Dynamical Core Model Intercomparison Project (DCMIP)

2016 Workshop and Summer School

June 6 – 17, 2016

National Center for Atmospheric Research (NCAR)

Boulder, Colorado, USA

OVERVIEW

Over the past fifty years, Earth System Models have provided incredible insight into the influence of the changing climate on regional and global scales. A major component of these models is the atmospheric dynamical core, which is responsible for solving the equations of fluid motion within the atmosphere. Substantial investments are now being made in the development of new dynamical cores at modeling centers around the world, driven by the need for more accurate and efficient models, the call for more practicable climate data at the fine scales, and the rapid growth of supercomputing architectures. More attention has been directed at inaccuracies and biases that arise due to the relatively crude division between the subgrid-scale physical parameterizations and the dynamical fluid flow on the computational grid. To better understand these systems, the Dynamical Core Model Intercomparison Project in 2016 (DCMIP-2016) aims to intercompare cutting-edge dynamical cores, provide a forum to exchange ideas and advance education on dynamical core development.

MORNING SUMMER SCHOOL

Morning lectures from experts in the field on select topics associated with atmospheric model theory, design and development. Topics include:

- Earth system modeling and the role of the atmospheric component
- Numerical methods in dynamical cores
- High-resolution atmospheric modeling
- Tracers in atmospheric models
- Physical parameterizations
- Dynamics-physics coupling
- Evaluating global atmospheric models
- Emerging computational aspects
- Informing the science

AFTERNOON WORKSHOP

Hands-on afternoon sessions run by model leads where students will execute and explore the newest generation of atmospheric models.

Participating dynamical cores include FV3, HOMME, MPAS-A, DYNAMICO, IFS-FV, CSU, NICAM, NIM, NEPTUNE, ICON, GEM, OLAM, TEMPEST and CHOMBO.

ORGANIZING TEAM

Paul Ullrich, University of California, Davis
Christiane Jablonowski, University of Michigan
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FOR MORE INFORMATION

https://www.earthsystemcog.org/projects/dcmip-2016/
or contact dcmip@ucar.edu

Graduate Students and Postdoctoral Scientists apply here (until 3/14/2016):

https://www2.cisl.ucar.edu/events/summer-school/dcmip/2016/dcmip-2016