

CURRICULUM VITAE

HAGIT ATTIYA
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1 Personal Data

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2 Education

- Ph.D. in Computer Science. Hebrew University, July 1987.
- M.Sc. in Computer Science, *cum laude*. Hebrew University, June 1983.
- B.Sc. in Mathematics (expanded) and Computer Science, *cum laude*. Hebrew University, June 1981.

3 Academic Appointments

October 2015–present: Executive Vice President for Academic Affairs, the Technion.

August 2005–present: Professor, The Harry W. Labov and Charlotte Ullman Labov Academic Chair, Faculty of Computer Science, Technion.

February 1997–July 2005: Associate Professor, Faculty of Computer Science, Technion.

October 1990–February 1997: Senior lecturer (tenure: May 1994), Faculty of Computer Science, Technion.

September 1988–September 1990: Postdoctoral research associate with the Theory of Distributed Systems research group at the Laboratory for Computer Science, M.I.T.

October 1987–August 1988: Instructor, Department of Computer Science, Tel-Aviv University.

October 1983–September 1986: Research assistant, Department of Computer Science, Hebrew University.

October 1981–September 1983: Teaching assistant, Department of Computer Science, Hebrew University.

4 Other Professional Employment (Selected)

August 2009–August 2010: Visiting professor at the *École Polytechnique Fédérale de Lausanne* (EPFL), Switzerland.

September 2001–September 2002: Research scientist at Dune Semiconductor Ltd.

July/August 1993: Visiting scientist at the Software Principles Research department, AT&T Bell Laboratories, Murray Hill.

August 1991: Visiting scientist, DEC Cambridge Research Laboratory.

5 Editorial

Springer-Verlag's journal *Distributed Computing*.

Editor-in-chief, 2008–.

Editorial board member, 2003–.

Guest editor, special issue celebrating twenty years of PODC, Volume 16, Numbers 2-3, 2003.

Member, Advisory Board, EATCS–Springer book series *Monographs in Theoretical Computer Science and Texts in Theoretical Computer Science*, 2012–.

SIAM Journal on Computing, *Editorial board member*, 2005–2014.

Springer-Verlag's journal *Algorithmica*, *Editorial board member*, 2004–2007.

6 Program Committees for International Conferences (Selected)

ACM Symposium on Principles of Distributed Computing (PODC).

Chair, program committee, 1997.

Member, steering committee, August 1996–July 1999.

Member, program committee, 1992, 1995, 2007, 2009, 2015, 2017, 2019.

International Symposium on Distributed Computing (DISC), formerly *WDAG*.

Chair, program committee, 2020.

Member (elected), steering committee, October 2003–2006.

Member, program committee, 1996, 2001, 2003, 2012, 2014, 2018.

International Parallel and Distributed Processing Symposium (IPDPS) sponsored by IEEE / ACM.

Vice-chair (Algorithms), program committee, 2002.

Member, program committee, 2004, 2006.

Member, program committee, IEEE International Conference on Distributed Computing Systems (ICDCS), 1990, 1995, 2005, 2006, 2014.

Member, program committee, ACM Symposium on Parallelism in Algorithms and Architectures (SPAA), 2010, 2013, 2019.

International Colloquium on Automata, Languages and Programming (ICALP).

Member, program committee, 2009.

Symposium on Theoretical Aspects of Computer Science (STACS).

Member, program committee, 2015.

Member, program committee, ACM SIGPLAN Workshop on Transactional Computing (TRANSACT), 2007, 2008, 2013.

International Conference on Distributed Computing and Networking (ICDCN).

Member, program committee, 2011, 2012.

Colloquia on Structural Information and Communication Complexity (SIROCCO).

Member, program committee, 2014.

Member, program committee, International Conference on Principles of Distributed Systems (OPODIS), 2006, 2009, 2012.

Member, program committee, *Supercomputing 2004*.

Member, program committee, European Symposium on Algorithms (ESA), 1996, 1999, 2008.

Member, program committee, ACM Symposium on Theory of Computing (STOC), 1995.

7 Other Professional Activities (Selected)

Member, Israel's ministry of Education 11th *Council of Higher Education* (MALAG), 2010–2012.

Member, ACM Software System Award committee, 2009–2013.

Chair, scientific committee for computer science, *Israel Science Foundation*, 2001–2004.

8 Awards, Fellowships and Honors

Cooper Prize for Academic Excellence, Technion, 2014.

2011 Edsger W. Dijkstra Prize in Distributed Computing, for [J14].

Michael Bruno memorial award from Yad-Hanadiv, 2011.

ACM fellow (2009), “for contributions to distributed and parallel computing”.

Best student paper, PODC 2013 [C82].

Best paper (co-winner), OPODIS 2009 [C67].

Best student paper, PODC 2009 [C65].

Best student paper, DISC 2004 [C47].

Best student paper, DISC 2000 [C39].

The Taub prize, Computer Science, Technion, 1992.

Annenberg Scholar, 1991.

Leibnitz center doctoral fellowship, Hebrew University, 1987.

9 Invited Presentations

Historical perspectives talk, “Agreement, Quorums and the Ordering of Events in a Distributed System,”
Jerusalem Blockchain Winter School, December 2018.

Invited seminar, “Coordination without Agreement,”
College de France, Paris, November 2018.

Invited speaker, “Fences and RMRs Required for Synchronization,”
Ilan Newman 60’th birthday, June 2017.

Keynote speaker, “Specification and Complexity of Replicated Objects,”
SSS, November 2016.

Invited speaker, “Sitting on a fence: Strong non-commutativity and memory ordering ,”
Workshop on Randomized Algorithms for Distributed Computing and Networks (RADICON), Rennes
(France), July 21, 2014.

Invited speaker, “Go with a free feeling: The utility of operational-combinatorial impossibility proofs,”
Topology workshop, as part of PODC (Paris), July 15, 2014.

Invited speaker, “A Programming Language Perspective on Transactional Memory Consistency,”
5th Workshop on the Theory of Transactional Memory, as part of DISC (Jerusalem), October 14,
2013.

Invited speaker, “Indistinguishability: Friend and Foe of Concurrent Data Structures,”
Journes d’Informatique Fondamentale de Paris Diderot, April 22-26, 2013.

Invited speaker, “Inherent limitations can facilitate design and verification of concurrent programs,”
Intel and Technion Symposium 2011, September 13, 2011.
HiPEAC web seminar (FORTH, Crete), April 14, 2011.

Keynote speaker, “The Complexity of Transactional Memory and What to Do About It,” *International Conference on Distributed Computing and Networking (ICDCN)*, January 2011 (Bangalore).

Keynote speaker, “The Complexity of Transactional Memory and What to Do About It,” *ACM Symposium on Principles of Distributed Computing (PODC)*, July 2010 (Zurich).

Invited talk (with Jennifer Welch), “A World of (Im)Possibilities,” *Nancy Lynch Celebration: Sixty and Beyond*, in *ACM Symposium on Principles of Distributed Computing (PODC)*, August 2008.

Keynote speaker, “When Parallel Met Distributed,” *ACM Symposium on Parallelism in Algorithms and Architectures (SPAA)*, June 2008 (Germany).

Plenary speaker, “A Mile-High View of Concurrent Algorithms,” *Workshop on the Verification of Concurrent Algorithms*, May 2008 (United Kingdom).

Keynote speaker, “Adapting to Point Contention with Long-Lived Safe Agreement,” *13th Colloquia on Structural Information and Communication Complexity (SIROCCO)*, July 2006 (United Kingdom).

“The Relative Queuing Delay of Parallel Packet Switches,” *National Networking Seminar 2005*, Cisco Systems (Natanya, Israel), February 2005.

“Algorithms that Adapt to Contention,” *Distributed Computing Day*, The Interdisciplinary Center (Herzliya, Israel), March 2004.

“Information-Flow Models for Shared Memory,” *IBM’s annual Verification Seminar*, IBM Haifa Research Labs, September 2002.

“A Closer Look at Models and Algorithms for Multi-Processors,” *PODC/SPAA Mini-School on Parallel and Distributed Computing*, Student Chapter of the Mexican Computer Science Society, June 1998.

10 Ph.D. Students Supervised

10.1 Completed Theses

1. Roy Friedman, “Consistency Conditions for Shared-Memory Multiprocessors,” graduated: August 1994 (*Direct Ph.D.*).
2. Ophir Rachman, “Resiliency in Distributed Systems,” graduated: June 1996.
3. Arie (Leonid) Fouren, “Adaptive Wait-Free Algorithms for Asynchronous Shared-Memory Systems,” graduated: September 2001 (*Direct Ph.D.*).
4. Ronit Nossenson (Teplixke), “Stochastic Models for Web Servers,” graduated: May 2005.
5. David Hay, “Providing QoS Guarantees in Parallel Packet Switches,” graduated: April 2007 (*Direct Ph.D.*).
6. Keren Censor (Censor-Hillel), “Probabilistic Methods in Distributed Algorithms”. Graduated: August 2010.
7. Eshcar Hillel, “Methodologies for Highly Concurrent Data Structures,” graduated: February 2011 (*Direct Ph.D.*).
8. Sandeep Hans, “Theoretical Foundations of Transactional Memory,” graduated: September 2015.
9. Maya Arbel, “Concurrent Search Trees: Theory and Practice,” graduated: October 2018 (*Direct Ph.D.*).

11 M.Sc. Students Supervised

11.1 Completed Theses

1. Eran Aharonson, “The Structure of Counting Networks,” graduated: March 1992.
2. Netta Eizenbud-Reshef (secondary supervisor, with Prof. Shmuel Katz), “Self-Stabilization of Fault-Tolerant Algorithms,” graduated: July 1993.
3. Taly Djerassi (Shintel), “Time Bounds for Decision Problems in Semi-Synchronous Systems,” graduated: December 1993.
4. Tamar Tamir, “Resource Allocation in Distributed Systems,” graduated: November 1994.
5. Rinat Rappoport, “The Level of Handshake Required for Establishing a Connection,” graduated: January 1995.
6. Eyal Dagan, “Universal Operations: Unary vs. Binary,” graduated: June 1996.
7. Alla Gorbach (primary supervisor, with Prof. Shlomo Moran), “Computing in anonymous asynchronous shared memory,” graduated: February 1999.
8. Vita Bortnikov, “Adaptive Algorithms for Mutual Exclusion,” graduated: November 2000 (with *high excellence*).
9. Zvi Avidor, “ n -Set Consensus when Inputs are Restricted,” graduated: February 2004.
10. Idan Zach, “Long-lived and Adaptive Shared-Memory Algorithms,” graduated: August 2004.
11. Yaniv Kaplan, “Lower Bounds for Adaptive Collect and Related Objects,” graduated: September 2004.
12. Alex Kogan, “Efficient Fault-Tolerant Resource Allocation in Mobile Ad-Hoc Networks”, graduated: May 2008.
13. Ami Paz, “Counting-Based Impossibility Proofs for Distributed Tasks,” graduated: May 2013.

12 Sponsored Long-Term Visitors and Post-Docs

1. Dr. Trevor Brown, University of Toronto, 2017.
2. Dr. Matthieu Perrin, University of Nantes, 2016.
3. Prof. Faith Ellen, University of Toronto, 2013 (Lady Davis Fellow).
4. Dr. Adam Morrison, Tel-Aviv University, 2013–2016 (Ali Kaufman post-doc fellowship).
5. Dr. Armando Castañeda, 2012–2014 (Ali Kaufman post-doc fellowship).
6. Prof. Maurice Herlihy, Brown University, 2010-2011 (distinguished Fulbright scholar).
7. Prof. Liuba Shrira, Brandeis University, 2010-2011 (Lady Davis Fellow).

8. Prof. Faith Ellen (Fich), University of Toronto, 2006 (Lady Davis Fellow).
9. Dr. Alessia Milani, University of Rome (La Sapienza), 2008-9 (Lady Davis post-doc).
10. Dr. Corentin Travers, University of Rennes, 2008-9 (Ali Kaufman post-doc fellowship).

13 Research Grants

“Foundations and Algorithms for Nonvolatile Shared Memory” *Israel Science Foundation*, four year period starting October 2018. Joint with Dr. Hendler (Ben-Gurion University). Technion part: 135,000 Israeli shekels per year.

“Scalable Synchronization for Relaxed Memory Models” *Israel Science Foundation*, four year period starting October 2014. Joint with Dr. Hendler (Ben-Gurion University). Technion part: 130,000 Israeli shekels per year.

Yad-Hanadiv grant, three years from Autumn 2011, \$120,000 (total).

“Building Blocks for Scalable Synchronization of Multiprocessor Computers” *Israel Science Foundation*, four year period starting October 2010. Joint with Dr. Hendler (Ben-Gurion University). Technion part: 110,000 Israeli shekels per year.

“TransForm: Theoretical Foundations of Transactional Memory,” *Marie Curie Initial Training Network* (European FP-7), November 2009–October 2013. Technion part: Euro 440,000 (total).

“Scalable Computing: Software and Architecture,” Hasso Platner Center (HPC). Joint with Y. Birk, I. Cidon, I. Keidar, R. Friedman, R. Ginosar, I. Keslassy, A. Kolodny, A. Schuster, and U. Weiser.

“Highly-concurrent software transactional memory,” Intel Corporation, one year period starting October 2007, \$20,000.

“Synchronization Concerns in the Lock-Free Implementation of Concurrent Data Structures,” *Israel Science Foundation*, four year period starting October 2006, \$38,000 per year.

“Load Balancing in Distributed Web Servers,” *Israel Science Foundation*, two year period starting October 2001, \$30,000 per year.

“Highly-Available Services on Fast Networks,” *Israeli Ministry of Science and Arts*, three year period starting October 1995. Joint with Yehuda Afek, Reuven Cohen, Danny Dolev and Yishay Mansour. Total grant \$200,000 per year, Technion part \$50,000 per year.

“Time in Distributed Computing,” *US-Israel Binational Foundation*, joint with Nancy Lynch (MIT) and Jennifer Welch (Texas A&M). Three year period starting October 1993. Technion part: \$21,000 per year.