

Workshop IV: Data Hierarchies for Climate Modeling

Monday May 24, 2010

- 8:00–8:45 *Check-In/Light Breakfast (Hosted by IPAM)*
- 8:45–9:00 *Welcome and Opening Remarks*
- 9:00–9:50 **Mark Berliner** (Ohio State University)
- 10:00–10:15 *Break*
- 10:15–11:05 **Andrew Majda** (New York University)
Quantifying Uncertainty in Climate Change Science: Empirical Information Theory, Fluctuation Dissipation Theorems, and Physics Based Statistics.
- 11:15–11:30 *Break*
- 11:30–12:20 **Luis Kornblueh** (Max Planck Institute for Meteorology)
- 12:30–2:00 *Lunch (on your own)*
- 2:00–2:50 **Amy Braverman** (Jet Propulsion Laboratory)
- 3:00–3:15 *Break*
- 3:15–4:05 **Tim Conrad** (Freie Universität Berlin)
HPC and Hierarchical Data Structures
- 4:15–4:30 *Break*
- 4:30–5:20 **Rolf Krause** (University of Lugano)
Weak coupling between scales and models: a frequency oriented approach for transferring information in heterogeneous models
- 5:30–7:00 *Reception and Poster Session (Hosted by IPAM)*

Tuesday May 25, 2010

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Christopher Wikle** (University of Missouri-Columbia)
- 10:00–10:15 *Break*

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- 10:15–11:05 **Daniel Crommelin** (CWI (Center for Mathematics and Computer Science))
A stochastic, data-driven approach to subgrid scale modeling
- 11:15–11:30 *Break*
- 11:30–12:20 **Illia Horenko** (University of Lugano)
Nonstationary Time Series Analysis of Discrete Factor Models and Applications
- 12:30–2:30 *Lunch (on your own)*
- 2:30–3:20 **Robert Pincus** (University of Colorado, Boulder)
- 3:30–4:00 *Break*

Wednesday May 26, 2010

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Katja Matthes** (Freie Universität Berlin)
- 10:00–10:15 *Break*
- 10:15–11:05 **Brian Mapes** (University of Miami)
- 11:15–11:30 *Break*
- 11:30–12:20 **Ilya Timofeyev** (University of Houston)
Sub-sampling in Parametric Estimation of Effective Stochastic Models =20 from Discrete Data
- 12:30–2:00 *Lunch (on your own)*
- 2:00–2:50 **Mike Turmon** (Jet Propulsion Laboratory)
Feature Identification and State Estimation for Nonlinear Systems
- 3:00–3:15 *Break*
- 3:15–4:05 **Jan de Leeuw** (University of California, Los Angeles (UCLA))
Multilevel Modeling, with Extensions
- 4:15–4:30 *Break*
- 4:30–5:20 **Bin Yu** (University of California, Berkeley (UC Berkeley))

Thursday May 27, 2010

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Rafail Abramov** (University of Chicago)
Improved linear response for stochastically driven systems
- 10:00–10:15 *Break*
- 10:15–11:05 **Boris Gershgorin** (Courant Institute of Mathematical Sciences)
- 11:15–11:30 *Break*
- 11:30–12:20 **John Harlim** (North Carolina State University)
Filtering Turbulent Systems with Stochastic Parameterized Extended Kalman Filter
- 12:30–2:00 *Lunch (on your own)*
- 2:00–2:50 **Grant Branstator** (National Center for Atmospheric Research (NCAR))
The Atmospheric Response to Time-dependent Tropical Heating, as Estimated from the Fluctuation Dissipation Theorem
- 3:00–3:15 *Break*
- 3:15–4:05 **Christian Franzke** (Britain Antarctic Survey)
Metastable Regime Behavior and Preferred Transitions of the North Atlantic Jet Stream
- 4:15–4:30 *Break*
- 4:30–5:20 **Xiaoming Wang** (Florida State University)
Linear response Theory with Time-Periodic Forcing

Friday May 28, 2010

- 8:00–9:00 *Continental Breakfast*
- 9:00–9:50 **Marcus Grote** (Universität Basel)
Entropy, Targeted, and Redundant Observations for Filtering Turbulent Signals
- 10:00–10:15 *Break*
- 10:15–11:05 **Noel Cressie** (Ohio State University)
Combining outputs from an ensemble of regional climate models
- 11:15–11:30 *Break*

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- 11:30–12:20 **Richard Smith** (University of North Carolina)
Attribution of extreme events using observational data and climate models
- 12:30–2:30 *Lunch (on your own)*
- 2:30–4:00 *Wrap-up Discussion: Kornblueh, Braverman, Horenko, Pincus*

