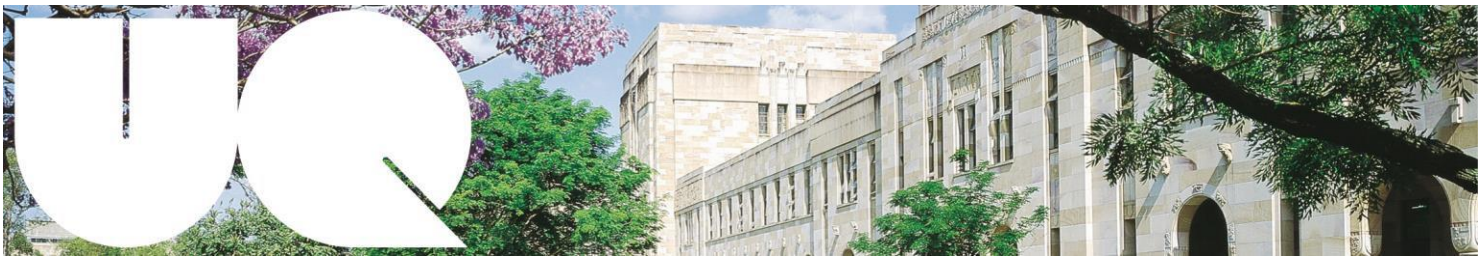

PHD SCHOLARSHIP

The School of Civil Engineering at the University of Queensland (Brisbane, Australia) is offering a PhD scholarship for a motivated student to contribute to research being undertaken within the Fire Safety Engineering Research Group. Candidates with a background in Civil Engineering, Mechanical Engineering, Chemical Engineering, or Physics are strongly encouraged to apply. The scholarship will be for three (3) years and valued at AU$ $31,298 per year. Top-up scholarships and international student fee-waivers are also available to exceptional candidates.

PROJECT INFORMATION

Exploring the self-extinguishment mechanism of cross-laminated timber in full-scale compartment fires

In the last decade, raising tall timber buildings has become a challenging aspiration from the building industry, essentially due to the potential benefits from using timber, a sustainable and durable structural material. Regulations however prohibit the use of timber structures in tall buildings due to the latent fire risk. The use of exposed timber in buildings is thus among one of the major challenges faced by the building industry at present, fundamentally constrained by fire safety considerations from current design frameworks. Despite being a combustible material, timber is known to self-extinguish below specific conditions of heat exposure. This timber feature opens the door to the potential fire safe use of extended surfaces of exposed timber, with a particular insight for medium- and tall-timber buildings.

This project aims at assessing the self-extinguishment mechanism in full-scale compartment fires with exposed CLT surfaces, and conditions to guarantee its safe use. In addition to **critical conditions of heat** (defined by number of exposed surfaces), the Project will parametrically explore the main critical complexities that inhibit achieving self-extinguishment: (1) **lamellae fall-off** and (2) **encapsulation failure**. Throughout this Project, a series of CLT compartments will be constructed, and eventually fire tested using a predefined floor fuel load in order to provide robust data to **enable design guidelines** to be formulated.

Experimental work within the scope of this project will be carried in the Fire Laboratories at the University of Queensland and in the Queensland Emergency Services Training Academy (Whyte Island, Brisbane).

QUALIFICATIONS

Candidates must hold a relevant undergraduate or Master's degree in Civil Engineering, Mechanical Engineering, Chemical Engineering, Physics or other related field. Candidates with skills or interested in fire safety engineering, fluid mechanics, heat transfer, and/or forestry are strongly encouraged to apply.

HOW TO APPLY

Interested candidates should submit their scholarship application on the Application for school-based PhD or MPhil scholarship form, together with your supporting documents on the HDR online application system. Details on the application for admission and scholarship process can be found at http://www.civil.uq.edu.au/HDR-application-apply.

For further details, please contact **Dr Juan P. Hidalgo** at j.hidalgo@uq.edu.au.

Submission due by **29/09/2017**.