SPAA 2006 Conference Program

Sunday, July 30

4:30-6:00 pm: **Registration at the Charles Hotel**

6:00 - 8:00 pm: **Reception and NOC tours at Akamai Technologies**
8 Cambridge Center (intersection of Galileo Galilei Way & Broadway), Cambridge

A trolley will leave the Charles Hotel at 5:45 pm and will run a continuous loop all night.

Monday, July 31

7:30 - 8:20 am: **Continental Breakfast**

8:20 - 10:00 am: **Session 1: Games and Learning**

8:20 am: Tell Me Who I Am: An Interactive Recommendation System
Noga Alon, Baruch Awerbuch, Yossi Azar and Boaz Patt-Shamir

8:45 am: Publish and Perish: Definition and Analysis of an n-Person Publication Impact Game
Zvi Lotker, Boaz Patt-Shamir and Mark Tuttle

9:10 am: The Price of Optimum in Stackelberg Games on Arbitrary Networks and Latency Functions
Alexis Kaporis and Paul Spirakis

9:35 am: Network Design with Weighted Players
Ho-Lin Chen and Tim Roughgarden

10:00 - 10:30 am: **Coffee Break**

10:30 - 12:10 pm: **Session 2: Compilers, Supercomputing and Quantum Computing**

10:30 am: Towards Automatic Parallelization of Tree Reductions in Dynamic Programming
Kiminori Matsuzaki, Zhenjiang Hu and Masato Takeichi

10:55 am: A General Approach for Partitioning N-dimensional Parallel Nested Loops with Conditionals
Arun Kejariwal, Hideki Saito, Xinmin Tian, Milind Girkar, Utpal Banerjee, Alexandru Nicolau and Constantine D. Polychronopoulos

11:20 am: Astronomical Real-Time Streaming Signal Processing on a Blue Gene/L Supercomputer
John W. Romein, P. Chris Broekema, Ellen van Meijeren, Kjeld van der Schaaf and Walther H. Zwart

11:45 am: Exponential Separation of Quantum and Classical Online Space Complexity
Francois Le Gall

12:10 - 2:00 pm: **Lunch**

2:00 - 3:40 pm: **Session 3: Scheduling**

2:00 pm: Smooth Scheduling Under Variable Rates or The Analog-Digital Confinement Game
Ami Litman and Shiri Moran-Schein

2:25 pm: On the Price of Heterogeneity in Parallel Systems
P. Brighten Godfrey and Richard M. Karp

2:50 pm: Reconfigurable Resource Scheduling
Greg Plaxton, Yu Sun, Mitul Tiwari and Harrick Vin

3:15 pm: Minimizing the Stretch When Scheduling Flows of Biological Requests
Arnaud Legrand, Alan Su and Frederic Vivien

3:40 - 4:10 pm: **Coffee Break**

4:10 - 5:30 pm: **Session 4: Parallel Programming Models: Need, Study and Position Papers**

4:10 pm: Invited Talk: Why Intel is Building Multicore Processors
Geoff Lowney

4:50 pm: Position Paper and Brief Announcement: An Empirical Study to Compare Programmer Effort of Two Parallel Programming Models
Lorin Hochstein and Victor R. Basili

5:00 pm: Position Paper and Brief Announcement: The FG Programming Environment: Good and Good for You
Elena Riccio Davidson

5:10 pm: Position Paper and Brief Announcement: Introducing the Hydra Parallel Programming System
Franklin E. Powers Jr. and Gita Alaghband

5:20 pm: Position Paper and Brief Announcement: An Evolutionary Path towards

Virtual Shared Memory with Random Access
Jonathan L. Brown, Sue Goudy, Mike Heroux, Shan Shan Huang and Zhaofang Wen

8:00 - 10:00 pm: **Business Meeting**

Tuesday, August 1

7:30 - 8:20 am: **Continental Breakfast**

8:20 - 10:00 am: **Session 5: Communication Networks**

8:20 am: Efficient Parallel Algorithms for Dead Sensor Diagnosis and Multiple Access Channels
Michael T. Goodrich and Daniel S. Hirschberg

8:45 am: Conflict-Free Coloring for Intervals: from Offline to Online
Amotz Bar-Noy and Panagiotis Cheilaris and Shakhar Smorodinsky

9:10 am: Packet-Mode Emulation of Output-Queued Switches
Hagit Attiya and David Hay and Isaac Keslassy

9:35 am: On the Communication Complexity of Randomized Broadcasting in Random-Like Graphs
Robert Elsaesser

10:00 - 10:30 am: **Coffee Break**

10:30 - 12:10 pm: **Session 6: Processing and Scheduling**

10:30 am: Modeling Instruction Placement on a Spatial Architecture
Martha Mercaldi, Steven Swanson, Andrew Petersen, Andrew Putnam, Andrew Schwerin, Mark Oskin and Susan Eggers

10:55 am: Translating Between Itanium and Sparc Memory Consistency Models
Lisa Higham and LillAnne Jackson

11:20 am: Strip Packing with Precedence Constraints and Release Times
John Augustine, Sudarshan Banerjee and Sandy Irani

11:45 am: Power-aware Scheduling for Makespan and Flow
David Bunde

12:10 - 2:00 pm: **Lunch**

2:00 - 3:40 pm: **Session 7: Graphs and Networks**

2:00 pm: Tight Bounds on the Min-max Boundary Decomposition Cost of Weighted Graphs
David Steurer

2:25 pm: On Space-Stretch Trade-Offs: Lower bounds
Ittai Abraham, Cyril Gavoille and Dahlia Malkhi

2:50 pm: On Space-Stretch Trade-Offs: Upper bounds
Ittai Abraham, Cyril Gavoille and Dahlia Malkhi

3:15 pm: Towards Small World Emergence
Philippe Duchon, Nicolas Hanusse, Emmanuelle Lebhar and Nicolas Schabanel

3:40 - 4:00 pm: **Coffee Break**

4:00 - 4:40 pm: **Session 8: Routing and Scientific Applications**

4:00 pm: Brief Announcement: Compact Routing with Additive Stretch Using Distance Labelings
Arthur Brady and Lenore Cowen

4:10 pm: Brief Announcement: Semi-Oblivious Routing
Mohammad Hajiaghayi, Robert Kleinberg and Tom Leighton

4:20 pm: Brief Announcement: An Implementation Report for Parallel Triangular Decompositions on a Shared Memory Multiprocessor
Marc Moreno Maza and Yzhen Xie

4:30 pm: Brief Announcement: The Cache-Oblivious Gaussian Elimination Paradigm: Theoretical Framework and Experimental Evaluation
Rezaul Alam Chowdhury and Vijaya Ramachandran

6:00 - 9:30 pm: **Dinner Cruise**
Charles River Cruises, World Trade Center, 200 Seaport Boulevard, Boston.
A bus will leave at the Charles Hotel at TBA to bring the participants to the ship.

Wednesday, August 2

7:30 - 8:20 am: **Continental Breakfast**

8:20 - 10:00 am: **Session 9: Distributed Computing**

8:20 am: A Distributed O(1)-Approximation Algorithm for the Uniform Facility Location Problem
Joachim Gehweiler, Christiane Lammersen and Christian Sohler

8:45 am: Playing Push vs Pull: Models and Algorithms for Disseminating Dynamic Data in Networks
R. C. Chakinala, A. Kumarasubramanian, K. A. Laing, R. Manokaran, C. Pandu Rangan and R. Rajaraman

9:10 am: A Performance Analysis of Local Synchronization
Julia Lipman and Quentin F. Stout

9:35 am: Robust Network Computation
David Pritchard and Santosh Vempala

10:00 - 10:30 am: **Coffee Break**

10:30 - 12:10 pm: **Session 10: Caches, Registers and Load Balancing**

10:30 am: The Cache Complexity of Multithreaded Cache Oblivious Algorithms
Matteo Frigo and Volker Strumpen

10:55 am: Fault-Tolerant SemiFast Implementations of Atomic Read/Write Registers
Chryssis Georgiou, Nicolas C. Nicolaou and Alexander A. Shvartsman

11:20 am: Fair Online Load Balancing
Niv Buchbinder and Seffi Naor

11:45 am: Deterministic Load Balancing and Dictionaries in the Parallel Disk Model
Mette Berger, Esben Rune Hansen, Rasmus Pagh, Mihai Patrascu, Milan Ruzic and Peter Tiedemann

12:10 - 2:00 pm: **Lunch**

2:00 - 2:50 pm: **Session 11: Peer-to-Peer Networks**

2:00 pm: Distributed Random Digraph Transformations for Peer-to-Peer Networks
Peter Mahlmann and Christian Schindelhauer

2:25 pm: Towards a Scalable and Robust DHT
Baruch Awerbuch and Christian Scheideler

2:50 - 3:00 pm: **Short Break**

3:00 - 4:20 pm: **Session 12: Multicores, Multiprocessor Systems and Grids**

3:00 pm: Invited Talk: Chip-level Integration: The New Frontier for Microprocessor Architecture
Jaime Moreno

3:40 pm: Brief Announcement: Energy Implications of Multiprocessor Synchronization
Tali Moreshet, R. Iris Bahar and Maurice Herlihy

3:50 pm: Brief Announcement: Parallel Depth First vs. Work Stealing Schedulers on CMP Architectures
Vasilis Liaskovitis, Shimin Chen, Phillip B. Gibbons, Anastassia Ailamaki, Guy Blelloch, Babak Falsafi, Limor Fix, N. Hardavellas, Michael Kozuch, Todd C. Mowry and Chris Wilkerson

4:00 pm: Brief Announcement: Algorithms Minimizing Peak Energy on Mesh-Connected Systems
Quentin F. Stout

4:10 pm: Brief Announcement: Promoting Cooperation in Selfish Grids
Krzysztof Rzadca and Denis Trystram

SPAA Sponsors and Supporters

The SPAA 2006 conference is sponsored by the ACM Special Interest Groups on Algorithms and Computation Theory (SIGACT) and Computer Architecture (SIGARCH) and organized in cooperation with the European Association for Theoretical Computer Science.

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