

## Calendar/Meetings

### July

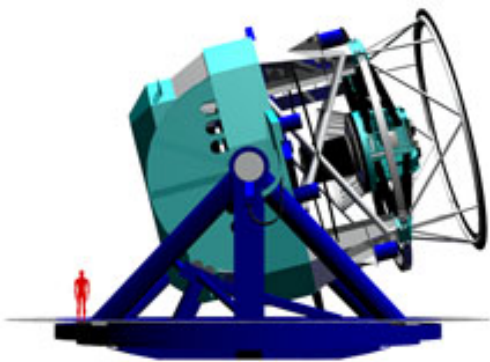
18-August 1, [University Politehnica of Bucharest \(UPB\) 2nd Grid Initiative Summer School](#), Bucharest, Romania

24-28, [Current and Future Generation Grid Technology CoreGRID Summer School 2006](#), Bonn, Germany

24-28, [CI-HASS: Cyberinfrastructure for Humanities, Arts and Social Sciences a Summer Institute](#), San Diego, California

[Full Calendar](#)

## Image of the Week



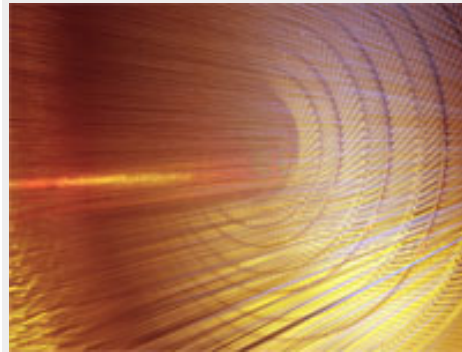
**Design of LSST telescope.** (Click on image for larger version.)

*Image Credit LSST Corporation*

The first annual test of the planned end-to-end astronomy cyberenvironment for the [Large Synoptic Survey Telescope](#) is currently underway. The proposed ground-based LSST telescope will provide digital imaging of faint astronomical objects, opening a movie-like window on objects that change or move on rapid timescales: exploding supernovae, potentially hazardous near-Earth asteroids and distant Kuiper Belt Objects. The LSST will also be used to trace the

## Feature Story

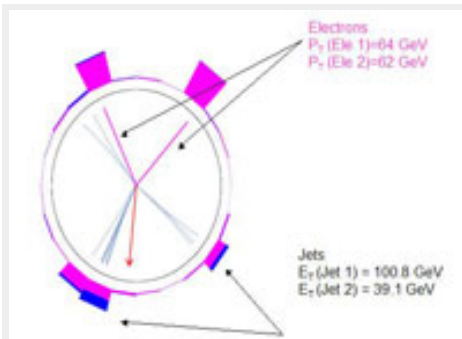
### Hunting for the Higgs, With the Grid as a Guide



The CDF Central Tracking Chamber. *Image Courtesy Fermilab*

The Higgs boson is elusive prey. Physicists have been searching for it since it was first proposed in the 1960s as a result of a theory to explain why all subatomic particles—and thus all objects in the universe—have mass.

"The understanding of particle physics has reached a very advanced level, but there are still things that are puzzling," says Duke University physicist Ashutosh Kotwal. "We understand why particles and forces behave the way they do, and how they interact with each other. But our theories all only make sense if these fundamental particles have no mass, which is obviously not true."



Monte Carlo simulation of the simultaneous production of a Higgs and a Z boson. The Z boson decays to two electrons and the Higgs to two b quark jets.

*Image Courtesy Ashutosh Kotwal*

## Profile

### Corralling Grid Power

Ed Walker has dedicated his professional career to harnessing the power of distributed computers. From Singapore's National Supercomputing Research Center, to Platform Computing in Toronto, and now at the Texas Advanced Computing Center in Austin, he's helped people get the computing power they need from computers across the room or around the world.



Ed Walker

Today at TACC, Walker works closely with users of the TeraGrid who need to run large numbers of grid jobs on multiple machines. The architect of GridShell and MyCluster, he focuses on creating virtual environments that submit jobs to the grid without involving users in the details of job management.

"It enhances the user's work experience without changing their work environment," adds Walker.

[Full article](#)

## Grids in the News

apparent distortions in the shapes of remote galaxies produced by lumps of dark matter, providing multiple tests of the mysterious dark energy.

[Read more...](#)

### Link of the Week

#### Help Defeat Cancer


The Help Defeat Cancer project will help researchers understand the underlying mechanisms of cancer in order to improve treatment and therapy planning for cancer patients. Help Defeat Cancer is the third project to use IBM's World Community Grid, through which more than 200,000 individuals currently volunteer power from more than 360,000 computers.

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 Office of Science/  
U.S. DOE

One way to give mass to the universe is to incorporate something new, called the Higgs field, into the equations. If the Higgs field exists, so do Higgs bosons, which physicists may be able to create in particle accelerators and measure with particle detectors. The scientists of the Collider Detector at Fermilab collaboration use the CDF detector and the Tevatron particle accelerator at Fermilab to search for and measure the Higgs and other fundamental particles and forces.

But particle physics discoveries and measurements don't just require machinery and ingenuity; today is also helps to have the computing power of the grid. CDF physicists use the grid for an essential tool in the hunt for the Higgs—Monte Carlo simulations.

[Full article](#)

#### Unis to build distributed storage grid

Computerworld, July 25, 2006  
By Rodney Gedda

Researchers from four universities have started work on the Australian Research Council (ARC) funded data grid storage infrastructure for e-research (DSIeR) project to help facilitate data accessibility.

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#### UTB-TSC helps train next generation of scientists

The Brownsville Herald, July 21, 2006  
By Aaron Nelsen

Few academic institutions in the world are currently training budding scientists how to use grid computing, but the University of Texas Brownsville and Texas Southmost College is at the forefront of this e-science.

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#### Student television channel uses GÉANT2 to bridge the Atlantic

GEANT2 Press Release, July 19, 2006

Open Student Television Network (OSTN), the only 24-hour, 7-day global channel exclusively devoted to student-produced programming, today takes the first step towards expansion within the European Union (EU).

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