

## Dr. Michael Gold

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### “Regulation of B-cell receptor signaling by the cytoskeleton”

**Wed. Feb. 25, 2015**  
**MACN 113 @ 1pm**

B cells play an essential role in host defense against infection by producing antibodies. The binding of antigens to the B-cell receptor (BCR) initiates intracellular signals that drive the early steps in B cell activation. *In vivo*, B cells are frequently activated by antigen-presenting cells (APCs) such as follicular dendritic cells that capture antigens and display them on their surface in an intact form. When B cells interact with such two-dimensional arrays of antigens that are mobile within a membrane, dramatic spatial reorganization of the BCR results in the formation of an immune synapse. Immune synapse formation optimizes BCR signaling and requires dynamic remodeling of the actin and microtubule networks. I will discuss how the Rap GTPase, an evolutionarily conserved regulator of cytoskeletal organization plays a critical role in immune synapse formation by initiating cytoskeletal remodeling via the actin-severing protein cofilin. I will also discuss how Toll-like receptors (TLRs) modulate the Rap/cofilin pathway in order to enhance the ability of B cells to respond to low densities of APC-bound antigens. Thus, the Rap/cofilin pathway sets the threshold for B cell activation by APC-bound antigens.



**Winter 2015 seminars to be held**  
**on the following Wednesdays in MACN 113, starting promptly at 1:00 pm**

Jan 28	Jan. 28, Dr. Rowan Sage, University of Toronto (Host: J. Colasanti)
Feb. 11	Feb. 11, Dr. Pierre Thibault, Université de Montreal (Host: J. Yankulov)
<b>Feb. 25</b>	<b>Feb 25, Dr. Michael Gold, UBC Life Sciences Centre (Host: C. Whitfield)</b>
Mar. 11	Mar 11, Dr. Michael Ohh, University of Toronto (Host: N. Jones)
Apr. 1	Apr. 1, Dr. Lindsay Eltis, UBC Life Sciences Centre (Host: S. Seah)

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