November 6 – November 12, 2011

LSU CCT to Showcase Computational Applications at Supercomputing 2011 in Seattle

Louisiana State University's Center for Computation & Technology, or LSU CCT, will present research enabled through high-performance computing systems, high-speed networking, advanced software, and innovative computational applications during the annual Supercomputing Conference, Nov. 12-18, 2011 in Seattle, Washington.

The Supercomputing Conference, which originated in 1988, is the premier international conference on high-performance computing, networking, storage, and analysis. CCT will host a booth during the exhibition portion of the conference, Nov. 14-17, that will feature different research projects that are being conducted at LSU through HPC. Topics include: LASIGMA (the Louisiana Alliance for Simulation-Guided Materials Applications program); coastal research and cyberinfrastructure; the CRON program (Cyberinfrastructure of Reconfigurable Optical Networking); the *Nature* Collaboration; STE‖AR (Systems, Technologies, Emergent Parallelism, and Algorithms Research); UCoMS (the Ubiquitous Computing and Monitoring System project); the CACTUS toolkit; and compilation and code generation research.

The LSU Booth (#2839) will also display three demos during the exhibition.

1) A distributed adaptive mesh refinement demo with interactive power management and fault tolerance will be shown in realtime, allowing users to interactively change the power available and watch the resulting change in flops. The user can also interactively kill cores without destroying the simulation.

2) A symmetric contact demo in 3-D will allow the user to explore colliding various projectiles in realtime simulation and directly compare simulations with and without global barriers. The user can supply the contact configuration, velocity, and material.

3) A computational biology applications demo running on multiple cloud computing infrastructures will show multiple cloud computing data centers that are connected by a 10 Gbps virtual networking environment created by CRON. In addition, the demo will show how data and computing intensive computational biology applications, such as a high throughput sequencing tool (Cloudburst) and a high throughput docking tool (AutoDock), can use heterogenous and remote cloud computing physical resources, which will be transformed into a set of virtual physical resources by Eucalyptus and

MapReduce framework.

In addition to the exhibition activities, Kathryn Traxler, CCT education and outreach specialist, and Tyler Longwell, LSU sophomore student, will be participating in the SC11 Education Program's LittleFe Buildout Event. LittleFe is a portable mini-cluster which is small enough to fit in a shipping case. The buildout will feature v4 LittleFe units; this design utilizes dual-core Intel® Atom™ processors with NVIDIA ION2 chipsets that support CUDA/OpenCL programming. Each buildout will consist of participants assembling their *LittleFe* unit from a kit, installing the Bootable Cluster CD (BCCD) software on it, learning about the curriculum modules available for teaching parallel programming, HPC and/or CDESE, and learning how to develop new curriculum modules for the *LittleFe*/BCCD platform.

Professors Thomas Sterling and Steven Brandt will be presenting a tutorial titled Basics of Supercomputing on November 18th. This is 'THE' crash course on supercomputers for everyone who knows almost nothing but wants to come up to speed fast. All the major topics are described and put into a meaningful framework including supercomputer architecture and systems, parallel programming approaches and methods, tools for usage and debugging, and classes of applications. But also presented will be the basic HPC lexicon, the players in the community, the products leading the way, and what's likely to come next.

Overall, CCT continues to be active in planning the Supercomputing Conference by filling important committee roles. This year's committee members are: Steven Brandt (deputy chair of tutorials) & Terrie Bordelon, tutorials committee; Kathryn Traxler, education committee; and Shantenu Jha and Daniel Katz, technical program committee/storage (clouds/grids).

Red Stick International Animation Festival Releases Schedule for Fall Retrospective

The Red Stick International Animation Festival recently announced its Fall Retrospective lineup, scheduled for November 10th in downtown Baton Rouge's Shaw Center for the Arts' Manship Theatre.

Events are scheduled beginning at 1:30 PM with an Expo and EA Gamefest. The LSU Center for Computation & Technology will showcase cutting-edge technology and research in scientific visualization, mobile applications, music interaction and computation. In addition, they will have on display projects from their AVATAR program (Arts, Visualization, Advanced Technologies, and Research at LSU) and information on LSU's new digital media minor program. EA's North American Testing Center will be onsite with their latest and greatest video games, just in time for the holiday season.

From 3:30 PM - 7:00 PM, industry leaders from local companies in video game

development, visual effects and animation will present informative lectures targeted to pre-professionals and students. These include:

Raymond McIntyre, Jr., Visual Effects Society award winning and Emmy nominated visual effects supervisor, and vice-president of Pixel Magic. Pixel Magic, located in Lafayette, Louisiana and Hollywood, California, provides digital visual effects for motion pictures and television. Its capabilities include a full range of visual effects services in 2-D and 3-D, including digital compositing, set extensions, wire and rig removals, digital opticals and crowd duplication. McIntyre's Fall Retrospective talk will describe what it takes to get a job in the visual effects industry, how to prepare a demo reel properly, and how to get engaged with the local visual effects industry.

Michael Gourlay, senior software engineer at Electronic Arts/software architect for the Football Sports Business Unit, and lead engineer on the famous Madden NFL game. EA, a leading global interactive entertainment software company, develops, publishes, and distributes interactive software worldwide for video game systems, personal computers, wireless devices, and the Internet. Gourlay will lecture on the overall gaming industry, how to get a job in the industry, what education including particular curriculum you need to have completed, and necessary resume building experience.

 Patrick Lamont, talent acquisition specialist at Electronic Arts' North American Testing Center, or EA NATC, on LSU's south campus. EA NATC, a one-of-a-kind setup in the United States, hires LSU students as game testers to search for and report bugs they find in games currently in development. Lamont will discuss the EA NATC and what it means to be a tester.

Patrick Mulhearn, director of studio operations at Raleigh Studios Baton Rouge at the Celtic Media Centre, and president of the Louisiana Industry for Film and Entertainment trade association. Raleigh Studios Baton Rouge is the first and largest design-built studio facility operating in the South, and has played host to numerous productions including True Blood, Battle: Los Angeles, Battleship, and Twilight Saga Breaking Dawn. Mulhearn will address the local film industry, film production for the Celtic Media Centre, and how to get involved locally in the filming industry.

Stephen Loy, executive director of the Louisiana Technology Park, one of the South's premier business incubators, will provide an overview on how high-tech start-up companies can utilize the Park's resources to bring their products and services to market faster and more effectively.

Jeff Pellegrin, director of the Louisiana Digital Gaming Initiative, or LDGI, providing economic development, consulting and advisory services for Louisiana's digital media, and video game industry space. The LDGI will discuss what it is and how students can become members.

Evening activities begin at 7:30 PM with a retrospective screening of the very best films from the past six years of the Red Stick International Animation Festival. The festival

will also announce its first inductee into the Louisiana Animation Hall of Excellence, William Joyce. Mr. Joyce is an Emmy-winning author, artist, and animator whose work is familiar to any parent or child. He has successfully transformed many of his books into award winning television and film projects, including "Role Polie Olie", "Meet the Robinsons" and most recently, "The Fantastic Flying Books of Mr. Morris Lessmore." His production company, Moonbot Studios, has now expanded into mobile and interactive games. Their interactive eBook version of Morris Lessmore has received critical acclaim, and was #1 at Apple's App Store.

The Louisiana Animation Hall of Excellence was established by the Red Stick Festival to honor outstanding achievement in animation, visual effects and digital media by Louisiana citizens. A special screening of Mr. Joyce's most recent film, "The Fantastic Flying Books of Mr. Morris Lessmore," will be shown, concluding with a end of the evening reception. Tickets are required for the evening session only, and are available at the Manship Theatre Box Office or online at http://www.manshiptheatre.org/.

Lectures this week:

TUESDAY--
There will be a Computational Mathematics Seminar Series lecture on "Minimum Action Method and Dynamical Systems" by Xiaoliang Wan, LSU. The lecture will take place Tuesday, November 8 at 3:30 pm in 338 Johnston Hall.

CCT in the news:

Professor Publishes First Undergraduate Loop Quantum Gravity Text
Source: LSU Office of Communications & University Relations

University students develop application business
Source: LSU Reveille

University grad students debut electronic instrument
Source: LSU Reveille

LSU's Center for Computation & Technology to Showcase Applications at SC11
Source: HPCwire

Please Note:

- The newly released 2011 *Components* can be found at:
  https://www.cct.lsu.edu/site256.php

- We are pleased to launch a bi-weekly CCT Tech Talk Series to promote hardware design, software and tools development, and research enablement efforts at CCT. We hope to enable and facilitate more development and effective use of advanced cyberinfrastructure (CI)-based computational science tools to significantly boost innovation and discovery in all disciplines and interdisciplinary fields across LSU. The goals of this series are to encourage inter-group collaborations, incubate new projects, and seek funding opportunities for multi-disciplinary collaborative research. As mentioned above, incubating new projects is one of our goals of the planned talks. Currently, there are two projects for which several of the researchers at CCT are seeking campus wide collaboration:
  1. Domain specific language and equation description language for code generation.
  2. Large scale DG-FEM programming framework on unstructured meshes.
  Please contact Honggao Liu (honggao@cct.lsu.edu)if you are interested in either of the projects or you are incubating a new project.

- Submissions for the 2012 Red Stick International Animation Festival are now being accepted thru January 6th. Visit http://www.redstickfestival.org/competition/submissions/ for details.

- Louisiana EPSCoR is hosting the greatly anticipated National Science Foundation workshop, *Science: Becoming the Messenger,* on November 17, 2011, at the Baton Rouge Marriott. The 1-day workshop provides targeted communications training to Researchers, Faculty & Postdocs, Students, Public Relations Officers and Communicators. The NSF's Office of Legislative and Public Affairs has assembled a team of nationally renowned communicators to provide this training. Participants will learn how to craft a message and communicate with a variety of audiences, explore new media, pick up live camera interview skills and more. There is no registration fee to attend but pre-registration is required. For more information and to register, visit http://www.nsf.gov/events/event_summ.jsp?cntn_id=121922&org=NSF

- **Post Your Part-time Jobs for FREE through Careers2Geaux:** Now that school is back in session, our students looking for part-time jobs. Through Careers2Geaux, you may post any position type, including your part-time opportunities, for FREE! This system is password-protected and available to LSU students, faculty, staff, and registered alumni 24 hours a day, seven days a week. To list your position(s) in Careers2Geaux, click the Careers2Geaux link https://lsu-csm.symplicity.com/employers and follow the instructions for creating an account. Once you enter the information for your position, the status of your posting will remain "pending" until reviewed by a staff member. Open positions are posted for 45 days. If you have any questions, please contact Amy Caillouet, Administrative Coordinator, at 225-578-2162 or email at amyc@lsu.edu.

- Prior approval is required for Special Meal Requests. Employees who make meal purchases without prior approvals may find that they must cover the cost of any monies spent for an unapproved event out of pocket. Dine-in restaurant meals are not allowed on LaCarte credit cards. Please contact Susie McGlone (susie@cct.lsu.edu)

prior to any special meal with visitor(s) to file the appropriate request for approval. Prior approval could take up to two weeks, so please plan accordingly.

- Please remember to send your news concerning grants, awards, conferences, or other pertinent information to CCT Event Coordinator Jennifer Fontenot at jennifer@cct.lsu.edu

- Follow CCT with social media to access photos and see news, events or updated information. These pages are public; you do not need an account to view the information.
    - Facebook group : LSU Center for Computation & Technology
    - Twitter : LSUCCT
    - YouTube channel : LSUCCT

Interest groups:
- **MAG (Mobile App-Art-Action Group)**: Everyone interested in the potential for Mobile Apps is invited to come and add their vision for these revolutionary devices. Meetings are scheduled December 7th, 5:00-6:00 pm. For more information, visit http://www.cct.lsu.edu/site.php?pageID=63&newsID=1402
    - Contact: Jesse Allison (jtallison@lsu.edu)

- **GPU**: meets weekly (Wednesdays @ 2:30 pm in 338 Johnston) and encourages participation from anyone who would like to join in the discussions. Join the mailing list: lasigma-gpu@loni.org
    - Contact: Bhupender Thakur (bthakur@cct.lsu.edu)

Upcoming events:
November 10: Red Stick Animation Festival Fall Retrospective
November 12-18: SC11
November 16: Training: Electronic Structure Calculations in Quantum Chemistry
November 30: Training: Scientific Workflow & Viz in VisTrails
Thru January 6, 2012: Red Stick International Animation Festival "Best of the Fest" accepting entries
January 20-21, 2012: Scientific Computing Around Louisiana Workshop
April 15-17, 2012: Symposium on Laptop Ensembles & Orchestras

Upcoming Grant Deadlines:
Note: Please check the CCT deadline Web site, since it is updated daily.

Sustainability Research Networks Competition (SRN)
December 1, 2011 10:00 am
At Most $ 12,000,000.00 available

[Software Infrastructure for Sustained Innovation (SI2) Scientific Software Innovation Institutes (S2I2)](#)
December 14, 2011 10:00 am
At least $500,000.00 available