POSITION AVAILABLE:

LECTURER/SENIOR LECTURER/ASSOCIATE PROFESSOR IN ARCHITECTURE AND CONSTRUCTION

Sydney School of Architecture, Design and Planning
For more than 100 years, the Sydney School of Architecture, Design and Planning has fostered a diverse and collaborative environment for teaching, research and engagement. Our academics use ideas from the humanities, science, creative practice, and the social sciences to address modern built environment and design issues, from the design of wearable technologies to urban planning outcomes. We are proud that our people and students reflect the community we work and study in.

* QS World Ranking 2021*
Thank you for your interest in our position in Architecture and Construction. This short brochure profiles some of the School’s existing projects in this field. Please do not hesitate to be in touch at adp.dean@sydney.edu.au if you have further enquiries.

Professor Robyn Dowling
Dean, School of Architecture, Design & Planning
University of Sydney
THE OPPORTUNITY

LECTURER/SENIOR LECTURER/ASSOCIATE PROFESSOR IN ARCHITECTURE AND CONSTRUCTION

- Opportunity to contribute to teaching and research in architecture and construction
- Join a highly supportive and collegial School
- Multiple positions across Academic Level B, C and D, offering a salary of $110,856 (level B starting salary) to $180,128 (level D maximum salary) p.a. plus 17% superannuation

About the opportunity:
The School of Architecture, Design and Planning has been offering architectural education for more than a century and is one of the top 25 built environment Schools globally. We have a broad range of research interests that span architectural theory, architectural theory, computation as well as a strong program in architectural science. In 2020 our strategic plan reaffirmed our commitment to social justice, student centred programs, multi-disciplinarity, staff professional development, and engagement with industry and the community.

The School of Architecture, Design and Planning at the University of Sydney is strengthening its capacity to provide architectural education and research that supports collective work toward a post-carbon future. We are seeking candidates who undertake research and teaching exploring the design, construction, and operation of buildings and built environments in the context of changing climate and emerging technologies.

Successful candidates will contribute to the school’s ongoing development of a design culture for a changing climate. We are particularly interested in an ability to bridge construction and building technologies fields within a project-based architectural design studio setting that emphasizes culturally sensitive approaches. Candidates must have a robust research agenda combining their area of expertise with architectural design, and a demonstrated capacity for leadership across educational, professional and institutional settings. Successful candidates will collaborate with colleagues in the school’s state-of-the-art architectural science, computation, and fabrication labs, and will have opportunities to enhance partnerships with design, urbanism, engineering, computer science, environmental studies and allied fields.

Click here for more information on our School.
Your key responsibilities will be to:

- contribute to and/or lead curriculum development and learning innovations and curriculum development in architecture and construction
- undertake impactful research in architecture and construction
- contribute to the engagement aspirations of the School.

About you

We are looking for multiple academics to join us as Lecturer, Senior Lecturer or Associate Professor in Architecture and Construction. Applicants should possess:

- a PhD, with formal training in architecture or architectural engineering fields
- a strong commitment to both research and to the culture of a design school
- a demonstrated capacity to teach technical skills to students—while also either teaching a design studio or engaging students in design thinking within the school’s technologies and environmental building systems streams
- enthusiasm and effectiveness as a teacher of construction/building technology, with a capacity to provide mentorship and supervision to higher degree research candidates and research personnel
- expertise which will include one of the following areas: material investigation, structural analysis, data science and analytics, AI, AR, building assemblies, building performance and life-cycles, and/or fabrication, coupled with more specific interests in how these topics relate to environmental performance, regenerative and resilient design, heritage conservation, design for a changing climate, post-carbon world and/or other related research interests
- the ability to apply established and emergent tools in your field, a strong understanding of trends, industry practices and relevant local and international professional bodies
- evidence of your research excellence pertinent to your field and career stage, including, where appropriate, peer-reviewed research, internationally/nationally significant published and/or exhibited design work and scholarship, design awards, research grants, strong industry collaboration, and/or experience in a leading professional practice.

APPLY NOW
There are a number of projects in architecture and construction currently being undertaken by researchers in the School of Architecture, Design and Planning. Some of these are listed below.

**SMART SUSTAINABLE BUILDING NETWORK**

**DESIGNING FUTURE PROOF BUILDINGS THROUGH NANOTECHNOLOGY**

Bridging academia, industry, and government, we develop nano-enabled smart solutions to create sustainable and net zero buildings.

**About the Network**

The Smart Sustainable Building Network (SSB) connects expertise at the University of Sydney in Engineering and Sciences with academics in Architecture, Design & Planning, Law, Business and Health to focus on global and national building sustainability priorities. Our multi-disciplinary research teams functionalise building envelopes through integration of nanotechnology, utilise smart nanosensors and filters for an improved indoor environment experience and leverage innovation of the nanoscale to increase the building energy efficiency as well to reduce construction cost and enable circular constructions.

SSB is Co-Chaired by Sydney Nano Director, [Professor Ben Eggleton](mailto:ben.eggleton@sydney.edu.au) and Deputy Dean, Faculty of Engineering, [Professor Kim Rasmussen](mailto:kim.rasmussen@sydney.edu.au).
Architecture, Design and Planning projects include:

**SMART BUILDING BLOCKS**

Supporting tangible building assets. The clusters are:

**BUILDING ENVELOPE**

Applying the advantages of nanomaterials and nanostructured surfaces, the cluster creates solutions for building surfaces. Smart facades, roofs and windows become self-cleaning, control temperature, reduce noise and harvest and storage energy.

Cluster Co-Chairs: [Associate Professor Sandra Loschke](mailto:sandra.loschke@unsw.edu.au) and [Professor Anna Paradowska](mailto:anna.paradowska@unsw.edu.au)

**INDOOR ENVIRONMENT**

The cluster integrates nanotechnologies in temperature, light and air quality control systems focusing on improvements in user wellbeing and living experiences.

Cluster Co-Chairs: [Professor Richard de Dear](mailto:richard.de.dear@unsw.edu.au) and [Dr Alex Y Song](mailto:alex.song@unsw.edu.au)

**BUILDING EFFICIENCY**

The cluster tackles efficiency challenges associated with energy, cost and time consumption for both building construction and operation developing innovative nanomaterials and applying efficient design principles to create low carbon buildings.

Cluster Co-Chairs: [Dr Arianna Brambilla](mailto:arianna.brambilla@unsw.edu.au) and [Professor Yuan Chen](mailto:yuan.chen@unsw.edu.au)
TOWARDS RESTORATIVE SOUND ENVIRONMENTS IN YOUTH JUSTICE FACILITIES ON COUNTRY

NSW has detention facilities for young people which ideally should divert them from future entrenchment in the criminal justice system, putting their lives on a positive course. These facilities present many difficult challenges, and this project investigates how their sound environment can be designed to positively contribute to living conditions, rehabilitation and well-being. While Indigenous overrepresentation in the detainee population demands culturally informed interventions to reconnect detainees with cultural ways, this project considers the role of sound to contribute to rehabilitation and healing. The project initiates a broader engagement with Youth Justice NSW and Indigenous realities of Country as healing.

Michael Mossman – Senior Lecturer in Architecture
Densil Cabrera – Associate Professor and Director, Audio and Acoustics Program
Clare Cooper – Lecturer in Interaction Design
Shuai Lu – Lecturer in Audio and Acoustics
RE-CO-DE: CO- AND RE-DESIGN OF AGEING APARTMENT BUILDINGS

This research develops a sustainable model for transforming apartment buildings through re- and co-design rather than demolishing them.

Apartment buildings have become the standard solution for urban living and have been rolled out en masse across Australian cities over the past 50 years. The majority of these buildings no longer meet current social, environmental and economic standards. They are wasteful of energy, fail to meet resident expectations, depreciate in value and are seen as modernist eyesores that frustrate the aspirations of neighbourhoods. With apartments accounting for 36.3% of households globally and as much as 46.1% in the EU, this scenario represents a significant issue for cities and their residents.

To date, the default answer to this issue has been demolition and new build. But research shows that in many scenarios this is economically unfeasible because costs often outweigh benefits; environmentally unsustainable due to the embodied energy of new construction and demolition waste; and socially irresponsible because of displacement and disruption to resident communities.

If the case for redesign of apartment buildings is so clear-cut, why is it not already a mainstream development option? The main reason is that many apartment buildings are multi-owned and decisions on building need to be made by consensus amongst multiple decision makers. This makes a participatory approach a necessity rather than an option but with no formal process in place, progress is slow, expensive and can frustrate entire projects. This research explores the redesign of private multi-owned apartment buildings and the role that participatory approaches play in the design and construction process.

This research is funded by Australian Research Council Linkage Project: Codesign Guide for Transforming Ageing Apartment Buildings (LP200100053) 2021-24

Sandra Karina Löschke – Associate Professor in Architecture
Caitlin Buckle – Postdoctoral Research Associate
Alysson Lucas – PhD Candidate


This research is funded by Australian Research Council Linkage Project: Codesign Guide for Transforming Ageing Apartment Buildings (LP200100053) 2021-24

Sandra Karina Löschke – Associate Professor in Architecture
Caitlin Buckle – Postdoctoral Research Associate
Alysson Lucas – PhD Candidate

New research is showing positive results when harnessing 3D printing technology to combine timber and plastic waste and create high-performance building elements.

Waste is a pressing global problem that depletes our primary resources and impacts on our environment. The construction industry is a prime offender, consuming 30-50% of primary materials and producing around 40% of landfill through construction and demolition. In Australia, 85% percent of logged timber and 88% of plastics are wasted and end up in landfill. This project shows that timber and plastic waste are a valuable resource and can be transformed into smart sustainable building elements, using advanced manufacturing technologies in the form of 3D printing.

3D printing can do things that current construction technologies cannot: The 3D printing process allows architects to design at the nanoscale, fluidly varying the material composition and printing parameters to make building elements of variable strength, density, shape, texture and colour as demonstrated in the microtimber prototypes. Future research will develop this concept towards building houses that are affordable and sustainable and can be recycled.

This research was funded by the Forrest and Wood Products Australia Grant "Microtimber: Development of 3D printed gradient timber panel composed of waste and -by-products " (PNA3359-1516) in partnership with ARUP.

Sandra Karina Löschke – Associate Professor in Architecture
Eduardo Barrata – Lecturer in Architectural Technologies
Arianna Brambilla – Lecturer in Architectural Technologies
Richard Hough – Adjunct Professor Sydney School of Architecture

Industry partners: Forrest and Wood Products Australia
The current global construction sector is based on take-make-waste economic models, whereby resources are invested in construction and disposed of at the end of a building’s life. In the pursuit of a more sustainable future these approaches are no longer affordable, and timely measures are necessary to address environmental and social challenges. Building construction practices need to rethink the way they work by shifting from linear to circular approaches of design and construction, where resources are reused, repaired, remanufactured and/or recycled to limit waste. This project responds to the urgent call for action in the field – “Circularity by Design” – which aims to identify opportunities and barriers for the adoption of circular economy strategies in the Australian construction industry, leading to systemic-radical innovation. The research analyses international best-practice approaches to circularity and scrutinises current design and construction practices giving voice to major stakeholders and key players partaking in the process. The project represents a steppingstone to promote a constructive dialogue between academia, industry and policy makers in order to define a collaborative roadmap that informs and supports sectoral change in Australia, toward the reconciliation between building activities and natural resources.

Arianna Brambilla - Lecturer in Architecture
Eugenia Gasparri - Lecturer in Architectural Technologies
Paolo Stracchi - Lecturer in Architectural Technologies
Researchers across the University are coming together to tackle emerging challenges of our time: sustainability, biosecurity, solar energy, and health.

The Grand Challenge: Climate change is already impacting the global environment. An urgent reduction in global carbon emissions is the only viable path to mitigate global warming and ensure the survival of the ecosystems on our planet.

The Mission: To lay the groundwork for a new generation of buildings that are self-sufficient in energy and water consumption, able to produce on-site food to encourage healthy eating habits and contribute to the regulation of heat stress and pollution within dense urban environments.

Arianna Brambilla – Lecturer in Architectural Technologies
Eugenia Gasparri – Lecturer in Architectural Technologies
Simon Marvin – Professor of Urban Microclimatic Control
WHERE WILL THE FUTURE TAKE US?

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We acknowledge and pay respect to the traditional owners of the land on which the University of Sydney is built; the Gadigal people of the Eora Nation. We pay respect to the knowledge embedded forever within the Aboriginal Custodianship of Country.

Sydney School of Architecture, Design and Planning

Be a part of our story.
Apply now.