

Uncertainty Quantification for Multiscale Stochastic Systems and Applications

Tuesday January 19, 2016

- 8:00–8:55 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:55–9:00 *Welcome and Opening Remarks*
- 9:00–9:50 **Andrew Majda** (New York University)
Prediction, State Estimation, and Uncertainty Quantification in Complex Systems
- 10:00–10:15 *Break*
- 10:15–11:05 **Andrew Stuart** (University of Warwick)
Hierarchical Bayesian Level Set Inversion
- 11:15–11:30 *Break*
- 11:30–12:20 **Tom Chou** (University of California, Los Angeles (UCLA))
Inference in biophysical models
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Habib Najm** (Sandia National Laboratories)
On Model Error and Statistical Calibration of Physical Models
- 3:30–4:00 *Break*
- 4:00–4:50 **Henry Lam** (University of Michigan)
Quantifying stochastic model errors via robust optimization
- 5:00–6:30 *Poster Session & Reception (Hosted by IPAM)*

Wednesday January 20, 2016

- 8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*
- 9:00–9:50 **Peter Glynn** (Stanford University)
Sensitivity Analysis for Markov Chains
- 10:00–10:15 *Break*
- 10:15–11:05 **Carsten Hartmann** (Freie Universität Berlin)
Cross-entropy minimization, optimal control and importance sampling of rare events
- 11:15–11:30 *Break*

(Wednesday schedule continued on next page)



(Wednesday schedule continued from previous page)

- 11:30–12:20 **Yannis Pantazis** (University of Crete)
Sensitivity analysis, uncertainty quantification and inference in stochastic dynamics
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Araz Hashemi** (Wright-Patterson Air Force Base)
Averaging and Sensitivity Analysis for Multiscale Stochastic Reaction Networks
- 3:30–4:00 *Break*
- 4:00–4:50 **Muruhan Rathinam** (University of Maryland Baltimore County)
Estimation of parametric sensitivities for continuous time Markov processes on integer lattices

Thursday January 21, 2016

- 8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*
- 9:00–9:50 **Roger Ghanem** (University of Southern California (USC))
Treating modeling uncertainty in multiscale methods
- 10:00–10:15 *Break*
- 10:15–11:05 **Andrea Bertozzi** (University of California, Los Angeles (UCLA))
Multiscale stochastic systems in the social sciences
- 11:15–11:30 *Break*
- 11:30–12:20 **Ilias Biliotis** (Purdue University)
Enabling predictive simulations for design and decision making under a limited budget
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Dimitris Giannakis** (New York University)
Data-driven spectral decomposition and forecasting of ergodic dynamical systems
- 3:30–4:00 *Break*
- 4:00–4:50 **Raul Tempone** (King Abdullah Univ. of Science and Technology (KAUST))
Multi-index Monte Carlo and Multi-index Stochastic Collocation

Friday January 22, 2016

- 8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*
- 9:00–9:50 **Mitchell Luskin** (University of Minnesota, Twin Cities)
A Theoretical Examination of Diffusive Molecular Dynamics
- 10:00–10:15 *Break*

(Friday schedule continued on next page)

(Friday schedule continued from previous page)

- 10:15–11:05 **Houman Owhadi** (California Institute of Technology)
Computational Information Games
- 11:15–11:30 *Break*
- 11:30–12:20 **Nicholas Zabaras** (University of Warwick)
Towards Data-Driven Predictive Multiscale Materials Modelling
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Daniel Tartakovsky** (University of California, San Diego (UCSD))
The method of Distribution for Uncertainty Quantification

