

Canadian Symposium on the Neural Control of Breathing

Date: May 17, 2026, Time: 9am to 5pm.

Venue: Hotel Bonaventure

Brief description:

This satellite symposium will bring together researchers and trainees who are investigating the neural circuits and physiological mechanisms underlying breathing. This symposium brings together teams from institutions across Canada covering a **wide-range of topics and diseases related to autonomic nervous functions**, such as sleep-disordered breathing, opioid-induced respiratory depression, cardiovascular and metabolic dysfunctions leading to abnormal breathing. Importantly, this symposium will also look at the **role of biological sex and reproductive hormones in modulating the neural circuits controlling autonomic nervous functions**. This satellite symposium is geared toward trainees and providing them with presentation opportunities and networking. Speakers include graduate students, postdoctoral fellows, and principal investigators from a diverse community of scientists in Canada.

This satellite symposium aims to continue the Annual Symposium for the Legallois Society for the study of the Neural Control of Breathing, an annual research event that was held in Quebec for the last 20 years. We aim to extend this symposium to Canadian scientists and trainees. Furthermore, in light of the ongoing relationship with the US, many members of our community, including trainees, no longer have the opportunity to present, exchange, network with their colleagues. Our proposed satellite symposium is an excellent opportunity to attract new participants to the 19th Canadian Neuroscience Meeting. We expect undergraduate students, graduate students, postdoctoral fellows, and lab staff to attend the symposium.

Program:

9:00am **Reception and breakfast.**

9:25am **Introduction.** Dr. Gaspard Montandon. University of Toronto.

9:30am **Key-note speaker: Dr. Marc Poulin** (Professor, University of Calgary)
Brenda Strafford Foundation Chair in Alzheimer Research
Departments of Physiology and Pharmacology Clinical Neurosciences |
University of Calgary, Hotchkiss Brain Institute
Title to be confirmed.

10:15am **Session I - Biological sex and the neural control of breathing.**

Dr. Gaspard Montandon (Assistant Professor, University of Toronto).
“Biological sex and opioid-induced respiratory depression and analgesia”

Tommy Pronovost, PhD candidate (Universite Laval).
“Sex steroids and their contribution to the development and function of the CO₂ chemoreflex in male and female rats”

Dr. Vincent Joseph (Associate Professor, Universite Laval).
“Estradiol receptor α determines sex-specific autonomic nervous and cardiorespiratory responses to intermittent hypoxia in mice”

12:00pm **Lunch break and networking.**

1:30pm **Session II - Sleep-disordered breathing.**

Dr. Richard Kinkead (Professor, Université Laval).

“Chronic psychosocial stress: A primary driver of sleep apnea in rats and humans”

Gabriele Matteoli, PhD candidate (University of Alberta).

“Cannabinoids action on sleep and breathing”

Dr. Richard Wilson (Professor, University of Calgary).

“The carotid bodies and sleep apnea”

3:00pm **Break**

3:30pm **Session III - Neural circuits underlying breathing.**

Kayla Baker (PhD candidate), University of Toronto.

“The periaqueductal gray as a hub to synchronize breathing with behaviors”

Dr. Silvia Pagliardini (Associate Professor, University of Alberta).

“Neural control of active expiration in hypoxia”

Mariana Bernardes (PhD candidate), University of São Paulo.

“Role of noradrenergic locus coeruleus neurons in regulating breathing”

5:00pm **Concluding remarks and discussion.**

6:00pm **Dinner.**