

PODC 2016 Venue notes:

CLC denotes Corboy Law Center of Loyola University (Water Tower Campus), at 25 East Pearson Street, Chicago.

- Please wear your PODC name badge to speed up entry into CLC.
- If you do not have a name badge, you may obtain it from the registration desk
- When the registration desk in the CLC lobby is closed, please inform the security personnel at the CLC lobby that you are attending PODC. The security personnel may record your name, and either allow you entry into the building, or during certain parts of the afternoon of July 25, direct you to Baumhart Hall to pick up the name badge (Baumhart Hall is across the street from CLC, at 26 E Pearson St).

In case of any difficulties, please contact Nitin Vaidya (+1 217-649-5326 or nhv@illinois.edu).

Location of various events:

Detailed programs for PODC and co-located workshops are available from <http://podc.org>.

July 25 events:

- Workshop on Biological Distributed Algorithms (BDA) – 208 CLC
- Workshop on Distributed Cloud Computing (DCC) – 209 CLC
- Workshop on Distributed Cryptocurrencies and Consensus Ledgers (DCCL) – 322 CLC
- Workshop on Theory of Transactional Memory (WTTM) – 421 CLC
- 60th Birthday Celebration of Faith Ellen – 209 CLC
- Reception will be held at Kasbeer Hall in CLC

July 26, 27, 28 events:

- July 26, 27, 28 PODC sessions will be held at Kasbeer Hall in CLC
- July 26, 27, 28 PODC lunches will be held at Regents Hall in Lewis Tower close to CLC
- July 26 Business meeting will be held at Kasbeer Hall in CLC
- July 27 Banquet will be held at *Hotel Palomar Chicago, 505 North State Street, Chicago, IL 60654*

July 29 events:

- Workshop on Distributed Computing: Mixing Systems and Theory (DeMiST) – 207 CLC
- Workshop on Realistic Models for Algorithms in Wireless Networks (WRAWN) – 208 CLC
- ARMS-CC Workshop – 209 CLC

PODC 2016

Monday, July 25

8:00 – 17:30 **Workshops**

16:30 – 18:00 **Faith Ellen Birthday Celebration**

18:00 – 19:30 **Reception**

Tuesday, July 26

8:30 – 8:40 **Opening**

8:40 – 9:40 **Keynote Lecture 1**

- **New Opportunities for PODC?: Massive, Volatile, but Highly Predictable Resources**

Andrew A. Chien (The University of Chicago, Argonne National Laboratory)

9:40 – 10:00 **Coffee break**

10:00 – 11:56 **Session 1**

Session Chair: Calvin Newport (Georgetown University, USA)

- 10:00 – 10:23
A Distributed $(2 + \epsilon)$ -Approximation for Vertex Cover in $O(\log \Delta / \epsilon \log \log \Delta)$ Rounds
(Best Student Paper Award)
Reuven Bar-Yehuda, Keren Censor-Hillel and Gregory Schwartzman
- 10:23 – 10:46
The Greedy Spanner is Existentially Optimal
(Best Student Paper Award)
Arnold Filtser and Shay Solomon
- 10:46 – 11:09
MST in Log-Star Rounds of Congested Clique
Mohsen Ghaffari and Merav Parter
- 11:09 – 11:32
Distributed Algorithms for Planar Networks I: Planar Embedding
Mohsen Ghaffari and Bernhard Haeupler

- 11:32 – 11:38
Brief Announcement: Labeling Schemes for Power-Law Graphs
Noy Rotbart, Casper Petersen, Jakob Grue Simonsen and Christian Wulff-Nilsen
- 11:38 – 11:44
Brief Announcement: Sublinear-Space Distance Labeling using Hubs
Pawel Gawrychowski, Adrian Kosowski and Przemyslaw Uznanski
- 11:44 – 11:50
Brief Announcement: Optimal leader election in multi-hop radio networks
Artur Czumaj and Peter Davies
- 11:50 – 11:56
Brief Announcement: The Small World of Curious Beings
Soroush Alamdari

12:00 – 13:30 **Lunch**

13:30 – 15:08 **Session 2**

Session Chair: Oksana Denysyuk (University of Calgary, Canada)

- 13:30 – 13:53
Analysing Snapshot Isolation
(Best Paper Award)
Andrea Cerone and Alexey Gotsman
- 13:53 – 14:16
Recoverable Mutual Exclusion
Wojciech Golab and Aditya Ramaraju
- 14:16 – 14:39
A Randomized Concurrent Algorithm for Disjoint Set Union
Siddhartha V. Jayanti and Robert E. Tarjan
- 14:39 – 15:02
Self-stabilizing Balls & Bins in Batches
Petra Berenbrink, Tom Friedetzky, Peter Kling, Frederik Mallmann-Trenn, Lars Nagel and Christopher Wastell
- 15:02 – 15:08
Brief Announcement: Local Independent Set Approximation
Marijke H. L. Bodlaender, Magnus M. Halldorsson, Christian Konrad and Fabian Kuhn

15:10 – 15:30 **Coffee break**

15:30 – 17:31 **Session 3**

Session Chair: Wojciech Golab (University of Waterloo, Canada)

- 15:30 – 15:53
Deterministic Objects: Life beyond Consensus
Yehuda Afek, Faith Ellen and Eli Gafni
- 15:53 – 16:16
Unbeatable Set Consensus via Topological and Combinatorial Reasoning
Armando Castañeda, Yannai A. Gonczarowski and Yoram Moses
- 16:16 – 16:39
A Polylogarithmic Gossip Algorithm for Plurality Consensus
Mohsen Ghaffari and Merav Parter
- 16:39 – 17:02
Noisy Rumor Spreading and Plurality Consensus
Pierre Fraigniaud and Emanuele Natale
- 17:02 – 17:25
Rational Consensus: Extended Abstract
Joseph Halpern and Xavier Vilaça
- 17:25 – 17:31
Brief Announcement: A Tight Space Bound for Consensus
Leqi Zhu

17:31 - 19:15 **Business Meeting** (open to all PODC attendees)

Wednesday, July 27

8:40 – 9:40 **Keynote Lecture 2**

- **Concurrent Data Structures**
Faith Ellen (University of Toronto)

9:40 – 10:00 **Coffee break**

10:00 – 11:56 **Session 4**

Session Chair: Andrea Richa (Arizona State, USA)

- 10:00 – 10:23
Contention Resolution on a Fading Channel
Jeremy T. Fineman, Seth Gilbert, Fabian Kuhn and Calvin Newport
- 10:23 – 10:46
Reliable Communication over Highly Connected Noisy Networks
Noga Alon, Mark Braverman, Klim Efremenko, Ran Gelles and Bernhard Haeupler

- 10:46 – 11:09
Contention Resolution on Multiple Channels with Collision Detection
Jeremy Fineman, Calvin Newport and Tonghe Wang
- 11:09 – 11:32
How Asynchrony Affects Rumor Spreading Time
George Giakkoupis, Yasamin Nazari and Philipp Woelfel
- 11:32 – 11:38
Brief Announcement: An Exponential Separation Between Randomized
and Deterministic Complexity in the LOCAL Model
Yi-Jun Chang, Tsvi Kopelowitz and Seth Pettie
- 11:38 – 11:44
Brief Announcement: Data Dissemination in Unified Dynamic Wireless Networks
Magnus M. Halldorsson, Tigran Tonoyan, Yuxuan Wang and Dongxiao Yu
- 11:44 – 11:50
Brief Announcement: Reliable Message Transmission under Partial Knowledge and
General Adversaries
Aris Pagourtzis, Giorgos Panagiotakos and Dimitris Sakavalas
- 11:50 – 11:56
Brief Announcement: Self-Stabilizing Clock Synchronization with 3-bit messages
Lucas Boczkowski, Amos Korman and Emanuele Natale

12:00 – 13:30 **Lunch**

13:30 – 15:08 **Session 5**

Session Chair: Merav Parter (MIT, USA)

- 13:30 – 13:53
Distributed Strong Diameter Network Decomposition
Michael Elkin and Ofer Neiman
- 13:53 – 14:16
Optimal Dynamic Distributed MIS
Keren Censor-Hillel, Elad Haramaty and Zohar Karnin
- 14:16 – 14:39
A Local Constant Factor MDS Approximation for Bounded Genus Graphs
Saeed Akhoondian Amiri, Stefan Schmid and Sebastian Siebertz
- 14:39 – 15:02
On Efficient Distributed Construction of Near Optimal Routing Schemes
Michael Elkin and Ofer Neiman

- 15:02 – 15:08
Brief Announcement: Deterministic Graph Connectivity in the Broadcast Congested Clique
Pedro Montealegre and Ioan Todinca

15:10 – 15:30 **Coffee break**

15:30 – 17:31 **Session 6**

Session Chair: Gadi Taubenfeld (IDC Herzliya, Israel)

- 15:30 – 15:53
Space Bounds for Reliable Storage: Fundamental Limits of Coding
Alexander Spiegelman, Yuval Cassuto, Gregory Chockler and Idit Keidar
- 15:53 – 16:16
Specification and Complexity of Collaborative Text Editing
Hagit Attiya, Sebastian Burckhardt, Alexey Gotsman, Adam Morrison, Hongseok Yang and Marek Zawirski
- 16:16 – 16:39
Optimal Mobile Byzantine Fault Tolerant Distributed Storage
Silvia Bonomi, Antonella Del Pozzo, Maria Potop-Butucaru and Sebastien Tixeuil
- 16:39 – 17:02
A Markov Chain Algorithm for Compression in Self-Organizing Particle Systems
Sarah Cannon, Josh Daymude, Dana Randall and Andrea Richa
- 17:02 – 17:25
A Complexity-Based Hierarchy for Multiprocessor Synchronization
Faith Ellen, Rati Gelashvili, Nir Shavit and Leqi Zhu
- 17:25 – 17:31
Brief Announcement: Asynchronous Coordination With Preferences and Constraints
Armando Castañeda, Pierre Fraigniaud, Eli Gafni, Sergio Rajsbaum and Matthieu Roy
- 17:31 – 17:37
Brief Announcement: A Key-Value Map for Massive Real-Time Analytics
Dmitry Basin, Edward Bortnikov, Anastasia Braginsky, Guy Golan Gueta, Eshcar Hillel, Moshe Sulamy and Idit Keidar

18:00 - 21:00 **Banquet**

(at Hotel Palomar Chicago, 505 North State Street, Chicago, IL 60654)

Thursday, July 28

8:40 – 9:40 **Keynote Lecture 3**

- **How Emerging Memory Technologies Will Have You Rethinking Algorithm Design**

Phillip B. Gibbons (Carnegie Mellon University)

9:40 – 10:00 **Coffee break**

10:00 – 11:56 **Session 7**

Session Chair: Yehuda Afek (Tel-Aviv University, Israel)

- 10:00 – 10:23
Information-Theoretic Lower Bounds on the Storage Cost of Shared Memory Emulation
Viveck Cadambe, Zhiying Wang and Nancy Lynch
- 10:23 – 10:46
On the Complexity of Reader-Writer Locks
Danny Hendler
- 10:46 – 11:09
An algorithm for replicated objects with efficient reads
Tushar Chandra, Vassos Hadzilacos and Sam Toueg
- 11:09 – 11:32
Are Shared Objects Composable under an Oblivious Adversary?
Oksana Denysyuk and Philipp Woelfel
- 11:32 – 11:38
Brief Announcement: A Family of Leaderless Generalized-Consensus Algorithms
Giuliano Losa, Sebastiano Peluso and Binoy Ravindran
- 11:38 – 11:44
Brief Announcement: Computing in the Presence of Weak Crash Failures
Gadi Taubenfeld
- 11:44 – 11:50
Brief Announcement: Oh-RAM! One and a Half Round Read/Write Atomic Memory
Theophanis Hadjistasi, Alexander Schwarzmann and Nicolas Nicolaou
- 11:50 – 11:56
Brief Announcement: Space-Time Tradeoffs for Distributed Verification
Mor Baruch, Rafail Ostrovsky and Will Rosenbaum

12:00 – 13:30 **Lunch**

13:30 – 15:08 **Session 8**

Session Chair: Marcos K. Aguilera (VMware Research Group, USA)

- 13:30 – 13:53
A Faster Distributed Radio Broadcast Primitive (Extended Abstract)
Bernhard Haeupler and David Wajc
- 13:53 – 14:16
Broadcast Extensions with Optimal Communication and Round Complexity
Chaya Ganesh and Arpita Patra
- 14:16 – 14:39
Two-Bit Messages are Sufficient to Implement Atomic Read/Write Registers in Crash-prone Systems
Achour Mostéfaoui and Michel Raynal
- 14:39 – 15:02
How proofs are prepared at Camelot
Andreas Björklund and Petteri Kaski
- 15:02 – 15:08
Brief Announcement: Proactive Secret Sharing with a Dishonest Majority
Shlomi Dolev, Karim Eldefrawy, Joshua Lampkins, Rafail Ostrovsky and Moti Yung

15:10 – 15:30 **Coffee break**

15:30 – 17:03 **Session 9**

Session Chair: Adrian Kosowski (LIAFA, Paris Diderot, France)

- 15:30 – 15:53
Search on a Line with Faulty Robots
Jurek Czyzowicz, Evangelos Kranakis, Danny Krizanc, Lata Narayanan and Jaroslav Opatrny
- 15:53 – 16:16
Uniform deployment of mobile agents in asynchronous rings
Masahiro Shibata, Toshiya Mega, Fukuhito Ooshita, Hirotsugu Kakugawa and Toshimitsu Masuzawa
- 16:16 – 16:39
Fault-Tolerant Multi-Agent Optimization: Optimal Iterative Distributed Algorithms
Lili Su and Nitin Vaidya

- 16:39 – 16:45
Brief Announcement: Active Information Spread in Networks
Gennaro Cordasco, Luisa Gargano, Adele Rescigno and Ugo Vaccaro
- 16:45 – 16:51
Brief Announcement: Certified Universal Gathering in R2 for Oblivious Mobile Robots
Pierre Courtieu, Lionel Rieg, Sebastien Tixeuil and Xavier Urbain
- 15:51 – 16:57
Brief Announcement: Probabilistic Asynchronous Arbitrary Pattern Formation
Quentin Bramas and Sebastien Tixeuil
- 16:57 – 17:03
Brief Announcement: Pattern Formation Problem for Synchronous Mobile Robots in the Three Dimensional Euclidean Space
Yukiko Yamauchi, Taichi Uehara and Masafumi Yamashita

17:15 – 18:42 **Session 10**

Session Chair: Philipp Woelfel (University of Calgary, Canada)

- 17:15 – 17:38
Low-Congestion Shortcuts without Embedding
Bernhard Haeupler, Taisuke Izumi and Goran Zuzic
- 17:38 – 18:01
The coalescing-branching random walk on expanders and the dual epidemic process
Colin Cooper, Tomasz Radzik and Nicolas Rivera
- 18:01 – 18:24
Ant-Inspired Density Estimation via Random Walks
Cameron Musco, Hsin-Hao Su and Nancy Lynch
- 18:24 – 18:30
Brief Announcement: Multi-Broadcasting under the SINR Model
Shailesh Vaya and Sai Praneeth Reddy K
- 18:30 – 18:36
Brief Announcement: Using Read-k Inequalities to Analyze a Distributed MIS Algorithm
Sriram Pemmaraju and Talal Riaz

18:36 – 18:45 **Closing of PODC 2016**

Friday, July 29

8:00 – 17:30 **Workshops**