



Innovative optical fibers and erbium-doped amplifiers for next generation communication systems

Optical fiber is much more than a conduit for light. It is an unparalleled communications link. Standard optical fiber is known for its great linearity and extreme transparency that make it possible to transmit over 1 Tb/s of information over thousands of km. Despite this impressive capability, scientists are anticipating that, in the not-so-distant future, the bandwidth of optical fiber will reach its limits. Therefore, we must immediately undertake research to propose innovative technologies that will increase the amount of information carried in each fiber. For this project, the team will study the transmission of information channels over various modes within an optical fiber specifically designed to reduce mode coupling during propagation. We are also investigating optical fiber amplifiers with larger optical bandwidth. We are looking for a student eager to contribute to the design and experimental characterization of these novel fibers, including system tests. The work will be performed in the Optical Communications Laboratory under the supervision of Professor Sophie LaRochelle, at the Centre for Optics, Photonics and Lasers. This project involves industrial partners and collaborators, including several European laboratories as part of a project funded under the Horizon 2020 Program of the European Commission.

A scholarship is available: \$24,000/year for a PhD and \$21,000/year for a Master's.

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Further information on the Chair
program can be found at:
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