manitoba neuroscience network

Key neural networks for the control of walking

SEMINAR & VISITING SPEAKER SERIES

DATE
Friday, November 27, 2020
9:00AM

ZOOM LINK
https://us02web.zoom.us/j/89846432387?pwd=UXdFaUVGbHRMdVAwV29jZUZna2FnQT09

MEETING ID
898 4643 2387

PASSCODE
409716

SPEAKER
Katinka Stecina, Ph.D.

Assistant Professor, Department of Physiology and Pathophysiology, University of Manitoba

Principal Investigator, Spinal Cord Research Centre

BIO

Dr. Katinka Stecina is an Assistant Professor in the Department of Physiology, a core member of the Spinal Cord Research Centre and an adjunct in the Biomedical Engineering program at the University of Manitoba. After completing a B.Sc. Biology/Chemistry degree at the University of North Carolina at Charlotte. She obtained her Ph.D. at the University of Manitoba in 2006 in Physiology. Then she trained as a postdoctoral fellow at Goteborg University in Sweden, followed by a "Marie Curie Fellowship" at the University of Copenhagen in Denmark. Since her recruitment back to Winnipeg in 2014, she has established a systems physiology research lab for studying the neural control of movement.

RESEARCH

The Stecina lab is interested in 1) to expand knowledge on the organization of spinal cord circuits involved in walking, 2) to identify shared networks used in multi-systems control, such as cardiac, respiratory and motor function, and 3) to explore how spinal neural activation is utilized to augment motor function recovery after spinal cord injury. The lab relies on electrophysiological methods to study neural activity from a basic science perspective using rodent models as well as humans. A better basic research-driven understanding of spinal networks is necessary in order to develop novel strategies for rebuilding functional networks after injury to the central nervous system – that is the long-term goal.

OBJECTIVES

1. Brief review of serotonergic and spinal cholinergic neuro-anatomy.

2. Describe the role of serotonergic neurons in the control of walking.

3. Describe the simultaneous effects of serotonergic neural stimulation on blood pressure and hindlimb nerve activity.

4. Compare documented effects of SSRI's in humans to our results from rodent studies.

5. Explore methods to examine if cholinergic spinal networks are key players in the co-control of blood pressure and motor output.

For more information:

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