

Wednesday, January 30, 2019

LSC 3 | 12:00 - 1:00PM



Dr. Lisa Osborne

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“Genetic and environmental influences on immunity and inflammation”

Research in the Osborne lab is focused on understanding host-microbiome interactions and their influence on host-protective immunity and pathologic inflammatory conditions. Many factors, both internal and external, can impact microbiota community structure and the ability of the host to tolerate the biodiverse collection of colonizing viruses, bacteria, archaea and fungi. In this seminar, we will discuss two ongoing projects in the lab. In the first, we utilize infection with a strain of murine norovirus (MNV) that establishes persistent but asymptomatic intestinal infection in WT hosts as a model of host-virome interactions and interrogate how STAT1, a central mediator of antiviral immunity, governs this tolerant relationship. In the second, we examine the impact of external sources of microbial diversity on immunity and extra-intestinal inflammation. Bacterial populations are essential for the metabolism of dietary fiber, and their metabolites feed into the function of epithelial and immune cell populations. This fiber-microbiota-immune axis has been proposed as a means of using nutrition to modulate inflammatory disease. Here, we investigate the impact of both absence of dietary fibre and supplementation with various types of dietary fiber on autoimmune neuroinflammation. Collectively, our data expands our understanding of both internal and external regulation of host-microbiome interactions.

Live Online Seminar Viewing:
<https://meet.ubc.ca/hana.kim/YGHMR41Q>