MPAA 2016: 28TH ACM SYMPOSIUM ON PARALLELISM IN ALGORITHMS AND ARCHITECTURES

PROGRAM INDEXES

PROGRAM

Days: Monday, July 11th  Tuesday, July 12th
Wednesday, July 13th

Monday, July 11th

View this program:  with abstracts  session overview  talk overview

09:00-10:20  Session 1: Parallel Algorithms

CHAIR: Seth Gilbert

09:00 Tim Roughgarden, Sergei Vassilvitskii and Joshua Wang
Shuffles and Circuits (On Lower Bounds for Modern Parallel Computation) (abstract)

09:20 Michael Goodrich and Ahmed Eldawy
Parallel Algorithms for Summing Floating-Point Numbers (abstract)

09:40 Mingmou Liu, Xiaoyin Pan and Yitong Yin
Randomized approximate nearest neighbor search with limited adaptivity (abstract)

10:00 Anat Bremler-Barr, Yotam Harchol, David Hay and Yacov Hel-Or
Encoding Short Ranges in TCAM Without Expansion: Efficient Algorithm and Applications (abstract)

11:00-12:00  Session 2: Keynote Talk: Michael I. Jordan. On Computational Thinking, Inferential Thinking and Data Science

CHAIR: Guy Blelloch

13:30-15:00  Session 3: Scheduling Parallel Computation

CHAIR: Julian Shun

13:30 David Dinh, Harsha Vardhan Simhadri and Yuan Tang
Extending the Nested Parallel Model to the Nested Dataflow Model with Provably Efficient Schedulers (abstract)

13:50 Chaoran Yang and John Mellor-Crummey
A Practical Solution to the Cactus Stack
Session 4: Transactional Memory and Beyond

**CHAIR:** Michael Scott

15:30 Amin Mohtasham and João Barreto
RUBIC: Online Parallelism Tuning for Collocated Transactional Memory Applications (abstract)

15:50 Mohamed M. Saad, Roberto Palmieri, Ahmed Hassan and Binoy Ravindran
Extending TM Primitives using Low Level Semantics (abstract)

16:10 Trevor Brown, Alex Kogan, Yossi Lev and Victor Luchangco
Investigating the performance of hardware transactions on a multi-socket machine (abstract)

16:30 Alexander Spiegelman, Guy Golan-Gueta and Idit Keidar
Brief Announcement: Transactional Data Structure Libraries (abstract)

Session 5: Parallel Algorithms

**CHAIR:** Ben Mosely

17:00 Michael Bender, Erik Demaine, Roozbeh Ebrahimi, Jeremy Fineman, Rob Johnson, Andrea Lincoln, Jayson Lynch and Samuel Mccauley
Cache-Adaptive Analysis (abstract)

17:20 Naama Ben David, Guy Blelloch, Jeremy Fineman, Phillip Gibbons, Yan Gu, Charles McGuffey and Julian Shun
Parallel Algorithms for Asymmetric Read-Write Costs (abstract)

17:40 Joseph Izraelevitz, Hammurabi Mendes and Michael Scott
Brief Announcement: Preserving Happens-before in Persistent Memory (abstract)

17:50 Timothy Carpenter, Fabrice Rastello, P. Sadayappan and Anastasios Sidiropoulos
Brief Announcement: Approximating the I/O Complexity of One-Shot Red-Blue Pebbling (abstract)

Tuesday, July 12th

View this program: with abstracts  session overview  talk overview

09:00-10:30  Session 6: Scheduling

CHAIR: Phil Gibbons
09:00 Sungjin Im and Benjamin Moseley
General Profit Scheduling and the Power of Migration on Heterogeneous Machines (abstract)
09:20 Lin Chen, Nicole Megow and Kevin Schewior
The Power of Migration in Online Machine Minimization (abstract)
09:40 Sungjin Im and Janardhan Kulkarni
Fair Online Scheduling for Selfish Jobs on Heterogeneous Machines (abstract)
10:00 Kunal Agrawal, Jing Li, Kefu Lu and Benjamin Moseley
Scheduling Parallelizable Jobs Online to Minimize Maximum Flow Time (abstract)
10:20 Sungjin Im and Maryam Shadloo
A QPTAS for Non-preemptive Speed-scaling (abstract)

11:00-12:00  Session 7: Keynote Talk: Nir Shavit. A Multicore Path to Connectomics-on-Demand

CHAIR: Charles Leiserson

13:30-15:00  Session 8: Scheduling and Resource Allocation

CHAIR: Michael Bender
13:30 Madhukar Korupolu and Rajmohan Rajaraman
Robust and Probabilistic Failure-Aware Placement (abstract)
13:50 Dmitry Katz, Baruch Schieber and Hadas Shachnai
Brief Announcement: Flexible Resource Allocation for Clouds and All-Optical Networks (abstract)
14:00 Runtian Ren and Xueyan Tang
Clairvoyant Dynamic Bin Packing for Job Scheduling with Minimum Server Usage Time (abstract)
14:20 Samir Khuller and Manish Purohit
Improved Approximation Algorithms for
Scheduling Co-Flows (abstract)

14:30 Guy Blelloch, Yan Gu, Julian Shun and Yihan Sun
Parallelism in Randomized Incremental Algorithms (abstract)

14:50 Chhaya Trehan, Georgios Karakonstantis, Dimitrios Nikolopoulos and Hans Vandierendonck
Energy optimization of memory intensive parallel workloads (abstract)

15:30-16:40 Session 9: Parallel Algorithms

CHAIR: Jeremy Fineman

15:30 Guy Blelloch, Daniel Ferizovic and Yihan Sun
Just Join for Parallel Ordered Sets and Maps (abstract)

15:50 William E. Devanny, Michael Goodrich and Kristopher Jetviroj
Parallel Equivalence Class Sorting: Algorithms, Lower Bounds, and Distribution-Based Analysis (abstract)

16:10 Saman Ashkiani, Nina Amenta and John D. Owens
Parallel Approaches to the String Matching Problem on the GPU (abstract)

16:30 Chao Wang, Xi Li, Aili Wang and Xuehai Zhou
Brief Announcement: MIC++: Accelerating Maximal Information Coefficient Calculation with GPUs and FPGAs (abstract)

17:00-18:00 Session 10: Robots, Amoebots, and Cobras (Oh my!)

CHAIR: Kunal Agrawal

17:00 Zahra Derakhshandeh, Robert Gmyr, Andréa W. Richa, Christian Scheideler and Thim Strothmann
Universal Shape Formation for Programmable Matter (abstract)

17:20 Daniel Jung, Friedhelm Meyer Auf der Heide, Andreas Cord-Landwehr and Matthias Fischer
Asymptotically Optimal Gathering on a Grid (abstract)

17:40 Michael Mitzenmacher, Rajmohan Rajaraman and Scott Roche
Better bounds for coalescing-branching random walks on graphs (abstract)

Wednesday, July 13th

View this program: with abstracts session overview talk overview

09:00-10:20 Session 11: Concurrent Data Structures
CHAIR: **Yossi Lev**

09:00 *Deli Zhang* and *Damian Dechev*

Lock-free Transactions without Aborts for Linked Data Structures (abstract)

09:20 *Tudor David* and *Rachid Guerraoui*

Concurrent Search Data Structures Can Be Blocking and Practically Wait-Free (abstract)

09:40 *Oana Balmau, Rachid Guerraoui, Maurice Herlihy* and *Igor Zablotchi*

Fast and Robust Memory Reclamation for Concurrent Data Structures (abstract)

10:00 *Jakob Gruber, Jesper Larsson Träff* and *Martin Wimmer*

Benchmarking Concurrent Priority Queues: Performance of k-LSM and Related Data Structures (abstract)

10:10 *William Kuszmaul*

Fast Concurrent Cuckoo Kick-out Eviction Schemes for High-Density Tables (abstract)

10:40-12:00  Session 12: Graph Algorithms

CHAIR: **Peter Robinson**

10:40 *Amihood Amir, Oren Kapah, Tsvi Kopelowitz, Moni Naor* and *Ely Porat*

The Family Holiday Gathering Problem or Fair and Periodic Scheduling of Independent Sets (abstract)

11:00 *Avery Miller* and *Andrzej Pelc*

Election vs. Selection: How Much Advice is Needed to Find the Largest Node in a Graph? (abstract)

11:20 *Mohsen Ghaffari* and *Merav Parter*

Near-Optimal Distributed Algorithms for Fault-Tolerant Tree Structures (abstract)

11:40 *Hossein Esfandiari, Mohammadtaghi Hajiaghayi* and *David Woodruff*

Applications of Uniform Sampling: Densest Subgraph and Beyond (abstract)

11:50 *Zhuolun Xiang* and *Nitin Vaidya*

Brief Announcement: Relaxed Byzantine Vector Consensus (abstract)

13:30-14:40  Session 13: Distributed Algorithms

CHAIR: **Nodari Sitchinava**

13:30 *Haifeng Yu, Yuda Zhao* and *Irvan Jahja*

The Cost of Unknown Diameter in Dynamic Networks (abstract)

13:50 *Maximilian Drees, Robert Gmyr* and *Christian Scheideler*

Churn- and DoS-resistant Overlay Networks Based on Network Reconfiguration (abstract)
Gopal Pandurangan, Peter Robinson and Michele Scquizzato
Fast Distributed Algorithms for Connectivity and MST in Large Graphs (abstract)

Qiang-Sheng Hua, Haogiang Fan, Lixiang Qian, Ming Ai, Yangyang Li, Xuanhua Shi and Hai Jin
A Tight Distributed Algorithm for All Pairs Shortest Paths and Applications (abstract)

15:00-16:00 Session 14: Parallel Graph Algorithms
CHAIR: Merav Parter

Guy Blelloch, Yan Gu, Yihan Sun and Kanat Tangwongsan
Parallel Shortest-Paths Using Radius Stepping (abstract)

Stephan Friedrichs and Christoph Lenzen
Parallel Metric Tree Embedding based on an Algebraic View on Moore-Bellman-Ford (abstract)

Kamal Al-Bawani, Matthias Englert and Matthias Westermann
Online Packet Scheduling for CIOQ and Buffered Crossbar Switches (abstract)

Disclaimer | Powered by EasyChair Smart Program