

RECRUITMENT

- MASTER'S DEGREE -

Fire Design of Prefabricated and Modular Buildings

Prefabrication of building components, assemblies and modules are gaining popularity due to numerous advantages compared to traditional on-site construction. Prefabricated components and assemblies would typically follow a similar construction schedule to that of on-site construction. However, modules would typically have the main services installed, which inherently result in the need to connect them and to protect any openings against the passage of fire.

traditional wood-frame construction has historically proven efficient in limiting fire spread in concealed spaces due to the inherent fire blocking in the platform-frame construction. While concealed spaces within assemblies would be similar to traditional wood-framing, additional concealed spaces may be created when adjoining adjacent assemblies or modules together.

There is a need to understand the design principles, construction schemes and to identify potential risks arising from prefabrication. These risks need to be assessed against the fire safety requirements set forth in the National Building Code of Canada [3]. Mitigation techniques and changes in construction techniques may be warranted to better suit this new construction era.

This project is part of a collaborative research initiative led by the University of Alberta called *Next Generation Wood Construction*. It is financially supported by NSERC, several industry partners and government agencies.

Research department

Wood Sciences, Université Laval

Research supervisor

Christian Dagenais, Université Laval

Profile required

Bachelor's degree in wood engineering, civil engineering, mechanical engineering or any related disciplines.

Conditions

Be eligible for a Master's degree at Université Laval.

Since the research project is carried out in partnership with the construction industry, the candidate must demonstrate communication skills as well as an interest in carrying out research in a collaborative framework and in a multidisciplinary environment.

Conditions

Scholarship to be determined, depending on the level of study.

Applicants will be encouraged to apply to other sources of funding, including the NSERC or FRQNT excellence scholarship.

Beginning date

Depending on the candidate's availability.

How to apply

Submit your cover letter, academic transcript and curriculum vitae (CV) to: christian.dagenais@sbf.ulaval.ca

<https://cwcrn.ca/.ca>

This project is part of a Canadian Wood Construction Research Network (CWCRN) that promotes academic research on wood construction in Canada. Our goal is to foster innovation and collaboration in sustainable and resilient building practices using wood as a renewable and environmentally friendly material.