BiophysTO Lunchtime Seminar Series

Date

April 8th 2021
12:00 – 1:00 pm

Prof. Jennifer Gommerman

Department of Immunology, University of Toronto

Understanding Multiple Sclerosis Using Translational and Reverse-Translational Approaches

Mounting evidence suggests that a diverse, balanced gut microbiome supports neuronal health. Altered microbial community structures have been reported in Parkinson's, depression, schizophrenia, Autism, Anxiety conditions and Alzheimer's. Moreover, two independent studies have used germ free mice receiving fecal microbiota transplant (FMT) from diseased *vs* non-diseased subjects to demonstrate a causal association of the Multiple Sclerosis microbiome with the incidence and severity of EAE. However, the role of the microbiome in progression of Multiple Sclerosis (MS) is unclear. We have developed a model of EAE that with age, develops a chronic form of disease that exhibits some of the pathological hallmarks of progressive MS. Using this model, we have examined the role of the microbiome on peripheral Th17 cell priming versus the effector (chronic) phase of Experimental Autoimmune Encephalomyelitis (EAE). Moreover, we have used this model to examine potential roles of CD20+ and CD20- B cell subsets in cortical pathology. Lastly, we have used FMT to address the impact of microbiota on disease chronicity. Collectively our work provides insights into the role of the microbiota and peripheral B and T lymphocytes in the severity and chronicity of neuroinflammation.

Host: Anton Zilman

Zoom Link:

https://us02web.zoom.us/j/89407663380?pwd=OFBMczlhWVZKbUswQzk3VXNkLzhGdz09

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