



SIMULATION HIERARCHIES FOR CLIMATE MODELING

May 3 – 7, 2010

ORGANIZING COMMITTEE: **Markos Katsoulakis** (University of Massachusetts Amherst), **Alan Kerstein** (Sandia National Laboratories), **Olivier Pauluis** (New York University), **Ole Peters** (Imperial College London), **Pier Siebesma** (KNMI, Technical University Delft)

Scientific Overview

Our Earth's climate system involves atmospheric processes across an enormous range of scales, ranging from the planetary to the millimeter scale. This includes not only atmospheric dynamical processes such as turbulence and convection but also the physical processes that interact with the dynamics such as clouds and radiation. As there is no single simulation system that can incorporate the full range of all these processes, there has been a development of a variety of simulation models that attempt to describe specific sets of processes over a subset of relevant scales. These simulation techniques range from the microscale via the mesoscale to the global scale, and form a hierarchy as one attempts to include the statistical behavior of smaller scale processes in larger-scale simulation models. The main objective of this workshop is to increase our understanding of the climate system across all these scales.

Confirmed Speakers

Judith Berner (National Center for Atmospheric Research), **Chris Bretherton** (National Center for Atmospheric Research), **Colm Connaughton** (University of Warwick), **George Craig** (Deutsche Forschungsanstalt für Luft- und Raumfahrt eV), **Ronald Dickman** (Federal University of Minas Gerais), **Bernard Geurts** (Universiteit Twente), **Michelle Girvan** (University of Maryland), **Wojciech Grabowski** (National Center for Atmospheric Research), **Hans Graf** (University of Cambridge), **Christopher Jeffery** (Los Alamos National Laboratory), **Henrik Jensen** (Imperial College), **Harm Jonker** (Technische Universiteit te Delft), **Markos Katsoulakis** (University of Massachusetts Amherst), **Alan Kerstein** (Sandia National Laboratories), **Marat Khairoutdinov** (SUNY Stony Brook), **Boualem Khouider** (University of Victoria), **Bill Klein** (Boston University), **Juan Pedro Mellado** (RWTH Aachen), **Chin-Hoh Moeng** (National Center for Atmospheric Research), **J. David Neelin** (UCLA), **Olivier Pauluis** (MIT), **Ole Peters** (Imperial College London), **Zoltan Racz** (Eötvös Loránd University), **Dave Randall** (Colorado State University), **Axel Seifert** (Deutscher Wetterdienst), **Heiko Schmidt** (Freie Universität Berlin), **Pier Siebesma** (KNMI, Technical University Delft), **Bruce Turkington** (University of Massachusetts Amherst), **Eric Vanden-Eijnden** (NYU).

Workshop Schedule

This workshop is part of the Long Program "Model and Data Hierarchies for Simulating and Understanding Climate"

- Tutorials, March 9 – 12, 2009
- Workshop 1: Equation Hierarchies for Climate Modeling, March 22 – 26, 2010
- Workshop 2: Numerical Hierarchies for Climate Modeling, April 12 – 16, 2010
- **Workshop 3: Simulation Hierarchies for Climate Modeling, May 3 – 7, 2010**
- Workshop 4: Data Hierarchies for Climate Modeling, May 24 – 29, 2010
- Culminating Workshop at Lake Arrowhead Conference Center, June 6 – 11, 2009

Participation

Additional information about this workshop, including links to registration and application for funding, can be found on the webpage below. Encouraging the careers of women, minority mathematicians, and scientists from industry is an important component of IPAM's mission, and we welcome their applications.

www.ipam.ucla.edu/programs/clws3



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