Program SPAA 2014

Sunday 22 June

5:00-7:00pm: SPAA Reception at Restaurant Hergetova Cihelna

Monday 23 June

8:00 Conference Registration Open

9:00-9:10 Opening Remarks

9:10-10:10 Keynote Address Fabian Kuhn

A Distributed Perspective of Graph Connectivity and Cuts

10:10-10:40 Coffee Break

10:40-12:20 Session 1 Load Balancing

Yusen Li, Xueyan Tang and Wentong Cai.
On Dynamic Bin Packing for Resource Allocation in the Cloud

Khuzaima Daudjee, Shahin Kamali and Alejandro Lopez-Ortiz.
On the Online Fault-Tolerant Server Consolidation Problem

Sungjin Im, Benjamin Moseley, Kirk Pruhs and Eric Torng.
Competitively Scheduling Tasks with Intermediate Parallelizability

Harsha Vardhan Simhadri, Guy Blelloch, Jeremy Fineman, Phillip B. Gibbons and Aapo Kyrola.
Experimental Analysis of Space-Bounded Schedulers

12:30-2:00 Lunch Break

2:00-3:15 Session 2 Graph Algorithms I

Ioana Bercea, Navin Goyal, David G. Harris and Aravind Srinivasan.
On Computing Maximal Independent Sets of Hypergraphs in Parallel

Mohammad Taghi Hajiaghayi, Theodore Johnson, Mohammad Reza Khani and Barna Saha.

Hierarchical Graph Partitioning

Ioannis Koutis.

Simple Parallel and Distributed Algorithms for spectral graph sparsification

3:15-3:40 Coffee Break

3:40-4:40 Brief Announcements 1

Bradley C. Kuszmaul and William Kuszmaul.

Few Buffers, Many Hot Spots, and No Tree Saturation (with High Probability)

David Klaftenegger, Konstantinos Sagonas and Kjell Winblad.

Queue Delegation Locking

Joseph Izraelevitz and Michael Scott.

Fast Dual Ring Queues

Daniel Cederman, Vincenzo Gulisano, Yiannis Nikolakopoulos, Marina Papatriantafilou and Philippas Tsigas.

Concurrent Data Structures for Efficient Streaming Aggregation

Kunal Agrawal and Jeremy Fineman.

Cache-Oblivious Scheduling of Streaming Pipelines

David Dice, Virendra Marathe and Nir Shavit.

Persistent Unfairness Arising From Cache Residency Imbalance

4:40-5:00 Break

5:00-5:50 Session 3 Data Structures

Kunal Agrawal, Jeremy Fineman, Kefu Lu, Brendan Sheridan, Jim Sukha and Robert Utterback.

Provably Good Scheduling for Parallel Programs that Use Data Structures through Implicit Batching

Julian Shun and Guy Blelloch.

Phase-Concurrent Hash Tables for Determinism

6:30 Business Meeting
At the conference location

Tuesday 24 June

9:10-10:50 Session 4 Scheduling

Leah Epstein and Elena Kleiman.
Scheduling selfish jobs on multidimensional parallel machines

Jessica Chang, Samir Khuller and Koyel Mukherjee.
LP Rounding and Combinatorial Algorithms for Minimizing Active and Busy Time

André Brinkmann, Peter Kling, Friedhelm Meyer auf der Heide, Lars Nagel, Sören Riechers and Tim Süß.
Scheduling Shared Continuous Resources on Many-Cores

Evripidis Bampis, Dimitrios Letsios and Giorgio Lucarelli.
A Note on Multiprocessor Speed Scaling with Precedence Constraints

10:50-11:20 Coffee Break

11:20-12:35 Session 5 Graph Algorithms II

Julian Shun, Laxman Dhulipala and Guy Blelloch.
A Simple and Practical Linear-Work Parallel Algorithm for Connectivity

Tim Kaler, William Hasenplaugh, Tao Schardl and Charles E. Leiserson.
Executing Dynamic Data-Graph Computations Deterministically Using Chromatic Scheduling

William Hasenplaugh, Tim Kaler, Charles E. Leiserson and Tao Schardl.
Ordering heuristics for parallel graph coloring

12:35-2:00 Lunch Break

2:00-3:15 Session 6 Transactional Memory

Victor Bushkov, Dmytro Dziuma, Panagiota Fatourou and Rachid Guerraoui.
The PCL Theorem. Transactions cannot be Parallel, Consistent and Live

Dave Dice, Alex Kogan, Yossi Lev, Tim Merrifield and Mark Moir.
Adaptive Integration of Hardware and Software Lock Elision Techniques

Chao Wang, Yujie Liu and Michael Spear.
Transaction-Friendly Condition Variables

3:15-3:40 Coffee Break

3:40-4:40 Brief Announcements 2

Peter Varman and Hui Wang.
Fairness-Efficiency Tradeoffs in Tiered Storage Allocation

Peter Bodik, Ishai Menache, Seffi Naor and Jonathan Yaniv.
Deadline-Aware Scheduling of Big-Data Processing Jobs

Muhammad Amber Hassaan, Donald Nguyen and Keshav Pingali.
Parallelization of Asynchronous Variational Integrators for Shared Memory Architectures

Hsin-Hao Su.
A Distributed Minimum Cut Approximation Scheme

Shlomi Dolev, Zahra Derakhshandeh, Robert Gmyr, Andrea Richa, Christian Scheideler and Thim Strothmann.
AmoeBot---A New Model for Programmable Matter

Marek Piotrów.
Faster 3-Periodic Merging Networks

4:40-5:00 Break

5:00-5:50 Session 7 Automatic Complexity Analysis and Streaming

Torsten Hoefler and Grzegorz Kwasniewski.
Automatic Complexity Analysis of Explicitly Parallel Programs

Kanat Tangwongsan, Srikanta Tirthapura and Kun-Lung Wu.
Parallel Streaming Frequency-Based Aggregates

7:00-10:00pm Banquet at Villa Richter Restaurant
Requires a ticket.

Wednesday 25 June

9:10-10:10 Keynote Address Bruce Maggs

A Universal Approach to Data Center Network Design

10:10-10:40 Coffee Break

10:40-12:20 Session 8 Distributed Systems

Luca Becchetti, Andrea Clementi, Emanuele Natale, Francesco Pasquale, Riccardo Silvestri and Luca Trevisan.
Simple Dynamics for Plurality Consensus

Seth Gilbert, Valerie King, Seth Pettie, Ely Porat, Jared Saia and Maxwell Young.
(Near) Optimal Resource-Competitive Broadcast with Jamming

Eleni Ch. Akrida, Leszek Gasieniec, George Mertzios and Paul G. Spirakis.
Ephemeral Networks with Random Availability of Links: Diameter and Connectivity

Davide Bilò, Luciano Gualà, Stefano Leucci and Guido Proietti.
Locality-based Network Creation Games

12:30-2:00 Lunch Break

2:00-3:15 Session 9 Lower Bounds

Xiaocheng Hu, Yufei Tao, Yi Yang and Shuigeng Zhou.

Finding Approximate Partitions and Splitters in External Memory

Venmugil Elango, Fabrice Rastello, Louis-Noel Pouchet, J Ramanujam and P Sadayappan.

On Characterizing the Data Movement Complexity of Computational DAGs for Parallel Execution

Edgar Solomonik, Erin Carson, Nicholas Knight and James Demmel.

Tradeoffs between synchronization, communication, and work in parallel linear algebra computations

3:15-3:40 Coffee Break

3:40-4:30 Session 10 Randomness

BEST Paper

Justin Thaler, Michael Mitzenmacher and Jiayang Jiang.

Parallel Peeling Algorithms

Michael Mitzenmacher.

Balanced Allocations and Double Hashing