Danny Hendler **January, 2020**

CURRICULUM VITAE

• Personal Details

Name:	Danny Hendler
Date and place of birth:	17/04/61, Israel
Regular military service:	2/80 – 2/83
Address at work:	Department of Computer Science Ben Gurion University of the Negev Beer-Sheva, 84105 (08) 6428038
Email:	hendlerd@cs.bgu.ac.il
Address at home:	Yefe Nof 7, Nes-Ziona, 7406336
Cellular phone #:	050-8509179

• Education

B.Sc. [1983-1986] Tel-Aviv University
Computer Science Department (Cum Laude)

M.Sc. [1990-1993] Tel-Aviv University
Computer Science Department (Cum Laude)
Advisor: Prof. Yehuda Afek
Title of thesis: "On the complexity of computation in the presence of link failures: the general case."

PhD [2001-2004] Tel-Aviv University
Computer Science Department
Advisor: Prof. Nir Shavit
Title of thesis: "Lower and Upper Bounds for Synchronization Using Real-World Primitives."

• Employment History

[2019-today] Full Professor, Computer-Science department,
Ben-Gurion University

[2014-today] Associate Professor, Computer-Science department,
Ben-Gurion University

[2011-2014] Senior Lecturer, Computer-Science department,
Ben-Gurion University

[November, 2011] tenure received

[2006-2011] Lecturer, Computer-Science department,
Ben-Gurion University

[2005-2006] Postdoctoral Fellow, Industrial Engineering & Management,
Technion

[2004-2005] Postdoctoral Fellow, Computer-Science Department, University of Toronto
[2000-2001] VP wireless products, AppStream, Tel-Aviv, Israel
[1999-2000] Java Security expert, Sun Microsystems, Herzeliya, Israel
[1996-1999] Applications Collateral Group Manager, Software Architect, National Seminconductor, Herzeliya, Israel
[1986-1996] Freelance consultant, software architect. Telrad, Lod, Israel.
[1983-1985] Software programmer, Elscint, Ramat-Gan, Israel

- **Professional Activities**

Positions in academic administration

[2006-2014] Coordinator of Computer Science undergraduate projects
[2014-today] Vice Head of BGU Cyber Security Center
[2017-today] Computer-Science dpt. Cyber Coordinator
[2017-2018] Head of computational policy committee
[2018-today] Deputy Head of the Software Engineering Program
[2018-today] Appointment Committee, Department of Computer Science
[2018-today] Steering Committee, Department of Computer Science

Reviewer for journals

Distributed Computing Journal (DC)
iEEE Transactions on Parallel and Distributed Systems (TPDS)
ACM Transactions on Algorithms (ToN)
ACM Transactions in Embedded Computing Systems (TECS)
Theory of Computing Systems (TOCS)
iEEE Transactions on Computers (TC)
Elsevier Journal of Parallel and Distributed Systems (JPDC)
Springer Social Network Analysis and Mining (SNAM)
Elsevier Expert Systems with Applications (ESWA) Journal
Springer Social Network Analysis and Mining (SNAM) Journal
Elsevier Knowledge-Based Systems (KNOSYS) Journal

Reviewer for conferences

ACM Symposium on Principles of Distributed Computing (PODC)
International Conf. on Distributed Computing (DISC)
ACM Symposium on Parallel Algorithms and Architectures (SPAA)
iEEE Symposium on Foundations of Computer Science (FOCS)
ACM Symposium on Theory of Computing (STOC)
International Conf. on Advances in Network Science (Netsci)
International Conf. on Principles of Dist. Computing (OPODIS)

ACM Symp. on Principles and Practice of Parallel Prog. (PPoPP)
Intl. Colloq. on Struct. Inf. and Comm. Complexity (SIROCCO)
ACM-SIAM Symposium on Discrete Algorithms (SODA)
Int. Symp. on Stabilization, Safety, and Security of Dist. Sys. (SSS)

• Educational activities

(a) Courses taught

[Spring 2018] "Big Data Analysis for Cyber Security", mini-project taught with Amir Rubin, Ben-Gurion University

[Spring 2018] "Operating Systems", undergraduate course, Ben-Gurion University

[Fall 2018] "Multiprocessor Synchronization Algorithms", advanced course, Ben-Gurion University

[Summer 2017] First summer school on practice and theory of concurrent computing, ITMO University, Saint-Petersburg, Russia
Mini-course on lock-free programming (**invited**).

[Spring 2017] "Operating Systems", undergraduate course, Ben-Gurion University

[Fall 2017] "Advanced Topics in on-line Social Networks Analysis", advanced seminar, Ben-Gurion University

[Fall 2017] "Multiprocessor Synchronization Algorithms", advanced course, Ben-Gurion University

[Spring 2016] "Operating Systems", undergraduate course, Ben-Gurion University

[Fall 2016] "Advanced Topics in on-line Social Networks Analysis", advanced seminar, Ben-Gurion University

[Fall 2016] "Multiprocessor Synchronization Algorithms", advanced course, Ben-Gurion University

[Spring 2015] "Operating Systems", undergraduate course, Ben-Gurion University

[Spring 2014] "Operating Systems", undergraduate course, Ben-Gurion University

[Spring 2014] "Advanced Topics in on-line Social Networks Analysis", advanced seminar, Ben-Gurion University

[Fall 2013] "Multiprocessor Synchronization Algorithms", advanced course, Ben-Gurion University

[Spring 2012] "Operating Systems", undergraduates course, Ben-Gurion University.

[Fall 2011] "Multiprocessor Synchronization Algorithms", advanced course, Ben-Gurion University

[Spring 2011] "Operating Systems", undergraduates course, Ben-Gurion University.

[Fall 2010] "Multiprocessor Synchronization Algorithms", advanced course, Ben-Gurion University

[Spring 2010] "Operating Systems", undergraduates course, Ben-Gurion University.

[Spring 2010] "Mini-Project Course: Algorithms for Multicore Systems", advanced course, Ben-Gurion University

[Fall 2009] "Multiprocessor Synchronization Algorithms", advanced course, Ben-Gurion University

[Fall 2009] "Advanced seminar: Advanced Topics in Transactional Memory", Ben-Gurion University

[Spring 2009] "Operating Systems", undergraduates course, Ben-Gurion University.

[Spring 2009] "Mini-Project Course: Algorithms for Multicore Systems", advanced course, Ben-Gurion University

[Fall 2008] "Multiprocessor Synchronization Algorithms", advanced course, Ben-Gurion University

[Fall 2008] "Advanced seminar: Advanced Topics in Transactional Memory", Ben-Gurion University

[Spring 2008] "Operating Systems", undergraduates course, Ben-Gurion University.

[Spring 2008] "Mini-Project Course: Algorithms for Multicore Systems", advanced course, Ben-Gurion University

[Fall 2007] "Multiprocessor Synchronization Algorithms", advanced course, Ben-Gurion University

[Fall 2007] "Advanced seminar: Advanced Topics in Transactional Memory", Ben-Gurion University

[Spring 2007] "Operating Systems", undergraduates course, Ben-Gurion University.
[Fall 2006] "Multiprocessor Synchronization Algorithms", advanced course, Ben-Gurion University
[2005] "Multiprocessor Synchronization Algorithms", advanced course, Open University
[2004] "Extended Introduction to CS Using Scheme", undergraduate course, Tel-Aviv University

(b) Research students

1. Adi Suissa: "Transaction-Scheduling for Software Transactional Memory Systems", M. Sc., completed 2009.
2. Erez Michalak, Technion "An Adaptive Technique for Constructing Robust and High-Throughput Shared Objects", M. Sc., co-advised with Prof. Shay Kutten, completed 2009.
3. Tomer Heber, "On the Impact of Serializing Contention Management on STM Performance", M Sc., completed 2010.
4. Gal Bar-Nissan, "A Dynamic Elimination-combining Stack Algorithm", M Sc., completed 2012.
5. Adi Suissa, PhD student, "Effective Scehduling-Based Contention Management Techniques for Transactional Memory Systems", completed 2014.
6. Daniel Gordon, PhD student, "Shapelet-based time-series mining", completed 2014.
7. Vitaly Khait, M. Sc. student, "Complexity tradeoffs for read and update operations", completed 2014.
8. Michael Gorelik, M. Sc. student "An asymmetric flat-combining queue", completed 2014.
9. Alex Nayman, M.Sc. student, "Contention Management for Distributed Systems Transactional Memory", completed 2014.
10. Yehonatan Cohen, M.Sc. student, "Outgoing Spammer Account Detection in Large-Scale Service Provider Networks", completed 2013.

11. Ilya Mirsky, M.Sc. student, "Lightweight Contention Management for Efficient Compare-and-swap Operations", completed 2014.
12. Smadar Rayk, M.Sc. student, "O(1) Barriers Optimal-RMRs Mutual Exclusion", completed 2016.
13. Yehonatan Cohen, Ph.D. student, "Community Detection for Cyber Security", completed 2019.
14. Marina Sadetsky Kogan, Ph.D. student, "Algorithms for distributed cache management" (started 2013), co-advised with Prof. Shlomi Dolev.
15. Ohad Ben-Baruch, Ph.D. student (combined track), "Complexity bounds for mutual exclusion & other key shared-memory problems" (started M.Sc. in 2013, started Ph.D. in 2015).
16. Amir Rubin, Ph.D. student (combined track), "Community detection algorithms and their applications for malware detection" (started M.Sc. in 2014, started Ph.D. in 2016).
17. Tomer Cohen, M.Sc. student, "Learning from the experts - supervised malware detection using anti-virus induced labels", completed 2017.
18. Or Ami, M.Sc. student, "A ransomware detection and prevention mechanism", completed, 2018.
19. Yaniv Agman, M.Sc. student, "Securing OS containers", started 2018.
20. Amit Portnoy, Ph.D. student, subject TBD, started 2018.
21. Matan Rosanovsky, M.Sc student, "Upper and lower bounds for recoverable objects", started 2018.
22. Dorel Yafe, M.Sc. student, "Anomaly detection in autonomous vehicles", started 2018.
23. Ron Korine, Psagot M.Sc. student, "Telling between malicious and benign polymorphic clusters", started 2018.
24. Ofir Gagulashvili, M.Sc. student, subject TBD, started 2018.
25. Tamir Khoramian, M.Sc. student, "Malware detection in a large-scale anti-virus reports data-set", started 2018.

(b) Post-docs

1. David Hay, currently a faculty member in the computer-science department at the Hebrew University, 2007-2008.

• **Awards, Citations, Honors, Fellowships**

(a) Honors, Awards

1. [1986] Dean's list, Tel-Aviv University
2. [1993] Excellence prize in M.Sc. studies, Tel-Aviv University
3. [2002] Excellence prize for Ph.D. research, Tel-Aviv University
4. [2004] Excellence prize for Teaching Assistants, Tel-Aviv University
5. [2009] INFOCOM 2009, best paper award runner-up for the paper: "PEDS: A Parallel Error Detection Scheme for TCAM Devices", co-authored by Anat Bremler-Barr, David Hay and Ron M. Roth
6. [2016] DISC 2016, best student paper runner-up for the paper: "Lower Bound on the Step Complexity of Anonymous Binary Consensus", with Hagit Attiya and **Ohad Ben-Baruch**

(a) Fellowships

1. Aly Kaufman postdoctoral fellowship, Technion, 2005.

• **Scientific Publications**

(a) Refereed chapters in collective volumes

1. "Non-Blocking Algorithms", Encyclopedia of Parallel Computing, Springer, pp. 1321-1329, 2011
2. With Adi Suissa-Peleg, "Scheduling-Based Contention Management Techniques for Transactional Memory", Transactional Memory, pp. 213-227, 2015
3. "Mellor-Crummey and Scott Mutual Exclusion Algorithm", Encyclopedia of Algorithms, pp. 1256-1260, 2016

(b) Refereed articles in scientific journals

1. Yehuda Afek and Danny Hendler, "On the Complexity of Global Computation in the Presence of Link Failures: The General Case." *Distributed Computing* 8(3) (1995) pp 115-120.
2. Faith Ellen, Danny Hendler and Nir Shavit, "On the Inherent Weakness of Conditional Primitives." *Distributed Computing* 8(3) (*special issue of selected paper from PODC 2004*) (2006) pp. 115-120.
3. Danny Hendler, Yossi Lev, Mark Moir and Nir Shavit, "A Dynamic-Sized Nonblocking Work-Stealing Dequeue." *Distributed Computing* 8(4) (*special issue of selected papers from DISC 2004*) (2006) pp 267-277.
4. Danny Hendler and Nir Shavit, "Solo-Valency and the cost of Coordination." *Distributed Computing* 21(1) (2008) pp. 43-54.
5. Danny Hendler and Shay Kutten, "Bounded-Wait Combining: Constructing Robust and High-Throughput Shared Objects." *Distributed Computing* 21(6)(2009) pp. 405-431.
6. Hagit Attiya and Danny Hendler, "Time and Space Lower Bounds for Implementations Using kCAS." *IEEE Transactions on Parallel and Distributed Systems* 21(2) (2010) pp. 162-173.
7. Hagit Attiya, Rachid Guerraoui, Danny Hendler and Petr Kouznetsov, "The Complexity of Obstruction-free Implementations." *Journal of the ACM* 56:4 (2009).
8. Danny Hendler, Nir Shavit and Lena Yerushalmi, "A Scalable Lock-Free Stack Algorithm." *Journal of Parallel and Distributed Computing*, 70(1) (2010) pp. 1-12.
9. Wojciech Golab, Danny Hendler and Philipp Woelfel, "An O(1) RMRs Leader Election Algorithm." *SIAM Journal on Computing* 39(7) (2010) pp. 2726-2760.
10. Anat Bremler-Barr, David Hay, Danny Hendler and Ron M. Roth. "PEDS: a Parallel Error Detection Scheme for TCAM Devices." *iEEE Transactions on Networking* (fast track) 18(5), pp 1665-1675, 2010.

11. Danny Hendler and Philipp Woelfel, "Randomized Mutual Exclusion with Sub-Logarithmic RMR Complexity."
Distributed Computing 24(1) pp 3-19, 2011.
12. Anat Bremler-Barr and Danny Hendler, "Space-Efficient TCAM-Based Classification Using Gray-Coding" *iEEE Transactions on Computers* 61(6) pp 18-30, 2012.
13. Tomer Heber, Danny Hendler and Adi Suissa, "On the Impact of Serializing Contention Management on STM Performance"
Journal of Parallel and Distributed Computing 72(6), pp 739-750, 2012.
14. Wojciech Golab, Vassos Hadzilacos, Danny Hendler and Philipp Woelfel, "RMR-Efficient Implementations of Comparison Primitives Using Read and Write Operations"
Distributed Computing 25(2), pp 109-162, 2012.
15. Anat Bremler-Barr, David Hay and Danny Hendler, "Layered Interval Codes for TCAM-based Classification"
Computer Networks 56(13), pp 3023-3039, 2012.
16. Faith Ellen, Danny Hendler and Nir Shavit,
"On the Inherent Sequentiality of Concurrent Objects", *SIAM journal on computing* 41(3), pp 519-536, 2012.
17. Dave Dice, Danny Hendler and Ilya Mirsky,
"Software-based contention management for efficient compare-and-swap operations", *Concurrency and Computation: Practice and Experience* 26(14), pp 2386-2404, 2014.
18. Daniel Gordon, Danny Hendler and Lior Rokach,
"Fast and space-efficient shapelets-based time-series classification",
Intelligent Data Analysis 19(5): pp. 953-981, 2015.
19. Daniel Gordon, Danny Hendler, Aryeh Kontorovich and Lior Rokach,
"Local shapelets for fast classification of spectrographic measurements",
Expert Systems with Applications 42(6): pp. 3150-3158, 2015.
20. James Aspnes, Hagit Attiya, Keren Censor-Hillel and Danny Hendler,
"Lower bounds for restricted-use objects",
SIAM Journal of Computing (SICOMP) 45(3): pp 734-761, 2016.

21. Yehonatan Cohen and Danny Hendler, "Detection of Malicious Webmail Attachments Based on Propagation Patterns", *Elsevier Knowledge-Based Systems Journal*, 141:67-79, 2018.
22. Yehonatan Cohen, Daniel Gordon and Danny Hendler, "Early Detection of Spamming Accounts in Large-Scale Service Provider Networks", *Elsevier Knowledge-Based Systems Journal*, 142:241-255, 2018.
23. Yehonatan Cohen and Danny Hendler, "Scalable Detection of Server-Side Polymorphic Malware", *Elsevier Knowledge-Based Systems Journal*, 156:113-128, 2018.
24. Hagit Attiya, Armando Castaneda and Danny Hendler, "Nontrivial and Universal Helping for Wait-Free Queues and Stacks", *Journal of Parallel and Distributed Computing*, 121:1-14, 2018.
25. Shlomi Dolev, Anat Eyal, Danny Hendler, Philipp Derbeko and Marina Kogan-Sadetsky, "Upper Bounds for Multi-Level Multi-Server Paging", *Information Processing Letters*, accepted for publication, 2018.

(c) Refereed articles in Peer-reviewed Conference Proceedings

1. 1993, Yehuda Afek and Danny Hendler, "On the Complexity of Global Computation in the Presence of Link Failures: the General Case", *Proc. 2'nd Israel Symposium on Theory of Computing (ISTCS93)* pp. 160-166.
2. 2002, Danny Hendler and Nir Shavit, "Work dealing.", *Proc. 14th ACM Symposium on Parallel Algorithms and Architectures (SPAA02)*, pp. 164-172.
3. 2002, Danny Hendler and Nir Shavit "Non-blocking steal-half work queues", *Proc. 21st ACM Symposium on Principles of Distributed Computing (PODC02)* pp. 280-289.
4. 2003, Danny Hendler and Nir Shavit, "Operation-Valency and the Cost of Coordination", *Proc. 22nd ACM Symposium on Principles of Distributed Computing (PODC03)* pp. 84-91.
5. 2004, Faith Ellen, Danny Hendler and Nir Shavit, "On the Inherent Weakness of Conditional Synchronization Primitives", *Proc. 23rd ACM Symposium on Principles of Distributed Computing (PODC04)* pp. 80-87. *Invited to a special issue of selected papers from PODC 2004*.

6. 2004, Danny Hendler, Yossi Lev and Nir Shavit, "Dynamic Memory ABP Work-Stealing", *Proc. 18th International Conference on Distributed Computing (DISC04)* pp. 188-200. *Invited to a special issue of selected papers from DISC 2004*.
7. 2004, Danny Hendler, Nir Shavit and Lena Yerushalmi, "A scalable lock-free stack algorithm", *Proc. 16th ACM Symposium on Parallel Algorithms and Architectures (SPAA04)* pp. 206-215.
8. 2005, Hagit Attiya and Danny Hendler, "Time and Space Lower Bounds for Implementations Using kCAS", *Proc. 19th International Conference on Distributed Computing (DISC05),* pp. 169-183.
9. 2005, Faith Ellen Fich, Danny Hendler and Nir Shavit, "Linear Lower Bounds on Real-World Implementations of Concurrent Objects", *Proc. 46th iEEE Symposium on Foundations of Computer Science (FOCS05),* pp. 165-173.
10. 2006, Danny Hendler and Shay Kutten, "Constructing Shared Objects that are Both Robust and High-Throughput", *Proc. 20th International Conference on Distributed Computing (DISC06)* pp. 428-442.
11. 2006, Hagit Attiya, Rachid Guerraoui, Danny Hendler and Petr Kouznetsov, "Synchronizing Without Locks is Inherently Expensive", *Proc. 25th ACM Symposium on Principles of Distributed Computing (PODC06),* pp. 300-307.
12. 2006, Wojciech Golab, Danny Hendler and Philipp Woelfel, "An O(1) RMRs Leader Election Algorithm", *Proc. 25th ACM Symposium on Principles of Distributed Computing (PODC06)* pp. 238-247.
13. 2007, Anat Bremler-Barr and Danny Hendler, "Space-Efficient TCAM-Based Classification Using Gray-Coding", *Proc. 26th iEEE International Conference on Computer Communication (INFOCOM07)* pp. 1388-1396.
14. 2007, Wojciech Golab, Vassos Hadzilacos, Danny Hendler and Philipp Woelfel, "Constant-RMR Implementations of CAS and Other Synchronization Primitives Using Read and Write Operations", *Proc. 26th ACM Symposium on Principles of Distributed Computing (PODC07)* pp. 3-12. *Invited to a special issue of selected papers from PODC 2007*.

15. 2008, Nurit Gal-Oz, Ehud Gudes and Danny Hender, "A Robust and Knot-Aware Trust-Based Reputation Model", *Proc. Of Joint ITrust and PST Conference on Privacy, Trust Management and Security (IFIPTM08)*, pp. 167-182.
16. 2008, Hagit Attiya, Danny Hendler and Philipp Woelfel, "Tight RMR Lower Bounds for Mutual Exclusion and Other Problems", *Proc. Of 40th ACM Symposium on Theory of Computing (STOC08*) pp 217-226.
17. 2008, Shlomi Dolev, Danny Hendler and Adi Suissa, "CAR-STM: Scheduling-Based Collision Avoidance and Resolution for Software Transactional Memory", *Proc. 27th ACM Symposium on Principles of Distributed Computing (PODC08)* pp 125-134.
18. 2009, Anat Bremler-Barr, David Hay and Danny Hendler, "Layered Interval Codes for TCAM-based Classification", *Proc. 28th iEEE International Conference on Computer Communication (INFOCOM09)* pp. 1305-1313.
19. 2009 Anat Bremler-Barr, David hay, Danny Hendler and Ron M. Roth, "PEDS: A Parallel Error Detection Scheme for TCAM Devices", *Proc. 28th iEEE International Conference on Computer Communication (INFOCOM09)*, pp. 1296-1304. Best paper award runner-up. *Invited to the fast track of iEEE/ACM Transactions on Networking*.
20. 2009, Danny Hendler and Philipp Woelfel, "Randomized Mutual Exclusion in O(log N / log log N) RMRs", *Proc. 28th ACM Symposium on Principles of Distributed Computing (PODC09)* pp. 26-35. *Invited to a special issue of selected papers from PODC 2009*.
21. 2009, Tomer Heber, Danny Hendler and Adi Suissa, "On the Impact of Serializing Contention Management on STM Performance", *Proc. 13th International Conference on Principles of Distributed Computing (OPODIS*09), pp. 225-239.
22. 2010, Alexandra Fedorova, Pascal Felber, Danny Hendler, Julia Lawall, Walther Maldonado, Patrick Marlieer, Gilles Muller and Adi Suissa, "Scheduling Support for Transactional Memory Contention Management", *Proc. 15th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP10)*, pp. 79-90.

23. 2010, Danny Hendler, Itai Incze, Nir Shavit and Moran Tzafrir, "Flat Combining and the Synchronization-Parallelism Tradeoff", *Proc. 22nd ACM Symposium on Parallel Algorithms and Architectures (SPAA10)*, pp. 355-364.
24. 2010, Danny Hendler and Philipp Woelfel, "Adaptive Randomized Mutual Exclusion in Sub-Logarithmic Expected Time", *Proc. 29th ACM Symposium on Principles of Distributed Computing (PODC10)*, pp. 141-150.
25. 2010, Danny Hendler, Itai Incze, Nir Shavit and Moran Tzafrir, "Scalable Flat-Combining based Synchronous Queues", *Proc. 24th International Symposium on Distributed Computing (DISC10)*, pp. 79-93.
26. 2010, Danny Hendler, Shay Kutten and Erez Michalak, "An Adaptive Technique for Constructing Robust and High-Throughput Shared Objects", *Proc. 14th International Conference on Principles of Distributed Computing (OPODIS10)*, pp 318-332.
27. 2011, Hagit Attiya, Rachid Guerraoui, Danny Hendler, Petr Kuznetsov, Maged Michael and Martin Vechev, "Laws of Order: Expensive Synchronization in Concurrent Algorithms Cannot be Eliminated", *Proc. 38th Symposium on Principles of Programming Languages (POPL11)*, pp 487-498.
28. 2011 Aryeh Kontorovich, Danny Hendler and Eitan Menachem, "Metric Anomaly Detection via Asymmetric Risk Minimization", *Proc. 1st workshop on Similarity-based Pattern Analysis and Recognition (SIMBAD11)*, pp. 17-30.
29. 2011 Gal Bar-Nissan, Danny Hendler and Adi Suissa, "A Dynamic Elimination-Combining Stack Algorithm", *Proc. 15th International Conference on Principles of Distributed Computing (OPODIS*11), pp 544-561.
30. 2012 James Aspnes, Hagit Attiya, Keren Censor-Hillel and Danny Hendler, "Lower Bounds for Restricted-Use Objects", *Proc. 24th ACM Symposium on Parallel Algorithms and Architectures (SPAA12)*, pp 172-181.
31. 2013 Yehonatan Cohen, Danny Hendler and Daniel Gordon, "Early Detection of Outgoing Spammers in Large-Scale Service

Provider Networks", *Proc. 10th Conference on Detection of Intrusions and Malware & Vulnerability Assessment* (DIMVA13), pp 83-101.

32. 2013 Hagit Attiya, Danny Hendler and Smadar Levy, "An O(1)-Barriers Optimal RMRs Mutual Exclusion Algorithm", *Proc. 32nd Symposium on Principles of Distributed Computing* (PODC13), pp 220-229.
33. 2013 Dave Dice, Danny Hendler and Ilya Mirsky, "Lightweight Contention Management for Efficient Compare-and-Swap Operations", *International European Conference on Parallel and Distributed Computing* (Euro-Par13), pp 595-606. (Invited to the "best papers journal issue of Euro-Par 2013.)
34. 2013 Danny Hendler, Alex Nayman, Sebastiano Peluso, Francesco Quaglia, Paolo Romano and Adi Suissa, "Exploiting Locality in Lease-Based Replicated Transactional Memory via Task Migration", *Proc. 27th International Conference on Distributed Computing (DISC13),* pp 121-133.
35. 2014 Danny Hendler and Vitaly Khait, "Complexity Tradeoffs for Read and Update Operations", *Proc. 33rd Symposium on Principles of Distributed Computing* (PODC14), pp. 185-195.
36. 2015 Yehonatan Cohen and Danny Hendler, "Birds of a feather flock together: the accidental communities of spammers", ASONAM-FOSINT, pp. 986-993.
37. 2015 Hagit Attiya, Danny Hendler and Philipp Woelfel, "Trading fences with RMRs and separating memory models", *Proc. 34th Symposium on Principles of Distributed Computing* (PODC15), pp. 173-182.
38. 2015 Ohad Ben-Baruch and Danny Hendler, "The price of being adaptive", *Proc. 34th Symposium on Principles of Distributed Computing* (PODC15), pp. 183-192.
39. 2015 Hagit Attiya, Armando Castañeda and Danny Hendler, "Nontrivial and Universal Helping for Wait-Free Queues and Stacks", *Proc. 19th International Conference on Principles of Distributed Computing (OPODIS15),* pp. 31:1-31:16.
40. 2016 Hagit Attiya, Ohad Ben-Baruch and Danny Hendler, "Lower Bound on the Step Complexity of Anonymous Binary Consensus",

Proc. 30th International Symposium on Distributed Computing (DISC16), pp. 257-268.

41. 2016 Danny Hendler, "On the Complexity of Reader-Writer Locks: Extended Abstract", *Proc. 35th Symposium on Principles of Distributed Computing* (PODC16), pp. 315-324.
42. 2017 Yehonatan Choen, Danny Hendler and Amir Rubin, "Node-Centric Detection of Overlapping Communities in Social Networks, *13th International Conference and School on Advances in Network Science* (NetSci-X17)
43. 2017 Wojciech M. Golab and Danny Hendler, "Recoverable Mutual Exclusion in Sub-logarithmic Time", *Proc. 36th Symposium on Principles of Distributed Computing* (PODC17), pp. 211-220.
44. 2017 Tomer Cohen, Danny Hendler, Dennis Potashnik, "Supervised Detection of Infected Machines Using Anti-virus Induced Labels - (Extended Abstract)", *Cyber Security Cryptography and Machine Learning - First International Conference* (CSCML17), pp. 34-49.
45. 2018 Or Ami, Yuval Elovici and Danny Hendler, "Ransomware Prevention using Application Authentication-Based File Access Control", *Proc 33rd ACM/SIGAPP Symposium On Applied Computing*" (SAC 2018), pp. 1610-1619.
46. 2018 Shay Kels, Amir Rubin and Danny Hendler, "Detecting Malicious PowerShell Commands Using Deep Neural Networks", *Proceedings of the 2018 (ACM) Asia Conference on Computer and Communication Security* (AsiaCCS 2018), pp. 187-197.
47. 2018 Hagit Attiya, Armando Castaneda, Danny Hendler and Matthieu Perrin ,"Separating Lock-Freedom from Wait-Freedom", *Proc. 37th Symposium on Principles of Distributed Computing* (PODC18), pp. 41-50.
48. 2018 Hagit Attiya, Ohad Ben-Baruch and Danny Hendler, "Nesting-Safe Recoverable Linearizability: Modular Constructions for Non-Volatile Memory", *Proc. 37th Symposium on Principles of Distributed Computing* (PODC18), pp. 7-16.
49. 2018 Wojciech Golab and Danny Hendler, "Recoverable Mutual Exclusion Under System-Wide Failures", *Proc. 37th Symposium on Principles of Distributed Computing* (PODC18), pp. 17-26.

• **Lectures and Presentations at Meetings and Invited Seminars**

(a) Invited plenary lectures at conferences/meetings

1. 2008, "CAR-STM: Scheduling-Based Collision Avoidance and Resolution for Software Transactional Memory", Transactional Memory Seminar, Dagstuhl seminar, Germany. https://www.dagstuhl.de/program/calendar/partlist/?semnr=08241
2. 2012, "A dynamic elimination-combining stack", "abstractions for scalable multi-core computing", Dagstuhl Seminar, Germany. https://www.dagstuhl.de/program/calendar/partlist/?semnr=12161
3. 2012, "Lower-bounds on restricted-use objects", "Probabilistic versus deterministic techniques for shared memory computation", BIRS seminar, Canada. https://www.birs.ca/events/2012/5-day-workshops/12w5122/participants
4. 2016, "The backtracking covering proof technique", "Complexity and analysis of distributed algorithms", BIRS seminar, Mexico https://www.birs.ca/events/2016/5-day-workshops/16w5152/participants.
5. 2017, "Recoverable Mutual Exclusion in Sub-Logarithmic Time", "New Challenges in Parallelism", Dagstuhl seminar, Germany. https://www.dagstuhl.de/program/calendar/partlist/?semnr=17451

(b) Presentation of papers at conferences/meetings

1. 1993, "On the Complexity of Global Computation in the Presence of Link Failures: The General Case", 2'nd Israel Symposium on Theory of Computing (ISTCS93), Natanya, Israel.

2. 2002, "Work Dealing", 14th ACM Symposium on Parallel Algorithms and Architectures (SPAA02), Winnipeg, Canada.
3. 2002, "Non-Blocking Steal-Half Work Queues", 21st ACM Symposium on Principles of Distributed Computing (PODC02), Monterey, USA.
4. 2003, "Operation-Valency and the Cost of Coordination", 22nd ACM Symposium on Principles of Distributed Computing (PODC03), Boston, USA
5. 2004, "On the Inherent Weakness of Conditional Synchronization Primitives", 23rd ACM Symposium on Principles of Distributed Computing (PODC04), St. John's, Canada.
6. 2006, "Constructing Shared Objects that are both Robust and High-Throughput", 20th International Conference on Distributed Computing (DISC06), Stockholm, Sweden.
7. 2008, " Tight RMR Lower Bounds for Mutual Exclusion and Other Problems", 27th ACM Symposium on Principles of Distributed Computing (PODC08), Toronto, Canada.
8. 2009, "Randomized Mutual Exclusion in O(log N/log log N) RMRs", 28th ACM Symposium on Principles of Distributed Computing (PODC09), Calgary, Canada.
9. 2013, "An O(1)-barriers optimal RMRs mutual exclusion algorithm", 32th ACM Symposium on Principles of Distributed Computing (PODC13), Montreal, Canada.
10. 2013, "Brief announcement: an asymmetric flat-combining based queue algorithm", 32th ACM Symposium on Principles of Distributed Computing (PODC13), Montreal, Canada.
11. 2014, "Complexity tradeoffs for read and update operations", *33rd* Symposium on Principles of Distributed Computing (PODC14), Paris, France.
12. 2015, "Nontrivial and Universal Helping for Wait-Free Queues and Stacks", 19th International Conference on Principles of Distributed Computing (OPODIS15), Rennes, France.
13. 2016, "On the Complexity of Reader-Writer Locks: Extended Abstract", 35th Symposium on Principles of Distributed

Computing (PODC16), Chicago, USA.

(c) Presentations at informal international seminars and workshops

1. 2007, "Efficient TCAM-Based Classification Using Gray Coding", Israeli Networking Seminar, Cisco, Natanya, Israel.
2. 2008, "Scheduling-Based Collision Avoidance and Resolution for Software Transactional Memory", multi-core day, Frankel center, Ben-Gurion university.
3. 2009, "Transactional Memory Scheduling", parallel computing day, Frankel center ,Ben-Gurion university.
4. 2010, "Scheduling-Based Transactional Memory", Workshop on New Topics in Distributed Algorithms, EPFL, Lausanne.
5. 2011, "Scheduling-Based Transactional Memory Contention Management", 3rd workshop on the theory of transactional memory (WTTM 2011), Rome.

(d) Seminar presentations at universities and institutions

1. 2003, "On the Inherent Weakness of Conditional Synchronization Primitives", University of Toronto, Canada.
2. 2004, "On the Inherent Weakness of Conditional Synchronization Primitives", York University, Canada.
3. 2004, "A Tight Time-Bound for Distributed Counting", Ben-Gurion University.
4. 2005, "A Tight Time-Bound for Distributed Counting", Weizmann Institute of Science.
5. 2005, "A Tight Time-Bound for Distributed Counting", Haifa University.
6. 2005, "A Tight Time-Bound for Distributed Counting", Bar-Ilan University.
7. 2006, "A Tight Time-Bound for Distributed Counting", the Inter-Disciplinary center.
8. 2009, "Randomized Mutual Exclusion in O(log N/log log N) RMRs", Calgary University.

9. 2012, "Laws of order: expensive synchronization in concurrent algorithms cannot be eliminated", distribute computing half-day seminar, TAU
10. 2016, "Birds of a Feather Flock Together: The Accidental Communities of Spammers", BGU Cyber Center Seminar
11. 2016, "On the Complexity of Reader-Writer Locks", distributed computing seminar, TAU
12. 2016, "Time-Based and Community-Based Malware Detection", Microsoft seminar.
13. 2017, "Early detection of malicious webmail attachments based on propagation patterns", BGU Cyber Center Seminar
14. 2018, "Recoverable Concurrent Objects", Technion Distributed Computing Seminar.
15. 2018, "Recoverable Mutual Exclusion Under System-Wide Failures", Tel-Aviv PODC day.
16. 2018, "The mutual exclusion problem: new twists on an old tale", LaBRI, Bordueax university, France
17. 2018, "Modular Constructions for Non-Volatile Memory", Chalmers University, Gothenburg, Sweden.

• **Patents**

1. 2002, "Method for accelerating java virtual machine bytecode verification, just-in-time compilation and garbage collection by using a dedicated co-processor", United States Patent 6,473,777
2. 2014, "Efficient detection of errors in associative memory", United Stated Patent 8,887,026
3. 2017, "A system and method for authentication-based access control", Provisional Patent 62/507,245

• **Research Grants**

Competitive grants

[2006-2010] ISF grant 13448/06, "Congestion-Aware Complexity for the Emerging Paradigms in Distributed Computing", 283,000 NIS. (PIs: Shay Kutten and Nir Shavit. I am not a PI on this research since it was written

while I was a post-doc. Grant was split 3-ways between PIs and myself).
[2010-2014] ISF grant 1227/10, "Building blocks for multi-core scalable synchronization", 888,000 NIS. (PIs: Hagit Attiya and Danny Hendler).
[2012-2015] Cyber MAGNET, "Distributed Anomaly detection", 363,000 NIS X3. (PIs: Ehud Gudes, Danny Hendler, Amnon Meisels).
[2014-2018] "Scalable Synchronization for Relaxed Memory Models", 1,040,000 NIS, ISF grant (PIs: Hagit Attiya, Danny Hendler).
[2018-2022] "Foundations and algorithms for non-volatile RAM", ISF grant 380/18, 1,118,000 NIS (PIs: Hagit Attiya, Danny Hendler)

Other grants

[2012-2013] Deutsche Telekom, "Anomaly detection for IT servers", 480,000 Euro. (PIs: Danny Hendler)
[2012] Deutsche Telekom, "Pre-study for anomaly detection for IT servers", 40,000 Euro. (PIs: Danny Hendler)
[2012-2013] EMC, "Adaptive techniques for efficient flash-based distributed storage", 100K NIS. (PIs: Shlomi Dolev, Danny Hendler).
[2011] Intel lab support for my "Scalable Multi-Core Programming Lab", 66,000 NIS. (PIs: Danny Hendler)
[2010-2012] Deutsche Telecom, "Anomaly Detection and Early Warning System", 1,000,000 EURO (PIs: Yuval Elovichi, Ehud Gudes, Danny Hendler, Aryeh Kontorovich, Lior Rokach and Yuval Shachar).
[2007] Intel grant 82517101, "Scheduling-based transactional memory" 64,124 NIS
[2007-2009] Deutsche telekom, "AAA study TRIC", grant 82451601. 900,000 EURO (PIs: Shlomi Dolev, Yuval Elovichi, Ehud Gudes, Danny Hendler and Amnon Meseils)
[2008] January 2008, "Fault-resilient TCAM", Cisco grant 8261801, $75,000 (PIs: Anat Bremler-Barr, Danny Hendler and Ron M. Roth).
[2008] Intel grant 81172201, $20,000
[2009-2010] Deutsche Telecom, "spam mitigation for IPv6", 400,000 EURO (PIs: Yuval Elovichi, Ariel Felner and Danny Hendler)
[2010-2012] Deutsche Telecom, "Anomaly Detection and Early Warning System", 1,000,000 EURO (PIs: Yuval Elovichi, Ehud Gudes, Danny Hendler, Aryeh Kontorovich, Lior Rokach and Yuval Shachar)

[2014-2015] "Adaptive techniques for efficient flash-based distributed storage", $32,000, EMC (PIs: Shlomi Dolev, Danny Hendler)
[2014-2017] "Compromised Entity Detection", 555,555 NIS, BGU Cyber Security Center.
[2016-2017] "Algorithms for huge and small caches", $60,000, EMC (PIs: Shlomi Dolev, Danny Hendler)
[2017-2019] "Enhanced detection of polymorphic malware and malicious web domains", 400,000 NIS, BGU Cyber Security Center.
[2018-2019] "Big data analysis for cyber security", $50,000, Microsoft.

• **Additional Information**

(a) On Program Committee of:

- Symposium on Principles of Distributed Computing (PODC) 2005
- Symposium on Principles of Distributed Computing (PODC) 2006
- Symposium on Distributed Computing (DISC) 2008
- Symposium on Parallelism in Algorithms and Architectures (SPAA) 2008
- International Conference on Distributed Computing and Networking (ICDCN) 2008
- Symposium on Distributed Computing (DISC) 2009
- Symposium on Principles of Distributed Computing (PODC) 2010
- Symposium on Principles of Distributed Computing (PODC) 2013
- Symposium on Distributed Computing (DISC) 2014
- Symposium on Principles of Distributed Computing (PODC) 2015
- International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS) 2016
- Workshop on the Theory of Transactional Memory (WTTM) 2016
- IEEE CS International Conference on Software Science, Technology, and Engineering (SwSTE) 2016
- International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS) 2017
- International Symposium on Cyber Security, Cryptography and Machine Learning (CSCML) 2017
- International Conference on Distributed Computing Systems (ICDCS), 2018

- International Symposium on Cyber Security Cryptography and Machine Learning (CSCML), 2018
- International Colloquium on Structural Information and Communication Complexity (SIROCCO), 2018
- Principles and Practice of Parallel Programming (PPoPP), 2019.
- International Conference on Distributed Computing Systems (IDCDS), 2019.
- International Symposium on Cyber Security, Cryptography and Machine Learning (CSCML) 2019, co-chair.