

## Welcome Message

The workshop program committee and sponsors welcome you. This year's workshop is sponsored by IEEE/Computer Society, ACM, NASA, NCSA, University of Iowa, University of Tennessee, SGI, TeamHPC.

The theme for this year's workshop is *Unperceived Engagement between Petascale Computing and Microscale Modeling*.

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.

The committee firmly believes that today's HPC infrastructure enables people to extend the capability of computation and simulations in exploratory nanotechnology. HPC will play an important role in future multi-scale models and large-scale simulations of nanostructure materials synthesis, fabrication, and processing. HPC technology accelerates the innovation and creation of new nanostructure materials, nano-devices, and their promising applications.

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 workshop promotes future national and international collaborations in this multi-disciplinary domain. The workshop develops provide a great opportunity to initiate cyberinfrastructure-based perascale computing in nano-science and nanotechnology.

As with our previous workshops, we welcome and encourage your active engagement with our speakers from various multi-disciplinary communities. Your participation represents an important ingredient in our future collaboration to ensure that our HPC communities commit to develop cyberinfrastructure-based HPC resources and expertise needed for large-scale computations in nanotechnology.

We look forward to an exciting day of discussion and deliberation. Thank you for joining us.

Sincerely,

Dr. Thom Dunning, NCSA  
Dr. Jack Dongarra, University of Tennessee Knoxville  
Dr. Jun Ni, University of Iowa  
Dr. Andrew Canning, LBNL, DOE