SSS 2020: Technical Program

Stéphane Devismes Neeraj Mittal

1 Keynotes, Tutorials and Invited Papers

Keynotes. (1h each)

- **The Pit and the Pendulum.** *Lorenzo Alvisi*
- **Blockchains and the Future of Distributed Computing.** *Maurice Herlihy*
- **Algorithmic Programmable Matter.** *Andrea Richa*

Tutorials. (1h each)

- **Persistent memory.** *Prasad Jayanti*
- **SASA: A SimulAtor of Self-stabilizing Algorithms.** *Erwan Jahier*
- **High Performance Concurrent Deep Learning.** *Dan Alistarh*

Invited Papers. (1h 20m)

- **Invited Paper: Homomorphic Operations Techniques Yielding Communication Efficiency.** *Dor Bitan and Shlomi Dolev*
- **Invited Paper: Reactive PLS for Distributed Decision.** *Jiaqi Chen, Shlomi Dolev and Shay Kutten*

2 Grouping of Papers

Distributed Objects and Tasks. (1h 10m)

- **Affine Tasks for k-Test-and-Set.** *Petr Kuznetsov and Thibault Rieutord*
- **Collect in the Presence of Continuous Churn with Application to Snapshots and Lattice Agreement.** *Hagit Attiya, Sweta Kumari, Archit Somani and Jennifer Welch*
- **k-Immediate Snapshot and x-Set Agreement: How Are They Related?** *Carole Delporte-Gallet, Hugues Fauconnier, Sergio Rajsbaum and Michel Raynal*
- **Brief Announcement: Byzantine Geoconsensus.** *Joseph Oglio, Kendric Hood, Gokarna Sharma and Mikhail Nesterenko*

Security and Privacy. (1h 10m)

- **Boosting the Efficiency of Byzantine-tolerant Reliable Communication.** *Silvia Bonomi, Giovanni Farina and Sébastien Tixeuil*
- **Physical Zero-Knowledge Proof for Suguru Puzzle.** *Leo Robert, Daiki Miyahara, Pascal Lafourcade and Takaaki Mizuki*
- **A Privacy-Preserving Collaborative Caching Approach in Information-Centric Networking.** *Andrew Jones and Robert Simon*
- **Brief Announcement: Verifiable Data Sharing In Distributed Computing.** *Kun Peng*

Leader Election and Agreement. (50m)

- **Time-Optimal Self-Stabilizing Leader Election on Rings in Population Protocols. (Best Student Paper Award)** *Daisuke Yokota, Yuichi Sudo and Toshimitsu Masuzawa*
- **Smoothed Analysis of Leader Election in Distributed Networks.** *Anisur Rahaman Molla and Disha Shur*
- **Brief Announcement: Leader Election in the ADD Communication Model.** *Sergio Rajsbaum, Michel Raynal and Karla Vargas Godoy*

Robot Deployment. (1h)

- **Efficient Dispersion of Mobile Agents without Global Knowledge.** *Takahiro Shintaku, Yuichi Sudo, Hirotsugu Kakugawa and Toshimitsu Masuzawa*
- **Uniform Deployment of Mobile Agents in Dynamic Rings.** *Masahiro Shibata, Yuichi Sudo, Junya Nakamura and Yonghwan Kim*
- **Fast Uniform Scattering on a Grid for Asynchronous Oblivious Robots.** *Pavan Poudel and Gokarna Sharma*

Robot Gathering. (1h 10m)

- **Partial Gathering of Mobile Robots from Multiplicity-Allowed Configurations in Rings.** *Masahiro Shibata and Sebastien Tixeuil*
- **Stand Up Indulgent Rendezvous.** *Quentin Bramas, Anissa Lamani and Sebastien Tixeuil*
- **A Discrete and Continuous Study of the Max-Chain-Formation Problem. (Best Paper Award)** *Jannik Castenow, Peter Kling, Till Knollmann and Friedhelm Meyer Auf der Heide*
- **Brief Announcement: Gathering in Linear Time: A Closed Chain of Disoriented & Luminous Robots with Limited Visibility.** *Jannik Castenow, Jonas Harbig, Daniel Jung, Till Knollmann and Friedhelm Meyer Auf der Heide*

Self-stabilization and Fault-tolerance. (1h 10m)

- **A Combinatorial Characterization of Self-Stabilizing Population Protocols.** *Shaan Mathur and Rafail Ostrovsky*
- **Silent MST Approximation for Tiny Memory.** *Laurent Feuilloley, Lelia Blin and Swan Dubois*
- **Brief Announcement: Local Deal-Agreement Based Monotonic Distributed Algorithms for Load Balancing in General Graphs.** *Yefim Dinitz, Shlomi Dolev and Manish Kumar*
- **Brief Announcement: TRIX: Low-Skew Pulse Propagation for Fault-Tolerant Hardware.** *Ben Wiederhake and Christoph Lenzen*
- **Brief Announcement: Effectiveness of Code Hardening for Fault-Tolerant IoT Software.** *Igor Zavalyshyn, Thomas Given-Wilson, Axel Legay and Ramin Sadre*

3 Tentative Program

All times are in Eastern Standard Time

Wednesday, November 18, 2020. (4h 10m)

- *8:00-8:20* Welcome Note (20m)
- *8:20-9:30* Session 1 (Self-stabilization and Fault-tolerance) (1h 10m)
- *9:30-10:00* Breakout Sessions for Socializing (30m)
- *10:00-11:00* Keynote 1 (The Pit and the Pendulum) (1h)
- *11:00-12:10* Session 2 (Robot Gathering) (1h 10m)

Thursday, November 19, 2020. (4h 20m)

- *8:00-9:00* Session 3 (Robot Deployment) (1h)
- *9:00-9:50* Session 4 (Leader Election and Agreement) (50m)
- *9:50-10:20* Breakout Sessions for Socializing (30m)
- *10:20-11:20* Keynote 2 (Blockchains and the Future of Distributed Computing) (1h)
- *11:20-12:20* Tutorial 1 (SASA: A SimulAtor of Self-stabilizing Algorithms) (1h)

Friday, November 20, 2020. (3h 50m)

- *8:00-9:20* Session 5 (Invited Papers) (1h 20m)
- *9:20-9:50* Breakout Sessions for Socializing (30m)
- *9:50-10:50* Keynote 3 (Algorithmic Programmable Matter) (1h)
- *10:50-11:50* Tutorial 2 (Persistent Memory) (1h)

Saturday, November 21, 2020. (4h 20m)

- *8:00-9:10* Session 6 (Distributed Objects and Tasks) (1h 10m)
- *9:10-9:40* Business Meeting (30m)
- *9:40-10:50* Session 7 (Security and Privacy) (1h 10m)
- *10:50-11:20* Breakout Sessions for Socializing (30m)
- *11:20-12:20* Tutorial 3 (High Performance Concurrent Deep Learning) (1h)