Statistical Sciences
UNIVERSITY OF TORONTO

SEMINAR SERIES 2018-2019

When:	**Thursday, November 15, 2018**
Time:	**3:30 – 4:30 pm**
	Refreshments at 3:15 pm
Where:	**Sidney Smith Hall Rm 2105**
Speaker:	**Greg Rice, University of Waterloo**
Host:	**Patrick Brown**

Change point analysis with functional time series

We consider methods for detecting and dating changes in both the level and variability of a time series of curves or functional data objects.

Regarding level shifts, we propose a new detection and dating procedure that is ``fully functional", in the sense that it does not rely on dimension reduction techniques. To test for changes in variability, we consider methods based on measuring the fluctuations of eigenvalues of the empirical covariance operator.

A thorough asymptotic theory is developed for each procedure that highlights their relative strengths and weaknesses when compared to existing methods. An application to annual temperature curves illustrates the practical relevance of the proposed methods.