

Stanford University
Departments of Mathematics and Statistics

PROBABILITY SEMINAR

4pm, Monday, February 4, 2019
Sequoia Hall Room 200

Refreshments served at 3:30pm in the Lounge.

Speaker: Lexing Ying, *Stanford Mathematics*

Title: **Convex Relaxation Approaches for Strictly Correlated
Density Functional Theory**

Abstract:

In this talk, we introduce methods from convex optimization to solve the multi-marginal transport-type problems that arise in the context of density functional theory. Convex relaxations are used to provide outer approximation to the set of N -representable 2-marginals and 3-marginals, which in turn provide lower bounds to the energy. We further propose rounding schemes to obtain upper bounds to the energy.