Alberto Leporati

List of Publications by Year
in descending order

95
papers

1,138
citations

430754

18
h-index

526166

27
g-index

100
all docs

100
docs citations

100
times ranked

250
citing authors

#	Article	IF	Citations
1	Deterministic solutions to QSAT and Q3SAT by spiking neural P systems with pre-computed resources. Theoretical Computer Science, 2010, 411, 2345-2358.	0.5	111
2	Uniform solutions to SAT and Subset Sum by spiking neural P systems. Natural Computing, 2009, 8, 681-702.	1.8	101
3	Cellular automata based S-boxes. Cryptography and Communications, 2019, 11, 41-62.	0.9	43
4	Solving Numerical NP-Complete Problems with Spiking Neural P Systems. , 2007, , 336-352.		40
5	Uniform solutions to SAT and 3-SAT by spiking neural P systems with pre-computed resources. Natural Computing, 2008, 7, 519-534.	1.8	32
6	First Steps Towards a CPU Made of Spiking Neural P Systems. International Journal of Computers, Communications and Control, 2014, 4, 244.	1.2	28
7	Space complexity equivalence of P systems with active membranes and Turing machines. Theoretical Computer Science, 2014, 529, 69-81.	0.5	27
8	Heuristic Search by Particle Swarm Optimization of Boolean Functions for Cryptographic Applications. , 2015, , .		27
9	A Membrane Algorithm for the Min Storage Problem. Lecture Notes in Computer Science, 2006, , 443-462.	1.0	26
10	P SYSTEMS WITH INPUT IN BINARY FORM. International Journal of Foundations of Computer Science, 2006, 17, 127-146.	0.8	25
11	Monodirectional P systems. Natural Computing, 2016, 15, 551-564.	1.8	25
12	Membrane Division, Oracles, and the Counting Hierarchy. Fundamenta Informaticae, 2015, 138, 97-111.	0.3	24
13	A Genetic Algorithm for Evolving Plateaued Cryptographic Boolean Functions. Lecture Notes in Computer Science, 2015, , 33-45.	1.0	24
14	PSYSTEMS WITH ACTIVE MEMBRANES WORKING IN POLYNOMIAL SPACE. International Journal of Foundations of Computer Science, 2011, 22, 65-73.	0.8	22
15	Introducing a Space Complexity Measure for P Systems. International Journal of Computers, Communications and Control, 2014, 4, 301.	1.2	22
16	P systems with active membranes: trading time for space. Natural Computing, 2011, 10, 167-182.	1.8	20
17	Asynchronous P systems with active membranes. Theoretical Computer Science, 2012, 429, 74-86.	0.5	20
18	Characterising the complexity of tissue P systems with fission rules. Journal of Computer and System Sciences, 2017, 90, 115-128.	0.9	20

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19	Characterizing PSPACE with shallow non-confluent P systems. Journal of Membrane Computing, 2019, 1, 75-84.	1.0	20
20	Flattening in (Tissue) P Systems. Lecture Notes in Computer Science, 2014, , 173-188.	1.0	20
21	Simulating Elementary Active Membranes. Lecture Notes in Computer Science, 2014, , 284-299.	1.0	19
22	Sublinear-Space PÂSystems with Active Membranes. Lecture Notes in Computer Science, 2013, , 342-357.	1.0	19
23	Evolving S-boxes based on cellular automata with genetic programming. , 2017, , .		18
24	Mutually orthogonal latin squares based on cellular automata. Designs, Codes, and Cryptography, 2020, 88, 391-411.	1.0	18
25	Evolutionary algorithms for the design of orthogonal latin squares based on cellular automata. , 2017, , .		17
26	A Turing machine simulation by PÂsystems without charges. Journal of Membrane Computing, 2020, 2, 71-79.	1.0	15
27	The counting power of P systems with antimatter. Theoretical Computer Science, 2017, 701, 161-173.	0.5	14
28	Elementary Active Membranes Have the Power of Counting. International Journal of Natural Computing Research, 2011, 2, 35-48.	0.5	14
29	Solving the factorization problem with P systems. Progress in Natural Science: Materials International, 2007, 17, 471-478.	1.8	13
30	Three â€œquantumâ€•algorithms to solve 3-SAT. Theoretical Computer Science, 2007, 372, 218-241.	0.5	13
31	Complexity aspects of polarizationless membrane systems. Natural Computing, 2009, 8, 703-717.	1.8	13
32	PÂSystems with Elementary Active Membranes: Beyond NP and coNP. Lecture Notes in Computer Science, 2010, , 338-347.	1.0	12
33	Constant-Space P Systems with Active Membranes. Fundamenta Informaticae, 2014, 134, 111-128.	0.3	11
34	A survey on space complexity of P systems with active membranes. International Journal of Advances in Engineering Sciences and Applied Mathematics, 2018, 10, 221-229.	0.7	11
35	Hyper-bent Boolean Functions and Evolutionary Algorithms. Lecture Notes in Computer Science, 2019, , 262-277.	1.0	11
36	Evolutionary Search of Binary Orthogonal Arrays. Lecture Notes in Computer Science, 2018, , 121-133.	1.0	11

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37	Sequential P Systems with Unit Rules and Energy Assigned to Membranes. Lecture Notes in Computer Science, 2005, , 200-210.	1.0	11
38	An Efficient Simulation of Polynomial-Space Turing Machines by P Systems with Active Membranes. Lecture Notes in Computer Science, 2010, , 461-478.	1.0	10
39	Computing the periods of preimages in surjective cellular automata. Natural Computing, 2017, 16, 367-381.	1.8	9
40	Inversion of Mutually Orthogonal Cellular Automata. Lecture Notes in Computer Science, 2018, , 364-376.	1.0	9
41	Quantum Sequential P Systems with Unit Rules and Energy Assigned to Membranes. Lecture Notes in Computer Science, 2006, , 310-325.	1.0	9
42	Sharing Secrets by Computing Preimages of Bipermutive Cellular Automata. Lecture Notes in Computer Science, 2014, , 417-426.	1.0	8
43	A toolbox for simpler active membrane algorithms. Theoretical Computer Science, 2017, 673, 42-57.	0.5	8
44	Shallow laconic P systems can count. Journal of Membrane Computing, 2020, 2, 49-58.	1.0	8
45	Enumerating Orthogonal Latin Squares Generated by Bipermutive Cellular Automata. Lecture Notes in Computer Science, 2017, , 151-164.	1.0	8
46	Recent complexity-theoretic results on P systems with active membranes. Journal of Logic and Computation, 2015, 25, 1047-1071.	0.5	7
47	A cryptographic and coding-theoretic perspective on the global rules of cellular automata. Natural Computing, 2018, 17, 487-498.	1.8	7
48	Evolving Bent Quaternary Functions. , 2018, , .		7
49	A blockchain technology for protection and probative value preservation of vehicle driver data. , 2019, , .		7
50	Computing with energy and chemical reactions. Natural Computing, 2010, 9, 493-512.	1.8	6
51	Solving NP-Complete Problems by Spiking Neural P Systems with Budding Rules. Lecture Notes in Computer Science, 2010, , 335-353.	1.0	6
52	Tissue P Systems with Small Cell Volume. Fundamenta Informaticae, 2017, 154, 261-275.	0.3	5
53	Alternative space definitions for PÂsystems with active membranes. Journal of Membrane Computing, 2021, 3, 87-96.	1.0	5
54	Membrane Computing Concepts, Theoretical Developments and Applications. , 2021, , 261-339.		5

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55	1-Resiliency of Bipermutive Cellular Automata Rules. Lecture Notes in Computer Science, 2013, , 110-123.	1.0	5
56	Enzymatic Numerical P Systems Using Elementary Arithmetic Operations. Lecture Notes in Computer Science, 2014, , 249-264.	1.0	5
57	Heuristic search of (semi-)bent functions based on cellular automata. Natural Computing, 2022, 21, 377-391.	1.8	5
58	Quantum Conservative Gates for Finite-Valued Logics. International Journal of Theoretical Physics, 2004, 43, 1769-1791.	0.5	4
59	Metaheuristic Optimization: Algorithmic Design and Applications. Journal of Optimization, 2017, 2017, 1-2.	6.0	4
60	Subroutines in P systems and closure properties of their complexity classes. Theoretical Computer Science, 2020, 805, 193-205.	0.5	4
61	An Evolutionary View on Reversible Shift-Invariant Transformations. Lecture Notes in Computer Science, 2020, , 118-134.	1.0	4
62	Tissue P Systems Can be Simulated Efficiently with Counting Oracles. Lecture Notes in Computer Science, 2015, , 251-261.	1.0	4
63	Shallow Non-confluent P Systems. Lecture Notes in Computer Science, 2017, , 307-316.	1.0	4
64	Universal Families of Reversible P Systems. Lecture Notes in Computer Science, 2005, , 257-268.	1.0	4
65	Quantum conservative many-valued computing. Fuzzy Sets and Systems, 2008, 159, 1001-1030.	1.6	3
66	Simulating counting oracles with cooperation. Journal of Membrane Computing, 2020, 2, 303-310.	1.0	3
67	Evolutionary algorithms for designing reversible cellular automata. Genetic Programming and Evolvable Machines, 2021, 22, 429-461.	1.5	3
68	Solving a Special Case of the P Conjecture Using Dependency Graphs with Dissolution. Lecture Notes in Computer Science, 2018, , 196-213.	1.0	3
69	Conservative Computations in Energyâ€“Based P Systems. Lecture Notes in Computer Science, 2005, , 344-358.	1.0	3
70	On the Periods of Spatially Periodic Preimages in Linear Bipermutive Cellular Automata. Lecture Notes in Computer Science, 2015, , 181-195.	1.0	3
71	Computational Complexity of PÂSystems with Active Membranes. Lecture Notes in Computer Science, 2014, , 19-32.	1.0	3
72	The Design of (Almost) Disjunct Matrices by Evolutionary Algorithms. Lecture Notes in Computer Science, 2018, , 152-163.	1.0	3

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73	Qubit Semantics and Quantum Trees. International Journal of Theoretical Physics, 2005, 44, 971-983.	0.5	2
74	(Tissue) P systems with cell polarity. Mathematical Structures in Computer Science, 2009, 19, 1141-1160.	0.5	2
75	(UREM) P Systems with a Quantum-Like Behavior: Background, Definition, and Computational Power. , 2007, , 32-53.		2
76	On a Powerful Class of Non-universal PÂSystems with Active Membranes. Lecture Notes in Computer Science, 2010, , 364-375.	1.0	2
77	Flattening and Simulation of Asynchronous Divisionless PÂSystems with Active Membranes. Lecture Notes in Computer Science, 2014, , 238-248.	1.0	2
78	On the Difficulty of Evolving Permutation Codes. Lecture Notes in Computer Science, 2022, , 141-156.	1.0	2
79	Towards a Theory of Conservative Computing. International Journal of Theoretical Physics, 2005, 44, 861-873.	0.5	1
80	Characterizing the computational power of energy-based P systems. International Journal of Computer Mathematics, 2013, 90, 789-800.	1.0	1
81	The Many Roads to the Simulation of Reaction Systems. Fundamenta Informaticae, 2019, 171, 175-188.	0.3	1
82	Resilient Vectorial Functions and Cyclic Codes Arising from Cellular Automata. Lecture Notes in Computer Science, 2016, , 34-44.	1.0	1
83	Computational Complexity Aspects in Membrane Computing. Lecture Notes in Computer Science, 2010, , 317-320.	1.0	1
84	Energy-Based Models of P Systems. Lecture Notes in Computer Science, 2010, , 104-124.	1.0	1
85	Depth-two P systems can simulate Turing machines with NP oracles. Theoretical Computer Science, 2021, , .	0.5	1
86	P Systems with Memory. Lecture Notes in Computer Science, 2006, , 165-180.	1.0	0
87	How Redundant Is Your Universal Computation Device?. Lecture Notes in Computer Science, 2009, , 274-291.	1.0	0
88	Discovering Gene-Drug Relationships for the Pharmacology of Cancer. Communications in Computer and Information Science, 2012, , 117-126.	0.4	0
89	P Systems with Active Membranes Working in Sublinear Space. Lecture Notes in Computer Science, 2014, , 35-47.	1.0	0
90	Complexity Classes for Membrane Systems: A Survey. Lecture Notes in Computer Science, 2015, , 56-69.	1.0	0

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91	Self-Protection Mechanisms for Web Applications - A Case Study. , 2016, , .		0
92	Solving QSAT in Sublinear Depth. Lecture Notes in Computer Science, 2019, , 188-201.	1.0	0
93	A Gentle Introduction to Membrane Systems and Their Computational Properties. , 2019, , 1-32.		0
94	The Evolution and Success of an Excellent Transdisciplinary Journal. International Journal of Neural Systems, 2020, 30, 2003010.	3.2	0
95	Active P-Colonies. Information Sciences, 2022, 587, 642-653.	4.0	0