

# 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	Knowledge and Simplicial Complexes. Philosophical Studies Series, 2022, , 1-50.	1.3	7
2	A topological perspective on distributed network algorithms. Theoretical Computer Science, 2021, 849, 121-137.	0.5	5
3	A simplicial complex model for dynamic epistemic logic to study distributed task computability. Information and Computation, 2021, 278, 104597.	0.5	9
4	A Distributed Computing Perspective of Unconditionally Secure Information Transmission in Russian Cards Problems. Lecture Notes in Computer Science, 2021, , 277-295.	1.0	1
5	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
6	Distributed computability: Relating k-immediate snapshot and x-set agreement. Information and Computation, 2021, , 104815.	0.5	1
7	Perfect failure detection with very few bits. Information and Computation, 2020, 275, 104604.	0.5	0
8	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
9	Geometric and Topological Methods in Computer Science (special 10th anniversary GETCO conference,) Tj ETQq1 1.0, 784314 rgBT /C	1.0	0
10	Communication Complexity of Wait-Free Computability in Dynamic Networks. Lecture Notes in Computer Science, 2020, , 291-309.	1.0	2
11	Indistinguishability. Communications of the ACM, 2020, 63, 90-99.	3.3	6
12	60 Years of Mastering Concurrent Computing through Sequential Thinking. ACM SIGACT News, 2020, 51, 59-88.	0.1	4
13	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
14	A Dynamic Epistemic Logic Analysis of the Equality Negation Task. Lecture Notes in Computer Science, 2020, , 53-70.	1.0	1
15	k-Immediate Snapshot and x-Set Agreement: How Are They Related?. Lecture Notes in Computer Science, 2020, , 97-112.	1.0	0
16	A tour of dependable computing research in Latin America. Communications of the ACM, 2020, 63, 96-101.	3.3	0
17	A perspective on theoretical computer science in Latin America. Communications of the ACM, 2020, 63, 102-107.	3.3	0
18	A Topological Perspective on Distributed Network Algorithms. Lecture Notes in Computer Science, 2019, , 3-18.	1.0	3

#	ARTICLE	IF	CITATIONS
19	An Eventually Perfect Failure Detector for Networks of Arbitrary Topology Connected with ADD Channels Using Time-To-Live Values. , 2019, , .		2
20	Mastering concurrent computing through sequential thinking. Communications of the ACM, 2019, 63, 78-87.	3.3	6
21	The topology of look-compute-move robot wait-free algorithms with hard termination. Distributed Computing, 2019, 32, 235-255.	0.7	9
22	Making Local Algorithms Wait-Free: the Case of Ring Coloring. Theory of Computing Systems, 2019, 63, 344-365.	0.7	1
23	Synchronous t-Resilient Consensus in Arbitrary Graphs. Lecture Notes in Computer Science, 2019, , 53-68.	1.0	2
24	A Topological View of Partitioning Arguments: Reducing k-Set Agreement to Consensus. Lecture Notes in Computer Science, 2019, , 307-322.	1.0	0
25	An Anonymous Wait-Free Weak-Set Object Implementation. Lecture Notes in Computer Science, 2019, , 141-156.	1.0	1
26	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
27	Collapsibility of read/write models using discrete morse theory. Journal of Applied and Computational Topology, 2018, 1, 365-396.	1.0	1
28	Unifying Concurrent Objects and Distributed Tasks. Journal of the ACM, 2018, 65, 1-42.	1.8	17
29	Convergence and covering on graphs for wait-free robots. Journal of the Brazilian Computer Society, 2018, 24, .	0.8	4
30	A Characterization of t-Resilient Colorless Task Anonymous Solvability. Lecture Notes in Computer Science, 2018, , 178-192.	1.0	0
31	From wait-free to arbitrary concurrent solo executions in colorless distributed computing. Theoretical Computer Science, 2017, 683, 1-21.	0.5	14
32	Fault-Tolerant Robot Gathering Problems on Graphs With Arbitrary Appearing Times. , 2017, , .		4
33	Generalized Symmetry Breaking Tasks and Nondeterminism in Concurrent Objects. SIAM Journal on Computing, 2016, 45, 379-414.	0.8	6
34	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
35	Challenges in Fault-Tolerant Distributed Runtime Verification. Lecture Notes in Computer Science, 2016, , 363-370.	1.0	12
36	Perfect Failure Detection with Very Few Bits. Lecture Notes in Computer Science, 2016, , 154-169.	1.0	1

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37	Implementing Snapshot Objects on Top of Crash-Prone Asynchronous Message-Passing Systems. Lecture Notes in Computer Science, 2016, , 341-355.	1.0	2
38	The Read/Write Protocol Complex Is Collapsible. Lecture Notes in Computer Science, 2016, , 179-191.	1.0	2
39	Asynchronous Coordination Under Preferences and Constraints. Lecture Notes in Computer Science, 2016, , 111-126.	1.0	0
40	Making Local Algorithms Wait-Free: The Case of Ring Coloring. Lecture Notes in Computer Science, 2016, , 109-125.	1.0	0
41	t-Resilient Immediate Snapshot Is Impossible. Lecture Notes in Computer Science, 2016, , 177-191.	1.0	2
42	Two Convergence Problems for Robots on Graphs. , 2016, , .		0
43	Linear space bootstrap communication schemes. Theoretical Computer Science, 2015, 561, 122-133.	0.5	6
44	Specifying Concurrent Problems: Beyond Linearizability and up to Tasks. Lecture Notes in Computer Science, 2015, , 420-435.	1.0	16
45	Untangling Partial Agreement: Iterated x-consensus Simulations. Lecture Notes in Computer Science, 2015, , 139-155.	1.0	1
46	Elements of Combinatorial Topology. , 2014, , 41-65.		43
47	An Equivariance Theorem with Applications to Renaming. Algorithmica, 2014, 70, 171-194.	1.0	1
48	The Complexity Gap between Consensus and Safe-Consensus. Lecture Notes in Computer Science, 2014, , 68-82.	1.0	4
49	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
50	The Opinion Number of Set-Agreement. Lecture Notes in Computer Science, 2014, , 155-170.	1.0	7
51	Automatically Adjusting Concurrency to the Level of Synchrony. Lecture Notes in Computer Science, 2014, , 1-15.	1.0	2
52	Reliable Shared Memory Abstraction on Top of Asynchronous Byzantine Message-Passing Systems. Lecture Notes in Computer Science, 2014, , 37-53.	1.0	1
53	The topology of distributed adversaries. Distributed Computing, 2013, 26, 173-192.	0.7	16
54	Power and limits of distributed computing shared memory models. Theoretical Computer Science, 2013, 509, 3-24.	0.5	26

#	ARTICLE	IF	CITATIONS
55	Agreement via Symmetry Breaking: On the Structure of Weak Subconsensus Tasks. , 2013, , .		0
56	Locality and checkability in wait-free computing. Distributed Computing, 2013, 26, 223-242.	0.7	25
57	Linear Space Bootstrap Communication Schemes. Lecture Notes in Computer Science, 2013, , 363-377.	1.0	3
58	Simulations and reductions for colorless tasks. , 2012, , .		16
59	New combinatorial topology bounds for renaming. Journal of the ACM, 2012, 59, 1-49.	1.8	44
60	Computability in distributed computing. ACM SIGACT News, 2012, 43, 88-110.	0.1	2
61	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
62	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
63	Neighbor Discovery in a Sensor Network with Directional Antennae. Lecture Notes in Computer Science, 2012, , 57-71.	1.0	11
64	An Equivariance Theorem with Applications to Renaming. Lecture Notes in Computer Science, 2012, , 133-144.	1.0	7
65	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
66	Some problems in distributed computational geometry. Theoretical Computer Science, 2011, 412, 5760-5770.	0.5	6
67	The impossibility of boosting distributed service resilience. Information and Computation, 2011, 209, 927-950.	0.5	0
68	The renaming problem in shared memory systems: An introduction. Computer Science Review, 2011, 5, 229-251.	10.2	53
69	The universe of symmetry breaking tasks. , 2011, , .		4
70	A Theory-Oriented Introduction to Wait-Free Synchronization Based on the Adaptive Renaming Problem. , 2011, , .		1
71	The Universe of Symmetry Breaking Tasks. Lecture Notes in Computer Science, 2011, , 66-77.	1.0	9
72	Locality and Checkability in Wait-Free Computing. Lecture Notes in Computer Science, 2011, , 333-347.	1.0	12

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73	A Survey on Some Recent Advances in Shared Memory Models. Lecture Notes in Computer Science, 2011, , 17-28.	1.0	1
74	The k-simultaneous consensus problem. Distributed Computing, 2010, 22, 185-195.	0.7	26
75	New combinatorial topology bounds for renaming: the lower bound. Distributed Computing, 2010, 22, 287-301.	0.7	47
76	Average long-lived binary consensus: Quantifying the stabilizing role played by memory. Theoretical Computer Science, 2010, 411, 1558-1566.	0.5	3
77	The topology of shared-memory adversaries. , 2010, , .		19
78	Recursion in Distributed Computing. Lecture Notes in Computer Science, 2010, , 362-376.	1.0	20
79	Distributed Programming with Tasks. Lecture Notes in Computer Science, 2010, , 205-218.	1.0	19
80	Iterated Shared Memory Models. Lecture Notes in Computer Science, 2010, , 407-416.	1.0	11
81	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
82	Stability of Multi-Valued Continuous Consensus11Preliminary Version, Some proofs are omitted from this version.. Electronic Notes in Theoretical Computer Science, 2009, 230, 23-38.	0.9	1
83	On the computability power and the robustness of set agreement-oriented failure detector classes. Distributed Computing, 2008, 21, 201-222.	0.7	16
84	An impossibility about failure detectors in the iterated immediate snapshot model. Information Processing Letters, 2008, 108, 160-164.	0.4	16
85	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
86	Bit complexity of breaking and achieving symmetry in chains and rings. Journal of the ACM, 2008, 55, 1-28.	1.8	18
87	New combinatorial topology upper and lower bounds for renaming. , 2008, , .		28
88	The Iterated Restricted Immediate Snapshot Model. Lecture Notes in Computer Science, 2008, , 487-497.	1.0	25
89	Average Binary Long-Lived Consensus: Quantifying the Stabilizing Role Played by Memory. Lecture Notes in Computer Science, 2008, , 48-60.	1.0	3
90	Failure detectors are schedulers. , 2007, , .		2

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91	Stability of Multivalued Continuous Consensus. SIAM Journal on Computing, 2007, 37, 1057-1076.	0.8	9
92	Asynchronous Agreement and Its Relation with Error-Correcting Codes. IEEE Transactions on Computers, 2007, 56, 865-875.	2.4	31
93	From to : A simple bounded quiescent reliable broadcast-based transformation. Journal of Parallel and Distributed Computing, 2007, 67, 125-129.	2.7	11
94	The Reduced Automata Technique for Graph Exploration Space Lower Bounds. Lecture Notes in Computer Science, 2006, , 1-26.	1.0	7
95	Cyclic Storage for Fault-Tolerant Distributed Executions. IEEE Transactions on Parallel and Distributed Systems, 2006, 17, 1028-1036.	4.0	6
96	From failure detectors with limited scope accuracy to system-wide leadership. , 2006, , .		0
97	ACM SIGACT news distributed computing column 22. ACM SIGACT News, 2006, 37, 50-56.	0.1	0
98	Synchronous condition-based consensus. Distributed Computing, 2006, 18, 325-343.	0.7	17
99	Algorithmic problems in distributed systems. Computer Networks, 2006, 50, 1581-1582.	3.2	0
100	Irreducibility and additivity of set agreement-oriented failure detector classes. , 2006, , .		7
101	The Committee Decision Problem. Lecture Notes in Computer Science, 2006, , 502-514.	1.0	9
102	Mobile Agent Rendezvous: A Survey. Lecture Notes in Computer Science, 2006, , 1-9.	1.0	51
103	Subconsensus Tasks: Renaming Is Weaker Than Set Agreement. Lecture Notes in Computer Science, 2006, , 329-338.	1.0	43
104	Simultaneous Consensus Tasks: A Tighter Characterization of Set-Consensus. Lecture Notes in Computer Science, 2006, , 331-341.	1.0	10
105	Object-oriented algorithm analysis and design with Java. Science of Computer Programming, 2005, 54, 25-47.	1.5	2
106	The combined power of conditions and failure detectors to solve asynchronous set agreement. , 2005, , .		12
107	Distributed Dynamic Storage in Wireless Networks. International Journal of Distributed Sensor Networks, 2005, 1, 355-371.	1.3	4
108	Musical Benches. Lecture Notes in Computer Science, 2005, , 63-77.	1.0	9

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109	Condition-based consensus solvability: a hierarchy of conditions and efficient protocols. Distributed Computing, 2004, 17, 1-20.	0.7	29
110	Larry Stockmeyer. ACM SIGACT News, 2004, 35, 39-39.	0.1	1
111	The Synchronous Condition-Based Consensus Hierarchy. Lecture Notes in Computer Science, 2004, , 1-15.	1.0	7
112	A simple proof of the uniform consensus synchronous lower bound. Information Processing Letters, 2003, 85, 47-52.	0.4	47
113	Stability of long-lived consensus. Journal of Computer and System Sciences, 2003, 67, 26-45.	0.9	18
114	A classification of wait-free loop agreement tasks. Theoretical Computer Science, 2003, 291, 55-77.	0.5	41
115	Exact communication costs for consensus and leader in a tree. Journal of Discrete Algorithms, 2003, 1, 167-183.	0.7	7
116	Conditions on input vectors for consensus solvability in asynchronous distributed systems. Journal of the ACM, 2003, 50, 922-954.	1.8	68
117	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
118	Using Conditions to Expedite Consensus in Synchronous Distributed Systems. Lecture Notes in Computer Science, 2003, , 249-263.	1.0	14
119	ACM SIGACT news distributed computing column 13. ACM SIGACT News, 2003, 34, 53-56.	0.1	2
120	Cyclic Strategies for Balanced and Fault-Tolerant Distributed Storage. Lecture Notes in Computer Science, 2003, , 214-233.	1.0	2
121	Open Questions on Consensus Performance in Well-Behaved Runs. Lecture Notes in Computer Science, 2003, , 35-39.	1.0	5
122	ACM SIGACT news distributed computing column 11. ACM SIGACT News, 2003, 34, 42-57.	0.1	6
123	Asynchronous interactive consistency and its relation with error-correcting codes. , 2002, , .		6
124	ACM SIGACT news distributed computing column 7. ACM SIGACT News, 2002, 33, 48-51.	0.1	2
125	A Layered Analysis of Consensus. SIAM Journal on Computing, 2002, 31, 989-1021.	0.8	97
126	The Combinatorial Structure of Wait-Free Solvable Tasks. SIAM Journal on Computing, 2002, 31, 1286-1313.	0.8	50



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127	ACM SIGACT news Distributed Computing Column 6. ACM SIGACT News, 2002, 33, 46-53.	0.1	0
128	ACM SIGACT news distributed computing column 9. ACM SIGACT News, 2002, 33, 37-54.	0.1	1
129	ACM SIGACT news distributed computing column 5. ACM SIGACT News, 2001, 32, 34-58.	0.1	42
130	Conditions on input vectors for consensus solvability in asynchronous distributed systems. , 2001, , .		27
131	On the cost of fault-tolerant consensus when there are no faults. ACM SIGACT News, 2001, 32, 45-63.	0.1	51
132	The BG distributed simulation algorithm. Distributed Computing, 2001, 14, 127-146.	0.7	96
133	A hierarchy of conditions for consensus solvability. , 2001, , .		12
134	ACM SIGACT News distributed computing column 3. ACM SIGACT News, 2001, 32, 44-45.	0.1	0
135	Distributed Computing. ACM SIGACT News, 2001, 32, 53-62.	0.1	0
136	Algebraic spans. Mathematical Structures in Computer Science, 2000, 10, 549-573.	0.5	49
137	An Overview of Synchronous Message-Passing and Topology. Electronic Notes in Theoretical Computer Science, 2000, 39, 1-17.	0.9	6
138	Principles of distributed computing. ACM SIGACT News, 2000, 31, 52-61.	0.1	0
139	Bit complexity of breaking and achieving symmetry in chains and rings (extended abstract). , 1999, , .		2
140	New Perspectives in Distributed Computing. Lecture Notes in Computer Science, 1999, , 170-186.	1.0	15
141	On mixed connectivity certificates. Theoretical Computer Science, 1998, 203, 253-269.	0.5	6
142	Unifying synchronous and asynchronous message-passing models. , 1998, , .		50
143	The unified structure of consensus. , 1998, , .		18
144	The decidability of distributed decision tasks (extended abstract). , 1997, , .		51

#	ARTICLE	IF	CITATIONS
145	Cycle-pancyclism in tournaments III. Graphs and Combinatorics, 1997, 13, 57-63.	0.2	0
146	Optimal Clock Synchronization under Different Delay Assumptions. SIAM Journal on Computing, 1996, 25, 369-389.	0.8	29
147	Cycle-pancyclism in tournaments II. Graphs and Combinatorics, 1996, 12, 9-16.	0.2	1
148	On the decidability of distributed decision tasks. , 1996, , .		11
149	On the Borowsky-Gafni simulation algorithm. , 1996, , .		16
150	Cycle-pancyclism in tournaments I. Graphs and Combinatorics, 1995, 11, 233-243.	0.2	3
151	Algebraic topology and distributed computing a primer. Lecture Notes in Computer Science, 1995, , 203-217.	1.0	18
152	Algebraic spans. , 1995, , .		23
153	A theory of clock synchronization (extended abstract). , 1994, , .		49
154	Set consensus using arbitrary objects (preliminary version). , 1994, , .		35
155	Upper and lower bounds for stochastic marked graphs. Information Processing Letters, 1994, 49, 291-295.	0.4	9
156	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
157	Unison in Distributed Networks. , 1990, , 479-487.		2
158	A versatile and modular consensus protocol. , 0, , .		10
159	VHDLA flexible simulator for distributed algorithms. , 0, , .		3
160	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