

15th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2013)

Osaka, Japan, 13-16 November 2013

Nov. 13 (at IST B101)

- 12:00 - Registration
- 13:00 - 15:00 **Tutorial 1** (Chair: Teruo Higashino)
Tutorial on Vehicular Networking
Onur Altintas
- 15:00 - 15:30 Coffee Break
- 15:30 - 17:30 **Tutorial 2** (Chair: Toshimitsu Masuzawa)
Practically Stabilizing and Secure Replicated State Machines
Shlomi Dolev
- 17:30 - 19:00 Reception (at IST A110)

Nov. 14 (at Convention Center)

- 8:30 - Registration
- 9:00 - 9:15 Opening
- 9:15 - 10:15 **Keynote 1** (Chair: Toshimitsu Masuzawa)
*Our challenges to ever increasing complexity of our world
- our efforts from autonomic computing and dependability*
Kazuo Iwano
- 10:15 - 10:30 Coffee Break
- 10:30 - 12:30 **Session 1 Dependability and Fault-tolerance** (Chair: Achour Mostefaoui)
Transactional Encoding for Tolerating Transient Hardware Errors
Jons-Tobias Wamhoff, Mario Schwalbe, Rasha Faqeh, Christof Fetzer and Pascal Felber
Universal Model Simulation: BG and Extended BG as Examples
Petr Kuznetsov
Helical Entanglement Codes: An Efficient Approach for Designing Robust Distributed Storage Systems
Veronica Estrada Galinanes and Pascal Felber
Concurrent Wait-Free Red-Black Trees
Aravind Natarajan, Lee H. Savoie and Neeraj Mittal
- 12:30 - 13:45 Lunch (at University Restaurant)
- 13:45 - 16:15 **Session 2 Self-Stabilization I** (Chair: Koichi Wada)
Self-Stabilizing (f,g)-Alliances with Safe Convergence (BEST STUDENT PAPER)
Fabienne Carrier, Ajoy K. Datta, Stéphane Devismes, Lawrence L. Larmore and Yvan Rivierre
A Self-Stabilizing Algorithm for Maximal p-Star Decomposition of General Graphs
Brahim Neggazi, Volker Turau, Mohammed Haddad and Hamamache Kheddouci
Self-Healing of Byzantine Faults
Jeffrey Knockel, George Saad and Jared Saia
Leader Election and Centers and Medians in Tree Networks
Ajoy K. Datta and Lawrence L. Larmore
Automated Addition of Fault-tolerance under Synchronous Semantics
Yiyang Lin, Borzoo Bonakdarpour and Sandeep Kulkarni

16:15 - 16:35 Coffee Break

16:35 - 17:50 **Session 3 Brief Announcement I** (Chair: Stephane Devismes)

Brief Announcement: Memory Efficient Self-Stabilizing k -Independent Dominating Set Construction

Colette Johnen

Brief Announcement: Modeling and Analyzing Timing-Faults in Transaction Level SystemC Programs

Reza Hajisheykhi, Ali Ebneenasir and Sandeep Kulkarni

Brief Announcement: Synthesizing Round Based Fault-Tolerant Programs using Genetic Programming

Ling Zhu and Sandeep Kulkarni

Brief Announcement: Low-Communication Self-Stabilizing Leader Election in Large Networks

Thamer Alsulaiman, Andrew Berns and Sukumar Ghosh

Brief Announcement: Self-Stabilizing Byzantine Resilient Topology Discovery and Message Delivery

Shlomi Dolev, Omri Liba and Elad M. Schiller

17:50 - 18:50 Business Meeting

Nov. 15 (at Convention Center)

8:45 - Registration

9:00 - 10:00 **Keynote 2** (Chair: Shlomi Dolev)

Concurrency-Related Distributed Recursion

Michel Raynal

10:00 - 10:20 Coffee Break

10:20 - 12:20 **Session 4 Formal Methods & Distributed Systems** (Chair: Tatsuhiro Tsuchiya)

Local Decision and Verification with Bounded-Size Outputs (BEST PAPER)

Heger Arfaoui, Pierre Fraigniaud and Andrzej Pelc

How Good is Weak-stabilization?

Narges Fallahi and Borzoo Bonakdarpour

Verifying Livelock Freedom of Parameterized Rings and Chains

Alex Klinkhamer and Ali Ebneenasir

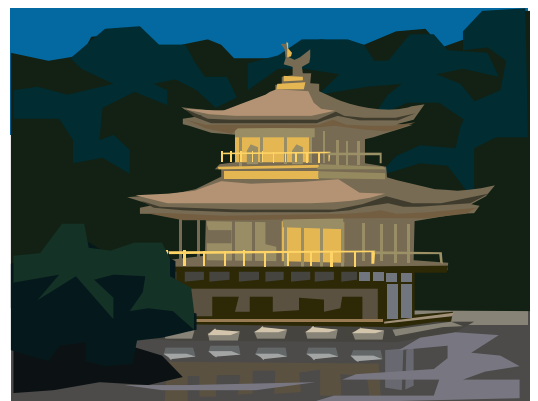
Certified Impossibility Results for Byzantine-Tolerant Mobile Robots

Cedric Auger, Zohir Bouzid, Pierre Courtieu, Xavier Urbain and Sebastien Tixeuil

12:30 - 13:30 Lunch (at IST B101)

13:45 - Guided Tour in Kyoto

18:00 - Banquet (at Hotel Heian no mori Kyoto)



Nov. 16 (at Convention Center)

- 8:45 - Registration
- 9:00 - 10:30 **Session 5 P2P, Social, Self-Organizing, Autonomic and Opportunistic Networks** (Chair: Taisuke Izumi)
Self-Stabilizing Balancing Algorithm for Containment-Based Trees
Evangelos Bampas, Anissa Lamani, Franck Petit and Mathieu Valero
On the Effectiveness of Punishments in a Repeated Epidemic Dissemination Game
Xavier Vilaça and Luis Rodrigues
Linearizing Peer-to-Peer Systems with Oracles
Rizal Mohd Nor, Mikhail Nesterenko and Sebastien Tixeuil
- 10:30 - 10:50 Coffee Break
- 10:50 - 12:20 **Session 6 Self-Stabilization II** (Chair: Sebastien Tixeuil)
Synchronous Counting and Computational Algorithm Design
Danny Dolev, Janne H. Korhonen, Christoph Lenzen, Joel Rybicki and Jukka Suomela
An Asynchronous Self-Stabilizing Approximation for the Minimum Connected Dominating Set with Safe Convergence in Unit Disk Graphs
Sayaka Kamei, Tomoko Izumi and Yukiko Yamauchi
Space Complexity of Self-Stabilizing Leader Election in Population Protocol Based on k-interaction
Xiaoguang Xu, Yukiko Yamauchi, Shuji Kijima and Masafumi Yamashita
- 12:20 - 13:40 Lunch (at University Restaurant)
- 13:40 - 15:40 **Session 7 Ad-hoc, Sensors, Mobile Agents and Robot Networks** (Chair: Yoshiaki Katayama)
Naming and Counting in Anonymous Unknown Dynamic Networks
Othon Michail, Ioannis Chatzigiannakis and Paul G. Spirakis
Gathering asynchronous oblivious agents with restricted vision in an infinite line
Samuel Guilbault and Andrzej Pelc
Counting the Number of Homonyms in Dynamic Networks
G. A. Di Luna, R. Baldoni, S. Bonomi and I. Chatzigiannakis
Localizability of Wireless Sensor Networks: Beyond Wheel Extension
Buddhadeb Sau and Krishnendu Mukhopadhyaya
- 15:40 - 16:00 Coffee Break
- 16:00 - 17:45 **Session 8 Brief Announcement II** (Chair: Fukuhito Ooshita)
Brief Announcement: Zone-based Synthesis of Strict 2-phase Fault Recovery
Fathiyeh Faghieh and Borzoo Bonakdarpour
Brief Announcement: Analyzing Convergence and Reachability of Asynchronous Iterations
Yoshisato Sakai
Brief Announcement: Ring Exploration by Oblivious Robots With Vision Limited to 2 or 3
Ajoy K. Datta, Anissa Lamani, Lawrence L. Larmore and Franck Petit
Brief Announcement: Scalable Estimation of Network Average Degree
Taisuke Izumi and Hironobu Kanzaki
Brief Announcement: Self-stabilizing TDMA Algorithms for Wireless Ad-hoc Networks without External Reference
Thomas Petig, Elad M. Schiller and Philippos Tsigas
Brief Announcement: Self-stabilizing DAG-constructing Protocols with Application to Geocast in MANET
Koichi Ito, Yoshiaki Katayama, Koichi Wada and Naohisa Takahashi
Brief Announcement: An Agile and Stable Neighborhood Protocol for WSNs
Gerry Siegemund, Volker Turau, Christoph Weyer, Stefan Lohs and Jörg Nolte
- 17:45 - 18:00 Closing