
- Interventions that prevent or remove mould
- Retrofitting and other multi-faceted interventions that address multiple housing conditions relevant to health
- Intervention for and target to Aboriginal and Torres Strait Islander housing.

The successful applicant will need excellent skills in epidemiology; a large and critical part of the position is appraising existing studies, selecting the best studies to parameterize effect sizes (e.g. what is the rate ratio of asthma incidence versus asthma severity for varying severity of mould in the house). You will need to enjoy conceptualizing causal networks and have the ability to posit plausible effect sizes (and their uncertainty) for many moving parts in a simulation model – even when the evidence is not perfect. You will need to approach intervention evaluations looking to answer the big questions ("what is the total health impact of eradicating mould in Australian homes?") and be comfortable using hierarchies of evidence (from randomized controlled trials all the way to expert knowledge elicitation methods). This task requires strong epidemiological principles and skills to navigate and sift through the evidence.

Building on this strong epidemiological foundation, the successful candidate will then utlilise and develop expertise in many other methods and approaches: costing of interventions; the methods and principles of health economics and cost effectiveness; specifying simulation models; running simulations using high performance cloud computing; and data science. The position is ideal for candidates who are looking to deepen and broaden their application of epidemiology to quantifying the impact of population interventions, and carve out a career at the interface of epidemiology, economics and policy making.

The successful candidate will be joining the Scalable Health Interventions Evaluation (SHINE; led by Professor Tony Blakely) program in the Population Interventions Unit, Centre for Epidemiology and Biostatistics, Melbourne School of Population and Global Health. You will be working as a bridge between SHINE and the NHMRC-funded Centre of Research Excellence in Health Housing (led by Professor Rebecca Bentley). You will be in a team with experts in data science and computer simulation, epidemiology and economics, and housing research; you will have strong support and the opportunity to learn new skills. You will have the opportunity to lead and co-author multiple publications, supervise postgraduate students and contribute to funding applications. You will be able to 'make a difference' as the research you will conduct feeds into policy making, and prioritising future research.

The majority of the position is funded by the Healthy Housing CRE. Which means you will also be involved in some other arising work, e.g. undertaking evaluations of other population interventions such as reducing overweight and obesity, tobacco, and such like.

1. Key Responsibilities

1.1 RESEARCH AND RESEARCH TRAINING

- Conceptualization and specification of healthy housing interventions
- Literature reviews and synthesis to inform conceptualization and specification of models.
- Analyses of data external to the core simulation model to generate model inputs (e.g. smoothing survey data estimates, forecasting trends)
- Estimation of health system costs (e.g. of the intervention itself, of disease related to the intervention)
- Build, calibrate and validate Python modules, either (depending on skills), assisting existing team members
- Run simulation models in Python, logic check and secondary processing of outputs.
- Contribution to, and leadership of, journal publication(s).
- Contribution to research funding applications.

1.2 LEADERSHIP AND SERVICE

- Actively participate at School and/or Faculty meetings and with guidance, contribute to planning activities or committee work to support capacity-building in the School/discipline.
- 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 4.

   In addition to the above, the Research Fellow, Level B appointee will be required to:

- Provide research leadership and high quality, autonomous management of the research project.

2. Selection Criteria

2.1 ESSENTIAL

- A PhD or near completion of PhD in epidemiology (or closely related discipline with subsequent experience in epidemiology) is essential.
- A demonstrated publication track record and strong writing skills.
- Experience using at least one statistical and/or programming language (e.g. R, STATA, Python).
- Experience using Microsoft Excel.

- Strong interpersonal and communication skills, with an ability to build and maintain relationships with key stakeholders (internal and external) and work collaboratively

- Ability to work as a member of a team based at the University of Melbourne.

- Ethical scholar who values diversity and works effectively with individual differences

2.2 DESIRABLE

- Skills and experience in: computer science, economics, demography, and biostatistics..

- Experience in health housing research, intervention evaluation, and simulation modelling.

- Experience with Python code (highly desirable).

- Experience in working with and analysing large datasets and linked datasets.

- Experience in data visualization and user dashboards.

- Experience in knowledge dissemination and translation.

2.3 SPECIAL REQUIREMENTS

In addition to the above, the following are <u>essential</u> for a Research Fellow, Level B Appointment.

- A strong publication track record

- A developing national and/or international profile as evidenced by research publications, conference and seminar papers, and/or research funding.

In addition to the above, the following are <u>desirable</u> for a Research Fellow, Level B Appointment.

- Experience in the supervision or co-supervision of postgraduate students and more junior research staff.

- Demonstrated success in obtaining research funding.

- Substantial experience with simulation modelling

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 CENTRE FOR EPIDEMIOLOGY AND BIOSTATISTICS

The Centre for Epidemiology and Biostatistics (CEB), Melbourne School of Population and Global Health. https://mspgh.unimelb.edu.au/centres-institutes/centre-for-epidemiology-and-biostatistics.

The Centre for Epidemiology and Biostatistics is one of 4 Centres and an Institute that comprise the Melbourne School of Population and Global Health.

Our Centre's units include:

i)   Allergy and Lung Health

ii)   Australian Twin Registry

iii)   Biostatistics

iv)   Breast Cancer

v)   Colorectal Cancer

vi)   High Dimensional Analytics

vii)   Indigenous Health and Epidemiology

viii) Population Interventions

ix)   Modelling and Simulation

x)   Sexual Health

xi)   Neuroepidemiology

xii)   Teaching and Learning

xiii) Causal Inference in Epidemiology

The Centre for Epidemiology and Biostatistics is at the forefront of a preventative health revolution. Big data, changing infectious diseases patterns and multi-disciplinary

collaborations are transforming the ways public health disciplines are researched and taught. Our Centre aims to be a leader in this evolving environment.

Epidemiology and biostatistics provide solutions to global public health challenges that demand multi-disciplinary responses. Our Centre's approach to research, teaching, and research training reflects this reality. We combine deep expertise with a broad range and reach – through our nine units, and our active links to other renowned institutions. This ensures our researchers and graduates are ready to contribute to preventing and alleviating the world's common, debilitating and burdensome health issues.

5.2 MELBOURNE SCHOOL OF POPULATION AND GLOBAL HEALTH

The Melbourne School of Population Health was established in the Faculty of Medicine, Dentistry and Health Sciences in 2001. It became the Melbourne School of Population and Global Health in 2013. Over 300 academic and professional staff work in the School and through its partner agencies. The School's total budget is in excess of $50m. There are approximately 120 higher degree research students (predominantly PhD). The School aims to strengthen the understanding, capacity and services of society to meet population health needs and to improve the quality and equity of health care. It employs a population health framework that incorporates public health and preventative medicine, health promotion, clinical medicine and allied healthcare disciplines and an equity and evidence-based approach to health care and health policy. Its research programs aim to elucidate the genetic, environmental, social and economic determinants of health, and to focus on the evaluation of the health systems, programs and services that seek to prevent disease and injury and to promote health. The School provides research and professional development opportunities for medical undergraduates, postgraduates in a wide range of disciplines, clinicians in all sectors of the health care industry, scientists, professionals and leaders in population health.

The School is currently composed of four Centres and one Institute:

Centres:

- Centre for Health Equity (CHE)
- Centre for Health Policy (CHP)
- Centre for Epidemiology and Biostatistics (CEB)
- Centre for Mental Health (CMH)

Institutes:

- The Nossal Institute for Global Health (NIGH)

Further information about the School is available at http://www.mspgh.unimelb.edu.au/

5.3 FACULTY OF MEDICINE, DENTISTRY AND HEALTH SCIENCES

www.mdhs.unimelb.edu.au

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 >$850 million for 2020. 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% of the 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.

5.4 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

5.5 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.

5.6 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