

## Workshop I: Probabilistic Techniques and Applications

### Monday October 5, 2009

- 8:00–8:50 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:50–9:00 *Welcome and Opening Remarks*
- 9:00–9:50 **Yuval Peres** (Microsoft Research)  
*Mixing Time and Diameter in Random Graphs*
- 10:00–10:15 *Break*
- 10:15–11:05 **Angelika Steger** (ETH Zürich)  
*On the Evolution of  $K_k$ -free Graphs*
- 11:15–11:30 *Break*
- 11:30–12:20 **David Gamarnik** (Massachusetts Institute of Technology)  
*A Combinatorial Approach to Guerra's Interpolation Method*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Eyal Lubetzky** (Microsoft Research)  
*Martingales, Large Deviations and Bounds on Adaptive Algorithms*
- 3:30–4:00 *Break*
- 4:00–5:30 *TBA*
- 5:30–12:00 *Reception (Location: IPAM Lobby)*

### Tuesday October 6, 2009

- 8:15–9:00 *Continental Breakfast*
- 9:00–9:50 **Thomas Liggett** (University of California, Los Angeles (UCLA))  
*A Proof of Aldous' Spectral Gap Conjecture*
- 10:00–10:15 *Break*
- 10:15–11:05 **Amin Coja-Oghlan** (University of Edinburgh)  
*A Better Algorithm for Random  $k$ -SAT*
- 11:15–11:30 *Break*

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- 11:30–12:20 **Nick Wormald** (University of Waterloo)  
*Load Balancing and Random Graphs*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Béla Bollobás** (University of Cambridge)  
*Probabilistic Cellular Automata*
- 3:30–3:45 *Break*
- 3:45–4:35 **Tom Bohman** (Carnegie-Mellon University)  
*The H-free Process*
- 4:45–5:00 *Break*
- 5:00–5:50 **Jeff Kahn** (Rutgers University)  
*The Number of 3-SAT Functions*

### Wednesday October 7, 2009

- 8:15–9:00 *Continental Breakfast*
- 9:00–9:50  
*TBA*
- 10:00–10:15 *Break*
- 10:15–11:05 **Michael Krivelevich** (Tel Aviv University)  
*The Critical Bias for the Hamiltonicity Game is  $n/\ln n$*
- 11:15–11:30 *Break*
- 11:30–12:20 **Artur Czumaj** (University of Warwick)  
*Local Explorations of Planar Graphs and Fast Property Testing*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Fan Chung-Graham** (University of California, San Diego (UCSD))  
*Percolation on General Graphs*
- 3:30–4:00 *Break*
- 4:00–4:50 **Rob Morris** (University of Cambridge)  
*Bootstrap Percolation in High Dimensions*

## Thursday October 8, 2009

- 9:30–10:15 *Continental Breakfast*
- 10:15–11:05 **Van Vu** (Rutgers University)  
*Some Recent Results on Random Matrices*
- 11:15–11:30 *Break*
- 11:30–12:20 **Alan Frieze** (Carnegie-Mellon University)  
*Hamilton Cycles in Random Graphs*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **József Balogh** (University of Illinois at Urbana-Champaign)  
*The Typical Structure of Graphs without Given Excluded Subgraphs*
- 3:30–3:45 *Break*
- 3:45–4:35 **Alexander Scott** (University of Oxford)  
*Triangles in Random Graphs*
- 4:45–5:00 *Break*
- 5:00–5:50 **Sebastien Roch** (University of California, Los Angeles (UCLA))  
*Probabilistic Techniques in Mathematical Phylogenetics*

## Friday October 9, 2009

- 8:15–9:00 *Continental Breakfast*
- 9:00–9:50 **Uriel Feige** (Weizmann Institute of Science)  
*Dense Subgraphs of Random Graphs*
- 10:00–10:15 *Break*
- 10:15–11:05 **Prasad Tetali** (Georgia Institute of Technology)  
*Reconstruction and Clustering in Random Constraint Satisfaction Problems*
- 11:15–11:30 *Break*
- 11:30–12:20 **Michael Molloy** (University of Toronto)  
*The Scaling Window for a Random Graph with a Given Degree Sequence*

