The College of Arts & Sciences
Department of Mathematical Sciences

Candidate Colloquium

Wenpin Tang

University of California Berkeley

Thursday, December 5th 2019
Room 608, 2925 Campus Green Drive
4:00-5:00pm

Discrete and continuous ranking models

In this talk, I will discuss two different 'ranking' models: Mallows' ranking model and rank-dependent diffusions. In the first part, I will discuss the rank-dependent diffusions. I will focus on two models: Up the River model, and N-player games with fuel constraints. These problems require treating carefully the corresponding PDEs. The former is joint with Li-Cheng Tsai, and the latter joint with Xin Guo and Renyuan Xu. In the second part, I will focus on the Mallows' permutation, and various generalizations. In particular, I will talk about a general model, called regenerative permutations. I will also discuss the statistical properties and algorithms of these Mallows' type ranking models. This is partly joint with Jim Pitman. If time permits, I will discuss recent progress on the random walk derived from random permutations, which is motivated by applications in systems biology.

Refreshments will be served 3:30-4pm in Room 608, 2925 Campus Green Drive

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