All talks will be held in the Business Administration Building (BA), room 119.

Thursday, March 11, 2010
8:15 – 9:00   Registration and light breakfast
9:00 – 9:15   Welcome
9:15 – 10:15   *Invited lecture:* Terry Lyons (University of Oxford)
        Title: The signature of a path
10:15 – 10:45   Coffee break
10:45 – 11:45   *Invited lecture:* Steve Lalley (University of Chicago)
        Title: Spatial Epidemics: Critical Behavior in Dimensions 1, 2, and 3
LUNCH BREAK
1:30 – 3:30   Short presentations/open problems
3:30 – 4:00   Coffee break
4:00 – 5:30   Kai Lai Chung commemoration
6:00   Reception, followed by banquet (both events take place in the Live Oak Room)

Friday, March 12, 2010
8:30 – 9:15   Light breakfast
9:15 – 10:15   *Invited lecture:* Nathalie Eisenbaum (Université Paris VI)
        Title: Stochastic order for alpha-permanental processes
10:15 – 10:45   Coffee break
10:45 – 11:45   Short presentations/open problems
LUNCH BREAK
1:30 – 3:30   Short presentations/open problems
3:30 – 4:00   Coffee break
4:00 – 5:15   Short presentations/open problems

Saturday, March 13, 2010
8:30 – 9:15   Light breakfast
9:15 – 10:15   *Invited lecture:* Benedek Valkó (University of Wisconsin-Madison)
        Title: Random tridiagonal matrices, beta ensembles and random Schrödinger operators
10:15 – 10:45   Coffee break
10:45 – 11:45   *Invited lecture:* Jonathan Mattingly (Duke University)
        Title: Coupling at infinity

(Abstracts of invited lectures are listed on the next page.)

Titles and abstracts of invited lectures

Nathalie Eisenbaum (Université Paris VI)
Title: Stochastic order for alpha-permanental processes

Abstract: The main subject of the talk is the stochastic comparison of point processes elements of the set of alpha-permanental point processes. This set contains the determinantal point processes, the permanental point processes, the Poisson point processes. Elementary particles will provide some illustrations.

Steve Lalley (University of Chicago)
Title: Spatial Epidemics: Critical Behavior in Dimensions 1, 2, and 3

Abstract: Some simple models of epidemics with interactions limited by geography will be considered. The primary focus will be on large-population scaling limits for critical and near-critical epidemics in dimensions 1,2, and 3. Explicit connections with critical behavior for branching random walks and their super-process limits will be made.

Terry Lyons (University of Oxford)
Title: The signature of a path

Abstract: Time evolving systems can be of interest from many perspectives; but often it is because of their effect on other systems. It becomes of great interest to know how to summarize the data flow describing this first system economically without losing the crucial information that determines its effect on other systems. The signature, its truncations and logarithm is just such a description.

Jonathan Mattingly (Duke University)
Title: Coupling at infinity

Abstract: I will describe the idea of coupling at infinity and show how it can be used to prove ergodic theorems for SPDEs and SDEs with memory, both of which generate Markov processes on infinite dimensional spaces.

Benedek Valkó (University of Wisconsin-Madison)
Title: Random tridiagonal matrices, beta ensembles and random Schrödinger operators

Abstract: For a certain class of random tridiagonal matrices the scaling limit of the eigenvalue equations lead to a system of stochastic differential equations. This can be used to show the existence of the bulk scaling limit of the spectrum and to describe and analyze the limiting point process.

I will discuss some of the applications of this method: the scaling limits of beta generalizations of classical random matrix ensembles and also the bulk limit of the spectrum of certain random Schrödinger operators.

(Parts of this work are joint with B. Virág, E. Kritchevski and S. Jacquot)