



Nov 1-7, 2009

### **Louisiana Students Collaborate to Compete in Programming Contest**

Most college students spend their Friday nights partying, hanging out with friends or getting ready to tailgate for the game on Saturday. But, a group of students from five universities across Louisiana has come up with a new Friday night activity.

Using interactive technology, the students meet every Friday evening and practice as a group to prepare for the Student Programming Contest that will take place as part of Supercomputing 2009, the premier international conference on high-performance computing and its related tools, technologies and applications.

The students, who are all in different cities, communicate with each other in real time using video conferencing streamed across the Louisiana Optical Network Initiative, or LONI, a high-speed, fiber optic network that links supercomputing resources at the state's major research institutions. In addition to meeting every Friday via LONI resources, the students use e-mail and instant messaging to communicate with each other during the week on programming problems.

The student team, comprised of Lei Jiang, LSU; Joshua Hitchins, Louisiana Tech University; Jeffrey Morgan, Southern University; Cory Redfern, University of New Orleans; and Nikhil Shetty, University of Louisiana at Lafayette; will compete together in the Student Programming Contest, which will take place Monday, Nov. 16 on the opening day of Supercomputing Conference 2009 in Portland, Oregon. During the contest, they will receive eight to 12 problems from various computational science disciplines to solve on site, so the preparation beforehand is important.

LONI and the students' home universities will fund their travel costs to Portland so they can compete in the contest and participate in other activities during Supercomputing 2009.

“We have had student teams from Louisiana universities compete during Supercomputing in past years, but this is the first time we have used LONI as a resource to recruit students from the different sites to compete together on the same team,” said Kathryn Traxler, education, outreach and training specialist at the LSU Center for Computation & Technology, who supervises the students as they practice. “This is part of our work in Louisiana’s Experimental Program to Stimulate Competitive Research, through the Board of Regents, to build collaborative student teams, and it also gives the students and us a

chance to use the high-speed networking connectivity we have in state through LONI to enable group research among Louisiana's higher education institutions.”

The six students all attend LONI universities, and many of them also work with faculty and researchers on CyberTools. Traxler worked with faculty through LONI to select a student from each university to participate in the programming contest.

Hitchins, Morgan and Redfern are undergraduate students and Jiang and Shetty are graduate students. All agree this activity gives them a unique way to collaborate with their peers in other parts of the state.

“It was a chance to do something different, and broaden my horizons,” Morgan said. Hitchins added, “This gives us an interactive experience to use technology across long distances, so there is an interconnectedness within the group.”

Jiang pointed out that students preparing for careers or further study in computational science will need experience working in collaborative research teams, and this training provides such an opportunity. “I need to gain experience working with other researchers, and this presented an opportunity to try something I have not done yet,” Redfern said. “It’s also a good chance to show you can program,” Jiang added.

The student team will continue meeting each Friday to practice programming exercises until the competition date, when they all will travel to Portland to compete against other student teams. Regardless of whether they win or lose, all agree the training sessions are providing them with a valuable opportunity to practice collaborative research.

“The world seem to be getting more and more virtual, and I think experiences like this enable me with the tools and techniques to work more effectively in such environments,” Shetty said.

#### **Pats on the Back:**

- Professor Thomas Sterling was invited to visit the Computer Science Research Institute of the Sandia National Laboratory in Albuquerque, New Mexico, to engage in detailed technical and planning sessions for the upcoming DARPA UHPC Program Xcaliber proposal. The goal of this program is to foster research toward breakthrough computing capabilities of Petaflops-scale processing within practical power requirements before the end of the next decade.
- Sterling was also invited to participate in the third International Exascale Software Project meeting involving contributors from the US, Europe, and Asia in Tsukuba, Japan. This by-invitation-only set of meetings involves experts in systems, applications, programming methodologies, and government representatives aims to develop the foundations of a software roadmap that will lead to fully operational environments for Exascale computing systems and applications by the end of the next decade

- The Department of Energy invited Professor Thomas Sterling to review proposals and participate in the review panel for its Early Career Awards Program during a one-day event at the Department of Energy Office of Science in Gaithersburg, Maryland.

#### **CCT in the News:**

- Moving Beyond PAX MPI into the Exascale  
Source: Inside HPC  
<http://insidehpc.com/2009/10/28/moving-beyond-pax-mpi-into-the-exascale/>
- LSU Provides Cluster Exclusively for Student Use  
Source: HPC Wire  
<http://www.hpcwire.com/topic/systems/LSU-Provides-Cluster-for-Classroom-Instruction-Student-Use-67328122.html>
- HPC Wire: The Week in Review  
Source: HPC Wire  
<http://www.hpcwire.com/features/The-Week-in-Review-20091029.html?ref=662>
- University Focuses on ‘Big’ Performance Initiatives  
Source: The Daily Reveille  
<http://www.lsureveille.com/news/university-focuses-on-big-performance-initiatives-1.2044279>
- LSU to Re-Energize Research Efforts  
Source: The Advocate  
<http://www.2theadvocate.com/news/67432077.html>
- Sterling to be Inaugural Speaker for Peebles Lectures in IT  
Source: Indiana University  
<http://newsinfo.iu.edu/news/page/print/12411.html>

#### **Lectures This Week:**

- The CCT Colloquium Series presents “Transformational Music- Theoretical Applications using GAP” by Robert Peck, Associate Professor, Music Theory, LSU, on Friday Nov. 6 at 3:30 p.m. in Johnston 338.
- Xin Li, Assistant Professor at CCT and Electrical and Computer Engineering, 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](mailto:xinli@cct.lsu.edu).

#### **Please Note:**

- Future ALL CCT meetings for the Fall 2009 semester will take place 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.

- 342 Johnston Hall has been converted into a large work room/collaborative space with white boards to accommodate meetings for groups of approximately 8 to 15 people. To begin reserving this room for use, please book it on the Meeting Maker Calendar as "Work Room Johnston 342." The key is available at the receptionist desk in 216 Johnston Hall.
- 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. Photos are also available on the CCT Facebook group page at <http://www.facebook.com/group.php?gid=2426175266&ref=ts>.
- There will be a Python for HPC and Supercomputing training Thursday Nov. 5 from 1- 4:30 p.m. in 338 Johnston and on the Access Grid. Python, a high-level, portable multi-paradigm, interpreted programming language, is becoming increasingly popular with the scientific and HPC communities because of ease of use, large collection of modules, adaptability, and strong support from vendors and community alike. This tutorial provides an introduction to Python focused on HPC and scientific computing. At the end, participants should be able to write a simple application making use of parallel programming techniques, visualize the output, and know how to confidently proceed with future projects with Python. To register, please visit: <http://hpc.lsu.edu/training>.
- The LSU Office of Communications and University Relations is merging LSU Today, the University's faculty/staff newsletter, with LSU Wire, the University's weekly e-newsletter. This effort is part of the University's sustainability initiative, aimed at decreasing printed copies of LSU Today. CCT news items regularly appear in both publications, so faculty and staff who previously received the printed copies of LSU Today should sign up to receive the electronic edition using an online form available at [www.LSU.edu/lstoday](http://www.LSU.edu/lstoday). Subscribers will receive an electronic LSU Today Mondays-Thursdays, then will receive a weekly recap/LSU Wire on Fridays. There is no cost to subscribe to these publications, and users can decide whether to receive the daily updates (LSU Today) or only the weekly recap (LSU Wire), or both.
- Follow CCT on Twitter for updates on news and breaking information: <http://www.twitter.com/LSUCCT>
- 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](mailto: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>
- 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](http://www.nsf.gov/pubs/2009/nsf09571/nsf09571.htm?govDel=USNSF_25)