

Adriano Barra

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

92
papers

1,589
citations

24
h-index

35
g-index

95
ext. papers

1,726
ext. citations

3.4
avg, IF

5.14
L-index

#	Paper	IF	Citations
92	Fully Automated Computational Approach for Precisely Measuring Organelle Acidification with Optical pH Sensors.. <i>ACS Applied Materials & Interfaces</i> , 2022 ,	9.4	1
91	The emergence of a concept in shallow neural networks.. <i>Neural Networks</i> , 2022 , 148, 232-253	8.5	1
90	On the effective initialisation for restricted Boltzmann machines via duality with Hopfield model. <i>Neural Networks</i> , 2021 , 143, 314-326	8.5	5
89	Generalized Guerra's interpolation schemes for dense associative neural networks. <i>Neural Networks</i> , 2020 , 128, 254-267	8.5	11
88	Detecting cardiac pathologies via machine learning on heart-rate variability time series and related markers. <i>Scientific Reports</i> , 2020 , 10, 8845	4.7	16
87	Annealing and Replica-Symmetry in Deep Boltzmann Machines. <i>Journal of Statistical Physics</i> , 2020 , 180, 665-677	1.5	11
86	Neural Networks with a Redundant Representation: Detecting the Undetectable. <i>Physical Review Letters</i> , 2020 , 124, 028301	7.3	10
85	A statistical inference approach to reconstruct intercellular interactions in cell migration experiments. <i>Science Advances</i> , 2020 , 6, eaay2103	13.9	3
84	Replica symmetry breaking in neural networks: a few steps toward rigorous results. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2020 , 53, 415005	2	6
83	Machine learning and statistical physics: preface. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2020 , 53, 500401	2	7
82	Dreaming neural networks: rigorous results. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2019 , 2019, 083503	1.9	6
81	Dreaming neural networks: Forgetting spurious memories and reinforcing pure ones. <i>Neural Networks</i> , 2019 , 112, 24-40	8.5	24
80	Free energies of Boltzmann machines: self-averaging, annealed and replica symmetric approximations in the thermodynamic limit. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2019 , 2019, 033301	1.9	6
79	On the Marchenko-Pastur law in analog bipartite spin-glasses. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2019 , 52, 254002	2	2
78	The relativistic Hopfield network: Rigorous results. <i>Journal of Mathematical Physics</i> , 2019 , 60, 033302	1.2	3
77	Towards the development of human immune-system-on-a-chip platforms. <i>Drug Discovery Today</i> , 2019 , 24, 517-525	8.5	50
76	Phase diagram of restricted Boltzmann machines and generalized Hopfield networks with arbitrary priors. <i>Physical Review E</i> , 2018 , 97, 022310	2.4	43

75	An evolutionary game model for behavioral gambit of loyalists: Global awareness and risk-aversion. <i>Europhysics Letters</i> , 2018 , 121, 38001	1.5	
74	Complex Reaction Kinetics in Chemistry: A Unified Picture Suggested by Mechanics in Physics. <i>Complexity</i> , 2018 , 2018, 1-16	1.6	2
73	A new mechanical approach to handle generalized Hopfield neural networks. <i>Neural Networks</i> , 2018 , 106, 205-222	8.5	18
72	Social interaction effects on immigrant integration. <i>Palgrave Communications</i> , 2018 , 4,	5.3	5
71	Neural Networks Retrieving Boolean Patterns in a Sea of Gaussian Ones. <i>Journal of Statistical Physics</i> , 2017 , 168, 1085-1104	1.5	12
70	Phase transitions in restricted Boltzmann machines with generic priors. <i>Physical Review E</i> , 2017 , 96, 042156	15.6	32
69	Retrieving infinite numbers of patterns in a spin-glass model of immune networks. <i>Europhysics Letters</i> , 2017 , 117, 28003	1.5	7
68	Organs on chip approach: a tool to evaluate cancer-immune cells interactions. <i>Scientific Reports</i> , 2017 , 7, 12737	4.7	51
67	Assessing the role of migration as trade-facilitator using the statistical mechanics of cooperative systems. <i>Palgrave Communications</i> , 2016 , 2,	5.3	3
66	Complete integrability of information processing by biochemical reactions. <i>Scientific Reports</i> , 2016 , 6, 36314	4.7	9
65	Hierarchical neural networks perform both serial and parallel processing. <i>Neural Networks</i> , 2015 , 66, 22-35	8.5	15
64	Anergy in self-directed B lymphocytes: A statistical mechanics perspective. <i>Journal of Theoretical Biology</i> , 2015 , 375, 21-31	2.3	23
63	Emerging Heterogeneities in Italian Customs and Comparison with Nearby Countries. <i>PLoS ONE</i> , 2015 , 10, e0144643	3.6	5
62	Exact solution of the van der Waals model in the critical region. <i>Annals of Physics</i> , 2015 , 359, 290-299	2.5	10
61	Retrieval capabilities of hierarchical networks: from Dyson to Hopfield. <i>Physical Review Letters</i> , 2015 , 114, 028103	7.3	38
60	Multi-Species Mean Field Spin Glasses. Rigorous Results. <i>Annales Henri Poincare</i> , 2015 , 16, 691-708	1.2	34
59	Metastable states in the hierarchical Dyson model drive parallel processing in the hierarchical Hopfield network. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2015 , 48, 015001	2	11
58	Topological properties of hierarchical networks. <i>Physical Review E</i> , 2015 , 91, 062807	2.4	8

57	Notes on stochastic (bio)-logic gates: computing with allosteric cooperativity. <i>Scientific Reports</i> , 2015 , 5, 9415	4.7	15
56	Cancer-driven dynamics of immune cells in a microfluidic environment. <i>Scientific Reports</i> , 2014 , 4, 6639	4.7	53
55	A stochastic approach for quantifying immigrant integration: the Spanish test case. <i>New Journal of Physics</i> , 2014 , 16, 103034	2.9	12
54	On quantum and relativistic mechanical analogues in mean-field spin models. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2014 , 470, 20140589	2.3	11
53	Free-Energy Bounds for Hierarchical Spin Models. <i>Journal of Statistical Physics</i> , 2014 , 155, 211-222	1.5	9
52	Mean field bipartite spin models treated with mechanical techniques. <i>European Physical Journal B</i> , 2014 , 87, 1	1.2	16
51	Multitasking attractor networks with neuronal threshold noise. <i>Neural Networks</i> , 2014 , 49, 19-29	8.5	6
50	An analysis of a large dataset on immigrant integration in Spain. The statistical mechanics perspective on social action. <i>Scientific Reports</i> , 2014 , 4, 4174	4.7	26
49	Extensive parallel processing on scale-free networks. <i>Physical Review Letters</i> , 2014 , 113, 238106	7.3	41
48	About a solvable mean field model of a Gaussian spin glass. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2014 , 47, 155002	2	13
47	Ferromagnetic Models for Cooperative Behavior: Revisiting Universality in Complex Phenomena. <i>Springer INdAM Series</i> , 2014 , 73-86	0.4	
46	Some Thoughts on the Ontogenesis in B-Cell Immune Networks. <i>Springer Proceedings in Mathematics and Statistics</i> , 2014 , 71-79	0.2	
45	Parallel retrieval of correlated patterns: from Hopfield networks to Boltzmann machines. <i>Neural Networks</i> , 2013 , 38, 52-63	8.5	23
44	Mean field spin glasses treated with PDE techniques. <i>European Physical Journal B</i> , 2013 , 86, 1	1.2	18
43	Immune networks: multitasking capabilities near saturation. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2013 , 46, 415003	2	38
42	Parallel processing in immune networks. <i>Physical Review E</i> , 2013 , 87, 042701	2.4	9
41	Collective behaviours: from biochemical kinetics to electronic circuits. <i>Scientific Reports</i> , 2013 , 3, 3458	4.7	10
40	Application of a stochastic modeling to assess the evolution of tuberculous and non-tuberculous mycobacterial infection in patients treated with tumor necrosis factor inhibitors. <i>PLoS ONE</i> , 2013 , 8, e55017	3.6	11

39	Notes on the Polynomial Identities in Random Overlap Structures. <i>Journal of Statistical Physics</i> , 2012 , 147, 351-374	1.5	3
38	Mean-field cooperativity in chemical kinetics. <i>Theoretical Chemistry Accounts</i> , 2012 , 131, 1	1.9	13
37	A statistical mechanics approach to Granovetter theory. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2012 , 391, 3017-3026	3.2	22
36	Spin glass polynomial identities from entropic constraints. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2012 , 45, 485001	2	1
35	Analogue neural networks on correlated random graphs. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2012 , 45, 365001	2	1
34	Can persistent Epstein-Barr virus infection induce chronic fatigue syndrome as a Pavlov reflex of the immune response?. <i>Journal of Biological Dynamics</i> , 2012 , 6, 740-62	2.4	11
33	Notes on the p-spin glass studied via Hamilton-Jacobi and smooth-cavity techniques. <i>Journal of Mathematical Physics</i> , 2012 , 53, 063304	1.2	7
32	Organization and evolution of synthetic idiotypic networks. <i>Physical Review E</i> , 2012 , 85, 051909	2.4	9
31	Multitasking associative networks. <i>Physical Review Letters</i> , 2012 , 109, 268101	7.3	77
30	Interpolating the Sherrington-Kirkpatrick replica trick. <i>Philosophical Magazine</i> , 2012 , 92, 78-97	1.6	14
29	How glassy are neural networks?. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2012 , 2012, P07009	1.9	25
28	On the equivalence of Hopfield networks and Boltzmann Machines. <i>Neural Networks</i> , 2012 , 34, 1-9	8.5	72
27	A thermodynamic perspective of immune capabilities. <i>Journal of Theoretical Biology</i> , 2011 , 287, 48-63	2.3	31
26	Equilibrium statistical mechanics on correlated random graphs. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2011 , 2011, P02027	1.9	10
25	Notes on ferromagnetic diluted p-spin model. <i>Reports on Mathematical Physics</i> , 2011 , 68, 1-22	0.8	5
24	A Hebbian approach to complex-network generation. <i>Europhysics Letters</i> , 2011 , 94, 10002	1.5	30
23	Equilibrium statistical mechanics of bipartite spin systems. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2011 , 44, 245002	2	44
22	The Replica Symmetric Approximation of the Analogical Neural Network. <i>Journal of Statistical Physics</i> , 2010 , 140, 784-796	1.5	40

21	Stochastic dynamics for idiotypic immune networks. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2010 , 389, 5903-5911	3.2	19
20	DRIVEN TRANSITIONS AT THE ONSET OF ERGODICITY BREAKING IN GAUGE-INVARIANT COMPLEX NETWORKS. <i>International Journal of Modern Physics B</i> , 2010 , 24, 5995-6011	1.1	2
19	A NUMERICAL INVESTIGATION OF THE JAMMING TRANSITION IN TRAFFIC FLOW ON DILUTED PLANAR NETWORKS. <i>International Journal of Modern Physics B</i> , 2010 , 24, 6351-6363	1.1	1
18	Toward a quantitative approach to migrants integration. <i>Europhysics Letters</i> , 2010 , 89, 68001	1.5	17
17	A statistical mechanics approach to autopoietic immune networks. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2010 , 2010, P07004	1.9	24
16	Replica symmetry breaking in mean-field spin glasses through the Hamilton-Jacobi technique. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2010 , 2010, P09006	1.9	18
15	New perspectives in the equilibrium statistical mechanics approach to social and economic sciences 2010 , 137-174		3
14	PARAMETER EVALUATION OF A SIMPLE MEAN-FIELD MODEL OF SOCIAL INTERACTION. <i>Mathematical Models and Methods in Applied Sciences</i> , 2009 , 19, 1427-1439	3.4	35
13	Dilution robustness for mean field ferromagnets. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2009 , 2009, P03028	1.9	3
12	Notes on ferromagnetic p-spin and REM. <i>Mathematical Methods in the Applied Sciences</i> , 2009 , 32, 783-797.	2.3	5
11	A mechanical approach to mean field spin models. <i>Journal of Mathematical Physics</i> , 2009 , 50, 053303	1.2	31
10	The Mean Field Ising Model through Interpolating Techniques. <i>Journal of Statistical Physics</i> , 2008 , 132, 787-809	1.5	47
9	On the mean-field spin glass transition. <i>European Physical Journal B</i> , 2008 , 64, 119-124	1.2	3
8	Criticality in diluted ferromagnets. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2008 , 2008, P10003	1.9	15
7	About the ergodic regime in the analogical Hopfield neural networks: Moments of the partition function. <i>Journal of Mathematical Physics</i> , 2008 , 49, 125217	1.2	17
6	FLUCTUATIONS INDUCE TRANSITIONS IN FRUSTRATED SPARSE NETWORKS. <i>Fluctuation and Noise Letters</i> , 2008 , 08, L341-L348	1.2	
5	Critical behavior of mean-field spin glasses on a dilute random graph. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2008 , 41, 215005	2	5
4	Stability properties and probability distributions of multi-overlaps in dilute spin glasses. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2007 , 2007, P08025-P08025	1.9	11

3	Irreducible Free Energy Expansion and Overlaps Locking in Mean Field Spin Glasses. <i>Journal of Statistical Physics</i> , 2006 , 123, 601-614	1.5	29
2	Overlap fluctuations from the Boltzmann random overlap structure. <i>Journal of Mathematical Physics</i> , 2006 , 47, 103305	1.2	6
1	Positive-overlap transition and critical exponents in mean field spin glasses. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2006 , 2006, P11015-P11015	1.9	9