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Conference Dates: November 15-18, 2010 • Exhibition Dates: November 13-19, 2010 • www.sc10.supercomputing.org

November 13-19, 2010 • Ernest N. Morial Convention Center • New Orleans, Louisiana

The Future of Discovery



Call For Participation

The International Conference for High Performance Computing, Networking, Storage and Analysis

About SC10

New Orleans is where the future began for renowned discoverers and innovators of the past, and in November 2010, The Big Easy plays host to discoverers of the future at SC10, the 23rd meeting in the conference's annual history.

It's a great match. No city in the world is better known for its celebrations and its ability to reinvent itself. And no conference rivals SC10's planned international lineup of celebrated speakers, panel participants, presentations, workshops and exhibits featuring the latest breakthroughs in high-performance computing, networking, storage and analysis.

Spotlighting the most original and fascinating scientific and technical applications from around the world, SC10 will bring together an unprecedented array of scientists, engineers, researchers, educators, programmers, system administrators, developers and program managers and an exceptional program of technical papers, tutorials and timely research posters. SC10's Exhibition Hall will be second to none, featuring exhibits from international participants representing industry, academia and government research organizations.

Mark your calendar and make your way to New Orleans – be there for SC10, November 13-19. No city dishes out a bigger helping of southern hospitality, and no conference offers a better opportunity not just to glimpse the future of computing, but to participate in it—and collaborate with its discoverers.

The Future of Discovery

November 13-19, 2010

Ernest N. Morial Convention Center
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What's New

Technology Thrusts: *Climate Simulation, Heterogeneous Computing, Data Intensive Computing*

Climate Simulation

This special thrust area will explore the latest research and development efforts that are taking advantage of HPC systems to enable climate simulation applications and techniques. These include applied mathematics, algorithms, verification and validation, statistics, computer science, atmospheric chemistry, as well as environmental and societal impacts. **Questions:** thrust-climate@info.supercomputing.org

Heterogeneous Computing

The advent of the Road Runner supercomputer as well as the GPU accelerator movement towards HPC has demonstrated the beginning of accelerator-based computing at a large scale. Many think accelerated HPC is the primary path to Exascale computing. This thrust area will primarily focus on software infrastructure for making effective use of accelerator or heterogeneous supercomputers and will showcase lessons learned as well as highlight next steps to move such initiatives forward. **Questions:** thrust-hetero@info.supercomputing.org

Data Intensive Computing

Many more scientific domains are increasingly creating huge data requirements from both their simulation and specific experimental activities. The focus of this thrust area will be on how data is shared and communicated among participating scientists – specifically examining the hardware and software infrastructure that is needed to effectively share large data sets. **Questions:** thrust-data@info.supercomputing.org

The Program

The SC10 Technical Program will represent a potent and unique forum for demonstrating, debating and discovering innovative, cutting-edge advances in High Performance Computing (HPC), networking, storage and analysis from the international community in academic, government and corporate institutions. We cordially invite you to submit your work for consideration in the many venues offered at the conference. Submissions can cover any aspect of HPC, including applications, architecture, grids, cloud computing, networks, performance, productivity, storage, software infrastructure and system software. Unique technology thrust areas highlighted at SC10, i.e., climate simulation, heterogeneous computing, data intensive computing, provide an opportunity to showcase how your work is making an impact on new and emerging fields. Questions: techprogram@info.supercomputing.org

Papers

The Technical Papers program is the core component of the SC Conference series, with the goal for all presented work to be regarded in high academic esteem. The SC10 Papers Committee will rigorously review all submissions using academic novelty, technical soundness, timeliness and community impact as the predominant acceptance criteria. SC uses a two-part submission process where short abstracts are submitted prior to full papers. Awards will be presented for Best Paper and Best Student Paper. As an additional bonus, the best paper and best student papers will have the opportunity to be augmented and then published in a scientific journal. To be considered, your submitted manuscript must be no more than 20 pages in PDF format. Questions: papers@info.supercomputing.org

Tutorials

SC10 invites proposals for full-day (six hours) or half-day (three hours) introductory, intermediate and advanced tutorials. A distinguished panel of experts will review all tutorial proposals and select the tutorials to be presented at SC10. Submissions should consider inclusion of "hands-on" exercises and guided-learning demos. Questions: tutorials@info.supercomputing.org

Panels

Proposals for panel sessions covering exciting topics that are relevant, timely and thought provoking are encouraged for SC10. Panels offering diverse points of view, balanced discussion and opportunities for audience participation are particular points of focus. As in previous years, these sessions are expected to engender lively and, even, passionate debate. Questions: panels@info.supercomputing.org

Posters

SC10 solicits submissions for posters displaying cutting-edge, interesting research in high-end computing, storage, networking and analytics. Posters provide an excellent opportunity for short presentations and informal discussions with conference attendees. Posters will be prominently displayed for the duration of the conference, giving presenters a chance to showcase their latest results and innovations. One poster will be honored with a Best Poster Award. A limited number of active displays will be part of the poster session. Students who are ACM members also are encouraged to submit posters as part of the ACM Student Research Competition (SRC), with awards and special recognition at SC10 plus the chance to compete in the SRC grand finals. Questions: posters@info.supercomputing.org

Workshops

SC10 welcomes proposals for independently planned full-day, half-day, or multi-day workshops, which complement the overall Technical Program, including the technology thrust areas, and extend its impact by providing greater depth of focus. Proposals for workshops will be reviewed with an eye towards interactive and in-depth discussion of stimulating topics of interest to the HPC community. Questions: workshops@info.supercomputing.org

Birds-of-a-Feather Sessions (BOFs)

Submissions are invited for BOF sessions, which allow conference attendees to discuss topics of mutual interest. SC10 will provide meeting room facilities and will post daily schedules of the accepted BOFs, which are open to all conference attendees, including exhibitors and exhibits-only badge holders. Questions: bofs@info.supercomputing.org

Doctoral Showcase

The Doctoral Showcase invites Ph.D. students in HPC, networking, storage and analytics, who anticipate graduating within the next 12 months, to submit a short summary of their research. Those selected will present a 15-minute summary of their best research to experts in academia, industry and research laboratories. Students are encouraged to submit a one-page summary of their research, publication list, and three slides on their major results for consideration by the reviewers. Questions: doc-showcase@info.supercomputing.org

Disruptive Technologies

Generally speaking, a disruptive technology is a technological innovation or product that eventually supplants the existing dominant technology or product in the marketplace. For SC10, Disruptive Technologies will serve as a forum for examining technologies that may significantly reshape the HPC ecosystem in the next five to fifteen years, but which are not common in today's systems. Disruptive Technologies will showcase these technologies in panel sessions and an exhibit showcase. Questions: disruptive-techs@info.supercomputing.org

The Technical Challenges

The SC10 conference Technical Challenges will provide a way to showcase both expertise and HPC resources in friendly yet spirited competitions. SC10 will feature Challenges that have been held previously, but may also include new areas of interest. For example, SC09 Challenges include the Bandwidth Challenge, Student Cluster Competition and HPC Storage Challenge. SC10 Challenges will be highlighted to complement the conference's Technology Thrusts and Technical Program agenda. We encourage early submissions as SC10 Challenges will be based on having a minimum number of entries. Challenges with little interest may be eliminated. Questions: challenges@info.supercomputing.org

Student Cluster Competition

The Student Cluster Competition will showcase the amazing power of clusters and the ability to utilize open-source software to solve interesting and important problems. Only teams comprising students (both high-school and college students) are eligible to participate. Teams will compete in real time on the exhibit floor, where they will run a workload of real-world applications on clusters of their own design. The winning team will be chosen based on workload completed, benchmark performance and overall knowledge of the applications. Another award will be given for the most power-efficient cluster design. Questions: student-cluster-challenge@info.supercomputing.org



D a t e s t o R e m e m b e r

Papers/Gordon Bell Prize Abstracts Due:
Friday, April 2, 2010
Papers Due:
Monday, April 5, 2010
Acceptance Notification:
Wednesday, June 30, 2010

Tutorials/Workshops/Panels Proposals Due:
Monday April 5, 2010
Acceptance Notification:
Wednesday, June 30, 2010

Posters/Doctoral Showcase/BOFS/Challenges Applications Due:
Monday July 26, 2010
Acceptance Notification:
Monday, August 16, 2010

Disruptive Technologies Proposals Due:
Monday, July 26, 2010
Acceptance Notification:
Monday, August 16, 2010

IEEE Seymour Cray and Sidney Fernbach Awards ACM - IEEE CS Ken Kennedy Award Nominations Open:
Monday, May 3, 2010
Nominations Due:
Thursday, July 1, 2010

George Michael Memorial HPC Ph.D. Fellowships Submissions Due:
Friday, July 30, 2010
Acceptance Notification:
Monday, October 11, 2010

Student Volunteers/ Broader Engagement Applications Due:
Monday, August 16, 2010
Acceptance Notification:
Friday, September 10, 2010

Exhibitor Forum Applications Due:
Friday, July 30, 2010
Acceptance Notification:
Friday, September 3, 2010

Student Cluster Competition Submissions Open:
Thursday, April 1, 2010
Submissions Due:
Friday, July 16, 2010
Acceptance Notification:
Monday, August 16, 2010

Special Recognition

George Michael Memorial HPC Ph.D. Fellowships

The ACM, IEEE Computer Society and SC Conference series established the HPC Ph.D. Fellowship Program to honor exceptional Ph.D. students throughout the world with the focus areas of high performance computing, networking, storage and analysis. Fellowship recipients will be selected based on their overall potential for research excellence, the degree to which their technical interests align with those of the HPC community, their academic progress to date (as evidenced by publications and endorsements from their faculty advisor and department head as well as a plan of study to enhance HPC-related skills) and demonstration of their anticipated use of HPC resources. Questions: hpc-fellowship@info.supercomputing.org

ACM Gordon Bell Prize

The Gordon Bell Prize is awarded each year to recognize outstanding achievement in HPC. Now administered by the Association of Computing Machinery (ACM), financial support of the \$10,000 award is provided by Gordon Bell, a pioneer in high performance and parallel computing. The purpose of the award is to track the progress over time of parallel computing, with particular emphasis on rewarding innovation in applying HPC to applications in science. Gordon Bell prizes have been awarded every year since 1987. Prizes may be awarded for peak performance as well as special achievements in scalability, time-to-solution on important science and engineering problems and low price/performance. Finalists will present their results in a technical session during the conference. Questions: gbellprize@info.supercomputing.org

IEEE Seymour Cray and Sidney Fernbach Awards

The Seymour Cray Computer Science and Engineering Award recognizes innovative contributions to HPC systems that best exemplify the creative spirit of Seymour Cray. The Sidney Fernbach Memorial Award honors innovative uses of HPC in problem solving. Sponsored by the IEEE Computer Society, these prestigious honors are presented during special sessions held during the conference. Questions: awards@info.supercomputing.org

ACM - IEEE CS Ken Kennedy Award

The Ken Kennedy Award recognizes substantial contributions to programmability and productivity in computing and substantial community service or mentoring contributions. The award honors the remarkable research, service and mentoring contributions of the late Ken Kennedy. It includes a \$5,000 honorarium. This award will be presented during a special session held during the conference. Questions: awards@info.supercomputing.org

Exhibits

The SC10 exhibit hall will showcase the latest high performance computing, networking, storage and analysis products and innovations. Integrated industry and research exhibits from leading companies and organizations worldwide will provide SC10 attendees access to information about these products and innovations and to many of the people responsible for them. A number of SC10 exhibits will highlight climate, heterogeneous computing, and data sharing technologies and applications.

Exhibitor Forum

Exhibitor Forum presentations offer industry exhibitors the opportunity to share recent advances, discuss roadmaps and future plans, or provide case studies of their customers' successes. These technology-focused presentations will offer SC10 attendees the opportunity to hear directly from HPC system and technology providers. Questions: exhibitor-forum@info.supercomputing.org

Communities

SC10 welcomes a broad spectrum of attendees from all professions related to HPC, including corporate, research and educational institutions. As a result, several special programs have been developed to improve the SC conference experience and broaden its impact throughout the year. Questions: communities@info.supercomputing.org

Broader Engagement

The SC10 Broader Engagement (BE) program is aimed at increasing the involvement of individuals from groups that have been traditionally underrepresented in the HPC field. The program will offer a number of special activities at SC10 to stimulate interest across the HPC community. Competitive grants will be available to support travel to and participation in the SC10 Technical Program by members of underrepresented groups. Consideration will be given to applicants from groups that traditionally have been underrepresented in HPC, such as African-Americans, Hispanics, Native Americans, Alaska Natives, Native Hawaiians, Pacific Islanders, the physically challenged and women. Applications are encouraged from all those in computing-related disciplines. Questions: be@info.supercomputing.org

Education

The Education Program is designed to introduce HPC and computational tools, resources and methods to undergraduate faculty and pre-college educators. The program also assists educators in integrating HPC and computational techniques into their classrooms and research programs. During the SC10 the Education Program will host a four-day intensive program that further immerses participants in high-performance computing, networking, storage and analysis. The program offers guided tours of the exhibit hall, focused hands-on tutorials and birds-of-a-feather gatherings, as well as formal and informal opportunities to interact with other SC communities and exhibitors. Questions: education@info.supercomputing.org

Student Volunteers

SC10 is managed and administrated by volunteers. Undergraduate and graduate students are encouraged to apply as student volunteers to help with the management and operation of the conference. In exchange, student volunteers will receive free conference registration, housing (for out-of-town volunteers) and most meals. Student volunteers have the opportunity to see and discuss the latest technology, and meet leading researchers from around the world while contributing to the success of this important annual event. Questions: student-vols@info.supercomputing.org

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