

## **Smart Optical Networks Enabled by Machine Learning:** Opportunities for PhD and Master's studies in optical networking

The Network Technology Lab at the *École de technologie supérieure (ÉTS)* invites applications for PhD and Master student positions in the area of machine learning for optical networking applications. We seek strongly motivated individuals who are eager to work in interdisciplinary research environment. Candidates with experimental and theoretical strengths in optical telecommunications and machine learning, as well as good levels of critical analysis and communicative abilities, are especially encouraged to apply. Some of the research activities will be performed in collaboration with industrial partners. Stipends will be available for eligible students.

The ÉTS is a young and dynamic engineering-only institution with a strong industry-oriented mindset focused towards applied research. With its main campus located in downtown **Montreal**, the ÉTS can provide a vibrant multicultural environment with a strategic access to several major industrial and academic research partners.

Current opportunities (Fall 2019 - Winter 2020):

*Smart Optical Networks Enabled by Machine Learning.* The research program aims at developing machine learning (ML) methods to enable more efficient and automated optical network operation. The objective is to perform a demonstration of smart optical networking based on ML and to demonstrate, theoretically and experimentally, the impact of cognition on network performance and robustness, as well as flexibility and dynamicity. The activities includes the exploration of ML methods for quality of transmission (QoT) estimation, performance prediction in the optical layer, as well as for anomaly detection and proactive failure management at the network level.

Candidates must hold a Bachelor or MSc degree in electrical engineering, engineering physics, computer science or a related discipline.

Applications shall be sent via e-mail to Prof. Christine Tremblay [christine.tremblay@etsmtl.ca](mailto:christine.tremblay@etsmtl.ca). Applicants should submit their resume, a copy of their academic transcripts, as well as a letter of motivation and a list of two referees.

For more information on the projects, contact Prof. Tremblay or visit her homepage at <http://profs.ele.etsmtl.ca/ctremblay>