

Preliminary Call for Participation

The 2010 International Conference on High Performance Computing & Simulation (HPCS 2010)

In Conjunction With

The International Wireless Communications and Mobile Computing Conference (IWCMC 2010)

**June 28 – July 2, 2010
Caen, France**

**In Cooperation with the ACM, IEEE, IFIP
Co-Sponsored by IEEE France, ASIM, EUROSIM, CASS, JSST, LSS, PTSK, TSS, Université de Caen - Basse Normandie, ENSICAEN, CNRS
(Pending)**

(Paper Submission Deadline: January 15, 2010)

<http://cisedu.us/cis/hpcs/10/main/callForPapers.jsp>

Invitation:

You are cordially invited to participate in and attend the 2010 International Conference on High Performance Computing & Simulation to be held in Caen, France, June 28 – July 2, 2010 in conjunction with the International Wireless Communications and Mobile Computing Conference (IWCMC 2010). The conference is to address, explore and exchange information on the state-of-the-art in high performance and large scale computing systems, their use in modeling and simulation, their design, performance and use, and their impact. Participation is extended to researchers, designers, educators and interested parties in all related disciplines and specialties.

Purpose:

The conference will include invited presentations by experts from academia, industry, and government as well as contributed paper presentations describing original work on the current state of research in HPC & simulation technologies and systems and related issues.

Topics include (but are not limited to):

• Architectures and Systems Track

- Grid and Cluster Computing
- Fine-Grain Parallelism and Architectures
- Network, Cell and Security Processors
- Scalable Computing
- Distributed Shared Memory
- Peer-to-Peer Architectures and Networks
- High Performance Interconnection Networks
- High Performance I/O
- Enterprise and Federated Architectures
- HPC Monitoring & Instrumentation
- Energy Efficient HPC Systems
- Multi-Core Architectures and Support
- Instruction-, Thread- and Memory-Level Parallelism
- Embedded and Application-Specific Architectures
- Reconfigurable Computing & FPGA Based Architectures
- Power Aware Architectures
- Sensor, Broadband and High Performance Networks
- Warehousing and Storage
- Architectures for Ubiquitous and Pervasive Computing
- Nature Inspired HPC Architectures
- Innovative HPC (Autonomic, Affective, Quantum, ...)
- Architectures for Green Computing

• Algorithms Track

- Modeling Simulation and Evaluation Techniques
- Partitioning, Mapping, and Scheduling
- Load Balancing and Sharing
- Mutual Exclusion, Deadlock Detection
- Causality and Time
- Network Flow and Congestion
- Message Passing
- Query Processing and Information Retrieval
- Learning and Intelligence Algorithms
- Reliable Parallel and Distributed Algorithms
- Routing, Synchronization, Consistency
- Resource Allocation, Sharing and Management
- Coordination, Consensus, and Agreement
- Fault Tolerance, Replication
- Network and Systems Protocols
- HLA, InfiniBand and Other Related Standards
- Data Mining and Searching
- Security, Authentication, Access Control

• Software and Middleware in HPC Systems Track

- Operating Systems and Compilers
- File Systems
- Name Services and Naming
- Interprocess Communication
- Transaction and Concurrency Control
- Brokering Middleware
- Enterprise Based Technologies
- Benchmarking and Assessment
- Web Semantics and Ontologies
- Open CL Platforms and Developments
- Languages
- Libraries and Programming Environments
- Operating Systems Support
- Distributed Objects and Remote Invocation
- Object Oriented Programming & Design
- Software Development Tools and Support
- Markup Languages and their Applications
- Software Monitoring and Measurement
- Web 2.0 Infrastructure

• Applications Oriented High Performance Track

- General-Purpose computation on Graphics Processing Units (GPGPU)
- Parallelization of Simulation
- Bioinformatics and Biocomputing
- Internet and Web Computing
- Federated and Legacy Applications
- e-Commerce, e-Business, e-Learning
- Autonomous Vehicles and Robotics Systems
- Knowledge Based Systems
- Agent and Multi Agent Based Applications
- Neural, Fuzzy, and Rough Sets in HPC
- Large Scale Scientific Computing
- HPC and Education
- Large Scale Systems for Computational Sciences (Biological, Chemical, Physical, Bioinformatics, Environmental, Transportation, Agriculture, etc.)
- Cloud Computing
- Data Intensive Supercomputing
- Real-time and embedded P & D Applications
- Distributed Multimedia Systems
- Web Services
- P & D Industrial and Manufacturing Applications
- Databases, Repositories and Their Applications
- Mobile and Wireless Applications
- Cooperative Information Systems and Applications
- Computer Supported Decision Making
- Granular Computing and its Applications
- HPC in Digital Signal and Image Processing and Vision
- e-Sciences

Submission of Papers:

Papers reporting original and unpublished research results on above and related HPC topics are solicited. Please submit an electronic copy of your **full manuscript** (not to exceed 8 double-column IEEE formatted pages, including figures, tables, and references). Please clearly indicate the corresponding author and include emails for all co-authors of the papers. Include up to 6 keywords from the above list and an abstract of no more than 350 words. Papers must be submitted in .pdf format only via web at the following conference website: <http://cisedu.us/cis/hpcs/10/main/callForPapers.jsp>. More detailed submission procedures will be available on this website. If accepted, **the final camera-ready manuscript will follow the format posted**, which will be made available to all authors.

Consistent with standard practice, each submitted paper will receive a minimum of three reviews. Papers will be selected based on their originality, timeliness, significance, relevance, and clarity of presentation. Initial selection will be based on full papers. Submission implies the willingness of at least one of the authors to register and present the paper, if accepted. All accepted papers in the conference are required to be presented and will be included in the conference proceedings. Manuscripts submitted should not be under simultaneous consideration by any other conference or venues.

If you have any questions about paper submission or program, please contact conference Program Chair: **Waleed W. Smari**, Dept. of Electrical and Computer Engineering, University of Dayton, 300 College Park, Dayton, OH 45469-0226, USA, Voice: (937) 681-0098, Fax: (937) 255-4511, Email: Smari@arys.org.

For information about the HPCS conference in general, please contact the General Co-Chairs.

Important Dates:

Full Paper Submission Deadline ----- January 15, 2010
Notification of Acceptance ----- March 15, 2010
Registration & Camera-Ready Manuscripts Due ----- April 15, 2010

Workshops and Special Sessions

Workshops and special sessions on HPCS related topics are welcomed too. A workshop or a special session proposal should include a title, topics covered by the workshop, organizers information, submission instructions, review process, important dates, total number of expected accepted papers, and any other information for the authors. Proposals for workshops and special sessions should be submitted by **November 30, 2009** as a Word file email attachment.

Tutorials

The conference will also offer tutorials (typically 1-4 -hours) on state-of-the-art topics in HPCS. Each tutorial proposal should provide a title, topics to be covered, targeted audience, prerequisites, and a brief biography and qualifications of the instructor. All proposals should be submitted to Tutorials Chair by **January 15, 2010**.

Panels and Forums

Panel sessions and forums will examine innovative, promising, or controversial HPCS issues today. They will also address HPCS challenges and future prospects. Audience participation will be welcomed. If you have ideas or questions concerning Conference's panels and forums, please contact Panels Chair. Proposals are welcomed and should be submitted by **January 15, 2010**.

Posters

Posters addressing preliminary results, innovative ideas, work in progress, late-breaking results, HPC tools, platforms and products, and other work not suitable for a formal paper and best presented in an interactive setting are solicited. Posters will be held in a special session where presenters will demonstrate their work directly to conference attendees. Proposals for posters are welcomed and should be submitted to Posters Co-Chairs by **January 15, 2010**.

Demonstrations

Demos and experiential showcases of HPC environments and tools are highly encouraged. These may include any of the themes outlined in the conference topics. If you have any questions, please contact Demos Chair. Proposals for demos are welcomed and should be submitted by **January 15, 2010**.

Doctoral Dissertation Consortium

The HPCS Doctoral Consortium is intended to bring together PhD students working on HPCS related topics, to provide them a friendly forum and an opportunity to present, discuss and illustrate their ongoing research in a constructively critical and informal atmosphere, to obtain valuable feedback from conference attendees, particularly senior researchers and experts in the field. Additionally, the consortium is meant to facilitate the interaction and collaboration with other researchers. Doctoral students who have not defended their thesis before HPCS 2010 are invited to participate in the HPCS Doctoral Consortium. Proposals for the Doctoral Consortium are welcomed and should be submitted by **January 25, 2010**.

Exhibits

Exhibit booths will be available to display your newest products and technologies. Make plans now to take advantage of this prime advertising opportunity. If you have any questions, please contact Exhibits Chair. Proposals are welcomed and should be submitted by **January 15, 2010**.

Sponsorship and Industry Liaison

The HPCS 2010 Conference seeks interested Industry Partners who would be willing to sponsor conference events or social activities (e.g., exhibit reception, speaker sponsorship, registration handout packets, special break snacks, etc.). If an industry representative is interested in becoming an HPCS 2010 Industry Partner or would like to propose an event or activity at the conference, please contact the Industry Liaison Chair.

For further information or questions about the HPCS 2010 conference, please consult the web site at URL: <http://cisedu.us/cis/hpcs/10/main/callForPapers.jsp>.

For information about WICMC 2010, consult the IWCMC'10 web site at URL: <http://iwcmc.com/> or contact IWCMC'10 organizers.