

PODC 2013 Program

Sunday 21 July

18:00 – 20:00 Reception

Monday 22 July

08:55 – 09:00 Welcome Address

09:00 – 10:00 Keynote Address

Distributed Computing: An Empirical Approach
Michael Merritt

10:00 – 10:20 Coffee break

10:20 – 11:35 Session 1: Concurrent Data Structures and Objects (Chair: Michel Raynal)

10:20 On Deterministic Abortable Objects
Vassos Hadzilacos and Sam Toueg

10:45 Pragmatic Primitives for Non-blocking Data Structures
Trevor Brown, Faith Ellen and Eric Ruppert

11:10 The SkipTrie: Low-Depth Concurrent Search without Rebalancing
Rotem Oshman and Nir Shavit

11:35 – 12:39 Session 2: Routing and Distributed Algorithms (Chair: James Aspnes)

11:35 Compact Routing Schemes with Improved Stretch (**Best paper award**)
Shiri Chechik

12:00 Optimal Deterministic Routing and Sorting on the Congested Clique
Christoph Lenzen

12: 25 BA: Fair Maximal Independent Sets in Trees
Jeremy Fineman, Calvin Newport and Tonghe Wang

12: 32 BA: Threshold Load Balancing in Networks
Martin Hoefer and Thomas Sauerwald

12:39 – 02:00 Lunch break

02:00 – 03:40 Session 3: Byzantine Agreement (Chair: Keren Censor-Hillel)

02:00 Fast Byzantine Agreement (**Best student paper award**)
Nicolas Braud-Santoni, Rachid Guerraoui and Florian Huc

02:25 Byzantine Vector Consensus in Complete Graphs
Nitin Vaidya and Vijay Garg

02:50 Fast Byzantine Agreement in Dynamic Networks
John Augustine, Gopal Pandurangan and Peter Robinson

03:15 Synchronous Byzantine Agreement with Nearly a Cubic Number of Communication Bits
Dariusz Kowalski and Achour Mostefaoui

03:40 – 04:00 Coffee break

04:00 – 5:04 Session 4: Distributed Algorithms and Their Complexity (Chair: Philipp Woelfel)

04:00 How to Meet Asynchronously at Polynomial Cost
Yoann Dieudonne, Andrzej Pelc and Vincent Villain

04:25 On the Complexity of Universal Leader Election
Shay Kutten, Gopal Pandurangan, David Peleg, Peter Robinson and Amitabh Trehan

04: 50 BA: A Simple Stretch 2 Distance Oracle
Rachit Agarwal and Brighten Godfrey

04: 57 BA: Pareto Optimal Solutions to Consensus and Set Consensus
Armando Castaneda, Yannai A. Gonczarowski and Yoram Moses

05:04 – 05:53 Session 5: Brief Announcements (Chair: Phillip Gibbons)

05: 04 BA: Self-Stabilizing Resource Discovery Algorithm
Seda Davtyan, Kishori Konwar and Alexander Shvartsman

05:11 BA: Parameterized Model Checking of Fault-tolerant Distributed Algorithms by Abstraction
Annu John, Igor Konnov, Ulrich Schmid, Helmut Veith and Josef Widder

05:18 BA: On Minimum Interaction Time for Continuous Distributed Interactive Computing
Lu Zhang, Xueyan Tang and Bingsheng He

05:25 BA: Deterministic Self-Stabilizing Leader Election with $O(\log \log n)$ -bits
Lelia Blin and Sebastien Tixeuil

05:32 BA: Freedom not Fear: Scalable Anonymous Communication with Byzantine Adversary
Josh Karlin, Joud Khoury, Jared Saia and Mahdi Zamani

05:39 BA: Brokerage and Closure in A Strategic Model of Social Capital
Raissa D'Souza and Samuel Johnson

05:46 BA: Techniques for Programmatically Troubleshooting Distributed Systems
Sam Whitlock, Scott Shenker and Colin Scott

06:00 – 07:00 Yehuda Afek 60th Birthday celebration

07:00 – 08:00 Business meeting

Tuesday 23 July

09:00 – 10:00 Keynote Address

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

10:00 – 10:20 Coffee break

10:20 – 11:35 Session 6: Distributed Algorithms and Their Complexity (Chair: Fabian Kuhn)

10:20 Stone Age Distributed Computing
Yuval Emek and Roger Wattenhofer

10:45 Feedback from nature: an optimal distributed algorithm for maximal independent set selection
Alex Scott, Peter Jeavons and Lei Xu

11:10 What can be decided locally without identifiers?
Pierre Fraigniaud, Mika Göös, Amos Korman and Jukka Suomela

11:35 – 12:39 Session 7: Fault Tolerance in Distributed Systems (Chryssis Georgiou)

- 11:35 Round-based Synchrony Weakened by Message Adversaries vs. Asynchrony Enriched with Failure Detectors
Michel Raynal and Julien Stainer
- 12:00 Highly Dynamic Distributed Computing with Byzantine Failures
Rachid Guerraoui, Florian Huc and Anne-Marie Kermarrec
- 12: 25 BA: Constructing Fault-Tolerant Overlay Networks for Topic-based Publish/Subscribe
Chen Chen, Roman Vitenberg and Hans-Arno Jacobsen
- 12: 32 BA: Byzantine Agreement with a Strong Adversary in Polynomial Expected Time
Valerie King and Jared Saia

12:39 – 02:00 Lunch break

02:00 – 03:40 Session 8: Renaming and Mutual Exclusion (Chair: Eric Ruppert)

- 02:00 Upper Bound on the Complexity of Solving Hard Renaming (**Best student paper award**)
Hagit Attiya, Armando Castaneda, Maurice Herlihy and Ami Paz
- 02:25 Randomized Loose Renaming in $O(\log \log n)$ Time
Dan Alistarh, James Aspnes, George Giakkoupis and Philipp Woelfel
- 02:50 Byzantine Renaming in Synchronous Systems with $t < N$
Oksana Denysyuk and Luis Rodrigues
- 03:15 An $O(1)$ -Barriers Optimal RMRs Mutual Exclusion Algorithm
Hagit Attiya, Danny Hendler and Smadar Levy

03:40 – 04:00 Coffee break

04:00 – 05:40 Session 9: Social and Peer to Peer Networks and Mobile Robots (Chair: Darek Kowalski)

- 04:00 Fair and Resilient Incentive Tree Mechanisms
Yuezhou Lv and Thomas Moscibroda
- 04:25 What's a Little Collusion Between Friends?
Edmund Wong and Lorenzo Alvisi
- 04:50 A Distributed Algorithm for Gathering Many Fat Mobile Robots in the Plane
Chrysovalandis Agathangelou, Chryssis Georgiou and Marios Mavronicolas
- 05:15 Stable and Scalable Universal Swarms
Ji Zhu, Stratis Ioannidis, Nidhi Hegde and Laurent Massoulié

*** **Conference banquet** ***

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 – 11:35 Session 10: Byzantine Agreement and Self-Stabilization (Chair: Danny Hendler)

- 10:20 Early-Deciding Consensus is Expensive
Christoph Lenzen and Danny Dolev

10:45 On the Complexity of Asynchronous Agreement Against Powerful Adversaries
Allison Lewko and Mark Lewko

11:10 Introducing Speculation in Self-Stabilization - An Application to Mutual Exclusion
Swan Dubois and Rachid Guerraoui

11:35 – 12:39 Session 11: Shared and Transactional Memory (Chair: Panagiota Fatourou)

11:35 Leaplist: Lessons Learned in Designing TM-Supported Range Queries
Hillel Avni, Nir Shavit and Adi Suissa

12:00 A Programming Language Perspective on Transactional Memory Consistency
Hagit Attiya, Alexey Gotsman, Sandeep Hans and Noam Rinetzk

12: 25 BA: An Asymmetric Flat-Combining Based Queue Algorithm
Michael Gorelik and Danny Hendler

12: 32 BA: Resettable Objects and Efficient Memory Reclamation for Concurrent Algorithms
Zahra Aghazadeh, Wojciech Golab and Philipp Woelfel

12:39 – 02:00 Lunch break

02:00 – 03:40 Session 12: Radio and Wireless Networks (Chair: Luis Rodrigues)

02:00 Broadcast in Radio Networks with Collision Detection
Mohsen Ghaffari, Bernhard Haeupler and Majid Khabbazian

02:25 Maximal Independent Sets in Multichannel Radio Networks
Sebastian Daum, Mohsen Ghaffari, Seth Gilbert, Fabian Kuhn and Calvin Newport

02:50 The Cost of Radio Network Broadcast for Different Models of Unreliable Links
Mohsen Ghaffari, Nancy Lynch and Calvin Newport

03:15 Connectivity and Aggregation in Multihop Wireless Networks
Marijke Bodlaender, Magnus M. Halldorsson and Pradipta Mitra

03:40 – 04:00 Coffee break

04:00 – 05:54 Session 13: Sensor Network , Graph algorithms and System Security (Chair: Seth Gilbert)

04:00 The Multi-Agent Rotor-Router on the Ring: A Deterministic Alternative to Parallel Random Walks
Ralf Klasing, Adrian Kosowski, Dominik Pajak and Thomas Sauerwald

04:25 Efficient Distributed Source Detection with Limited Bandwidth
Christoph Lenzen and David Peleg

04:50 Distributed Local Algorithms for Barrier Coverage using Relocatable Sensors
Mohsen Eftekhari, Evangelos Kranakis, Danny Krizanc, Oscar Morales-Ponce, Lata Narayanan, Jaroslav Opatrny and Sunil Shende

05:15 Delegation of Computation with Verification Outsourcing: Curious Verifiers
Gang Xu, George Amariuca and Yong Guan

05: 40 BA: A Shorter and Stronger Proof of an $\Omega(D \log(n/D))$ Lower Bound for Broadcast in Radio Networks
Calvin Newport

05: 47 BA: A local constant-factor approximation algorithm for MDS problem in anonymous network
Wojciech Wawrzyniak