

HPCNano workshop 2007

The Third International Workshop on High
Performance Computing for Nano-science and
Technology (HPCNano07)

(<http://www.hpcnano.org/HPCNano07>)

Nov. 16, 2007, Reno-Sparks Convention Center,
Reno, Nevada, USA

(in conjunction with IEEE/ACM SC|07)

8:30am - 5:00pm, Room A3/A4

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 and HPCNano06, were successful events held in conjunction with IEEE/ACM SC|05 and SC|06, respectively. HPCNano07 is the third one that will be held in conjunction with IEEE/ACM SC|07. The workshop will be advised by the SC|07'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.

HPCNano07 invites authors to present their research and/or submit original and unpublished work in any aspect of high performance computing in nano-science and technology.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 SC07 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.

HPCNano06'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-structured 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 systems
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

Submission deadline: Oct. 15, 2007

Notification of acceptance: Nov. 1, 2007

Workshop date: Nov.16, 2007

Workshop Organization

General Co-Chairs

Dr. Pinaki Mazumder, Professor of University of Michigan, and Program Director, Program Director, National Science Foundation, USA

Dr. Gerhard Klimeck, Professor and Technical Director, NanoHub, Purdue University, USA

Program Co-Chairs:

Dr. Andrew Canning, Lawrence Berkeley National Laboratory, DOE, USA

Dr. Jun Ni, Professor and Director of Scientific Computing, University of Iowa, USA

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