CIG welcomes Louise Kellogg as our new Director, at our new UC Davis home

It is now official! CIG has a new home and a new Director. On February 5 of this year, Louise H. Kellogg formally accepted the Directorship of CIG, succeeding Michael Gurnis, who had ably served since 2005 as our organization's first Director. As you know, Louise is an acknowledged leader in the U.S. geodynamics research community and is currently Professor of Geophysics in the Department of Geology at University of California, Davis, as well as serving as director of the KeckCAVES visualization facility there. She brings a broad level of expertise to the job, not only in Geophysics but also in the areas of high performance computation and high performance visualization. Please join me in extending a hearty welcome and our best wishes to Louise. - *Peter Olson, CIG Executive Committee Chair*

NSF funds CIG's Next Phase

The National Science Foundation is preparing the Cooperative Agreement that will serve as the contractual basis for CIG II, the second round of our activities. In the meantime, CIG is in the process of moving its headquarters from Pasadena to Davis, CA. Our new facility will be located in the new Earth and Physical Sciences Building at UC Davis, and will include access to high-performance computing, visualization, and networking facilities. We are also in the process of hiring technical staff members; recruiting announcements will go out soon. We are looking forward to starting on Round II projects, once these staff hires are completed. I am pleased to welcome CIG to its new location, and I want to extend my deep appreciation to Mike Gurnis and all the CIG staff who have worked to ensure a smooth transition for CIG. - *Louise Kellogg, Director*

CIG Software Releases

- **SPECFEM3D GLOBE 5.0.1** - SPECFEM3D GLOBE simulates global and regional (continental-scale) seismic wave propagation. The version 5.0.0 "Tiger" release contains a number of new features, including a significant improvement in performance and a more accurate implementation of the crust. The "Tiger" release also provides a perfectly load-balanced mesh for 3D mantle models honoring shallow oceanic Moho (depths less than 15 km) and deep continental Moho (depths greater than 35 km). See the release notice for full details. The latest update, version 5.0.1, includes new default sedimentary routines, bug fixes, and further optimizations for regional adjoint simulations. Visit SPECFEM3D GLOBE for source code and manual.
- **SEISMIC CPML 1.1.0** - SEISMIC CPML is a set of eight open-source Fortran90 programs to solve the two- or three-dimensional isotropic or anisotropic elastic, viscoelastic or poroelastic wave equation using a finite-difference method with Convolutional Perfectly Matched Layer (C-PML) conditions, developed by Dimitri Komatitsch and Roland Martin from University of Pau, France. Version 1.1.0 adds support for viscoelastic or poroelastic media, which adds two more programs to the package. A total of eight programs are now included. See SEISMIC CPML for the source code and link to documentation.
- **SNAC 1.2.0** - SNAC (StGermaiN Analysis of Continua) is an updated Lagrangian explicit finite difference code for modeling a finitely deforming elasto-visco-plastic solid in 3D. In this update, the base algorithm for remeshing has been changed and, as a result, remeshing in SNAC has become more stable. Now SNAC can run for an extended period of time, which would interest the long-term tectonics community. The updated user manual also contains more information. On the users' end, however, there is no visible change: input files for the previous version can be used without modification. See SNAC for source code and updated manual.

Bug-Fixes

- **CitcomCU 1.0.3** - CitcomCU is a finite element parallel code designed to solve, on a three-dimensional regional domain, thermochemical convection problems relevant to the earth's mantle. This release contains important bug fixes, see the release announcement for details. Users of previous releases are urged to upgrade to this release. See CitComCU for source code and documentation.
- **CitcomS 3.1.1.1 Manual Update** - CitcomS is a finite element code designed to solve thermal convection problems relevant to Earth's mantle. The manual was updated to fix the definitions of phase change and the chemical Rayleigh number (the dominator was incomplete). See CitcomS for source code and the updated manual. You can also run CitcomS on the TeraGrid.

CIG's TeraGrid Time Renewed; Use it to Try Out Codes

Starting April 1, CIG received a renewal of its TeraGrid allocation, and once again encourages U.S. researchers from the geodynamics community to apply for blocks of time on TeraGrid machines. Sign up for an allocation to benchmark codes or to try out CIG codes to see if the TeraGrid can work for your research. To apply for some of CIG's TeraGrid time, send in the application at Community Software Area on TeraGrid.

CIG Seismology Web Portal Processor Capacity Expanded

The number of processors one can select when configuring runs on the CIG Seismology Web Portal has been increased to 1014, as the portal now uses TACC Lonestar's "hero" queue. The portal provides automated and on-demand simulations, e.g., seismic wave propagation and synthetic seismograms. This web site launches a simulation on remote TeraGrid supercomputers using data gathered from various web sites and databases, and returns the results to the user. Create an account and login at SPECFEM3D GLOBE Web Portal to run default and customized seismology simulations (click "Accept this certificate..." when prompted).

Upcoming Workshops

- **2010 Workshop on Crustal Deformation Modeling**, June 14-18, 2010, Golden, CO. The Crustal Deformation Modeling (CDM) 2010 workshop will focus on computational models addressing the seismic cycle across single and multiple events. The workshop blends science talks on case studies from particular faulting environments and on key rheological behavior with discussions of current obstacles to crustal deformation modeling. Get more details at the CDM 2010 Announcement.
- **GLADE Workshop: From grains to global tectonics**, July 26-29, 2010, Scripps Institution of Oceanography, UC San Diego, CA. GLADE (Geodynamics of the Lithosphere and Deep Earth) will serve as a nesting ground for the U.S. Geodynamics community, and seeks to unify the lithosphere and mantle dynamics communities to address outstanding scientific and technical challenges in Geodynamics. July 29 activities will include hands-on tutorials and demos for geodynamics software. We strongly encourage participation from scientists investigating the rheology of Earth materials and observing plate tectonic processes. Get more details and register your interest at GLADE Workshop.
- **Training Session for the Gale Computational Software in Tectonics and Geophysics**, to be held Oct 30, 2010, Colorado Convention Center, Denver, CO (previous to 2010 GSA Annual Meeting). In this training session, CIG will focus on training new users in the use of

the tectonics modeling software Gale, a 2D/3D parallel code that solves problems in orogenesis, rifting, and subduction with a variety of boundary conditions, including free surfaces and coupling to surface erosion models. Get more details at 2010 GSA Annual Meeting.

EC and SSC Committee Updates

New EC and SSC Members - We are pleased to announce that the following people will be CIG's new officers filling 3-year terms:

- **EC:** Marc Parmentier (Brown)
- **SSC:** Magali Billen (UC Davis) and Garrett Ito (Hawaii)

In addition, EC members elected a new chairman, Peter Olson (Johns Hopkins), and SSC members elected Bruce Buffett (Berkeley) as their new chairman.

Thanks to all who agreed to stand for election, and thanks also to the outgoing members of the EC and SSC for their service to CIG: to Marc Spiegelman for his work on behalf of the CIG community, especially during this time of transition from CIG-I to CIG-II; Louise for chairing the SSC and agreeing to lead CIG-II into the future; and Laurent Montesi for his valuable contributions to the SSC. We also appreciate the efforts of the Nominating Committee, Wolfgang Bangerth, Laurent Montesi, and Shijie Zhong, for their fine work putting together the slate of candidates.

Committees, Staff, Etc.

Administration: Louise Kellogg, (530) 752-3690, , Director

CIG Administration, contracts, travel, etc.: cig-admin@geodynamics.org

Equation solvers (PETSc) and PyLith development: Matt Knepley,

CitcomS, Gale, and Magma development: Walter Landry, (626) 395-4621,

SVN software repository and systems administration: Bill Broadley,

Science Steering Committee: contact Chair Bruce Buffett (Berkeley),

Executive Committee: contact Chair Peter Olson (Johns Hopkins),