



THE UNIVERSITY OF
SYDNEY
—
Centre for
Flourishing Cities

School of Architecture, Design and Planning

Centre for Flourishing Cities

*Generating evidence, advocacy
and action for healthier people,
places and planet*





We recognise and pay respect to the Elders and communities – past, present, and emerging – of the lands that the University of Sydney's campuses stand on. For thousands of years they have shared and exchanged knowledges across innumerable generations for the benefit of all.

Cover image: Inaugural Gathering - Delegates, Speakers, and VIPs at the Centre for Flourishing Cities Launch

From left: Professor Jakelin Troy, Director of Indigenous Research; Dean and Head of School of Architecture, Design and Planning, Professor Donald McNeill; Centre Director Professor Thomas Astell-Burt; Chancellor David Thodey; Dr Jocelyne Basseal, Director of Global Research Engagement

Welcome from the Centre Director

Professor Thomas Astell-Burt



We stand at a critical juncture. Our urban environments are currently navigating a "polycrisis"—the simultaneous collision of climate change, biodiversity collapse, and systemic health inequality. To meet this moment, we cannot rely on incremental change. We need a powerhouse for transformation.

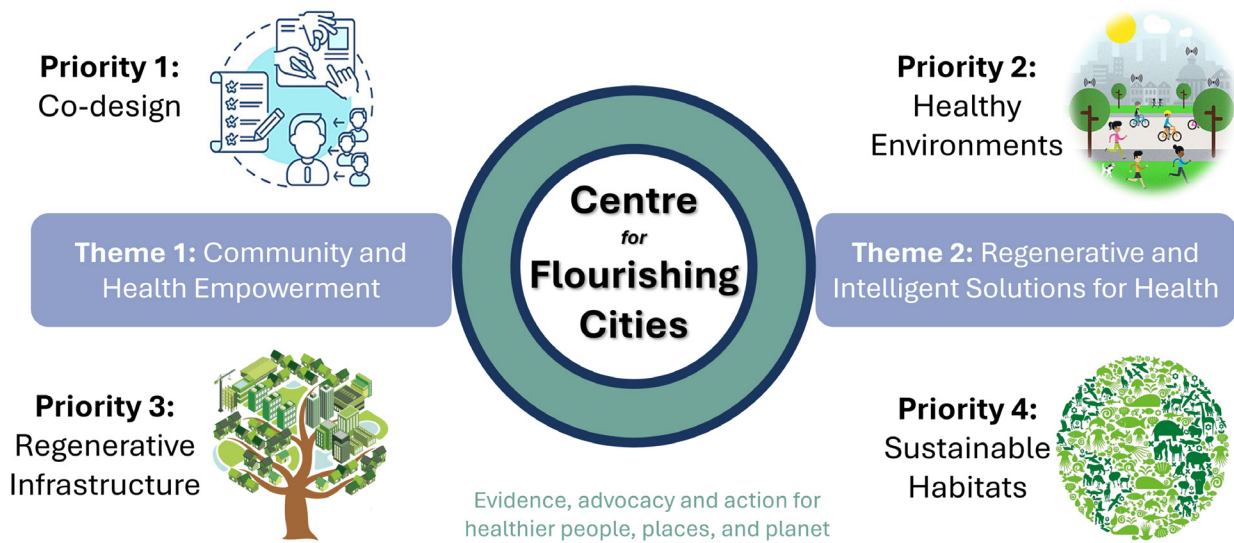
At Flourishing Cities, we define a flourishing city as one that enables people and the planet to thrive together. This means strengthening social foundations — ensuring health, equity and opportunity — while operating within ecological limits. Although there is significant work ahead, I am confident that our collective expertise and partnerships can drive meaningful change.

Our Centre brings together members from across the School of Architecture, Design and Planning to address complex urban challenges through interdisciplinary collaboration. We work across sectors to co-design regenerative infrastructure, develop intelligent digital interventions, and generate robust evidence to inform policy and practice. Our goal is to translate research into measurable improvements in health, equity and environmental sustainability.

Aligned with Australia's National Science and Research Priorities, our work supports thriving communities and the protection of natural systems. We are committed to positioning the University of Sydney as a global leader in evidence-based urban transformation.

I invite students, researchers, industry partners, policymakers and community members to join us. Together, we will move beyond "business as usual" to generate evidence, advocacy and action that creates cities where individuals, institutions, and ecosystems can truly flourish.

Our Research Priorities



Community & Health Empowerment

We start with people.

We focus on working directly with communities, partners, and stakeholders to understand lived experience, identify challenges, and define what “flourishing” means in different contexts.

→ we listen, co-create, & define the problem together

Regenerative & Intelligent Solutions

We build from what we learn.

We combine design, technology, and policy to scale approaches that improve health and strengthen ecosystems — from urban interventions to nature-based and data-driven methods.

→ we design, test, & deliver solutions that work

The Four Priority Areas

How we Work: Action-oriented priorities

Priority 1: Co-design

Communities are partners, not subjects. We collaborate with people as co-researchers to ensure solutions reflect real needs and local knowledge.

Priority 3: Regenerative Infrastructure

We create systems and environments that restore, not deplete. This includes green infrastructure, nature-based solutions, and social interventions that support both people and ecosystems.

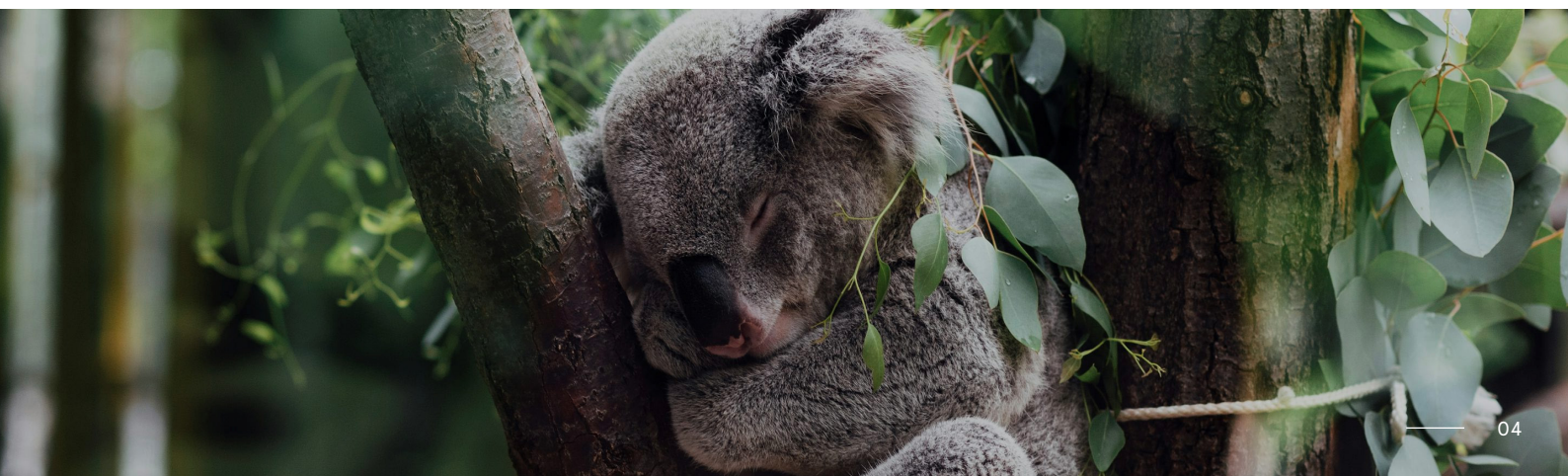
What we aim to achieve: Outcome-focused priorities

Priority 2: Healthy Environments

Urban and regional spaces that actively support physical, mental, and social wellbeing.

Priority 4: Sustainable Habitats

Biodiverse, resilient ecosystems that sustain life long-term and support planetary health.



Our People



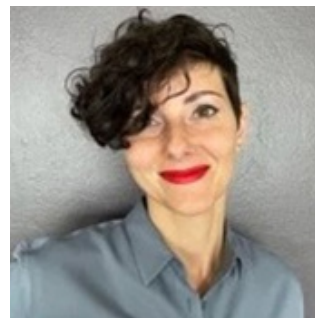
Centre Director and Professor
[Thomas Astell-Burt](#)
Nature, Cities & Health



Professor [Duanfang Lu](#)
Urbanisation in China



Professor of Practice
[Alex O'Mara](#)
Urban Policy



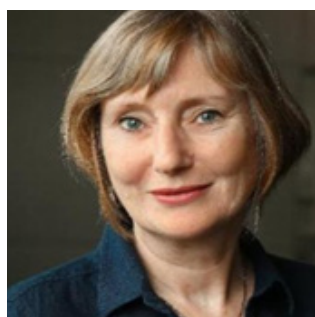
Associate Professor
[Arianna Brambilla](#)
Building Performance & Health



Associate Professor
[Jennifer Ferng](#)
Climate, Migration & Housing



Associate Professor
[Luke Hespanhol](#)
Digital Placemaking &
Civic Tech



Associate Professor
[Adrienne Keane](#)
Planning & Climate Resilience



Associate Professor
[Jennifer Kent](#)
Transport, Planning & Health



Associate Professor
[Leigh-Anne Hepburn](#)
Design, Care & Systems Change



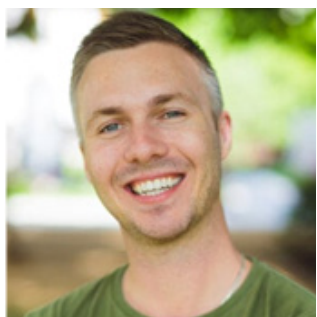
Dr [Caitlin Allen](#)
Heritage & Urban
Wellbeing



Dr [Adeola Bamgboje-Ayodele](#)
Inclusive Digital Health Design



Dr [Chirag Deb](#)
Urban Building Analytics



Dr [Joel Fredericks](#)
Community Engagement
& Design



Dr [Eugenia Gasparri](#)
Façade Innovation &
Circularity



Dr [Anastasia Globa](#)
Immersive Computational
Design



Dr [Ozgur Gocer](#)
Sustainable Building
Performance



Dr [Marius Hoggemuller](#)
Human-Robot Urban
Interaction



Dr [Wenye Hu](#)
AI Lighting & Urban Safety



Dr [Aysu Kuru](#)
Regenerative & Biophilic
Design



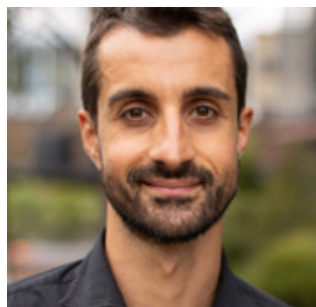
Dr [Callum Parker](#)
Autonomous Systems &
People



Dr [Thomas Parkinson](#)
Indoor Environment &
Wellbeing



Dr [Daniel Ryan](#)
Climate & Architectural
History



Dr [Federico Tartarini](#)
Thermal Comfort & Health



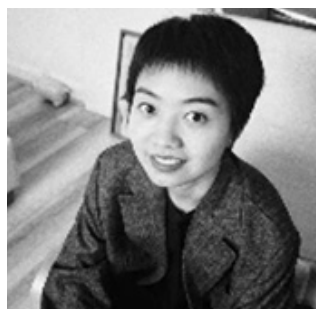
Dr [Tram Tran](#)
AR/VR & Autonomous
Mobility



Dr [Bow Wu](#)
Social Design & Urban
Futures



Dr [Ian Woodcock](#)
Density, Diversity & Urban
Design



Dr [Vera Xia](#)
Smart Cities & Social
Connection



Dr [Soojeong Yoo](#)
Immersive Tech in
Healthcare



Dr [Yvonne Tran](#)
Environment & Population
Health



Dr [Lauren Del Rosario](#)
GIS, Mobility & Health Equity



Dr [Raju Kanukula](#)
Evidence Synthesis & Health
Policy



Ms Nicole Evangelidis
Green Space & Health Equity



Dr Michael Navakatikyan
Environmental Health
Modelling



Shveta Sharma
Research Coordination



Tamara Raso
Research Project Delivery



Dr Yuan Wei
Green Infrastructure &
Biodiversity

Centre for Flourishing Cities: *Launch*

On 15 May 2026, researchers, practitioners, policymakers, and community partners gathered at the University of Sydney to launch the Centre for Flourishing Cities – a day of keynotes, panels, lightning talks and rich discussion, bringing together voices from architecture, public health, government, the World Health Organisation, and beyond, from across Australia and the Asia-Pacific.



Images: May 15 2026, University of Sydney, Delegates, speakers, and partners gathered to launch the Centre for Flourishing Cities



*Tribute to the late
Professor Emma Johnston*



36 speakers
2 keynotes
3 panels
11 lightning talks
1 networking reception



Dr Eugenia Gaspari, Lightning Talk



From left: Dr Yvonne Tran, Dr Raju Kanukula, Nicole Evangelidis, Professor Thomas Astell-Burt, Shveta Sharma, Dr Lauren Del Rosario



Chancellor David Thodey, AO



Professor Jakelyn Troy, Director of Indigenous Research



Dr Sandro Demaio – WHO Asia-Pacific Centre for Environment and Health



From left: Professor Ying Zhang, Professor Xiaoqi Feng, Dr Jocelyne Basseal



A/Prof Luke Hespanhol & A/Prof Jennifer Kent



From left: Dean Professor Donald McNeill, Professor Thomas Astell-Burt, Suellen Fitzgerald



Dr Bow Wu

"How does government use research to generate positive change?"
— Government Changemakers Panel



Government Changemakers Panel, from left: Professor of Practice Alex O'Mara, Vanessa Gordon, Paul Stuart, Ryan Cole, Neal Ames



Future Collaborations Panel, from left: Prof Antoine Van Oijen (Chair), Prof Thu-Anh Nguyen, A/Prof Liliana Laranjo, Jenni Zhao, Prof Li Ming Wen

"What are the opportunities for new high impact research partnerships?"
— Future Collaborations Panel



Dr Vera Xia



Neal Ames



Health Challenges Panel, from left, Dean Professor Leisa Sargent, Professor Mandana Nikpour, Emma Gaston, Professor Jencia Wong, Dr Faraz Pathan, Professor Ying Zhang

"How can cities better respond to the growing health challenges of the 21st century?"
— Health Challenges Panel



From left: Dr Soojeong Yoo, Dr Anastasia Globa, Dr Marius Hoggenmuller, Dr Callum Parker

Current major research projects:

[Explore all of our research projects underway →](#)

Physical Activity in Nature for cardiometabolic Diseases in people Aged 45+ (PANDA)

Randomised Trial

Funding: Medical Research Futures Fund (MRFF), \$1.5 million

Our research experts

- Professor Thomas Astell-Burt (Lead Investigator) *[Photo right]*
- Collaborations with UNSW, University of Wollongong, Bond University, Griffith University, Western Sydney Local Health District, Australian Social Prescribing Institute of Research and Education, BC Parks Foundation, and the Westmead Applied Research Centre

Research staff

- Dr Lauren Del Rosario
- Mrs Nicole Evangelidis
- Dr Yvonne Tran
- Mrs Shveta Sharma

Synopsis: Cardiometabolic diseases affect around a quarter of Australians 45yr+. Physical activity, including walking, aerobic and resistance training is important, however current physical activity prescriptions and programs can be undermined by low uptake and adherence.

Nature's green and blue spaces offer a largely underutilised, low/no cost opportunity in chronic disease management that can both attend to people's interests and provide attractive settings for sustained increase in physical activity.

We aim to co-design and evaluate a nature prescription intervention that sustains physical activity and maximises cardiometabolic health in the target population.



A Rapid Design Toolkit for Context-Aware External Human-Machine Interfaces

Funding: Australian Research Council Discovery Early Career Researcher Award (DECRA), \$504,624

Our research experts

- Dr Callum Parker (Lead Investigator) *[Photo left]*

Synopsis: The project explores how autonomous vehicles can communicate more clearly and safely with pedestrians in real urban environments. The work focuses on supporting designers to co-design and evaluate adaptive interfaces that respond to different people, environments, and situations. This includes developing a practical toolkit that brings together an understanding of pedestrian behaviours and contexts, tools for rapidly prototyping adaptive interfaces, and immersive simulation to test designs in realistic scenarios. The goal is to provide a structured and accessible way for designing adaptable vehicle-to-pedestrian communication, helping support safer and more inclusive public spaces as autonomous vehicles begin to appear on Australian streets.

Nature-based strategies to reduce loneliness and promote human flourishing

Funding: Australian Research Council (ARC) Future Fellowship, \$1 million

Our research experts

- Professor Thomas Astell-Burt (Lead Investigator)
- Collaborations with UNSW, University of Uppsala, University of Porto, Sydney Vietnam Institute, WHO Collaborating Centre for Social Prescribing (SingHealth), WHO Asia-Pacific Centre for Environment and Health, University of Tokyo, Korea Advanced Institute of Science and Technology, Chiang Mai University, City University of Hong Kong, University of Hong Kong, Royal University of Phnom Penh, Tongji University, Sun Yat Sen University, Dartmouth College, University of Vienna

Research staff

- Dr Yvonne Tran
- Dr Michael Navakatikyan

Synopsis: While loneliness and despair are reportedly increasing due to social and economic upheaval caused by the COVID-19 pandemic, governments are investing in urban greening. This project aims to help steer greening strategies to reduce loneliness and despair, to enable recoveries from COVID-19 that are more sustainable, equitable and nourishing. This project will: (1) engage with leading scientists within and outside Australia to formalise my draft conceptual model of pathways linking urban greening with loneliness and despair; (2) test associations and pathways with multiple sources of nationally representative data; (3) conduct a mixed-methods research to understand felt enablers and barriers in higher risk groups; and (4) share findings for building up knowledge capacities and guideline development.



Facades in the Loop: *Embodying the role of green facades in enhancing the sensory experiences, biodiversity, food production, environmental quality, health and wellbeing in cities through participatory systems thinking*

Funding: Ignite UCL grant, \$40K

Our research experts

- Dr Aysu Kuru (Lead Investigator)
- Dr Eugenia Gasparri
- Dr Tom Parkinson
- Associate Professor Arianna Brambilla
- UCL collaborators

Synopsis: This project investigates how vegetated building facades can support biodiversity and enhance human experience. Using causal loop diagrams and participatory workshops with academic and industry experts, it examines the complex interactions between ecological performance, multisensory qualities, and wellbeing outcomes. The collaborative process identifies key leverage points, feedback mechanisms, and design priorities for delivering biodiverse, perceptually rich façades that strengthen nature connectedness and promote healthier urban living. It provides a shared framework to guide future research, innovation, and practice in building-integrated green infrastructure.



Addressing the Public Health Challenge of Mould in Homes

Funding: National Health and Medical Research Council (NHMRC) Synergy Grant, \$5 million

Research experts

- Associate Professor Arianna Brambilla *[Photo right]*
- Collaborations with the University of Melbourne and Monash University



Synopsis: It is an unstated truth that the stock-standard housing that the majority of Australians occupy is not designed to withstand extremes of temperature. The normalisation of the poor quality of our housing means that problems such as unhealthy indoor temperatures, mould and damp in homes during wintertime are, to-date, under-recognised. However, as much as one quarter of Australian households are estimated to have damp and mould in their homes. Such addressable housing-related problems make an unquantified but potentially sizeable contribution to the burden of poor health in Australia in terms of respiratory and cardiovascular disease. People with underlying health conditions, elderly people, and socio-economically disadvantaged people are the hardest 'hit' by inadequate housing conditions. This research aims to identify gaps in evidence on the causal relationships between cold, damp, and mould, and respiratory and cardiovascular conditions in Australia. The project will use this information to estimate the health burden and model the effect of known interventions to reduce cold, damp, and mould.



Addressing mould exposure in Australian homes: from remediation to prevention

Funding: Australian Research Council (ARC) Discovery Project, \$744,401

Our research experts

- Associate Professor Arianna Brambilla (Lead Investigator)
- Dr Thomas Parkinson *[Photo right]*
- Collaborations with the University of Melbourne, Deakin University, and National University of Singapore



Synopsis: Mould is a widespread and life-threatening problem, affecting one in three Australian homes. This project aims to develop an early detection strategy using artificial intelligence and low-cost sensors. It will establish how prevalent mould is in different housing types and how it is affected by indoor air quality and construction factors, such as interior materials. The outcomes include a clear understanding of where mould occurs, indicators for its early detection, and recommendations for healthier indoor environments that can inform policy. Benefits will include more efficient and mould-resilient indoor environments and potential savings of \$200 million in avoided treatment.

Nature Positive Buildings

Funding: Sydney Environment Grant, \$25k

Our research experts

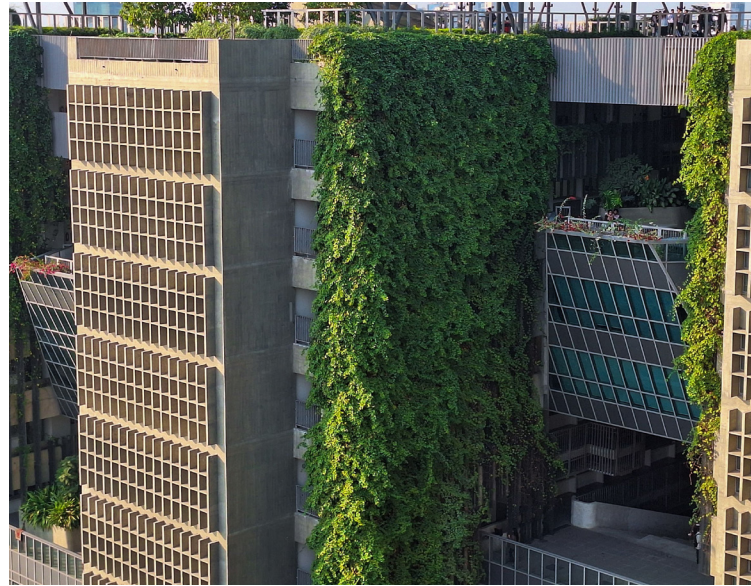
- Dr Aysu Kuru (Lead Investigator) *[Photo right]*
- Dr Thomas Parkinson
- Professor Thomas Astell-Burt

Research staff

- Dr Yuan Wei

Synopsis

This project investigates how integrating vegetation directly into building envelopes can strengthen ecological function across dense urban environments. The project analyses how green roofs, walls, and façade systems contribute to habitat provision, species movement, and multi-scalar ecological connectivity. Using spatial modelling, ecological metrics, and scenario testing, BIG evaluates how different configurations and coverage levels influence fragmentation, reconnection, and biodiversity outcomes. The research provides an evidence-based framework for embedding ecological performance into architectural design, positioning BIG as essential urban infrastructure for supporting resilient ecosystems and delivering long-term environmental benefits.

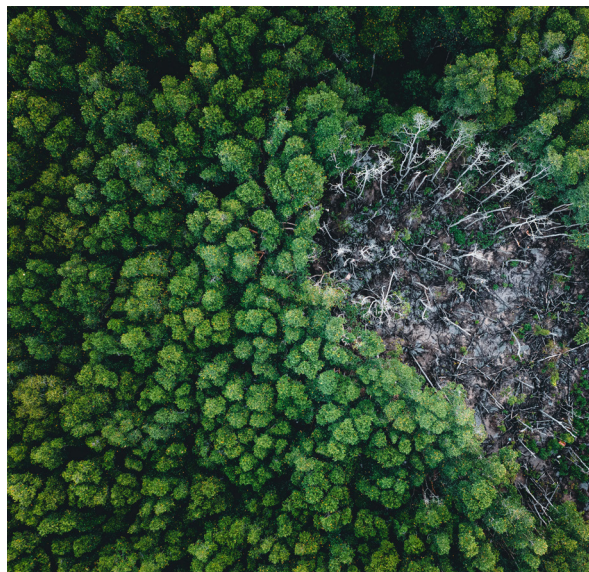


More-Than-Human Futures: Designing Crisis Resilience Through AI and Immersive Technologies

Funding: Collaborative Research Grant from the Sydney Environment Institute & School of Architecture, Design and Planning (\$40k)

Our research experts

- Dr Joel Fredericks (Lead Investigator) *[Photo right]*
- Dr Soojeong Yoo
- Dr Callum Parker
- Dr Marius Hoggenmüller
- Dr Tram Tran
- Dr Nate Zettna



Synopsis: Crisis resilience planning increasingly raises questions about who, and what, gets a voice in decision-making. This project examines how non-human species and ecological systems can be represented in participatory processes that have traditionally been human-centred.

Working with HCI researchers, the team used two design probes — a voice-based conversational agent and an immersive embodied prototype — to explore how emerging technologies might give voice to non-human perspectives. Discussion focused not on usability, but on the representational choices involved: voice, embodiment, and realism.

The findings show that representing non-humans is not a neutral act of translation. It raises real tensions around legitimacy, authority, and authenticity, positioning crisis resilience planning as a critical site for examining how AI and immersive technologies shape who, and what, gets to be heard.

Impact and Recognition

Shaping Cities

Our research informs urban strategies, policies, and investments—from local councils to global cities—guiding how environments are designed and delivered.

This impact is already visible in practice. For example, research has supported urban greening initiatives, including the planting of thousands of trees in the City of Sydney, and broader strategies across metropolitan Sydney and beyond.



Achievements Across the Centre



Clarivate Highly Cited Researchers List: Professor Thomas Astell-Burt Papers ranking in the top one percent of citations globally for nature and health research.



ARC DECRA 2026: Dr Callum Parker Developing tools for safer communication between autonomous vehicles and pedestrians in urban environments.



University of Sydney Research Excellence and Inclusion Prize 2026: Dr Soojeong Yoo \$55,000 to build a collaborative health technology research network across Western Sydney Local Health District.



ARC Discovery Project 2026: A/Prof Arianna Brambilla & Dr Thomas Parkinson

Named as investigators on a competitive Australian Research Council grant to investigate mould exposure in Australian homes, from remediation to prevention.



Vice-Chancellor's Award for Excellence 2025: Dr Aysu Kuru

Recognised as part of the ADP Sustainability Team for embedding sustainable practice across architecture and design.

Impact Highlight

ASHRAE Ralph G. Nevins Physiology and Human Environment Award — Federico Tartarini



Awarded at ASHRAE's 2026 Annual Conference in Austin, Texas, recognising significant accomplishment in the study of how environments affect human health, comfort, and wellbeing.

NSW Parliamentary Inquiry on Indoor Air Quality — Arianna Brambilla



Brambilla gave expert evidence to the NSW Parliamentary Inquiry into Clean Indoor Air, advocating for mandatory monitoring, updated ventilation requirements, and targeted retrofit strategies to protect vulnerable Australians.

NSW Parliamentary Inquiry into Loneliness — Thomas Astell-Burt



Astell-Burt presented evidence to the NSW Parliamentary Inquiry into Loneliness, introducing the concept of "lonelygenic environments" and proposing nature-based interventions as a scalable, evidence-backed response.

Gentrification and Public Health — Thomas Astell-Burt & Vera Xia



A new Routledge edited volume bringing together leading international researchers to examine how gentrification reshapes urban environments, widens health inequities, and influences lived experience.

Centre Activity



Research Visit: Autonomous Vehicles and HCI, China – **Tram Tran & Marius Hoggenmueller**

Dr Tram Tran and Dr Marius Hoggenmueller undertook a two-week research visit across Shenzhen, Shanghai, and Wuhan, engaging with leading universities and industry partners including AgiBot and Huawei AITO. The visit, which included first-hand experience of robo-taxi systems and humanoid robot retail, deepened international collaborations in autonomous mobility and human-robot interaction research.



Keynote: CHARM2026, ACT Government Health and Community Services – **Thomas Astell-Burt**

Invited keynote at the ACT Government's health and community services conference, speaking on cities, planetary health, and designing for flourishing – reflecting the growing policy reach of the Centre's research beyond NSW.



ACM DIS 2026 Workshop (National University of Singapore): **AI, Sensemaking, and Decision-Making in Crisis Contexts –** **Joel Fredericks & team**

Dr Joel Fredericks co-organised a workshop at the ACM Designing Interactive Systems Conference examining how AI-supported systems can be designed for crisis contexts where uncertainty, accountability, human judgement, trust, transparency, and collective decision-making are critical considerations. The workshop brought together an international group of researchers & practitioners, including Centre members Callum Parker, Soojeong Yoo, and Tram Tran.

Co-Design in Action

In December 2026 we held an international workshop on Nature and Health in Ho Chi Minh City, attended by world class and emerging researchers from leading universities across East Asia and South-East Asia. This has seeded multiple grant applications, many scholarly collaborations and a solid foundation for future international impacts.



Images: (Above) Nature and Health Workshop, Vietnam (Dec 2025) /

(Top Left, descending) Flourishing Cities Seminar (Aug 2025), Provocative Predictions Seminar, Cities & Planetary Health Seminar



Get involved

We're pleased to be collaborating with and supported by a range of changemakers, including *City of Sydney*, *Greater Sydney Parklands*, *Transport for NSW*, *Burwood Council*, *Westmead Applied Research Centre*, and the *WHO Asia-Pacific Centre for Environment and Health*, alongside a growing network of research partners across Australia, Asia, Europe, and the Americas.

We welcome partnerships, collaboration, and mailing list enquiries

flourishing.cities@sydney.edu.au

EXPLORE OUR WORK

[Visit our website →](#)

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PARTICIPATE IN RESEARCH

[Join the PANDA Trial →](#)

Helping increase physical activity for people aged 45+ with cardiometabolic conditions

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