



PROGRESS IN NEUROSCIENCE PINS

Seminar Series of the
Brain & Mind Research Institute
Weill Cornell Medical College (WCMC)
&

The Graduate Program in Neuroscience of
WCMC and Sloan Kettering Institute

Thursday, 11/10/16, 4 PM, coffee at 3:45 PM
Weill Auditorium (C-200)



“Molecular Mechanisms of Pain: From Calcium Channels to Optogenetics”

Gerald W Zamponi, PhD, FRSC, FCAHS
Professor and Senior Associate Dean,
Research Canada research Chair in Molecular Neuroscience



Abstract

Dr. Zamponi is an expert on the molecular physiology and pharmacology of voltage-gated calcium channels, and how they can be targeted towards the development of new pain therapeutics. He will describe a new molecular pathway by which calcium channel function is dysregulated during various chronic pain conditions, and how this knowledge can be exploited to develop novel analgesics. He will also talk about the use of optogenetics approaches to decipher how pain signals are processed in higher brain centers.

Recent Relevant Publications:

1. **Zamponi, G.W.** 2016. Targeting voltage-gated calcium channels in neurological and psychiatric diseases *Nature Reviews Drug Discovery*. 15: 19-34.
2. Zhang, Z.Z., Gadotti, V.M., Chen, L., Souza, I.A., Stenkowski, P.L., and **Zamponi, G.W.** 2015. Role of prelimbic GABAergic circuits in sensory and emotional aspects of neuropathic pain *Cell Reports*. 12: 752-759.
3. Garcia-Caballero, A., Gadotti, V.M., Stenkowski, P., Weiss, N., Souza, I.A., Hodgkinson, V., Bladen, C., Chen, L., Hamid, J., Pizzocarro, A., Deage, M., Francois, A., Bourinet, E., and **Zamponi, G.W.** 2014. The deubiquitinating enzyme USP5 modulates neuropathic and inflammatory pain by enhancing Cav3.2 channel activity. *Neuron*. 83: 1144-1158.



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