

## Sunday, November 15

Time	Event	Title	Location
8:30am-5pm	Tutorial	S01: Application Supercomputing and the Many-Core Paradigm Shift	*
8:30am-5pm	Tutorial	S02: Parallel Computing 101	*
8:30am-5pm	Tutorial	S03: A Hands-on Introduction to OpenMP	*
8:30am-5pm	Tutorial	S04: High Performance Computing with CUDA	*
8:30am-5pm	Tutorial	S05: Parallel I/O in Practice	*
8:30am-5pm	Tutorial	S06: Open-Source Stack for Cloud Computing	*
8:30am-Noon	Tutorial	S07: InfiniBand and 10-Gigabit Ethernet for Dummies	*
8:30am-Noon	Tutorial	S08: Principles and Practice of Application Performance Measurement and Analysis on Parallel Systems	*
8:30am-Noon	Tutorial	S09: VisIt - Visualization and Analysis for Very Large Data Sets	*
8:30am-Noon	Tutorial	S10: Power and Thermal Management in Data Centers	*
9am-5:30pm	Workshop	4th Petascale Data Storage Workshop	A106
9am-5:30pm	Workshop	5th International Workshop on High Performance Computing for Nano-science and Technology (HPCNano09)	A107
9am-5:30pm	Workshop	Workshop on High Performance Computational Finance	A105
9am-5:30pm	Workshop	Component-Based High Performance Computing (Day 1)	A103
9am-5:30pm	Workshop	Third International Workshop on High-Performance Reconfigurable Computing Technology and Applications (HPRCTA'09)	A108
1:30pm-5pm	Tutorial	S11: Emerging Technologies and Their Impact on System Design	*
1:30pm-5pm	Tutorial	S12: Large Scale Visualization with ParaView	*
1:30pm-5pm	Tutorial	S13: Large Scale Communication Analysis: An Essential Step in Understanding Highly Scalable Codes	*
1:30pm-5pm	Tutorial	S14: Designing High-End Computing Systems with InfiniBand and 10-Gigabit Ethernet	*
7:30pm-10pm	Social Event	Exhibitor Party (Exhibitors Only)	Union Station

\* Tutorial locations were not available at this printing. Please go to <http://scyourway.supercomputing.org> for room assignments.

## Monday, November 16

Time	Event	Title	Location
8:30am-5pm	Tutorial	M01: A Practical Approach to Performance Analysis and Modeling of Large-Scale Systems	*
8:30am-5pm	Tutorial	M02: Advanced MPI	*
8:30am-5pm	Tutorial	M03: Developing Scientific Applications using Eclipse and the Parallel Tools Platform	*
8:30am-5pm	Tutorial	M04: Programming using the Partitioned Global Address Space (PGAS) Model	*
8:30am-5pm	Tutorial	M05: Productive Performance Engineering of Petascale Applications with POINT and VI-HPS	*
8:30am-5pm	Tutorial	M06: Linux Cluster Construction	*
8:30am-Noon	Tutorial	M07: Cloud Computing Architecture and Application Programming	*
8:30am-Noon	Tutorial	M08: Modeling the Memory Hierarchy Performance of Current and Future Multicore Systems	*
8:30am-Noon	Tutorial	M09: Hybrid MPI and OpenMP Parallel Programming	*
8:30am-Noon	Tutorial	M10: Expanding Your Debugging Options	*
9am-5:30pm	Workshop	2009 Workshop on Ultra-Scale Visualization	A107
9am-5:30pm	Workshop	2nd Workshop on Many-Task Computing on Grids and Supercomputers (MTAGS)	A105
9am-5:30pm	Workshop	4th Workshop on Workflows in Support of Large-Scale Science (WORKS09)	A108
9am-5:30pm	Workshop	Component-Based High Performance Computing 2009 (Day 2)	A103
9am-5:30pm	Workshop	User Experience and Advances in Bridging Multicore's Programmability Gap	A106
9am-5:30pm	Workshop	Using Clouds for Parallel Computations in Systems Biology	A104
1:30pm-5pm	Tutorial	M11: Configuring and Deploying GridFTP for Managing Data Movement in Grid/HPC Environments	*
1:30pm-5pm	Tutorial	M12: Python for High Performance and Scientific Computing	*
1:30pm-5pm	Tutorial	M13: OpenCL: A Standard Platform for Programming Heterogeneous Parallel Computers	*
1:30pm-5pm	Tutorial	M14: Memory Debugging Parallel Applications	*
7pm-9pm	Social Event	SC09 Opening Gala	Exhibit Hall

\* Tutorial locations were not available at this printing. Please go to <http://scyourway.supercomputing.org> for room assignments.

## Tuesday, November 17

Time	Event	Title	Location
8:30am-10am	Opening Address	The Rise of the 3D Internet: Advancements in Collaborative and Immersive Sciences by Justin Rattner (Intel Corporation)	PB253-254
10am-6pm	Exhibit	Industry and Research Exhibits	Exhibit Hall
10am-6pm	Exhibit	Disruptive Technologies	Lobby area, Exhibit Halls D & E
10am-6pm	Exhibit	DataCenter of the Future	Lobby area, Exhibit Halls D & E
10:30am-Noon	Technical Papers	GPU/SIMD Processing <ul style="list-style-type: none"> <li>Increasing Memory Latency Tolerance for SIMD Cores</li> <li>Triangular Matrix Inversion on Graphics Processing Units</li> <li>Auto-Tuning 3-D FFT Library for CUDA GPUs</li> </ul>	PB252
10:30am-Noon	Technical Papers	Large-Scale Applications <ul style="list-style-type: none"> <li>Terascale Data Organization for Discovering Multivariate Climatic Trends</li> <li>A Configurable Algorithm for Parallel Image-Compositing Applications</li> <li>Scalable Computation of Streamlines on Very Large Datasets</li> </ul>	PB255
10:30am-Noon	Storage Challenge	Low Power Amdahl-Balanced Blades for Data Intensive Computing <ul style="list-style-type: none"> <li>Accelerating Supercomputer Storage I/O Performance</li> <li>Data Intensive Science: Solving Scientific Unknowns by Solving Storage Problems</li> <li>An Efficient and Flexible Parallel I/O Implementation for the CFD General Notation System</li> </ul>	PB251
10:30am-Noon	Masterworks	Future Energy Enabled by HPC <ul style="list-style-type: none"> <li>HPC and the Challenge of Achieving a Twenty-fold Increase in Wind Energy</li> <li>The Outlook for Energy: Enabled with Supercomputing</li> </ul>	PB253-254
10:30am-Noon	Exhibitor Forum	Software Tools and Libraries for C, C++ and C# <ul style="list-style-type: none"> <li>Vector C++: C++ and Vector Code Generation by Transformation</li> <li>A Methodology to Parallelize Code without Parallelization Obstacles</li> <li>Parallelizing C+ Numerical Algorithms for Improved Performance</li> </ul>	E147-148
10:30pm-Noon	Exhibitor Forum	Storage Solutions I <ul style="list-style-type: none"> <li>Panasas: pNFS, Solid State Disks and RoadRunner</li> <li>Solving the HPC I/O Bottleneck: Sun Lustre Storage System</li> <li>Benefits of an Appliance Approach to Parallel File Systems</li> </ul>	E143-144
10:30am-Noon; 1:30pm-3pm	Special Event	Building 3D Internet Experiences	D135-136
12:15pm-1:15pm	Birds-of-a-Feather	2009 HPC Challenge Awards	E145-146
12:15pm-1:15pm	Birds-of-a-Feather	Blue Gene/P User Forum	A103-104
12:15pm-1:15pm	Birds-of-a-Feather	Breaking the Barriers to Parallelization at Mach Speed BoF	D139-140
12:15pm-1:15pm	Birds-of-a-Feather	CIFTS: A Coordinated Infrastructure for Fault Tolerant Systems	D137-138

## Tuesday, November 17

Time	Event	Title	Location
12:15pm-1:15pm	Birds-of-a-Feather	Developing and Teaching Courses in Computational Science	D133-134
12:15pm-1:15pm	Birds-of-a-Feather	Next Generation Scalable Adaptive Graphics Environment (SAGE) for Global Collaboration	A107-108
12:15pm-1:15pm	Birds-of-a-Feather	NSF Strategic Plan for a Comprehensive National CyberInfrastructure	E141-142
1:30pm-3pm	Technical Papers	Autotuning and Compilers <ul style="list-style-type: none"> <li>• Autotuning Multigrid with PetaBricks</li> <li>• Compact Multi-Dimensional Kernel Extraction for Register Tiling</li> <li>• Automating the Generation of Composed Linear Algebra Kernels</li> </ul>	PB256
1:30pm-3pm	Technical Papers	Cache Techniques <ul style="list-style-type: none"> <li>• Flexible Cache Error Protection using an ECC FIFO</li> <li>• A Case for Integrated Processor-Cache Partitioning in Chip Multiprocessors</li> <li>• Enabling Software Management for Multicore Caches with a Lightweight Hardware Support</li> </ul>	PB255
1:30pm-3pm	Technical Papers	Sparse Matrix Computation <ul style="list-style-type: none"> <li>• Minimizing Communication in Sparse Matrix Solvers</li> <li>• Implementing Sparse Matrix-Vector Multiplication on Throughput-Oriented Processors</li> <li>• Sparse Matrix Factorization on Massively Parallel Computers</li> </ul>	PB252
1:30pm-3pm	Masterworks	Data Challenges in Genome Analysis <ul style="list-style-type: none"> <li>• Big Data and Biology: The Implications of Petascale Science</li> <li>• The Supercomputing Challenge to Decode the Evolution and Diversity of Our Genomes</li> </ul>	PB253-254
1:30pm-3pm	Birds-of-a-Feather	Scalable Fault-Tolerant HPC Supercomputers	D135-136
1:30pm-3pm	Exhibitor Forum	HPC Architectures: Toward Exascale Computing <ul style="list-style-type: none"> <li>• Cray: Impelling Exascale Computing</li> <li>• Scalable Architecture for the Many-Core and Exascale Era</li> </ul>	E143-144
1:30pm-3pm	Exhibitor Forum	Software Tools for Multi-core, GPUs and FPGAs <ul style="list-style-type: none"> <li>• Acumem: Getting Multicore Efficiency</li> <li>• A Programming Language for a Heterogeneous Many-Core World</li> <li>• PGI Compilers for Heterogeneous Many-Core HPC Systems</li> </ul>	E147-148
3:30pm-5pm	Exhibitor Forum	Networking I <ul style="list-style-type: none"> <li>• Managing the Data Stampede: Securing High Speed, High Volume Research Networks</li> <li>• Juniper Networks Showcases Breakthrough 100 Gigabit Ethernet Interface for T Series Routers</li> <li>• Update on the Delivery of 100G Wavelength Connectivity</li> </ul>	E147-148
3:30pm-3pm	Exhibitor Forum	Storage Solutions II <ul style="list-style-type: none"> <li>• Storage and Cloud Challenges</li> <li>• Tape: Looking Ahead</li> <li>• Dynamic Storage Tiering: Increase Performance without Penalty</li> </ul>	E143-144
3:30pm-5pm	Awards	ACM Gordon Bell Finalist I <ul style="list-style-type: none"> <li>• Beyond Homogeneous Decomposition: Scaling Long-Range Forces on Massively Parallel Architectures</li> </ul>	E145-146

## Tuesday, November 17

Time	Event	Title	Location
		<ul style="list-style-type: none"> <li>• A Scalable Method for Ab Initio Computation of Free Energies in Nanoscale Systems</li> <li>• Liquid Water: Obtaining the Right Answer for the Right Reasons</li> </ul>	
3:30pm-5pm	Technical Papers	Particle Methods <ul style="list-style-type: none"> <li>• A Massively Parallel Adaptive Fast-Multipole Method on Heterogeneous Architectures</li> <li>• Efficient Band Approximation of Gram Matrices for Large Scale Kernel Methods on GPUs</li> <li>• Memory-Efficient Optimization of Gyrokinetic Particle-to-Grid Interpolation for Multicore Processors</li> </ul>	PB255
3:30pm-5pm	Technical Papers	Performance Tools <ul style="list-style-type: none"> <li>• FACT: Fast Communication Trace Collection for Parallel Applications through Program Slicing</li> <li>• Evaluating Similarity-Based Trace Reduction Techniques for Scalable Performance Analysis</li> <li>• Space-Efficient Time-Series Call-Path Profiling of Parallel Applications</li> </ul>	PB252
3:30pm-5pm	Technical Papers	Virtual Wide-Area Networking <ul style="list-style-type: none"> <li>• Improving GridFTP Performance Using the Phoebus Session Layer</li> <li>• On the Design of Scalable, Self-Configuring Virtual Networks</li> </ul>	PB256
3:30pm-5pm	Masterworks	Finite Elements and Your Body <ul style="list-style-type: none"> <li>• <math>\mu</math>Finite Element Analysis of Human Bone Structures</li> <li>• Virtual Humans: Computer Models for Vehicle Crash Safety</li> </ul>	PB253-254
3:30pm-5pm	Special Event	3D Cross HPC: Technology and Business Implications	PB251
5:15pm-7pm	Posters	Poster Reception and ACM Student Research Competition Posters	Oregon Ballroom Lobby
5:30-7pm	Exhibitor Forum	Top 500 Supercomputers	PB253-254
5:30pm-7pm	Birds-of-a-Feather	Accelerating Discovery in Science and Engineering through Petascale Simulations and Analysis: The NSF PetaApps Program	D133-134
5:30pm-7pm	Birds-of-a-Feather	Art of Performance Tuning for CUDA and Manycore Architectures	E141-142
5:30pm-7pm	Birds-of-a-Feather	Data Curation	D137-138
5:30pm-7pm	Birds-of-a-Feather	European HPC and Grid Infrastructures	D135-136
5:30pm-7pm	Birds-of-a-Feather	Low Latency Ethernet through New Concept of RDMA over Ethernet	PB252
5:30pm-7pm	Birds-of-a-Feather	Lustre, ZFS, and End-to-End Data Integrity	E145-146
5:30pm-7pm	Birds-of-a-Feather	Micro-Threads and Exascale Systems	PB251
5:30pm-7pm	Birds-of-a-Feather	MPI Acceleration in Hardware	D139-140
5:30pm-7pm	Birds-of-a-Feather	NSF High End Computing University Research Activity (HECURA)	PB255
5:30pm-7pm	Birds-of-a-Feather	PGAS: The Partitioned Global Address Space Programming Model	PB256
5:30pm-7pm	Birds-of-a-Feather	pNFS: Parallel Storage Client and Server Development Panel Update	E143-144
5:30pm-7pm	Birds-of-a-Feather	SLURM Community Meeting	A103-104
5:30pm-7pm	Birds-of-a-Feather	Users of EnSight Visualization Software	E147-148
5:30pm-7:30pm	Birds-of-a-Feather	Productivity Tools for Multicore and Heterogeneous Systems	A107-108

## Wednesday, November 18

Time	Event	Title	Location
8:30am-10am	Invited Speaker/Awards	Plenary/Kennedy Awards Speakers <ul style="list-style-type: none"> <li>• Systems Medicine, Transformational Technologies and the Emergence of Predictive, Personalized, Preventive and Participatory (P4) Medicine, Leroy Hood (Institute for Systems Biology)</li> <li>• Kennedy Award Presentation</li> </ul>	PB253-254
10am-6pm	Exhibits	Industry and Research Exhibits	Exhibit Hall
10am-6pm	Exhibit	Disruptive Technologies	Lobby area, Exhibit Hall D-E
10am-6pm	Exhibit	Datacenter of the Future	Lobby area, Exhibit Hall D-E
10:30am-Noon	Awards	Seymour Cray and Sidney Fernbach Award Presentations	PB253-254
10am-Noon	Exhibitor Forum	Software Tools: Scalable 4GL Environments <ul style="list-style-type: none"> <li>• MATLAB: The Parallel Technical Computing Environment</li> <li>• Supercomputing Engine for Mathematica</li> <li>• Solving Large Graph-Analytic Problems from Productivity Languages with Many Hardware Accelerators</li> </ul>	E143-144
10:30pm-Noon	Exhibitor Forum	Storage Systems, Networking and Supercomputing Applications <ul style="list-style-type: none"> <li>• InfiniStor: Most Feature-Rich Cluster Storage System</li> <li>• Ethernet Data Center: Evolving to a Flat Network and a Single Switch</li> <li>• Smith Waterman Implementation for the SX2000 Reconfigurable Compute Platform</li> </ul>	E147-148
12:15pm-1:15pm	Birds-of-a-Feather	Benchmark Suite Construction for Multicore and Accelerator Architectures	B119
12:15pm-1:15pm	Birds-of-a-Feather	Best Practices for Deploying Parallel File Systems	D137-138
12:15pm-1:15pm	Birds-of-a-Feather	Building Parallel Applications using Microsoft's Parallel Computing Models, Tools, and Platforms	A107-108
12:15pm-1:15pm	Birds-of-a-Feather	Deploying HPC and Cloud Computing Services for Interactive Simulation	D133-134
12:15pm-1:15pm	Birds-of-a-Feather	Developing Bioinformatics Applications with BioHDF	D139-140
12:15pm-1:15pm	Birds-of-a-Feather	Early Access to the Blue Waters Sustained Petascale System	A103-104
12:15pm-1:15pm	Birds-of-a-Feather	HPC Centers	B118
12:15pm-1:15pm	Birds-of-a-Feather	Network Measurement	B117
12:15pm-1:15pm	Birds-of-a-Feather	Open MPI Community Meeting	E145-146
12:15pm-1:15pm	Birds-of-a-Feather	Practical HPC Considerations for Advanced CFD	E141-142
12:15pm-1:15pm	Birds-of-a-Feather	Trends and Directions in Workload and Resource Management using PBS	D135-136
1:30pm-3pm	Award	ACM Gordon Bell Finalist II <ul style="list-style-type: none"> <li>• Enabling High-Fidelity Neutron Transport Simulations on Petascale Architectures</li> <li>• Scalable Implicit Finite Element Solver for Massively Parallel Processing with Demonstration to 160K cores</li> <li>• 42 TFlops Hierarchical N-body Simulations on GPUs with Applications in both Astrophysics and Turbulence</li> </ul>	D135-136
1:30pm-3pm	ACM Student Research Competition	Award Finalists <ul style="list-style-type: none"> <li>• On the Efficacy of Haskell for High-Performance Computational Biology</li> <li>• A Policy Based Data Placement Service</li> <li>• Hiding Communication and Tuning Scientific Applications using Graph-Based Execution</li> <li>• An Automated Air Temperature Analysis and Prediction System for the Blue Gene/P</li> </ul>	PB251

## Wednesday, November 18

Time	Event	Title	Location
		<ul style="list-style-type: none"> <li>• CUSUMMA: Scalable Matrix-Matrix Multiplication on GPUs with CUDA</li> <li>• BGPStatusView Overview</li> <li>• Communication Optimizations of SCEC CME AWP-Olsen Application for Petascale Computing</li> <li>• IO Optimizations of SCEC AWP-Olsen Application for Petascale Earthquake Computing</li> <li>• A Hierarchical Approach for Scalability Enhancement in Distributed Network Simulations</li> <li>• Large-Scale Wavefront Parallelization on Multiple Cores for Sequence Alignment</li> <li>• A Feature Reduction Scheme for Obtaining Cost-Effective High-Accuracy Classifiers for Linear Solver Selection</li> <li>• Parallelization of Tau-Leaping Coarse-Grained Monte Carlo Method for Efficient and Accurate Simulations on GPUs</li> </ul>	
1:30pm-3pm	Exhibitor Forum	HPC Architectures: Microprocessor and Cluster Technology <ul style="list-style-type: none"> <li>• Scaling Performance Forward with Intel Architecture Platforms in HPC</li> <li>• AMD: Enabling the Path to Cost Effective Petaflop Systems</li> <li>• Aurora Highlights: Green Petascale Performance</li> </ul>	E143-144
1:30pm-3pm	Exhibitor Forum	Networking II <ul style="list-style-type: none"> <li>• Network Automation: Advances in ROADM and GMPLS Control Plane Technology</li> <li>• Ethernet: <i>The</i> Converged Network</li> <li>• More Performance with Less Hardware through Fabric Optimization</li> </ul>	E147-148
3:30-5pm	Exhibitor Forum	Infiniband, Memory and Cluster Technology <ul style="list-style-type: none"> <li>• Driving InfiniBand Technology to Petascale Computing and Beyond</li> <li>• Meeting the Growing Demands for Memory Capacity and Available Bandwidth in Server and HPC Applications</li> <li>• Open High Performance and High Availability Supercomputer</li> </ul>	E143-144
3:30pm-5pm	Exhibitor Forum	Parallel Programming and Visualization <ul style="list-style-type: none"> <li>• HPC and Parallel Computing at Microsoft</li> <li>• VizSchema: A Unified Interface for Visualization of Scientific Data</li> </ul>	E147-148
1:30pm-3pm	Panel	Cyberinfrastructure in Healthcare Management	PB252
1:30pm-3pm	Technical Papers	Acceleration <ul style="list-style-type: none"> <li>• A 32x32x32, Spatially Distributed 3D FFT in Four Microseconds on Anton</li> <li>• SCAMPI: A Scalable Cam-based Algorithm for Multiple Pattern Inspection</li> </ul>	PB255
1:30pm-3pm	Technical Papers	Grid Scheduling <ul style="list-style-type: none"> <li>• Evaluating the Impact of Inaccurate Information in Utility-Based Scheduling</li> <li>• Predicting the Execution Time of Grid Workflow Applications through Local Learning</li> <li>• Supporting Fault-Tolerance for Time-Critical Events in Distributed Environments</li> </ul>	PB256
1:30pm-3pm	Technical Papers	High Performance Filesystems and I/O <ul style="list-style-type: none"> <li>• I/O Performance Challenges at Leadership Scale</li> <li>• Scalable Massively Parallel I/O to Task-Local Files</li> <li>• PLFS: A Checkpoint Filesystem for Parallel Applications</li> </ul>	E145-146
1:30pm-3pm	Masterworks	HPC in Modern Medicine <ul style="list-style-type: none"> <li>• Grid Technology Transforming Healthcare</li> <li>• Patient-specific Finite Element Modeling of Blood Flow and Vessel Wall Dynamics</li> </ul>	PB253-254
3:30pm-5pm	Awards	ACM Gordon Bell Finalist III <ul style="list-style-type: none"> <li>• Indexing Genomic Sequences on the IBM Blue Gene</li> <li>• The Cat is Out of the Bag: Cortical Simulations with <math>10^9</math> Neurons, <math>10^{13}</math> Synapses</li> <li>• Millisecond-Scale Molecular Dynamics Simulations on Anton</li> </ul>	D135-136

## Wednesday, November 18

Time	Event	Title	Location
3:30pm-5pm	Technical Papers	GPU Applications <ul style="list-style-type: none"> <li>• Multi-core Acceleration of Chemical Kinetics for Simulation and Prediction</li> <li>• Towards a Framework for Abstracting Accelerators in Parallel Applications: Experience with Cell</li> <li>• A Microdriver Architecture for Error Correcting Codes inside the Linux Kernel</li> </ul>	PB256
3:30pm-5pm	Technical Papers	Networking <ul style="list-style-type: none"> <li>• HyperX: Topology, Routing, and Packaging of Efficient Large-Scale Networks</li> <li>• Router Designs for Elastic Buffer On-Chip Networks</li> <li>• Allocator Implementations for Network-on-Chip Routers</li> </ul>	E145-146
3:30pm-5pm	Masterworks	Multi-Scale Simulations in Bioscience <ul style="list-style-type: none"> <li>• Big Science and Computing Opportunities: Molecular Theory, Models and Simulation</li> <li>• Fighting Swine Flu through Computational Medicine</li> </ul>	PB253-254
3:30pm-5pm	Doctoral Research Showcase	Doctoral Research Showcase I <ul style="list-style-type: none"> <li>• Scalable Automatic Topology Aware Mapping for Large Supercomputers</li> <li>• Performance Analysis of Parallel Programs: From Multicore to Petascale</li> <li>• Energy Efficiency Optimizations using Helper Threads in Chip Multiprocessors</li> <li>• Consistency Aware, Collaborative Workflow Developer Environments</li> <li>• Architecture and Performance of Runtime Environments for Data Intensive Scalable Computing</li> <li>• Providing Access to Large Scientific Datasets on Clustered Databases</li> </ul>	PB252
3:30pm-5pm	Panel	Disruptive Technologies: Hardware	PB251
5:30pm-7pm	Birds-of-a-Feather	Campus Champions: Your Road to Free HPC Resources	E141-142
5:30pm-7pm	Birds-of-a-Feather	Can OpenCL Save HPC?	E145-146
5:30pm-7pm	Birds-of-a-Feather	Communicating Virtual Science	E147-148
5:30pm-7pm	Birds-of-a-Feather	Eclipse Parallel Tools Platform	D137-138
5:30pm-7pm	Birds-of-a-Feather	FAST-OS	B118
5:30pm-7pm	Birds-of-a-Feather	HPC Advisory Council Initiative	PB252
5:30pm-7pm	Birds-of-a-Feather	International Exascale Software Program	PB256
5:30pm-7pm	Birds-of-a-Feather	iPlant Collaborative: Computational Scaling Challenges in Plant Biology	B117
5:30pm-7pm	Birds-of-a-Feather	MPI Forum: Preview of the MPI 3 Standard (Comment Session)	D135-136
5:30pm-7pm	Birds-of-a-Feather	Network for Earthquake Engineering Simulation (NEES): Open Invitation to Build Bridges with Related Virtual Organizations	E143-144
5:30pm-7pm	Birds-of-a-Feather	OpenMP: Evolving in an Age of Extreme Parallelism	PB255
5:30pm-7pm	Birds-of-a-Feather	OSCAR Community Meeting	B119
5:30pm-7pm	Birds-of-a-Feather	Python for High Performance and Scientific Computing	A103-104
5:30pm-7pm	Birds-of-a-Feather	Simplify Your Data Parallelization Woes with Ct: C++ for Throughput Computing	D133-134
5:30pm-7pm	Birds-of-a-Feather	Solving Interconnect Bottlenecks with Low Cost Optical Technologies	D139-140
5:30pm-7pm	Birds-of-a-Feather	Update on OpenFabrics Software (OFED) for Linux and Windows Latest Releases	PB251
5:30pm-7pm	Birds-of-a-Feather	What Programs <i>Really</i> Work for Students Interested in Research and Computing?	A107-108



## Thursday, November 19

Time	Event	Title	Location
8:30pm-10am	Keynote Address	Building Solutions: Energy, Climate and Computing for a Changing World by Former U.S. Vice President Al Gore	Portland Ballroom
10am-4pm	Exhibits	Industry and Research Exhibits	Exhibit Hall
10:30am-Noon	Masterworks	Toward Exascale Climate Modeling <ul style="list-style-type: none"> <li>• Toward Climate Modeling in the ExaFlop Era</li> <li>• Green Flash: Exascale Computing for Ultra-High Resolution Climate Modeling</li> </ul>	PB252
10:30am-Noon	Technical Papers	Performance Analysis and Optimization <ul style="list-style-type: none"> <li>• Performance Evaluation of NEC SX-9 using Real Science and Engineering Applications</li> <li>• Early Performance Evaluation of “Nehalem” Cluster using Scientific and Engineering Applications</li> <li>• Machine Learning-Based Prefetch Optimization for Data Center Applications</li> </ul>	D135-136
10:30am-Noon	Technical Papers	Sustainability and Reliability <ul style="list-style-type: none"> <li>• FALCON: A System for Reliable Checkpoint Recovery in Shared Grid Environments</li> <li>• Scalable Temporal Order Analysis for Large Scale Debugging</li> <li>• Optimal Real Number Codes for Fault Tolerant Matrix Operations</li> </ul>	PB251
10:30am-Noon	Panel	Energy Efficient Data Centers for HPC: How Lean and Green do we need to be?	PB256
10:30am-Noon	Exhibitor Forum	Grid Computing, Cyber Infrastructures and Benchmarking <ul style="list-style-type: none"> <li>• Building a Real Business Model around the Distributed Grid</li> <li>• Contribution of Cyberinfrastructure to Economic Development in South Africa: Update on Developments</li> <li>• Common Application Benchmarks on Current Hardware Platforms</li> </ul>	E147-148
10:30am-Noon	Exhibitor Forum	Virtualization and Cloud Computing <ul style="list-style-type: none"> <li>• High-End Virtualization as a Key Enabler for the HPC Cloud or HPC as a Service</li> <li>• Managing HPC Clouds</li> <li>• Maximizing the Potential of Virtualization and the Cloud: How to Unlock the Traditional Storage Bottleneck</li> </ul>	E143-144
12:15pm-1:15pm	Birds-of-a-Feather	Energy Efficient High Performance Computing Working Group	D139-140
12:15pm-1:15pm	Birds-of-a-Feather	Extending Global Arrays to Future Architectures	B118
12:15pm-1:15pm	Birds-of-a-Feather	Getting Started with Institution-Wide Support for Supercomputing	D133-134
12:15pm-1:15pm	Birds-of-a-Feather	Green500 List	A107-108
12:15pm-1:15pm	Birds-of-a-Feather	HDF5: State of the Union	D137-138
12:15pm-1:15pm	Birds-of-a-Feather	HPC Saving the Planet, One Ton of CO <sub>2</sub> at a Time	D137-138
12:15pm-1:15pm	Birds-of-a-Feather	Jülich Research on Petaflops Architectures Project	D135-136
12:15pm-1:15pm	Birds-of-a-Feather	MPICH: A High-Performance Open-Source MPI Implementation	E145-146
12:15pm-1:15pm	Birds-of-a-Feather	Securing High Performance Government Networks with Open Source Deep Packet Inspection Applications	B119

## Thursday, November 19

Time	Event	Title	Location
12:15pm-1:15pm	Birds-of-a-Feather	What's New about INCITE in 2010?	B117
1:30pm-3pm	Technical Papers	SmartStore: A New Metadata Organization Paradigm with Semantic-Awareness for Next-Generation File Systems <ul style="list-style-type: none"> <li>• Adaptive and Scalable Metadata Management to Support A Trillion Files</li> <li>• Dynamic Storage Cache Allocation in Multi-Server Architectures</li> </ul>	PB251
1:30pm-3pm	Technical Papers	Multicore Task Scheduling <ul style="list-style-type: none"> <li>• Dynamic Task Scheduling for Linear Algebra Algorithms on Distributed-Memory Multicore</li> <li>• PFunc: Modern Task Parallelism for Modern High Performance Computing</li> <li>• Age-Based Scheduling for Asymmetric Multiprocessors</li> </ul>	PB255
1:30pm-3pm	Technical Papers	System Performance Evaluation <ul style="list-style-type: none"> <li>• Instruction-Level Simulation of a Cluster at Scale</li> <li>• Diagnosing Performance Bottlenecks in Emerging Petascale Applications</li> <li>• Comparative Study of One-Sided Factorizations with Multiple Software Packages on Multi-Core Hardware</li> </ul>	PB256
1:30pm-3pm	Technical Papers	Dynamic Task Scheduling <ul style="list-style-type: none"> <li>• VGrADS: Enabling e-Science Workflows on Grids and Clouds with Fault Tolerance</li> <li>• GridBot: Execution of Bags of Tasks in Multiple Grids</li> <li>• Scalable Work Stealing</li> </ul>	E145-146
1:30am-3pm	Exhibitor Forum	GPUs and Software Tools for Heterogeneous Architectures <ul style="list-style-type: none"> <li>• Tesla: Fastest Processor Adoption in HPC History</li> <li>• Debugging the Future: GPUs and Petascale</li> <li>• Developing Software for Heterogeneous and Accelerated Systems</li> </ul>	E143-144
1:30am-3pm	Exhibitor Forum	HPC Architectures: Future Technologies and Systems <ul style="list-style-type: none"> <li>• Convey's Hybrid-Core Computing: Breaking Through the Power/Performance Wall</li> <li>• Fujitsu's Technologies for Sustained Petascale Computing</li> <li>• Next Generation High Performance Computer</li> </ul>	E143-144
1:30pm-3pm	Masterworks	High Performance at Massive Scale <ul style="list-style-type: none"> <li>• Warehouse-Scale Computers</li> <li>• High Performance at Massive Scale: Lessons Learned at Facebook</li> </ul>	PB252
3:30pm-5pm	Masterworks	Scalable Algorithms and Applications <ul style="list-style-type: none"> <li>• Scalable Parallel Solvers in Computational Electrophysiology</li> <li>• Simulation and Animation of Complex Flows on 10,000 Processor Cores</li> </ul>	PB252
3:30pm-5pm	Technical Papers	Future Scaling of Processor-Memory Interfaces <ul style="list-style-type: none"> <li>• A Design Methodology for Domain-Optimized Power-Efficient Supercomputing</li> <li>• Leveraging 3D PCRAM Technologies to Reduce Checkpoint Overhead for Future Exascale Systems</li> </ul>	PB256
3:30pm-5pm	Technical Papers	Future HPC Architectures <ul style="list-style-type: none"> <li>• Future Scaling of Processor-Memory Interfaces</li> <li>• A Design Methodology for Domain-Optimized Power-Efficient Supercomputing</li> <li>• Leveraging 3D PCRAM Technologies to Reduce Checkpoint Overhead for Future Exascale Systems</li> </ul>	PB256

## Thursday, November 19

Time	Event	Title	Location
3:30pm-5pm	Exhibitor Forum	Technologies for Data and Computer Centers <ul style="list-style-type: none"> <li>• Effective Data Center Physical Infrastructure Management</li> <li>• Using Air and Water Cooled Miniature Loop Heat Pipes to Save Up to 50% in Cluster and Data Center Cooling Costs</li> <li>• 48V VR12 Solution for High Efficiency Data Centers</li> </ul>	E147-148
3:30pm-5pm	Doctoral Research	Doctoral Research Showcase II <ul style="list-style-type: none"> <li>• Processing Data Intensive Queries in Global-Scale Scientific Database Federations</li> <li>• GPGPU and Cloud Computing for DNA Sequence Analysis</li> <li>• Providing QoS for Heterogeneous Workloads in Large, Volatile, and Non-Dedicated Distributed Systems</li> <li>• Computer Generation of FFT Libraries for Distributed Memory Computing Platforms</li> <li>• Adaptive Runtime Optimization of MPI Binaries</li> <li>• An Integrated Framework for Parameter-Based Optimization of Scientific Workflows</li> </ul>	PB251
3:30pm-5pm	Panel	Disruptive Technologies: Software	PB255
6pm-9pm	Social Event	SC09 Conference Reception	Portland Center for the Performing Arts

## Friday, November 20

Time	Event	Title	Location
8:30am-5pm	Workshop	ATIP 1st Workshop on HPC in India: Research Challenges on Computing in India	E141-142
8:30am-5pm	Workshop	Grid Computing Environments	D139-140
8:30am-10pm	Panel	Applications Architecture Power Puzzle	PB252
8:30am-10pm	Panel	Flash Technology in HPC: Let the Revolution Begin	PB251
10:30am-Noon	Panel	Preparing the World for Ubiquitous Parallelism	PB252
10:30am-Noon	Panel	The Road to Exascale: Hardware and Software Challenges	PB251
10:30am-1:30pm	Workshop	Early Adopters PhD Workshop: Building the Next Generation of Application Scientists	D137-138