



UNIVERSITY OF  
**TORONTO**

CRANIA NeuroModulation Institute



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UofT graduate students at a relatively early stage of their degree program can apply for the Collaborative Specialization (CS) in Neuromodulation.

All students who successfully fulfill the requirements of the CS in Neuromodulation will receive a Certificate of Completion from the School of Graduate Studies as well as a notation on their transcripts.

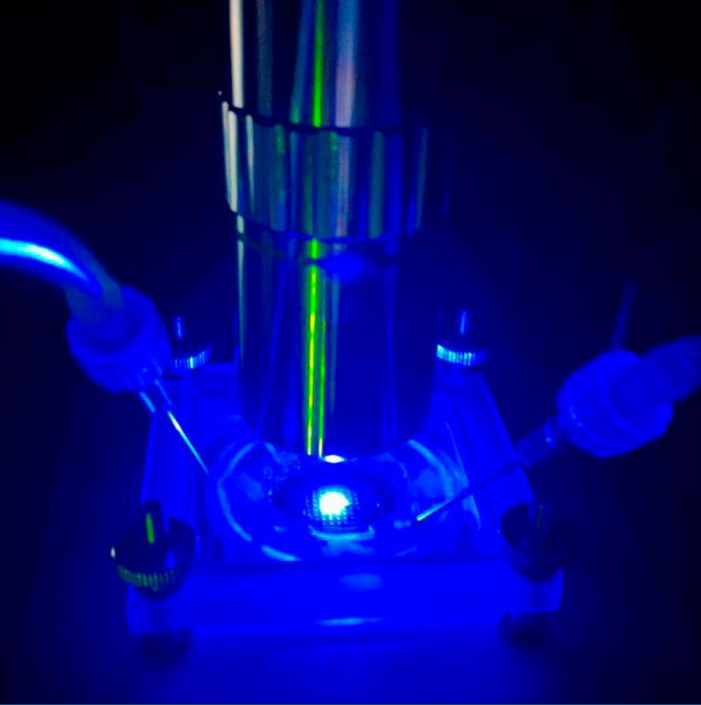
This specialization is open to both Master's and Doctoral students from participating UofT graduate units:

- Biomedical Engineering — MSc, PhD
- Chemical Engineering & Applied Chemistry — MSc, PhD
- Electrical & Computer Engineering — MSc, PhD
- Materials Science & Engineering — MSc, PhD
- Mechanical & Industrial Engineering — MSc, PhD
- Medical Science — MSc, PhD

## Contact us

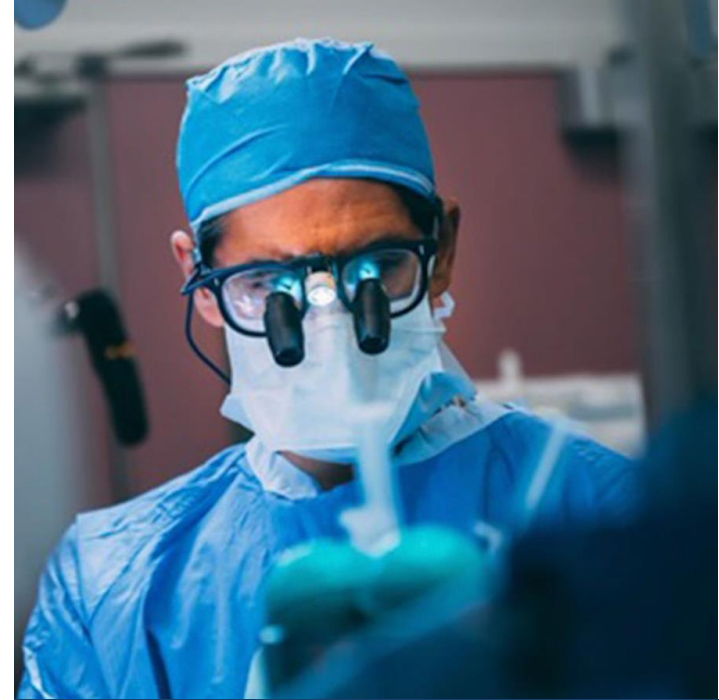
If you have any questions or need further information about the Collaborative Specialization (CS) in Neuromodulation, please do not hesitate to reach out to us at [info.cnmi@utoronto.ca](mailto:info.cnmi@utoronto.ca)

UNIVERSITY OF  
TORONTO  
COLLABORATIVE  
SPECIALIZATION  
IN  
NEUROMODULATION



# Neuromodulation

Neuromodulation is the process of altering or modifying the brain, spinal cord or nerve function using advanced devices that interface with specific areas of the central or peripheral nervous system. Neuromodulation-based therapeutics hold great promise in transforming the prognosis of several disorders including Parkinson's disease, epilepsy, stroke, depression, chronic pain, spinal cord injury, bladder dysfunction, anorexia, and Alzheimer's disease – conditions that affect millions of Canadians. The field is experiencing unprecedented growth as technologically advanced therapies resulting from the convergence of machine learning, optical interfaces, and brain-computer interfaces are being rapidly developed and deployed.



## About

The Collaborative Specialization in Neuromodulation is open to Master's and Doctoral students from participating UofT graduate units whose thesis work is in the neurotechnology/neuromodulation area. The specialization consists of undertaking neuromodulation-related graduate courses within participating departments and attending workshops organized by the CRANIA Neuromodulation Institute (CNMI).

**[The detailed CS Requirements for Master's and Doctoral students can be found by clicking here](#)**

**[Click here for the Application Form](#)**



## Learning Objectives

The field of neuromodulation is experiencing unprecedented growth with novel therapies driven by machine learning, optical interfaces, electronics, neuroscience and big data analyses being rapidly developed. The coursework and workshops in the Collaborative Specialization in Neuromodulation have been specifically designed to provide students with the skills and practical knowledge essential to advance the field of neuromodulation. Participating students will be able to:

- Explore bioengineering challenges and solutions at the neural interface.
- Obtain hands-on experience in various neuromodulation modalities.
- Apply their knowledge to solve critical problems in neuromodulation within an interdisciplinary environment.