

## Case Research Computing Newsletter

### 26 January 2006

#### News from Case

-----

1. gridMathematica, MATLAB, Gaussian, and R are being installed on the Case pilot HPC cluster

#### Funding News

-----

2. Four university teams selected for Homeland Security's National Visualization Team
3. \$24.5 million awarded for collaborative research in marine genomics using NLR

#### News of Conferences and Professional Societies

-----

4. Windows on the Future - Columbus, Ohio - March 7, 2006
5. IEEE International Symposium on High Performance Distributed Computing - June 2006 - Paris, France - Call for Papers
6. Announcement and call for papers for the HPCS 2006 meeting.
7. O'Reilly Emerging Technology Conference - San Diego, California - March 6-9, 2006
8. JavaOne 2006 - San Francisco, California - May 16-19, 2006
9. The Twelfth International Conference on Parallel and Distributed Systems - Minneapolis, Minnesota - July 12-15, 2006
10. International Conference on Parallel Processing - Columbus, Ohio - August 14-18, 2006
11. GridWorld - Boston, Massachusetts - October 3-6, 2006
12. OSC Workshop: Introduction to MATLAB - Columbus, Ohio - February 15-16, 2006
13. Combined Sun HPC Workshop and Consortium Meeting - RWTH Aachen University, Germany - March 13-17
14. SAC 2006, Special Track on Distributed Systems and Grid Computing - Dijon, France - April 23-27, 2006
15. First International Conference on Grid and Pervasive Computing - Tunghai University, Taiwan - May 3-5, 2006 in conjunction with Grid Asia
16. Sun HPC Consortium Meeting - Singapore - May 14-15, 2006
17. Grid Asia 2006 IEEE International Symposium on Cluster Computing and the Grid - Singapore - May 16-19, 2006
18. IEEE International Symposium on High Performance Distributed Computing Paris, France, June 19-23, 2006
19. International Supercomputing Conference - Dresden, Germany - June 27-30, 2006
20. Americas Conference on Information Systems (AMCIS 2006) - Acapulco, Mexico - August 4-6
21. Workshop on Python Programming for HPC - Ohio Supercomputer Center, Columbus - February 1-2, 2006

#### Other news

-----

22. Case Study: NASA / SGI Supercomputer
23. ETICS to improve grid quality
24. Renaissance Computing Institute teams with medical researchers
25. Toward a quantum computer, one dot at a time

26. NIST summer research jobs, applications due February 15
27. GENI Project: First public release of conceptual design

---

**1. gridMathematica, MATLAB, Gaussian, and R are being installed on the Case pilot HPC cluster**

---

Several software packages are being installed on the ITS pilot HPC cluster and will be available to all users. The packages are gridMathematica, MATLAB, Gaussian, and R. Please contact [Roger.Bielefeld@case.edu](mailto:Roger.Bielefeld@case.edu) if you would like to suggest other software for installation on the cluster. Please see [www.case.edu/its/researchcomputing](http://www.case.edu/its/researchcomputing) for details.

---

**2. Four university teams selected for Homeland Security's National Visualization Team**

---

<http://nvac.pnl.gov/centers.stm>

[http://nvac.pnl.gov/stanford\\_press.stm](http://nvac.pnl.gov/stanford_press.stm)

<http://nvac.pnl.gov/pressroom.stm>

Pacific Northwest National Laboratory (PNNL) in Richland, Washington has named four university teams as Regional Visualization and Analytics Centers (RVAC). Stanford University was named a regional center last year. PNNL leads the [Department of Homeland Security's National Visualization and Analytics Center](#) or NVAC, which is bringing academic expertise to the nation's efforts to discover information that may warn officials of a terrorist attack. The four newly-named university teams are Pennsylvania State University, Purdue University with Indiana University School of Medicine, the University of North Carolina with Georgia Institute of Technology, and the University of Washington.

---

**3. \$24.5 million awarded for collaborative research in marine genomics using NLR**

---

<http://chronicle.com/daily/2006/01/2006011801t.htm> [subscription required]

<http://www.supercomputingonline.com/article.php?sid=10205>

The Gordon and Betty Moore Foundation has awarded \$24.5 million over five years to researchers at the J. Craig Venter Institute, in Rockville, Md., and the Scripps Institution of Oceanography at the University of California at San Diego to build a state-of-the-art computerized system for transcontinental collaborations by scientists studying microbes in the ocean. Scientists involved in the project said that it may serve as a prototype for online collaborations in many scientific disciplines. The system, known as the Community

Cyberinfrastructure for Advanced Marine Microbial Ecology Research and Analysis, or "Camera", will rely on the National LambdaRail academic fiber-optic network and other fiber-optic lines to offer links as much as 100 times faster than those on the conventional Internet.

---

**4. Windows on the Future - Columbus, Ohio - March 7, 2006**

---

<http://www.osc.edu/research/wof/>

Windows on the Future provides a forum in which academic institutions, research centers, corporate laboratories and government agencies can share knowledge, exchange ideas, and form networking relationships that will collectively benefit Ohio's higher education and industrial communities. Windows on the Future is sponsored by the [Ohio Supercomputer Center \(OSC\)](#), in cooperation with the [Ohio Board of Regents](#). This year there will be two tracks: Applying Advanced Networking and High Performance Computing to Health Information and Medical Research and Applying Broadband for Innovation in Education, Government, and Public Services. For more information, see <http://www.osc.edu/research/wof/>.

---

**5. IEEE International Symposium on High Performance Distributed Computing - June 2006 - Paris, France - Call for Papers**

---

HPDC'15 - The 15th IEEE International Symposium on High Performance Distributed Computing June 19-23 2006 Paris, France → [www.hpdc.org](http://www.hpdc.org)

The Fifteenth IEEE International Symposium on High-Performance Distributed Computing (HPDC) will be a forum for presenting the latest research findings on the design and use of parallel and distributed systems for high end computing, collaboration, data analysis, and other innovative applications. Submissions are welcomed covering all aspects of high- performance distributed computing, Grids, and global computing ensembles. New scholarly research emphasizing empirical and reproducible results as well as investigative expositions of successful application and deployment efforts are particularly encouraged.

---

**6. Announcement and call for papers for the HPCS 2006 meeting**

---

<http://www.ace-net.ca/events/hpcs2006/>

The 20<sup>th</sup> International Symposium on High Performance Computing Systems and Applications will be held May 14-17, 2006 at Memorial University of Newfoundland in conjunction with OSCAR'06. See <http://www.ace-net.ca/events/hpcs2006> for more information. See <http://www.csm.ornl.gov/oscar06/> for information on OSCAR'06.

---

**7. O'Reilly Emerging Technology Conference - San Diego, California - March 6-9, 2006**

---

<http://conferences.oreillynet.com/etech/>

Alpha geeks--hackers and other lead users--are a great early warning system for anyone who's watching the future of technology. The O'Reilly Emerging Technology Conference frames the ideas, projects, and technologies that the alpha geeks are thinking about, hacking on, and inventing right now into a coherent picture from which to extrapolate and upon which to start building.

---

**8. JavaOne 2006 - San Francisco, California - May 16-19, 2006**

---

<http://java.sun.com/javaone/sf/>

The premier conference for Java developers.

---

**9. The Twelfth International Conference on Parallel and Distributed Systems - Minneapolis, Minnesota - July 12-15, 2006**

---

<http://www.icpads.umn.edu/>

ICPADS 2006 provides an international forum to exchange and share experiences, new ideas, and latest research results on all aspects of parallel and distributed systems.

---

**10. International Conference on Parallel Processing - Columbus, Ohio - August 14-18, 2006**

---

<http://www.cse.ohio-state.edu/~icpp2006/>

The conference provides a forum to present the latest research findings in any aspects of parallel and distributed computing.

---

**11. GridWorld - Boston, Massachusetts - October 3-6, 2006**

---

<http://www.gridworldhome.com/live/42/>

GridWorld is designed for business and technology professionals responsible for shaping directions and deploying grid solutions within research, industry and government enterprises.

---

**12. OSC Workshop: Introduction to MATLAB - Columbus, Ohio - February 15-16, 2006**

---

<http://www.osc.edu/hpc/notices/notice915.html>

MATLAB is a set of popular software designed originally for matrix mathematics and linear algebra. Since its inception, its functionality has grown extensively into areas such as full 2D and 3D graphics, plotting and animation, complete programming language, numerical methods, variety of file I/O methods, basic data analysis, numerical analysis, image processing. The course will assume no prior knowledge of MATLAB. The workshop contains several hours of hands-on lab each day during which students can use MATLAB themselves for problem solving. Some prior programming experience is required. For more information, see <http://www.osc.edu/hpc/notices/notice915.html>.

---

**13. Combined Sun HPC Workshop and Consortium Meeting - RWTH Aachen University, Germany - March 13-17**

---

<http://www.rz.rwth-aachen.de/sunhpc>

Combined Sun High Performance Computing Workshop and Consortium Meeting - SunHPC 2006, , RWTH Aachen University, Center for Computing and Communication, Aachen, Germany. Organized by the Sun HPC Consortium and the RWTH Aachen University

---

**14. SAC 2006, Special Track on Distributed Systems and Grid Computing - Dijon, France - April 23-27, 2006**

---

<http://www.cslab.ece.ntua.gr/sac06-dsgc/index.php>

This track aims to be a forum for scientists, engineers, and practitioners to share technical ideas, experience and results, and to present their latest findings in any aspects of distributed and grid computing.

---

**15. First International Conference on Grid and Pervasive Computing - Tunghai University, Taiwan - May 3-5, 2006 in conjunction with Grid Asia**

---

<http://hpc.csie.thu.edu.tw/gpc2006/>

Grid and Pervasive Computing (GPC) is an annual international conference on the emerging areas of merging grid computing and pervasive computing, aimed at providing an exciting platform and paradigm for all the time, everywhere services.

---

**16. Sun HPC Consortium Meeting - Singapore - May 14-15, 2006**

---

<http://www.sun.com/products-n-solutions/edu/he/researchandcomputation.html>

---

**17. Grid Asia 2006 IEEE International Symposium on Cluster Computing and the Grid - Singapore - May 16-19, 2006**

---

<http://pdcc.ntu.edu.sg/ccgrid2006/>

<http://www.ngp.org.sg/gridasia/2006/>

CCGrid 2006 provides researchers and practitioners with an opportunity to share their research and experience at the cross-roads of Grid Technology.

---

**18. IEEE International Symposium on High Performance Distributed Computing Paris, France, June 19-23, 2006**

---

<http://hpdc.lri.fr/>

The Fifteenth IEEE International Symposium on High-Performance Distributed Computing (HPDC) will be a forum for presenting the latest research findings on the design and use of parallel and distributed systems for high end computing, collaboration, data analysis, and other innovative applications.

---

**19. International Supercomputing Conference - Dresden, Germany - June 27-30, 2006**

---

<http://www.supercomp.de>

The ISC is a premier venue for gaining an international perspective on the field of HPC. Combining a strong lineup of technical experts with exhibits from vendors, ISC presents state-of-the-art applications, architectures and trends in supercomputing.

---

**20. Americas Conference on Information Systems (AMCIS 2006) - Acapulco, Mexico - August 4-6**

---

<http://amcis2006.aisnet.org/>

---

**21. Workshop on Python Programming for HPC - Ohio Supercomputer Center, Columbus - February 1-2, 2006**

---

This course is designed for people who want to learn Python but have never used it before. Following this "beginning" Python tutorial, the course will cover a specialized topic: using Python for scientific computing. Some programming experience is required. The target audience is scientists and engineers. See <http://www.osc.edu/hpc/training> for more information.

---

**22. Case Study: NASA / SGI Supercomputer**

---

<http://www.eweek.com/article2/0,1895,1910461,00.asp>

Case Study: NASA and SGI still marvel at their collaboration on the world's third-largest supercomputer.

---

**23. ETICS to improve grid quality**

---

<http://www.supercomputingonline.com/article.php?sid=10237>

The kick-off meeting for a new project called ETICS (eInfrastructure for Testing, Integration and Configuration of Software) was held at CERN on January 20. The goal of this project, which is coordinated by CERN and funded partially by the European Commission, is to improve the quality of Grid and distributed software by offering a practical quality assurance process to software projects, based on a build and test service. This is a first of its kind in Grid computing.

---

**24. Renaissance Computing Institute teams with medical researchers**

---

<http://www.supercomputingonline.com/article.php?sid=10236>

Scientists studying the genetic changes in skin tissue linked to a life-threatening skin cancer, or melanoma, will soon have new analysis tools and more research data at their fingertips thanks to a collaboration with the Renaissance Computing Institute (RENCI), a multidisciplinary institute affiliated with the University of North Carolina at Chapel Hill, Duke and North Carolina State universities. Dr. William Kaufmann, a professor of pathology and laboratory medicine at UNC's School of Medicine, is working with a RENCi team led by Dr. Xiaojun Guan on overcoming some of the thorniest technical challenges in understanding melanoma; their work could lead to better treatments for the deadly disease. Those challenges include pulling together biological data from disparate databases and experiments, merging data sets into comprehensive data visualizations, and developing standard methods for visualizing genetic pathways—the series of interactions that take place among related genes that lead to mutations and the development of cancer cells.

---

**25. Toward a quantum computer, one dot at a time**

---

<http://www.supercomputingonline.com/article.php?sid=10232>

Researchers at the University of Pittsburgh have developed a way to create semiconductor islands smaller than 10 nanometers in scale, known as quantum dots. The islands, made from germanium and placed on the surface of silicon with two-nanometer precision, are capable of

confining single electrons. "We believe this development moves us closer to our goal of constructing a quantum computer," said Jeremy Levy, Pitt professor of physics and astronomy and director of the Pittsburgh-based Center for Oxide-Semiconductor Materials for Quantum Computation. Levy and colleagues reported on the advance in a paper published in October 2005 in the journal Applied Physics Letters.

---

**26. NIST summer research jobs, applications due February 15**

---

<http://www.supercomputingonline.com/article.php?sid=10222>

This summer the National Institute of Standards and Technology (NIST) will again provide about 125 full-time undergraduate research fellowships for college students majoring in physics, chemistry, materials science, engineering, mathematics, and computer science. Supported by the National Science Foundation, the program provides 12 weeks of paid employment and gives young scientists and engineers an opportunity to work in NIST research laboratories alongside some of the world's leading experts in science and technology. Positions are available in both Gaithersburg, Md., and Boulder, Colo., for the time period, May 22 to Aug. 11, 2006.

---

**27. GENI Project: First public release of conceptual design**

---

<http://www.geni.net/GENI-10-JAN-06.pdf>

Laurie Burns, Executive Director of Member and Partner Relations at Internet2, has announced the first public release of an early conceptual design for the GENI project. With the active engagement of many leading network researchers and the NSF, GENI is focused on developing a platform for testing a wide array of next generation network concepts in the context of a 'clean slate' design. In the words of Internet2 NRLC chair Larry Landweber, this might be a good time for campus CIOs to take their network research faculty colleagues to lunch to discuss the opportunities for expanded collaboration!

For more information, see <http://www.geni.net> and <http://www.nsf.gov/cise/geni/>.

---

**About the newsletter**

---

The Case Research Computing Newsletter is distributed on the last Thursday of each month and is intended to provide information of interest to researchers in the areas of high performance computing, high bandwidth networking, grid computing, visualization, and other uses of computation in research. To manage your subscription to the newsletter (or to unsubscribe), please visit <https://lists.case.edu/> and select the "RC-newsletter" mailing list. For comments about the newsletter or more information about research computing at Case in

general, please contact [Roger.Bielefeld@case.edu](mailto:Roger.Bielefeld@case.edu) or see [www.case.edu/its/researchcomputing](http://www.case.edu/its/researchcomputing). Old issues of the newsletter are archived at [www.case.edu/its/researchcomputing/newsletter](http://www.case.edu/its/researchcomputing/newsletter).