

# Douglas

INSTITUT  
UNIVERSITAIRE EN  
SANTÉ MENTALE

MENTAL HEALTH  
UNIVERSITY  
INSTITUTE



## NEUROSCIENCE FOR MENTAL HEALTH SEMINARS

### "Deep learning tools for understanding universal principles of cortical coding"

Brief abstract: Systems neuroscience data is becoming larger and higher dimensional with each new advance, making machine learning tools critical for analyzing data. However, current approaches prevent analyses across subjects, limiting the number of data points available for training, and preventing the detection of inter-subject universal properties of cortical codes. We are developing transfer-learning techniques to permit analyses of calcium imaging data across subjects, with the hopes of identifying latent variables in neocortical activity that are common across individuals and which can then be used for more specific analyses of the relationship between sensation, behaviour and neural activity.



#### **Blake Richards, Ph.D.**

Assistant Professor  
Department of Biological Sciences  
University of Toronto Scarborough  
Fellow, CIFAR  
Learning in machines and Brains

**Lundi le 10 décembre 2018, 11:00**  
**Salle Bowerman (B-1127)**  
**Institut Douglas**

**Monday, December 10 2018, 11:00**  
**Bowerman Room (B-1127)**  
**Douglas Institute**

Un café sera servi avant le séminaire / Coffee will be served prior to the seminar.



RÉSEAU QUÉBÉCOIS SUR LE SUICIDE,  
LES TROUBLES DE L'HUMEUR  
ET LES TROUBLES ASSOCIÉS