SCIENCE GRID THIS WEEK

May 4, 2005

Calendar/Meetings

MAY

1-5, 2005 Spring Internet2 Meeting, Arlington, VA

2-6, Grid Asia 2005, Biopolis, Singapore

4-5, US LHC OSG Technology Roadmap Meeting, Madison, WI

5-6, GEON 3rd Annual Meeting, San Diego, CA,

9-12, Cluster Computing and Grid 2005, Cardiff, UK

10-12, BICCIB'05: From Biology to Computers and Back, Banff, Alberta, Canada

11-12, Grid World Expo 2005, Tokyo, Japan

Graphic of the Week

Graphic logo for the Einstein@Home project.
Courtesy of Einstein@Home

Einstein@Home is a distributed computing project that searches data from the Laser Interferometer Gravitational Wave Observatory and the GEO 600 gravitational wave observatory for signals coming from extremely dense, rapidly rotating stars.

Learn more...

Feature Story

Grid Physicist Joins "Quantum Diaries"

Rob Gardner

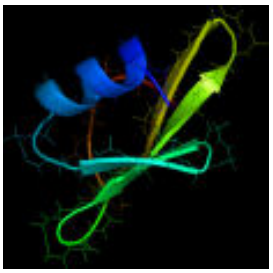
Batavia, IL—Today the University of Chicago's Rob Gardner joins over 30 other physicists worldwide telling the story of their lives as 21st-century scientists in "Quantum Diaries." Gardner will share with readers the ups and downs of work as a particle physicist and grid computing researcher as well as his thoughts and experiences outside the world of science.

"The Diarists are giving people in many countries a great view of the diverse lives of scientists," said Gardner. "I hope to add a new dimension to the blogs, by writing about my work in distributed computing infrastructures, my love of Chicago architecture and much more over the next year."

"Quantum Diaries" is a Web site that follows the lives of physicists from around the globe as they live the World Year of Physics, 2005. In their own words, in blogs, photographs and video clips, and in half a dozen languages, the Quantum Diarists give readers a real-time picture of the lives of physicists. Diarists don't just write about challenges in the laboratory and in the classroom; they also write about their families, hobbies, interests and travels.

Read more...

Human Proteome Folding Project Running on World Community Grid



Rosetta prediction for a human protein structure. Courtesy of the Institute for Systems Biology.

The Human Proteome Folding Project is halfway to its goal of predicting the three-dimensional structures of 100,000-150,000 proteins, including some of the most important molecules in living organisms. The Institute for Systems Biology project has predicted 50,000 protein structures in six months using computing power donated by members of the World Community Grid.

The structure of a protein determines its role in living organisms. Genes specify the code for a specific chain of amino acids that folds into a three-dimensional shape to form a protein. Once an organism's genome is sequenced, a vital next step for scientists is to predict or experimentally determine the structures of the resulting proteins—no easy feat.

"Once you've figured out which parts of a genome make proteins, the next step is to assign a function to each protein—figure out what each gene does," explained ISB's Richard Bonneau, lead scientist for the project. "We are using the Rosetta program to predict the folded structure of proteins from a representative set of genomes from every evolutionary branch of life."

Read more...

From the Editor

Link of the Week

GridCafé

The GridCafé, developed at CERN, is an introduction to the grid for non-experts. Using non-technical language, it explains what the grid is, how it works and what it may become. The site also includes games, demos, links to grid projects, and a discussion forum.

Grids in the News

Fermilab has 250 trillion reasons to outsource data

Chicago Sun-Times, May 2, 2005
By Jim Ritter

Imagine having to wade through enough information to fill a shelf of Encyclopedia Britannicas stretching from Chicago to Pittsburgh.

That's the challenge faced by physicists at Fermilab, the world's most powerful subatomic particle accelerator.

Read more...

Radio astronomers and particle physicists put UKLight to the test

JISC Press Release, April 28, 2005
Judy Redfearn reports

The first users of UKLight have been putting the fledgling optical network through its paces, Peter Clarke, deputy director of the National e-Science Centre told the Joint Information Systems Committee (JISC) conference.

Read more...

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Office of Science/ U.S. DOE

GriPhyN Plots Course for 2005

Technology developed by the Grid Physics Network, a project funded by the National Science Foundation to develop grid solutions for scientific collaborations, is now being used in many areas, from particle physics and climate modeling to astrophysics and genome analysis. Last week, 25 GriPhyN project members responsible for providing and applying grid infrastructure met at Argonne National Laboratory to discuss plans for the next year.

"With significant application use by GriPhyN experiments now taking place on our grids, it's time to identify the next layer of technology requirements so that we can further support these users," said Argonne's Mike Wilde, GriPhyN Project Coordinator.

The GriPhyN collaboration is a team of information technology researchers and experimental physicists working to meet the growing needs of diverse communities of scientists worldwide for data-intensive computing. GriPhyN develops Grid middleware, the layer of software necessary to connect users to vast worldwide networks of computing resources. The collaboration and its tools work as a liaison between providers of Grid software components and scientific experiments with ever-growing computing needs.

Read more...

Ideas Wanted, Suggestions Welcome

Katie Yurkewicz

Welcome to the second issue of Science Grid This Week. We hope you are enjoying this new e-newsletter, which brings to your inbox stories about the people and projects involved in grid computing and the science that relies on it.

SGTW is brought to you by the National Science Foundation, the Department of Energy's Office of Science and me, the new communicator for the U.S. science-affiliated grid community. Every week, I aim to include articles, graphics, statistics, links and calendar items that are informative and entertaining to the grid community as well as to non-experts. I need your feedback to make that happen. If you have an idea for a story, a photo or graphic, link, meeting or news item that you'd like to share, or if you'd like to tell me what you think of SGTW, please contact me. I can't wait to hear from you.