

## MASTER RESEARCH PROJECT (M.Sc.)

### *Adaptation of Supply Logistics in the Context of Burned Wood Recovery*

#### FRENCH LANGUAGE

Although most of our research team at the FORAC consortium are fluent in English and can facilitate your arrival at Université Laval, our students are expected to be able to communicate in French within the first year of their arrival in Quebec City.

**Research domain:** Forestry, decision support systems; planning / simulation

**Prior education:** Forestry, Wood Engineering, Operations Management, Industrial Engineering

#### Research context:

The FORAC research consortium is a strong partnership between stakeholders in the forest products industry (businesses and governments). Based at Université Laval (Quebec City, Canada), we offer our partners world-class multidisciplinary research expertise. We bring together expertise in the fields of forest engineering, wood engineering, industrial engineering, mechanical engineering, administrative sciences and computer science.

Our mission is to support the forest products industry in the design and effective management *from the forest to the customer*. FORAC aims to be a Canadian and international reference in the field of integration and optimization of the value creation network. Researchers are developing decision support and decision support methods that leverage the potential of data to improve planning, coordination and control of operations across all business lines (forest operations, transport and logistics, processing plants, etc.).

Longhorn beetle rapidly colonizes fire-affected stands, degrading wood quality. Salvage operations are possible only during the year of the fire, and sometimes the following year. It is therefore necessary to increase the volume of recovered wood in order to maintain forest harvest potential while protecting forest capital.

#### Project description:

This master's project aims to increase recovered wood volumes by designing faster production systems and developing storage methods that preserve wood quality over a longer period. The project will use discrete-event simulation to evaluate productivity gains associated with different harvest-and-storage strategies. To feed the model, logs will be subjected to various watering and debarking scenarios to assess their potential to maintain quality over time.

Expected Start date: 2026-05-04

#### Financing:

Scholarship total of \$ 27,750\* per year for a length of 5 full-time sessions (i.e. one year and two semesters. This scholarship is indexed once a year. \*This total includes an annual prime of up to \$5,250 associated with participation in consortium activities. Additional funds are available to cover the costs of participation in international conferences (with article) and travel expenses (collaboration with partners, industrial visits, field study).

#### To apply:

Interested candidates can apply by sending their application (*including: CVs, transcripts and motivation letter*) to the following email address: Shuva Gautam ([shgau5@ulaval.ca](mailto:shgau5@ulaval.ca)) or Daniel Beaudoin ([Daniel.Beaudoin@sbfi.ulaval.ca](mailto:Daniel.Beaudoin@sbfi.ulaval.ca)) or [recrutement@forac.ulaval.ca](mailto:recrutement@forac.ulaval.ca)