

Workshop III: Transport Systems in Geography, Geosciences, and Networks

Monday May 5, 2008

- 8:00–8:50 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:50–9:00 *Welcome and Opening Remarks*
- 9:00–9:50 **John Melack** (University of California, Santa Barbara (UC Santa Barbara))
Fluxes of water, solutes and gases in ecosystems: A comparative approach
- 10:00–10:15 *Break*
- 10:15–11:05 **Stephen Morris** (University of Toronto)
Order and scale selection in Columnar Joints
- 11:15–11:30 *Break*
- 11:30–12:20 **Vakhtang Putkaradze** (Colorado State University)
Meandering of a stream flowing down a partially wetting inclined plane
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Mina Ossiander** (Oregon State University)
Stochastic Representations and Navier-Stokes equations
- 3:30–4:00 *Break*
- 4:00–4:50 **Donald Turcotte** (University of California, Davis (UC Davis))
Applications of Tokunaga Branching
- 5:00–6:30 *Reception (Location: IPAM Lobby)*

Tuesday May 6, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Peter Dodds** (University of Vermont)
The scaling of optimal branching networks and the implications for biological and geophysical systems
- 10:00–10:15 *Break*
- 10:15–11:05 **Andrea Bertozzi** (University of California, Los Angeles (UCLA))
Sediment Transport in Viscous Fluids
- 11:15–11:30 *Break*

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- 11:30–12:20 **Terence Smith** (University of California, Santa Barbara (UC Santa Barbara))
The emergence of channels systems and scalings on eroding landsurfaces
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Parag Pathak** (Harvard University)
The assignment model and the mathematics of school choice
- 3:30–4:00 *Break*
- 4:00–4:50 **Mohammed Mahdian** (Yahoo! Research)
Incentive compatibility in two-sided matching markets

Wednesday May 7, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Michael Weinstein** (Columbia University)
Magma Transport
- 10:00–10:15 *Break*
- 10:15–11:05 **Ilya Pavlyukevich** (Humboldt-Universität)
Dynamical systems perturbed by big jumps: meta-stability and non-local search
- 11:15–11:30 *Break*
- 11:30–12:20 **Terri Hogue** (University of California, Los Angeles (UCLA))
Improving Global Optimization of Conceptual Hydrologic Models
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Victor Chernozhukov** (Massachusetts Institute of Technology)
- 3:30–4:00 *Break*
- 4:00–4:50 **Sushil Bikhchandani** (University of California, Los Angeles (UCLA))
From the Assignment Model to Combinatorial Auctions

Thursday May 8, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Dan Rothman** (Massachusetts Institute of Technology)
Channel Network Growth by Subsurface Flow
- 10:00–10:15 *Break*

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- 10:15–11:05 **Jinqiao Duan** (Illinois Institute of Technology)
Transport by Exit under Non-Gaussian Fluctuations
- 11:15–11:30 *Break*
- 11:30–12:20 **Daniel Schertzer** (École Nationale des Ponts-et-Chaussées (ENPC))
Intermittency and Multifractal Transport in Geography, Geosciences and Networks
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Charles Doering** (University of Michigan)
Heat Rises: Energy transport bounds for Rayleigh-Bénard convection in an infinite Prandtl number fluid
- 3:30–4:00 *Break*
- 4:00–4:50 *Panel Discussion*

Friday May 9, 2008

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Hakima Bessaih** (University of Wyoming)
Long time behavior and related topics to stochastic Shell models.
- 10:00–10:15 *Break*
- 10:15–11:05 **Maya Paczuski** (University of Calgary)
Using networks to find signatures of causality in seismicity and other spatiotemporal phenomena
- 11:15–11:30 *Break*
- 11:30–12:20 **Bjorn Birnir** (University of California, Santa Barbara (UC Santa Barbara))
Quantifying Stochasticity in Geoscience

