



POSITION DESCRIPTION

Faculty of Architecture, Building and Planning

Research Fellow in Computer Vision and Health – Transport, Health and Urban Design Research Lab – 2 x Positions

POSITION NO	0050624
CLASSIFICATION	Research Fellow (Level B)
SALARY	\$105,232 - \$124,958 p.a (pro rata for part-time)
SUPERANNUATION	Employer contribution of 9.5%
WORKING HOURS	Full-time (1.0 FTE)
BASIS OF EMPLOYMENT	Fixed-term for 2 years
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	Dr Jason Thompson Tel +61 457 502134 Email Jason.thompson@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

The University of Melbourne's Transport, Health and Urban Design (THUD) Research Laboratory is entering into a research partnership with Queens University, Belfast to investigate associations between the built environment and health in Australia and the United Kingdom. This is part of a 3-year funded program. Using detailed urban imagery from maps, satellite images and street-view angles, the project will investigate how urban design is linked to the incidence and prevalence of non-communicable disease in locations across each country.

This project requires two Research Fellows with existing experience and interest in quantitative and / or computational research methodologies or the capacity and curiosity to quickly and competently add computational skills to an otherwise strong quantitative research methods base. Working in an inter-disciplinary team, you will be required to assimilate disparate information from multiple sources and have a firm understanding of the strengths and weaknesses of both imagery and epidemiological data and its application. You will work with the project's Chief investigators on a day-to-day basis, learning from our team's pre-established methodologies and methods and adding your own ideas and innovations. You are expected to be curious, motivated, creative, academically brave and productive. This is an opportunity to firmly establish a unique research theme of your own in a cutting-edge environment. At times you may not really feel like you know what you are doing. You must be comfortable with that.

Tasks will involve investigation and experimentation, project administration and documentation, ethics applications, data collection, providing technical advice, data management and data analysis, conducting literature searches and co-drafting reviews, leading and contributing to research papers and reports, and liaising between research and industry partners both here and overseas. There is no direct supervision of staff expected, though the opportunity to develop your own research projects and/or supervise PhD students where possible is encouraged. Some overseas travel may be required. You will be expected to be a positive and collaborative communicator within the team and externally, where your success will be the team's success. There will be opportunity to present your work in multiple conferences, workshops and industry seminars, so the ability to effectively communicate your research to both academic and applied audiences will be highly valued.

The position is based at the Melbourne School of Design/Faculty of Architecture, Building & Planning (<https://msd.unimelb.edu.au/>) and is linked to the research program of the Transport, Health and Urban Design (THUD) Research Lab. For more information about THUD see <https://thud.msd.unimelb.edu.au/home>.

The position will report to Dr Jason Thompson, Senior Research Fellow in the Melbourne School of Design, and will be expected to work collaboratively with other Chief Investigators including Professor Mark Stevenson, Dr Kerry Nice and Dr Jasper Wijnands. Potential applicants are encouraged to familiarise themselves with the work of the investigators and THUD Lab as a guide to considering their interest in and suitability for the position.

THUD comprises an interdisciplinary team featuring epidemiologists, psychologists, mathematicians, architects, planners, geographers, and computer scientists. Applicants from a similarly broad suite of backgrounds are encouraged to apply. Fundamentally, however, candidates will be expected to demonstrate core-competence in the application of advanced quantitative and / or computational disciplines to problems associated with at least one-of the areas of image processing, urban design, or health.

1. Key Responsibilities (under the direction of the Chief Investigators)

- ▶ Assist in developing the detailed research design and protocols, based on pre-established methodologies and methods.
- ▶ Liaise between Chief Investigators, Partners, research committees, and participants to create a collaborative and supportive research culture.
- ▶ Lead literature searches and co-draft reviews that cover research theories and findings that can inform data collection protocols, analysis techniques.
- ▶ Support Chief Investigators apply for ethics approvals and monitor the progress and conduct of research.
- ▶ Coordinate a range of data collection activities at sites across Australia and the UK in collaboration with Chief Investigators and industry partners.
- ▶ Coordinate the collection, analysis, documentation and storage of project data.
- ▶ Assist in organising and running of research seminars, workshops and conferences, including material preparation and presenting.
- ▶ Co-draft and edit a range of publications based on research findings, such as for project reports, peer-reviewed journals, books, mass-media outlets and the THUD website.
- ▶ Present research findings to stakeholders in a range of media and formats
- ▶ Contribute to high quality publications and other appropriate outcomes arising from research in collaboration with Chief Investigators.
- ▶ Assist in the management of casual part-time researchers and project-supported PhD candidates where applicable
- ▶ Support the reporting of outcomes to funding bodies as required.
- ▶ Conduct administrative tasks associated with the research project, as assigned by the Lead Chief Investigator and Project Coordinator.
- ▶ Contribute to the intellectual debate within the University, THUD, and related disciplines.
- ▶ Be an effective team player who is cooperative and gains the trust and support of staff, peers and partners through active collaboration.
- ▶ Treat everyone equitably, act fairly with staff and demonstrate respect for diversity.
- ▶ Occupational Health and Safety (OH&S) responsibilities as outlined in section 4.

2. Selection Criteria

2.1 ESSENTIAL

- ▶ A PhD in a relevant field.
- ▶ A demonstrated ability to conduct independent research/evaluation and assume responsibility for the development and completion of research projects, including the necessary ethics approvals, data collection, analysis and reporting.
- ▶ Strong track record undertaking research/evaluation in health, epidemiology, design, urban planning, computer vision, statistics, computational design or related field using a range of quantitative methodologies and methods.
- ▶ Experience coordinating research projects that deliver against targets, and timelines, preferably within an interdisciplinary environment.

- ▶ Demonstrated programming skills in at least one language (e.g., Python, TensorFlow, R, Java, C++) and capacity or willingness to learn others.
- ▶ Strong writing and communication skills, and a track record of quality research outputs, as evidenced by research publications in leading journals and conferences commensurate with opportunity.
- ▶ A heightened sense of curiosity about the world and the opportunities within it to conduct fascinating and valuable research that shapes cities and their design for health.
- ▶ An understanding of technical, practical, and ethical issues related to health and / or imagery datasets and their utilisation.
- ▶ Strong organisational, administrative and project management skills, with the ability to problem solve and think critically to successfully complete tasks through to completion and meet deadlines.
- ▶ Strong capacity to remain productive while working independently and to seek guidance when required.
- ▶ Demonstrated ability to work effectively as a member of a team and contribute to the development and achievement of the team's objectives.

2.2 DESIRABLE

- ▶ Experience with imagery datasets and the investigation (either technically or in an applied sense) of computer vision applications related to health.
- ▶ Experience with high-performance computing systems, including GPU computing.

2.3 OTHER JOB-RELATED INFORMATION

- ▶ This position requires the incumbent to hold a current and valid Working with Children Check.
- ▶ Some interstate and international travel may be required as part of this role.

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 strive 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:

<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 BUDGET DIVISION

The Faculty of Architecture, Building and Planning is the leading educational and research institution in the Asia-Pacific region addressing the design and realisation of inhabited environments. The Faculty actively seeks to extend the linkages between education, research and practice in the built environment, and maintains excellent and extensive relationships with members of the built environment professions, government, professional associations and the wider community.

The Faculty has over 200 staff and approximately 3000 students, one third of whom are international. It is responsible for the University's undergraduate Bachelor of Design degree, and offers majors in architecture, landscape architecture, property, construction, and urban planning.

The Faculty's graduate school, the Melbourne School of Design teaches accredited masters courses across the professional disciplines of Architecture, Construction Management, Landscape Architecture, Property, Urban Design and Urban Planning.

The MSD is distinctive from its competitors in its aim to inspire learning through interdisciplinary reflection, and its integration of research, teaching, and practice around the implications of all forms of urbanisation. With opportunities to engage in advanced studio and seminar-based learning and research, MSD students develop new perspectives, critical reflection, and modes of action to address the environmental, social and aesthetic challenges in producing sustainable centres of habitation, locally and internationally. Students take part in field trips which examine the global context of habitable environments.

The Faculty has an international reputation for excellence in research and research training and is a leader in built environment and urban research. Faculty staff are actively engaged in collaborations and partnerships both locally and globally, to produce research that responds to major social, economic and environmental challenges, as well as fundamental research into the built environment in Australia and the Asian region. Researchers address key issues, such as mitigation of natural disasters, climate change, sustainability, the future of cities, population growth and urban density; leading debate in many of these areas. The Faculty also contributes definitive knowledge and understanding of the history, conservation and heritage of the built and natural

environment, built environment practice and management, urban morphology and design research. The Faculty draws its research strength in part from its capacity to work in the multidisciplinary frame of its various built environment disciplines, as well as with colleagues in health, engineering, education, history and social sciences.

Through the MSD, we provide the highest quality research training environment, attracting the best and brightest future researchers from around the world. PhD and MPhil students have access to innovative professional development programs and generous funding support, along with excellent facilities and resources. MSD's PhD and MPhil graduates are well-rounded professionals, critical thinkers and future research leaders.

The Faculty has built strong research foundations by valuing and developing its people, rewarding excellence, and fostering a culture of enquiry, creativity and outstanding scholarship.

More information about ABP / MSD can be found at: <http://msd.unimelb.edu.au>

5.2 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>

5.3 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.

5.4 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>