

Boaz Patt-Shamir

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Research interests

Distributed algorithms; communication networks; recommender systems.

Current Position

Professor, School of Electrical Engineering, Tel Aviv University.

Education

Tel Aviv University, Tel Aviv, Israel

B.Sc. *Cum Laude*, Mathematics and Computer Science, 1988.

Weizmann Institute of Science, Rehovot, Israel

M.Sc. in Computer Science, 1990. Adviser: David Peleg. Thesis title: Time-Space Tradeoffs for Set Operations.

Massachusetts Institute of Technology, Cambridge, Massachusetts

Ph.D. Computer Science, 1995. Advisers: Nancy Lynch and Baruch Awerbuch. Thesis title: A Theory of Clock Synchronization.

Research Experience

1990–1994: MIT Laboratory for Computer Science

Research assistant in Theory of Distributed Systems group.

Summer 1992: IBM T.J. Watson Research Center, Yorktown Heights, NY

Intern in the communication group.

1994–1997: College of Computer Science, Northeastern University

Assistant Professor of Computer Science

1997–now: Department of Electrical Engineering–Systems, Tel Aviv University

Lecturer; Senior Lecturer since 2003; Associate Professor since 2007. Sabbatical leave 2002–2004.

Summer 1998: Bellcore and DIMACS

Visiting scientist

2002–2004: Cambridge Research Lab, HP Labs

Member of the Technical Staff

2010–2011: MIT Computer Science and Artificial Intelligence Laboratory

Visiting scientist

Teaching Experience	<p><i>1981–1984: Israel Defense Forces Communication School</i> Instructor and curriculum developer.</p> <p><i>Fall 1992: MIT Laboratory for Computer Science</i> Teaching assistant for <i>Distributed Algorithms</i> class(see Books [1]).</p> <p><i>1995–1997: Northeastern University</i> Taught graduate and undergraduate courses in the College of Computer Science including <i>Operating Systems, Distributed Operating Systems, Automata Theory, Theory of Computation, and Distributed Algorithms.</i></p> <p><i>1997– : Tel Aviv University</i> Developed and taught undergraduate courses (<i>Introduction to Systems Programming, Introduction to Computer Networks, Advanced Laboratory in Computer Networks</i>), and advanced graduate courses (<i>Topics in Multiprocessing, Design and Analysis of Algorithms, Distributed Algorithms</i>). Instructor in the Concentrated MSc Program, School of Computer Science.</p>
Awards and Honors	<p><i>Henry Taub Prize for best student paper</i> 1993 Israel Symposium on Theory of Computing and Systems. (see D.2[5])</p> <p><i>Best paper award (see D.2[77])</i> 2016 18th Int. Symp. on Stabilization, Safety, and Security of Distributed Systems.</p> <p><i>Best paper award (see D.2[79])</i> 2017 19th Int. Symp. on Stabilization, Safety, and Security of Distributed Systems.</p> <p><i>2016-7 List of One Hundred</i> Tel Aviv University recognition of excellence in teaching.</p> <p><i>2023 Prize for Innovation in Distributed Computing</i> The International Colloquium on Structural Information and Communication Complexity (SIROCCO).</p>
Research Grants (External)	<p><i>1996–1999: DARPA</i> Adaptive Software. Project within the Evolution and Design of Complex Systems program. Researcher in a \$750,000 grant.</p> <p><i>1997–2000: Israel Ministry of Science and Technology</i> Content Distribution and Management in the Information Highways. Member PI. Approx. \$80,000 share.</p> <p><i>1998–2001: Israel Ministry of Science and Technology</i> Quality of Service in High-Speed Networks. Coordinating PI. Project total: approx. \$900,000 (13 PIs); own share: approx. \$100,000.</p> <p><i>2004–2007: Israel Ministry of Science and Technology</i> Energy Saving Protocols in Sensor Networks by Localizing Data Computing and Transmissions. Member PI. Approx. \$80,000 share.</p> <p><i>2005–2009: Israel Science Foundation</i> Reputation, Trust and Recommendation Systems in Peer-to-Peer Environments. PI (individual grant). Approx. \$180,000.</p> <p><i>2007–2008: Intel</i> Experimenting with wireless communication using OPNET. PI (individual grant). \$25,000.</p> <p><i>2009–2013: Israel Science Foundation</i> Fast Distributed Network Algorithms. PI (individual grant). Approx. \$140,000.</p>

Research Grants (External, continued)	<i>2009–2010: Microsoft</i> Image Web Search Based on User Behavior. PI (individual grant). \$15,000.
	<i>2009–2012: Israel Ministry of Science and Technology</i> Algorithmic approaches to saving energy in computations, networking, and computer embedded systems. Member PI. Approx. \$130,000 share.
	<i>2014–2016: Israeli-French High Council for Scientific & Technological Research</i> Resource Allocation in the Cloud. Member PI. Approx. \$40,000 share.
	<i>2014–2018: Israel Science Foundation</i> Bandwidth-Aware Distributed Computation. PI (individual grant). Approx. \$250,000.
	<i>2021–2025: Israel Science Foundation</i> Distributed Computing With the Cloud. PI (individual grant). Approx. \$250,000.
Research Grants (Internal)	<i>2008–2009: Pikowsky Fellowship</i> Topics in distributed computing. Post-doctorate fellowship for Yuval Emek (appx. 33000 NIS).
	<i>2015–2016: Post-doctoral Matching Fellowship</i> Global knowledge in bandwidth constrained networks. Post-doctorate fellowship for Avery Miller (appx. 33000 NIS).
	<i>2016–2017: Post-doctoral Matching Fellowship</i> Distributed decisions. Post-doctorate fellowship for Will Rosenbaum (appx. 33000 NIS).
Consortia	<i>1999–2000: Wideband Consortium</i> Algorithms for fast networks. Researcher. Approx. \$20,000 share.
	<i>2006–2011: NeGeV Consortium</i> Group leader: Competitive resource allocation algorithms for next generation video networks. Approx. \$370,000.
	<i>2009–2014: Net-HD Consortium</i> Group co-leader. Topics: Distributed Caching and Coding, Automatic Source Selection in CDNs. Approx. \$360,000.
	<i>2014–2019: Neptune Consortium</i> Group co-leader. Topics: Algorithms for software-defined networks (SDN and NFV). Approx. \$300,000.

Post-Doctoral Associates

- [1] Dror Rawitz: 2006–2013. Research title 2006–2010: “Competitive Resource Allocation for Next Generation Video Networks.” 2011–2013: “Online Set Packing and Applications.”
Currently a faculty member in Bar Ilan University, Israel.
- [2] Gabriel Scalosub: 2007–2008. Research title: “Buffer Management for Next Generation Networks.”
Currently a faculty member in Ben Gurion University, Israel.
- [3] Yuval Emek: 2008–2009. Research title: “Topics in Network Algorithms.”
Currently a faculty member in the Technion, Israel.
- [4] Sven Köhler: 2013–2014. Research title: “Self-Stabilizing Optimization Algorithms.”
- [5] Avery Miller: 2015–2016. Research title: “Global Knowledge in Bandwidth-Constrained Networks.”
Currently a faculty member in University of Manitoba, Canada.
- [6] Will Rosenbaum: 2016–2018. Research title: “Distributed Decisions.”
Currently a faculty member in Amherst College, USA.

PhD Students

- [1] Zvi Lotker: 1999–2003. Thesis title: “Algorithms in Networks.”
Currently a faculty member in Bar Ilan University, Israel.
- [2] Alexander Zadorojnyi (with Guy Even): 2010–2012. Thesis title: “Optimization Algorithms for Stochastic Networks.”
Currently a staff member in IBM Haifa Research Lab, Israel.
- [3] Moti Medina (with Guy Even): 2010–2014. Thesis title: “Online Algorithms in Computer Networks.”
Currently a faculty member in Bar Ilan University, Israel.
- [4] Aviv Nisgav: 2006–2011 (dissertation not submitted). Thesis title: “Interactive Recommender Systems.”
- [5] Mor Perry (née Baruch): 2014–2019. Thesis title: “Efficient Verification in Distributed Networks.”
Currently a faculty member in The Academic College of Tel Aviv-Yaffo, Israel.

MSc Students

- [1] Igor Ziper: 1998–2000 (with Amotz Bar-Noy). Thesis title: “Broadcast Disks with Polynomial Cost Functions.”
- [2] Aviv Nisgav: 1998–2000. Thesis title: “Nearly Optimal Perfectly Periodic Schedules.”
- [3] Avi Hagai: 1998–2000. Thesis title: “Multiple Priority, Per Flow, Dual GCRA Rate Controller for ATM Switches.”
- [4] Vladimir Dreizin: 1999–2001. Thesis title: “A Tree-based Approach to Perfectly Periodic Scheduling.”
- [5] Zvika Brakerski: 2001–2002. Thesis title: “General Perfect Periodic Scheduling.” Received the Intel Prize, 2002. Currently a faculty member in the Weizmann Institute, Israel.
- [6] Alon Shafrir: 2005–2006. Thesis title: “Approximate Top- k Queries in Sensor Networks.”
- [7] Ofer Lapid: 1999–2007. Thesis title: “Optimal Smoothing Schedules for Real-Time Streams.”
- [8] Alex Kipnis: 2006–2008. Thesis title: “Distributed Stable Marriage Protocols.”
- [9] Marat Teplitsky: 2010–2013. Thesis title: “The Round Complexity of Distributed Sorting.”
- [10] Amir Levi: 2012–2014. Thesis title: “Non-Additive Two-Option Ski Rental.”
- [11] Mor Baruch: 2012–2014. Thesis title: “Randomized Proof Labeling Schemes.”
- [12] Yuval Carmel: 2013–2015. Thesis title: “Comparison-Based recommender Algorithms.”
- [13] Evyatar Yadaï: 2013–2019. Thesis title: “Non-Linear Ski Rental.”
- [14] Ilya Melamed: 2019–2021 (expected). Thesis title: “Treasure Hunt in Hyperspace.”
- [15] Gal Giladi (with Yehuda Afek): 2020–2021. Thesis title: “Distributed Computing With the Cloud.”
- [16] Chay Machluf: 2020–2022. Thesis title: “Online Disengagement (Online Recoloring).”
- [17] Harel Hundert (with Yaakov Stein): 2020–2022 (expected).

Service *Journals: Guest Editor*

Theory of Computing Systems:

- SPAA 2007 special issue
- SIROCCO 2015 special issue
- SIROCCO 2018 special issue

Distributed Computing:

- PODC 2008 special issue

Conferences: Technical Program Committee Member

1995: ICDCS

1997: PODC

1998: DISC

2000: IEEE Israel

2002: SIROCCO

2003: PODC

2004: PODC

2005: IWDC, PODC

2006: DCOSS, ENC, OPODIS, PODC

2007: IPTPS, SENSORCOMM, SPAA

2008: LATIN, OPODIS, PODC (**chair**)

2009: SSS

2010: DCOSS, STACS, SIROCCO (**chair**)

2011: PODC, FOCS, OPODIS

2012: ICDCN, ICALP, ICDCS, SPAA, DISC, Israel Networking Seminar (**chair**)

2014: ICALP, ICDCS, DISC, OPODIS, P2P

2015: SIROCCO, P2P

2016: SPAA

2017: ICALP, SPAA, IPDPS, NetSciCom, DISC, SSS

2018: PODC, SIROCCO (**co-chair**)

2020: DISC

2021: SODA, SIROCCO, PODC, SPAA

2022: PODC, DISC, FUN

2023: SIROCCO, ALGOWIN

Referee

Reviewer for numerous scientific conferences and journals, funding institutions, academic promotions, publishers.

Council for Higher Education (MALAG)

Member of a committee reviewing BSc programs in computer engineering (2006–2009).

Boaz Patt-Shamir: List of Publications

A Books Authored

- [1] *Distributed Algorithms (Lecture Notes for 6.852)*. With N. Lynch (439 pages). Research Seminar Series, MIT/LCS/RSS-20, January 1993.

B Original Articles

Published

- [1] D. Peleg and B. Patt-Shamir. *Time-Space Tradeoffs for Set Operations*. In *Theoretical Computer Science*, 110:99–129, 1993.
- [2] Y. Mansour and B. Patt-Shamir. *Greedy Packet Scheduling on Shortest Paths*. In *Journal of Algorithms*, 14(3):449–465, 1993. Proceedings version in PODC '91 [D.2\[3\]](#).
- [3] B. Awerbuch, B. Patt-Shamir and G. Varghese. *Self-Stabilizing End-to-End Communication*. In *Journal of High Speed Networks*, 5(4), 1996. Proceedings version in FOCS '91 [D.2\[2\]](#).
- [4] J. Palsberg, B. Patt-Shamir and K. Lieberherr. *A New Approach to Compiling Adaptive Programs*. In *Science of Computer Programming*, 29(3):303–326, 1997.
- [5] S. Kutten and B. Patt-Shamir. *Stabilizing Time-Adaptive Protocols*. In *Theoretical Computer Science*, 220(1):93–111, 1999. Proceedings version in PODC '97 [D.2\[12\]](#).
- [6] Z. Lotker and B. Patt-Shamir. *A Note on Randomized Mutual Search*. In *Information Processing Letters*, 71(5–6): 187–192, 1999. Brief Announcement in WDAG '99.
- [7] S. Kutten, R. Ostrovsky and B. Patt-Shamir. *The Las-Vegas Processor Identity Problem (How and When to Be Unique)*. In *Journal of Algorithms*, 37:468–494, 2000. Proceedings version in ISTCS '93 [D.2\[5\]](#).
- [8] Y. Frankel, B. Patt-Shamir and Y. Tsiounis. *Exact Analysis of Exact Change*. In *SIAM Journal of Discrete Mathematics*, 13(4):436–453, 2000. Proceedings version in ISTCS '97 [D.2\[11\]](#).
- [9] Y. Mansour and B. Patt-Shamir. *Jitter Control in QoS Networks*. In *IEEE/ACM Transactions on Networking* 9(4):492–502, 2000. Proceedings version in FOCS '98 [D.2\[14\]](#).
- [10] A. Bar-Noy, A. Nisgav and B. Patt-Shamir. *Nearly Optimal Perfectly Periodic Schedules*. In a special issue of *Distributed Computing* 15:207–220, 2002. Proceedings version in PODC '01 [D.2\[21\]](#).
- [11] Z. Lotker and B. Patt-Shamir. *Average-Case Analysis of Greedy Packet Scheduling*. In *Theory of Computing Systems* 35(6):667–683, 2002. Proceedings version in PODC '00 [D.2\[18\]](#).
- [12] Z. Lotker and B. Patt-Shamir. *Nearly Optimal FIFO Buffer Management for Two Packet Classes*. In *Computer Networks*, 42(4):481–492, 2003. Proceedings version in PODC '02, [D.2\[24\]](#).
- [13] Z. Brakerski, V. Dreizin and B. Patt-Shamir. *Dispatching in Perfectly-Periodic Schedules*. In *Journal of Algorithms* 49(2):219–239, 2003.
- [14] K. Lieberherr, B. Patt-Shamir and D. Orleans. *Traversals of object structures: Specification and efficient implementation*. In *ACM Transactions on Programming Languages and Systems* 26(2): 370–412, 2004.
- [15] Y. Mansour, B. Patt-Shamir and O. Lapid. *Optimal Smoothing Schedules for Real-Time Streams*. In *Distributed Computing* 17(1):77–89, 2004. Proceedings version in PODC '00, [D.2\[17\]](#).
- [16] Z. Lotker, B. Patt-Shamir and A. Rosén. *New Stability Results for Adversarial Queuing*. In *SIAM Journal on Computing* 33(2):286–303, 2004. Proceedings version in [D.2\[26\]](#).

- [17] A. Bar-Noy, V. Dreizin and B. Patt-Shamir. *Efficient Algorithms for Periodic Scheduling*. In *Computer Networks* 45(2):155–173, 2004. Proceedings version in INFOCOM '02, [D.2\[23\]](#).
- [18] A. Kesselman, Z. Lotker, Y. Mansour, B. Patt-Shamir, B. Schieber and M. Sviridenko. *Buffer Overflow Management in QoS Switches*. In *SIAM Journal on Computing* 33(3):563–583, 2004. Proceedings version in STOC '01, [D.2\[20\]](#).
- [19] A. Bar-Noy, B. Patt-Shamir and I. Ziper. *Broadcast Disks With Polynomial Cost Functions*. In *Wireless Networks* 10(2):157–168, 2004. Proceedings version in INFOCOM '00, [D.2\[16\]](#).
- [20] Z. Lotker, B. Patt-Shamir, E. Pavlov and D. Peleg. *Minimum-Weight Spanning Tree Construction in $O(\log \log n)$ Communication Rounds*. In *SIAM Journal on Computing* 35(1):120–131, 2005. Proceedings version in SPAA '03, [D.2\[27\]](#).
- [21] Z. Brakerski and B. Patt-Shamir. *Jitter-Approximation Tradeoff for Periodic Scheduling*. In “Selected papers of WMAN 2004” issue of *Wireless Networks*, 12(6):723–731, 2006. Proceedings version in WMAN '04, [D.2\[30\]](#).
- [22] Z. Brakeski, A. Nisgav and B. Patt-Shamir. *General Periodic Scheduling*. In *Algorithmica* 45(2):183–208, 2006. Proceedings version in PODC '02, [D.2\[25\]](#).
- [23] Z. Lotker, B. Patt-Shamir and D. Peleg. *Distributed MST for Constant Diameter Graphs*. In *Distributed Computing* 18(6):453–460, 2006. Proceedings version in PODC '01, [D.2\[22\]](#).
- [24] B. Awerbuch, S. Kutten, Y. Mansour, B. Patt-Shamir and G. Varghese. *Time Optimal Self-Stabilizing Synchronizers Using Phase Clocks*. In *IEEE Trans. on Dependable and Secure Computing* 4(3): 180–190, 2007. Proceedings version in STOC '93, [D.2\[4\]](#).
- [25] B. Patt-Shamir. *A Note on Efficient Aggregate Queries in Sensor Networks*. In *Theoretical Computer Science* 370:254–264, 2007. Proceedings version in PODC '04, [D.2\[32\]](#).
- [26] B. Awerbuch, Y. Azar, Z. Lotker, B. Patt-Shamir and M. Tuttle. *Collaborate With Strangers To Find Own Preferences*. In *Theory of Computing Systems* special issue on SPAA '05, 42(1):27–41, 2008. Proceeding version in SPAA '05, [D.2\[36\]](#).
- [27] Z. Lotker, B. Patt-Shamir and M. Tuttle. *A Game of Timing and Visibility*. In *Games and Economic Behavior* 62(2): 643–660, 2008. Proceedings version in SPAA '06, [D.2\[41\]](#).
- [28] B. Patt-Shamir and A. Shafrir. *Approximate Distributed Top-k Queries*. In *Distributed Computing* 21(1): 1–22, 2008. Proceedings version in SIROCCO '06, [D.2\[39\]](#).
- [29] Z. Lotker, B. Patt-Shamir and D. Rawitz. *Ski Rental with Two General Options*. In *Information Processing Letters* 108: 365–368, 2008.
- [30] N. Alon, B. Awerbuch, Y. Azar and B. Patt-Shamir. *Tell Me Who I Am: An Interactive Recommendation System*. In *Theory of Computing Systems* special issue on SPAA '06, 45(2): 261–279, 2009. Proceedings version in SPAA '06, [D.2\[40\]](#).
- [31] Z. Lotker, B. Patt-Shamir and Adi Rosén. *Distributed Approximate Matching*. In *SIAM Journal on Computing*, 39(2): 445–460, 2009. Proceedings version in PODC '07, [D.2\[42\]](#).
- [32] Y. Azar, S. Kutten and B. Patt-Shamir. *Distributed Error Confinement*. In *ACM Transactions on Algorithms*, 6(3), June 2010. Proceedings version in [D.2\[28\]](#).
- [33] A. Kipnis and B. Patt-Shamir. *On The Complexity of Distributed Stable Matching With Small Messages*. In *Distributed Computing* 23(3):151–161, 2010. Proceedings version in ICDCS '09, [D.2\[51\]](#).
- [34] B. Patt-Shamir and D. Rawitz. *Video Distribution Under Multiple Constraints*. In *Theoretical Computer Science*, 412(29):3717–3730, July 2011. Proceedings version in ICDCS '08, [D.2\[46\]](#).
- [35] Z. Brakerski and B. Patt-Shamir. *Distributed Discovery of Large Near-Cliques*. In *Distributed Computing*, 24(2):79–89, 2011. Proceedings version in DISC '09, [D.2\[53\]](#).
- [36] A. Nisgav and B. Patt-Shamir. *Finding Similar Users in Social Networks*. In *Theory of Computing Systems* SPAA 2009 special issue 49(4):720–737, 2011. Proceedings version in SPAA '09 [D.2\[52\]](#).
- [37] S. Chechik, Y. Emek, B. Patt-Shamir and D. Peleg. *Sparse Reliable Graph Backbones*. In *Information & Computation* 210(2012):31–39. Proceedings version in ICALP '10, [D.2\[55\]](#).

- [38] B. Patt-Shamir, D. Rawitz and G. Scalosub. *Distributed Approximation of Cellular Coverage*. In *Journal of Parallel and Distributed Computing* 72(3):402–408, 2012. Proceedings version in OPODIS '08, [D.2\[49\]](#).
- [39] B. Patt-Shamir and D. Rawitz. *Vector Bin Packing with Multiple-Choice*. In *Discrete Applied Mathematics* 160(10-11):1591–1600, July 2012. Proceedings version in SWAT '10, [D.2\[54\]](#).
- [40] Z. Lotker, B. Patt-Shamir and D. Rawitz. *Rent, Lease or Buy: Randomized Algorithms for Multislope Ski Rental*. In *SIAM Journal on Discrete Mathematics* 26(2):718–736, 2012. Proceedings version in STACS '08, [D.2\[45\]](#).
- [41] Y. Mansour, B. Patt-Shamir and D. Rawitz. *Overflow Management with Multipart Packets*. In *Computer Networks* 41(4):728–746, 2012. Proceedings version in INFOCOM '11, [D.2\[58\]](#).
- [42] Y. Emek, M. Halldórsson, Y. Mansour, B. Patt-Shamir, J. Radhakrishnan and D. Rawitz. *Online Set Packing*. In *SIAM Journal on Computing* 41(4):728–746, 2012. Proceedings version in PODC '10, [D.2\[56\]](#).
- [43] M. Halldórsson, B. Patt-Shamir and D. Rawitz. *Online Scheduling with Interval Conflicts*. In a special issue of *Theory of Computing Systems* on STACS 2011, 53(2):300–317, 2013. Proceedings version in [D.2\[57\]](#).
- [44] A. Kesselman, B. Patt-Shamir and G. Scalosub. *Competitive Buffer Management with Packet Dependencies*. In *Theoretical Computer Science* 489-490:75–87, 2013. Proceedings version in IPDPS 2009, [D.2\[50\]](#).
- [45] Y. Mansour, B. Patt-Shamir and D. Rawitz. *Competitive Router Scheduling with Structured Data*. In *Theoretical Computer Science* 530:12–22, 2014. Proceedings version in WAOA 2011, [D.2\[61\]](#).
- [46] A. Levi and B. Patt-Shamir. *Non-Additive Two-Option Ski Rental*. In a special issue of *Theoretical Computer Science* devoted to the best papers of SIROCCO 2013, 584:42–52. Proceedings version in [D.2\[64\]](#).
- [47] Z. Lotker, B. Patt-Shamir and S. Pettie. *Improved Distributed Approximate Matching*. In *Journal of the ACM* 62(5):38, Nov. 2015. Proceedings version in SPAA 2008, [D.2\[47\]](#).
- [48] B. Applebaum, D. R. Kowalski, B. Patt-Shamir and Adi Rosén. *Clique Here: On the Complexity of Computing in Fully-Connected Networks*. In *Parallel Processing Letters* 26(1), March 2016.
- [49] P. Fraigniaud, M. Halldórsson, B. Patt-Shamir, D. Rawitz and A. Rosén. *Shrinking Maxima, Decreasing Costs: New Online Packing and Covering Problems*. In *Algorithmica* 74(4):1205–1233, April 2016. Proceedings version in APPROX '13, [D.2\[65\]](#).
- [50] Y. Carmel and B. Patt-Shamir. *Comparison-based Interactive Collaborative Filtering*. In *Theoretical Computer Science* 628:40–49 (2016). Proceedings version in SIROCCO 2015, [D.2\[74\]](#).
- [51] M. Halldórsson, S. Köhler, B. Patt-Shamir and D. Rawitz. *Distributed Backup Placement in Networks*. In *Distributed Computing* 31(1):83–98, March 2018. Proceedings version in SPAA 2015, [D.2\[69\]](#).
- [52] Ł. Jeż, Y. Mansour and B. Patt-Shamir. *Scheduling Multipacket Frames With Frame Deadlines*. In *Journal of Scheduling* 20(6):623–634, 2017. Proceedings version in SIROCCO 2015, [D.2\[73\]](#).
- [53] Y. Mansour, B. Patt-Shamir and S. Vardi. *Constant-Time Local Computation Algorithms*. In *Theory of Computing Systems* 62(2):249–267, special issue of dedicated to WAOA 2015, [D.2\[75\]](#). February 2018.
- [54] M. Ghaffari, A. Karrenbauer, F. Kuhn, C. Lenzen and B. Patt-Shamir. *Near-Optimal Distributed Maximum Flow*. In *SIAM Journal on Computing*, 47(6):2078–2117, March 2019. Proceedings version in PODC 2015, [D.2\[72\]](#).
- [55] Y. Babichenko, Y. Emek, M. Feldman, B. Patt-Shamir, R. Peretz and R. Smorodinsky. *Stable Secretaries*. In *Algorithmica*, 81(8):3136–3161, 2019. Proceedings version in EC 2017, [D.3\[8\]](#).
- [56] C. Lenzen, B. Patt-Shamir and D. Peleg. *Distributed Distance Computation and Routing with Small Messages*. In *Distributed Computing* 32(2):133–157, 2019.

- [57] M. Baruch, P. Fraigniaud and B. Patt-Shamir. *Randomized Proof-Labeling Schemes*. In *Distributed Computing*, 32(3):217–234, 2019. Proceedings version in PODC 2015, [D.2\[71\]](#).
- [58] G. Even, M. Medina and B. Patt-Shamir. *Competitive Path Computation and Function Placement in SDNs*. In *Theory of Computing Systems* 63(2):306–325, special issue dedicated to SSS 2016, [D.2\[77\]](#), 2019.
- [59] H. Buhrman, M. Christandl, M. Koucký, Z. Lotker, B. Patt-Shamir and N. Vereshchagin. *High Entropy Random Selection Protocols*. In *Algorithmica* 83:667–694, 2021. Proceedings version in RANDOM 2007, [D.2\[43\]](#)
- [60] B. Patt-Shamir and M. Perry. *Proof-Labeling Schemes: Broadcast, Unicast and In Between*. In *Theoretical Computer Science* 923:179–195, 2022. Proceedings version in SSS’17 [D.2\[79\]](#).
- [61] Y. Azar, C. Machluf, B. Patt-Shamir and N. Touitou. *Competitive Vertex Recoloring (Online Disengagement)*. In *Algorithmica*, in press, 2022. Proceedings version in ICALP’22 [D.2\[84\]](#).
- [62] B. Patt-Shamir and E. Yadai. *Non-Linear Ski Rental*. Accepted to *Theory of Computing Systems*, March 2023.

Submitted

- [1] Y. Afek, G. Giladi and B. Patt-Shamir. *Distributed Computing With the Cloud*. Submitted, September 2022.

C Review Articles

- [1] B. Patt-Shamir. *Transmission of Real Time Streams*. Survey article in *SIGACT News*, 32(3):53–62, September 2001.

D Scientific Meetings

D.1 Invited talks

- [1] *Tell Me Who I Am: An Interactive Recommendation System*. In *Dynamo Workshop*, February 2007, Maribor, Slovenia.
- [2] *Reputation, Trust, and Recommendation Systems in Peer-to-Peer Environments*. In *Large-Scale Distributed Systems and Middleware (LADIS) Workshop*, March 2007, Haifa, Israel.
- [3] *Reputation, Trust and Recommendation Systems in Peer-to-Peer Systems*. Keynote address in *15th International Colloquium on Structural Information and Communication Complexity (SIROCCO 2008)*, June 2008, Villars-sur-Ollon, Switzerland.
- [4] *Algorithmic Recommender Systems*. In *Workshop on Social Networks and Distributed Systems (SNDS 2010)*, July 2010, Zurich, Switzerland.
- [5] *No Piece Missing: Online Set Packing*. Keynote address in *19th International Colloquium on Structural Information and Communication Complexity (SIROCCO 2012)*, June 2012, Reykjavik, Iceland.
- [6] *Algorithmic Recommender Systems*. In *Tsinghua-MIT-CUHK Research Center Workshop on Theoretical Computer Science*, July 2012, Hong Kong, China.
- [7] *Low-Congestion Distributed Algorithms*. Keynote talk in *14th International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2012)*, October 2012, Toronto, Canada.
- [8] *Distributed Computing With The Cloud*. In *23rd International Symposium on Stabilization, Safety, and Security of Distributed Systems (SSS 2021)*, November 2021.

D.2 Extended Papers Presented in Scientific Meetings

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D.3 Short Abstracts Presented in Scientific Meetings

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