CCT Hosts Second Research Experience For Undergraduates This Summer

The LSU Center for Computation & Technology (CCT) recently welcomed students for the second Research Experience for Undergraduates (REU) summer program, "Interdisciplinary Research Experience in Computational Sciences." The participants will engage in cutting edge research in computational science, working with research groups exploring gravitational waves, complex emergent phenomena in material science, or computational music. The onset of petascale computing coupled with the explosive development of new algorithms allow for the modeling of systems that were intractable just a few years ago. This situation offers tremendous research opportunities for young computational scientists to make breakthroughs in the study of complex systems.

During the nine weeks program, students will also have the opportunity to use LSU's cyberinfrastructure to study such topics as gravitational waves that result from colliding black holes; new materials to store energy or to build revolutionary electronic devices; and the design of new physical interaction devices to extend computer visualization. They will be introduced to digital music via the Louisiana Laptop Orchestra, a research and performance ensemble.

"This summer, I am most excited about combining my two fields of study, computer science and music, in research," said CCT REU student Michael Carney. "The LSU REU is extraordinary in that it offers interdisciplinary projects that allow students to explore other fields while furthering their skill and knowledge in their primary field."

Katelyn Kufahl, a CCT REU student from the University of Wisconsin-Eau Claire, said, "I'm looking forward to applying what I've learned in the classroom to a hands-on project and expanding my knowledge of computer programming along the way."

CCT faculty Juana Moreno, LSU Department of Physics and Astronomy, and Brygg Ullmer, LSU Department of Computer Science, along with CCT staff Bety Rodriguez-Milla and Kathy Traxler, designed the program to provide research opportunities for talented undergraduate students and introduce them to how international collaborations work. The REU is funded by the National Science Foundation.

Ten students from nine states (New York, Massachusetts, Mississippi, Wisconsin, Illinois, Washington, Alabama, North Carolina, and Louisiana) were chosen from a pool of more than 150 applicants.

In addition to working on their research, students will attend seminars that highlight ongoing CCT research activities, visit the Laser Interferometer Gravitational Wave Observatory (LIGO) and local visualization centers, and go to New Orleans to learn about storm surge and levees. They will learn about the Louisiana Optical Network Initiative (LONI), a state-of-the-art fiber optic network that runs throughout the state and connects Louisiana and Mississippi research universities to each other and to the rest of the country via Internet2, boosting new research collaborations.

The nine-week program culminates in a competition: students will produce posters of their research, and a panel of distinguished LSU faculty and researchers will select the top three. Those students will have the opportunity to present their research at a national or international conference.

For more information on CCT's REU program, Interdisciplinary Research Experience in Computational Sciences, visit http://reu.cct.lsu.edu.

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