

University of Tasmania: Higher Degree Research Opportunities

Introduction

Applications for PhD scholarships at the University of Tasmania's Centre for Sustainable Architecture with Wood (CSAW) are now open.

The scholarships broadly align with CSAW's recently secured National Institute for Forest Products Innovation, funded projects and include opportunities for skilled candidates from the architecture, industrial design, and engineering disciplines. Outlines of the scholarship topics are below.

The scholarships are:

- Open to domestic (Australian and New Zealand) and international candidates.
- Only available on a full-time basis.
- Based with the CSAW research team in the Discipline of Architecture and Design at Inveresk, in northern Tasmania.
- Integrated with industry collaborators and other research providers.
- Available to applicants who can demonstrate strong research, analytical and design skills relevant to the topic area.

Further detail on UTAS scholarships are available at:

<http://www.utas.edu.au/research/degrees/available-phd-projects>

Available scholarship topics

Project 1: Increasing the durability and other material characteristics of Tasmanian hardwoods

Tasmanian hardwood species generally have limited natural durability, low resistance to bushfire attack and are relatively soft. These characteristics limit the material's utility in key appearance and external markets. As the timber's material properties can be modified by chemical or thermal treatment, or by densification, this project will investigate if desirable material characteristics of Tasmanian hardwood species, Tasmanian oak and plantation hardwoods, can be improved so a product may be acceptable for several different markets.

This project will involve collaboration with the University of Melbourne, the University of the Sunshine Coast's National Centre for Timber Durability & Design Life, Koppers Performance Chemicals, and Tasmanian wood products manufacturers.

Project 2: Developing a New Generation of Tasmanian Appearance Hardwood Products for In-State Design and Manufacturing

Tasmania has an established range of appearance hardwood products, mainly drawn from native forest resources. However, this product range has limitations. This project will pursue a multidisciplinary approach to develop new timber products and product combinations that can be manufactured in Tasmania from native, reclaimed and plantation hardwood resources. It will explore innovative solutions for new application types by exploiting developments in resource availability and material processing, new timber modification and assembly technologies, and the potential of advanced computer-controlled manufacturing.

This project will involve close collaboration with Tasmanian wood products manufacturers and the building design community.

Project 3: Developing laminated structural elements from fibre-managed plantation hardwood

This project is designed to improve the utilisation of Tasmania's forest resource by developing new structurally reliable glue laminated products from sawn boards recovered from the available plantation hardwood estate. It will explore the technical and financial feasibility of making these elements: including examining the connection between the grading, docking and assembly of the feedstock component and the strength of the assembled element, and investigating efficient and effective means to laminate these boards into structural reliable elements.

This project will involve collaboration with the University of Tasmania's School of Engineering and the Bern University of Applied Sciences' School of Architecture, Wood and Civil Engineering.

Project 4: Sensing technology and digital tools to support decision-making in hardwood timber drying

The quality of the hardwood drying strongly influences the profitability of milling. Timber boards dried without induced drying degrade can be sold at a premium, as differentiated appearance product for architectural applications. The project aims to continue world-leading work in hardwood drying and advance a prototype sensing technology suite and an accompanying 'app' simulation decision support program. Developed in preceding projects, these capabilities have been designed to predict timber moisture content during air-drying in the holding yard, and offer the potential of improved management of the drying and use of native and plantation grown hardwood eucalypt species.

This project will involve collaboration with the University of Tasmania's School of Engineering.

Contact information

For additional information about these scholarships, contact:

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