



## **Building a Next-Generation Community Ice Sheet Model**

**18-20 August 2008**

**TA-3, Bldg. 207, J. Robert Oppenheimer Study Center  
Jemez and Cochiti Rooms**

### **Monday, 18 August 2008**

- 8:30 Registration and refreshments
- 9:00 Welcome and introductions  
**Gary Geernaert, IGPP Director**
- 9:15 “Why it matters”  
**Robert Bindshadler, NASA Goddard Space Flight Center**
- 9:40 “Overview of the St. Petersburg ice sheet modeling workshop”  
**Kees van der Veen, University of Kansas**
- 10:00 “Ice dynamics and physics in a next-generation ice sheet model”  
**Stephen Price, LANL, T-03**
- 10:20 **Break**
- 10:40 “Solving the 3D Stokes system on a variable resolution mesh”  
**Todd Ringler, LANL, T-03**
- 11:00 “Basal boundary conditions for ice sheet models”  
**Slawek Tulaczyk, University of California, Santa Cruz**
- 11:20 “Modeling the transport of subglacial discharge: A case study from Adventure Trench”  
**Sasha Carter, University of Texas, Austin**
- 11:40 “New and old approaches to ice sheet modeling: Solid earth geophysics and the cryosphere”  
**Jeremy Bassis, University of Chicago**
- 12:00 **Working Lunch**

Institutional Host: Gerald Geernaert, INSTITUTE-IGPP Center

Technical Host: William H. Lipscomb, T-03, Ph: 505-667-0395, Fax: 505-665-5926

Visitor Planners: Georgia Sanchez, IGPP Center, Ph: 505-663-5291 and Beverly Corrales, T-03, Ph: 505-667-4156

Food Service: ARAMARK, Ph: 505-695-9503

- 1:00 “Review of progress in observations and modeling of ice-shelf physics”  
**David Holland, New York University**
- 1:20 “Short time-scale variation in grounding line position on the Siple and Gould Coasts, West Antarctica”  
**Christina Hulbe, Portland State University**
- 1:40 “Lessons from adaptive-mesh modeling of marine ice sheets”  
**Dan Goldberg, New York University**
- 2:00 “Regional models of ice-shelf/ocean interaction”  
**Paul Holland, British Antarctic Survey**
- 2:20 “Dynamic ice fronts: Implementing an empirical ice-shelf calving law”  
**Todd Dupont, University of California, Irvine**
- 2:40 **Break**
- 3:00 **Breakout sessions:**
- Ice sheet dynamics and physics (Jemez Room)
  - Ice-shelf/ocean interactions (Cochiti Room)
- 5:00 **Adjourn**
- 6:00 **Group dinner (La Vista restaurant, Best Western Hilltop House)**

**Tuesday, 19 August 2008**

- 8:30 Refreshments and announcements
- 9:00 “The CCSM and ice sheets”  
**Peter Gent, National Center for Atmospheric Research**
- 9:25 “Software design issues for ice sheet models”  
**Jesse Johnson, University of Montana**
- 9:45 "Performance portability, coupled components and the pirate code"  
**Philip Jones, LANL, T-03**
- 10:05 “Implementing an ice sheet model in CCSM”  
**William Lipscomb, LANL, T-03**
- 10:25 **Break**
- 10:40 “Community Modeling Environment at the Southern California Center: principles, architecture, and lessons learned:  
**Jean-Bernard Minster, University of California, San Diego**

- 11:00 “An overview of the University of Toronto Glacial Systems Model”  
**Heather Andres, University of Toronto**
- 11:20 “Integrating an ice-sheet/ice-shelf model into an EMIC: Progress and issues”  
**Jeremy Fyke, Victoria University**
- 11:40 “Scientific questions to be addressed with a coupled climate-ice sheet model”  
**Miren Vizcaino-Trueba, University of California, Berkeley**
- 12:00 **Working Lunch**
- 1:00 “Community tools for model initialization, spin-up, and evaluation”  
**Ed Bueler, University of Alaska, Fairbanks**
- 1:20 “A new penalty based approach to large scale modeling of Antarctica using 2d-3d lower and higher order finite elements:  
**Eric Larour, Jet Propulsion Laboratory**
- 1:40 “Data-driven model development”  
**Charles Jackson, University of Texas, Austin**
- 2:00 “Icebergs, ice shelves, and sea ice”  
**Todd Arbetter, National Ice Center**
- 2:20 General discussion
- 2:40 **Break**
- 3:00 **Breakout sessions:**
- Software design and coupling (Cochiti Room)
  - Initialization, verification, and validation (Jemez Room)
- 5:00 **Adjourn**

**Wednesday, 20 August 2008**

- 8:30 Refreshments and announcements
- 9:00 Reports from breakout sessions
- 10:00 General discussion
- 10:20 **Break**
- 10:40 General discussion
- 12:00 **Adjourn**