
# PODC 2011

## Program

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## Sunday, June 5:

**18:00-19:15** ***FCRC plenary session***

2010 ACM Turing Award Winner
*Leslie G. Valiant* (Harvard University)

**19:30-21:30** PODC Welcome reception

## Monday, June 6:

**08:00-08:50** breakfast

**08:50-09:00** Opening

**09:00-10:00** session 1 ***Consensus and Agreement***
*Session Chair: Pierre Fraigniaud (CNRS and Univ. Paris Diderot)*

Coordinated Consensus in Dynamic Networks
*Fabian Kuhn, Yoram Moses and Rotem Oshman*

Error-Free Multi-Valued Consensus with Byzantine Failures
*Guanfeng Liang and Nitin Vaidya*

Byzantine Agreement with Homonyms
*Carole Delporte-Gallet, Hugues Fauconnier, Rachid Guerraoui, Anne-Marie Kermarrec, Eric Ruppert and Hung Tran-The*

**10:00-10:20** coffee break

**10:20-11:20** session 2 ***Local Algorithms***
*Session Chair: Michael Elkin (Ben-Gurion University)*

Distributed Coloring in Few Rounds
*Kishore Kothapalli and Sriram Pemmaraju*

MIS on Trees
*Christoph Lenzen and Roger Wattenhofer*

Toward more Localized Local Algorithms: Removing Assumptions concerning Global Knowledge
*Amos Korman, Jean-Sebastien Sereni and Laurent Viennot*

**11:30-12:30** ***FCRC plenary session***

IBM's Watson/DeepQA
*David A. Ferrucci* (IBM)

**12:30-13:30** lunch

**14:00-15:20** session 3 ***Reliable and Robust Algorithms***
*Session Chair: Mark Moir (Sun Labs at Oracle)*

The Complexity of Robust Atomic Storage
*Dan Dobre, Rachid Guerraoui, Matthias Majuntke, Neeraj Suri and Marko Vukolić*

Resilience of Mutual Exclusion Algorithms to Transient Memory Faults
*Thomas Moscibroda and Rotem Oshman.*

Structuring Unreliable Radio Networks
*Keren Censor-Hillel, Seth Gilbert, Fabian Kuhn, Nancy Lynch and Calvin Newport*

The Impact of Memory Models on Software Reliability in Multiprocessors
*Alexander Jaffe, Thomas Moscibroda, Laura Effinger-Dean, Luis Ceze, and Karin Strauss*

**15:30-16:00** coffee break

**16:00-17:00** session 4 ***Coherency and Concurrency***
*Session Chair: Faith Ellen (University of Toronto)*

On The Power of Hardware Transactional Memory to Simplify Memory Management
*Aleksandar Dragojevic, Maurice Herlihy, Yossi Lev and Mark Moir.*

A Complexity Separation Between Cache-Coherent and Distributed Shared Memory Models
*Wojciech Golab.*

From Bounded to Unbounded Concurrency Objects and Back
*Yehuda Afek, Adam Morrison and Guy Wertheim.*

**17:00-17:10** break

**17:10-18:00** session 5 ***Best Papers***
*Session Chair: Yehuda Afek (Tel-Aviv University)*

**PODC 2011 Best Student Paper:**
Distributed Deterministic Edge Coloring using Bounded Neighborhood Independence
*Leonid Barenboim and Michael Elkin.*

**PODC 2011 Best Paper:**
The Space Complexity of Long-Lived and One-Shot Timestamp Implementations
*Maryam Helmi, Lisa Higham, Eduardo Pacheco and Philipp Woelfel.*

**18:00-20:00** PODC business meeting

## Tuesday, June 7:

**08:00-09:00** breakfast

**09:00-10:00** session 6 ***Compact or Sparse Distributed Structures***
*Session Chair: Amos Korman (CNRS and Univ. Paris Diderot)*

Compact Policy Routing
*Gábor Rétvári, András Gulyás, Zalán Heszberger and Márton Csernai.*

Locally checkable proofs
*Mika Göös and Jukka Suomela.*

Fault-Tolerant Spanners: Better and Simpler
*Michael Dinitz and Robert Krauthgamer.*

**10:00-10:20** coffee break

**10:20-11:20** session 7 ***Security and Consistency***
*Session Chair: Dahlia Malkhi (Microsoft Research Silicon Valley)*

Adaptively Secure Broadcast, Revisited
*Juan Garay, Jonathan Katz, Ranjit Kumaresan and Hong-Sheng Zhou.*

Scalable Rational Secret Sharing
*Varsha Dani, Mahnush Movahedi, Yamel Rodriguez and Jared Saia.*

Analyzing consistency properties for fun and profit
*Wojciech Golab, Xiaozhou Li and Mehul Shah.*

**11:30-12:30** ***FCRC plenary session***

Algorithms: Recent Highlights and Challenges
*Ravi Kannan* (Microsoft Research)

**12:30-13:30** lunch

**14:00-15:30** session 8 ***Brief Announcements***
*Session Chair: Phillip Gibbons (Intel Labs Pittsburgh)*

Brief Announcement: Distributed k-Core Decomposition
*Alberto Montresor, Francesco De Pellegrini and Daniele Miorandi.*

Brief Announcement: Fork-Consistent Constructions From Registers
*Matthias Majuntke, Dan Dobre and Neeraj Suri.*

Brief Announcement: Unbounded Contention Resolution in Multiple-Access Channels
*Antonio Fernandez Anta, Miguel A. Mosteiro and Jorge Ramón Muñoz.*

Brief Announcement: Tracking Distributed Aggregates over Time-based Sliding Windows
*Graham Cormode and Ke Yi.*

Brief Announcement: Accurate Byzantine Agreement with Feedback
*Bharath Balasubramanian, John Bridgman and Vijay Garg.*

Brief Announcement: B-Neck: A Distributed and Quiescent Max-min Fair Algorithm
*Alberto Mozo Velasco, José Luis López-Presa and Antonio Fernandez Anta.*

Brief Announcement: Time-Optimal Information Exchange on Multiple Channels
*Stephan Holzer, Yvonne Anne Pignolet, Jasmin Smula and Roger Wattenhofer.*

Brief Announcement: Robust Data Sharing with Key-Value Stores
*Cristina Basescu, Christian Cachin, Ittay Eyal, Robert Haas and Marko Vukolić.*

Brief Announcement: Network Synchronization and Localization based on Stolen Signals
*Christian Schindelhauer, Zvi Lotker and Johannes Wendeberg.*

Brief Announcement: Solvability of Regular Registers in Dynamic Distributed Systems with Byzantine Processes
*Roberto Baldoni, Silvia Bonomi and Amir Soltani Nezhad.*

Brief Announcement: Easy Impossibility Proofs for k-Set Agreement in Message Passing Systems
*Martin Biely, Peter Robinson and Ulrich Schmid.*

Brief Announcement: Solving the At-Most-Once Problem with Nearly Optimal Effectiveness
*Sotirios Kentros and Aggelos Kiayias.*

**15:30-16:00** coffee break

**16:00-17:00** session 9 ***Distributed Algorithms***
*Session Chair: James Aspnes (Yale University)*

Transforming Worst-case Optimal Solutions for Simultaneous Tasks into All-case Optimal Solutions
*Yoram Moses, Mark Tuttle and Maurice Herlihy.*

Optimal-Time Adaptive Tight Renaming, with Applications to Counting
*Dan Alistarh, James Aspnes, Keren Censor-Hillel, Seth Gilbert and Morteza Zadimoghaddam.*

The Round Complexity of Distributed Sorting
*Boaz Patt-Shamir and Marat Teplitsky.*

**17:00-17:10** break

**17:10-18:10** session 10 ***Communication and Congestion***
*Session Chair: Yoram Moses (Technion)*

A tight unconditional lower bound on distributed random walk computation
*Danupon Nanongkai, Atish Das Sarma and Gopal Pandurangan.*

Minimum Congestion Mapping in a Cloud
*Nikhil Bansal, Kang-Won Lee, Viswanath Nagarajan and Murtaza Zafer.*

Conflict on a Communication Channel
*Valerie King, Jared Saia and Maxwell Young.*

**19:00-22:00** banquet

## Wednesday, June 8:

**08:00-09:00** breakfast

**09:00-10:00** session 11 ***Brief Announcements***
*Session Chair: Jared Saia (University of New Mexico)*

Brief Announcement: The Universe of Symmetry Breaking Tasks
*Damien Imbs, Sergio Rajsbaum and Michel Raynal.*

Brief Announcement: Rationality Authority for Provable Rational Behavior
*Shlomi Dolev, Panagiota N. Panagopoulou, Mikael Rabie, Elad Michael Schiller and Paul G. Spirakis.*

Brief Announcement: Secure Datastructures based on Multiparty Computation
*Tomas Toft.*

Brief Announcement: Robust Network Supercomputing Without Centralized Control
*Seda Davtyan, Kishori Konwar and Alexander Shvartsman.*

Brief Announcement: On the Hardness and Approximation of Minimum Topic Connected Overlay
*Monika Steinová.*

Brief Announcement: A Generalization of Multiple Choice Balls-into-Bins
*Gahyun Park.*

Brief Announcement: A Theory of Goal-Oriented Communication
*Oded Goldreich, Brendan Juba and Madhu Sudan.*

**10:00-10:20** coffee break

**10:20-11:20** session 12 ***Self-* Systems***
*Session Chair: Boaz Patt-Shamir (Tel Aviv University)*

Xheal: Localized Self-Healing Using Expanders
*Gopal Pandurangan and Amitabh Trehan*

Fast and Compact Self-Stabilizing Verification, Computation, and Fault Detection of an MST
*Amos Korman, Shay Kutten and Toshimitsu Masuzawa.*

Stability of a Peer-to-Peer Communication System
*Ji Zhu and Bruce Hajek.*

**11:30-12:30** ***FCRC plenary session***

Warehouse-Scale Computing: Entering the Teenage Decade
*Luiz Andre Barroso* (Google)

**12:30-13:30** lunch

**14:00-15:30** session 13 ***Brief Announcements***
*Session Chair: Pierre Fraigniaud (CNRS and Univ. Paris Diderot)*

Brief Announcement: Scalability versus Semantics of Concurrent FIFO Queues
*Hannes Payer, Harald Roeck, Christoph Kirsch and Ana Sokolova.*

Brief Announcement: Distributed Computing with Rules of Thumb
*Aaron D. Jaggard, Michael Schapira and Rebecca Wright.*

Brief Announcement: Incentive-Compatible Distributed Greedy Protocols
*Noam Nisan, Michael Schapira, Gregory Valiant and Aviv Zohar.*

Brief Announcement: Sustaining Collaboration in Multicast despite Rational Collusion
*Haifeng Yu, Phillip Gibbons and Chenwei Shi.*

Brief Announcement: Reliable end-user communication under a changing packet network protocol
*Brendan Juba.*

Brief Announcement: Securing Social Networks
*Michael Backes, Matteo Maffei and Kim Pecina.*

Brief Announcement: Parallel and distributed programming extensions for mainstream languages based on pi-calculus primitives
*Patrick Viry.*

Brief Announcement: A Nonblocking Set Optimized for Querying the Minimum Value
*Yujie Liu and Michael Spear.*

Brief Announcement: Time Bounds for Shared Objects in Partially Synchronous Systems
*Jiaqi Wang, Jennifer Welch and Hyunyoung Lee.*

Brief Announcement: The Inherent Difficulty of Timely Primary-Backup Replication
*Pramod Koppol, Kedar Namjoshi, Thanos Stathopoulos and Gordon Wilfong.*

Brief Announcement: Randomized Compact Routing in Decomposable Metrics
*Goran Konjevod, Andrea Richa, Donglin Xia and Ling Zhou.*

Brief Announcement: Partial Reversal Acyclicity
*Tsvetomira Radeva and Nancy Lynch.*

**15:30-16:00** coffee break

**16:00-17:20** session 14 ***Information Dissemination***
*Session Chair: Fabian Kuhn (University of Lugano)*

Tight Bounds on Information Dissemination in Sparse Mobile Networks
*Alberto Pettarin, Andrea Pietracaprina, Geppino Pucci and Eli Upfal.*

Order Optimal Information Spreading Using Algebraic Gossip
*Chen Avin, Michael Borokhovich, Keren Censor-Hillel and Zvi Lotker.*

Time-efficient randomized multiple-message broadcast in radio networks
*Majid Khabbazian and Dariusz Kowalski.*

Network Coding: Beating Token Forwarding Lower Bounds in Dynamic Networks
*Bernhard Haeupler and David Karger.*

**17:20-17:30** Closing

**17:30** End of symposium