



The Interdisciplinary Research Laboratory in Life Cycle Assessment and Circular Economy (LIRIDE) research focus on life cycle assessment and Industrial Ecology. Internationally recognized for its work and its previous years of applied scientific research, the LIRIDE research group supports the industry, SME, governments, and organizations in their path towards a truly sustainable development supported by life cycle assessment and industrial ecology. At Sherbrooke University (Canada), LIRIDE offers a friendly and professional working environment, and is inviting applications for the postdoctoral position further described below.

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## ID PROJECT : PHD LIRIDE-IQ

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## ENVIRONMENTAL LIFE CYCLE ASSESSMENT OF QUANTUM COMPUTING AND APPLICATION OF QUANTUM COMPUTING FOR LIFE CYCLE ASSESSMENT

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**Description:** This PhD project is part of a research partnership with the Quantum Institute (IQ) of the University of Sherbrooke. High performance computing platforms have become essential today. In particular, they are used to support decisions with high social impact and the underlying technologies require more and more energy to meet our expectations. This expansion of systems generates a huge environmental footprint and exacerbates the fact that digital and social injustices are largely ignored by science and engineering research. In this sense, the impact of high performance computing on climate and societies has, on the whole, been the subject of a small number of studies, but, more importantly, their scope is still lacking a prospective perspective. This project aims to study an emerging paradigm, quantum computing technologies (QCTs), which have the potential to solve problems that are intractable with classical solutions, but also to reduce the environmental impact of computing. Understanding the environmental and social impacts of QCTs is crucial to compare them to current and future solutions.

**Day-to-day work.** The work will be carried out within an interdisciplinary team at LIRIDE, in close collaboration with the partner. In addition, a part of your work is to communicate regularly with the partner on the progress of your project, to publish your results in peer-reviewed journals and to present them at international conferences.

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**ID Project : PhD LIRIDE-IQ**

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**ENVIRONMENTAL LIFE CYCLE ASSESSMENT OF  
QUANTUM COMPUTING AND APPLICATION OF  
QUANTUM COMPUTING FOR LIFE CYCLE  
ASSESSMENT**

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**Qualifications.** Your qualifications should include a master's degree in civil, environmental engineering or similar level of studies (e.g. master studies in physics or computer science) with excellent grades. Interest in modelling and programming is an important advantage. Your enrollment will be contracted according to standard regulations at Sherbrooke University. The project will start as soon as possible or upon mutual agreement.

**Application:** We look forward to receiving your online application including 1) a letter of motivation, 2) CV, 3) diplomas & transcripts and 4) contact details of two referees. We will start interviewing candidates during the summer 2021. Applications will be accepted until the position is filled.

**Further information:** Questions 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 <https://www.liride.info/recrutement>

