



# CYBERINFRASTRUCTURE SUMMER INSTITUTE FOR GEOSCIENTISTS

AUGUST 8–12, 2011 | SDSC • UCSD | SAN DIEGO, CALIFORNIA

## CSIG'11: Big Data and Big Computing in the Geosciences

The 8<sup>th</sup> annual Cyberinfrastructure Summer Institute for Geoscientists (CSIG'11) will be held August 8<sup>th</sup>–12<sup>th</sup>, 2011, at the San Diego Supercomputer Center, University of California, San Diego. Funded by the National Science Foundation, the theme for CSIG'11 is “**Big Data and Big Computing**”, reflecting the need in the geosciences for dealing with extremely large and heterogeneous observational data from a wide range of sensors and observing platforms, as well as simulation data produced by large-scale integrative models running on large computing platforms.

CSIG'11 will include presentations from experts in the Geosciences involved in projects that are tackling challenges with big data and big computing. The geoscience themes include integrative 3D/4D geophysical modeling; processing and analysis of observational data from remote sensing platforms; and, management and processing of streaming data from terrestrial sensors. Topics in end-to-end data management, visualization and analysis, distributed computing, cloud computing, and high-performance computing will be covered in this context. CSIG'11 will also feature presentations on big data/big computing challenges from the perspective of agencies, such as NASA, and from industry.

This year, CSIG'11 will be held the same week as the Gordon Summer Institute (GSI) at the San Diego Supercomputer Center, and will share several sessions with GSI. *Gordon* is the National

Science Foundation's next supercomputer system scheduled to go into production by December 2011 with 1024-nodes, and is unique in its extensive use of flash memory and virtual shared-memory “supernodes.” *Gordon* is the follow-up to *Dash*, the first supercomputer to use flash memory. The CSIG'11 and GSI formats are designed to allow interaction between participants of both institutes, including joint sessions and the ability for CSIG'11 participants to attend specific GSI sessions. CSIG'11 and GSI will share a common introductory session on the first day, to provide attendees an overview of the *Gordon* system along with examples of science applications that can leverage and exploit that architecture.

The overlapping of CSIG'11 and GSI institutes will provide ample opportunities for interaction between the two groups. In addition to the common introductory session, there will also be a joint Poster Session and Reception on Day 1 (Monday), and CSIG'11 attendees will have the opportunity to attend any GSI sessions during the week (some of which provide hands-on sessions using *Dash*—a precursor to the *Gordon* system).

CSIG'11 is designed for anyone interested in the area of geoinformatics and the use of cyberinfrastructure in the geosciences. The institute is targeted towards advanced graduate students, postdocs, faculty, and researchers in the geosciences.

**Prospective attendees are required to complete an online application form.**

**The deadline for application submission is June 24, 2011.**

**For more information, please visit: [http://www.geongrid.org/index.php/education/summer\\_institute](http://www.geongrid.org/index.php/education/summer_institute)**



NSF-funding for the institute will cover local expenses for all accepted participants (on campus room and board). However, attendees are expected to cover their own travel to the UC San Diego campus.