MASTER’S: Laser-Assisted Metallic Surface Texturing

In collaboration with LaserAx

Under the supervision of Prof. Réal Vallée and Dr. Alex Fraser, LaserAx founder and CTO:

• Develop and improve laser cleaning and texturing processes and products
• Conduct cleaning and texturing testing
• Draft technical reports on laser cleaning and texturing

For more information: rh@laserax.com
Optical glass amplifiers for high capacity networks

- MSc/PhD/PDF **fully funded positions**
- Great team, great projects
- From fundamentals to applications

**Glass synthesis**

**Fiber fabrication**

**Fiber amplifiers**

**Transmission**

**Join us**

sophie.larochelle@gel.ulaval.ca
Graduate studies opportunities at LRIO – Optical Engineering Research Lab

Prof. Simon Thibault

Projects available:

✓ Mechanical design for HiCIBaS – Stratospheric balloon-borne telescope and astronomical instruments (international collaboration)
✓ Design and implementation of a volumetric projection system (in collaboration with industry)
✓ Projection display using metasurfaces (in collaboration with industry)

Interested candidates should contact Anne-Sophie P. Girard
anne-sophie.poulin-girard@copl.ulaval.ca
POSTDOC: Self-adaptive algorithms for performance prediction and anomaly detection based on deep neural networks (DNNs)

In partnership with ciena

Under the supervision of Prof. Christine Tremblay and Christian Desrosiers at École de technologie supérieure, the researcher will be responsible for:

• Developing and implementing algorithms for quasi-automatic optimization of DNN hyper-parameters;
• Developing and implementing algorithms that make DNNs self-adaptive in the presence of design drift.

An excellent opportunity to learn how to apply AI in an industrial environment.

For more information: christine.tremblay@etsmtl.ca
MASTER’S: Performance prediction of optical networks

In collaboration with ciena

Under the supervision of Prof. Christine Tremblay at École de technologie supérieure, the student will

• Work on the design and implementation of a performance prediction web application
• Use tools like Python and JavaScript to implement the application
• Complete a paid 4 to 8 month internship at Ciena

For more information: christine.tremblay@etsmtl.ca
PhD/Master’s students for
COVID-19 detection project

NOVEL OPTICAL DETECTION METHOD FOR COVID-19 IN BIOFLUIDS

• Using Raman spectroscopy to sense changes in saliva and blood samples
• Help develop a Raman platform for investigating the biochemical differences between COVID-19 and healthy biofluids
• Highly interdisciplinary project
• Students will be exposed to a wide variety of medical, biochemical, analytical and data science techniques
• They will be trained by experts in biomedicine, optics, spectroscopy, nanoparticle synthesis and computer science.

Join our team at the Laboratory of Radiological Optics! FINANCIAL SUPPORT/FLEXIBLE START DATE

Send a CV and cover letter to: Prof. Frederic Leblond, Ph.D.
Email: frederic.leblond@polymtl.ca
Positions in terahertz photonics available at INRS-EMT

OPEN POSITIONS
Positions with financial support are currently available at all levels (internship/MSc/PhD/Postdoctoral). We are looking for highly motivated, creative individuals with the appropriate background in a relevant discipline (physics, physical/electrical engineering, or equivalent). Experience in ultrafast laser systems, optical setup development and/or numerical modelling of electromagnetic processes will be an asset.

If interested, please send a complete CV to razzari@emt.inrs.ca.

PROJECT SUPERVISOR
Prof. Luca Razzari (www.razzarilab.org) has established a vigorous research program in nanophotonics and is particularly interested in investigating its ultrafast (down to few femtoseconds) and ultra-broadband (from UV to THz) features.

OUR UNIVERSITY
Institut national de la recherche scientifique (INRS) 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 700 students and post-doctoral fellows. INRS-EMT (the INRS Center for Energy, Materials, and Telecommunications, with a well-established program in ultrafast physics and photonics) is located in Varennes (Quebec), close to the city of Montreal.