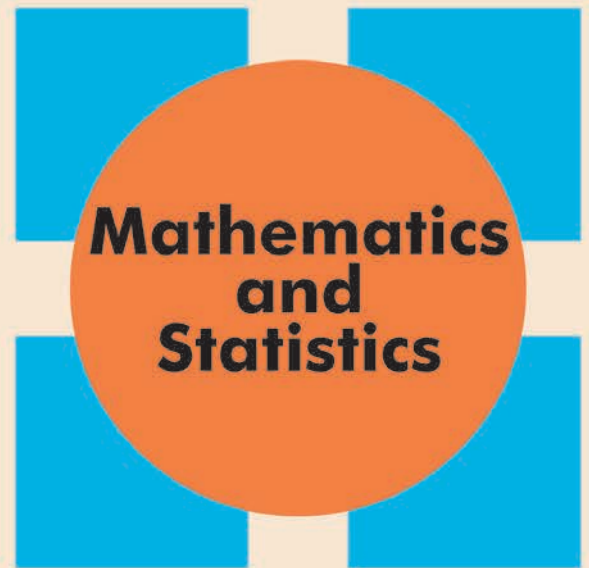


# COLLOQUIUM

Taehan Bae  
University of Regina

## A backward construction and simulation of correlated Poisson processes



Date: Friday, September 23, 2016

Time: 3:30 - 4:30 PM

Room: RIC 208

**Abstract:** In this talk, I will discuss a backward method to build bivariate Poisson processes with flexible time correlation structures, and to simulate the arrival times of the processes. The proposed backward construction uses the Marshall-Olkin bivariate binomial distribution for the conditional law given the terminal values, and some well-known families of bivariate copulas for the joint success probability, in lieu of the typical conditional independence assumption. The resulting Poisson processes not only exhibit various time correlation structures which are commonly observed in real data, but also incorporate extremal correlations, which is an important feature for financial risk management.