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## NEWS HIGHLIGHTS

### LANDMARK TESTING AT ATLISSIAN CENTRAL ADVANCES UNDERSTANDING OF LONG-SPAN TIMBER FLOOR PERFORMANCE



Researchers from the ARC Advance Timber Hub have completed a major program of field testing at Atlassian Central in Sydney, one of Australia's most significant mass timber construction projects.

Led by **Professor Hassan Karampour** at Griffith University, the research team undertook a series of detailed vibration and acoustic assessments on the building's cross-laminated timber (CLT) floor system. The testing forms part of the Hub's project, ***Innovative Long-Span Timber and Wood-Based Hybrid Floors for Vibration Performance and Acoustic Compliance***, which is delivering new insights to support the confident use of long-span timber and hybrid floor systems in commercial and multi-storey buildings.

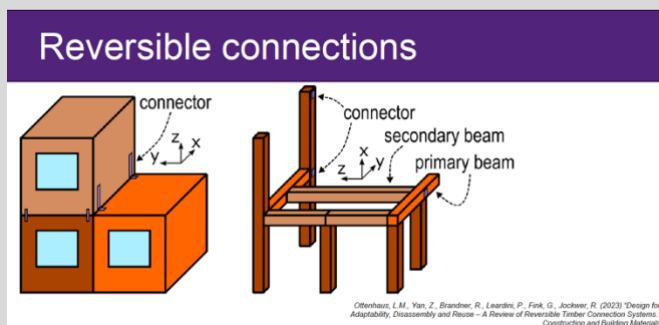
See: <https://www.advance-timber-hub.org/hub-news/landmark-testing-at-atlassian-central-advances-understanding-of-long-span-timber-floor-performance/>

### RAW MODULAR (SOUTH AFRICA) INITIATIVE – DELIVERING HANDS-ON TIMBER EDUCATION, COMMUNITY ENGAGEMENT, AND CIRCULAR CONSTRUCTION INNOVATION

ARC Advance Timber Hub Researchers, Associate Professor **Joe Gattas** & Dr **Liam Ottenhaus**, from The University of Queensland, supported the **RAW Modular** (South Africa) initiative (a collaboration that delivers hands-on timber education, community engagement, and circular innovation) as part of a 2026 **Worldwide University Network (WUN)** project

**“Circular Timber Futures: Affordable Housing Solutions from Waste and Disassembly”.**

Dr Ottenhaus and Associate Professor Gattas contributed expertise in timber engineering, structural design, and circular construction, supporting the development and experimental testing of reusable timber systems to inform future large-scale research and industry adoption of circular timber solutions for sustainable and affordable housing.



See: <https://www.advance-timber-hub.org/hub-news/delivering-hands-on-timber-education-community-engagement-and-circular-construction-innovation/>

## FROM MODEL TO MACHINE: MY PHD JOURNEY IN PREFABRICATED TIMBER CONSTRUCTION



The ARC Advance Timber Hub is super proud of [Sasindu Samarawickrama](#) in completing his PhD at the University of Melbourne this year, with his research supporting Hub Project 6.3 “[Digital and Physical Systems Design for Optimised Design-to-Delivery of Prefabricated Timber Housing](#)”.

His PhD Thesis is titled: **DIGITAL INTEGRATION FRAMEWORK FOR DESIGN-TO-DELIVERY OPTIMISATION IN PREFABRICATED TIMBER SYSTEMS**

Sasindu describes it in one sentence as “*My PhD explored how we can better connect the digital design of prefabricated timber buildings with the systems used to manufacture them.*”

To learn about Sasindu's PhD journey please read this wonderful recap.

See: <https://www.advance-timber-hub.org/hub-news/from-model-to-machine-my-phd-journey-in-prefabricated-timber-construction/>

## INTERNATIONAL REACH OF ARC ADVANCE TIMBER HUB RESEARCH – INTER

ARC Advance Timber Hub research reached international audience when Node/Project Leader, [Dr Liam Ottenhaus](#), presented at the 13th meeting of INTER (International Network on Timber Engineering Research), held in Ås, Norway, from 24 to 27 August 2026.

Reflecting on the event, Dr Ottenhaus highlighted the value of collaborating with leading researchers from around the world.

*“Being able to meet with colleagues facing similar challenges and discuss potential solutions was invaluable. The feedback we received from international experts confirms that our research is advancing the state of the art in timber connection design,”* said Dr Ottenhaus.

Dr Ottenhaus, presented the paper “**Development of combined AS/NZS 1720.1 Timber Structures Standard**”, which is linked to ARC Advance Timber Hub Project 1.2 “[Connection Systems for Extended Building Life](#)”.

See: <https://www.advance-timber-hub.org/hub-news/international-reach-of-arc-advance-timber-hub-research-inter/>



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## QUEENSLAND FUTURE TIMBER IN FOCUS – 5 YEAR PLAN

The Queensland Government has released [Prosper 2050 Delivering Now 2026–2030, Queensland Future Timber in Focus](#), translating the long-term ambitions of the Queensland Future Timber Plan 2050 into tangible and measurable actions for the next five years.

The [Queensland Future Timber Plan 2050](#) — a long-term strategy designed to provide certainty for the forestry and timber industries while supporting regional jobs, sustainable growth and infrastructure needs was developed in collaboration with key industry, research, and community stakeholders. The plan outlines a **25-year vision** to secure the timber needed for the government's target of **one million new homes by 2044**.



The ARC Advance Timber Hub was closely involved in this process through membership of the Timber Supply Chain Ministerial Stakeholder Roundtable and direct engagement via Hub Director, [Professor Keith Crews](#).

See: <https://www.advance-timber-hub.org/hub-news/queensland-future-timber-in-focus-5-year-plan/>

## ARC ADVANCE TIMBER HUB RESEARCHER RECEIVES TIMBER QUEENSLAND GROWTH SCHOLARSHIP

[Dr Zidi Yan](#), Chief Investigator at the ARC Advance Timber Hub, has been awarded a Timber Queensland 2026-2027 Growth Scholarship Award – the \$5,000 AKD Award. The scholarship supports individuals pursuing learning and development opportunities that will strengthen both their careers and Queensland's forest and timber industry.

Dr Yan's project, ***AI Driven Treatability Prediction for Queensland Softwood Processing***, will explore how artificial intelligence, computer vision and machine learning can improve timber treatment quality assurance and treatment performance. By analysing characteristics such as sapwood, heartwood, density and visible defects, the research aims to improve treatment outcomes, reduce waste and enhance manufacturing efficiency.



See: <https://www.advance-timber-hub.org/hub-news/arc-advance-timber-hub-researcher-receives-timber-queensland-growth-scholarship/>

## INDUSTRY LEADERS CONVENE AT UQ TO ADVANCE TIMBER SOLUTIONS FOR QUEENSLAND'S CONSTRUCTION FUTURE



More than 100 industry professionals gathered at The University of Queensland (UQ) for the *WoodSolutions presents Queensland Timber Trajectory: Award Winning Exemplars – Showcasing the Way to Modern Construction* forum, hosted by WoodSolutions, Timber Queensland and the ARC Advance Timber Hub on the 30th June 2026.

Held within UQ's Advanced Engineering Building Timber Auditorium (with its natural and biophilic qualities contributing to a warm, inspiring environment) the event brought together leaders from across design, engineering, construction and the timber industry to share practical insights from award-winning projects, demonstrating how timber is being used.

With global attention turning to Brisbane in the lead-up to 2032, the opportunity to integrate innovative timber solutions into major infrastructure and development projects is significant. Timber offers a pathway to reduce embodied carbon, enhance construction efficiency, and deliver sustainable, high-performing buildings at scale. As highlighted throughout the forum discussions, the industry is now moving beyond awareness to enabling confident, evidence-based decision-making.

See: <https://www.advance-timber-hub.org/hub-news/industry-leaders-convene-at-uq-to-advance-timber-solutions-for-queenslands-construction-future/>

## BACK TO THE FUTURE: HOW TIMBER CAN SHAPE THE PAST AND FUTURE OF BRISBANE'S BUILT ENVIRONMENT

This article was originally written as a Thought Leadership piece for the Property Council Australia by **Dr Paul Matthew**, The University of Queensland, School of Architecture, Design and Planning. It has also featured on WoodCentral:

**[Queensland Has the Technology to Build the 2032 Games in Timber](#)**



*Timber buildings have long defined Brisbane. From the classic Queenslander home to the bones of the Teneriffe woolstores, wood has been at the heart of the city's built environment for over a century.*

*With the eyes of the world turning to Brisbane for the 2032 Games, we have an opportunity to combine this heritage with cutting-edge construction technology to demonstrate mass timber construction to a global audience.*

To read full article see: <https://www.advance-timber-hub.org/hub-news/back-to-the-future-how-timber-can-shape-the-past-and-future-of-brisbanes-built-environment/>

## ARC ADVANCE TIMBER HUB LEADS DEVELOPMENT OF NEW NATIONAL TIMBER FASTENER TESTING STANDARD

### FWPA Standard

T01

Methods of test for mechanical fasteners and connectors  
Part 1: Category A & B Fasteners



The ARC Research Hub to Advance Timber for Australia's Future Built Environment (ARC Advance Timber Hub) has played a leading role in the development of [FWPA Standard T01 Methods of test for mechanical fasteners and connectors Part 1: Category A & B Fasteners](#).

FWPA Standard T01 was developed through a FWPAA-funded ARC Advance Timber Hub research project, led by Professor Keith Crews, connected to Hub Project

[Performance of Building Components – Connection Systems for Extended Building Life](#), titled **“Testing and characterisation of laterally loaded connections made from engineered wood product timber members, joined with steel dowels and bolts”**. The project was supported by the Engineered Wood Products Association of Australasia (EWPA) and undertaken by the ARC Advance Timber Hub at The University of Queensland, School of Civil Engineering.

See: <https://www.advance-timber-hub.org/hub-news/arc-advance-timber-hub-leads-development-of-new-national-timber-fastener-testing-standard/>

## AUSTRALIAN TIMBER FIRE STATION SHOWCASED IN SHORT FILM

Last year the ARC Advance Timber Hub celebrated the **Queensland Fire and Emergency Services North Coast Regional Headquarters and Maryborough Fire and Rescue Station** being one of the six [winning projects of the Built by Nature Prize 2025](#). The award highlights the world's most responsible and innovative timber buildings – and this Australian project stands proudly among them.



As part of the winning prize, each of the Built by Nature awarded projects had a film made demonstrating their innovation and deep alignment with the 'Principles for Responsible Timber Construction' – sustainable forest management, life-cycle accountability, carbon storage potential, and the promotion of a timber building bioeconomy. **View: [Our Future: Built by Nature \(2025\) six-episode short film series](#).**

See: <https://www.advance-timber-hub.org/hub-news/australian-timber-fire-station-showcased-in-short-film/>

## INALA INFILL APARTMENTS HAS WON QLD STATE AWARD FOR MULTI-RESIDENTIAL ARCHITECTURE

The **Inala Infill Apartments** project has won the **QLD State Award for Multi-Residential Architecture**, at the Australian Institute of Architects awards held on Friday, 26th June 2026. This is the *QLD state award*, and in May it won the *Brisbane region Award*, see [Inala Infill Apartments Wins House of the Year](#) to learn more about the project.



Excellent achievement by **Kim Baber**, Principal Architect of Baber Studio and his team, including the key project members – Free-Range Landscape Architects, Hyne Timber / XLam (Hub Partner), Kane Constructions and Arup (Hub Partner).

See: <https://www.advance-timber-hub.org/media-releases/inala-infill-apartments-has-won-qld-state-award-for-multi-residential-architecture/>

## FWPA SHOWCASES NEW PATHWAY TO A LOW-CARBON FUTURE FOR AUSTRALIA

ARC Advance Timber Hub partner **Forest & Wood Products Australia (FWPA)** has released a major new decarbonisation study that highlights the critical role the forest and wood products industry can play in delivering a lower-carbon future for Australia.

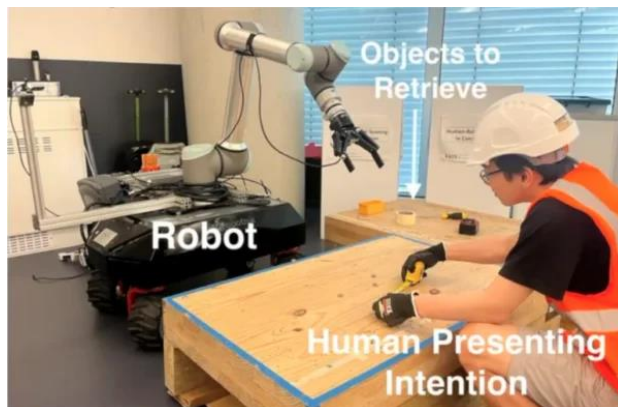
The report, ***Building a Low-Carbon Future for***

***Australia***, developed by Wood Beca, provides a clear, evidence-based assessment of how targeted operational improvements and greater use of timber in the built environment can significantly reduce emissions across the sector.

See: <https://www.advance-timber-hub.org/hub-news/fwpa-showcases-new-pathway-to-a-low-carbon-future-for-australia/>



## PROJECT UPDATE: SMARTER ROBOTS FOR TIMBER BUILDING ASSEMBLY



The ARC Advance Timber Hub Project 6.4 “**Autonomous Screw-Fixing Robots for CLT Panel Building Assembly**” research team, led by Professor **Dikai Liu** from the University of Technology, Sydney, has successfully advanced robotic technologies for timber building construction through the development and validation of a mobile robotic system designed to assist with structural screw installation in cross-laminated timber (CLT) panel assemblies. Screw fixing is a

critical, repetitive, and labour-intensive task in mass timber construction, and this project has focused on delivering practical, site-ready robotic solutions that enhance productivity, safety, and workforce capability, while integrating seamlessly with existing construction workflows.

See: <https://www.advance-timber-hub.org/hub-news/project-update-smarter-robots-for-timber-building-assembly/>

## ARC PROJECT UPDATE: PERFORMANCE BASED TIMBER DESIGN ENABLED BY AI, AR AND HUMAN-MACHINE COLLABORATION

ARC Advance Timber Hub Project 6.7 “**Performance Based Architectural Design and Optimization Using Biomaterial and AR Assisted Discrete Assemblies**” is

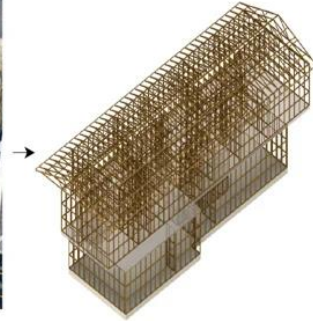
developing new digital-to-physical design and construction workflows for timber buildings, integrating performance-based design, biomaterials, augmented reality (AR) and human-machine collaboration to improve efficiency, accuracy, and sustainability in construction.



Dr **Nic Bao**, from RMIT, updated ARC Advance Timber Hub Stakeholders on how the project explores how advanced computation, artificial intelligence (AI), and immersive technologies can support lighter, more material-efficient timber structures and enable more precise on-site assembly.

See: <https://www.advance-timber-hub.org/hub-news/project-update-performance-based-timber-design-enabled-by-ai-ar-and-human-machine-collaboration/>

## PROJECT UPDATE: CONNECTING FORESTS, MILLS AND BUILDINGS: STRENGTHENING AUSTRALIA'S TIMBER VALUE CHAIN THROUGH OPEN DATA



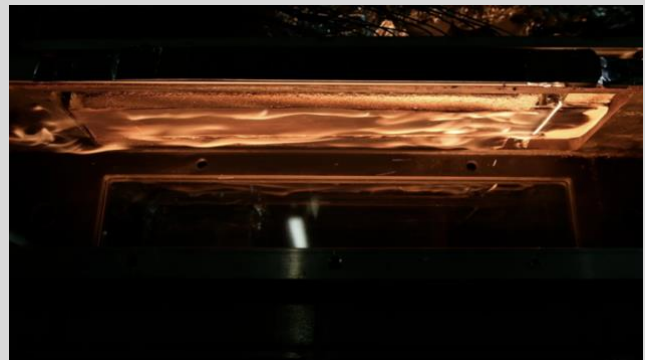
ARC Advance Timber Hub Project 7.4 **[“An Open-Data Framework for Forest-to-Building Value Chain Mapping”](#)** is addressing a major challenge for Australia's forest and wood products sector: how to better understand, visualise and coordinate data across the entire value chain – from forest resource through processing to buildings.

Project Leader, Associate Professor **[Joe Gattas](#)**, from The University of Queensland School of Civil Engineering, presented at the FWPA Webinar – Navigating a Changing Landscape: Challenges, Opportunities, and Innovation in the Timber Industry, on the 21<sup>st</sup> April 2026. This article is a summary of the projects research outlined in the webinar presentation.

See: **<https://www.advance-timber-hub.org/hub-news/project-update-connecting-forests-mills-and-buildings-strengthening-australias-timber-value-chain-through-open-data/>**

## PROJECT UPDATE: UNDERSTANDING FIRE BEHAVIOUR IN OPEN-PLAN TIMBER CEILINGS

ARC Advance Timber Hub Project 1.4 **[Performance of Building Components – Fire Safety Design of Open Plan Timber Compartments](#)** is addressing a critical knowledge gap in the fire safety design of modern mass-timber buildings: how exposed timber ceilings behave in large, open-plan compartments such as offices and commercial buildings. These spaces are increasingly common, yet current fire design guidance is largely based on testing of timber in floor-like (face-up) orientations, not ceilings.



The project, led by **[Associate Professor David Lange](#)** and incorporating the research work of PhD candidate **[Josh Madden](#)**, from The University of Queensland School of Civil Engineering, brings together researchers and industry partners to generate new, design-relevant evidence to support safe, performance-based fire engineering solutions for timber buildings. Associate Professor Lange presented to ARC Advance Timber Hub Stakeholders. This article is a summary of the projects research outlined in the presentation.

See: **<https://www.advance-timber-hub.org/hub-news/project-update-understanding-fire-behaviour-in-open-plan-timber-ceilings/>**

## PROJECT UPDATE: HUB RESEARCH MANAGING MOISTURE DURING CONSTRUCTION AND EARLY LIFE STAGES

The ARC Advance Timber Hub Project 1.6 “[Role of Moisture in the Long-Term Performance of Mass Timber Building Elements](#)” is addressing the issue of how

moisture affects the durability, mould risk and long-term performance of timber building elements under Australian conditions.



This project is supported by PhD Candidate, [Paulo Silvaes](#), at the University of the Sunshine Coast, whose research is focused on “**INTEGRATED ASSESSMENT OF HYGROSCOPIC BEHAVIOUR AND MOULD GROWTH IN CONSTRUCTION TIMBER**”, under the supervision of Project Leader – Professor [Tripti Singh](#) and Project Chief

Investigator – Dr [Zidi Yan](#). Paulo updated ARC Advance Timber Hub Stakeholders on the research via a webinar presentation. This article is a summary of the projects research outlined in the presentation.

See: <https://www.advance-timber-hub.org/hub-news/project-update-hub-research-managing-moisture-during-construction-and-early-life-stages/>

## PROJECT UPDATE: INDUSTRY LED RESEARCH ADVANCING LONG SPAN TIMBER FLOOR PERFORMANCE

Through ARC Advance Timber Hub’s Project 1.1 [Innovative Long Span Timber and Wood Based Hybrid Floors for Vibration Performance and Acoustic Compliance](#), the Hub is addressing one of the key challenges facing modern timber construction: ensuring floors are comfortable for occupants while meeting vibration and acoustic requirements, particularly as spans increase and structures become lighter.

Professor [Hassan Karampour](#) – Griffith University, alongside project PhD Candidate [Adam Faircloth](#), convened a highly engaging and **collaborative project team workshop at Northrop Consulting Engineers in Sydney on the 13th of May 2026** to share findings from an integrated program of laboratory testing, field measurements, occupant perception studies and industry engagement.



See: <https://www.advance-timber-hub.org/hub-news/project-update-industry-led-research-advancing-long-span-timber-floor-performance/>

## FEATURED ARTICLES / REPORTS

Other articles/reports of interest to the ARC Advance Timber Hub stakeholders:

1. [Circular Investor & Lender Guide Four Steps to Integrate Circular Economy](#)
2. [Circular Economy for Investors & Lenders Integration benefits & options](#)
3. [MRWC resources are now available on Timber Unlimited](#)
4. [Iconic Melbourne F1 Pit Lane Project Embraces Sustainable Australian Mass Timber](#)
5. [Australian gov't commits \\$150M to boost forestry manufacturing](#)
6. [Apply Now: 2026 Gottstein Trust Skill Development Grants, Fellowships and Scholarships](#)

## PROJECT / RESEARCH UPDATES

## PROJECT / PARTNER OVERVIEW

To easily see what projects our partners are supporting, please view the [Project / Partner Overview Diagram](#).

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## ARC ADVANCE TIMBER HUB WEBSITE / PROJECTS

The ARC Advance Timber Hub website is regularly refreshed to keep you informed of the latest findings. Click on project links below to be directed to the website page.

### **Node 1: Performance of Building Components**

Project 1.1

[Innovative Long-Span Timber and Wood-Based Hybrid Floors for Vibration Performance and Acoustic Compliance](#)

– Professor Hassan Karampour

Project 1.2

[Connection Systems for Extended Building Life](#)

– Dr Liam Ottenhaus

Project 1.3

[New Hybrid Load Bearing System as an Incremental Step Towards the Adoption of Timber in Buildings](#)

–Professor Benoit Gilbert

Project 1.4

[Fire Safety Design of Open Plan Timber Compartments](#)

– Associate Professor David Lange

Project 1.5

[Development of Moisture Monitoring, Assessment and Management Systems for the Australian Mass Timber Construction Industry](#)

– Dr Maryam Shirmohammadi

Project 1.6

[Role of Moisture in the Long-Term Performance of Mass Timber Building Elements](#)

– Professor Tripti Singh

### **Node 2: Building Performance for Occupants**

Project 2.1

[The Bio-Hygrothermal Performance of Mid-Rise Non-Residential Timber Framed Façade Systems](#)

– Dr Mark Dewsbury

Project 2.2

[Design for Positive Occupant Outcomes in Timber-Rich Environments](#)

– Dr Georgia Lindsay

Project 2.3

[Influence of CLT Manufacturing Variables on Vibration and Acoustic Performance](#)

– Dr Chandan Kumar / Adam Faircloth

### **Node 3: Design for Extended Building Life**

#### Project 3.1

Circular [Re]Design to Enable Disassembly and Reuse of Mid-Rise Timber Buildings

– Associate Professor Paola Leardini

#### Project 3.2

Connection Systems for Extended Building Life – Design Principles

– Dr Liam Ottenhaus

### **Node 4: Towards a Low-Carbon & Circular Economy**

#### Project 4.1

New ‘Green’ Methods to Support Forest and Wood Products Advocacy in the Built Environment

– Prof Paul Dargusch / Assoc Prof Joe Gattas

#### Project 4.2

The Development of Strategies to have the Carbon Savings and Broader Environmental Benefits of Growing Forests and Using Timber in the Built Environment Appropriately Recognised

– Prof Paul Dargusch / Prof Robert Crawford

### **Node 5: Socio-Economic Opportunity**

#### Node 5 Projects

Economic Modelling of Timber Industry and Synergy and Interaction with Systems Dynamic Model & EWP Industry Audit and Economic Scenario Modelling (Alignment with Supply Chain Modelling Tool)

– Dr Cristyn Meath / Emeritus Professor John Mangan

### **Node 6: Manufacturing Innovation**

#### Project 6.1

Improving Resource Availability and Utilisation for Residential Timber Manufacturing and Construction

– Prof Benoit Gilbert

#### Project 6.3

Digital and Physical Systems Design for Optimised Design-to-Delivery of Prefabricated Timber Housing

– Dr Tharaka Gunawardena / Dr Nic Bao

#### Project 6.4

Autonomous Screw-Fixing Robots for CLT Panel Building Assembly

– Dr Dikai Liu

#### Project 6.5

Collaborative Robots For Resource-Adaptive Timber Construction Using Variable, Out-Of-Grade Timber Feedstocks

– A/Prof Joe Gattas

Project 6.6

[Automatic Timber Property Assessment for Variable Fibre Feedstocks](#)

– Dr Dan Luo

Project 6.7

[Performance-Based Architectural Design and Optimization Using Biomaterial and AR-Assisted Discrete Assemblies](#)

– Dr Nic Bao

## **Node 7: [Value Chain Innovation](#)**

Project 7.1

[Adaptive Building Forms for Inventory-Constrained Utilisation of Low Value Fibre](#)

– A/Prof Kim Baber

Project 7.2

[Establishing Viable Product and Market Solutions for Hardwood Plantation Thinnings and Small Diameter Logs](#)

– Dr Chandan Kumar

Project 7.3

[EWPs to Maximise Australian Wood Fibre Recovery and Utilisation](#)

–Dr Rob McGavin

Project 7.4

[An Open-Data Framework for Forest-to-Building Value Chain Mapping](#)

– A/Prof Joe Gattas

## **Node 8: [Interventions for Change](#)**

Project 8.1

[EWP Industry Supply Chain Modelling Tool \(alignment with Economic Scenario Modelling\)](#)

– Dr Cristyn Meath

Project 8.2

[Status, Perceptions and Priorities of EWP Industry in Australia](#)

– Dr Cristyn Meath

Project 8.3

[Evaluation of the ARC Advance Timber Hub](#)

– Dr Cristyn Meath

## RESOURCES

The ARC Advance Timber Hub lists all published material from project outcomes on its [RESOURCES](#) page. Below are links to the latest resources that have been added:

### ARC Advance Timber Hub:

Radio:

1. [THE FUTURE FOR OUR TIMBER](#)

Report:

1. [BUILDING A LOW-CARBON FUTURE FOR AUSTRALIA](#)

### Node 1: [Performance of Building Components](#)

Journal Articles:

1. [ORIENTATION EFFECTS ON THE IGNITION OF MASS TIMBER CEILINGS: A BENCH-SCALE INVESTIGATION](#)
2. [THE FIRE SAFETY STRATEGY](#)
3. [DYNAMIC BEHAVIOUR AND SERVICEABILITY PERFORMANCE OF LONG-SPAN CLT BAND-BEAM FLOOR SYSTEMS: FULL-SCALE EXPERIMENTAL STUDY](#)
4. [EXPERIMENTAL AND NUMERICAL INVESTIGATION OF THE STATIC AND DYNAMIC BEHAVIOUR OF LIGHTWEIGHT LONG-SPAN STEEL-WOOD JOIST STRIP SYSTEMS](#)

Report:

1. [MASS TIMBER BUILDINGS MOISTURE MONITORING AND MANAGEMENT A COMPARATIVE STUDY OF BUILDING TYPES, DESIGN TECHNIQUES, AND CLIMATE CONDITIONS FOR ENHANCED PROTECTION PLANS AND BEST PRACTICES](#)

Technical Guide:

1. [FWPA STANDARD T01 METHODS OF TEST FOR MECHANICAL FASTENERS AND CONNECTORS PART 1: CATEGORY A & B FASTENERS](#)

### Node 2: [Building Performance for Occupants](#)

Journal Article:

1. [DYNAMIC BEHAVIOUR AND SERVICEABILITY PERFORMANCE OF LONG-SPAN CLT BAND-BEAM FLOOR SYSTEMS: FULL-SCALE EXPERIMENTAL STUDY](#)

### Node 3: [Design for Extended Building Life](#)

Conference Paper:

1. [MULTI-PARAMETRIC EVALUATION OF INNOVATIVE CLT CONNECTIONS DEVELOPED FOR DFMA AND DFD](#)

#### **Node 4: Towards A Low-Carbon & Circular Economy**

Report:

1. DEVELOPMENT OF A CARBON CREDITING METHOD OF GREENING CONSTRUCTION WITH SUSTAINABLE WOOD

#### **Node 6: Manufacturing Innovation**

Conference Paper:

1. PARAMETRIC JOINT DESIGN FOR IRREGULAR TIMBER MIXED-REALITY INTEGRATION FOR ADAPTIVE HUMAN-MACHINE ASSEMBLY

Datasets:

1. AN INTENTION-TO-ACTION FRAMEWORK FOR HUMAN REBOT COLLABORATIVE OBJECT RETRIEVAL AND HANDOVER PAPER
2. GOAL-DIRECTED VISUAL DIFFUSION POLICY FOR EFFICIENT DATA COLLECTION IN ROBOT LEARNING

Journal Articles:

1. DESIGN-TO-MANUFACTURING INTEGRATION FOR PREFRABICATED TIMBER CONSTRUCTION IN AUSTRALIA
2. DIGITAL INTEGRATION THROUGH PARAMETRIC GEOMETRY GOVERNANCE: A FRAMEWORK FOR DESIGN-TO-MANUFACTURING IN PREFABRICATED TIMBER CONSTRUCTION
3. STAKEHOLDER PERSPECTIVES ON ALIGNING SAWMILLING AND PREFABRICATION FOR GREATER EFFICIENCY IN AUSTRALIA'S TIMBER MANUFACTURING SECTOR
4. COMPARATIVE ANALYSIS OF IMAGE CONTROL WORKFLOWS IN GENERATIVE AI FOR ARCHITECTURAL DESIGN: A FLUX.1-BASED STUDY

Literature Review:

1. LITERATURE REVIEW ON THE USE OF OUT-OF-GRADE TIMBER IN RESIDENTIAL CONSTRUCTION

Radio:

1. **ROBOTS SOLVING AUSTRALIA'S HOUSING CRISIS**

Report:

1. INDUSTRY EXPECTATIONS FOR TIMBER QUALITY IN AUSTRALIAN PREFABRICATED FRAME AND TRUSS MANUFACTURING

## PARTNER UPDATE

### TIMBERLINK AUSTRALIA (NEXTIMBER)



We are delighted to advise that **Timberlink Australia (NeXTimber)** has joined the ARC Advance Timber Hub.

Timberlink is a major Australian manufacturer of sustainable timber products, specialising in engineered wood products including cross laminated timber (CLT) and glue laminated timber (GLT). They operate production sites in Bell Bay (Tasmania), Tarpeena (South Australia), employing approximately 600 people nationwide. Their core business is to deliver high-quality timber products for construction, and their strategic priorities are to expand their product range, lead innovation in sustainable building, and support Australia's move to a low-carbon built environment.

Timberlink's involvement in the ARC Advance Timber Hub is driven by their commitment to expanding the use and acceptance of engineered timber products, particularly in midrise construction. Project 1.4 (Fire Safety Design of Open Plan Timber Compartments) aligns closely with their strategic objectives, supporting their ongoing efforts to innovate within the sector and promote sustainable building practices. Their engagement also complements their active participation in the industry NCC code change project and the development of the Australian and New Zealand CLT design standard.

Timberlink is contributing both product and the in-kind expertise of Jeremy Church, General Manager of NeXTimber and Structural Engineer, who will be their Partner Investigator on the Hub.

#### **About Jeremy Church**

Jeremy is a qualified engineer with a strong background in structural design, having worked as both a design consultant and a design manager with local CLT and GLT manufacturers and is passionate about the smart use of mass timber in construction.

In his current role as General Manager of NeXTimber by Timberlink, Jeremy oversees sales and operational execution, ensuring projects run smoothly from contract to completion. He is also active in product testing, certification, and research.

He serves on the board of EWPAA and participates in industry initiatives, such as working groups dedicated to advancing mass timber adoption and establishing design standards for cross laminated timber in Australia and New Zealand. He is committed to fostering collaboration throughout the industry to support the widespread implementation of timber-based systems and construction solutions.

## PEOPLE UPDATE

### CURRENT STAFF

Along with our many investigators, see [People](#) section of the ARC Advance Timber Hub website, here is a list of current staff who are fully or partly funded by the Hub.

#### Research Hub Manager

1. Kelly Rischmiller – The University of Queensland

#### Research Fellows

1. Luis Yerman – The University of Queensland - Node 1 (Durability)
2. Thomas Wright – The University of Queensland - Project 1.2 & 3.2
3. Hons K Wyn – The University of Queensland - Project 1.4
4. Bill Leggate – Griffith University - Project 6.1

#### Research Assistants

1. Ian Underhill – Griffith University - Project 1.1
2. Loren Dyer – University of Tasmania - Project 2.2
3. Xiaotian Wang – University of Tasmania - Project 2.2
4. Gibson Hu – University of Technology - Project 6.4
5. Steve Li – RMIT - Project 6.3 & 6.7
6. Justin Stokes – Bond University – Project 7.1
7. Catalina Espinosa – The University of Queensland - Node 5 & Project 8.1

### PHD CANDIDATES

1. Adam Faircloth – Griffith University - Project 1.1 & Project 2.3
2. Mahdi Mazhari – Griffith University - Project 1.1
3. Farshad Janghorban – Griffith University - Project 1.1
4. Joseph Yassa – The University of Queensland - Project 1.2
5. Parvesh Deepan - Griffith University - Project 1.3
6. Josh Madden – The University of Queensland - Project 1.4
7. Paulo Silves – University of the Sunshine Coast - Project 1.6
8. Stuart Hall – University of Tasmania – Project 2.1
9. Asteria Chen – The University of Queensland - Project 3.1
10. Krzysztof Przybylo - The University of Queensland - Node 5
11. Harshani Dissanayake – University of Melbourne - Project 6.3
12. Sasindu Samarawickrama – University of Melbourne - Project 6.3
13. Lingju (Jules) Wu – The University of Queensland - Project 6.5
14. Xinyu Wang – The University of Queensland - Project 6.6
15. Harlan Guo – RMIT - Project 6.7
16. Zhixin Wen – RMIT – Project 6.7
17. Catalina Espinosa – The University of Queensland - Project 8.2

### GETTING TO KNOW OUR PHD CANDIDATES

Here we celebrate our ARC Advance Timber Hub PhD Candidates with a peak into their research and what motivates/inspires them. They also answer the most common question – ***if you could visit any timber building in the world, which one would it be and why?*** Our next newsletter will include more.

## STUART HALL

### **PROJECT 2.1: The Bio-Hygrothermal Performance of Mid-Rise Non-Residential Timber Framed Façade Systems**

**Stuart Hall** is a PhD candidate at the **University of Tasmania**, undertaking research on *Bio-Hygrothermal Principles for Mid-Rise Timber-Based Façade Systems*. His research investigates how timber-based façade assemblies manage heat and moisture over time to mitigate mould growth that can affect both built fabric and human health. The project examines how these conditions are influenced by building height, occupancy levels, and different building typologies, and what this means for long-term durability in Australian conditions. It also explores the use of biophilic, low-carbon, low embodied energy materials to increase fibre utilisation.

Stuart was inspired to pursue this research through a deep interest in timber buildings and biophilic materials. A registered Architect, Builder and Passive House Designer with more than 30 years of experience, he has worked on innovative timber projects, including an 18-metre span super-insulated dome using plantation softwood, plywood, CNC fabrication and cellulose fibre insulation (part of a certified 5-Star Green Star As-built project).

"I RECENTLY COMPLETED A CLT CERTIFIED PASSIVE HOUSE RESIDENCE IN HOBART, TASMANIA WHERE I LIVE. FOR SOME TIME I HAD BEEN WANTING TO UNDERTAKE FURTHER STUDY AND DEEPEN MY UNDERSTANDING OF CONDENSATION, MOULD AND DECAY IN BIO-BASED STRUCTURES, THIS PROJECT WAS EXACTLY WHAT I WAS LOOKING FOR TO FULFILL THAT GOAL."

Stuart Hall



His research aims to strengthen the evidence base needed to specify mid-rise timber façade systems with confidence by combining bio-hygrothermal simulation with empirical validation from test buildings in two contrasting climates (Hobart and Brisbane). The direct link between research, industry, policy and real-world application is what excites him most about the ARC Advance Timber Hub.

**If you could visit any timber building in the world, which one would it be?**

"Aquatics Centre Paris 2024 by VerhoevenCS"

## FARSHAD JANGHORBAN

### **PROJECT 1.1: Innovative Long-Span Timber and Wood-Based Hybrid Floors for Vibration Performance and Acoustic Compliance**

**Farshad Janghorban** is a PhD candidate at **Griffith University**. His research focuses on the structural and dynamic performance of lightweight long-span timber floor systems, with particular emphasis on vibration behaviour and occupant comfort. As part of the ARC Advance Timber Hub project, he is experimentally investigating an 8-metre-span timber joist floor system under static and human-induced dynamic loading, including walking excitation. The research combines full-scale laboratory testing, experimental modal analysis, numerical modelling, and assessment against international vibration criteria to better understand how factors such as span, joist configuration, floor layout, and structural details influence vibration performance.

Farshad is inspired by the growing use of timber as a sustainable alternative to conventional construction materials and the challenges associated with designing lighter, longer-span timber floors. His work aims to provide the evidence needed to help engineers design timber floors that are both structurally efficient and comfortable for occupants, reducing uncertainty in vibration design and supporting broader adoption of timber construction.

Farshad is particularly motivated by the opportunity to connect research with real-world industry challenges and contribute to helping engineers design timber floors that are not only structurally efficient, but also comfortable for occupants.



"I PARTICULARLY VALUE THE OPPORTUNITY TO TEST INNOVATIVE TIMBER FLOOR SYSTEMS AT FULL SCALE, EXCHANGE KNOWLEDGE WITH RESEARCHERS AND INDUSTRY PRACTITIONERS, AND CONTRIBUTE TO RESEARCH THAT HAS THE POTENTIAL TO INFLUENCE FUTURE DESIGN PRACTICE AND STANDARDS."

Farshad Janghorban

#### **If you could visit any timber building in the world, which one would it be and why?**

"I would choose International House Sydney at Barangaroo, because it is a landmark example of how engineered timber can be used at a significant scale in a modern commercial building. It combines CLT and glulam structural systems and demonstrates how timber can be integrated into a contemporary multi-storey building while also supporting sustainability goals.

As a researcher working on the performance of long-span timber floors, I would especially like to experience the building in person and observe how its timber floor system performs from an occupant's perspective, while also seeing how the structural timber has been integrated into the architectural design."

## PARVESH DEEPAN

### **PROJECT 1.3 - New Hybrid Load Bearing System as an Incremental Step Towards the Adoption of Timber in Buildings**

**Parvesh Deepan** is a PhD candidate at **Griffith University** whose research focuses on developing a hybrid load-bearing system that combines timber with other structural materials to make timber construction more practical for multi-storey buildings. His work explores how hybrid structural systems can provide the strength, stiffness, and stability required for taller buildings while allowing timber to be used more extensively.

Drawing on his professional experience in structural engineering, Parvesh was inspired by both the opportunities and challenges associated with using timber in larger buildings. He became particularly interested in finding practical structural solutions that could increase the use of timber without requiring major changes to existing construction practices. His research addresses one of the key barriers to broader timber adoption by investigating how hybrid systems can improve the ability of timber buildings to resist lateral loads and achieve enhanced structural performance.

Through the ARC Advance Timber Hub, Parvesh values the opportunity to work closely with researchers who are all working towards a common goal of increasing the use of timber in the built environment. Being part of a broader research and industry network also provides a valuable opportunity to connect research with real-world engineering practice.

“I AM DEVELOPING A STRUCTURAL  
SYSTEM THAT COMBINES TIMBER WITH  
OTHER MATERIALS TO MAKE TALLER  
TIMBER BUILDINGS STRONGER, SAFER  
AND MORE PRACTICAL TO BUILD.”

Parvesh Deepen



**If you could visit any timber building in the world, which one would it be and why?**

“I would like to visit the Mjøstårnet in Norway, as it is one of the best-known examples of a tall timber building and would be a great opportunity to see how timber has been used at a large scale in a real building.”

**END**