



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	Tutorial 1, part 1 - Just-in-Time HW/ISA/SW Co-optimization
09:30	Techniques for SoC by Kazuaki Murakami and Victor Mauro Goulart Ferreira
09:30	Coffee Break
09:45	Session 1 – Cache and Memory Architectures
11:25	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	Invited Talk 1 - The Role of Virtual Machines in Future Computer
12:25	Systems by Jim Smith, University of Wisconsin-Madison, USA
12:25	Lunch
13:45	Session 2 – Processor Architectures I
15:00	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	Invited Talk 2 – The Gridbus Toolkit for Building and Deploying
16:00	eScience Applications on Utility Grids by Rajkumar Buyya, from The University of Melbourne
16:00	Coffee Break
16:15	Session 3 – Processor Architectures II
17:30	IATO: A Flexible EPIC Simulation Environment (Amaury Darsch, Andre Sez nec) 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	Tutorial 1, part 2 - Just-in-Time HW/ISA/SW Co-optimization
19:00	Techniques for SoC by Kazuaki Murakami and Victor Mauro Goulart Ferreira
19:00	Panel – Computing Challenges: what will influence progress
20:30	(for better or worse) Moderator: Yale Patt Members: Jean-Luc Gaudiot, James E. Smith, Siang Song, Philippe Navaux



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Thursday, October 28th 2004 – Day 2

07:40	Tutorial 2, part 1 - Grid Computing: Making the Global Cyberinfrastructure for eScience and eBusiness a Reality by Rajkumar Buyya
09:10	
09:10	Session 4 - Languages and Tools for Parallel and Distributed Programming
10:25	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	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	Visit to Iguacu Falls
17:20	
17:20	Session 5 – Grid, Cluster and Pervasive
19:00	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, Antônio Pina, José Exposto, José Rufino)
19:00	Session 6 - High Performance Applications I
20:40	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	Tutorial 2, part 2 - Grid Computing: Making the Global Cyberinfrastructure for eScience and eBusiness a Reality by Rajkumar Buyya
09:10	Visit to Itaipu Hydroelectric Power Plant
09:10	
12:00	
12:00	Lunch
13:30	Session 7 - Parallel and Distributed Algorithms
14:45	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	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	
15:45	Coffee Break
16:00	Session 8 – Load Balancing and Scheduling
17:40	Graph Partitioning with the Party Library: Helpful-Sets in Practice (Stefan Schamberger) On the Combined Scheduling of Malleable and Rigid Jobs (Jan Hungershofer) 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	Session 9 - Benchmarking, Performance Measurements and Analysis
19:20	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	SBAC-PAD Meeting and Closing Remarks
20:20	