

Calendar/Meetings

November 2005

1-2, [GADA '05: The Second International Workshop on Grid Computing and its Application to Data Analysis](#), Agia Napa, Cyprus

1-3, [Chinese American Networking Symposium \(CANS\) 2005](#), Shenzhen, China

2-5, [ISPA'05: Third International Symposium on Parallel and Distributed Processing and Applications](#), Nanjing, China

12-18, [SC|05](#), Seattle, WA

[Full Calendar](#)

Image of the Week



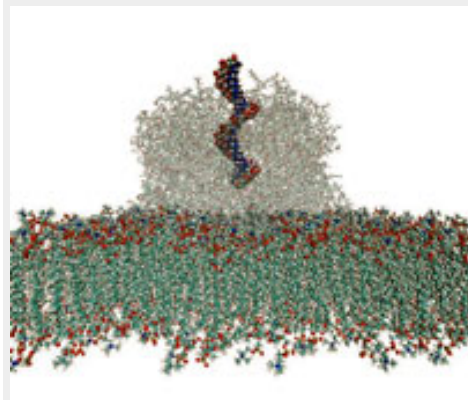
The BaBar Collaboration. (Click on image for full version.)

Diana Rogers/SLAC

Scientists use the [BaBar](#) detector, which weighs more than one thousand tons, to observe high-energy collisions of electrons and positrons from the Stanford Linear Accelerator Center's B-factory. The BaBar collaboration's 600 physicists and engineers from 75 institutions in 10 countries measure the properties of the B mesons and

Feature Story

SPICE-ing Up DNA Simulations



A single-strand DNA entering an alpha hemolysin protein pore.
Image courtesy of SPICE

Scientists in the UK combine grid computing, high-speed networks, supercomputers and three-dimensional visualization technology to study how biomolecules move through cell and nuclear membranes. Translocation, the process through which a DNA or mRNA fragment moves from the outside of a membrane to the inside through a pore, is important for several scientific disciplines and technological applications.

"Geneticists, biologists and physicists all study this problem," said Shantenu Jha, a physicist from University College London (UCL). "Geneticists are interested in how the DNA unravels, and physicists are interested in translocation as an energy problem. It has technical applications as well—nanotechnology and materials science researchers want to use artificial pores very similar to the natural pore we're investigating to screen thousands of DNA fragments against a test fragment and see what matches."

Jha collaborates in the SPICE—Simulated Pore Interactive Computing Environment—project, which uses the RealityGrid Steering Library and associated middleware to run interactive simulations on the UK's

Educating Students and Enabling Physicists



Physics Modeling Workshop at FIU.

High school, undergraduate and graduate students from South Florida to South America are learning about high energy physics and cyberinfrastructure through a model program based at Florida International University. CHEPREO, the Center for High Energy Physics Research and Education Outreach, is a collaboration of four universities that integrates high energy physics research, network and grid infrastructure development, and education and outreach efforts at FIU, one of the largest minority-serving schools in the United States.

"Many interesting elements came together to create CHEPREO," said Heidi Alvarez from FIU, one of the Center's principal investigators. "Efforts for the CMS particle physics experiment were taking off in the U.S.; AMERICASPATH, a major international exchange point for research and education networks, was operational; the Network Access Point of the Americas, the fifth Tier 1 NAP in the world, had just come online in Miami; and there was strong interest in fostering relationship with the Brazilian high-energy physics community."

CHEPREO brings together Florida State University, the University of Florida, Caltech and FIU in a unique three-component project funded by four directorates at the NSF. The physics research component focuses on the CMS high energy physics

other subatomic particles created from the collisions. The collaboration uses the LHC Computing Grid in for a portion of their particle physics simulations.

[Link of the Week](#)

Describing the Elephant: The Different Faces of IT as Service

This ACM Queue article by Ian Foster and Steven Tuecke defines and distinguishes much of the jargon surrounding grid computing. Foster and Tuecke sort out terms such as utility computing, grid infrastructure, on-demand, horizontal integration, service-oriented architecture, Web services and virtualization.

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Office of Science/
U.S. DOE

National Grid Service and TeraGrid in the U.S. The simulations are unique; instead of a one-way flow of simulation data from supercomputer to remote visualization resource, the scientist also uses the visualization to steer the simulation. The bi-directional data flow is made more challenging when the simulation and visualization resources are located hundreds, or even thousands, of miles away.

[Full article](#)

Global e-Infrastructure Reports Landmark Results at European Conference



Geneva, 28 October 2005—Today marked the completion of a major conference organized by the Enabling Grids for E-science project, which is coordinated by CERN and co-funded by the European Commission, where a number of key results were reported on the road to achieving a global grid infrastructure for science. It was announced at the conference that the EGEE infrastructure, which spans over 150 sites in Europe, the Americas and Asia, had surpassed 2 million computing jobs, or the equivalent of over 1000 years of processing on a single PC.

The EGEE infrastructure, which is linked by Europe's GEANT high-speed communications network, as well as similar networks for scientific research around the world, spans across 40 countries. Only 18 months after the launch of the EGEE project, well over 1000 users around the globe are using the EGEE infrastructure to accelerate their computing tasks, which cover some six scientific domains and some 20 major applications, ranging from particle physics to drug discovery for combating malaria.

[Read the full CERN press release](#)

experiment. With 2,000 collaborators worldwide and a 20 to 30 year lifetime, the experiment will be in need of a next generation of physicists, which CHEPREO aims to train through the education and outreach component.

[Full article](#)

[Grids in the News](#)

Chinese scientists exchange huge research data via global high-speed net

People's Daily Online, October 31, 2005

Researchers from the Chinese Academy of Sciences (CAS) Institute of High Energy Physics exchanged huge scientific data with their Italian counterparts via the Global Ring Network for Advanced Applications Development (Gloriad).

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New Connection Links PNNL to High-Speed Networks

GRIDtoday, October 27, 2005

A new connection on a fiber optic cable between Richland and Seattle has been lit to support the high-speed transfer of very large data sets between researchers at the Department of Energy's Pacific Northwest National Laboratory and U.S. and international science communities.

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Cancer screensaver program shows potential

Phoenix Business Journal, October 26, 2005

After just five months of operation, the Pancreatic Cancer Screensaver Lifesaver program has identified two compounds that show promise against pancreatic cancer.

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