Program SPAA 2012

Sunday 24 June

evening reception

Monday 25 June

8:00 Conference Registration Open

9:10-9:20 Opening Remarks

9:20 -- 11:00 Session 1

9:20   Time vs. space trade-offs for rendezvous in trees
Jurek Czyzowicz, Adrian Kosowski and Andrzej Pelc.

9:45   Allowing each node to communicate only once in a distributed system: shared whiteboard models.
Florent Becker, Adrian Kosowski, Nicolas Nisse, Ivan Rapaport and Karol Suchan.

10:10   Optimal and competitive runtime bounds for continuous, local gathering of mobile robots
Barbara Kempkes, Peter Kling and Friedhelm Meyer Auf der Heide.

10:35   Online Multi-Robot Exploration of Grid Graphs with Rectangular Obstacles
Christian Ortolf and Christian Schindelhauer.

11:00-11:30 Coffee Break

11:30 Keynote Address

TBA
Ravi Rajwar.

12:30-2:00 Lunch Break

2:00-3:15 Session 2

2:00   Delegation and Nesting in Best Effort Hardware Transactional Memory
Yujie Liu, Stephan Diestelhorst and Michael Spear.

2:25: Design, Verification and Applications of a New Read-Write Lock Algorithm
Jun Shirako, Nick Vrvilo, Eric Mercer and Vivek Sarkar.

2:50: A Lock-Free B+tree
Anastasia Braginsky and Erez Petrank.

3:15-3:30   Break

3:30-4:20   Brief Announcements 1

3:30   The Problem Based Benchmark Suite
Guy Blelloch, Jeremy Fineman, Phillip Gibbons, Aapo Kyrola, Julian Shun, Harsha Vardhan Simhadri and Kanat Tangwongsan.

3:40   Subgraph Isomorphism in a Multithreaded Shared Memory Architecture
Claire Ralph, Vitus Leung and William Mclendon.

3:50   Efficient cache oblivious algorithms for randomized divide-and-conquer on the multicore model
Neeraj Sharma and Sandeep Sen.

4:00   Strong Scaling of Matrix Multiplication Algorithms and Memory-Independent Communication Lower Bounds
Grey Ballard, James Demmel, Olga Holtz, Benjamin Lipshitz and Oded Schwartz.

4:10   On the Complexity of the Minimum Latency Scheduling Problem on the Euclidean Plane
Henry Lin and Frans Schalekamp.

4:20-4:50   Coffee Break

4:50-6:05   Session 3

4:50   Parallel and I/O Efficient Algorithms for Set Covering Problems
Guy Blelloch, Harsha Vardhan Simhadri and Kanat Tangwongsan.

5:15   A Scalable Framework for Heterogeneous GPU-Based Clusters
Fengguang Song and Jack Dongarra.

5:40   Faster and Simpler Width-Independent Parallel Algorithms for Positive Semidefinite Programming
Richard Peng and Kanat Tangwongsan.

7:00   Banquet

Tuesday 26 June

9:20 -- 11:00 Session 4

9:20   Deterministic Multi-Channel Information Exchange
Stephan Holzer, Thomas Locher, Yvonne-Anne Pignolet and Roger Wattenhofer.

9:45   High-Performance RMA-Based Broadcast on the Intel SCC
Darko Petrovic, Omid Shahmirzadi, Thomas Ropars and Andre Schiper.

10:10:   The Impact of the Power Law Exponent on the Behavior of a Dynamic Epidemic Type Process
Adrian Ogierman and Robert Elsaesser.

10:35   Discovery through Gossip
Bernard Haeupler, Gopal Pandurangan, David Peleg, Rajmohan Rajaraman and Zhifeng Sun.

11:00-11:30 Coffee Break

11:30 Keynote Address

Abstraction failures in concurrent programming
Doug Lea.

12:30-2:00 Lunch Break

2:00-3:15 Session 5

2:00   SALSA: Scalable and Low Synchronization NUMA-aware Algorithm for Producer-Consumer Pools
Elad Gidron, Idit Keidar, Dmitri Perelman and Yonathan Perez.

2:25   A Non-Blocking Internal Binary Search Tree
Shane V. Howley and Jeremy Jones.

2:50   Lower Bounds for Restricted-Use Objects
James Aspnes, Hagit Attiya, Keren Censor-Hillel and Danny Hendler.

3:15-3:40   Break

3:40-4:20   Brief Announcements 2

3:40   Aparna Chandramowlishwaran, Jee Choi, Kamesh Madduri and Richard Vuduc.
Towards a Communication Optimal Fast Multipole Method and its Implications at Exascale

3:50   Ahmed Elnably and Peter Varman. Application-Sensitive QoS Scheduling in Storage Servers

4:00   Kamil Rocki and Reiji Suda. An efficient GPU implementation of the iterative hill climbing based TSP solver

4:10   James Edwards and Uzi Vishkin. Speedups for Parallel Graph Triconnectivity

4:20-4:50   Coffee Break

4:50-6:05   Session 6

4:50   Communication-Optimal Parallel Algorithm for Strassen's Matrix Multiplication
Grey Ballard, James Demmel, Olga Holtz, Benjamin Lipshitz and Oded Schwartz.

5:15   Parallel Probabilistic Tree Embeddings, k-Median, and Buy-at-Bulk Network Design
Guy Blelloch, Anupam Gupta and Kanat Tangwongsan

5:40   A Parallel Buffer Tree
Nodari Sitchinava and Norbert Zeh

6:30 Business Meeting

Wednesday 27 June

9:20 -- 11:00 Session 7

9:20:   A (3/2+\epsilon) approximation algorithm for scheduling malleable and non-malleable parallel tasks
Klaus Jansen.

9:45:   Cache-Conscious Scheduling of Streaming Applications
Kunal Agrawal, Jeremy Fineman, Jordan Krage, Charles Leiserson and Sivan Toledo.

10:10:   Non-clairvoyant Weighted Flow Time Scheduling with Rejection Penalty
Ho-Leung Chan, Sze-Hang Chan, Tak-Wah Lam, Lap-Kei Lee and Jianqiao Zhu.

10:35   Near-Optimal Scheduling Mechanisms for Deadline-Sensitive Jobs in Large Computing Clusters
Navendu Jain, Ishai Menache, Joseph Naor and Jonathan Yaniv.

11:00-11:30 Coffee Break

11:30-12:20 Session 8

11:30-11:55   Hedonic Clustering Games
Moran Feldman, Liane Lewin-Eytan and Seffi Naor.

11:55-12:20   Enforcing efficient equilibria in network design games via subsidies
John Augustine, Ioannis Caragiannis, Angelo Fanelli and Christos Kalaitzis.

12:25-2:00 Lunch Break

2:00-3:15 Session 9

2:00   Memory-Mapping Support for Reducer Hyperobjects
I-Ting Lee, Aamir Shafi and Charles Leiserson.

2:25   On the Complexity of Composing Concurrent Algorithms
Dan Alistarh, Rachid Guerraoui, Giuliano Losa and Petr Kuznetsov.

2:50   Greedy Sequential Maximal Independent Set and Matching are Parallel on Average
Guy Blelloch, Jeremy Fineman and Julian Shun.3:15-3:30   Break

3:30-4:20   Session 10

3:30   Atish Das Sarma, Michael Dinitz and Gopal Pandurangan.
Efficient Computation of Distance Sketches in Distributed Networks

3:55   Scheduling in Wireless Networks with Rayleigh-Fading Interference
Johannes Dams, Martin Hoefer and Thomas Kesselheim.