

# 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 Elsässer*

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 Strumpfen*

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.

SPAA 2006 is supported by generous contributions from the following organizations:

