

# SSS 2010 – PROGRAM

NEW YORK CITY, USA, SEPTEMBER 20-22, 2010

MONDAY, 20 SEPTEMBER 2010

**08:50 – 09:00 SSS Welcome announcements by Shlomi Dolev**

**09:00 – 10:00 SSS Invited Lecture I, Chaired by Michael Fischer**

Arcane Information, Solving Relations, and Church Censorship  
Leonid A. Levin

**10:00 – 10:15 Coffee Break**

**10:15 – 12:00 Session I, Chaired by Franck Petit**

10:15-10:40 Systematic Correct Construction of Self-stabilizing Systems: A Case Study  
Ananda Basu, Borzoo Bonakdarpour, Marius Bozga, Joseph Sifakis

10:40-11:05 A Fault-Resistant Asynchronous Clock Function  
Ezra N. Hoch, Michael Ben-Or, Danny Dolev

11:05-11:30 Self-Stabilizing Leader Election in Dynamic Networks  
Ajoy K. Datta, Lawrence L. Larmore, Hema Piniganti

11:30-11:55 Loop-Free Super-Stabilizing Spanning Tree Construction  
Lélia Blin, Maria Gradinariu Potop-Butucaru, Stephane Rovedakis, Sébastien Tixeuil

11:55-12:00 Brief Announcement: On the Hardness of Topology Inference  
H. B. Acharya , Mohamed Gouda

**12:00 – 13:30 Lunch**

**13:30 – 15:10 Session II, Chaired by Jie Gao**

13:30-13:55 A New Technique for Proving Self-Stabilizing under the Distributed Scheduler  
Sven Köhler, Volker Turau

13:55-14:20 A Transformational Approach for Designing Scheduler-Oblivious Self-Stabilizing Algorithms  
Abhishek Dhama, Oliver Theel

14:20-14:45 On Byzantine Containment Properties of the  $min + 1$  Protocol  
Swan Dubois, Toshimitsu Masuzawa, Sébastien Tixeuil

14:45-15:10 Efficient Self-Stabilizing Graph Searching in Tree Networks  
Jean Blair, Fredrik Manne, Rodica Mihal

**15:10 – 15:30 Coffee Break**

**15:30 – 17:10 Session III, Chaired by Rebecca Wright**

15:30-15:55 **Adaptive Containment of Time-Bounded Byzantine Faults**

Yukiko Yamauchi, Toshimitsu Masuzawa, Doina Bein

15:55-16:20 **Authenticated Broadcast with a Partially Compromised Public-Key Infrastructure**

S. Dov Gordon, Jonathan Katz, Ranjit Kumaresan, Arkady Yerukhimovich

16:20-16:45 **On Applicability of Random Graphs for Modeling Random Key Predistribution for Wireless Sensor Networks**

Tuan Manh Vu, Reihaneh Safavi-Naini, Carey Williamson

16:45-17:10 **“Slow is Fast” for Wireless Sensor Networks in the Presence of Message Losses**

Mahesh Arumugam, Murat Demirbas, Sandeep S. Kulkarni

**17:10 – 19:00 SSS Plenary Assembly**

TUESDAY 21 SEPTEMBER 2010

**09:00 – 10:00 SSS Invited Lecture II, Chaired by Moti Yung**

Computation of Equilibria and Stable Solutions  
Mihalis Yannakakis

**10:00 – 10:15 Coffee Break**

**10:15 – 12:00 Session IV, Chaired by Benjamin Goldberg**

10:15-10:40 Modeling and Analyzing Periodic Distributed Computations  
Anurag Agarwal, Vijay K. Garg, Vinit Ogale

10:40-11:05 Complexity Issues in Automated Model Revision Without Explicit Legitimate State  
Fuad Abujarad, Sandeep S. Kulkarni

11:05-11:30 Algorithmic Verification of Population Protocols  
Ioannis Chatzigiannakis, Othon Michail, Paul G. Spirakis

11:30-11:55 Energy Management for Time-Critical Energy Harvesting Wireless Sensor Networks  
Bo Zhang, Robert Simon, Hakan Aydin

11:55-12:00 Brief Announcement: Configuration of Actuated Camera Networks for Multi-target Coverage  
Matthew P. Johnson, Amotz Bar-Noy, Mani Srivastava

**12:00 – 13:30 Lunch**

**13:30 – 15:10 Session V, Chaired by Gene Itkis**

13:30-13:55 Stably Decidable Graph Languages by Mediated Population Protocols  
Ioannis Chatzigiannakis, Othon Michail, Paul G. Spirakis

13:55-14:20 Broadcasting in Sensor Networks of Unknown Topology in the Presence of Swamping  
Evangelos Kranakis, Michel Paquette

14:20-14:45 Self-Stabilizing Algorithm of Two-Hop Conflict Resolution  
Stéphane Pomportes, Joanna Tomasik, Anthony Busson, Véronique Vèque

14:45-15:10 Chameleon-MAC: Adaptive and Self-\* Algorithms for Media Access Control in Mobile Ad hoc Networks  
Pierre Leone, Marina Papatriantafidou, Elad M. Schiller, Gongxi Zhu

**15:10 – 15:30 Coffee Break**

**15:30 – 17:10 Session VI, Chaired by Jonathan Katz**

15:30-15:55 Connectivity-Preserving Scattering of Mobile Robots with Limited Visibility  
Taisuke Izumi, Maria Gradinariu Potop-Butucaru, Sébastien Tixeuil

15:55-16:20 Computing in Social Networks  
Andrei Giurgiu, Rachid Guerraoui, Kévin Huguenin, Anne-Marie Kermarrec

16:20-16:45 On Transactional Scheduling in Distributed Transactional Memory Systems  
Junwhan Kim, Binoy Ravindran

16:45-17:10 Recursion in Distributed Computing  
Eli Gafni, Sergio Rajsbaum

**17:10 – 17:45 SSS Poster and Ramp Assembly, Chaired by Kirstie L. Bellman and Sandeep Kulkarni**

**18:00-20:00 SSS Conference Dinner, Faculty House, Columbia University**

WEDNESDAY SEPTEMBER 22 2010

**09:00 – 10:00 SSS Invited Lecture III, Chaired by Jorge Cobb**

A Geometry of Networks  
Yechiam Yemini

**10:00 – 10:15 Coffee Break**

**10:15 – 12:00 Session VII, Chaired by Sergio Rajsbaum**

10:15-10:40 On Adaptive Renaming under Eventually Limited Contention  
Damien Imbs, Michel Raynal

10:40-11:05 RobuSTM: A Robust Software Transactional Memory  
Jons-Tobias Wamhoff, Torvald Riegel, Christof Fetzer, Pascal Felber

11:05-11:30 A Provably Starvation-Free Distributed Directory Protocol  
Hagit Attiya, Vincent Gramoli, Alessia Milani

11:30-11:55 Safe Flocking in Spite of Actuator Faults  
Taylor Johnson, Sayan Mitra

11:55-12:00 Brief Announcement: Fast Convergence in Route-Preservation  
Jorge A. Cobb

**12:00 – 13:30 Lunch**

**13:30 – 15:10 Session IIX, Chaired by Brian Coan**

13:30-13:55 Approximation of  $\delta$ -Timeliness  
Carole Delporte-Gallet, Stéphane Devismes, Hugues Fauconnier

13:55-14:20 A Framework for Adaptive Optimization of Remote Synchronous CSCW in the  
Cloud Computing Era  
Ji Lu, Yaoyue Zhang, Yuezhi Zhou

14:20-14:45 Low Memory Distributed Protocols for 2-Coloring  
Amos Israeli, Mathew D. McCubbins, Ramamohan Paturi, Andrea Vattani

14:45-15:10 A Comparative Study of Rateless Codes for P2P Persistent Storage  
Heverson B. Ribeiro, Emmanuelle Anceaume

**15:10 – 15:25 Coffee Break**

**15:25 – 17:10 Session IX, Chaired by Oliver Theel**

15:25-15:50 Dynamically Reconfigurable Filtering Architectures  
Mathieu Valero, Luciana Arantes, Maria Gradinariu Potop-Butucaru, Pierre Sens

15:50-16:15 A Quantitative Analysis of Redundancy Schemes for Peer-to-Peer Storage Sys-  
tems  
Yaser Hourri, Bernhard Amann, Thomas Fuhrmann

16:15-16:40 A Framework for Secure and Private P2P Publish/Subscribe  
Samuel Bernard, Maria Gradinariu Potop-Butucaru, Sébastien Tixeuil

**16:40 – 16:55 Coffee Break**

**16:55 – 18:35 Session X, Chaired by Thomas Fuhrmann**

- 16:55-17:20 **Snap-Stabilizing Linear Message Forwarding**  
Alain Cournier, Swan Dubois, Anissa Lamani, Franck Petit, Vincent Villain
- 17:20-17:45 **Vulnerability Analysis of High Dimensional Complex Systems (Invited Paper)**  
Vedant Misra, Dion Harmon, Yaneer Bar-Yam
- 17:45-18:10 **Storage Capacity of Labeled Graphs**  
Dana Angluin, James Aspnes, Rida A. Bazzi, Jiang Chen, David Eisenstat, Goran Konjevod
- 18:10-18:35 **Lightweight Live Migration for High Availability Cluster Service**  
Bo Jiang, Binoy Ravindran, Changsoo Kim

**Beers & Snacks Whishing a Great SSS 2011**