Statistical Machine Learning Seminar

Hosted by Department of Mathematical Sciences

- Date: Tuesday, March 22, 2016
- Time: 12:00-1:00
- Room: WH-100E
- Speaker: Grace Wang (Syracuse University)
- Title: ConceFT: Concentration of Frequency and Time via a multitapered synchrosqueezed transform

Abstract

Time-frequency representations provide a powerful tool for the analysis of time series signals. Techniques that decompose the time-dependent signals into multiple oscillatory components, with time-varying amplitudes and instantaneous frequencies are very appealing and have been shown to be useful in a wide range of applications including geophysics, biology, medicine, finance and social dynamics. In this talk, I'll give an introduction to time-frequency representations and review existing methods for the previously described decomposition. Then I'll present a new method that applies the multitapering with synchrosqueezed transform. Numerical experiments as well as a theoretical analysis will be demonstrated to assess its effectiveness.