



Sept 13- Sept. 19, 2009

LSU High Performance Computing Launches New Cluster for Research Use

This week, LSU's High Performance Computing, or HPC, will debut the campus' newest supercomputing cluster, Philip. This high-speed cluster gives the campus access to a large-memory scientific computing resource, allowing faculty and staff to conduct research in ways not possible on LSU's existing high-performance computing systems.

Philip is a high-performance computing cluster that will support research requiring high-performance processing and very large memory resources. The new system allows researchers to take advantage of shared memory programming techniques, and gives researchers the means to experiment with and take advantage of new computing models.

Philip is named for one of the University's first Boyd Professors, chemistry Professor Philip W. West. The Boyd Professorship is LSU's highest and most prestigious academic rank.

Through the HPC group, which is a joint operation between the LSU Center for Computation & Technology, or CCT, and LSU Information Technology Services, or ITS, the campus has used high-performance computing clusters to run simulations and conduct research in a variety of areas, including numerical relativity, computational fluid dynamics, chemistry, astrophysics and engineering since 2002.

In recent years, fields such as biology, materials science and mathematics also have started using high-performance computing to enable advanced research and collaborate using the high-speed networking available on campus. Many of these non-traditional computational science fields require large memory systems and storage for massive amounts of data. The University acquired Philip specifically to help address these growing needs. The CCT purchased Philip for \$215,000 in May, and the HPC group will add this cluster to the pool of computing resources available on campus.

Philip is a 37-node cluster with 3.5 Teraflops Peak Performance of computing power, providing more memory per core than is available on previous LSU computing clusters. Each node contains two of the latest Intel Quad Core Nehalem Xeon 64-bit processors, making Philip capable of operating at higher core processing speeds than the University's current high-performance computing systems.

HPC will make Philip, located in the Fred C. Frey Computing Services Center, available

to campus researchers starting this week. Any faculty members, research staff or students directly supervised by a faculty member are welcome to contact HPC and make arrangements for research time on Philip.

“LSU has long understood the potential to advance breakthroughs in many disciplines using high-performance computing technology, and we continually try to acquire and use the most effective equipment to maintain our edge in this area,” said Honggao Liu, Ph.D., LSU’s HPC Director. “Philip provides University researchers with access to some of the most advanced computational tools, which will enable research that could not be achieved otherwise at LSU.”

For more information on Philip, please visit

<http://www.hpc.lsu.edu/systems/system.php?system=Philip>.

Pats on the Back:

- Congratulations to Werner Benger, Gabrielle Allen and Steve Beck! DISCOVER Magazine will feature their images from the CCT's Hurricane Katrina Visualization in an upcoming edition.
- The Cluster 2009 organizers, Daniel S. Katz and Thomas Sterling, received a \$48,375 grant award from the National Science Foundation for this event, which covered registration and lodging costs for 75 students to attend. Cluster 2009 attracted nearly 250 participants throughout five days.
- Gabrielle Allen received a National Science Foundation EAGER (EARly-concept Grant for Exploratory Research) grant award to support data visualization using high-speed networks. The award is for \$300,000 for two years.
- Erik Schnetter, Adam Burrows, Christian D. Ott, Gabrielle D. Allen. received a \$1.4 million grant award from the National Science Foundation for their project, "PetaCactus: Unraveling the Supernova -- Gamma-Ray Burst Mystery." Through this research, the group will develop new physics applications to develop ode to enhance the capabilities of current software programs such as Cactus and Carpet for petascale computing.

CCT in the News:

- LSU’s Rudy Hirschheim to be Published in Communications of the ACM
Source: LSU E.J. Ourso College of Business
<http://www.cct.lsu.edu/site.php?pageID=66&newsID=1073>
- LONI Gets Funding for TeraGrid Research
Source: HPC Wire
<http://www.hpcwire.com/offthewire/LONI-Gets-Funding-for-TeraGrid-Research-58095417.html>

- IEEE Hosts Successful Cluster 2009 Conference

Source: HPC Wire

<http://www.hpcwire.com/topic/systems/IEEE-Hosts-Successful-Cluster-2009-Conference-59238577.html>

Lectures This Week:

- X. Rong Li, Ph.D., University Research Professor & Director of Information & Systems Technology Research Center, Electrical & Computer Engineering at the University of New Orleans, will hold a special ECE Research Seminar Series Wednesday, Sept. 16, 2009. The topic is “Logical Foundation of Reasoning and Interference and it will take place in room 117 at the Electrical Engineering Building from 3-4 p.m.
- Xin Li, Assistant Professor at CCT and ECE, will be organizing this year's CCT Colloquium Series. He is working hard to put together an interesting program for the coming year and would appreciate any input or suggestions. Feel free to contact Xin at xinli@cct.lsu.edu.

Please Note:

- Future ALL CCT meetings for the Fall 2009 semester will take place Sept. 23, Oct. 21, Nov. 11 and Dec. 16. All meetings are at 3 p.m. in Johnston 338 unless otherwise announced. Please make every effort to attend these important meetings.
- There will be two HPC training offerings this week: Introduction to Vi, Tuesday, Sept. 15 from 9:30 am to 11:30 am in 338 Johnston and on the Access Grid, and Job Management with PBS or Load Leveler, Thursday, Sept. 17 from 1:30 p.m. to 3:30 p.m. in 338 Johnston and on the Access Grid. To register, visit: <http://www.hpc.lsu.edu/training/>.
- LSU's ACM student organization is having its first meeting this evening, Tuesday, Sept. 15. The advisers would like to announce any research openings for students at the meeting. If you have any undergraduate or graduate research student worker positions open, please send Kathy Traxler, ktraxier@cct.lsu.edu, or Jason Kincl, jkincl@lsu.edu, an e-mail with a short description of the opening. This includes paid or unpaid positions.
- CCT faculty, staff and students can access pictures from events, conferences and activities from the online photo gallery at <http://www.cct.lsu.edu/site97.php>. These images are CCT property and are available to use for posters, presentations and other needs.
- Registration is now open for the Supercomputing 2009 Education Program at the conference in Portland, which will take place Nov. 14-17. The Education Program helps educators and students learn more about computational science topics and gives educators ideas to bring these topics into their classrooms. The program is open to

undergraduate faculty, undergraduate and graduate students, and high school teachers. To register or for more information, please visit <http://computationalscience.org/sc09>.

- The SC09 Student Contest Program is accepting team registrations. This is a competitive programming event, where teams of no more than five students will be given eight to 12 problems from various scientific problem domain areas. The competition will take place Monday, Nov. 16 at the SC09 conference in Portland, Oregon. Awards will be announced on Tuesday, November 18 at an SC09 Education Program plenary session. Register your team today, http://sc09.sc-education.org/conference/studentcomp_signup.php. Deadline to register is Thursday, October 1, 2009.
- Please remember to send your news concerning grants, awards, conferences, or other pertinent information that should be communicated to CCT to PR Manager Kristen Sunde at ksunde@cct.lsu.edu.

Upcoming Grant Deadlines:

Note: Please see the CCT deadline Web site, as many NSF deadlines are listed here: <http://www.cct.lsu.edu/about/grants/deadlines/events.php>

- Social Computational Systems (SoCS)
September 21, 2009 10:00 a.m.
At most \$250,000.00 available
http://www.nsf.gov/pubs/2009/nsf09559/nsf09559.htm?govDel=USNSF_25
- CreativeIT
October 13 2009 10:00 a.m.
A portion Of \$7,000,000.00 available
http://www.nsf.gov/pubs/2009/nsf09572/nsf09572.htm?govDel=USNSF_25
- EPSCoR Research Infrastructure Improvement Program: Track-1 (RII Track-1)
October 19 2009 10:00 am
At Most \$ 4,000,000.00 available
http://www.nsf.gov/pubs/2009/nsf09570/nsf09570.htm?govDel=USNSF_25
- EPSCoR Research Infrastructure Improvement Program: Track-2 (RII Track-2)
November 18 2009 10:00 am
At Most \$ 2,000,000.00 available
http://www.nsf.gov/pubs/2009/nsf09571/nsf09571.htm?govDel=USNSF_25

