

The **Department of Mathematical Sciences** presents a colloquium with

# Professor Renming Song

University of Illinois at Urbana - Champaign

Thursday, April 14, 2016

4 – 5 pm

Room 140 WCharlton Hall

## *Potential Theory of Subordinate Brownian Motions*

A subordinate Brownian motion can be obtained by replacing the time parameter of a Brownian motion by an independent increasing Lévy process (i.e., a subordinator). Subordinate Brownian motions form a large subclass of Lévy processes and they are very important in various applications. In this talk, I will give a survey of some of the recent results in the study of the potential theory of subordinate Brownian motions. In particular, I will present recent results on sharp two-sided estimates on the transition densities of killed subordinate Brownian motions in smooth open sets, or equivalently, sharp two-sided estimates on the Dirichlet heat kernels of the generators of subordinate Brownian motions.

Refreshments will be served 3:15 – 3:45 pm  
in the Faculty & Graduate Student Lounge  
Room 4118 French Hall West