

CALL FOR PAPERS

The 12th International Workshop on Parallel and Distributed Scientific and Engineering Computing

(PDSEC-11)

May 20, 2011, Anchorage, Alaska, USA

to be held in conjunction with IPDPS 2011

Scope and Interests: The field of high performance computing has been prominent since the 1940s, and has become increasingly significant as recent advances in electronic and integrated circuit technologies have made it more widely accessible. The hardware is becoming faster, less expensive and more cost effective, which will result in a proliferation in the application of parallel and distributed systems. Scientific and engineering application domains play a key role in shaping future research and development activities in academia and industry, especially when the solution of large and complex problems must cope with tight timing constraints.

This workshop will bring together computer scientists, applied mathematicians and researchers to present, discuss and exchange ideas, results, work in progress and experiences in the area of parallel and distributed computing for problems in science and engineering applications and interdisciplinary applications.

Topics of interest include (but are not limited to):

- development of advanced parallel and distributed methods,
 - parallel and distributed computing techniques and codes,
 - practical experiences using various parallel and distributed systems with software such as MPI, PVM, HPFortran, OpenMP, UPC, mpC etc.,
 - domain decomposition,
 - loop and task parallelism,
 - scheduling and load balancing,
 - compiler, hardware and OS issues for scientific and engineering computing,
 - memory system and I/O support for scientific and engineering computing,
 - Hardware/software support for performance, power and energy aware applications,
 - Network, Mobile/wireless processing and computing,
 - performance modeling and evaluation of scientific and engineering computing,
 - cluster and grid scientific and engineering computing,
 - scientific and engineering computing on HPC architectures, including (but not limited to) supercomputers, parallel computers, clusters, multicores, GPUs, FPGAs,
 - biologically inspired algorithms in system model, design and applications.
- Application areas include (but are not limited to):
 - computational fluid dynamics and mechanics
 - material sciences
 - space, weather, climate systems and global changes
 - computational environment and energy systems
 - computational ocean and earth sciences
 - combustion system simulation
 - computational chemistry
 - computational physics
 - bioinformatics and computational biology
 - medical applications
 - transportation systems simulations
 - combinatorial and global optimization problems
 - structural engineering
 - computational electro-magnetism
 - computer graphics
 - virtual reality and multimedia
 - semiconductor technology, electronic circuits, and system design
 - dynamic systems
 - computational finance
 - data mining
 - signal and image processing

Submission Information: Authors are invited to submit manuscripts that present original unpublished research. Submitted papers should be at most 20 pages (IEEE style is recommended), must be in PDF format, and should list 5 to 10 keywords. The submission is via an online submission system; see the workshop website for details. Program Committee members and external reviewers will provide at least three reviews to the authors. Papers will be ranked for relevance to the workshop and technical merit. Accepted papers with at most 8 pages will be published by IEEE Computer Society Press as IPDPS-11 workshop proceedings. Selected best papers will be considered for a special issue of an international journal.

Further information about the conference can be found at:

<http://cse.stfx.ca/~ltyang/ipdps11-pdsec/>

Important Deadlines:

Paper submission due December 20, 2010
Notification of Acceptance February 01, 2011
Final camera-ready paper February 21, 2011

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