UNIVERSITY OF SASKATCHEWAN

Neuroscience Research Cluster Symposium presents

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Date: March 12th, 2020
Place: Graduate Student Commons
Time: 11:00 AM

"Understanding the Gut-Brain axis in Multiple Sclerosis"

ABSTRACT:

We have known for a long time that genetics do not fully explain MS risk. Indeed, monozygotic twins discordant for MS have only a 30% chance of developing the disease, supporting the role of non-genetic (environmental) risk factors. The intestinal *microbiota* (the complex community of organisms that co-exist with us in our gut, or *microbiome* when referring to associated genetic information) is highly sensitive to environmental input (diet, pollution, infection, antibiotic use). Mounting evidence suggests that a diverse, balanced gut microbiome supports neuronal health. In this presentation, I will show some published work that demonstrates that B cells within the gut that produce IgA (IgA+ plasma cells) can migrate to the central nervous system (CNS) during neuroinflammation. Within the CNS, IgA+ plasma cells produce the immunomodulatory cytokine IL10 and dampen disease. Next, I will present some unpublished data on how we will further student the role of B cells and the microbiome in MS/EAE using a novel animal model that exhibits some of the pathological hallmarks of progressive MS disease. These studies will help us to better understand the gut-brain axis in MS.

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