Workshop III: Simulation Hierarchies for Climate Modeling

Monday May 3, 2010

8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*

9:00–9:50 **Andrew Majda** (New York University)
Systematic Mathematical Strategies for Superparameterization with Moderate Scale Gaps and No Invariant Measure: Application to Squall Lines

10:00–10:15 *Break*

10:15–11:05 **Chin-Hoh Moeng** (National Center for Atmospheric Research (NCAR))
Subgrid-scale transport in global cloud-resolving models

11:15–11:30 *Break*

11:30–12:20 **Marat Khairoutdinov** (SUNY Stony Brook)
Using cloud-resolving model and multiscale modeling framework to address climate-change problem

12:30–2:30 *Lunch (on your own)*

2:30–3:20 **Alan Kerstein** (Sandia National Laboratories)
Map-Based Advection, Low-Dimensional Simulation, and Superparameterization

3:30–4:00 *Break*

4:00–4:50 **Harm Jonker** (Technische Universiteit te Delft)
The spectral bridge between meso- and micro-scale processes

5:00–6:00 *Poster Session*

Tuesday May 4, 2010

8:00–9:00 *Continental Breakfast*

9:00–9:50 **Bill Klein** (Boston University)
Model Hierarchies, Ergodicity and Scaling

10:00–10:15 *Break*

10:15–11:05 **Pier Siebesma** (KNMI)
Geometrical Aspects of Clouds and its relevance for Climate Modeling

11:15–11:30 *Break*

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11:30–12:20 **Ronald Dickman** (Federal University of Minas Gerais)
Scale-free distributions in nature: an overview of self-organized criticality

12:30–2:30 *Lunch (on your own)*

2:30–3:20 **Henrik Jensen** (Imperial College)
Dynamics of Complex Systems with an Emphasis on 1/f Noise and Record Dynamics

3:30–4:00 *Break*

4:00–4:50 **Ole Peters** (Imperial College)

Wednesday May 5, 2010

8:00–9:00 *Continental Breakfast*

9:00–9:50 **Uwe Tauber** (Virginia Polytechnic Institute and State University)
Stochastic fluctuations and emerging correlations in simple reaction-diffusion systems

10:00–10:15 *Break*

10:15–11:05 **Colm Connaughton** (University of Warwick)
Large scale coherent structures and turbulence in quasi-2D hydrodynamic models

11:15–11:30 *Break*

11:30–12:20 **Judith Berner** (National Center for Atmospheric Research)
Representing model uncertainty in weather and climate predictions by a stochastic kinetic energy backscatter scheme

12:30–2:00 *Lunch (on your own)*

2:00–2:50 **Bernard Geurts** (Universiteit Twente)
Large-eddy simulation of turbulent buoyancy driven mixing

3:00–3:30 *Break*

3:30–4:20 **Olivier Pauluis** (New York University)
Regime transition in Moist Rayleigh-Benard convection

5:00–6:00 *Public Lecture - Kevin E. Trenberth - Haines Hall, Room 39*

6:00–7:30 *Reception (Location: IPAM Lobby)*

Thursday May 6, 2010

8:00–9:00 *Continental Breakfast*

9:00–9:50 **Steve Krueger** (University of Utah)
What can Cloud-Resolving Model and Multiscale Model Framework Simulations Tell us About Critical Phenomena in Atmospheric Precipitation?

10:00–10:15 *Break*

10:15–11:05 **J. Neelin** (University of California, Los Angeles (UCLA))

11:15–11:30 *Break*

11:30–12:20 **Heiko Schmidt** (Brandenburgische Technische Universität Cottbus)
Heterogeneous Multiscale Concepts: From Combustion to Atmospheric Science

12:30–2:30 *Lunch (on your own)*

2:30–3:20 **Boualem Khouider** (University of Victoria)
MJO and convectively coupled waves in a GCM with a simple multicloud parametrization

3:30–4:00 *Break*

4:00–4:50 **Bruce Turkington** (University of Massachusetts Amherst)
A new approach to statistical closure for complex deterministic dynamics

Friday May 7, 2010

8:00–9:00 *Continental Breakfast*

9:00–9:50 **Christopher Jeffery** (Los Alamos National Laboratory)
Cloud edge mixing and evaporation: A tale of two Damkohler numbers

10:00–10:15 *Break*

10:15–11:05 **Hans Graf** (University of Cambridge)
A new convection parameterization: Some achievements and some challenges

11:15–11:30 *Break*

11:30–12:20 **Wojciech Grabowski** (National Center for Atmospheric Research)
ATMOSPHERIC AEROSOLS, CLOUD MICROPHYSICS AND CLIMATE

12:30–2:00 *Lunch (on your own)*

2:00–2:50 **Axel Seifert** (Deutscher Wetterdienst)
Parameterization of rain formation in clouds: From micro-scale to cloud-scale

3:00–3:15 *Break*

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3:15–4:45 *Conclusion*

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