

Mathematical Issues and Challenges in Data Assimilation for Geophysical Systems: Interdisciplinary Perspectives

Tuesday February 22, 2005

- 8:00–8:45 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:45–9:00 *Welcome and Opening Remarks*
- 9:00–10:00 **Joseph Tribbia** (National Center for Atmospheric Research)
Waves, Information and Local Predictability
- 10:00–10:30 *Break*
- 10:30–11:30 **Chris Snyder** (National Center for Atmospheric Research)
An ensemble filtering pot-pourri
- 11:30–1:30 *Lunch (on your own)*
- 1:30–2:30 **Richard Kleeman** (New York University)
Dynamical predictability and initialization: a statistical prediction perspective
- 2:30–3:00 *Break*
- 3:00–4:00 **Arthur Krener** (University of California at Davis)
Model Based Smoothing of Linear and Nonlinear Processes
- 4:00–5:00 **Padhraic Smyth** (University of California at Irvine)
Graphical Models for Sequential Data Modeling and Forecasting
- 5:00–6:30 *Wine/Cheese Reception (Hosted by IPAM)*
- 5:00–6:30 *Poster Session*

Wednesday February 23, 2005

- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–9:45 **Greg Eyink** (Johns Hopkins University)
Entropy-Based Ensemble Prediction Schemes
- 9:45–10:15 *Break*

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- 10:15–11:00 **Carolyn A. Reynolds** (Naval Research Laboratory)
Adaptive Observing
- 11:00–11:45 **Edriss Titi** (University of California at Irvine/Weizmann Institute of Science)
Is Galerkin Projection The Right Scheme?
- 11:45–1:30 *Lunch (on your own)*
- 1:30–2:15 **Leonard A. Smith** (London School of Economics)
Indistinguishable States and Data Assimilation
- 2:15–2:45 *Break*
- 2:45–4:00 *Panel Discussion*
- 4:00–4:45 **Richard Sowers** (University of Illinois at Urbana-Champaign)
Diffusely-Perturbed Transport of Passive Scalars in Pseudoperiodic Flows

Thursday February 24, 2005

- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–9:45 **Brian Hunt** (University of Maryland)
Efficient assimilation of atmospheric data: a Local Ensemble Transform Kalman Filter
- 9:45–10:15 *Break*
- 10:15–11:00 **Andrew Stuart** (University of Warwick)
Conditional Path Sampling of SDEs and Data Assimilation
- 11:00–11:45 **Pierre F.J. Lermusiaux** (Harvard University)
Adaptive Sampling, Data assimilation and Adaptive Modeling
- 11:45–1:30 *Lunch (on your own)*
- 1:30–2:15 **Igor Mezic** (UCSB)
Two topics in coupling probabilistic and dynamical systems approaches in analysis of complex system behavior
- 2:15–2:45 *Break*
- 2:45–3:45 **James McWilliams** (UCLA)
A View of Earth Observing Systems, Earth System Modeling, and Challenges for Data Assimilation
- 3:45–5:00 *Panel Discussion*
- 5:00–7:00 *Dinner (Hosted by IPAM)*

Friday February 25, 2005

- 8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:00–10:00 **Istvan Szunyogh** (University of Maryland)
Assessing a Local Ensemble Kalman Filter
- 10:00–10:30 *Break*
- 10:30–11:30 **William W. Symes** (Rice University)
Cross-scale interaction in seismic inversion
- 11:30–1:30 *Lunch (on your own)*
- 1:30–2:30 **Jim Hansen** (Massachusetts Institute of Technology)
Parameter estimation: To what extent can data assimilation techniques correctly uncover stochasticity?
- 2:30–3:00 *Break*
- 3:00–4:00 **Oliver Talagrand** (Ecole Normale Supérieure, France)
Some Aspects of Validation of Assimilation Algorithms

