

Workshop III: Flows and Networks in Complex Media

Monday April 27, 2009

- 8:00–8:50 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:50–9:00 *Welcome and Opening Remarks*
- 9:00–9:50 **François Baccelli** (Institut National de Recherche en Informatique Automatique (INRIA))
On a Class of Transport Equations Associated with Transmission Control in the Internet.
- 10:00–10:15 *Break*
- 10:15–11:05 **Reinhard Illner** (University of Victoria)
From Kinetic to Macroscopic Traffic Flow Models: Modeling, Analysis, Simulation
- 11:15–11:30 *Break*
- 11:30–12:20 **Leonid Ryzhik** (University of Chicago)
Waves and particles in random media with slowly decaying correlations
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Dieter Armbruster** (Arizona State University)
Simulation and control of semiconductor production lines
- 3:30–4:00 *Break*
- 4:00–4:50 **Bruno Despres** (Commissariat à l'Énergie Atomique (CEA))
Uncertainty Quantification of conservation laws (application to compressible stochastic flows and open problems)
- 5:00–6:00 *Poster Session*

Tuesday April 28, 2009

- 8:15–9:00 *Continental Breakfast*
- 9:00–9:50 **Jim Dai** (Georgia Institute of Technology)
Fluid models and stability of multiclass queueing networks
- 10:00–10:15 *Break*
- 10:15–11:05 **Joachim von Below** (Université du Littoral)
Traveling fronts on networks under reaction - diffusion equations
- 11:15–11:30 *Break*

(Tuesday schedule continued on next page)



(Tuesday schedule continued from previous page)

- 11:30–12:20 **Guillaume Bal** (Columbia University)
Statistical stability of radiative transport models
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Sid Redner** (Boston University)
Kinetics of Filtration and Clogging
- 3:30–4:00 *Break*
- 4:00–4:50 **Ingenuin Gasser** (Universität Hamburg)
On Low Mach Number Flows: From Tunnel Fires to Solar Updraft Towers

Wednesday April 29, 2009

- 8:15–9:00 *Continental Breakfast*
- 9:00–9:50 **Herbert Spohn** (Technische Universität München)
Kinetic limit for the weakly nonlinear Schrödinger equation
- 10:00–10:15 *Break*
- 10:15–11:05 **Michael Herty** (RWTH Aachen)
Coupling conditions for transport problems on networks governed by conservation laws
- 11:15–11:30 *Break*
- 11:30–12:20 **Tong Li** (University of Iowa)
Critical Thresholds in Hyperbolic Relaxation Systems
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Christian Ringhofer** (Arizona State University)
Some Aspects of First Principle Models for Production Systems and Supply Chains
- 4:00–4:30 *Break Refreshments served at LaKretz Hall before the Public Lecture*
- 4:30–5:30 **Kenneth Golden** (University of Utah)
Public Lecture at LaKretz Hall: Climate Change and the Mathematics of Sea Ice
- 5:45–7:30 *Reception (Location: IPAM Lobby)*

Thursday April 30, 2009

- 8:15–9:00 *Continental Breakfast*
- 9:00–9:50 **Kenneth Golden** (University of Utah)
Thermal Evolution of Fluid Permeability and Microstructure in Sea Ice
- 10:00–10:15 *Break*
- 10:15–11:05 **Hubert Missbauer** (Leopold-Franzens Universität Innsbruck)
Planning order releases for networks of work centers: Queueing-theoretical foundation of meta-models of material flows
- 11:15–11:30 *Break*
- 11:30–12:20 **Michel Rascle** (Université de Nice Sophia Antipolis)
Nonlinear Waves in Mathematical Models of Traffic Flow
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Clemens Heitzinger** (Universität Wien)
Models for field-effect sensors
- 3:30–4:00 *Break*
- 4:00–4:50 **Maria Carvalho** (Georgia Institute of Technology)
Random walks on McKean graphs and the Boltzmann equation

Friday May 1, 2009

- 8:15–9:00 *Continental Breakfast*
- 9:00–9:50 **Simone Goettlich** (Universität Kaiserslautern)
Material Flows in Production Networks
- 10:00–10:15 *Break*
- 10:15–11:05 **Karsten Peters** (Institute for Transport and Economics)
A complex networks approach to material flow systems in nature and technology
- 11:05–12:00 *Panel Discussion*
- 12:00–12:00 *Lunch (on your own)*

