

DISC 2015

The 29th International Symposium on Distributed Computing

DISC is held in cooperation with:



Program

Tuesday, October 6th, 2015

18:00 – 21:00 Conference reception At the DEISETSU room on the 5th floor of the Arcadia Ichigaya hotel.

Wednesday, October 7th, 2015

Held on the 26th floor of Boissonade Tower in HOSEI University (Ichigaya Campus).

08:00 - 08:30	Coffee
Session I:	
08:30 - 08:45	Welcome remarks
08:45 – 09:45	Keynote talk by Thomas Moscibroda
	System Algorithms in the Cloud and Big Data
09:45 - 10:05	Benjamin Fish, Jeremy Kun, Ádám D. Lelkes, Lev Reyzin and György Turán
	On the Computational Complexity of MapReduce
10:05 - 10:30	Coffee Break
Session II:	
10:30 - 10:50	Christoph Lenzen and Joel Rybicki
	Efficient Counting with Optimal Resilience
10:50 - 11:10	Seth Gilbert and Calvin Newport
	The Computational Power of Beeps
11:10 - 11:30	Rachid Guerraoui and Alexandre Maurer
	Byzantine Fireflies
11:30 - 11:50	Oksana Denysyuk and Philipp Woelfel.
	Wait-Freedom is Harder Than Lock-Freedom Under Strong Linearizability
11:50 - 12:10	Hagit Attiya, Hyun Chul Chung, Faith Ellen, Saptaparni Kumar and Jennifer L. Welch
	Simulating a Shared Register in an Asynchronous System that Never Stops Changing
12:10 - 13:30	Lunch break
Session III:	
13:30 - 13:50	Yukiko Yamauchi, Taichi Uehara, Shuji Kijima and Masafumi Yamashita.
	Plane Formation by Synchronous Mobile Robots in the Three Dimensional Euclidean
	Space
13:50 - 14:10	Jěrémie Chalopin, Emmanuel Godard and Antoine Naudin
	Anonymous Graph Exploration with Binoculars
14:10 – 14:30	Jěrémie Chalopin, Shantanu Das, Pawel Gawrychowski, Adrian Kosowski, Arnaud
	Labourel and Przemysław Uznański
	Limit Behavior of the Multi-agent Rotor-Router System
14:30 - 14:50	Hillel Avni, Eliezer Levy and Avi Mendelson
	Hardware Transactions in Nonvolatile Memory
14:50 - 15:10	Maya Arbel, Guy Golan-Gueta, Eshcar Hillel and Idit Keidar
	Towards Automatic Lock Removal for Scalable Synchronization
15:10 – 15:30	Leander Jehl, Roman Vitenberg and Hein Meling
	SmartMerge: A New Approach to Reconfiguration for Atomic Storage
15:30 - 16:00	Coffee break:

16:00 - 16:36	Brief Announcements session:
16:00 - 16:06	Dominik Kaaser, Frederik Mallmann-Trenn and Emanuele Natale
	Brief Announcement: On the Voting Time of the Deterministic Majority Process
16:06 - 16:12	Sebastian Daum, Fabian Kuhn and Yannic Maus
	Brief Announcement: Rumor Spreading with Bounded In-Degree
16:12 – 16:18	Artur Menc, Dominik Pająk and Przemysław Uznański
	Brief Announcement: On the Power of One Bit in Graph Exploration Without
	Backtracking
16:18 – 16:24	Li Ning, Dongxiao Yu, Yong Zhang, Yuexuan Wang, Francis C.M. Lau and Shengzhong
	Feng
	Brief Announcement: Uniform Information Exchange in Multi-channel Wireless Ad Hoc
16:24 - 16:30	Networks
	Shlomi Dolev, Chryssis Georgiou, Ioannis Marcoullis and Elad M. Schiller
16:30 - 16:36	Brief Announcement: Self-Stabilizing Virtual Synchrony
	Anna Dornhaus, Nancy Lynch, Tsvetomira Radeva and Hsin-Hao Su
	Brief Announcement: Distributed Task Allocation in Ant Colonies
Session IV:	
16:36 – 16:56	Dan Alistarh, Justin Kopinsky, Petr Kuznetsov, Srivatsan Ravi and Nir Shavit. Inherent Limitations of Hybrid Transactional Memory
16:56 – 17:16	Joel Gibson and Vincent Gramoli
	Why Non-Blocking Operations Should be Selfish
17:16 – 17:36	Wenjia Ruan and Michael Spear
	Hybrid Transactional Memory Revisited
17:36 – 17:56	Petr Kuznetsov and Srivatsan Ravi
	Grasping the Gap between Blocking and Non-Blocking Transactional Memories
18:00 - 18:45	Business Meeting

Thursday, October 8th, 2015

Held on the 26th floor of Boissonade Tower in HOSEI University (Ichigaya Campus).

08:00 – 08:30 Session V:	Coffee
08:30 - 08:50	Colin Cooper, Tomasz Radzik, Robert Elsässer, Takeharu Shiraga and Nicolás Rivera.
	Fast Consensus for Voting on General Expander Graphs
08:50 - 09:10	Jochen Seidel, Jara Uitto and Roger Wattenhofer
	Randomness vs. Time in Anonymous Networks
09:10 - 09:30	John Augustine, Gopal Pandurangan and Peter Robinson
	Fast Byzantine Leader Election in Dynamic Networks
09:30 - 09:50	Yuezhou Lv and Thomas Moscibroda
	Local Information in Influence Networks
	Best Student Paper Award
09:50 - 10:00	Spotlight session – Flash introduction of posters
10:00 - 11:00	Combined Poster session and extended coffee break
Session VI:	
11:00 - 11:20	Keren Censor-Hillel, Erez Kantor, Nancy Lynch and Merav Parter
	Computing in Additive Networks with Bounded-Information Codes

11:20 - 11:40	Sebastian Daum and Fabian Kuhn
	Tight Bounds for MIS in Multichannel Radio Networks
11:40 - 12:00	Erez Kantor, Zvi Lotker, Merav Parter and David Peleg
	Nonuniform SINR+Voroni Diagrams are Effectively Uniform
12:00 - 13:15	Lunch break
Session VII:	
13:15 – 13:35	Kfir Lev-Ari, Gregory Chockler and Idit Keidar
	A Constructive Approach for Proving Data Structures' Linearizability
13:35 – 13:55	Nir Hemed, Noam Rinetzky and Viktor Vafeiadis
	Modular Verification of Concurrency-Aware Linearizability
13:55 – 14:15	Andrea Cerone, Alexey Gotsman and Hongseok Yang
	Transaction Chopping for Parallel Snapshot Isolation
14:15 – 14:35	Yehuda Afek, Alexander Matveev, Oscar R. Moll and Nir Shavit
	Amalgamated Lock-Elision
14:35 – 14:55	Ahmed Hassan, Roberto Palmieri and Binoy Ravindran
	Transactional Interference-Less Balanced Tree
14:55 – 15:15	Aras Atalar, Paul Renaud-Goud and Philippas Tsigas
	Analyzing the Performance of Lock-Free Data Structures: A Conflict-Based Model
15:30 – 19:30	Excursion

19:40 – 21:40 Conference Banquet

Friday, October 9th, 2015

Held on the 26th floor of Boissonade Tower in HOSEI University (Ichigaya Campus).

08:00 - 08:30	Coffee
Session VIII:	
08:30 - 09:30	Keynote talk by Michael Ben-Or (Hebrew University)
	Quantum Distributed Computing
09:30 – 09:50	Rati Gelashvili
	On the Optimal Space Complexity of Consensus for Anonymous Processes
	Best paper award
09:50 - 10:15	Coffee break
10:15 – 11:03	Brief Announcements session:
10:15 - 10:21	Vincent Gramoli, Petr Kuznetsov, Srivatsan Ravi and Di Shang
	Brief Announcement: A Concurrency-Optimal List-Based Set
10:21 - 10:27	Alex Kogan and Yossi Lev
	Brief Announcement: HTM-Assisted Combining
10:27 - 10:33	Pedro Ramalhete and Andreia Correia
	Brief Announcement: Left-Right – A Concurrency Control Technique with Wait-
	Free Population Oblivious Reads
10:33 – 10:39	Legi Zhu
	Brief Announcement: Tight Space Bounds for Memoryless Anonymous
	Consensus
10:39 – 10:45	Claire Capdevielle, Colette Johnen, Petr Kuznetsov and Alessia Milani
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	Brief Announcement: On the Uncontended Complexity of Anonymous Consensus

16:45	Closing remarks
	Elastic Configuration Maintenance via a Parsimonious Speculating Snapshot Solution
16:25 – 16:45	Eli Gafni and Dahlia Malkhi.
	Space-Optimal Counting in Population Protocols
16:05 – 16:25	Joffroy Beauquier, Janna Burman, Simon Clavière and Devan Sohier
	Stable Leader Election in Population Protocols Requires Linear Time
15:45 – 16:05	David Doty and David Soloveichik
Session XI:	
15:20 - 15:45	Coffee break
	From Geometric Semantics to Asynchronous Computability
15:00 - 15:20	Éric Goubault, Samuel Mimram and Christine Tasson
	Specifying Concurrent Problems: Beyond Linearizability and up to Tasks
14:40 - 15:00	Armando Castañeda, Sergio Rajsbaum and Michel Raynal
	Distributed Large Independent Sets in One Round On Bounded-Independence Graphs
14:20 - 14:40	Magnus M. Halldorsson and Christian Konrad
-	Locally Optimal Load Balancing
14:00 - 14:20	Laurent Feuilloley, Juho Hirvonen and Jukka Suomela
	Fault Tolerant Reachability for Directed Graphs
13:40 - 14:00	Keerti Choudhary, Surender Baswana and Liam Roditty
	Smoothed Analysis of Dynamic Networks
13:20 - 13:40	Michael Dinitz, Jeremy Fineman, Seth Gilbert and Calvin Newport
Session X:	
12:05 – 13:20	Lunch break
11.75 12.05	Fair Distributed Computation of Reactive Functions
11:45 – 12:05	Juan A. Garay, Björn Tackmann and Vassilis Zikas
	Privacy-Conscious Information Diffusion in Social Networks
11.25 - 11.45	Nupur Mittal
11:25 – 11:45	Compressing Communication in Distributed Protocols George Giakkoupis, Rachid Guerraoui, Arnaud Jégou, Anne-Marie Kermarrec and
11:05 – 11:25	Yael Tauman Kalai and Ilan Komargodski
Session IX:	Vael Tauman Kalai and Ilan Kamarradaki
Casalan IV	Inherent Cost of Read/Write Primitives
	Brief Announcement: Space Bounds for Reliable Multi-Writer Data Store:
10.57 - 11.05	Gregory Chockler, Dan Dobre, Alexander Shraer and Alexander Spiegelman
10:57 – 11:03	
	Brief Announcement: Faster Data Structures in Transactional Memory Using Three Paths
10.51 - 10.57	
10:51 – 10:57	Trevor Brown
	n-k+1 Atomic Read/Write Registers
10.15 10.51	Brief Announcement: Anonymous Obstruction-free (n,k)-Set Agreement with
10:45 - 10:51	Zohir Bouzid, Michel Raynal and Pierre Sutra