Keren Censor-Hillel

Personal

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Education

2006-2010: Ph.D. student in Computer Science, Technion. GPA: 99
Advisor: Prof. Hagit Attiya
Dissertation title: Probabilistic Methods in Distributed Computing

2003-2006: M.Sc. in Computer Science, Technion. GPA: 95 Exam grade: 94
Advisor: Prof. Tuvi Etzion
Thesis title: Constrained Codes for Two-Dimensional Channels

2000-2003: B.A. in Mathematics, Technion. GPA: 93, *summa cum laude*.

Employment

2012 - present: Assistant Professor at the Technion and Postdoctoral Fellow at CSAIL, MIT

2010 - 2012: Simons Postdoctoral Fellow at the Theory Group, CSAIL, MIT

Summer 2008: Intern at IBM Haifa Research Lab in Israel, with the Distributed Middleware group.

1997-2000: Service in IDF. Experience in software development (C, C-Shell), team leader.

Academic Activity

June 2013: Participation in the 6th Bertinoro Workshop on Algorithms and Data Structures, by invitation.

January 2013: Participation in "Epidemic Algorithms and Processes: From Theory to Applications" workshop, at Dagstuhl, by invitation.

April 2012: Mini-Course Lecturer "Information Spreading in Distributed Systems", at Latin American Symposium on Theoretical Informatics (LATIN) 2012

February 2012: Participation in "Probabilistic versus Deterministic Techniques for Shared Memory Computation" workshop at BIRS (Banff International Research Station), by invitation.

June 2010: Participation in "Women in Theory" workshop at Princeton University.

January 2009: Participation in "Lower Bounds for Distributed Computing" workshop at BIRS (Banff International Research Station), by invitation.

Program Committee Member:

The 32nd Annual ACM Symposium on Principles of Distributed Computing (PODC) 2013

The 32nd International Conference on Distributed Computing Systems (ICDCS) 2013

The 8th ACM Workshop on Foundations of Mobile Computing (FOMC) 2012

The 31st Annual ACM Symposium on Principles of Distributed Computing (PODC) 2012

The 31st International Conference on Distributed Computing Systems (ICDCS) 2012

The 12th International Conference on Distributed Computing and Networking (ICDCN) 2012

The 25th International Symposium on Distributed Computing (DISC) 2011

Journal Reviews:

Journal of the ACM (JACM)

ACM Transactions on Computer Systems (TOCS)

Journal of Parallel and Distributed Computing (JPDC)

Distributed Computing Journal

SIAM Journal on Computing (SICOMP)

Information and Computation

Conference Reviews:

IEEE Symposium on Foundations of Computer Science (FOCS)

European Symposium on Algorithms (ESA)

ACM-SIAM Symposium on Discrete Algorithms (SODA)

ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)

ACM Symposium on Principles of Distributed Computing (PODC)

ACM Symposium on Theory of Computing (STOC)

International Symposium on Distributed Computing (DISC)

International Colloquium on Automata, Languages and Programming (ICALP)

International Colloquium on Structural Information and Communication Complexity (SIROCCO)

ACM Workshop on Foundations of Mobile Computing (FOMC)

International Conference on Distributed Computing Systems (ICDCS)

International Conference on Distributed Computing and Networking (ICDCN)

Teaching

Spring 2011: Lecturer (together with Nancy Lynch) in the course "Distributed Algorithms: New Topics and Techniques", MIT

2008-2009: Teaching assistant **in charge** in the course "Logic and Set Theory for Computer Science", Technion

Winter 2006, Spring 2008: Teaching assistant in the course "Distributed Algorithms B", Technion

2003-Spring 2006, 2007: Teaching assistant in the course "Logic and Set Theory for Computer Science", Technion

My tutorials have been videotaped for the Technion video library.

Awards and Honors

2012: Shalon Career Advancement Chair, Technion

2012: The Principles of Distributed Computing Doctoral Dissertation Award 2012

2010: Simons Postdoctoral Fellowship, CSAIL, MIT, for the years 2010-2012

Rothschild Postdoctoral Fellowship, Yad Hanadiv, for the year 2010-2011 (declined)

2009: Technion Graduate School Award for Excellent Journal Publication for paper [9] in journal publications list

The Google Anita Borg Memorial Scholarship

Technion award for excellent teaching assistants

Best Student Paper Award, PODC 2009, for paper [13] in conference publications list

Best Student Presentation Award, PODC 2009, for paper [13] in conference publications list

2008: Jacobs-Qualcomm Fellowship, Graduate School of the Technion

Adams Fellowship Program of the Israel Academy of Sciences and Humanities

Technion award for excellent teaching assistants

2007: Faculty of Computer Science Excellence Fellowship for graduate students

2006: Technion award for excellent teaching assistants

Neeman Scholarship for Ph.D. students, Graduate School of the Technion

2003: Technion scholarship for excellent graduate students

2000-2003: President's list of excellent students (4 semesters)

Mathematics Dean's list of excellent students

Award from the foundation for encouraging excellent students in mathematics (3 years)

Invited Talks

"Connected Dominating Set Packings"',
Dagstuhl, January 2013

"Information Spreading in Distributed Systems",
1st Latin American Theoretical Informatics School, April 2012

"Polylogarithmic Snapshorts",
BIRS, February 2012

"Fast Distributed Computing Despite Poor Connectivity",
Weizmann Institute, January 2012
Technion, January 2012
Tel-Aviv University, January 2012
The Hebrew University, January 2012
Ben-Gurion University, January 2012
MIT, February 2012
Harvard, February 2012

"Fast Information Spreading in Graphs with Large Weak Conductance",
MIT, November 2010
University of Toronto, November 2010
MIT, September 2010

"Partial Information Spreading with Application to Distributed Maximum Coverage",
Weizmann Institute, July 2010

"Max Registers, Counters, and Monotone Circuits",
CS Department Technion, January 2010

"Approximate Shared-Memory Counting Despite a Strong Adversary",
ETH, June 2009
EE Department Technion, March 2009
Microsoft Research Silicon Valley, February 2009

"Lower Bounds for Asynchronous Randomized Consensus",
BIRS, January 2009

"Lower Bounds for Randomized Consensus under a Weak Adversary",
Yale University, August 2008

"Tight Bounds for Asynchronous Randomized Consensus",
Yale University, June 2007

Publications

Journal Articles

[1] James Aspnes, Hagit Attiya, Keren Censor-Hillel and Danny Hendler. Lower bounds for restricted-use objects. Submitted.

[2] Keren Censor-Hillel, Seth Gilbert, Fabian Kuhn, Nancy Lynch and Calvin Newport. Structuring Unreliable Radio Networks. Submitted.

[3] Chen Avin, Michael Borokhovich, Keren Censor-Hillel and Zvi Lotker. Order Optimal Information Spreading Using Algebraic Gossip. Submitted.

[4] Keren Censor-Hillel and Hadas Shachnai. Fast Information Spreading in Graphs with Large Weak Conductance. *SIAM Journal on Computing*, 41(6): 1451-1465 (2012).

[5] James Aspnes, Hagit Attiya and Keren Censor-Hillel. Polylogarithmic Concurrent Data Structures from Monotone Circuits. *Journal of the ACM*, 59(1), 2012.

[6] Hagit Attiya and Keren Censor. Lower bounds for randomized consensus under a weak adversary. *SIAM Journal on Computing* 39(8): 3885–3904, 2010.

[7] James Aspnes, Hagit Attiya and Keren Censor. Combining shared coin algorithms. *Journal of Parallel and Distributed Computing*, Volume 70, Issue 3, pages 317–322, March 2010.

[8] James Aspnes and Keren Censor. Approximate shared-memory counting despite a strong adversary. *ACM Transactions on Algorithms, SODA 2009 special issue*, Volume 6, Issue 2, March 2010.

[9] Hagit Attiya and Keren Censor. Tight bounds for asynchronous randomized consensus. *Journal of the ACM*, 55(5):1–26, 2008.

[10] Keren Censor and Tuvi Etzion. The positive capacity region of two-dimensional run-length-constrained channels. *IEEE Transactions on Information Theory*, 52(11):5128–5140, 2006.

Conference Proceedings

[1] Keren Censor-Hillel, Mohsen Ghaffarri, and Fabian Kuhn. Tight Bounds for CDS-Packing, Distributed Construction and Applications. In preparation.

[2] Keren Censor-Hillel and George Giakkoupis. Fast and Robust Information Spreading. In preparation.

[3] Keren Censor-Hillel, Bernhard Haeupler, Nancy Lynch, and Mureil Médard. Bounded-Contention Coding for Wireless Networks in the High SNR Regime. In *Proceedings of the 26th International Symposium on Distributed Computing (DISC)*, pages 91-105, 2012.

[4] James Aspnes, Hagit Attiya, Keren Censor-Hillel and Faith Ellen. Faster than Optimal Snapshots (for a While). In *Proceedings of the 31st ACM Symposium on Principles of Distributed Computing (PODC)*, pages 375–384, 2012.

[5] James Aspnes, Hagit Attiya, Keren Censor-Hillel and Danny Hendler. Lower bounds for restricted-use objects. In *Proceedings of the 24th ACM symposium on Parallelism in algorithms and architectures (SPAA)*, pages 172–181, 2012.

[6] Keren Censor-Hillel, Bernhard Haeupler, Jonathan Kelner and Petar Maymounkov. Global computation in a poorly connected world: fast rumor spreading with no dependence on conductance. In *Proceedings of the 44th symposium on Theory of Computing (STOC)*, pages 961–970, 2012.

[7] Keren Censor-Hillel, Seth Gilbert, Fabian Kuhn, Nancy Lynch and Calvin Newport. Structuring Unreliable Radio Networks. In *Proceedings of the 30th ACM Symposium on Principles of Distributed Computing (PODC)*, pages 79–88, 2011.

[8] Dan Alistarh, James Aspnes, Keren Censor-Hillel, Seth Gilbert and Morteza Zadimoghaddam. Optimal-Time Adaptive Tight Renaming, with Applications to Counting. In *Proceedings of the 30th ACM Symposium on Principles of Distributed Computing (PODC)*, pages 239–248, 2011.

[9] Chen Avin, Michael Borokhovich, Keren Censor-Hillel and Zvi Lotker. Order Optimal Information Spreading Using Algebraic Gossip. In *Proceedings of the 30th ACM Symposium on Principles of Distributed Computing (PODC)*, pages 363–372, 2011.

[10] Keren Censor-Hillel and Hadas Shachnai. Fast Information Spreading in Graphs with Large Weak Conductance. In *Proceedings of the 22nd annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 440–448, 2011.

[11] Keren Censor Hillel and Hadas Shachnai. Partial Information Spreading with Application to Distributed Maximum Coverage. In *Proceedings of the 29th ACM Symposium on Principles of Distributed Computing (PODC)*, pages 161–170, 2010.

[12] Keren Censor Hillel. Multi-Sided Shared Coins and Randomized Set-Agreement. In *Proceedings of the 22nd ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, pages 60–68, 2010.

[13] James Aspnes, Hagit Attiya and Keren Censor. Max registers, counters, and monotone circuits. In *Proceedings of the 28th ACM Symposium on Principles of Distributed Computing (PODC)*, pages 36–45, 2009.
Best Student Paper Award
Journal version invited to *Distributed Computing, PODC 2009 special issue*. Invitation declined.

[14] James Aspnes and Keren Censor. Approximate shared-memory counting despite a strong adversary. In *Proceedings of the 20th annual ACM-SIAM Symposium on Discrete Algorithms (SODA)*, pages 441–450, 2009.

[15] Hagit Attiya and Keren Censor. Lower bounds for randomized consensus under a weak adversary. In *Proceedings of the 27th ACM Symposium on Principles of Distributed Computing (PODC)*, pages 315–324, 2008.

[16] James Aspnes, Hagit Attiya and Keren Censor. Randomized consensus in expected $O(n \log n)$ individual work. In *Proceedings of the 27th ACM Symposium on Principles of Distributed Computing (PODC)*, pages 325–334, 2008.

[17] Hagit Attiya and Keren Censor. Tight bounds for asynchronous randomized consensus. In *Proceedings of the 39th annual ACM Symposium on Theory of Computing (STOC)*, pages 155–164, 2007.

[18] Keren Censor and Tuvi Etzion. The positive capacity region of two-dimensional run-length-constrained channels. In *IEEE International Symposium on Information Theory (ISIT)*, pages 155–164, 2006.

Other Publications

[1] Keren Censor and Christoph Lenzen. A Review of PODC 2009. SIGACT News, Volume 40 No.4, pages 71–74, 2009.