

## Workshop II: Random Curves, Surfaces, and Transport

**Monday April 16, 2007**

- 8:00–8:45 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:45–9:00 *Welcome and Opening Remarks*
- 9:00–9:50 **Yuval Peres** (University of California, Berkeley (UC Berkeley))  
*Gravitational Allocation and Internal DLA*
- 10:00–10:30 *Break*
- 10:30–11:20 **Nikolai Makarov** (California Institute of Technology)  
*On Coulomb Gas in 2D*
- 11:30–12:20 **Eli Ben-Naim** (Los Alamos National Laboratory)  
*Random Averaging*
- 12:30–2:00 *Lunch (on your own)*
- 2:00–2:50 **Hans Herrmann** (Eidgenössische TH Zürich-Hönggerberg)  
*Equations of Motion of Hydrodynamically Driven Granular Surfaces*
- 3:00–3:50 **Richard Kenyon** (University of British Columbia)  
*Branched Polymers in Two and Three Dimensions*
- 4:00–4:30 *Coffee Break at LaKretz*
- 4:00–4:50
- 4:30–5:30 **Benoit Mandelbrot** (Yale University)  
*The Nature of Roughness in Mathematics, Science and Art*
- 5:00–5:15
- 5:45–7:30 *Reception (Location: IPAM Lobby)*



## Tuesday April 17, 2007

- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Marek Biskup** (University of California, Los Angeles (UCLA))  
*Harmonic Embedding and Random Walk on Infinite Random Graphs*
- 10:00–10:30 *Coffee Break*
- 10:30–11:20 **Gerhard Gompper** (Forschungszentrum Jülich)  
*Random Surfaces as Models for Solid and Fluid Membranes*
- 11:30–12:20 **Martine Ben Amar** (École Normale Supérieure)  
*Instabilities of Inhomogeneous Lipid Membranes*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Paul Krapivsky** (Boston University)  
*Smoothing a Rock by Chipping*
- 3:30–4:00 *Coffee Break*
- 4:00–4:50 **Satya Majumdar** (Université d'Orsay)  
*Understanding Search Trees via Statistical Physics*

## Wednesday April 18, 2007

- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Jayanth Banavar** (Pennsylvania State University)  
*Statistical physics of Transportation Networks*
- 10:00–10:30 *Coffee Break*
- 10:30–11:20 **Shlomo Havlin** (Bar-Ilan University)  
*Anomalous Transport in Complex Networks*
- 11:30–12:20 **Qinglan Xia** (University of California, Davis (UC Davis))  
*A Mathematical Theory of Ramified Transport*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Raissa D'Souza** (University of California, Davis (UC Davis))  
*Jamming, Counting and Changing Phase*
- 3:30–4:00 *Coffee Break*
- 4:00–4:50 **Mark Bowick** (Syracuse University)  
*Order, Defects and Dynamics on Curved Surfaces*

## Thursday April 19, 2007

- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Robert Ziff** (University of Michigan)  
*Density Profiles in Critical Percolation*
- 10:00–10:30 *Coffee Break*
- 10:30–11:20 **Bernard Sapoval** (École Polytechnique)  
*Extreme and Smooth Gradient Percolation*
- 11:30–12:20 **Maria McGee** (Wake Forest University)  
*Functional Geometry of the Capillary-Tissue Unit*
- 12:30–2:00 *Lunch (on your own)*
- 2:00–2:50 **Bertrand Duplantier** (Commissariat à l'Énergie Atomique (CEA))  
*Harmonic Multifractal Spectra for Multiple Conformally Invariant Curves*
- 3:00–3:15 *Coffee Break*
- 3:15–4:05 **Benoit Mandelbrot** (Yale University)  
*New Multifractal Constructions*
- 4:15–4:30 *Coffee Break*
- 4:30–5:20 **Denis Grebenkov** (École Polytechnique)  
*Harmonic Measure and Passivation of 2D and 3D Fractals*

## Friday April 20, 2007

- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Michel Zinsmeister** (Université d'Orléans)  
*Brownian Flights*
- 10:00–10:30 *Coffee Break*
- 10:30–11:20 **Marcel Filoche** (École Polytechnique)  
*Diffusion-Reorganized Agregate: a Structure Stabilized by its Distribution of Brownian Bridges*
- 11:30–12:20 **Andrea Bertozzi** (University of California, Los Angeles (UCLA))  
*Scaling Behavior of Curves and Surfaces in Pattern Forming Systems*
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Robert McCann** (University of Toronto)  
*Continuity, Uniqueness, Curvature, and General Covariance of Optimal Transportation*
- 3:30–4:00 *Coffee Break*
- 4:00–4:50 **José Andrade** (Federal University of Ceará)  
*Flow and Particle Transport in Irregular Structures*

