

# Development of a simplified and modular LCA tool

Record number : OPR-925

## Overview

### RESEARCH DIRECTION

Mourad Ben Amor, Professeur -  
Department of Civil and Building  
Engineering

### INFORMATION

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### ADMINISTRATIVE UNIT(S)

Faculté de génie  
Département de génie civil et de génie du  
bâtiment  
Département de génie mécanique

### LEVEL(S)

Stage postdoctoral

### LOCATION(S)

Campus de Sherbrooke  
LIRIDE

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## Project Description

### Description:

This postdoctoral position is part of a research partnership with the non-profit organization Écohabitation, driven by environmental issues in the construction field in Quebec and Canada. In order to disseminate the use of LCA in the construction field for multiple stakeholders, this project combines the expertise of LIRIDE and Écohabitation partners.

This postdoctoral project involves developing a simplified and modular LCA tool aiming to automate the structured sub-categorization/probabilistic sampling approach and integrate prioritization results from the inventory of present building typologies. These concepts will be developed by two doctoral students also working on the research project. The idea is to operationalize the methodological developments in a format that can be easily transferred to other field users. This transfer will allow future users to use the sub-categorization sampling approach and the inventory prioritization when designing their buildings in an eco-design context. It is planned to program the tool in Python language, which has seen the emergence of a structure specifically dedicated to LCA (Brightway2.5). The tool will be offered in the spirit of open-source code for reproducibility.

### Day to day work:

The work will be carried out within an interdisciplinary team of LIRIDE, in close collaboration with the partner. The team will consist of one master's student, two PhD students, one postdoctoral fellow and researchers. In addition, an integral part of your work is to publish your results in peer-reviewed journals and present them at international conferences.

### Qualifications:

Your qualifications must include a university doctoral degree in civil, building, mechanical, environmental engineering or similar studies with excellent grades. Skills and a strong interest in modelling and in computer programming (Python) would be a major advantage. You must have good communication skills. Your admission will be subject to the standard rules of the Université de Sherbrooke (funding secured for the entire project). The project will start as soon as possible or upon mutual agreement. You are expected to contribute to teaching and research activities of the laboratory up to a maximum of 20% of your working time.

### Application:

We look forward to receiving your online application including 1) cover letter, 2) resume, 3) credentials and 4) contact information for two references. We will begin interviewing candidates as soon as a sufficient number of applications are received. Applications will be accepted

until the position is filled.

Further information:

Questions (no applications) regarding the position should be directed to Prof. Dr. Ben Amor, [ben.amor@usherbrooke.ca](mailto:ben.amor@usherbrooke.ca). Please also visit our website [www.liride.info](http://www.liride.info). For applications: [info@liride.info](mailto:info@liride.info)

## Discipline(s) by sector

## Funding offered

## Partner(s)

Yes

ÉcoHabitation

**Sciences naturelles et génie**

Génie civil, Génie mécanique

The last update was on 12 March 2024. The University reserves the right to modify its projects without notice.