

DISC 2006 – PROGRAM

STOCKHOLM, SWEDEN, SEPTEMBER 18-20, 2006

SUNDAY, 17 SEPTEMBER 2006

9:00-16:00 DYNAMO WORKSHOP

16:30-18:00 DYNAMO MC MEETING

MONDAY, 18 SEPTEMBER 2006

08:50 – 09:00 DISC Welcome

09:00 – 10:00 DISC Invited Lecture Invited Talk I, Chair: Shlomi Dolev

Provable Unbreakable Hyper-Encryption Using Distributed Systems
Michael Rabin

10:00 – 10:15 Coffee Break

10:15 – 11:15 DISC Invited Lecture Invited Talk II, Chair: Michel Raynal

Time, Clocks, and the Ordering of My Ideas about Distributed Systems
Leslie Lamport

11:15 – 11:30 Break

11:30 – 12:30 DISC Invited Lecture Invited Talk III, Chair: Alex Shvartsman

My Early Days in Distributed Computing Theory: 1979-1982
Nancy Lynch

12:30 – 14:00 Lunch (Provided by DISC)

14:00 – 15:40 Session I, Chair: Maurice Herlihy

14:00-14:25 *Exploring Gafni's reduction land: from Ω^k to wait-free adaptive $(2p - \lfloor \frac{p}{k} \rfloor)$ -renaming via k -set agreement*
Achour Mostefaoui, Michel Raynal, Corentin Travers

14:25-14:50 *Renaming in Message Passing Systems with Byzantine Failures*
Michael Okun, Amnon Barak

14:50-15:15 *Built-in Coloring for Highly-Concurrent Doubly-Linked Lists*
Hagit Attiya, Eshcar Hillel

15:15-15:40 *Fault-tolerant and Self-stabilizing Mobile Robots Gathering*
Xavier Défago, Maria Gradinariu, Stéphane Messika, Philippe Raipin-Parvédy

15:40 – 15:55 Coffee Break

15:55 – 17:35 Session II, Chair: Marina Papatriantafilou

- 15:55-16:20 *Fast Computation by Population Protocols With a Leader*
Dana Angluin, James Aspnes, David Eisenstat
- 16:20-16:45 *On Self-Stabilizing Search Trees*
Doina Bein, Ajoy K. Datta, Lawrence L. Larmore
- 16:45-17:10 *Efficient Dynamic Aggregation*
Yitzhak Birk, Idit Keidar, Liran Liss, Assaf Schuster
- 17:10-17:35 *Groupings and Pairings in Anonymous Networks*
J er mie Chalopin, Shantanu Das, Nicola Santoro

17:35 – 17:50 Break

17:50- 18:26 Brief Announcements I, Chair: S bastien Tixeuil

- 17:50-17:56 *Brief Announcement: Abortable Shared Objects*
Marcos K. Aguilera, Svend Frolund, Vassos Hadzilacos,
Stephanie Lorraine Horn, Sam Toueg
- 17:56-18:02 *Brief Announcement: Fault-Tolerant SemiFast Implementations of Atomic Read/Write Registers*
Chryssis Georgiou, Nicolas C. Nicolaou, Alexander A. Shvartsman
- 18:02-18:08 *Brief Announcement: Convergence Analysis of Scalable Gossip Protocols*
Stacy Patterson, Bassam Bamieh, Amr El Abbadi
- 18:08-18:14 *Brief Announcement: Computing Automatically the Stabilization Time Against the Best and the Worst Schedules*
Joffroy Beauquier, Colette Johnen, St phane Messika
- 18:14-18:20 *Brief Announcement: Multislicing: Many Slices are Better than One*
Vinit A. Ogale, Vijay K. Garg
- 18:20-18:26 *Brief Announcement: on Augmented Graph Navigability*
Pierre Fraigniaud, Emmanuelle Lebhar, Zvi Lotker

18:30 – 20:00 DISC Plenary Assembly/Rump Session

TUESDAY 19 SEPTEMBER 2006

08:30 – 10:10 Session III, Chair: Nancy Lynch

- 08:30-08:55 *A New Proof of the GHS Minimum-spanning Tree Algorithm*
Yoram Moses, Benny Shimony
- 08:55-09:20 *A Knowledge-Based Analysis of Global Function Computation*
Joseph Y. Halpren, Sabina Petride
- 09:20-09:45 *Checking a Multithreaded Algorithm with +CAL*
Leslie Lamport
- 09:45-10:10 *Capturing Register and Control Dependence in Memory Consistency Models
with Applications to the Itanium Architecture*
Lisa Higham, LillAnne Jackson, Jalal Kawash

10:10 – 10:25 Coffee Break

10:25 – 12:05 Session IV, Chair: Gadi Taubenfeld

- 10:25-10:50 *Conflict Detection and Validation Strategies for Software Transactional Memory*
Michael F. Spear, Virendra J. Marathe, William N. Scherer III,
Michael L. Scott
- 10:50-11:15 *Transactional Locking II*
Dave Dice, Ori Shalev, Nir Shavit
- 11:15-11:40 *Less is More: Consensus Gaps Between Restricted and Unrestricted Objects*
Yehuda Afek, Eran Shalom
- 11:40-12:05 *One-Step Consensus Solvability*
Taisuke Izumi, Toshimitsu Masuzawa

12:05 – 13:30 Lunch (Provided by DISC)

13:30 – 15:10 Session V, Chair: André Schiper

- 13:30-13:55 *Time-Bounded Task-PIOAs: A Framework for Analyzing Security Protocols (Invited Paper)*
Ran Canetti, Ling Cheung, Dilsun Kaynar, Moses Liskov,
Nancy Lynch, Olivier Pereira, and Roberto Segala
- 13:55-14:20 *On Consistency of Encrypted Files*
Alina Oprea, Michael K. Reiter
- 14:20-14:45 *Agreeing to Agree: Conflict Resolution for Optimistically Replicated Data*
Michael B. Greenwald, Sanjeev Khanna, Keshav Kunal, Benjamin C. Pierce, Alan Schmitt
- 14:45-15:10 *A Lazy Snapshot Algorithm with Eager Validation*
Torvald Riegel, Pascal Felber, Christof Fetzer

15:10 – 15:25 Break

15:25 – 16:07 Brief Announcements Session II, Chair: Dariusz Kowalski

- 15:25-15:31 *Brief Announcement: Decoupled Quorum-based Byzantine-Resilient Coordination in Open Distributed Systems*
Alysson Neves Bessani, Miguel Correia, Joni da Silva Fraga, Lau Cheuk Lung
- 15:31-15:37 *Brief Announcement: Optimistic Algorithms for Partial Database Replication*
Nicolas Schiper, Rodrigo Schmidt, Fernando Pedone
- 15:37-15:43 *Brief Announcement: Performance Analysis of Cyclon, an Inexpensive Membership Management for Unstructured P2P Overlays*
François Bonnet, Frédéric Tronel, Spyros Voulgaris
- 15:43-15:49 *Brief Announcement: Decentralized, Connectivity-Preserving, and Cost-Effective Structured Overlay Maintenance*
Yu Chen, Wei Chen
- 15:49-15:55 *Brief Announcement: Monitoring of Distributed Linear Computations*
Anton Esin, Rostislav Yavorskiy, Nikolay Zemtsov
- 15:55-16:01 *Brief Announcement: Communication-optimal Implementation of Failure Detector Class $\diamond P$*
Mikel Larrea, Alberto Lafuente, and Joachim Wieland
- 16:01-16:07 *Brief Announcement: Synchronous Distributed Algorithms for Node Discovery and Configuration in Multi-channel Cognitive Radio Networks*
Srinivasan Krishnamurthy, R. Chandrasekaran, Neeraj Mittal and S. Venkatesan

16:15 20th Anniversary Celebration Panel

Eli Gafni, Michel Raynal, Nicola Santoro, Jan van Leeuwen, Shmuel Zaks

18:00 DISC Boat Tour with Conference Dinner

WEDNESDAY SEPTEMBER 20TH 2006

08:30 – 10:10 Session VI, Chair: Michel Raynal

- 08:30-08:55 *Bounded Wait-Free f -resilient Atomic Byzantine Data Storage Systems for an Unbounded Number of Clients*
Rida A. Bazzi, Yin Ding
- 08:55-09:20 *Time and Communication Efficient Consensus for Crash Failures*
Bogdan S. Chlebus, Dariusz R. Kowalski
- 09:20-09:45 *Minimizing the Number of ADMs in a General Topology Optical Network*
Michele Flammini, Mordechai Shalom, Shmuel Zaks
- 09:45-10:10 *Exact Distance Labelings Yield Additive-Stretch Compact Routing Schemes*
Arthur Brady, Lenore Cowen

10:10 – 10:25 Coffee Break

10:25 – 12:05 Session VII, Chair: Lenka Carr-Motyckova

- 10:25-10:50 *A Fast Distributed Approximation Algorithm for Minimum Spanning Trees*
Maleq Khan, Gopal Pandurangan
- 10:50-11:15 *On Randomized Broadcasting in Power Law Networks*
Robert Elsässer
- 11:15-11:40 *Distributed Approximation Algorithms in Unit-disk Graphs*
A. Czygrinow, M. Hańćkowiak
- 11:40-12:05 *The Weakest Failure Detectors to Boost Obstruction-Freedom*
Rachid Guerraoui, Michal Kapalka, Petr Kouznetsov

12:05 – 13:30 Lunch (Provided by DISC)

13:30 – 15:10 Session IIX, Chair: Alex Shvartsman

- 13:30-13:55 *Fully Adaptive Algorithms for Long-Lived Renaming*
Alex Brodsky, Faith Ellen, Philipp Woelfel
- 13:55-14:20 *Bounded-Wait Combining: Constructing Robust and High-Throughput Shared Objects*
Danny Hendler, Shay Kutten
- 14:20-14:45 *Byzantine and Multi-writer K -quorums*
Amitanand S. Aiyer, Lorenzo Alvisi, Rida A. Bazzi
- 14:45-15:10 *Subconsensus Tasks: Renaming is Weaker than Set Agreement*
Eli Gafni, Sergio Rajsbaum, Maurice Herlihy

15:10 – 15:25 Coffee Break

15:25 – 17:05 Session IX, Chair: Shlomi Dolev

- 15:25-15:50 *Robust Network Supercomputing with Malicious Processes*
Kishori M. Konwar, Sanguthevar Rajasekaran, Alexander A. Shvartsman
- 15:50-16:15 *Distributed Resource Allocation in Stream Processing*
Cathy H. Xia, James A. Broberg, Zhen Liu, Li Zhang
- 16:15-16:40 *Low-latency Atomic Broadcast in the Presence of Contention*
Piotr Zieliński
- 16:40-17:05 *Oblivious Gradient Clock Synchronization*
Thomas Locher, Roger Wattenhofer

End of DISC 2006