

Schedule for the 4th Annual Graduate Student Probability Conference

hosted by
The Department of Mathematics at Duke University and
The Department of Statistics and Operations Research at UNC- Chapel Hill

Friday, April 30, 2010

Due to the large number of speakers, we will have talks run in parallel.

The speaker listed first will be in Physics Room 128 and the speaker listed second will be in Physics Room 130.

9:00-10:00 am	Registration (Physics Room 119) and Breakfast (Physics Room 101)	
10:00-10:20 am	Welcome Session (Physics Room 128)	
10:25-10:45 am	<i>Speeding up the product estimator using random temperatures</i> Sarah Schott, Duke University	<i>Excursion reflected Brownian motion</i> Shawn Drenning, University of Chicago
10:50-11:10 am	<i>Efficient importance sampling schemes for a feedforward network</i> Leila Setayeshgar, Brown University	<i>Fluctuations for the Ginzburg-Landau interface model and universality for SLE(4)</i> Jason Miller, Stanford University
11:10-11:20 am	Coffee Break (Physics Room 101)	
11:20-11:40 am	<i>Local statistics of realizable vertex models</i> Zhongyang Li, Brown University	<i>Boundary asymptotics for the shape of the disordered corner growth model</i> Hao Lin, University of Wisconsin
11:45-12:05 pm	<i>Conditional sampling for max-stable random fields</i> Yizao Wang, University of Michigan	<i>Sharp lower bound for mixing time of Kac random walk in Wasserstein distance</i> Yunjiang Jiang, Stanford University
12:10-12:30 pm	<i>Concentration of measures via size biased couplings</i> Subhankar Ghosh, U. of Southern California	<i>A functional central limit theorem for empirical processes</i> Cristina Tone, Indiana University
12:30-2:00 pm	Lunch (Physics Room 101)	
2:00-2:20 pm	<i>Intrinsic dimensionality estimation for data sets</i> Anna Little, Duke University	<i>Large deviations for discontinuous dynamics</i> Yufei Liu, Brown University
2:25-2:45 pm	<i>Random covering in \mathbb{R}^d by a union of scaled convex sets</i> Tuan Nguyen, Rutgers University	<i>Asymptotic expansions in limit theorems for stochastic processes and large deviations</i> Xiangfeng Yang, Tulane University
2:50-3:10 pm	<i>Evolution of a random linear space process</i> Omar Abuzzahab, U. of Pennsylvania	<i>The forgetfulness of balls and bins</i> William Perkins, New York University
3:10-3:20 pm	Coffee Break (Physics Room 101)	
3:20-3:40 pm	<i>The optimal stopping of "loop" Markov chains</i> Perry Gillespie Jr., UNC- Charlotte	<i>Multiscale diffusion approximations for stochastic networks in heavy traffic</i> Xin Liu, UNC- Chapel Hill
3:45-4:05 pm	<i>Stochastic games (part I): Discounted noncompetitive Markov decision processes</i> Paul Varkey, U. of Illinois- Chicago	<i>Cooperative dynamics of kinesin and dynein type molecular motors (part I)</i> Scott McKinley, Duke University
4:10-4:30 pm	<i>Stochastic games (part II): Discounted competitive Markov decision processes</i> Matthew Bourque, U. of Illinois- Chicago	<i>Cooperative dynamics of kinesin and dynein type molecular motors (part II)</i> Avanti Athreya, Duke University
4:30-4:45 pm	Coffee Break (Physics Room 101)	
4:45-5:45 pm	Robin Pemantle: Keynote Address (Physics Room 128) <i>Probability and the analysis of algorithms: examples and open problems</i>	
5:45 pm	Opening Reception (Physics Room 101)	

Saturday, May 1, 2010

Due to the large number of speakers, we will have talks run in parallel.

The speaker listed first will be in Physics Room 128 and the speaker listed second will be in Physics Room 130.

9:00-10:00 am	Breakfast (Physics Room 101)	
10:00-10:20 am	<i>Calculating the emergence times of new antigenic variants of Influenza A</i> Shishi Luo, Duke University	<i>A class of anticipating linear stochastic differential equations</i> Julius Esunge, U. of Mary Washington
10:25-10:45 am	<i>Closure approximations for epidemics on networks</i> John McSweeney, Concordia University	<i>Introduction to bifractional Brownian motion</i> Pedro Lei, University of Kansas
10:50-11:10 am	<i>Multiple scaling methods in chemical reaction networks</i> Hye-Won Kang, University of Minnesota	<i>Feynman-Kac formula for the heat equation driven by fractional noise with $H < 1/2$</i> Fei Lu, University of Kansas
11:10-11:20 am	Coffee Break (Physics Room 101)	
11:20-11:40 am	<i>Some asymptotic results for near critical branching processes</i> Dominik Reinhold, UNC- Chapel Hill	<i>SDEs driven by time-changed Brownian motion and associated time-fractional differential eqs.</i> Kei Kobayashi, Tufts University
11:45-12:05 pm	<i>Limit theorems for reaction-diffusion equations with ecological applications</i> Yaqin Feng, UNC- Charlotte	<i>Estimates for the heat kernel on a uniform domain</i> Janna Lierl, Cornell University
12:10-12:30 pm	<i>Consistent minimal displacement of branching random walks</i> Ming Fang, University of Minnesota	<i>Hypoelliptic diffusions and heat kernels</i> Nathaniel Eldredge, Cornell University
12:30-2:00 pm	Lunch (Physics Room 101)	
2:00-2:20 pm	<i>Scattering of the internal tide by random topography</i> Miranda Holmes-Cerfon, New York University	<i>General upper and lower tail estimates using Malliavin calculus and Stein's equations</i> Richard Eden, Purdue University
2:25-2:45 pm	<i>Convergence of particle filtering method for non-linear estimation of vortex dynamics</i> Meng Xu, University of Wyoming	<i>Stein's method for proving Ramsey theory CLTs</i> Dmytro Karabash, New York University
2:50-3:10 pm	<i>Glauber dynamics for the hardcore model on planar trees</i> Ricardo Restrepo, Georgia Tech	<i>Invariance principle for random walks in balanced random environment</i> Xiaoqin Guo, University of Minnesota
3:10-3:20 pm	Coffee Break (Physics Room 101)	
3:20-3:40 pm	<i>Direct polymers in a heavy tailed environment</i> Antonio Auffinger, New York University	<i>Hierarchical renormalization</i> Ajay Chandra, University of Virginia
3:45-4:05 pm	<i>Free energy of the continuum directed random polymer via the weak exclusion process</i> Ivan Corwin, New York University	<i>Spectral bounds on empirical operators</i> Miles Crosskey, Duke University
4:10-4:30 pm	<i>Borcea-Brändén stability and the symmetric exclusion process</i> Alexander Vandenberg-Rodes, UCLA	<i>Self-similarity in the Kac random walk</i> Ravi Srinivasan, University of Texas
4:30-4:45 pm	Coffee Break (Physics Room 101)	
4:45-5:45 pm	S.R.S. Varadhan: Keynote Address (Physics Room 128) <i>Central limit theorems, revisited</i>	
5:45 pm	Dinner (Physics Room 101)	

Sunday, May 2, 2010

Due to the large number of speakers, we will have talks run in parallel.

The speaker listed first will be in Physics Room 128 and the speaker listed second will be in Physics Room 130.

9:00-10:00 am **Breakfast (Physics Room 101)**

10:00-10:20 am *A model for the federal funds market*
Cristina Canepa, Carnegie Mellon U.

Geometric fitting of ellipse, hyperbola, and parabola
Hui Ma, U. of Alabama- Birmingham

10:25-10:45 am *Pricing of debt and loan guarantees using stochastic differential equations*
Elisabeth Kemajou, Southern Illinois U.

Novel ellipse fitting algorithms based on generalized eigenvalue problem
Ali Al-sharadqah, U. of Alabama- Birmingham

10:50-11:10 am *Approximations of short term options pricing under stochastic volatility models with jumps*
Allen Hoffmeyer, Georgia Tech

Consistency and asymptotic normality of independent component analysis
Seonjoo Lee, UNC- Chapel Hill

11:10-11:20 am **Coffee Break (Physics Room 101)**

11:20-11:40 am *Invariance of fluid limits for shortest remaining processing time policies*
Martin Keutel, University of Virginia

Random shifts of finite type
Kevin McGoff, University of Maryland

11:45-12:05 pm *Branching Brownian martingales*
Tomoyuki Ichiba, UC- Santa Barbara

Signaling game: a reinforcement learning model
Yilei Hu, University of Paris VI & X

Thank you to all of our sponsors



5th Annual Graduate Student Probability Conference

Tentative Dates: April 29 - May 1, 2011

Tentative Location: Georgia Tech

More Information to Follow
in Fall 2010