Statistical Machine Learning Seminar

Hosted by Department of Mathematical Sciences

- Date: Tuesday, November 15, 2016
- Time: 12:00-1:00
- Room: WH-100E
- Speaker: Ziang Zhang (Electrical and Computer Engineering)
- Title: Asymptotical Frequency Synchronization of Kuramoto Oscillators by Topology Evolution

Abstract

From beats generated by cardiac pacemakers to the movement of planetary systems, the idea of synchronization of self-organizing oscillators that are coupled over networks links mathematics with natural phenomenon. Although this general idea was recognized decades ago, whether a particular system can synchronize and how to design controllers to help the synchronization remain unknown in many cases. Since thousands of independent generators across the nation, coupled by transmission lines, oscillate at the same 60Hz frequency, numerous studies suggest that a power system is a perfect example of coupled oscillators. However, several major barriers need to be removed in order to bridge the gap between classical phase coupled oscillators and a realistic power system. This talk will discuss some recent findings from Dr. Zhang's group.