SBAC-PAD 2004 — PROGRAM – DAY 1

16th Symposium on Computer Architecture and High Performance Computing

Foz do Iguaçu, October 27th-29th , 2004 — http://www.sbc.org.br/sbac/2004/

SBAC-PAD is an international annual conference, started in 1987, which has continuously presented an overview of new developments, applications, and trends in parallel and distributed computing technologies. SBAC-PAD is open for faculty members, researchers, specialists and graduate students around the world. In 2004 edition, the symposium will be held at the **Bourbon Cataratas & Convention Center** in **Foz do Iguaçu – Brazil.**

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Philippe O. A. Navaux (Brazil)

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Jean-Luc Gaudiot (*USA)*
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Wednesday, October 27th 2004 – Day 1

07:30	Conference Registration
08:00 09:30	Tutorial 1, part 1 - **Just-in-Time HW/ISA/SW Co-optimization Techniques for SoC** by Kazuaki Murakami and Victor Mauro Goulart Ferreira
09:30	Coffee Break
09:45 11:25	Session 1 – Cache and Memory Architectures **Cache Filtering Techniques to Reduce the Negative Impact of Useless Speculative Memory References on Processor Performance** (Onur Mutlu, Hyesoon Kim, David Armstrong, Yale Patt) **Self-Monitored Adaptive Cache Warm Up for Microprocessor Simulation** (Yue Luo, Lizy John) **The eDRAM based L3-Cache of the BlueGene/L Supercomputer Processor Node** (Martin Ohmacht, Dirk Hoenicke, Ruud Haring, Alan Gara) **Multi-Profile Instruction Based Compression** (Eduardo Wanderley Netto, Rodolfo Azevedo, Paulo Cesar Centoducatte, Guido Araujo)
11:25 12:25	Invited Talk 1 - **The Role of Virtual Machines in Future Computer Systems** by Jim Smith, University of Wisconsin-Madison, USA
12:25	Lunch
13:45 15:00	Session 2 – Processor Architectures I **A Study of Errant Pipeline Flushes caused by Value Misspeculation** (Deniz Balkan, John Kalamatianos, David Kaeli) **Design Space Exploration using T&D-Bench** (Sandro Soares, Flavio Wagner) **Value Predictors for Reuse through Speculation on Traces** (Mauricio Pilla, Philippe Navaux, Bruce Childers, Amarildo da Costa, Felipe França)
15:00 16:00	Invited Talk 2 – **The Gridbus Toolkit for Building and Deploying eScience Applications on Utility Grids** by Rajkumar Buyya, from The University of Melbourne
16:00	Coffee Break
16:15 17:30	Session 3 – Processor Architectures II **IATO: A Flexible EPIC Simulation Environment** (Amaury Darsch, Andre Seznec) **ArchC: A SystemC-Based Architecture Description Language** (Sandro Rigo, Guido Araujo, Marcus Bartholomeu, Rodolfo Azevedo) **Optimizations for compiled simulation using instruction type information** (Marcus Bartholomeu, Rodolfo Azevedo, Sandro Rigo, Guido Araujo)
17:30 19:00	Tutorial 1, part 2 - **Just-in-Time HW/ISA/SW Co-optimization Techniques for SoC** by Kazuaki Murakami and Victor Mauro Goulart Ferreira
19:00 20:30	Panel – **Computing Challenges: what will influence progress (for better or worse)** Moderator: Yale Patt Members: Jean-Luc Gaudiot, James E. Smith, Siang Song, Philippe Navaux

SBAC-PAD 2004 — PROGRAM – DAY 2

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Thursday, October 28th 2004 – Day 2

07:40 09:10	Tutorial 2, part 1 - **Grid Computing: Making the Global Cyberinfrastructure for eScience and eBusiness a Reality** by Rajkumar Buyya
09:10 10:25	Session 4 - Languages and Tools for Parallel and Distributed Programming **Improving Server Performance on Transaction Processing Workloads by Enhanced Data Placement** (Juan Rubio, Charles Lefurgy, Lizy John) **High Performance Communication System Based on Generic Programming** (André Luís Gobbi Sanches, Fernando Roberto Secco, Antônio Augusto Fröhlich) **Performance Evaluation of a Prototype Distributed NFS Server** (Rafael Avila, Philippe Navaux, Pierre Lombard, Adrien Lebre, Yves Denneulin)
10:25	Coffee Break
10:40 11:40	Invited Talk 3 - **High Performance Computing using Reconfigurable Hardware** by Viktor Prasanna, University of Southern California, USA
11:40	Lunch Talk - offered by NEC **The High Performance Computing After the Earch Simulator** by Marcos A. de Souza, Technical Manager – HPC Systems – NEC do Brasil S/A
13:40 17:20	Visit to Iguacu Falls
17:20 19:00	Session 5 – Grid, Cluster and Pervasive **FlowCert: Probabilistic Certification for Peer-to-Peer Computations** (Jean-Louis Roch) **A Performance Evaluation of a Quorum-Based Sate-Machine Replication Algorithm For Computing Grids** (Jean-Michel Busca, Marin Bertier, Fatima Belkouch, Pierre Sens, Luciana Arantes) **Scheduling in Bag-of-Task Grids: The PAUÁ Case** (Walfredo Cirne, Francisco Brasileiro, Lauro Costa, Daniel Paranhos da Silva, Elizeu Santos-Neto, Nazareno Andrade) **MEu: unifying application modeling and cluster exploitation** (Albano Alves, António Pina, José Exposto, José Rufino)
19:00 20:40	Session 6 - High Performance Applications I **Parallel Implementation of a Lagrangian Stochastic Model for Pollution Dispersion** (Debora Roberti, Roberto Souto, Gervasio Degrazia, Haroldo Campos Velho, Domenico Anfossi) **A Parallel Engine for Graphical Interactive Molecular Dynamics** (Eduardo Rodrigues, Airam Preto, Stephan Stephany) **Parallel Adaptive Mesh Coarsening for Seismic Tomography** (Marc Grunberg) **Combining a Shared-Memory High Performance Computer and a Heterogeneous Cluster for the Simulation of Light Interaction with Human Skin** (Aravind Krishnaswamy, Gladimir Baranoski)
21:00	Conference Dinner

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Friday, October 29th 2004 – Day 3

07:40 09:10	Tutorial 2, part 2 - **Grid Computing: Making the Global Cyberinfrastructure for eScience and eBusiness a Reality** by Rajkumar Buyya
09:10 12:00	Visit to Itaipu Hydroeletric Power Plant
12:00	Lunch
13:30 14:45	Session 7 - Parallel and Distributed Algorithms **Revisiting a BSP/CGM Transitive Closure Algorithm** (Edson Cáceres, Cristiano Vieira) **Improving Parallel Execution Time of Sorting on Heterogeneous Clusters** (Christophe Cérin, Michel Koskas, Hazem Fkaier, Mohamed Jemni) **An Approach for Pre-Runtime Scheduling in Embedded Hard Real-Time Systems with Power Constraints** (Eduardo Antonio Guimaraes Tavares, Raimundo Barreto, Meuse Nogueira Oliveira Junior, Paulo Maciel, Marília Neves, Ricardo Lima)
14:45 15:45	Invited Talk 4 - **The Microprocessor of the Year 2014: Do Pentium 4, Pentium M, and Power 5 provide any hints?** by Yale N. Patt, The University of Texas at Austin, EUA
15:45	Coffee Break
16:00 17:40	Session 8 – Load Balancing and Scheduling **Graph Partitioning with the Party Library: Helpful-Sets in Practice** (Stefan Schamberger) **On the Combined Scheduling of Malleable and Rigid Jobs** (Jan Hungershöfer) **A Cluster-based Strategy for Scheduling Task on Heterogeneous Processors** (Cristina Boeres, José Viterbo Filho, Vinod Rebello) **A New Migration Model based on the Evaluation of Processes Load and Lifetime on Heterogeneous Computing Environments** (Rodrigo Mello, Luciano Senger)
17:40 19:20	Session 9 - Benchmarking, Performance Measurements and Analysis **Characterizing the Dynamic Behavior of Workload Execution in SVM Systems** (Salvador Petit, Julio Sahuquillo, Ana Pont, David Kaeli) **A Performance Evaluation of ARM ISA Extensions for Elliptic Curve Cryptography over Binary Finite Fields** (Sandro Bartolini, Irina Branovic, Roberto Giorgi, Enrico Martinelli) **PEMPIs: A New Methodology for Modeling and Prediction of MPI Programs Performance** (Edson Midorikawa, Helio Oliveira, Jean Laine) **Performance Characterisation of Intra-Cluster Collective Communications** (Luiz Angelo Barchet-Estefanel, Grégory Mounié)
19:20 20:20	SBAC-PAD Meeting and Closing Remarks