

Random Media: Homogenization and Beyond

Monday January 24, 2011

- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–9:50 **Etienne Pardoux** (Université d'Aix-Marseille I (Université de Provence))
Homogenization of a singular random one dimensional PDE with time varying coefficients
- 10:00–10:15 *Break*
- 10:15–11:05 **Fraydoun Rezakhanlou** (University of California, Berkeley (UC Berkeley))
Large Deviation Principle and Central Limit Theorem for Homogenization
- 11:15–11:30 *Break*
- 11:30–12:20 **Boris Rozovsky** (Brown University)
On Unbiased Perturbations of Navier-Stokes Equations
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Irene Gamba** (University of Texas at Austin)
A Boltzmann-Poisson system for an inverse problem in charged transport
- 3:30–4:00 *Break*
- 4:00–4:50 **Dmitry Dolgopyat** (University of Maryland)
Central Limit Theorem for Random Walks in Markov environment
- 5:00–6:30 *Reception and Poster Session (Hosted by IPAM)*

Tuesday January 25, 2011

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Graeme Milton** (University of Utah)
Homogenization in high contrast composites and characterizing the response of networks
- 10:00–10:15 *Break*
- 10:15–11:05 **Olivier Pinaud** (Université Claude-Bernard (Lyon I))
Kinetic limits and imaging models for waves in random media
- 11:15–11:30 *Break*

(Tuesday schedule continued on next page)



(Tuesday schedule continued from previous page)

- 11:30–12:20 **Liliana Borcea** (Rice University)
Source localization in random acoustic waveguides
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Martin Hairer** (University of Warwick)
Stochastic Burgers-type equations
- 3:30–4:00 *Break*
- 4:00–4:50 **Roger Ghanem** (University of Southern California (USC))
Stochastic upscaling for waves in polycrystalline materials

Wednesday January 26, 2011

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Luis Caffarelli** (University of Texas at Austin)
Rate of convergence for fully non linear equations in random media
- 10:00–10:15 *Break*
- 10:15–11:05 **Mark Freidlin** (University of Maryland)
PERTURBATION THEORY FOR SYSTEMS WITH CONSERVATION LAWS: LONG-TIME EVOLUTION
- 11:15–11:30 *Break*
- 11:30–12:20 **Leonid Koralov** (University of Maryland)
Random and Deterministic Perturbations of Dynamical Systems
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Tom Hou** (California Institute of Technology)
A data-driven stochastic multiscale method with application to uncertainty quantification
- 3:30–4:00 *Break*
- 4:00–4:50 **Stefano Olla** (Université de Paris IX (Paris-Dauphine))
Macroscopic Energy Diffusion from Hamiltonian Dynamics with Conservative Noise

Thursday January 27, 2011

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Christoph Schwab** (ETH Zürich)
Numerical Analysis of Linear Wave Equations in Random Media
- 10:00–10:15 *Break*

(Thursday schedule continued on next page)

(Thursday schedule continued from previous page)

10:15–11:05 **Houman Owhadi** (California Institute of Technology)
Localization and Uncertainties in Homogenization

11:15–11:30 *Break*

11:30–12:20 **Chrysoula Tsogka** (University of Crete)
Adaptive time-frequency detection and filtering for imaging in strongly heterogeneous background media

Friday January 28, 2011

8:00–9:00 *Continental Breakfast*

9:00–9:50 **Josselin Garnier** (Université de Paris VII (Denis Diderot) et Université de Paris VI (Pierre et Marie Curie))
Effective fractional acoustic wave equations in random multiscale media

10:00–10:15 *Break*

10:15–11:05 **Frederic Legoll** (Ecole Nationale Des Ponts et Chaussees (LAMI))
Some contributions on a variant of the classical theory of stochastic homogenization

11:15–11:30 *Break*

11:30–12:20 **Jonathan Mattingly** (Duke University)

