



# CALL FOR PAPERS

## IISWC 2008



### 2008 Annual IEEE International Symposium on Workload Characterization

*Sponsored by the IEEE Computer Society and the Technical Committee on Computer Architecture*

Seattle, WA

September 14-16, 2008

#### General Chairs

David Christie, AMD  
Alan Lee, AMD

#### Program Chairs

Onur Mutlu, Microsoft Research  
Ben Zorn, Microsoft Research

#### Program Committee

Leslie Barnes, AMD  
Pradip Bose, IBM Research  
Martin Burtscher, UT-Austin  
David Callahan, Microsoft  
Luis Ceze, Washington  
Brad Chen, Google  
Derek Chiou, UT-Austin  
Tom Conte, NC State  
Adrian Cristal, BSC  
Lieven Eeckhout, Ghent  
Dror Feitelson, Hebrew University  
Michael Hind, IBM Research  
Hillery Hunter, IBM Research  
David Kaeli, Northeastern  
Hyesoon Kim, Georgia Tech  
Charles Levine, Microsoft  
Beng-Hong Lim, VMware  
José Martínez, Cornell  
Avi Mendelson, Intel  
Partha Ranganathan, HP Labs  
Steve Reinhardt, Reservoir Labs  
Mike Schlansker, HP Labs  
Mike Shebanow, Nvidia  
Eric Sprangle, Intel  
Jeffrey Vetter, Oak Ridge National Lab  
Brad Waters, Microsoft

#### Benchmark Chair

JoAnn Paul, Virginia Tech

#### Workshop/Tutorials Chair

Suleyman Sair, NC State

#### Web and Publicity Chairs

Brad Beckmann, AMD  
Byeong-Kil Lee, Texas Instruments

#### Local Arrangements Chair

Karin Strauss, AMD

#### Steering Committee

Pradip Bose, IBM Research  
Tom Conte, NC State University  
Lieven Eeckhout, Ghent University  
Jay Jayasimha, Intel  
Lizy John, University of Texas at Austin  
David Kaeli, Northeastern University  
David Lilja, University of Minnesota  
Ann Marie Maynard, IBM  
Ravi Nair, IBM  
John Shen, Nokia

#### Important Dates

Abstracts Due: **March 7, 2008**  
Paper Submission: **March 14, 2008**  
Acceptance Notification: **May 24, 2008**

This symposium is dedicated to the understanding and characterization of workloads that run on all types of computing systems. New applications and programming paradigms continue to emerge as the diversity and performance of computers increase. On the one hand, computing workloads evolve and change with advances in microarchitecture, compilers, programming languages, and networking/communication technologies. On the other hand, improvements in computing technology are usually based on a solid understanding and analysis of existing workloads. Whether they are PDAs, wireless and embedded systems at the low end or massively parallel systems at the high end, the design of future computing machines can be significantly improved if we understand the characteristics of the workloads that are expected to run on them.

We solicit papers in all areas related to characterization of computing system workloads. Topics of interest include (but are not limited to):

- Characterization of applications in areas including
  - Search engines, e-commerce, web services, databases, file/application servers
  - Embedded, mobile, multimedia, real-time, 3D-Graphics, gaming, telepresence
  - Life sciences, bioinformatics, scientific computing
  - Security, reliability, biometrics
- Characterization of OS, Virtual Machine, middleware and library behavior
  - Virtual machines, Websphere, .NET, Java VM, databases
  - Graphics libraries, scientific libraries
- Characterization of system behavior, including
  - Operating system and hypervisor effects and overheads
  - Effects due to virtualization and dynamic optimization
  - Hardware accelerators (GPGPU, XML, crypto, etc)
  - Failures, availability, and reliability
  - User behavior and system-user interaction
  - Instrumentation methodologies for workload verification and characterization
  - Techniques for accurate analysis/measurement of production systems
- Implications of workloads in design issues, such as
  - Power management, reliability, security, performance
  - Processors, memory hierarchy, I/O, and networks
- Benchmark creation, analysis, and evaluation issues, including
  - Multithreaded benchmarks
  - Profiling, trace collection, synthetic traces
  - Validation of benchmarks
- Abstract modeling of program behavior
- Emerging and future workloads
  - Transactional memory workloads; workloads for multi/many-core systems
  - Stream-based computing workloads; web2.0/internet workloads

#### Special Feature: Benchmark Session

IISWC will include a special benchmark session. Authors are invited to submit C, C++, Java, or C# code and inputs to this code for possible inclusion in a benchmark set that IISWC is making available to researchers. A paper must also be submitted explaining the benchmark and its relevance to its user community. Papers accompanying selected benchmarks will be presented at a special session to be held during the conference. Details will be available at <http://www.iiswc.org>. Please contact the Benchmark Chair with any questions.

<http://www.iiswc.org/>