

Sergio Rajsbaum

List of Publications by Year in descending order

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Version: 2024-02-01

160
papers

2,150
citations

331259

21
h-index

360668

35
g-index

179
all docs

179
docs citations

179
times ranked

360
citing authors

#	ARTICLE	IF	CITATIONS
1	A Layered Analysis of Consensus. SIAM Journal on Computing, 2002, 31, 989-1021.	0.8	97
2	The BG distributed simulation algorithm. Distributed Computing, 2001, 14, 127-146.	0.7	96
3	Conditions on input vectors for consensus solvability in asynchronous distributed systems. Journal of the ACM, 2003, 50, 922-954.	1.8	68
4	The renaming problem in shared memory systems: An introduction. Computer Science Review, 2011, 5, 229-251.	10.2	53
5	The decidability of distributed decision tasks (extended abstract). , 1997, , .		51
6	On the cost of fault-tolerant consensus when there are no faults. ACM SIGACT News, 2001, 32, 45-63.	0.1	51
7	Mobile Agent Rendezvous: A Survey. Lecture Notes in Computer Science, 2006, , 1-9.	1.0	51
8	Unifying synchronous and asynchronous message-passing models. , 1998, , .		50
9	The Combinatorial Structure of Wait-Free Solvable Tasks. SIAM Journal on Computing, 2002, 31, 1286-1313.	0.8	50
10	A theory of clock synchronization (extended abstract). , 1994, , .		49
11	Algebraic spans. Mathematical Structures in Computer Science, 2000, 10, 549-573.	0.5	49
12	A simple proof of the uniform consensus synchronous lower bound. Information Processing Letters, 2003, 85, 47-52.	0.4	47
13	New combinatorial topology bounds for renaming: the lower bound. Distributed Computing, 2010, 22, 287-301.	0.7	47
14	New combinatorial topology bounds for renaming. Journal of the ACM, 2012, 59, 1-49.	1.8	44
15	Elements of Combinatorial Topology. , 2014, , 41-65.		43
16	Subconsensus Tasks: Renaming Is Weaker Than Set Agreement. Lecture Notes in Computer Science, 2006, , 329-338.	1.0	43
17	ACM SIGACT news distributed computing column 5. ACM SIGACT News, 2001, 32, 34-58.	0.1	42
18	A classification of wait-free loop agreement tasks. Theoretical Computer Science, 2003, 291, 55-77.	0.5	41

#	ARTICLE	IF	CITATIONS
19	Set consensus using arbitrary objects (preliminary version). , 1994, , .		35
20	Asynchronous Agreement and Its Relation with Error-Correcting Codes. IEEE Transactions on Computers, 2007, 56, 865-875.	2.4	31
21	Optimal Clock Synchronization under Different Delay Assumptions. SIAM Journal on Computing, 1996, 25, 369-389.	0.8	29
22	Condition-based consensus solvability: a hierarchy of conditions and efficient protocols. Distributed Computing, 2004, 17, 1-20.	0.7	29
23	New combinatorial topology upper and lower bounds for renaming. , 2008, , .		28
24	Conditions on input vectors for consensus solvability in asynchronous distributed systems. , 2001, , .		27
25	The k-simultaneous consensus problem. Distributed Computing, 2010, 22, 185-195.	0.7	26
26	Power and limits of distributed computing shared memory models. Theoretical Computer Science, 2013, 509, 3-24.	0.5	26
27	Locality and checkability in wait-free computing. Distributed Computing, 2013, 26, 223-242.	0.7	25
28	The Iterated Restricted Immediate Snapshot Model. Lecture Notes in Computer Science, 2008, , 487-497.	1.0	25
29	Algebraic spans. , 1995, , .		23
30	On the Cost of Fault-Tolerant Consensus When There Are No Faults “ A Tutorial. Lecture Notes in Computer Science, 2003, , 366-368.	1.0	23
31	On the performance of synchronized programs in distributed networks with random processing times and transmission delays. IEEE Transactions on Parallel and Distributed Systems, 1994, 5, 939-950.	4.0	20
32	The Combined Power of Conditions and Information on Failures to Solve Asynchronous Set Agreement. SIAM Journal on Computing, 2008, 38, 1574-1601.	0.8	20
33	Recursion in Distributed Computing. Lecture Notes in Computer Science, 2010, , 362-376.	1.0	20
34	The topology of shared-memory adversaries. , 2010, , .		19
35	On the Number of Opinions Needed for Fault-Tolerant Run-Time Monitoring in Distributed Systems. Lecture Notes in Computer Science, 2014, , 92-107.	1.0	19
36	Distributed Programming with Tasks. Lecture Notes in Computer Science, 2010, , 205-218.	1.0	19

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37	Algebraic topology and distributed computing a primer. Lecture Notes in Computer Science, 1995, , 203-217.	1.0	18
38	The unified structure of consensus. , 1998, , .		18
39	Stability of long-lived consensus. Journal of Computer and System Sciences, 2003, 67, 26-45.	0.9	18
40	Bit complexity of breaking and achieving symmetry in chains and rings. Journal of the ACM, 2008, 55, 1-28.	1.8	18
41	Synchronous condition-based consensus. Distributed Computing, 2006, 18, 325-343.	0.7	17
42	Unifying Concurrent Objects and Distributed Tasks. Journal of the ACM, 2018, 65, 1-42.	1.8	17
43	On the Borowsky-Gafni simulation algorithm. , 1996, , .		16
44	On the computability power and the robustness of set agreement-oriented failure detector classes. Distributed Computing, 2008, 21, 201-222.	0.7	16
45	An impossibility about failure detectors in the iterated immediate snapshot model. Information Processing Letters, 2008, 108, 160-164.	0.4	16
46	Simulations and reductions for colorless tasks. , 2012, , .		16
47	The topology of distributed adversaries. Distributed Computing, 2013, 26, 173-192.	0.7	16
48	Specifying Concurrent Problems: Beyond Linearizability and up to Tasks. Lecture Notes in Computer Science, 2015, , 420-435.	1.0	16
49	New Perspectives in Distributed Computing. Lecture Notes in Computer Science, 1999, , 170-186.	1.0	15
50	Using Conditions to Expedite Consensus in Synchronous Distributed Systems. Lecture Notes in Computer Science, 2003, , 249-263.	1.0	14
51	From wait-free to arbitrary concurrent solo executions in colorless distributed computing. Theoretical Computer Science, 2017, 683, 1-21.	0.5	14
52	An Axiomatic Approach to Computing the Connectivity of Synchronous and Asynchronous Systems. Electronic Notes in Theoretical Computer Science, 2009, 230, 79-102.	0.9	13
53	A hierarchy of conditions for consensus solvability. , 2001, , .		12
54	The combined power of conditions and failure detectors to solve asynchronous set agreement. , 2005, , .		12

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55	Challenges in Fault-Tolerant Distributed Runtime Verification. Lecture Notes in Computer Science, 2016, , 363-370.	1.0	12
56	Locality and Checkability in Wait-Free Computing. Lecture Notes in Computer Science, 2011, , 333-347.	1.0	12
57	On the decidability of distributed decision tasks. , 1996, , .		11
58	From to : A simple bounded quiescent reliable broadcast-based transformation. Journal of Parallel and Distributed Computing, 2007, 67, 125-129.	2.7	11
59	Neighbor Discovery in a Sensor Network with Directional Antennae. Lecture Notes in Computer Science, 2012, , 57-71.	1.0	11
60	Iterated Shared Memory Models. Lecture Notes in Computer Science, 2010, , 407-416.	1.0	11
61	A versatile and modular consensus protocol. , 0, , .		10
62	Simultaneous Consensus Tasks: A Tighter Characterization of Set-Consensus. Lecture Notes in Computer Science, 2006, , 331-341.	1.0	10
63	Upper and lower bounds for stochastic marked graphs. Information Processing Letters, 1994, 49, 291-295.	0.4	9
64	Stability of Multivalued Continuous Consensus. SIAM Journal on Computing, 2007, 37, 1057-1076.	0.8	9
65	An Introduction to the Topological Theory of Distributed Computing with Safe-consensus. Electronic Notes in Theoretical Computer Science, 2012, 283, 29-51.	0.9	9
66	The topology of look-compute-move robot wait-free algorithms with hard termination. Distributed Computing, 2019, 32, 235-255.	0.7	9
67	A simplicial complex model for dynamic epistemic logic to study distributed task computability. Information and Computation, 2021, 278, 104597.	0.5	9
68	Musical Benches. Lecture Notes in Computer Science, 2005, , 63-77.	1.0	9
69	The Committee Decision Problem. Lecture Notes in Computer Science, 2006, , 502-514.	1.0	9
70	The Universe of Symmetry Breaking Tasks. Lecture Notes in Computer Science, 2011, , 66-77.	1.0	9
71	A Simplicial Complex Model for Dynamic Epistemic Logic to study Distributed Task Computability. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 277, 73-87.	0.8	8
72	Renaming Is Weaker Than Set Agreement But for Perfect Renaming: A Map of Sub-consensus Tasks. Lecture Notes in Computer Science, 2012, , 145-156.	1.0	8

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73	Exact communication costs for consensus and leader in a tree. Journal of Discrete Algorithms, 2003, 1, 167-183.	0.7	7
74	The Synchronous Condition-Based Consensus Hierarchy. Lecture Notes in Computer Science, 2004, , 1-15.	1.0	7
75	The Reduced Automata Technique for Graph Exploration Space Lower Bounds. Lecture Notes in Computer Science, 2006, , 1-26.	1.0	7
76	Irreducibility and additivity of set agreement-oriented failure detector classes. , 2006, , .		7
77	Implementing Snapshot Objects on Top of Crash-Prone Asynchronous Message-Passing Systems. IEEE Transactions on Parallel and Distributed Systems, 2018, 29, 2033-2045.	4.0	7
78	The Opinion Number of Set-Agreement. Lecture Notes in Computer Science, 2014, , 155-170.	1.0	7
79	An Equivariance Theorem with Applications to Renaming. Lecture Notes in Computer Science, 2012, , 133-144.	1.0	7
80	Knowledge and Simplicial Complexes. Philosophical Studies Series, 2022, , 1-50.	1.3	7
81	On mixed connectivity certificates. Theoretical Computer Science, 1998, 203, 253-269.	0.5	6
82	An Overview of Synchronous Message-Passing and Topology. Electronic Notes in Theoretical Computer Science, 2000, 39, 1-17.	0.9	6
83	Asynchronous interactive consistency and its relation with error-correcting codes. , 2002, , .		6
84	Cyclic Storage for Fault-Tolerant Distributed Executions. IEEE Transactions on Parallel and Distributed Systems, 2006, 17, 1028-1036.	4.0	6
85	Some problems in distributed computational geometry. Theoretical Computer Science, 2011, 412, 5760-5770.	0.5	6
86	Linear space bootstrap communication schemes. Theoretical Computer Science, 2015, 561, 122-133.	0.5	6
87	Generalized Symmetry Breaking Tasks and Nondeterminism in Concurrent Objects. SIAM Journal on Computing, 2016, 45, 379-414.	0.8	6
88	Mastering concurrent computing through sequential thinking. Communications of the ACM, 2019, 63, 78-87.	3.3	6
89	Indistinguishability. Communications of the ACM, 2020, 63, 90-99.	3.3	6
90	ACM SIGACT news distributed computing column 11. ACM SIGACT News, 2003, 34, 42-57.	0.1	6

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91	A topological perspective on distributed network algorithms. Theoretical Computer Science, 2021, 849, 121-137.	0.5	5
92	Open Questions on Consensus Performance in Well-Behaved Runs. Lecture Notes in Computer Science, 2003, , 35-39.	1.0	5
93	Distributed Dynamic Storage in Wireless Networks. International Journal of Distributed Sensor Networks, 2005, 1, 355-371.	1.3	4
94	The universe of symmetry breaking tasks. , 2011, , .		4
95	Read/write shared memory abstraction on top of asynchronous Byzantine message-passing systems. Journal of Parallel and Distributed Computing, 2016, 93-94, 1-9.	2.7	4
96	Fault-Tolerant Robot Gathering Problems on Graphs With Arbitrary Appearing Times. , 2017, , .		4
97	Convergence and covering on graphs for wait-free robots. Journal of the Brazilian Computer Society, 2018, 24, .	0.8	4
98	A lower bound on the number of opinions needed for fault-tolerant decentralized run-time monitoring. Journal of Applied and Computational Topology, 2020, 4, 141-179.	1.0	4
99	A dynamic epistemic logic analysis of equality negation and other epistemic covering tasks. Journal of Logical and Algebraic Methods in Programming, 2021, 121, 100662.	0.4	4
100	The Complexity Gap between Consensus and Safe-Consensus. Lecture Notes in Computer Science, 2014, , 68-82.	1.0	4
101	60 Years of Mastering Concurrent Computing through Sequential Thinking. ACM SIGACT News, 2020, 51, 59-88.	0.1	4
102	Cycle-pancyclicity in tournaments I. Graphs and Combinatorics, 1995, 11, 233-243.	0.2	3
103	VHDL flexible simulator for distributed algorithms. , 0, , .		3
104	Average long-lived binary consensus: Quantifying the stabilizing role played by memory. Theoretical Computer Science, 2010, 411, 1558-1566.	0.5	3
105	A Topological Perspective on Distributed Network Algorithms. Lecture Notes in Computer Science, 2019, , 3-18.	1.0	3
106	Average Binary Long-Lived Consensus: Quantifying the Stabilizing Role Played by Memory. Lecture Notes in Computer Science, 2008, , 48-60.	1.0	3
107	Linear Space Bootstrap Communication Schemes. Lecture Notes in Computer Science, 2013, , 363-377.	1.0	3
108	Bit complexity of breaking and achieving symmetry in chains and rings (extended abstract). , 1999, , .		2

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109	ACM SIGACT news distributed computing column 7. ACM SIGACT News, 2002, 33, 48-51.	0.1	2
110	ACM SIGACT news distributed computing column 13. ACM SIGACT News, 2003, 34, 53-56.	0.1	2
111	Cyclic Strategies for Balanced and Fault-Tolerant Distributed Storage. Lecture Notes in Computer Science, 2003, , 214-233.	1.0	2
112	Object-oriented algorithm analysis and design with Java. Science of Computer Programming, 2005, 54, 25-47.	1.5	2
113	Failure detectors are schedulers. , 2007, , .		2
114	Computability in distributed computing. ACM SIGACT News, 2012, 43, 88-110.	0.1	2
115	An Eventually Perfect Failure Detector for Networks of Arbitrary Topology Connected with ADD Channels Using Time-To-Live Values. , 2019, , .		2
116	Synchronous t-Resilient Consensus in Arbitrary Graphs. Lecture Notes in Computer Science, 2019, , 53-68.	1.0	2
117	Communication Complexity of Wait-Free Computability in Dynamic Networks. Lecture Notes in Computer Science, 2020, , 291-309.	1.0	2
118	Implementing Snapshot Objects on Top of Crash-Prone Asynchronous Message-Passing Systems. Lecture Notes in Computer Science, 2016, , 341-355.	1.0	2
119	Automatically Adjusting Concurrency to the Level of Synchrony. Lecture Notes in Computer Science, 2014, , 1-15.	1.0	2
120	The Read/Write Protocol Complex Is Collapsible. Lecture Notes in Computer Science, 2016, , 179-191.	1.0	2
121	Unison in Distributed Networks. , 1990, , 479-487.		2
122	t-Resilient Immediate Snapshot Is Impossible. Lecture Notes in Computer Science, 2016, , 177-191.	1.0	2
123	An Eventually Perfect Failure Detector for Networks of Arbitrary Topology Connected with ADD Channels Using Time-To-Live Values. Parallel Processing Letters, 2020, 30, 2050006.	0.4	2
124	Cycle-pancyclicity in tournaments II. Graphs and Combinatorics, 1996, 12, 9-16.	0.2	1
125	Larry Stockmeyer. ACM SIGACT News, 2004, 35, 39-39.	0.1	1
126	Stability of Multi-Valued Continuous Consensus ¹¹ Preliminary Version, Some proofs are omitted from this version.. Electronic Notes in Theoretical Computer Science, 2009, 230, 23-38.	0.9	1

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127	A Theory-Oriented Introduction to Wait-Free Synchronization Based on the Adaptive Renaming Problem. , 2011, , .		1
128	An Inductive-style Procedure for Counting Monochromatic Simplexes of Symmetric Subdivisions with Applications to Distributed Computing. Electronic Notes in Theoretical Computer Science, 2012, 283, 13-27.	0.9	1
129	An Equivariance Theorem with Applications to Renaming. Algorithmica, 2014, 70, 171-194.	1.0	1
130	Collapsibility of read/write models using discrete morse theory. Journal of Applied and Computational Topology, 2018, 1, 365-396.	1.0	1
131	Making Local Algorithms Wait-Free: the Case of Ring Coloring. Theory of Computing Systems, 2019, 63, 344-365.	0.7	1
132	A Distributed Computing Perspective of Unconditionally Secure Information Transmission in Russian Cards Problems. Lecture Notes in Computer Science, 2021, , 277-295.	1.0	1
133	Perfect Failure Detection with Very Few Bits. Lecture Notes in Computer Science, 2016, , 154-169.	1.0	1
134	ACM SIGACT news distributed computing column 9. ACM SIGACT News, 2002, 33, 37-54.	0.1	1
135	A Survey on Some Recent Advances in Shared Memory Models. Lecture Notes in Computer Science, 2011, , 17-28.	1.0	1
136	Reliable Shared Memory Abstraction on Top of Asynchronous Byzantine Message-Passing Systems. Lecture Notes in Computer Science, 2014, , 37-53.	1.0	1
137	Untangling Partial Agreement: Iterated x -consensus Simulations. Lecture Notes in Computer Science, 2015, , 139-155.	1.0	1
138	An Anonymous Wait-Free Weak-Set Object Implementation. Lecture Notes in Computer Science, 2019, , 141-156.	1.0	1
139	A Dynamic Epistemic Logic Analysis of the Equality Negation Task. Lecture Notes in Computer Science, 2020, , 53-70.	1.0	1
140	Distributed computability: Relating k -immediate snapshot and x -set agreement. Information and Computation, 2021, , 104815.	0.5	1
141	Cycle-pancyclicity in tournaments III. Graphs and Combinatorics, 1997, 13, 57-63.	0.2	0
142	Principles of distributed computing. ACM SIGACT News, 2000, 31, 52-61.	0.1	0
143	From failure detectors with limited scope accuracy to system-wide leadership. , 2006, , .		0
144	ACM SIGACT news distributed computing column 22. ACM SIGACT News, 2006, 37, 50-56.	0.1	0

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145	Algorithmic problems in distributed systems. <i>Computer Networks</i> , 2006, 50, 1581-1582.	3.2	0
146	The impossibility of boosting distributed service resilience. <i>Information and Computation</i> , 2011, 209, 927-950.	0.5	0
147	Agreement via Symmetry Breaking: On the Structure of Weak Subconsensus Tasks. , 2013, , .		0
148	Perfect failure detection with very few bits. <i>Information and Computation</i> , 2020, 275, 104604.	0.5	0
149	Geometric and Topological Methods in Computer Science (special 10th anniversary GETCO conference.) Tj ETQq1 1.0.784314 rgBT /Ov	1.0	0
150	ACM SIGACT News distributed computing column 3. <i>ACM SIGACT News</i> , 2001, 32, 44-45.	0.1	0
151	Distributed Computing. <i>ACM SIGACT News</i> , 2001, 32, 53-62.	0.1	0
152	ACM SIGACT news Distributed Computing Column 6. <i>ACM SIGACT News</i> , 2002, 33, 46-53.	0.1	0
153	Asynchronous Coordination Under Preferences and Constraints. <i>Lecture Notes in Computer Science</i> , 2016, , 111-126.	1.0	0
154	Making Local Algorithms Wait-Free: The Case of Ring Coloring. <i>Lecture Notes in Computer Science</i> , 2016, , 109-125.	1.0	0
155	Two Convergence Problems for Robots on Graphs. , 2016, , .		0
156	A Characterization of t-Resilient Colorless Task Anonymous Solvability. <i>Lecture Notes in Computer Science</i> , 2018, , 178-192.	1.0	0
157	A Topological View of Partitioning Arguments: Reducing k-Set Agreement to Consensus. <i>Lecture Notes in Computer Science</i> , 2019, , 307-322.	1.0	0
158	k-Immediate Snapshot and x-Set Agreement: How Are They Related?. <i>Lecture Notes in Computer Science</i> , 2020, , 97-112.	1.0	0
159	A tour of dependable computing research in Latin America. <i>Communications of the ACM</i> , 2020, 63, 96-101.	3.3	0
160	A perspective on theoretical computer science in Latin America. <i>Communications of the ACM</i> , 2020, 63, 102-107.	3.3	0