

NEWS RELEASE

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ACM CONFERENCE TO EXPLORE LATEST DEVELOPMENTS IN SUPERCOMPUTERS

Presenters to Analyze Race for World's Fastest Supercomputer, Self-healing Computers, Autonomous Space Systems

NEW YORK, May 14, 2002 -- The ACM International Conference on Supercomputing (ICS '02) will examine the world's fastest supercomputer, built by Japanese scientists as a "Virtual Planet Earth" to analyze and predict environmental changes. ICS '02 will also include a keynote address on self-healing systems based on IBM's concept for creating the next generation of computing, and a panel discussion on autonomous space systems to explore space.

The conference, June 22-26, at Columbia University in New York City, features leading scientists and experts from the world's foremost research universities, corporations and government laboratories, including IBM, Intel, NASA Jet Propulsion Laboratory, University of Illinois at Urbana-Champaign, MIT, Argonne National Laboratory, and others. Now in its 16th year, ICS '02 will present 31 highly selected scientific papers and hold a diverse set of workshops and tutorials offering a window into the future of high performance computing.

Japan's Earth Simulator, a supercomputer that employs specialized processors dedicated to solving a particular class of problem, recently leapfrogged US models based on massively parallel supercomputers. "The Earth Simulator is a powerful asset for predicting the highly complex evolution of nature. It is a magical tool that can directly contribute to the welfare of human beings," said Dr. Tetsuya Sato, Director-General of the Earth Simulator Project. His keynote address, "Can the Earth Simulator Change the Way Humans Think?" will be delivered June 24.

"There is a critical need to deliver systems that can automatically detect performance bottlenecks, and dynamically adapt the execution to fix themselves," said keynote speaker Dr. Alfred Spector, vice president of IBM Research. "IBM's next-generation vision of building

computer systems that regulate themselves in much the same way that the human nervous system regulates our bodies addresses the growing complexity of information technology infrastructure.” Spector’s keynote address, “Challenges and Opportunities in Autonomic Computing,” will be delivered June 25.

Also on June 25, a panel on Autonomous Space Systems will discuss developments at NASA and elsewhere to create robotic spacecraft for the next generation of space exploration challenges. “Future space missions will likely include long-range rovers on Mars in uncertain environments, and constellations of spacecraft that can collectively detect terrestrial natural catastrophes. Supercomputing is providing valuable support at NASA through high-end simulations and visualizations of these scenarios and the onboard capabilities to accomplish them,” said Dr. Richard J. Doyle of the NASA Jet Propulsion Laboratory, the panel chairman.

Supercomputing researcher Dr. David Kuck of Intel will deliver a keynote address June 26, on building high-performance computing systems through commodity hardware and highly evolved software. ICS '02 panel discussions will include: “Programming Models for Future High-Performance Computing Systems,” on the tradeoff between the expressivity and reliability of high level abstraction and high target code performance requirements; and “Dynamic Data Driven Applications Systems,” on this new paradigm’s potential to transform the way science and engineering are done in manufacturing, commerce, transportation, hazard management, and medicine.

ICS '02 is sponsored by the Association for Computing Machinery (ACM) special interest group on computer architecture (SIGARCH), IBM and Intel Corporation. For more information about ICS '02, click on <http://www.tc.cornell.edu/ics02>.

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