

Opportunities for graduate students (MSc & PhD) and postdoctoral fellows to study new aspects of immunometabolism in the context of obesity-linked metabolic disease.

Immunometabolism refers to the complex interplay between metabolic and immunological systems. Over recent decades, it has become clear that **obesity-linked diseases** such as diabetes, cardiovascular diseases, liver disease, and certain neurodegenerative conditions **are immunometabolic disorders** that are initially triggered by elevated levels of metabolic stress. If chronic and unresolved, this form of stress causes aberrant immunological responses that are ultimately the key culprit in driving morbidities and mortality associated with these diseases. As the incidence of immunometabolic disorders are rising, currently **accounting for more than 30 % of deaths annually in Canada and around the globe**, there is a great need for preventative and therapeutic strategies that can reverse this devastating trend to improve the health of our society.

The Widenmaier lab studies the molecular interface between nutrient metabolism and cellular stress, and the role of this interface in immunometabolism. One nutrient in which we have a high level of interest is cholesterol. We seek to understand the mechanisms by which cells adapt to the stress that can be caused by abnormal levels of cholesterol, and to test whether we can manipulate these mechanisms to treat immunometabolic disorders. As the physiological roles of cholesterol underlie virtually all biological processes in mammalian cells and aberrant cholesterol metabolism contributes to numerous immunometabolic disorders, it is highly likely that our discoveries will be relevant across a broad range of disciplines in the biological and biomedical sciences. **Students and fellows interested in joining the lab should apply to Dr. Widenmaier at the e-mail address listed below.** When applying, please send a 1-2 sentence 'statement of interest' explaining why you would like to join the lab as well as unofficial transcripts and contact information of at least 2 references.

Contact information:

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