

Home Lab

With our climate changing rapidly, and society facing deepening cleavages along lines of wealth, health and opportunity, negative impacts on housing affordability, accessibility, and sustainability can appear intractable.

And yet, we remain hopeful.

Home Lab produces solid, impactful research that improves people's lives through our built environment. Our inter-disciplinary research spans healthy and climate resilient housing, adaptive reuse and innovative housing models, the places we call home, and the design and role of everyday architecture. We are future-focussed, optimistic, productive and inclusive.

We focus on the places people live and housing everyone well through turbulent times.

Latest News

Read about Australia's long history of Missed Chances to build Sustainable Homes at The Conversation: <https://theconversation.com/nothing-new-under-the-sun-australias-long-history-of-missed-chances-to-build-sustainable-homes-241004>

Our research

Some of our current and recent projects:

A national roadmap for improving the building quality of Australian housing stock

Housing that is in poor physical condition has direct negative health impacts for occupants, is more expensive to run and reduces Australia's ability to mitigate and adapt to climate change. This research investigates what is needed to lift the quality of Australian housing to align with international standards to address problems associated with aged and ill-performing housing stock in both the owned and rented sectors.

Collaborators:

Associate Professor Lyrian Daniel, Dr Michaela Lang (Monash University), Dr Cynthia Barlow (University of Adelaide), Professor Peter Phibbs (University of Sydney), Professor Emma Baker (University of Adelaide), Professor Ian Hamilton (University College London)

Resources and publications:

- Daniel, L., Lang, M., Barlow, C., Phibbs, P., Baker, E., and Hamilton, I. (2024) *A national roadmap for improving the building quality of Australian housing stock*, AHURI Final Report No. 426, Australian Housing and Urban Research Institute

Limited, Melbourne, <https://www.ahuri.edu.au/research/final-reports/426>, doi: 10.18408/ahuri3232301

- Webinar: Sub Standard – Lifting Australian building quality, <https://www.ahuri.edu.au/events/building-quality-webinar>

Bluefield Housing

'Bluefield Housing' is both a land definition and an accompanying urban infill housing model, each created by Damian Madigan as an extension to the widely-understood definitions of Greenfield, Brownfield and Greyfield Housing. It is co-located housing that integrates new additions with existing homes, looks and feels like single-family housing, but operates financially and legally like a small group of units.

Collaborators:

Associate Professor Damian Madigan

Resources and publications:

- Bluefield Housing website: <https://bluefieldhousing.com.au/>
- Madigan, D. 2024, Bluefield housing as alternative infill for the suburbs, Routledge, New York and London.
- Madigan, D 2022, 'Mile End Alternative Infill', in S Anderson & G London (eds), Designs on Density, University of Western Australia Publishing, Australia, pp. 26-31.
- Madigan, D & Bennett, A 2021, Fourflex: Redefining family living in the L.A. care economy, Low-Rise: Housing Ideas for LA Design Challenge, Los Angeles, United States, 1 November 2020-28 February 2021, City of Los Angeles.

Residents' experiences of new home builds

This research aims to build a better understanding of people's experience of residential construction defects, and to map the broader impacts of building defects on residents' wellbeing, household finances, and functionality of the home. While the true prevalence of construction defects across Australia is as yet unknown, research from New South Wales suggests that up to 97% of buildings have, demonstrating a significant and under-examined problem. This research builds on existing work to elevate the experience and perspectives of households themselves.

Collaborators:

Associate Professor Lyrian Daniel; Dr Michaela Lang (Monash University)

Histories of Australian Housing

Based in the Architecture Museum, a strong thread of the Home Lab research centres around Australian housing history. Researchers have utilised the rich archival collection of architectural drawings and documents to uncover and interrogate the past and draw lessons from housing successes and failures. A particular focus has been on twentieth

century housing and ways the architectural profession, building industry, the state, and owner builders have designed and built homes and their urban settings.

Collaborators:

Dr Julie Collins; Adjunct Associate Professor Christine Garnaut; Adjunct Research Fellow Tim Reeves; Dr Susan Lustri; Dr Susan Avey

Resources and publications

- Collins, J 2025 'Built for Expansion: The Nucleus House Idea in Wartime South Australia', *Fabrications*, 1–33. <https://doi.org/10.1080/10331867.2025.2481967>
- Reeves, T 2024 *Adelaide Modern: 101 Houses*, Wakefield Press, Mile End <https://www.wakefieldpress.com.au/product/adelaide-modernism/>
- Garnaut, C 2023, 'Garden city and garden city ideas', in K Van Assche (ed)., *Elgar Encyclopedia in Urban and Regional Planning and Design*, Edward Elgar, USA, pp. 156-158.
- Collins, J 2023 'The South Australian Housing Trust's Post-War Experiments with Prefabricated Housing Systems', Prefab and Precut ACAHUCH Symposium, University of Melbourne: <https://www.youtube.com/watch?v=yB6GyyYDeF8>
- Collins, J 2022, 'Designing the Sleep-out in South Australia, 1900-1950', *Journal of the Historical Society of South Australia*, vol. 50, pp. 57-77.
- Reeves, T 2020 *Winning Homes*, Halstead Press, Sydney <https://halsteadpress.com.au/site/australias-winning-houses/>
- Collins, J 2020 'Sunlight, Space and Surfaces' in *The Architecture and Landscape of Health: A Historical Perspective on Therapeutic Places 1790-1940* Routledge. <https://www.taylorfrancis.com/chapters/mono/10.4324/9780429459986-9/sunlight-space-surfaces-julie-collins?context=ubx&refId=02a39175-6bec-42a6-8eb1-3322ba6f5ea3>

Our researchers are also involved in:

- [Australian Housing Conditions: A Data Infrastructure](#)
- [SiteSeer Building Information](#)
- [Climate Change, Place and Mental Health Research Incubator](#)
- [AUSEassi The Australian Emulation Network](#)
- [The Association of Architecture Schools of Australasia - Modernism Collaborative](#)
- [cityLAB UCLA](#)
- Architecture Museum, University of South Australia

Our people

[Associate Professor Lyrian Daniel](#)

Dr Lyrian Daniel is an Associate Professor in Architecture and Enterprise Fellow at the University of South Australia. She is Deputy Director of the UniSA AHURI Research Centre. Her research is principally concerned with housing – the environmental performance of the built form, the impact of its quality and condition on the wellbeing of residents, and its fundamental role in supporting healthy and fulfilling lives. Lyrian's

work spans basic, applied and policy-focussed research, which has been supported by a number of grants from the ARC, NHMRC and AHURI.

[Dr Julie Collins](#)

Dr Julie Collins is an architectural historian, curator and active researcher. Her interests range from the architectural history of therapeutic places to the study of architectural drawing collections and heritage. At the Architecture Museum she is responsible for an invaluable research collection of 400,000 items of architectural design documentation, drawings, photographs, artefacts and ephemera. As well as managing this physical collection, Dr Collins researches and writes biographies, catalogues, guides to sources and website content, while curating exhibitions and presenting public lectures and outreach events. Dr Collins was named '2024 South Australian Historian of the Year' by the History Council of South Australia.

[Associate Professor Damian Madigan](#)

Associate Professor Damian Madigan, PhD, is an architect and urban infill housing researcher who coined the term 'Bluefield Housing' to describe established suburbs and the way they can support low-rise infill through adaptive reuse and co-location with existing housing on a block. Damian works with academics, industry, and government, and individually and collaboratively his design research has been successfully peer reviewed through international design competition awards, shortlistings, and commendations from the City of Los Angeles, NSW State Government, the City of Sydney, Architecture Australia, and the Guangzhou International Award for Urban Innovation.

Key contact

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