

# NEUROSCIENCE

The Neuroscience Collaborative Specialization offers an opportunity for graduate students engaged neuroscience research to enhance their departmental degree program with additional multidisciplinary experience. This unique study combination provides students with the best possible foundation for academic careers in neuroscience and related areas. The Collaborative Specialization in Neuroscience includes participation from core faculty members in the following departments: Animal Biosciences, Biomedical Sciences, Clinical Studies, Human Health Sciences, Integrative Biology, Molecular and Cellular Biology, Pathobiology, Philosophy, Population Medicine and Psychology. Students wishing to pursue a Master's or PhD degree with the designation Neuroscience must enter the Collaborative Specialization in Neuroscience through a participating department.

## Administrative Staff

### Director and Graduate Program Coordinator

Jasmin Lalonde (3460 Science Complex, Ext. 54706)  
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### Graduate Program Assistant

Jillian Cockwell (4480 Science Complex, Ext. 56246)  
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### College Representatives

Craig Bailey (OVC)  
Jasmin Lalonde (CBS)  
Boyer Winters (CSAHS)

## Graduate Faculty

*This list may include Regular Graduate Faculty, Associated Graduate Faculty and/or Graduate Faculty from other universities.*

### Naseem Al-Aidroos

B.Sc. Waterloo, MA, PhD Toronto - Professor  
Graduate Faculty

### Sarah Alderman

BA, PhD Guelph - Assistant Professor  
Graduate Faculty

### Melanie Alpaugh

B.Sc., PhD Alberta - Assistant Professor  
Graduate Faculty

### Craig D. C. Bailey

B.Sc., PhD Queen's - Associate Professor  
Graduate Faculty

### Andrew J. Bendall

B.Sc. Australian National, PhD Macquarie - Associate Professor  
Graduate Faculty

### Leah Bent

B.Sc., M.Sc. Guelph, PhD British Columbia - Professor  
Graduate Faculty

### Nicholas J. Bernier

B.Sc. McGill, Diploma Aquaculture Malaspina College, M.Sc. British Columbia, PhD Ottawa - Professor  
Graduate Faculty

### Elena Choleris

B.Sc., PhD Parma - Professor  
Graduate Faculty

### Nuria Daviu

BA, M.Sc., PhD Autonomous University Barcelona - Assistant Professor  
Graduate Faculty

### Donald Dedrick

BA, MA Carleton, PhD Toronto - Associate Professor and Chair  
Graduate Faculty

### Giannina Descalzi

BA Guelph, M.Sc., PhD Toronto - Associate Professor  
Graduate Faculty

### Mark J. Fenske

B.Sc. Lethbridge, MA, PhD Waterloo - Professor  
Graduate Faculty

### Christopher Fiacconi

B.Sc. Western, PhD McMaster - Associate Professor  
Graduate Faculty

### Andreas Heyland

B.Sc., M.Sc. Zurich, PhD Florida - Professor  
Graduate Faculty

### Fiona James

B.Sc. Toronto, M.Sc. Western, DVM, D.V.Sc. Guelph, Dipl. ACVIM - Professor  
Graduate Faculty

### Nina Jones

B.Sc. Guelph, PhD Toronto - Professor  
Graduate Faculty

### Bettina E. Kalisch

B.Sc., M.Sc., PhD Queen's - Associate Professor  
Graduate Faculty

### Frederic Laberge

B.Sc., M.Sc. Laval, PhD Manitoba - Associate Professor  
Graduate Faculty

### Jasmin Lalonde

BA Ottawa, MA, PhD McGill - Associate Professor  
Graduate Faculty

### Francesco Leri

BA, MA, PhD McGill - Professor  
Associated Graduate Faculty

### Ray Lu

B.Sc. Wuhan (China), M.Sc. Beijing Medical, PhD Saskatchewan - Associate Professor  
Graduate Faculty

### David W. L. Ma

B.Sc., PhD Alberta - Professor  
Graduate Faculty

### Georgia Mason

BA, PhD Cambridge - Professor  
Graduate Faculty

### Daniel V. Meegan

BA SUNY Albany, PhD McMaster - Associate Professor  
Graduate Faculty

**Robert T. Mullen**  
B.Sc., PhD Alberta - Professor  
Graduate Faculty

**Jennifer Murray**  
B.Sc. Nebraska-Kearney, MA, PhD Nebraska-Lincoln - Associate Professor  
Graduate Faculty

**Lee E. Niel**  
B.Sc. Simon Fraser, PhD British Columbia - Associate Professor  
Graduate Faculty

**Samantha Payne**  
B.Sc., M.Sc. Guelph, PhD Toronto - Assistant Professor  
Graduate Faculty

**Melissa Perreault**  
B.Sc., M.Sc., PhD McMaster - Professor  
Graduate Faculty

**Geoffrey A. Power**  
BKin, M.Sc. Memorial, PhD Western - Associate Professor  
Graduate Faculty

**Scott Ryan**  
B.Sc. Memorial, PhD Ottawa - Associate Professor, University of Calgary

**Tarek M. Saleh**  
B.Sc., PhD Western - Professor and Chair  
Graduate Faculty

**Shaun Sanders**  
B.Sc., PhD British Columbia - Assistant Professor  
Graduate Faculty

**Angela Scott**  
B.Sc. Saskatchewan, PhD British Columbia - Assistant Professor  
Graduate Faculty

**Rebecca Shapiro**  
B.Sc. McGill, PhD Toronto - Associate Professor  
Graduate Faculty

**John Z. Srbely**  
B.Sc. Laurentian, DC Canadian Memorial Chiropractic College, PhD Guelph - Associate Professor  
Graduate Faculty

**Ian Tobias**  
B.Sc., PhD Western Ontario - Assistant Professor  
Graduate Faculty

**Lori A. Vallis**  
B.Sc., MA Ottawa, PhD Waterloo - Professor  
Graduate Faculty

**Terry Van Raay**  
B.Sc. Windsor, M.Sc. Guelph, PhD Utah - Associate Professor  
Graduate Faculty

**Boyer D. Winters**  
BA Dalhousie, PhD Cambridge - Professor

Graduate Faculty

**John L. Zettel**  
BS Waterloo, M.Sc., PhD Toronto - Associate Professor  
Graduate Faculty

## Admission Requirements

Students in the Neuroscience Collaborative Specialization must meet the admission requirements of the participating department in which they are enrolled. The application process has two stages: first, application to the primary program of interest, and second, identifying interest in the Collaborative Specialization as a secondary focus. If the student is admitted to the primary program, the second stage is consequently admission to the Collaborative Specialization.

## Program Requirements

### MA/MSc/MBS Requirements

The Collaborative Specialization in Neuroscience enables students engaged in neuroscience research to combine their departmental degree program with a multidisciplinary specialization in the field of neuroscience.

Students in the MA/MSc/MBS Collaborative Specialization must complete NEUR\*6000 Principles of Neuroscience and a major project/paper or thesis in the field of Neuroscience. Students who have completed an undergraduate degree with a major in Neuroscience may be exempt from NEUR\*6000 upon consultation with their faculty advisor and the Neuroscience Graduate Program Coordinator. Further, all students must register for NEUR\*6100 Seminar in Neuroscience each term that they are in the Collaborative Specialization. In NEUR\*6100 Seminar in Neuroscience, students and faculty will meet monthly to discuss issues/hear talks/present research in neuroscience.

Requirements of this Collaborative Specialization may also serve as elective requirements in the student's home program.

### Doctoral Requirements

If a student enters the PhD Collaborative Specialization in Neuroscience at the doctoral level, students must complete NEUR\*6000 Principles of Neuroscience, or show evidence of course equivalence in prior training. Students must be engaged in neuroscience dissertation research. During each term of their program of studies, doctoral students must enroll in NEUR\*6100 Seminar in Neuroscience. The seminar will be held monthly. As required by University graduate policies, students must take their qualifying exams within five semesters of entering the program. One member on the qualifying exam committee must be a core member of the Collaborative Specialization in Neuroscience outside the student's home department or a faculty member from another university approved by graduate studies. Also, one member of the student's advisory committee must be a core member of the Neuroscience Collaborative Specialization outside the student's home department or a faculty member from another university approved by graduate studies.

Requirements of this Collaborative Specialization may also serve as elective requirements in the student's home program.

## Courses

### **NEUR\*6000 Principles of Neuroscience Unspecified [0.50]**

This course is designed to ensure that graduate students with diverse neuroscience backgrounds registered in the collaborative specialization in Neuroscience are exposed to the fundamentals in all areas of neuroscience.

**Department(s):** Department of Biomedical Sciences

**Location(s):** Guelph

### **NEUR\*6100 Seminar in Neuroscience Unspecified [0.00]**

This course will expose graduate students to some of the major theories, issues and methodologies driving research in neuroscience. Students will learn to critically evaluate presentations by researchers in this field as well as to communicate the results of their own research.

**Department(s):** Department of Psychology

**Location(s):** Guelph