



Investigating brainstem and spinal cord movement circuits using mouse ge- netics

SEMINAR & VISITING SPEAKER SERIES

DATE
Friday, November 30, 2018
9:00AM

LOCATION
PX236/238 PsychHealth Building

SPEAKER

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Dr. Jeremy Chopek received his Msc (2009) in Kinesiology and PhD (2014) in the Department of Physiology, University of Manitoba under the supervision of Dr. Phillip Gardiner, in the Spinal Cord Research Centre. His work examined how motor circuits were affected following spinal cord injury and exercise by examining alterations in motoneuron biophysical properties, stretch reflexes, gene expression and sensitivity to pharmacological agents. Afterwards, Jeremy completed a post-doctoral position at Dalhousie University (2014-2017) and University College London (2017-2018) working with both Dr. Zhang and Dr. Brownstone. His work has focused on microcircuit formation in both the medulla reticular formation and lumbar spinal cord, centres that are vital for the initiation and execution of movement. To achieve this, he uses a combination of transgenic mouse lines, optogenetic or photo-manipulation of single cell or whole cell populations, in-vitro electrophysiology, viral tracers and confocal microscopy. To date, he has subdivided the chx10 neuronal population in the brainstem into two distinct cell populations based on their morphology, biophysical properties, connectivity and projection patterns. In addition, he has also found a novel connectivity pattern of the spinal V3 interneuron population, which in addition to forming commissural connections also synapse locally with ipsilateral motoneurons.

For more information:

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