

# **BIOENGINEERING**

## **Spring 2019 Seminar**

**Date:** Thursday, March 7, 2019  
**Time:** 12:00 pm - 1:00pm  
**Location:** Krasnow, Room K229



### **Martin Guimond, Ph.D.**

**Biography:** Dr. Martin Guimond is an assistant professor with the Department of Microbiology, Infectiology and Immunology, Hematology-Oncology section. Maisonneuve-Rosemont Hospital at University of Montreal, Montreal, Quebec, Canada. Dr. Guimond earned a B.Sc. and M.Sc. in Microbiology Immunology at University of Montreal. He went on to pursue his Ph.D. and studies in Biomedical Sciences, Immunology & Oncology Branch while at University of Montreal. He completed two Post-Doctoral Fellowships

with Michael A. Caligiuri at Ohio State University, Columbus, OH (2001 – 2004) and Crystal L. Mackall in Pediatric Hematology & Oncology in Bethesda, MD (2004-2008). He has received numerous teaching awards and distinctions. Dr. Guimond co-authored over 20 publications, book chapters, 3 patents and many conference papers. He was the recipient of “Best of Cytokine Paper Award” from the NIH, National Cancer Institute in Bethesda, MD and Junior Researcher FRSQ, Fond de la Recherche en Santé Québec in 2008.

**Title:** Restoring immunocompetence after allogeneic stem cell transplantation and graft-versus-host disease.

**Abstract:** The goal of our lab is to understand how naïve T-cells are regenerated following T-cell depletion in order to improve their recovery and later increase the efficacy of immunotherapy. Guided by a bedside-to-bench approach to research, we build upon our clinical expertise to develop murine models that recreate human conditions. Based on these models, we hope to improve our basic understanding of fundamental processes that interfere with and regulate naïve CD4+ T-cell regeneration in the setting of human lymphopenia. Studies in the Guimond laboratory focus on two primary projects:

- I. The biology and therapy of T-cell depletion, and
- II. The immunobiology and immunotherapy of acute graft-versus-host disease (aGVHD)

For several leukemia patients, allogeneic stem cell transplantation (allogeneic-SCT) is the unique therapeutic modality that could potentially cure their disease. Despite significant progress made in clinical management of allogeneic-SCT, aGVHD and infectious complications remain the second and third cause of mortality after disease recurrence. Clinical options to restore immunocompetence after allogeneic-SCT are very limited because of the risk to worsen graft-versus-host disease (GVHD). It is well known that the adverse effects of GVHD greatly exaggerates the immunosuppression normally associated with Hematopoietic Stem Cell Transplantation. During this presentation, we will discuss about the adverse effect of GVHD on the CD4 and CD8 peripheral niche with a focus on future therapies to improve immunocompetence in transplanted patients.

<http://guimond-crhm.ca>