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Students Develop Multicore Programming Skills

Ohio Supercomputer Center hosts 40+ researchers from Ohio, nearby states

COLUMBUS, Ohio, Aug. 11 -- Graduate students -- from various disciplines and institutions across the country -- are improving their multicore programming skills this week during a summer school course offered by the Great Lakes Consortium's Virtual School of Computational Science and Engineering.

High-definition streaming video enables students to participate in the course, "Many-Core Programming for Science and Engineering Applications," from the National Center for Supercomputing Applications (NCSA) at the University of Illinois, the University of Michigan, the Electronic Visualization Laboratory at the University of Illinois at Chicago, and the Ohio Supercomputer Center (OSC), located on the west campus of The Ohio State University.

"We're pleased to host more than 40 people from throughout Ohio and nearby states at the Ohio Supercomputer Center location," said Steve Gordon, senior director of education at OSC and executive director of the center's Ralph Regula School of Computational Science. "As America's future science and engineering workforce, these participants will be better prepared to take advantage of high performance supercomputers."

Instructors Wen-mei Hwu, from the University of Illinois, and David B. Kirk, from the graphics-processor company NVIDIA, are teaching the course. The lessons provide students with hands-on experience in developing applications software for multi-core processors, such as general-purpose graphics processing units (GP-GPUs). Participating students have access to NCSA's 32-node cluster of GP-GPUs and are learning to use the software CUDA to write programs for the cluster.

Petascale computer systems are capable of reaching performance in excess of one quadrillion floating-point operations per second. These emerging systems currently represent the fastest high performance computers in operation and are used for such tasks as weather and climate simulation, nuclear simulations, cosmology, quantum chemistry, and fusion science.

In an effort to prepare the next generation of computational researchers for emerging petascale computing systems, the Great Lakes Consortium for Petascale Computation is spearheading education and training programs such as this course. Petascale computing is more complex than previous computing paradigms and requires programmers to establish a solid grounding in computational science and engineering.

The Great Lakes Consortium for Petascale Computation is a collaboration among colleges, universities, national research laboratories, and other educational institutions that facilitates the widespread and effective use of petascale computing. The consortium is a key element of the

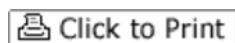
National Science Foundation-funded and IBM-developed Blue Waters project. When it comes online in 2011, Blue Waters will sustain performance of 1 petaflop on a range of scientific and engineering applications. The Consortium's Virtual School for Computational Science and Engineering helps prepare the next generation of computational researchers so they can take full advantage of Blue Waters and other emerging petascale resources.

The Ohio Supercomputer Center (OSC) is a catalytic partner of Ohio universities and industries that provides a reliable high performance computing infrastructure for a diverse statewide/regional community including education, academic research, industry, and state government. Funded by the Ohio Board of Regents, OSC promotes and stimulates computational research and education in order to act as a key enabler for the state's aspirations in advanced technology, information systems, and advanced industries. For additional information, visit <http://www.osc.edu>.

Source: Ohio Supercomputer Center

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