Eleventh International Symposium on
Stabilization, Safety, and Security of Distributed Systems
(SSS 2009)
November 3-6, 2009, Lyon, France
http://graal.ens-lyon.fr/SSS09/

Tuesday, November 3 2009

8:30 – 9:00	**Registration**

9:00 – 9:20   **Opening**

9:20 – 10:35   **Invited Talk: Roger Wattenhoffer**

Self-Stabilization: from Efficacy to Efficiency.

10:35 – 11:00   Pause

11:00 – 12:30   **Session 1A: Peer-to-Peer Systems #1**
Session Chair: *Thomas Fuhrmann*

FoG: fighting the Achilles' heel of gossip protocols with fountain codes.
Mary-Luc Champel, Anne-Marie Kermarrec, and Nicolas Le Scouarnec

Scalable Stealth Mode P2P Networks: an Emerging Security Threat.
Mark Jelasity and Vilmos Bilicki

Finding Good Partners in Availability-aware P2P Networks.
Stevens Le Blond, Fabrice Le Fessant, and Erwan Le Merrer

Session 1B: Alternative Systems and Models
Session Chair: *Ted Herman*

Robustness and Dependability of Self-Organising Systems - A Safety Engineering Perspective.
Giovanna Di Marzo Serugendo

Visiting Gafni's Reduction Land: from the BG Simulation to the Extended BG Simulation.
Damien Imbs and Michel Raynal

Analysis of an Intentional Fault Which is Undetectable by Local Checks under an Unfair Scheduler.
Jun Kiniwa and Kensaku Kikuta

12:30 – 14:30   Lunch

14:30 – 16:00   **Session 2A: Stabilization #1**
Session Chair: *Roger Wattenhoffer*

Multicore Constraint-Based Automated Stabilization.
Fuad Abujarad and Sandeep Kulkarni

Making Population Protocols Self-Stabilizing.
Joffroy Beauquier, Janna Burman, and Shay Kutten

How to improve snap-stabilizing point-to-point communication space complexity?
Alain Cournier, Swan Dubois and Vincent Villain

Session 2B: Self-Organizing Systems and Multicore Computing
Session Chair: *Giovanna Di Marzo Serugendo*

ACCADA: A Framework for Continuous Context-Aware Deployment and Adaptation.
Ning Gui, Vincenzo De Florio, Hung Sun, and Chris Blondia

Distributed Power control with multiple agents in a distributed base station scheme using macrodiversity.
Philippe Leroux and Sebastien Roy

OpenMP Support for NBTI-induced Aging Tolerance in MPSoCs.
Andrea Marongiu, Andrea Acquaviva, and Luca Benini

16:00 – 16:15   Pause

From   16:15   **Social Event**

Wednesday, November 4 2009

9:00 – 10:15   **Invited Talk: David Peleg**

As Good As It Gets: Competitive Fault Tolerance in Network Structures.

10:15 – 10:45   Pause

10:45 – 12:15   **Session 3A: Fault-Tolerance in Distributed Systems / Dependability #1**
Session Chair: *Josef Widder*

Looking for the Weakest Failure Detector for k-Set Agreement in Message-passing Systems: Is Π_k the End of the Road?
François Bonnet and Michel Raynal

Optimal Byzantine Resilient Convergence in Asynchronous Robot Networks.
Zohir Bouzid, Maria Gradinariu Potop-Butucaru, and Sebastien Tixeuil

Dependability Engineering of Silent Self-Stabilizing Systems.
Abhishek Dhama, Oliver Theel, Pepijn Crouzen, Holger Hermanns, Ralf Wimmer, and Bernd Becker

Session 3B: System Safety and Security #1
Session Chair: *Mohamed Gouda*

Anonymous Transactions in Computer Networks.
Shlomi Dolev and Marina Kopeetsky

A Wireless Security Framework without Shared Secrets.
Lifeng Sang and Anish Arora

Black Hole Search with Tokens in Interconnected Networks.
Wei Shi

12:15 – 14:00   Lunch

14:00 – 15:30 **Session 4A: Stabilization #2**
Session Chair: *David Peleg*

Fault-Containment in Weakly-Stabilizing Systems.
Anurag Dasgupta, Sukumar Ghosh, and Xin Xiao

An Optimal Self-Stabilizing Firing Squad.
Danny Dolev, Ezra N. Hoch, and Yoram Moses

Nash Equilibria in Stabilizing Systems.
Mohamed Gouda and Hrishikesh Acharya

Session 4B: Mobility and Dynamic Networks
Session Chair: *Eric Fleury*

Consensus when all processes may be Byzantine for some time.
Martin Biely and Martin Hutle

A Superstabilizing *log(n)*-Approximation Algorithm for Dynamic Steiner Trees.
Lelia Blin, Maria Gradinariu Potop-Butucaru, and Stephane Rovedakis

Randomized Gathering of Mobile Robots with Local-Multiplicity Detection.
Taisuke Izumi, Tomoko Izumi, Sayaka Kamei and Fukuhito Ooshita

15:30 – 16:00 Pause

16:00 – 17:00 **Brief Announcements #1A**
Session Chair: *Sayan Mitra*

Consistent Fixed Points and Negative Gain.
Hrishikesh Acharya, Ehab Elamallah, and Mohamed Gouda

Safer than Safe: On the Initial State of Self-Stabilizing Systems.
Sylvie Delaët, Shlomi Dolev, and Olivier Peres

Unique Permutation Hashing.
Shlomi Dolev, Limor Lahiani, and Yinnon Haviv

Randomization Adaptive Self-Stabilization.
Shlomi Dolev and Nir Tzachar

Brief Announcements #1B
Session Chair: *Maria Gradinariu Potop-Butucaru*

Analytical Study of Adversarial Strategies in PeerCube, a Structured based Overlay.
Emmanuelle Anceaume, Romaric Ludinard, Bruno Sericola, Frederic Tronel, and Francisco Brasileiro

On the Time Complexity of Distributed Topological Self-Stabilization.
Dominik Gall, Riko Jacob, Andrea Richa, Christian Scheideler, Stefan Schmid, and Hanjo Täubig

Virtual Security Kernel: A Component-Based OS Architecture for Self-Protection.
Ruan He, Marc Lacoste, and Jean Leneutre

Towards Secure Cloud Computing.
Christian Henrich, Matthias Huber, Carmen Kempka, Jörn Müller-Quade, and Mario Strefler

17:15 – 18:00 **Business Meeting**

Thursday, November 5 2009

9:00 − 10:15   **Invited Talk: Anne-Marie Kermarrec**

Challenges in personalizing and decentralizing the Web: an overview of GOSSPLE.

10:15 − 10:45   Pause

10:45 − 12:15   **Session 5A: Peer-to-Peer Systems #2**
Session Chair: *Anne-Marie Kermarrec*

Churn-resilient replication strategy for peer-to-peer distributed hash-tables.
Sergey Legtchenko, Sébastien Monnet, Pierre Sens, and Gilles Muller

Redundancy maintenance and garbage collection strategies in peer-to-peer storage systems.
Xin Liu and Anwitaman Datta

Network-Friendly Gossiping.
Sabina Serbu, Etienne Riviere, and Pascal Felber

Session 5B: Formal Methods in Distributed Systems
Session Chair: *Toshimitsu Masuzawa*

A Theory of Network Tracing.
Hrishikesh Acharya and Mohamed Gouda

Analysis of wireless sensor network protocols in dynamic scenarios.
Cinzia Bernardeschi, Paolo Masci, and Holger Pfeifer

Model Checking Coalition Nash Equilibria in MAD Distributed Systems.
Federico Mari, Igor Melatti, Ivano Salvo, Enrico Tronci, Lorenzo Alvisi, Allen Clement, and Harry Li

12:15 − 13:45   Lunch

13:45 − 15:45   **Session 6A: Stabilization #3**
Session Chair: *Pascal Felber*

A self-stabilizing approximation algorithm for vertex cover in anonymous networks.
Bernd Hauck and Volker Turau

Separation of Circulating Token.
Ted Herman and Kajari Ghosh Dastidar

Cached Sensornet Transformation of Non-silent Self-Stabilizing Algorithms with Unreliable Links.
Hirotsugu Kakugawa, Yukiko Yamauchi, Sayaka Kamei, and Toshimitsu Masuzawa

Exploring Polygonal Environments by Simple Robots with Faulty Combinatorial Vision.
Anvesh Komuravelli and Matus Mihalak

Session 6B: Autonomic Computational Science and Sensor Networks
Session Chair: *Sébastien Tixeuil*

Developing Autonomic and Secure Virtual Organisations with Chemical Programming.
Alvaro Arenas, Jean-Pierre Banatre, and Thierry Priol

CFlood: A Constrained Flooding Protocol for Real-Time Data Delivery in Wireless Sensor Networks.
Bo Jiang, Binoy Ravindran and Hyeonjoong Cho

From Local Impact Functions to Global Adaptation of Service Compositions.
Liliana Rosa, Luís Rodrigues, Antónia Lopes, Matti Hiltunen, and Richard Schlichting

Distributed Sleep Scheduling in Wireless Sensor Networks via Fractional Domatic Partitioning.
Andre Schumacher and Harri Haanpää

15:45 − 16:15   Pause

16:15 – 17:00   **Brief Announcements #2A**
Session Chair: *Vincent Villain*

Robust Self-Stabilizing construction of bounded size weight-based clusters.
Colette Johnen and Fouzi Mekhaldi

A Stabilizing Algorithm for Finding Two Disjoint Paths in Arbitrary Networks.
Mehmet Hakan Karaata and Rachid Hadid

Relocation Analysis of Stabilizing MAC Algorithms for Large-Scale Mobile Ad Hoc Networks.
Pierre Leone, Marina Papatriantafilou, and Elad Michael Schiller

Brief Announcements #2B
Session Chair: *Stéphane Devismes*

A Simple and Quiescent Omega Algorithm in the Crash-Recovery Model.
Cristian Martín and Mikel Larrea

How to Overcome the Limits of Bounds.
Olivier Peres.

The Design and Evaluation of a Distributed Reliable File System.
Dalibor Peric, Thomas Bocek, Fabio Victora Hecht, David Hausheer, and Burkhard Stiller

From   17:00   **Social Event**

Friday, November 6 2009

9:00 – 10:30   **Session 7A: Stabilization #4**
Session Chair: *Yoshiaki Katayama*

Stability of Distributed Algorithms in the face of Incessant Faults.
R.E. Lee DeVille and Sayan Mitra

A Self-Stabilizing Algorithm for Graph Searching in Trees.
Rodica Mihai and Morten Mjelde

Oracle-Based Flocking of Mobile Robots in Crash-Recovery Model.
Samia Souissi, Taisuke Izumi, and Koichi Wada

Session 7B: System Safety and Security #2
Session Chair: *Shlomi Dolev*

Optimistic fair exchange using trusted devices.
Mohammad Torabi Dashti

Application data consistency checking for anomaly based intrusion detection.
Eric Totel, Olivier Sarrouy, and Bernard Jouga

Self Adaptive High Interaction Honeypots Driven by Game Theory.
Gerard Wagener, Radu State, Alexandre Dulaunoy, and Thomas Engel

10:30 – 11:00   Pause

11:00 – 12:30   **Session 8A: Fault-Tolerance in Distributed Systems / Dependability #2**
Session Chair: *Martin Hutle*

Efficient Robust Storage Using Secret Tokens.
Dan Dobre, Matthias Majuntke, Marco Serafini, and Neeraj Suri

RWC: An Erasure Resilient Encoding System for Flexible Reading and Writing in Storage Networks.
Christian Schindelhauer and Mario Mense

Speculation for Parallelizing Runtime Checks.
Martin Süßkraut, Stefan Weigert, Ute Schiffel, Thomas Knauth, Martin Nowack, Diogo Becker de Brum, and Christof Fetzer

Session 8B: Embedded Systems and Grid Computing
Session Chair: *Frédéric Desprez*

A Metastability-Free Multi-Synchronous Communication Scheme for Fault-Tolerant SoCs.
Thomas Polzer, Thomas Handl, and Andreas Steininger

Cooperative Autonomic Management in Large-scale Dynamic Distributed Systems.
Jing Xu, Ming Zhao, and Jose Fortes

12:30 – 14:00   Lunch and Closing