Open Science Grid — *Education, Outreach & Training*

Working Towards Global Shared Cyber-Infrastructure for Science

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Grid Education Opportunities

Self-paced / online instruction

Includes lectures and labs on grid technologies, with flexible roadmaps for navigating the material. You can access the online community for support or come to our online office hours.

2007 Workshops

opensciencegrid.org/workshops

- *OSG Collaboration Meeting*, Mar 5-7 at the Renaissance Computing Institute, Chapel Hill, NC
- *Argentine Grid Workshop*, Mar 12-14 at Red ProTIC, Santa Fe, Argentina
- *Midwest Grid Workshop*, Mar 24-25 at the U. of Illinois at Chicago
- *South Africa Workshop*, Mar 26-30, at the IFIP School on Software, Gordon's Bay, South Africa
- *TeraGrid Conference tutorials*, Jun 4-8, at the U. of Wisconsin-Madison
- *Rio Grande Grid Workshop*, Jun 8-10, at the U. of Texas at Brownsville and Texas Southmost College, coordinated with UT-Pan American
- *Great Plains Grid Workshop*, Aug 8-10, at the U. of Nebraska-Lincoln
- *Supercomputing '07 tutorials*, Nov 11&13, at SC'07, Reno, NV

Next Workshop

- *Florida International Grid School 2008*, Jan 23-25, at Florida International University, Miami, FL

International Outreach

The OSG EOT is committed to international outreach as a part of its mission, such as recent Grid schools in Argentina and Colombia, work with NorduGrid in Scandinavia, and the International Summer School on Grid Computing (with EGEE). We are also developing projects for Pan-American and South African schools.

The Education Virtual Org.

The OSG Education VO includes a wiki, email lists, followup discussions and other helpful tools to support you in using the Open Science Grid in your classes. Our staff will work with you to find the right way to get your students engaged in the OSG.

We also post learning and other Grid-related opportunities for students.

opensciencegrid.org/Education

The OSG will take High Throughput Computing to the next level, to transform data-intensive science through a cross-domain, self-managed national distributed cyber-infrastructure. It will bring together campuses and communities, and facilitate the needs of Virtual Organizations at all scales. The OSG Consortium includes many universities, national laboratories, scientific collaborations and software developers working together to meet these goals.

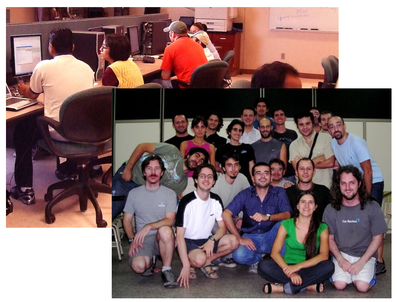
Community Outreach
OSG EOT supports under-represented and under-resourced communities in the U.S., Latin America and Africa through workshops, technical assistance, grid access, and an international students and faculty exchange.

End User Education
OSG EOT provides in-person workshops where students get hands-on experience working with leading grid-tools, and online training for those who can't get to one of our workshops.
We've also created the EOT Virtual Organization for student engagement, access and support.

EOT's Mission

Site Administrator Training
The OSG EOT trains site administrators in the setup and support of their OSG sites using the OSG/VDT software stack.

Secondary Students
High School education is supported through the powerful *I2U2* program, bringing grid science to secondary classrooms and students. (See box)



We can bring our grid school to your university campus!

Office of Science U.S. DEPARTMENT OF ENERGY

NSF

opensciencegrid.org/Education

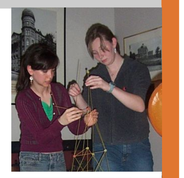
eot@opensciencegrid.org

I2U2: The Grid for Education

Interactions In Understanding the Universe (I2U2) creates an infrastructure to develop hands-on laboratory course content and an interactive learning experience that brings tangible aspects of each experiment into a "virtual laboratory." These labs use the Grid for education in the same way that science uses the Grid.

I2U2 *e-Labs* are accessible in the classroom and home via the web portals. *i-Labs,* interactive interfaces inside venues like museums, bring the experiences of scientific inquiry to a wider audience.

www.i2u2.org



Examples Users of the OSG

Computational Biologists

Scientists at the University of North Carolina are running Rosetta, a powerful tool to aid in designing protein structures. They have consumed 100,000 CPU-hours designing ten proteins.

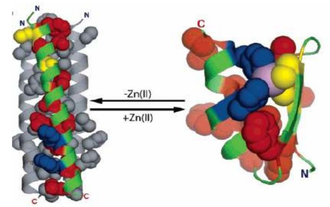


Image courtesy Brian Kuhlman, University of North Carolina

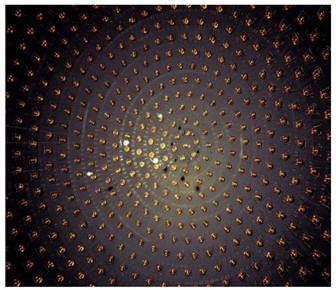


Image courtesy, Reidar Hahn, Fermilab

High-Energy Physicists

MiniBooNE, an experiment attempting to confirm the existence of a new type of neutrino, has consumed over 800,000 CPU-hours.

OSG provided 300,000 CPU-hours to the **DZero** experiment for one of the most precise measurements to date of the top quark mass.

Mathematicians

A single investigator at LeHigh University made opportunistic use of resources to solve a mathematical challenge exemplified by a football match lottery game: "What is the minimum number of tickets you must buy to guarantee that you hold a winning ticket?"

Given a match of six games, he has used over 200 CPU-years to narrow the range of the solution to 70-73.