Michel Raynal

List of Publications by Year
in descending order

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157 papers	2,077 citations	361413 20 h-index	414414 32 g-index
172 all docs	172 docs citations	172 times ranked	474 citing authors

#	Article	IF	Citations
1	The causal ordering abstraction and a simple way to implement it. Information Processing Letters, 1991, 39, 343-350.	0.6	165
2	Distributed Algorithms for Message-Passing Systems. , 2013, , .		106
3	Concurrent Programming: Algorithms, Principles, and Foundations. , 2013, , .		98
4	Fault-Tolerant Message-Passing Distributed Systems. , 2018, , .		72
5	Conditions on input vectors for consensus solvability in asynchronous distributed systems. Journal of the ACM, 2003, 50, 922-954.	2.2	68
6	A simple and fast asynchronous consensus protocol based on a weak failure detector. Distributed Computing, 1999, 12, 209-223.	0.8	67
7	Solving Consensus Using Chandra-Touegâ€™s Unreliable Failure Detectors: A General Quorum-Based Approach. Lecture Notes in Computer Science, 1999, , 49-63.	1.3	56
8	The renaming problem in shared memory systems: An introduction. Computer Science Review, 2011, 5, 229-251.	15.3	53
9	Signature-free asynchronous byzantine consensus with t < n/3 and o(n ²) messages. , 2014, , .		49
10	From Binary Consensus to Multivalued Consensus in asynchronous message-passing systems. Information Processing Letters, 2000, 73, 207-212.	0.6	47
11	k-Arbiter: A safe and general scheme for h-out of-k mutual exclusion. Theoretical Computer Science, 1998, 193, 97-112.	0.9	43
12	Signature-Free Asynchronous Binary Byzantine Consensus with t < n/3, O(n2) Messages, and O(1) Expected Time. Journal of the ACM, 2015, 62, 1-21.	2.2	43
13	Causal delivery of messages with real-time data in unreliable networks. Real-Time Systems, 1996, 10, 245-262.	1.3	35
14	k-set agreement with limited accuracy failure detectors. , 2000, , .		32
15	From causal consistency to sequential consistency in shared memory systems. Lecture Notes in Computer Science, 1995, , 180-194.	1.3	32
16	Asynchronous Agreement and Its Relation with Error-Correcting Codes. IEEE Transactions on Computers, 2007, 56, 865-875.	3.4	31
17	Condition-based consensus solvability: a hierarchy of conditions and efficient protocols. Distributed Computing, 2004, 17, 1-20.	0.8	29
18	Fault-tolerant Agreement in Synchronous Message-passing Systems. Synthesis Lectures on Distributed Computing Theory, 2010, 1, 1-189.	0.2	29

#	Article	IF	Citations
19	Virtual world consistency: A condition for STM systems (with a versatile protocol with invisible read) Tj ETQq1 1 0.784314 rgBT /Overlo	0.9	28
20	Communication and Agreement Abstractions for Fault-Tolerant Asynchronous Distributed Systems. Synthesis Lectures on Distributed Computing Theory, 2010, 1, 1-273.	0.2	27
21	The k-simultaneous consensus problem. Distributed Computing, 2010, 22, 185-195.	0.8	26
22	Power and limits of distributed computing shared memory models. Theoretical Computer Science, 2013, 509, 3-24.	0.9	26
23	A TIME-FREE ASSUMPTION TO IMPLEMENT EVENTUAL LEADERSHIP. Parallel Processing Letters, 2006, 16, 189-207.	0.6	25
24	Anonymous asynchronous systems: the case of failure detectors. Distributed Computing, 2013, 26, 141-158.	0.8	25
25	From adaptive renaming to set agreement. Theoretical Computer Science, 2009, 410, 1328-1335.	0.9	22
26	The Combined Power of Conditions and Information on Failures to Solve Asynchronous Set Agreement. SIAM Journal on Computing, 2008, 38, 1574-1601.	1.0	20
27	Help when needed, but no more: Efficient read/write partial snapshot. Journal of Parallel and Distributed Computing, 2012, 72, 1-12.	4.1	20
28	Intrusion-Tolerant Broadcast and Agreement Abstractions in the Presence of Byzantine Processes. IEEE Transactions on Parallel and Distributed Systems, 2016, 27, 1085-1098.	5.6	19
29	Anonymous obstruction-free (n,Âk)-set agreement with $$n-k+1$$ n - k + 1 atomic read/write registers. Distributed Computing, 2018, 31, 99-117.	0.8	19
30	Synchronous condition-based consensus. Distributed Computing, 2006, 18, 325-343.	0.8	17
31	A Timing Assumption and Two t-Resilient Protocols forÂImplementing an Eventual Leader Service inÂAsynchronous Shared Memory Systems. Algorithmica, 2010, 56, 550-576.	1.3	17
32	Unifying Concurrent Objects and Distributed Tasks. Journal of the ACM, 2018, 65, 1-42.	2.2	17
33	An introduction to oracles for asynchronous distributed systems. Future Generation Computer Systems, 2002, 18, 757-767.	7.5	16
34	On the computability power and the robustness of set agreement-oriented failure detector classes. Distributed Computing, 2008, 21, 201-222.	0.8	16
35	An impossibility about failure detectors in the iterated immediate snapshot model. Information Processing Letters, 2008, 108, 160-164.	0.6	16
36	Specifying Concurrent Problems: Beyond Linearizability and up to Tasks. Lecture Notes in Computer Science, 2015, , 420-435.	1.3	16

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37	Eventual Clusterer: A Modular Approach to Designing Hierarchical Consensus Protocols in MANETs. IEEE Transactions on Parallel and Distributed Systems, 2009, 20, 753-765.	5.6	15
38	Energy-Efficient Composite Event Detection in Wireless Sensor Networks. IEEE Communications Letters, 2018, 22, 177-180.	4.1	15
39	Using Conditions to Expedite Consensus in Synchronous Distributed Systems. Lecture Notes in Computer Science, 2003, , 249-263.	1.3	14
40	A simple proof of the necessity of the failure detector Î£ to implement an atomic register in asynchronous message-passing systems. Information Processing Letters, 2010, 110, 153-157.	0.6	14
41	From wait-free to arbitrary concurrent solo executions in colorless distributed computing. Theoretical Computer Science, 2017, 683, 1-21.	0.9	14
42	From an Asynchronous Intermittent Rotating Star to an Eventual Leader. IEEE Transactions on Parallel and Distributed Systems, 2010, 21, 1290-1303.	5.6	13
43	Trading off t-Resilience for Efficiency in Asynchronous Byzantine Reliable Broadcast. Parallel Processing Letters, 2016, 26, 1650017.	0.6	13
44	Anonymous Asynchronous Systems: The Case of Failure Detectors. Lecture Notes in Computer Science, 2010, , 206-220.	1.3	13
45	The combined power of conditions and failure detectors to solve asynchronous set agreement. , 2005, , .		12
46	Revisiting simultaneous consensus with crash failures. Journal of Parallel and Distributed Computing, 2009, 69, 400-409.	4.1	12
47	On the road to the weakest failure detector for <mml:math altimg="si1.gif" display="inline" overflow="scroll" xmlns:xocs="http://www.elsevier.com/xml/xocs/dtd" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.elsevier.com/xml/ja/dtd" xmlns:ja="http://www.elsevier.com/xml/ja/dtd" xmlns:mml="http://www.w3.org/1998/Math/MathML" xmlns:tb="http://www.elsevier.com/xml/common/table/dtd" xmlns:sb="http://www.elsevier.com/xml/co	0.9	12
48	The Price of Anonymity. ACM Transactions on Autonomous and Adaptive Systems, 2011, 6, 1-28.	0.8	12
49	From to : A simple bounded quiescent reliable broadcast-based transformation. Journal of Parallel and Distributed Computing, 2007, 67, 125-129.	4.1	11
50	Failure detectors in homonymous distributed systems (with an application to consensus). Journal of Parallel and Distributed Computing, 2015, 83, 83-95.	4.1	11
51	Vertex Coloring with Communication Constraints in Synchronous Broadcast Networks. IEEE Transactions on Parallel and Distributed Systems, 2019, 30, 1672-1686.	5.6	11
52	Optimal Memory-Anonymous Symmetric Deadlock-Free Mutual Exclusion. , 2019, , .		11
53	Restricted failure detectors: Definition and reduction protocols. Information Processing Letters, 1999, 72, 91-97.	0.6	10
54	Distributed Universality. Algorithmica, 2016, 76, 502-535.	1.3	10

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55	Signature-free asynchronous Byzantine systems: from multivalued to binary consensus with $$t<n/3$$ t < n / 3 , $$O(n^2)$$ O (n 2) messages, and constant time. Acta Informatica, 2017, 54, 501-520.	0.5	10
56	Early-Stopping k-Set Agreement in Synchronous Systems Prone to Any Number of Process Crashes. Lecture Notes in Computer Science, 2005, , 49-58.	1.3	10
57	Simultaneous Consensus Tasks: A Tighter Characterization of Set-Consensus. Lecture Notes in Computer Science, 2006, , 331-341.	1.3	10
58	Looking for the Weakest Failure Detector for k-Set Agreement in Message-Passing Systems: Is ${it Pi}_k$ the End of the Road?. Lecture Notes in Computer Science, 2009, , 149-164.	1.3	10
59	Asynchronous bounded lifetime failure detectors. Information Processing Letters, 2005, 94, 85-91.	0.6	9
60	The multiplicative power of consensus numbers. , 2010, , .		9
61	Agent-based broadcast protocols for wireless heterogeneous node networks. Computer Communications, 2018, 115, 51-63.	5.1	9
62	Collisions Are Preferred: RFID-Based Stocktaking with a High Missing Rate. IEEE Transactions on Mobile Computing, 2020, 19, 1544-1554.	5.8	9
63	The Committee Decision Problem. Lecture Notes in Computer Science, 2006, , 502-514.	1.3	9
64	The Universe of Symmetry Breaking Tasks. Lecture Notes in Computer Science, 2011, , 66-77.	1.3	9
65	A weakest failure detector-based asynchronous consensus protocol for f<n. Information Processing Letters, 2004, 90, 39-46.	0.6	8
66	A liveness condition for concurrent objects: xâ€waitâ€freedom. Concurrency Computation Practice and Experience, 2011, 23, 2154-2166.	2.2	8
67	Set-Constrained Delivery Broadcast. , 2018, , .		8
68	Mutual exclusion in fully anonymous shared memory systems. Information Processing Letters, 2020, 158, 105938.	0.6	8
69	Signature-Free Broadcast-Based Intrusion Tolerance: Never Decide a Byzantine Value. Lecture Notes in Computer Science, 2010, , 143-158.	1.3	8
70	Renaming Is Weaker Than Set Agreement But for Perfect Renaming: A Map of Sub-consensus Tasks. Lecture Notes in Computer Science, 2012, , 145-156.	1.3	8
71	Increasing the Power of the Iterated Immediate Snapshot Model with Failure Detectors. Lecture Notes in Computer Science, 2012, , 231-242.	1.3	8
72	The Synchronous Condition-Based Consensus Hierarchy. Lecture Notes in Computer Science, 2004, , 1-15.	1.3	7

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73	Synchronous Set Agreement: a Concise Guided Tour (including a new algorithm and a list of open) Tj ETQq1 1 0.784314 rgBT /Overlo		7
74	Electing an Eventual Leader in an Asynchronous Shared Memory System. , 2007, , .		7
75	Implementing Snapshot Objects on Top of Crash-Prone Asynchronous Message-Passing Systems. IEEE Transactions on Parallel and Distributed Systems, 2018, 29, 2033-2045.	5.6	7
76	Randomized k -set agreement in crash-prone and Byzantine asynchronous systems. Theoretical Computer Science, 2018, 709, 80-97.	0.9	7
77	The Price of Anonymity: Optimal Consensus Despite Asynchrony, Crash and Anonymity. Lecture Notes in Computer Science, 2009, , 341-355.	1.3	7
78	Basic Definitions and Network Traversal Algorithms. , 2013, , 3-34.		7
79	Self-Stabilizing Indulgent Zero-degrading Binary Consensus. , 2021, , .		7
80	Using asynchrony and zero degradation to speed up indulgent consensus protocols. Journal of Parallel and Distributed Computing, 2008, 68, 984-996.	4.1	6
81	A necessary condition for Byzantine k -set agreement. Information Processing Letters, 2016, 116, 757-759.	0.6	6
82	Generalized Symmetry Breaking Tasks and Nondeterminism in Concurrent Objects. SIAM Journal on Computing, 2016, 45, 379-414.	1.0	6
83	Mastering concurrent computing through sequential thinking. Communications of the ACM, 2019, 63, 78-87.	4.5	6
84	Self-stabilizing Multivalued Consensus in Asynchronous Crash-prone Systems. , 2021, , .		6
85	Strongly Terminating Early-Stopping k-Set Agreement in Synchronous Systems with General Omission Failures. Theory of Computing Systems, 2010, 47, 259-287.	1.1	5
86	Consensus in Anonymous Distributed Systems: Is There a Weakest Failure Detector?. , 2010, , .		5
87	Towards a universal construction for transaction-based multiprocess programs. Theoretical Computer Science, 2013, 496, 154-169.	0.9	5
88	Anonymity in Distributed Read/Write Systems: An Introductory Survey. Lecture Notes in Computer Science, 2019, , 122-140.	1.3	5
89	Signature-Free Asynchronous Byzantine Systems: From Multivalued to Binary Consensus with tâ€‰<â€‰n/3, O(n 2) Messages, and Constant Time. Lecture Notes in Computer Science, 2015, , 194-208.	1.3	5
90	Locks Considered Harmful: A Look at Non-traditional Synchronization. Lecture Notes in Computer Science, 2008, , 369-380.	1.3	5

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91	Eventual Leader Election with Weak Assumptions on Initial Knowledge, Communication Reliability, and Synchrony. Journal of Computer Science and Technology, 2010, 25, 1267-1281.	1.5	4
92	Narrowing power vs efficiency in synchronous set agreement: Relationship, algorithms and lower bound. Theoretical Computer Science, 2010, 411, 58-69.	0.9	4
93	Parallel Computing vs. Distributed Computing: A Great Confusion? (Position Paper). Lecture Notes in Computer Science, 2015, , 41-53.	1.3	4
94	Optimal Collision/Conflict-Free Distance-2 Coloring in Wireless Synchronous Broadcast/Receive Tree Networks. , 2016, , .		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.	4.1	4
96	A Simple Object that Spans the Whole Consensus Hierarchy. Parallel Processing Letters, 2018, 28, 1850006.	0.6	4
97	Strongly Terminating Early-Stopping k-Set Agreement in Synchronous Systems with General Omission Failures. Lecture Notes in Computer Science, 2006, , 182-196.	1.3	4
98	Simultaneous Consensus vs Set Agreement: A Message-Passing-Sensitive Hierarchy of Agreement Problems. Lecture Notes in Computer Science, 2013, , 298-309.	1.3	4
99	Distributed Universality. Lecture Notes in Computer Science, 2014, , 469-484.	1.3	4
100	No Double Discount: Condition-Based Simultaneity Yields Limited Gain. Lecture Notes in Computer Science, 2008, , 423-437.	1.3	4
101	60 Years of Mastering Concurrent Computing through Sequential Thinking. ACM SIGACT News, 2020, 51, 59-88.	0.1	4
102	From Bezout's Identity to Space-Optimal Election in Anonymous Memory Systems. , 2020, , .		4
103	A suite of definitions for consistency criteria in distributed shared memories. Annales Des Telecommunications/Annals of Telecommunications, 1997, 52, 652-661.	2.5	3
104	Specifying and Implementing an Eventual Leader Service for Dynamic Systems. , 2011, , .		3
105	A Look at Basics of Distributed Computing. , 2016, , .		3
106	Atomic Read/Write Memory in Signature-Free Byzantine Asynchronous Message-Passing Systems. Theory of Computing Systems, 2017, 60, 677-694.	1.1	3
107	Quiescent Uniform Reliable Broadcast as an Introduction to Failure Detector Oracles. Lecture Notes in Computer Science, 2001, , 98-111.	1.3	3
108	On the Implementation of Concurrent Objects. Lecture Notes in Computer Science, 2011, , 453-478.	1.3	3

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109	What Can be Computed in a Distributed System?. Lecture Notes in Computer Science, 2014, , 209-224.	1.3	3
110	Atomic Appends in Asynchronous Byzantine Distributed Ledgers. , 2020, , .		3
111	Anonymous Read/Write Memory: Leader Election and De-anonymization. Lecture Notes in Computer Science, 2019, , 246-261.	1.3	3
112	Byzantine-Tolerant Reliable Broadcast inÂthe Presence of Silent Churn. Lecture Notes in Computer Science, 2021, , 21-33.	1.3	3
113	Wait-free computing: an introductory lecture. Future Generation Computer Systems, 2005, 21, 655-663.	7.5	2
114	Building and Using Quorums Despite any Number of Process of Crashes. Lecture Notes in Computer Science, 2005, , 2-19.	1.3	2
115	Conditions for Set Agreement with an Application to Synchronous Systems. Journal of Computer Science and Technology, 2009, 24, 418-433.	1.5	2
116	A note on atomicity: Boosting Test&Set to solve consensus. Information Processing Letters, 2009, 109, 589-591.	0.6	2
117	Computability in distributed computing. ACM SIGACT News, 2012, 43, 88-110.	0.1	2
118	Chasing the Weakest Failure Detector for k-Set Agreement in Message-Passing Systems. , 2012, , .		2
119	The weakest failure detector to implement a register in asynchronous systems with hybrid communication. Theoretical Computer Science, 2013, 512, 130-142.	0.9	2
120	Eventual Leader Election Despite Crash-Recovery and Omission Failures. , 2015, , .		2
121	Leader-based de-anonymization of an anonymous read/write memory. Theoretical Computer Science, 2020, 836, 110-123.	0.9	2
122	On the Versatility of Brachaâ€™s Byzantine Reliable Broadcast Algorithm. Parallel Processing Letters, 2021, 31, 2150006.	0.6	2
123	On the weakest information on failures to solve mutual exclusion and consensus in asynchronous crash-prone read/write systems. Journal of Parallel and Distributed Computing, 2021, 153, 110-118.	4.1	2
124	Implementing Snapshot Objects on Top of Crash-Prone Asynchronous Message-Passing Systems. Lecture Notes in Computer Science, 2016, , 341-355.	1.3	2
125	The Notion of Veto Number for Distributed Agreement Problems. Lecture Notes in Computer Science, 2004, , 315-325.	1.3	2
126	From a Store-Collect Object and Î© to Efficient Asynchronous Consensus. Lecture Notes in Computer Science, 2012, , 427-438.	1.3	2

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127	On Adaptive Renaming under Eventually Limited Contention. Lecture Notes in Computer Science, 2010, , 377-387.	1.3	2
128	t-Resilient Immediate Snapshot Is Impossible. Lecture Notes in Computer Science, 2016, , 177-191.	1.3	2
129	Mutex-Based De-anonymization of an Anonymous Read/Write Memory. Lecture Notes in Computer Science, 2019, , 311-326.	1.3	2
130	Contention-related crash failures: Definitions, agreement algorithms, and impossibility results. Theoretical Computer Science, 2022, 909, 76-86.	0.9	2
131	Concurrent Crash-Prone Shared Memory Systems: A Few Theoretical Notions. Synthesis Lectures on Distributed Computing Theory, 2022, 20, 1-139.	0.2	2
132	A visit to mutual exclusion in seven dates. Theoretical Computer Science, 2022, 919, 47-65.	0.9	2
133	Conditions for Set Agreement with an Application to Synchronous Systems. , 2008, , .		1
134	Software Transactional Memories: An Approach for Multicore Programming. Lecture Notes in Computer Science, 2009, , 26-40.	1.3	1
135	Software transactional memories: anÂapproachÂforÂmulticore programming. Journal of Supercomputing, 2011, 57, 203-215.	3.6	1
136	No double discount: Condition-based simultaneity yields limited gain. Information and Computation, 2012, 214, 47-58.	0.7	1
137	Concurrent Systems: Hybrid Object Implementations and Abortable Objects. Lecture Notes in Computer Science, 2015, , 3-15.	1.3	1
138	Set Agreement and Renaming in the Presence of Contention-Related Crash Failures. Lecture Notes in Computer Science, 2018, , 269-283.	1.3	1
139	A Pleasant Stroll Through the Land of Distributed Machines, Computation, and Universality. Lecture Notes in Computer Science, 2018, , 34-50.	1.3	1
140	One for All and All for One: Scalable Consensus in a Hybrid Communication Model. , 2019, , .		1
141	The Notion of Universality in Crash-Prone Asynchronous Message-Passing Systems: A Tutorial. , 2019, , .		1
142	On the Weakest Failure Detector for Read/Write-Based Mutual Exclusion. Advances in Intelligent Systems and Computing, 2020, , 272-285.	0.6	1
143	Set-constrained delivery broadcast: A communication abstraction for read/write implementable distributed objects. Theoretical Computer Science, 2021, 886, 49-68.	0.9	1
144	From Incomplete to Complete Networks in Asynchronous Byzantine Systems. Lecture Notes in Networks and Systems, 2021, , 102-112.	0.7	1

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145	A Survey on Some Recent Advances in Shared Memory Models. Lecture Notes in Computer Science, 2011, , 17-28.	1.3	1
146	Communication Patterns and Input Patterns in Distributed Computing. Lecture Notes in Computer Science, 2015, , 1-15.	1.3	1
147	Distributed computability: Relating k-immediate snapshot and x-set agreement. Information and Computation, 2021, , 104815.	0.7	1
148	A Universal Construction for Concurrent Objects. , 2007, , .		0
149	A Simple Asynchronous Shared Memory Consensus Algorithm Based on Omega and Closing Sets. , 2012, , .		0
150	Agreement via Symmetry Breaking: On the Structure of Weak Subconsensus Tasks. , 2013, , .		0
151	Special issue on NETYSâ€™14 selected papers. Computing (Vienna/New York), 2016, 98, 775-775.	4.8	0
152	A New Insight into Local Coin-Based Randomized Consensus. , 2019, , .		0
153	Distributed Computability. ACM SIGACT News, 2021, 52, 92-110.	0.1	0
154	When and How Process Groups Can Be Used to Reduce the Renaming Space. Lecture Notes in Computer Science, 2012, , 91-105.	1.3	0
155	On the Consensus Number of Non-adaptive Perfect Renaming. Lecture Notes in Computer Science, 2013, , 1-12.	1.3	0
156	k-Immediate Snapshot and x-Set Agreement: How Are They Related?. Lecture Notes in Computer Science, 2020, , 97-112.	1.3	0
157	Narrowing Power vs. Efficiency in Synchronous Set Agreement. , 2007, , 99-111.		0