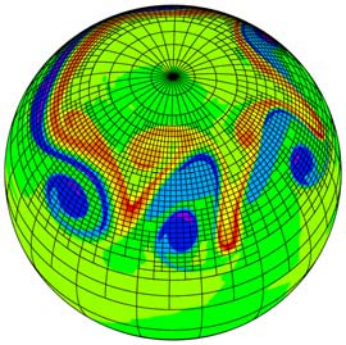

INSTITUTE FOR PURE AND APPLIED MATHEMATICS
Los Angeles, California

Numerical Hierarchies for Climate Modeling

April 12 – 16, 2010

ORGANIZING COMMITTEE: FRANCIS GIRALDO (Naval Postgraduate School), CHRISTIANE JABLONOWSKI (University of Michigan), RUPERT KLEIN (Freie Universität Berlin), SEBASTIAN REICH (Universität Potsdam)

Scientific Overview

Covering processes from the microphysics and turbulence in clouds to planetary motions and the evolution of the climate, Atmosphere-Ocean flows are characterized by an extremely broad range of spatio-temporal scales. Since it is, and will be for some time, neither possible nor interesting to represent this entire scale range in one and the same model, we encounter a *resolution hierarchy* of computational models whose members describe differing ranges of spatio-temporal scales. This workshop will focus on advanced computational techniques which allow us to cover a wide range of scales in a single simulation, and which operate reliably at various resolutions. Of particular interest will be mechanisms for selecting non-resolved scale parameterizations as a function of grid resolution and for controlling the interplay of numerical truncation with subgrid scale process representations.

Confirmed Speakers

Alistair Adcroft (National Oceanographic and Atmospheric Administration), **Akio Arakawa** (UCLA), **Judith Berner** (National Center for Atmospheric Research (NCAR)), **Luca Bonavenutra** (Politecnico di Milano), **Dale Durran** (University of Washington),**Jason Frank** (Center for Mathematics and Computer Science), **Patrick Haertel** (Yale University), **Christiane Jablonowski** (University of Michigan), **Boualem Khouider** (University of Victoria), **Rene Laprise** (University of Quebec Montréal), **Peter Lauritzen** (NCAR), **Vincent Legat** (Université Catholique de Louvain), **Charles Meneveau** (Johns Hopkins), **Matthew Piggot** (Imperial College), **Sebastian Reich** (Universität Potsdam), **Todd Ringler** (Colorado State University), **William Skamarock** (NCAR), **Piotr Smolarkiewicz** (NCAR), **Peter Spichtinger** (ETH Zürich), **Amik St-Cyr** (NCAR), **Mark Taylor** (Sandia National Laboratories), **John Thuburn** (University of Exeter), **Geoff Vallis** (Princeton), **Robert Walko** (Duke University), **David Williamson** (NCAR), **Nigel Wood** (Meteorological Office)

Long Program 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 – 28, 2010
- Culminating Workshop at Lake Arrowhead Conference Center, June 6 – 11, 2010

Participation

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

www.ipam.ucla.edu/programs/clws2

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