



Fully Funded PhD Studentship in Nanophotonics

INRS-EMT | Institut National de la Recherche Scientifique - Énergie Matériaux
Télécommunications | Montreal | Canada

INTRODUCING INRS

Institut national de la recherche scientifique is a research-intensive university offering graduate-level training. One of Canada's leading research universities in terms of research funding per professor, INRS brings together some 150 professors and close to 700 students and post-doctoral fellows in its centers in Montreal, Quebec City, Laval, and Varennes. Conducting fundamental research essential to the advancement of science at the national and international level, the INRS research teams also play a critical role in developing concrete solutions to problems facing our society.

PROJECT SUPERVISOR

Dr. Luca Razzari (<http://www.inrs.ca/english/luca-razzari>) has established a vigorous research program in nanoplasmonics and is particularly interested in investigating its ultrafast (down to few femtoseconds) and ultra-broadband (from UV to THz) nature. Nanoplasmonics allows bringing light down to the nanoscale and carries great promises for an effective miniaturization of photonic technologies and for the on-chip integration of optical functions with state-of-the-art electronic circuits.

PROJECT DESCRIPTION

Prof. Razzari's research group at INRS-EMT invites applications for a fully funded 4-year PhD studentship on the development of novel nanoplasmonic concepts and devices. In the framework of the present project, we intend to shed some light on the use of nanostructures for intensifying radiation-matter interaction at the nanoscale, in view of applications in nonlinear optics and quantum information processing.

The successful candidate will design novel nanophotonic devices and will characterize their response by means of state-of-the-art optical techniques.



OUR LOCATION

INRS-EMT is located in Varennes (Quebec), close to the city of Montreal (approximately 30-40 minutes away from central Montreal by car or public transportation). Many of the faculty members and students everyday commute to INRS-EMT from downtown Montreal. Montreal is the most vibrant and cosmopolitan city in Canada and hosts 9 universities and some 180,000 students from all over the world in its metropolitan area (ranking second in North America for the number of university students per capita). Under a special agreement among these universities, graduate students are permitted to take courses in any university in the city.

GENERAL REQUIREMENTS AND APPLICATION PROCEDURE

We are looking for highly motivated, creative students with a Master degree in a relevant discipline (physics, physical engineering, electrical engineering or equivalent). They should have willingness to work in a team and undertake independent learning. A good knowledge of written and spoken English is a prerequisite. Previous experience in advanced optical setup development and/or numerical modeling of electromagnetic processes will be an asset.

Applications have to be submitted by email to razzari@emt.inrs.ca and must include (i) a one page research proposal describing the candidate's research interests and reasons for pursuing a PhD on the proposed topic; (ii) a full CV, containing any relevant experience; (iii) official transcripts of the candidate's university grades; (iv) name, telephone and email contact of at least one academic referee.

ONLY Selected candidates will be contacted by email to arrange an interview.