UNIVERSITY of GUELPH

COLLEGE of BIOLOGICAL SCIENCE

DEPARTMENT OF MOLECULAR AND CELLULAR BIOLOGY

Seminar SPEAKER SERIES

2023-2024

NOV **WED** **1** **2:00 PM** | **SSC 2315**

DR. CURTIS BENSON

Associate Research Scientist,

Centre for Neuroscience and Regeneration,
Yale University and VA Connecticut

Topic: Dendritic Spine Dynamics after Injury: A Structural Study of Pain

Dr. Benson received a B.Sc. in Immunology and PhD in Neuroscience from the University of Alberta with the supervision of Dr. Bradley Kerr. His post-doctoral studies with Dr. Andrew Tan at Yale University in the Department of Neurology, consisted of the investigation of molecular regulators underlying dendritic spine dynamics involved in chronic disease after CNS trauma. Dr. Benson has pioneered an innovative two-photon in-vivo imaging approach to visualize the real-time, dynamic changes of dendritic spines in the spinal cord dorsal horn. These studies have yielded novel insights into the time-dependent processes of neuropathic pain development. Through this work, Dr. Benson further highlighted a key role for the Rac1-Pak1 pathway in abnormal dendritic spine plasticity associated with the hyperexcitability disorders, including neuropathic pain and spasticity. His current research studies focus on unraveling the neuron-glial relationship in dendritic spine pathologies, with a recent publication showing that genetic knockout of Rac1 in spinal motor neurons or astrocytes can significantly modify spasticity outcome following spinal cord injury (SCI). Fundamentally, Dr. Benson is committed to translating his preclinical efforts toward therapeutic strategies to restore neurological function.

All welcome to attend
Refreshments will be served

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