

## TUESDAY

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8:50-9:00 opening remarks

9-10:00 KEYNOTE SPEAKER

10-10:30 coffee break

10:30-10:50 Symmetry Breaking in the Plane: Rendezvous by Robots with Unknown Attributes

J. Czyzowicz, L. Gasieniec, R. Killick, E. Kranakis

10:50-11:10 Composable computation in discrete chemical reaction networks

E. Severson, D. Haley, D. Doty

11:10-11:30 How to Spread a Rumor: Call Your Neighbors or Take a Walk?

G. Giakkoupis, F. Mallmann-Trenn, H. Saribekyan

11:30-12:00 Efficient size estimation and impossibility of termination in uniform dense population protocols

D. Doty, M. Eftekhari

On Counting the Population Size

P. Berenbrink, D. Kaaser, T. Radzik

12:00-12:20 Self-Stabilizing Leader Election

H. Chen, H. Chen

12:20-12:25 Brief Announcement: Logarithmic Expected-Time Leader Election in Population Protocol Model

Y. Sudo, F. Ooshita, T. Izumi, H. Kakugawa, T. Masuzawa

12:25-12:30 Brief Announcement: On Site Fidelity and the Price of Ignorance in Swarm Robotic Central Place Foraging Algorithms

A. Aggarwal, D. Gupta, G. Fricke, M. Moses

12:30-2:00 LUNCH

2:00-2:20 Improved Distributed Expander Decomposition and Nearly Optimal Triangle Enumeration

Y. Chang, T. Saranurak

2:20-2:40 Fast Approximate Shortest Paths in the Congested Clique

K. Censor-Hillel, M. Dory, D. Leitersdorf, J. Korhonen

2:40-3:00 Quantum Distributed Algorithm for the All-Pairs Shortest Path Problem in the CONGEST-CLIQUE Model

T. Izumi, F. Le Gall

3:00-3:20 Deterministic Distributed Dominating Set Approximation in the CONGEST Model

J. Deurer, F. Kuhn, Y. Maus

3:20-3:25 Brief Announcement: Optimal Distributed Covering Algorithms

R. Ben-Basat, G. Even, K. Kawarabayashi, G. Schwartzman

3:25-3:55 coffee break

- 3:55-4:15 Secure Distributed Computing Made Optimal  
M. Parter, E. Yogev
- 4:15-4:35 With Great Speed Come Small Buffers: Space-Bandwidth Tradeoffs for Routing  
A. Miller, B. Patt-Shamir, W. Rosenbaum
- 4:35-4:55 Plain SINR is Enough!  
M. Halldorsson, T. Tonoyan
- 4:55-5:15 Efficient Multiparty Interactive Coding for Insertions, Deletions, and Substitutions  
R. Gelles, Y. Kalai, G. Ramnarayan
- 5:15-5:20 Brief Announcement: Multiparty Interactive Communication with Private Channels  
A. Aggarwal, V. Dani, T. Hayes, J. Saia
- 5:20-5:25 Brief Announcement: Coded State Machine - Scaling State Machine Execution under Byzantine Faults  
S. Li, S. Sahraei, M. Yu, S. Avestimehr, S. Kannan, P. Viswanath
- 5:25-5:30 Brief Announcement: On Termination of a Flooding Process  
W. Hussak, A. Trehan

WEDNESDAY

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9-10am KEYNOTE SPEAKER

10-10:30 coffee break

- 10:30-10:50 Optimal Memory-Anonymous Symmetric Deadlock-Free Mutual Exclusion  
Z. Aghazadeh, D. Imbs, M. Raynal, G. Taubenfeld, P. Woelfel
- 10:50-11:10 Constant Amortized RMR Complexity Deterministic Abortable Mutual Exclusion Algorithm for CC and DSM Models  
P. Jayanti, S. Jayanti
- 11:10-11:30 Recoverable Mutual Exclusion with Sub-logarithmic RMR Complexity on CC and DSM machines  
P. Jayanti, S. Jayanti, A. Joshi
- 11:30-11:50 Randomized Concurrent Set Union and Generalized Wake-Up  
S. Jayanti, R. Tarjan, E. Boix-Adserà,
- 11:50-12:10 Strongly Linearizable Implementations of Snapshots and Other Types  
S. Ovens, P. Woelfel
- 12:10-12:15 Brief Announcement: Fast Concurrent Data Sketches  
A. Rinberg, A. Spiegelman, E. Bortnikov, E. Hillel, I. Keidar, H. Serviansky

- 12:15-12:20 Brief Announcement: Self-Stabilizing Snapshot Objects for Asynchronous Failure-Prone Networked Systems  
C. Georgiou, O. Lundström, E. Schiller
- 12:20-12:25 Brief Announcement: The Recoverable Consensus Hierarchy  
W. Golab
- 12:25-12:30 Brief Announcement: How Fast Reads Affect Multi-Valued Register Simulations  
S. Chaudhuri, R. Frank, J. Welch

12:30-2:00 LUNCH

- 2:00-2:20 Topological Characterization of Consensus under General Message Adversaries  
T. Nowak, U. Schmid, K. Winkler
- 2:20-2:40 Can Distributed Uniformity Testing Be Local?  
U. Meir, D. Minzer, R. Oshman
- 2:40-3:00 Hardness of Distributed Optimization  
N. Bachrach, K. Censor-Hillel, M. Dory, Y. Efron, D. Leitersdorf, A. Paz
- 3:00-3:20 Broadcast Congested Clique: Planted Cliques and Pseudorandom Generators  
L. Chen, O. Grossman
- 3:20-3:25 Brief Announcement: Connectivity Lower Bounds in Broadcast Congested Clique  
S. Pai, S. Pemmaraju
- 3:25-3:30 Brief Announcement: Does Preprocessing Help under Congestion?  
K. Foerster, J. Korhonen, J. Rybicki, S. Schmid

3:30-4:00 coffee break

- 4:00-4:20 The distributed complexity of locally checkable problems on paths is decidable  
A. Balliu, S. Brandt, Y. Chang, D. Olivetti, M. Rabie, J. Suomela
- 4:20-4:40 Hardness of exact distance queries in sparse graphs through hub labeling  
A. Kosowski, P. Uznański, L. Viennot
- 4:40-5:00 On the Complexity of Distributed Splitting Problems  
P. Bamberger, M. Ghaffari, F. Kuhn, Y. Maus, J. Uitto
- 5:00-5:20 On the Use of Randomness in Local Distributed Graph Algorithms  
M. Ghaffari, F. Kuhn
- 5:20-5:25 Brief Announcement: Message Reduction in the LOCAL Model is a Free Lunch  
S. Bitton, T. Izumi, Y. Emek, S. Kutten
- 5:25-5:30 Brief Announcement: P-SLOCAL-Completeness of Maximum Independent Set Approximation  
Y. Maus

THURSDAY

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9-10am KEYNOTE SPEAKER

10-10:30 coffee break

- 10:30-10:50 The Consensus Number of a Cryptocurrency  
R. Guerraoui, P. Kuznetsov, M. Monti, M. Pavlovic, D. Seredinschi
- 10:50-11:10 Communication Complexity of Byzantine Agreement, Revisited  
I. Abraham, T. Chan, D. Dolev, K. Nayak, R. Pass, L. Ren, E. Shi
- 11:10-11:30 Exact Byzantine Consensus on Undirected Graphs under Local Broadcast Model  
M. Khan, S. Naqvi, N. Vaidya
- 11:30-11:50 Asymptotically Optimal Validated Asynchronous Byzantine Agreement  
I. Abraham, D. Malkhi, A. Spiegelman
- 11:50-12:10 HotStuff: BFT Consensus with Linearity and Responsiveness  
M. Yin, I. Abraham, G. Gueta, D. Malkhi, M. Reiter
- 12:10-12:30 Fault Tolerant Gradient Clock Synchronization  
J. Bund, C. Lenzen, W. Rosenbaum
- 12:30-12:35 Brief Announcement: Bootstrapping Public Blockchains Without A Trusted Setup  
A. Aggarwal, M. Mohavedi, J. Saia, M. Zamani

12:35-2:05 LUNCH

- 2:05-2:35 Hardness of minimal symmetry breaking in distributed computing  
A. Balliu, J. Hirvonen, D. Olivetti, J. Suomela  
An Automatic Speedup Theorem for Distributed Problems  
S. Brandt
- 2:35-2:55 A Sharp Threshold Phenomenon for the Distributed Complexity of the Lovász  
Local Lemma  
S. Brandt, Y. Maus, J. Uitto
- 2:55-3:15 Reconfigurable Atomic Transaction Commit  
M. Bravo, A. Gotsman
- 3:15-3:35 The Impact of RDMA on Agreement  
M. Aguilera, N. Ben-David, R. Guerraoui, V. Marathe, I. Zlotchi
- 3:35-3:40 Brief Announcement: Hyaline: Fast and Transparent Lock-Free Memory  
Reclamation  
R. Nikolaev, B. Ravindran
- 3:40-3:45 Brief Announcement: Layering Data Structures over Skip Graphs for Increased  
NUMA Locality  
S. Thomas, H. Mendes

3:45-4:15 coffee break

- 4:15-4:35 Partially Replicated Causally Consistent Shared Memory: Lower Bounds and An  
Algorithm  
Z. Xiang, N. Vaidya

- 4:35-4:55 Vorpal: Vector Clock Ordering For Large Persistent Memory Systems  
K. Korgaonkar, J. Izraelevitz, J. Zhao, S. Swanson
- 4:55-5:15 On the parallels between Paxos and Raft, and how to port optimizations  
Z. Wang, C. Zhao, S. Mu, H. Chen, J. Li
- 5:15-5:20 Brief Announcement: Linearizable State Machine Replication of State-Based  
CRDTs without Logs  
J. Skrzypczak, F. Schintke, T. Schütt
- 5:20-5:25 Brief Announcement: On mixing eventual and strong consistency: Bayou  
revisited  
M. Kokociński, T. Kobus, P. Wojciechowski
- 5:25-5:30 Brief Announcement: Modular Machine-Checked Proofs of Concurrent  
Algorithms Built from Tasks  
A. Castañeda, A. Hurault, P. Queinnec, M. Roy

FRIDAY

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- 9:00-9:20 Massively Parallel Algorithms for Finding Well-Connected Components in Sparse  
Graphs  
S. Assadi, X. Sun, O. Weinstein
- 9:20-9:40 The Complexity of  $(\Delta + 1)$  Coloring in Congested Clique, Massively Parallel  
Computation, and Centralized Local Computation  
Y. Chang, M. Fischer, M. Ghaffari, J. Uitto, Y. Zheng
- 9:40-10:00 Massively Parallel Computation of Matching and MIS in Sparse Graphs  
S. Behnezhad, S. Brandt, M. Derakhshan, M. Fischer, M. Hajiaghayi, R. Karp,  
J. Uitto
- 10:00-10:20 Weighted Matchings via Unweighted Augmentations  
B. Gamlath, S. Kale, S. Mitrović, O. Svensson
- 10:20-10:50 coffee break
- 10:50-11:10 Implementing Mediators with Asynchronous Cheap Talk  
I. Abraham, D. Dolev, I. Geffner, J. Halpern
- 11:10-11:30 Distributed Minimum Degree Spanning Trees  
M. Dinitz, M. Halldorsson, T. Izumi, C. Newport
- 11:30-11:50 Improved Distributed Approximations for Minimum-Weight  
Two-Edge-Connected Spanning Subgraph  
M. Dory, M. Ghaffari
- 11:50-12:10 Near-Additive Spanners In Low Polynomial Deterministic CONGEST Time  
M. Elkin, S. Matar
- 12:10-12:30 A Trivial Yet Optimal Solution to Vertex Fault Tolerant Spanners  
G. Bodwin, S. Patel

12:30-12:35 closing remarks