HPCNano workshop 2008

The Fourth International Workshop on High Performance Computing for Nano-science and Technology (HPCNano08)

(http://www.hpcnano.org/HPCNano08**)**

Nov. 15-21, 2008, November 15, 2008 in Austin, Texas, USA
(**in conjunction with IEEE/ACM SC|08**)

Nanotechnology is an exciting field with many potential applications. Its impact is already being felt in materials, engineering, electronics, medicine, and other disciplines. Current research in nanotechnology requires multi-disciplinary knowledge, not only in sciences and engineering but also in high performance computing (HPC) technology. Many nano-science explorations rely on mature, efficient HPC and computational algorithms, practical and reliable numerical methods, and large-scale computing systems. This workshop offers academic researchers, developers, and practitioners an opportunity to discuss various aspects of HPC-related computational methods and problem solving techniques for nano-science and technology research.

The first and second workshops, HPCNano05, HPCNano06, and HPCNano07, were successful events held in conjunction with IEEE/ACM SC|05, SC|06, and SC|07, respectively. HPCNano08 is the fourth one that will be held in conjunction with IEEE/ACM SC|08. The workshop will be advised by the SC|08's Technical Committee/Workshop Sub-Committee, and planned and executed by the workshop program committee. We hope to attract people from diverse science and engineering disciplines, nationally and internationally, to attend the workshop, present their research results, share their experiences and ideas, and plan future collaborations.

HPCNano|08 invites authors to present their research and/or submit original and unpublished work in any aspect of high performance computing in nano-science and technology. The invited presentation will be in SC|08 and the accepted papers will be published on Journal of Computational and Theoretical Nanoscience, American Scientific Publisher. Electronic submission in a Word file is required. Submission goes to Dr. Jun Ni at jun-ni@uiowa.edu.

HPCNano|08's topics of interest (in no particular order) include, but are not limited to:

> Petascale computing for nanotechnology; cyberinfrastructure-enabled computational nanotechnology, large scale computing in multi-scale modeling and simulation of nanoscale materials, parallel algorithms, domain decompositions, and computational methods in nano-materials processing, characteristics, and statistical analysis, nanomaterial fabrication, synthesis, and processing simulations, microscopy nano-structureed materials databases, large-scale molecular methods and simulations in nano-science and technology, Nano-science -related data and image processing, HPC-based modeling and simulation for nano-electromechanical systemsm, high performance computing in Fourier transform infrared nano-surface, Modeling and simulation of organic nanostructure materials and biomaterial processing, HPC-based multi-scale spectroscopy data and image processing, high performance data processing in microwave spectroscopy on quantum dots, high performance computing in atomic-scale friction, large scale computing systems for nano-science (computational and network systems), Grid computing in nano science and technology, high performance computing in bionanotechnology

Deadlines

Abstract deadline: Sept. 15, 2008
Notification: Oct. 1, 2008
Workshop date: Nov.15-21, 2008

General Co-Chairs

Dr. Hisashi Nakamura, Research Organization for Information Science & Technology (RIST), Japan

Program Co-Chairs:

Dr. Lin-Wang Wang, Lawrence Berkeley National Laboratory (Berkeley Lab), DOE, USA