SCHEDULE OF POSTERS AND SHORT PRESENTATIONS

POSTERS

Poster presenters will be present to explain their posters from 12:45-13:30.

6/12/2013	–	Kaushal Kr Singh Gautam	Ayan Bhattacharya
7/12/2013	Kumarjit Saha	Vasantha Kumari	–
9/12/2013	Suprio Bhar	Monika Bhattacharjee	Tulasi/Nanda/Kartick

Kaushal Kr Singh Gautam [IIT Bombay, Mumbai]

Title : *Expected time spent in a Poisson Voronoi cell by a Random Walker*
Abstract : Consider a mobile user moving randomly, in a random environment that contains randomly placed base stations. The movement of the user is modeled by a random walk or Brownian motion and the base stations are dispersed according to a spatial Poisson process. There is partition of entire space into disjoint regions, called Voronoi cells. Each cell contains only one base station. Here we obtain a closed form expression for expected time an user spends in a typical one dimensional Voronoi cell. Further we verify the theoretical results of expected time spent in a cell using Monte-Carlo simulations.

Ayan Bhattacharya [ISI, Kolkata]

Title : A large sample test for the length of memory of stable random fields.
Abstract : Based on the ratio of two block maxima, we propose a large sample test for the length of memory of a stationary symmetric stable discrete parameter random field. We show that the power function converges to one (as the sample-size increases to infinity) under various classes of alternatives having longer memory in the sense of Samorodnitsky (2004). (Based on an ongoing joint work with Parthanil Roy.)

Kumarjit Saha [ISI, Delhi]

Title : *Some quantitative estimates in a drainage network model*
Abstract : Some quantitative estimates in a drainage network model and Hack, [1957] while studying the drainage system in the Shenandoah valley and the adjacent mountains of Virginia observed a power law relation $L = 1.4A^{0.6}$ between the length L of a stream from its source to a divide and the watershed area A formed by its tributaries upstream from the divide. In this work we probabilisticaly explain this power law behaviour for a particular model of drainage network, known as the Howard's model for Alpine drainage. Gangopadhyay, Roy and Sarkar [2004] also studied this model and showed that for integer lattice $\mathbb{Z}^2$ this model gives directed random tree on $\mathbb{Z}^2$. The proof uses the convergence of drainage network to the Brownian web under suitable scaling

(Coletti, Fontes, Dias [2009]). The method of the proof is quite general and can be used for other drainage network models also which under suitable scaling converges to the Brownian web.

Vasantha Kumari [Mysore university]

Title : *On the asymptotic behaviour of maxima and near maxima of random observations from an asymmetric general error distribution*
Abstract : In this paper, we show that the partial maxima of random observations from an asymmetric general error distribution converges weakly to a Gumbel distribution and establish a strong convergence theorem. We also discuss the asymptotic behaviour of the number of near maxima and sum of near maxima random variables. This is joint with R. Vasudeva and S. Ravi.

Suprio Bhar [ISI, Bangalore]

Title : *Stochastic Integrals in the Hermite-Sobolev spaces via Ito's Regularization*
Abstract : Ito's regularization theorem relates random linear functionals on the space of real valued rapidly decreasing smooth functions [i.e. Schwartz space $\mathcal{S}$] to processes taking values in the Hermite-Sobolev spaces $\mathcal{S}_p$ that define the countable Hilbertian topology of $\mathcal{S}$. For a $\phi \in \mathcal{S}$ and a real semimartingale X $I_t(\phi) = \int_0^t \phi(X_s)dX_s$ defines a random linear functional from which we can obtain a regularized version of the 'Stochastic Integral'. As an application we also derive the Ito formula.

Monika Bhattacharjee [ISI, Kolkata]

Title : *Estimation of Autocovariance matrices for Infinite Dimensional Vector Linear Process*
Abstract : Consider an Infinite Dimensional Vector Linear Process. Under suitable assumptions on the parameter space, we provide consistent estimators of the autocovariance matrices. In particular, under causality, this includes the IVAR process. In that case, we obtain consistent estimators for the parameter matrices. Explicit expression for the estimators are obtained for IVAR(1), under a fairly realistic parameter space. We also show that under some mild restrictions, the consistent estimator of the marginal large dimensional variance-covariance matrix has the same convergence rate as that in case of i.i.d. samples.

Tulasi/Nanda/Kartick [Indian Institute of Science, Bangalore]

Title : *Determinantal point processes in the plane from products of random matrices*
Abstract : We show the density of eigenvalues for three classes of random matrix ensembles is determinantal(i.e eigenvalues come from a detreminantal point process). First we derive the density of eigenvalues of product of k independent $n \times n$ matrices with i.i.d. complex Gaussian entries with a few of matrices being inverted. In second example we calculate the same for (compatible) product of rectangular matrices with i.i.d. complex Gaussian entries and in last example we calculate for product of independent truncated Haar distributed unitary random matrices.