

Program SPAA 2013

Monday 22 July

06:30-08:30pm: Reception

Tuesday 23 July

09:00-10:00 Opening Remarks and Keynote Address

Distributed Computing Theory for Wireless Networks and Mobile Systems (Athena Lecture)
Nancy Lynch

10:00-10:20 Coffee Break

10:20-12:25 Session 1 (Chair: *Philipp Woelfel*)

10:20 Fast Greedy Algorithms in MapReduce and Streaming
Ravi Kumar, Benjamin Moseley, Sergei Vassilvitskii and Andrea Vattani

10:45 Reduced Hardware Transactions: A New Approach to Hybrid Transactional Memory
Alex Matveev and Nir Shavit

11:10 Recursive Design of Hardware Priority Queues
Yehuda Afek, Anat Bremler-Barr and Liron Schiff

11:35 Drop the Anchor: Lightweight Memory Management for Non-Blocking Data Structures
Anastasia Braginsky, Alex Kogan and Erez Petrank

12:00 Scalable Statistics Counters
Dave Dice, Yossi Lev and Mark Moir

12:25-02:00 Lunch Break

02:00-03:40 Session 2 (Chair: *Magnus M. Halldorsson*)

02:00 Storage and Search in Dynamic Peer-to-Peer Networks
John Augustine, Anisur Rahaman Molla, Ehab Morsy, Gopal Pandurangan, Peter Robinson and Eli Upfal

02:25 Broadcasting in Logarithmic Time for Ad Hoc Network Nodes on a Line Using MIMO
Thomas Janson and Christian Schindelhauer

02:50 Expected Sum and Maximum of Displacement of Random Sensors for Coverage of a Domain
Evangelos Kranakis, Danny Krizanc, Oscar Morales-Ponce, Lata Narayanan, Jarda Opatrny and Sunil Shende

03:15 On Dynamics in Selfish Network Creation
Bernd Kawald and Pascal Lenzner

03:40-04:00 Coffee Break

04:00-05:20 Session 3: Brief Announcements (Chair: *Charles Leiserson*)

04:00 Brief Announcement: Truly Parallel Burrows-Wheeler Compression and Decompression
James Edwards and Uzi Vishkin

04:10 Brief Announcement: Locality in Wireless Scheduling
Magnus M. Halldorsson

04:20 Brief Announcement: Universally Truthful Secondary Spectrum Auctions
Martin Hoefer and Thomas Kesselheim

04:30 Brief Announcement: Online Batch Scheduling for Flow Objectives
Sungjin Im and Benjamin Moseley

04:40 Brief Announcement: Set It and Forget It - Approximating the Set Once Strip Cover Problem
Amotz Bar-Noy, Ben Baumer and Dror Rawitz

04:50 Brief Announcement: Between All and Nothing—Versatile Aborts in Hardware Transactional Memory
Stephan Diestelhorst, Martin Nowack, Michael Spear and Christof Fetzer

05:00 Brief Announcement: Towards a Fully-Articulated Pessimistic Distributed Transactional Memory
Konrad Siek and Paweł T. Wojciechowski

05:10 Brief Announcement: A Game-Theoretic Model Motivated by the DARPA Network Challenge
Rajesh Chitnis, Mohammadtaghi Hajiaghayi, Jonathan Katz and Koyel Mukherjee

07:00-10:00pm Conference Banquet

Requires a ticket.

Wednesday 24 July

09:00-10:00 Keynote Address

Programming Models for Extreme-Scale Computing
Marc Snir

10:00-10:20 Coffee Break

10:20-12:25 Session 4 (Chair: *Hagit Attiya*)

10:20 IRIS: A Robust Information System Against Insider DoS-Attacks
Martina Eikel and Christian Scheideler

10:45 SybilCast: Broadcast on the Open Airwaves
Chaodong Zheng and Seth Gilbert

11:10 On-the-Fly Pipeline Parallelism
I-Ting Lee, Charles Leiserson, Tao Schardl, Jim Sukha and Zhunping Zhang

11:35 Reducing Contention Through Priority Updates
Julian Shun, Guy Blelloch, Jeremy Fineman and Phillip Gibbons

12:00 HEX: Scaling Honeycombs is Easier than Scaling Clock Trees
Danny Dolev, Matthias Függer, Christoph Lenzen, Martin Perner and Ulrich Schmid

12:25-02:00 Lunch Break

02:00-03:40 Session 5 (Chair: *Marc Snir*)

02:00 Coalescing-Branching Random Walks on Graphs
Chinmoy Dutta, Gopal Pandurangan, Rajmohan Rajaraman and Scott Roche

02:25 Parallel Rotor Walks on Finite Graphs and Applications in Discrete Load Balancing
Hoda Akbari and Petra Berenbrink

02:50 Parallel Graph Decompositions Using Random Shifts
Gary Miller and Richard Peng

03:15 A Constant Factor Approximation Algorithm for the Storage Allocation Problem
Reuven Bar-Yehuda, Michael Beder and Dror Rawitz

03:40-04:00 Coffee Break

04:00-05:40 Session 6 (Chair: *Christian Scheideler*)

04:00 Work-Efficient Matrix Inversion in Polylogarithmic Time
Peter Sanders, Jochen Speck and Raoul Steffen

04:25 Communication Optimal Parallel Multiplication of Sparse Random Matrices
Grey Ballard, Aydın Buluc, James Demmel, Laura Grigori, Benjamin Lipshitz, Oded Schwartz and Sivan Toledo

04:50 Communication Efficient Gaussian Elimination with Partial Pivoting using a Shape Morphing Data Layout
Grey Ballard, James Demmel, Benjamin Lipshitz, Oded Schwartz and Sivan Toledo

05:15 Optimal Patrolling of Fragmented Boundaries
Andrew Collins, Jurek Czyzowicz, Leszek Gąsieniec, Adrian Kosowski, Evangelos Kranakis, Danny Krizanc, Russell Martin and Oscar Morales Ponce

06:00-07:00 Business Meeting

At the conference location

07:30 **60th Birthday Celebration of Charles Leiserson and Uzi Vishkin**
At Bistro L'Aromate

Thursday 25 July

09:00-10:00 Keynote Address

The Power and Pitfalls of Randomization in Shared Memory Algorithms
Philipp Woelfel

10:00-10:20 Coffee Break

10:20-12:25 Session 7 (Chair: *Robert Elsässer*)

10:20 Profitable Scheduling on Multiple Speed-Scalable Processors
Peter Kling and Peter Pietrzyk

10:45 Nonclairvoyant Sleep Management and Flow-time Scheduling on Multiple Processors
Sze-Hang Chan, Tak-Wah Lam, Lap-Kei Lee and Jianqiao Zhu

11:10 Reallocation Problems in Scheduling
Michael A. Bender, Martin Farach-Colton, Sandor P. Fekete, Jeremy Fineman and Seth Gilbert

11:35 Efficient Scheduling to Minimize Calibrations
Michael A. Bender, David P. Bunde, Vitus J. Leung, Samuel Mccauley and Cynthia A. Phillips

12:00 Non-Monetary Fair Scheduling — A Cooperative Game Theory Approach
Piotr Skowron and Krzysztof Rzdca

12:25-02:00 Lunch Break

02:00-03:40 Session 8 (Chair: *Michael Bender*)

02:00 Cloud Scheduling with Setup Cost
Yossi Azar, Naama Ben-Aroya, Nikhil Devanur and Navendu Jain

02:25 Efficient Online Scheduling for Deadline-Sensitive Jobs
Brendan Lucier, Ishai Menache, Seffi Naor and Jonathan Yaniv

02:50 Locality-Aware Task Management for Unstructured Parallelism: A Quantitative Limit Study
Richard Yoo, Christopher Hughes, Changkyu Kim, Yen-Kuang Chen and Christos Kozyrakis

03:15 Balls-into-Bins with Nearly Optimal Load Distribution
Petra Berenbrink, Kamyar Khodamoradi, Thomas Sauerwald and Alexandre Stauffer

03:40-04:00 Coffee Break