

Preliminary Call for Participation

The 2008 High Performance Computing & Simulation (HPCS'08) Conference

In Conjunction With

**The 22nd EUROPEAN CONFERENCE ON MODELLING AND
SIMULATION (ECMS 2008)**

**Nicosia, Cyprus
June 3 - 6, 2008**

**Co-Sponsored by IEEE Germany, ASIM, EUROSIM, CASS, JSST, LSS, PTSK, TSS, The
University of Cyprus**

**In Cooperation with the IEEE Computer Society Technical Committee on Parallel Processing
(TCPP) (Pending)**

(Submission Deadline: February 28, 2008)

Invitation:

You are cordially invited to participate in and attend the 2008 High Performance Computing & Simulation Conference to be held in Nicosia, Cyprus, June 3-6, 2008 in conjunction with the 22nd European Conference on Modeling and Simulation (ECMS 2008). The conference is to address, explore and exchange information on the state-of-the-art in high performance and large scale computing systems, their modeling and simulation, design 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 from 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
- Multi-Core Architectures
- 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

- High Performance I/O
- Enterprise and Federated Architectures
- HPC Monitoring & Instrumentation
- Architectures for Ubiquitous and Pervasive Computing
- Nature Inspired HPC Architectures
- Innovative HPC (Autonomic, Affective, Quantum, ...)

- **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
- 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**

- 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.)
- 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 15 double-spaced pages or 7 double-column IEEE formatted pages, including figures, tables, and references). Please clearly indicate the corresponding author. Include up to 6 keywords from the above list and an abstract of no more than 300 words. Papers must be submitted in .pdf format only via web at the following conference website: <http://cisedu.us/cis/hpcs/08/>. More detailed submission procedures will be available on this website. If accepted, **the final camera-ready manuscript will follow the ECMS 2008 format**, 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 which will be published by ECMS.

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) 229-2795, Fax: (937) 229-4529, Email: Waleed.Smari@notes.udayton.edu.

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

Important Dates:

Full Paper Submission Deadline ----- February 28, 2008
Notification of Acceptance ----- March 20, 2008
Registration & Camera-Ready Manuscripts Due ----- April 17, 2008

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 to Program Chair by **February 8, 2008** as a Word file email attachment.

Tutorials

The conference will also offer tutorials (typically 1-4 -hours) on the 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 31, 2008**.

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 **February 28, 2008**.

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 **February 28, 2008**.

For further information or questions about the conference, please consult the web site at URL: <http://cisedu.us/cis/hpcs/08/>. For information about ECMS 2008, consult the ECMS'08 web site at URL: <http://www.scs-europe.net/conf/ecms2008/> or contact ECMS'08 General Chair: Prof. Loucas S. Louca at lslouca@ucv.ac.cy.