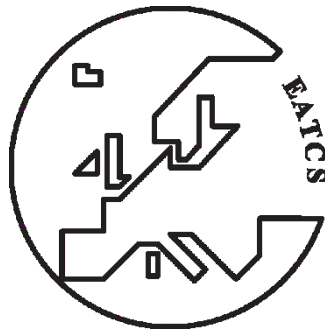




DISC 2016

The 30th International Symposium on Distributed Computing

DISC is held in cooperation with:



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Program at a Glance

Monday, September 26

- 9:00 – 18:00 Workshops **ADGA** and **MAC**
At 1st floor of Tower 26 (rooms 25-26/105 for ADGA, 26-00/101 for MAC)
- 18:30 DISC Welcome Reception (*UPMC, Zamanski Tower, 24th floor*)

Tuesday, September 27

Held in Esclangon building, Amphi Durand in University Pierre & Marie Curie (Jussieu Campus).

- 8:50 – 9:00 **Opening of DISC**
- 9:00 – 10:00 Invited lecture: J. Esperza
- 10:00 – 10:30 **Coffee break**
- 10:30 – 12:10 Session 1
- 12:15 – 14:00 **Lunch break** (*Restaurant at Jussieu level, Tower 26*)
- 14:00 – 15:40 Session 2
- 15:40 – 16:10 **Coffee break**
- 16:10 – 17:50 Session 3
- 18:00 – 19:00 **Business meeting**

Wednesday, September 28

Held in Esclangon building, Amphi Durand in University Pierre & Marie Curie (Jussieu Campus).

- 9:00 – 10:00 Invited lecture: S. Abiteboul
- 10:00 – 10:30 **Coffee break**
- 10:30 – 12:10 Session 4
- 12:15 – 14:00 **Lunch break** (*Restaurant at Jussieu level, Tower 26*)
- 14:00 – 15:40 Session 5
- 15:40 – 16:10 **Coffee break**
- 16:10 – 17:50 Session 6: Best Student Paper session
- 19:00 – 23:00 **Social event (banquet on boat)**

Thursday, September 29

Held in Esclangon building, Amphi Durand in University Pierre & Marie Curie (Jussieu Campus).

- 9:00 – 10:00 Invited lecture: G. Cormode
- 10:00 – 10:30 **Coffee break**
- 10:30 – 12:10 Session 7
- 12:15 – 14:00 **Lunch break** (*Restaurant at Jussieu level, Tower 26*)
- 14:00 – 15:40 Session 8
- 15:40 – 16:10 **Coffee break**
- 16:10 – 18:00 Session 9
- 18:00 – 18:15 **Closing of DISC**

Friday, September 30

- 8:30 – 16:00 Workshop **DGDC**
At 1st floor of Tower 26 (room 25-26/105)

Detailed Program

Monday, September 26

5th Workshop on Advances in Distributed Graph Algorithms (ADGA)

Arrive early! You will need time to have your bags scanned by the security and register.

9:30 – 12:00	Session 1
	<i>Recent Algorithms and Lower Bounds for Global Distributed Graph Problems</i>
9:30 – 11:00	Stephan Holzer
	<i>Parallel Graph Algorithms</i>
11:00 – 12:00	Richard Peng
12:00 – 13:30	Lunch break
13:30 – 14:30	Session 2
	<i>Communication Complexity for Distributed Graphs</i>
13:30 – 14:30	Qin Zhang
	<i>A journey through compact routing</i>
14:30 – 15:30	Ittai Abraham
15:30 – 16:00	Coffee break
16:00 – 18:00	Session 3
	<i>Robust and Efficient Computation in Dynamic Networks with Heavy Churn</i>
16:00 – 17:00	John Augustine
	<i>Distributed Symmetry-Breaking in Static and Dynamic Networks</i>
17:00 – 18:00	Leonid Barenboim
18:00	Workshop ends

6th Workshop on Moving and Computing (MAC)

9:00 – 10:30	Session 1
	<i>Symmetry of mobile robots in 3D space</i>
9:00 – 9:30	Yukiko Yamauchi
	<i>Fast Complete Visibility for Point Robots with Lights</i>
9:30 – 10:00	Costas Busch
	<i>In-Vivo Energy Harvesting Nano Robots</i>
10:00 – 10:30	Shlomi Dolev
10:30 – 11:00	Coffee break

11:00 – 12:30	Session 2
	<i>Programmable matter: An application of distributed moving robots</i>
11:00 – 11:30	Julien Bourgeois
	<i>Partial gathering and uniform deployment of mobile agents in ring networks</i>
11:30 – 12:00	Masahiro Shibata
	<i>Toward Time-Optimal Gathering for Mobile Robots with Limited Visibility</i>
12:00 – 12:30	Taisuke Izumi
12:30 – 14:00	Lunch break
14:00 – 15:30	Session 3
	<i>Live Exploration of Dynamic Rings by mobile agents</i>
14:00 – 14:30	Giuseppe Di Luna
	<i>Gathering of Robots in a Ring with Mobile Faults: From theory to practice</i>
14:30 – 15:00	Flaminia Luccio
	<i>From Additive Combinatorics to Distributed Load Balancing and Network Patrolling</i>
15:00 – 15:30	Przemek Uznanski
15:30 – 16:00	Coffee break
16:00 – 17:30	Session 4
	<i>Parallel Linear Search without Coordination</i>
16:00 – 16:30	Amos Korman
	<i>Spy-Game on graphs</i>
16:30 – 17:00	Nicolas Nisse
	<i>On mobile agents verifiable problems</i>
17:00 – 17:30	David Ilcinkas
17:30 – 18:30	Session 5: Short Talks and Open Problems
	<i>A general framework for automatic synthesis of distributed algorithms for network of robots</i>
17:30 – 17:50	Nathalie Sznajder
	<i>Localization with Limited Visibility</i>
17:50 – 18:10	Akihiro Monde
	<i>Searching a Dark Cave Online by Optimal Number of Searchers</i>
18:10 – 18:30	Takahiro Yakami
	<i>Forming patterns with multiplicity points without multiplicity detection</i>
18:10 – 18:30	Quentin Bramas
18:10 – 18:30	TBA Stefan Dobrev
18:30	DISC Welcome Reception <i>At 24th floor of Zamanski Tower, UPMC</i>

Tuesday, September 27

8:50 – 9:00 **Opening of DISC**

9:00 – 10:00 Keynote talk by Javier Esperza
Verification of Population Protocols

10:00 – 10:30 **Coffee break**

Session 1: 10:30 – 12:10 (Shared Memory)

Session Chair: Panagiota Fatourou

10:30 – 10:55 *k-Abortable Objects: Progress under High Contention*
Naama Ben-David, David Yu Cheng Chan, Vassos Hadzilacos and Sam Toueg

10:55 – 11:20 *Linearizability of Persistent Memory Objects under a Full-System-Crash Failure Model*
Joseph Izraelevitz, Hammurabi Mendes and Michael L. Scott

11:20 – 11:45 *On Composition and Implementation of Sequential Consistency*
Matthieu Perrin, Matoula Petrolia, Achour Mostéfaoui and Claude Jard

11:45 – 12:10 *Upper Bounds for Boundless Tagging with Bounded Objects*
Zahra Aghazadeh and Philipp Woelfel

12:15 – 14:00 **Lunch break**

Session 2: 14:00 – 15:40 (Distributed Graph Algorithm)

Session Chair: Christoph Lenzen

14:00 – 14:25 *Fast Distributed Algorithms for Testing Graph Properties*
Keren Censor-Hillel, Eldar Fischer, Gregory Schwartzman and Yadu Vasudev

14:25 – 14:50 *Distributed Testing of Excluded Subgraphs*
Pierre Fraigniaud, Ivan Rapaport, Ville Salo and Ioan Todinca

14:50 – 15:15 *Deterministic Leader Election in $O(D + \log n)$ Time with Messages of Size $O(1)$*
Arnaud Casteigts, Yves Métivier, John Michael Robson and Akka Zemhari

15:15 – 15:40 *Further Algebraic Algorithms in the Congested Clique Model and Applications to Graph-Theoretic Problems*
François Le Gall

15:40 – 16:10 **Coffee break**

Session 3: 16:10 – 17:49 (Information Spreading)

Session Chair: Swan Dubois

16:10 – 16:35 *Fast Two-Robot Disk Evacuation with Wireless Communication*
Ioannis Lamprou, Russell Martin and Sven Schewe

16:35 – 17:00 *Buffer Size for Routing Limited-Rate Adversarial Traffic*
Avery Miller and Boaz Patt-Shamir

17:00 – 17:25 *Information Spreading in Dynamic Networks under Oblivious Adversaries*
John Augustine, Chen Avin, Mehraneh Liaee, Gopal Pandurangan and Rajmohan Rajaraman

17:25 – 17:33 *Brief Announcement: Mending the Big-Data Missing Information*
Hadassa Daltroppe, Shlomi Dolev and Zvi Lotker

- 17:33 – 17:41 *Brief Announcement: Public vs. Private Randomness in Simultaneous Multi-Party Communication Complexity*
Orr Fischer, Rotem Oshman and Uri Zwick
- 17:41 – 17:49 *Brief Announcement: Beeping a Maximal Independent Set Fast*
Stephan Holzer and Nancy Lynch
- 18:00 – 19:00 **Business meeting**

Wednesday, September 28

- 9:00 – 10:00 Keynote talk by Serge Abiteboul
Personal Information Management Systems and Knowledge Integration

- 10:00 – 10:30 **Coffee break**

Session 4: 10:30 – 12:10 (Asynchrony)

Session Chair: Panagiota Fatourou

- 10:30 – 10:55 *Anonymity-Preserving Failure Detectors*
Zohir Bouzid and Corentin Travers
- 10:55 – 11:20 *Asynchronous Computability Theorems for t -Resilient Systems*
Vikram Saraph, Maurice Herlihy and Eli Gafni
- 11:20 – 11:45 *Priority Mutual Exclusion: Specification and Algorithm*
Chien-Chung Huang and Prasad Jayanti
- 11:45 – 12:10 *Opacity vs TMS2: Expectations and Reality*
Sandeep Hans, Ahmed Hassan, Roberto Palmieri, Sebastiano Peluso and Binoy Ravindran
- 12:15 – 14:00 **Lunch break**

Session 5: 14:00 – 15:39 (Local Model)

Session Chair: Cyril Gavoille

- 14:00 – 14:25 *Polynomial Lower Bound for Distributed Graph Coloring in a Weak LOCAL Model*
(Best Paper Award)
Dan Hefetz, Fabian Kuhn, Yannic Maus and Angelika Steger
- 14:25 – 14:50 *Near-Optimal Low-Congestion Shortcuts on Bounded Parameter Graphs*
Bernhard Haeupler, Taisuke Izumi and Goran Zuzic
- 14:50 – 15:15 *Distributed Construction of Purely Additive Spanners*
Keren Censor-Hillel, Telikepalli Kavitha, Ami Paz and Amir Yehudayoff
- 15:15 – 15:23 *Brief Announcement: A Log^* -Time Local MDS Approximation Scheme for Bounded Genus Graphs*
Saeed Akhoondian Amiri and Stefan Schmid
- 15:23 – 15:31 *Brief Announcement: Local Distributed Verification*
Alkida Balliu, Gianlorenzo D'Angelo, Pierre Fraigniaud and Dennis Olivetti
- 15:31 – 15:39 *Brief Announcement: Deterministic MST Sparsification in the Congested Clique*
Janne H. Korhonen
- 15:40 – 16:10 **Coffee break**

Session 6: 16:10 – 17:50 (Best Student Paper Election)

Session Chair: Cyril Gavoille

- 16:10 – 16:35 *Non-Bayesian Learning in the Presence of Byzantine Agents*
Lili Su and Nitin H. Vaidya
- 16:35 – 17:00 *Near-Linear Lower Bounds for Distributed Distance Computations, Even in Sparse Networks*
Amir Abboud, Keren Censor-Hillel and Seri Khoury
- 17:00 – 17:25 *Lower Bound on the Step Complexity of Anonymous Binary Consensus*
Hagit Attiya, Ohad Ben-Baruch and Danny Hendler
- 17:25 – 17:50 **Best student paper election**

Social Event

- 19:00 – 23:00 **Conference Banquet on boat**

Thursday, September 29

- 9:00 – 10:00 Keynote talk by Graham Cormode
Matching and Covering in Streaming Graphs
- 10:00 – 10:30 **Coffee break**

Session 7: 10:30 – 12:10 (Distributed Data-Structures and Algorithms)

Session Chair: Philipp Woelfel

- 10:30 – 10:55 *Optimal Consistent Network Updates in Polynomial Time*
Pavol Cerny, Nate Foster, Nilesch Jagnik and Jedidiah McClurg
- 10:55 – 11:20 *Depth of a Random Binary Search Tree with Concurrent Insertions*
James Aspnes and Eric Ruppert
- 11:20 – 11:45 *Sublinear-Space Distance Labeling using Hubs*
Pawel Gawrychowski, Adrian Kosowski and Przemyslaw Uznanski
- 11:45 – 12:10 *Online Balanced Repartitioning*
Chen Avin, Andreas Loukas, Maciej Pacut and Stefan Schmid
- 12:15 – 14:00 **Lunch break**

Session 8: 14:00 – 15:40 (Distributed Models and Computation)

Session Chair: Emmanuel Godard

- 14:00 – 14:25 *Are Byzantine Failures Really Different from Crash Failures?*
Damien Imbs, Michel Raynal and Julien Stainer
- 14:25 – 14:50 *Optimal Fair Computation*
Rachid Guerraoui and Jingjing Wang
- 14:50 – 15:15 *Towards a Universal Approach for Monotonic Searchability in Self-Stabilizing Overlay Networks*
Christian Scheideler, Alexander Setzer and Thim Strothmann
- 15:15 – 15:40 *Non-Local Probes Do Not Help with Many Graph Problems*
Mika Göös, Juho Hirvonen, Reut Levi, Moti Medina and Jukka Suomela
- 15:40 – 16:10 **Coffee break**

Session 9: 16:10 – 17:57 (Robots and Shared Memory)

Session Chair: David Ilcinkas

- 16:10 – 16:35 *How to Discreetly Spread a Rumor in a Crowd*
Mohsen Ghaffari and Calvin Newport
- 16:35 – 17:00 *Certified Universal Gathering in R^2 for Oblivious Mobile Robots*
Pierre Courtieu, Lionel Rieg, Sébastien Tixeuil and Xavier Urbain
- 17:00 – 17:25 *Asynchronous Embedded Pattern Formation without Orientation*
Serafino Cicerone, Gabriele Di Stefano and Alfredo Navarra
- 17:25 – 17:33 *Brief Announcement: Symmetricity in 3D-space – Characterizing Formable Patterns by Synchronous Mobile Robots*
Yukiko Yamauchi, Taichi Uehara and Masafumi Yamashita
- 17:33 – 17:41 *Brief Announcement: Set-Consensus Collections are Decidable*
Carole Delporte-Gallet, Hugues Fauconnier, Eli Gafni and Petr Kuznetsov
- 17:41 – 17:49 *Brief Announcement: On the Space Complexity of Conflict Detector Objects*
Claire Capdevielle, Colette Johnen and Alessia Milani
- 17:49 – 17:57 *Brief Announcement: A Step Optimal Implementation of Large Single-Writer Registers*
Tian Ze Chen and Yuanhao Wei
- 18:00 – 18:15 **Closing of DISC**

Friday, September 30

1st Workshop on Dynamic Graphs in Distributed Computing (DGDC)

- 8:30 – 10:00 **Session 1**
- 8:30 – 9:15 *A Set Theoretic Approach to Dynamic Graphs*
Arnaud Casteigts
- 9:15 – 10:00 *Expressivity of TVGs: Why Dynamic Graphs should be modelled with TAs*
Emmanuel Godard
- 10:00 – 10:15 **Coffee break**
- 10:15 – 12:30 **Session 2**
- 10:15 – 11:00 *An Overview of Recent Progress in Temporal Graphs: An Algorithmic Perspective*
Othon Michail
- 11:00 – 11:45 *On temporally connected graphs and the issue of label redundancy*
Eleni Akrida
- 11:45 – 12:30 *How to Explore a Fast Changing World*
Zvi Lotker
- 12:30 – 13:45 **Lunch break**

13:45 – 16:00

Session 3

Broadcasting in Dynamic Radio Networks

13:45 – 14:30

Mohamad Ahmadi

Cost of Anonymity in Dynamic Networks

14:30 – 15:15

Guiseppe Di Luna

Reaching Agreement in a Dynamic Distributed System

15:15 – 16:00

Peter Robinson

16:00

Workshop ends

The **DISC conference** will be held at Université Pierre & Marie Curie at Amphi Durand in the building Esclangon, Campus de Jussieu, 4 place Jussieu, 75005 Paris.

The workshops will be held at Université Pierre & Marie Curie at 1st floor of Tower 26, Campus de Jussieu, 4 place Jussieu, 75005 Paris:

- **Workshop ADGA** (26th September) is located in room 25-26/105 (that is, first floor from Tower 26, corridor 26-25, room 105),
- **Workshop MAC** (26th September) is located in room 26-00/101 (that is, first floor from Tower 26, corridor 26-00, room 101),
- **Workshop DGDC** (30th September) is located in room 25-26/105 (that is, first floor from Tower 26, corridor 26-25, room 105).

The **DISC Welcome Reception** will be held at Université Pierre & Marie Curie at 24th floor of the Zamansky Tower, Campus de Jussieu, 4 place Jussieu, 75005 Paris.

