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Bio-Computing a Major Focus of 22nd Annual SC Conference

World-Class Computational Scientists and Biologists Will Discuss Application of New Compute, Network & Storage Technologies For Addressing Challenges in the Biosciences.

PORTLAND, OR—Sept. 23, 2009 – SC09, the 22nd annual supercomputing conference, recognized as the premier international conference on high performance computing (HPC), networking, storage and analysis, will offer presentations, seminars and panels featuring a world-class roster of thought leaders and innovators discussing the rapidly expanding role of HPC in the biological sciences.

SC09, to be held November 14-20 at the Oregon Convention Center in Portland, OR, annually attracts thousands of scientists in industry, government and academia from around the world. The Bio-Computing Thrust Area features a technical program that will include refereed technical papers, tutorials, invited speakers, panel discussions and posters examining how HPC is transforming bio-computing.

"The bio-computing thrust at SC09 is a critically important program of events for computational biologists, bioinformaticists and biologists who seek to understand the newest solutions in bio-centric computing, storage and networking," said Peg Folta, division leader within Computing Applications and Research, Lawrence Livermore National Laboratory (LLNL) and head of the SC09 Bio-Computing Thrust Area. "Biological research today is driven by the acceleration of knowledge creation, explosion in data around the world, and growing interdependence of disciplines. New HPC solutions allow for far more comprehensive approaches to scientific investigation and enable a systems approach to understanding and predicting life, which is fundamental to the global challenges in medicine, energy and defense."

As part of SC09's special focus on Bio-Computing, the Department of Energy's Genomic Science Program will be hosting a workshop titled, *Using Clouds for Parallel Computations in Systems Biology*. According to Susan Gregurick, DOE Program Manager, "Our discussion at SC09 will explore the possibility of on-demand access to computing resources that democratize access to the diverse, rapidly expanding and distributed data generated in biology, along with sharing information about our planned

Systems Biology Knowledgebase. The attendance of so many leading computational biologists at SC09 makes this an ideal venue for hosting this workshop."

According to Chris Heier, President of Tycrid Platform Technologies, a company that specializes in GPU-based HPC platforms for the life sciences and pharmaceutical industries, and a first-time exhibitor at SC09, "Bio-Computing and computationally intense applications in genomics and sequencing represent a tremendous growth area for HPC technologies, and an emerging area of interest for a large amount of HPC professionals. The Bio-Computing focus was a significant factor in our decision to participate in the SC09 conference."

Presenters as part of SC09's Bio-Computing thrust area will include:

- Deepak Singh, Business Development Manager at Amazon and noted expert on cloud computing and other new technology strategies: Big Data and Biology: The Implications of Petascale Science. Singh will examine how HPC technology is making biology an increasingly data intensive science, fundamentally challenging traditional approaches to storing, managing, sharing and analyzing data while maintaining a meaningful biological context. He will discuss leveraging new paradigms and trends in distributed computing infrastructure and utility models.

- David Haussler, professor of biomolecular engineering and leader of the Genome Bioinformatics Group at the University of California, Santa Cruz: The Supercomputing Challenge to Decode the Evolution and Diversity of Our Genomes. He will focus on advances in DNA sequencing technologies and genomic reconstructions of common mammalian ancestors of 100 million years ago. The ultimate goal is to understand the molecular tinkering that transformed our animal ancestors into humans.

- Jonathan Silverstein, professor of surgery and associate director of the Computation Institute of the University of Chicago and Argonne National Laboratory: Grid Technology Transforming Healthcare. He will focus on how our healthcare system is being transformed by new HPC techniques that promote integration, interoperability and secured access to biomedical data on a national scale. This session will survey HealthGrid issues and projects across clinical care, public health, education and research.

Other bio-computing forums will include leading scientists and researchers discussing computer modeling for vehicle crash safety; finite element modeling of blood flow dynamics; molecular theory; fighting swine flu through computational medicine; and scalable parallel solvers in computational electrocardiology.

For more information please visit the SC09 website at http://sc09.supercomputing.org/. For questions regarding the technical program, send email to program@info.supercomputing.org. For questions related to the Bio-Computing Thrust Area at SC09, send email to bio-computing@info.supercomputing.org.

About SC09
SC09, sponsored by ACM (Association for Computing Machinery) and the IEEE Computer Society, offers a complete technical education program and exhibition to showcase the many ways high performance computing, networking, storage and analysis lead to advances in scientific discovery, research, education and commerce. This premier international conference includes a globally attended technical program, workshops, tutorials, an exhibit area, demonstrations and hands-on learning. The SC conference series is among Tradeshow Week magazine's Top 200 events. For more information on SC09, please visit http://sc09.supercomputing.org/.

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