



# A multimodal approach to CNS repair

## SEMINAR & VISITING SPEAKER SERIES

**DATE** Wednesday, March 5th, 2025  
**TIME** 10:00 AM to 11:00 PM  
**LOCATION** APOTEX 050

### SPEAKER

**Cindi Morshead, PhD**

Professor, Division of Anatomy, Department of Surgery  
Donnelly Centre for Cellular + Biomolecular Research  
Institute of Biomedical Engineering  
Temerty Faculty of Medicine | University of Toronto  
KITE - Toronto Rehabilitation Institute, University Health  
Network.

### BIO

Dr. Morshead did her PhD at the University of Toronto and joined the faculty in the Department of Surgery in 2003. She is currently a tenured Professor and Chair of the Division of Anatomy, Department of Surgery. She is a faculty member in the Donnelly Centre for Cellular and Biomolecular Research, the Institute of Medical Science, Institute of Biomedical Engineering and the Toronto Rehabilitation Institute. Dr. Morshead's expertise is in stem cell biology and specifically, in the field of adult neural stem cells. Her lab is interested in exploring fundamental questions regarding the behaviour and characterization of neural stem cells and applying this knowledge to novel regenerative medicine strategies, including novel gene therapy approaches to replace lost cells following neurotrauma or neurodegenerative disease.

### ABSTRACT

Stroke is a leading cause of death and disability worldwide. There are no cures, only care, for patients who suffer from stroke. Neural stem cells are a promising candidate for neural repair. I will talk about some of our work aimed at activating resident neural precursor cells using repurposed drugs to promote self-repair following stroke. I will discuss sex and age dependent neural precursor cell activation that correlates with functional recovery and some recent findings from our studies in stroke and spinal cord injury that identify the cellular basis for the improved outcomes. Finally, I will touch on a novel therapeutic to activate endogenous stem cells – the use of applied electric fields - as a potential regenerative strategy.

### OBJECTIVES

- Learn about the neural stem cell lineage through development and into the aging brain.
- Understand the role of neural stem cells in promoting recovery following brain injury.
- Hear about therapeutic strategies being developed to promote neural regeneration.

For more information:

T: 204-235-3939

E: [info@manitobaneuroscience.ca](mailto:info@manitobaneuroscience.ca)