Alessandro Torcini

List of Publications by Year
in descending order

133	3,371	136740	189595
papers	citations	32 h-index	50 g-index

152	152	152	1932
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Localization and equipartition of energy in the Î²-FPU chain: Chaotic breathers. Physica D: Nonlinear Phenomena, 1998, 121, 109-126.	1.3	154
2	Dynamical phases of the Hindmarsh-Rose neuronal model: Studies of the transition from bursting to spiking chaos. Chaos, 2007, 17, 043128.	1.0	124
3	Collective chaos in pulse-coupled neural networks. Europhysics Letters, 2010, 92, 60007.	0.7	112
4	Hysteretic transitions in the Kuramoto model with inertia. Physical Review E, 2014, 90, 042905.	0.8	99
5	Intermittent chaotic chimeras for coupled rotators. Physical Review E, 2015, 92, 030901.	0.8	84
6	Liquid alkali metals at the melting point: Structural and dynamical properties. Physical Review B, 1993, 47, 3011-3020.	1.1	82
7	Desynchronization in diluted neural networks. Physical Review E, 2006, 74, 036203.	0.8	82
8	Microscopic dynamics in liquid alkali metals. Physical Review A, 1992, 46, 2159-2162.	1.0	81
9	Fast sound in liquid water. Physical Review E, 1993, 47, 1677-1684.	0.8	77
10	Equilibrium and dynamical properties of two-dimensionalN-body systems with long-range attractive interactions. Physical Review E, 1999, 59, 2746-2763.	0.8	72
11	Stability of the splay state in pulse-coupled networks. Physical Review E, 2007, 76, 046102.	0.8	72
12	Collective oscillations in disordered neural networks. Physical Review E, 2010, 81, 046119.	0.8	65
13	Proton dynamics in supercooled water by molecular dynamics simulations and quasielastic neutron scattering. Journal of Chemical Physics, 1996, 104, 4223-4232.	1.2	62
14	Modulated Amplitude Waves and the Transition from Phase to Defect Chaos. Physical Review Letters, 2000, 85, 86-89.	2.9	59
15	Transition from Asynchronous to Oscillatory Dynamics in Balanced Spiking Networks with Instantaneous Synapses. Physical Review Letters, 2018, 121, 128301.	2.9	55
16	Molecular dynamics results for stretched water. Journal of Chemical Physics, 1993, 99, 8095-8104.	1.2	54
17	First-order microcanonical transitions in finite mean-field models. Europhysics Letters, 2004, 66, 645-651.	0.7	54
18	Modulated amplitude waves and defect formation in the one-dimensional complex Ginzburgâ€“Landau equation. Physica D: Nonlinear Phenomena, 2001, 160, 127-148.	1.3	51

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19	Collective Dynamics in Sparse Networks. Physical Review Letters, 2012, 109, 138103.	2.9	50
20	Thin front propagation in steady and unsteady cellular flows. Physics of Fluids, 2003, 15, 679-688.	1.6	45
21	Theta-Nested Gamma Oscillations in Next Generation Neural Mass Models. Frontiers in Computational Neuroscience, 2020, 14, 47.	1.2	45
22	Microscopic dynamics in liquid lithium. Physical Review E, 1995, 51, 3126-3138.	0.8	44
23	Transition to stochastic synchronization in spatially extended systems. Physical Review E, 2001, 63, 036226.	0.8	43
24	Periodic orbits in coupled HÃ©non maps: Lyapunov and multifractal analysis. Chaos, 1992, 2, 293-300.	1.0	42
25	Changing the Mechanical Unfolding Pathway of FnIII10 by Tuning the Pulling Strength. Biophysical Journal, 2009, 96, 429-441.	0.2	42
26	Low-frequency fluctuations in vertical cavity lasers: Experiments versus Lang-Kobayashi dynamics. Physical Review A, 2006, 74, .	1.0	41
27	Double Coherence Resonance in Neuron Models Driven by Discrete Correlated Noise. Physical Review Letters, 2006, 97, 238101.	2.9	40
28	Anomalous diffusion as a signature of a collapsing phase in two-dimensional self-gravitating systems. Physical Review E, 1998, 57, R6233-R6236.	0.8	38
29	Error propagation in extended chaotic systems. Journal of Physics A, 1995, 28, 4533-4541.	1.6	37
30	Modulational estimate for the maximal Lyapunov exponent in Fermi-Pasta-Ulam chains. Physical Review E, 1997, 56, R6229-R6232.	0.8	36
31	Lyapunov spectra of coupled map lattices. Physics Letters, Section A: General, Atomic and Solid State Physics, 1990, 143, 365-368.	0.9	35
32	Emergence of Slow Collective Oscillations in Neural Networks with Spike-Timing Dependent Plasticity. Physical Review Letters, 2013, 110, 208101.	2.9	35
33	Order Parameter for the Transition from Phase to Amplitude Turbulence. Physical Review Letters, 1996, 77, 1047-1050.	2.9	34
34	Fractal dimension of spatially extended systems. Physica D: Nonlinear Phenomena, 1991, 53, 85-101.	1.3	33
35	Extensive and Subextensive Chaos in Globally Coupled Dynamical Systems. Physical Review Letters, 2011, 107, 124101.	2.9	33
36	Disturbance propagation in chaotic extended systems with long-range coupling. Physical Review E, 1997, 55, R3805-R3808.	0.8	32

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37	Clique of Functional Hubs Orchestrates Population Bursts in Developmentally Regulated Neural Networks. PLoS Computational Biology, 2014, 10, e1003823.	1.5	32
38	Exact neural mass model for synaptic-based working memory. PLoS Computational Biology, 2020, 16, e1008533.	1.5	32
39	Chronotopic Lyapunov analysis. I. A detailed characterization of 1D systems. Journal of Statistical Physics, 1996, 82, 1429-1452.	0.5	30
40	Coherent periodic activity in excitatory ErdÃ¶s-Renyi neural networks: The role of network connectivity. Chaos, 2012, 22, 023133.	1.0	29
41	Ubiquity of collective irregular dynamics in balanced networks ofÂspikingÂneurons. Chaos, 2018, 28, 081106.	1.0	28
42	The Hamiltonian Mean Field Model: From Dynamics to Statistical Mechanics and Back. Lecture Notes in Physics, 2002, , 458-487.	0.3	28
43	Coexistence of fast and slow gamma oscillations in one population of inhibitory spiking neurons. Physical Review Research, 2020, 2, .	1.3	27
44	Linear and Non-Linear Mechanisms of Information Propagation. Europhysics Letters, 1994, 28, 545-550.	0.7	26
45	Chaos in the Hamiltonian mean-field model. Physical Review E, 2011, 84, 066211.	0.8	26
46	Reconstructing the Free-Energy Landscape of a Mechanically Unfolded Model Protein. Physical Review Letters, 2007, 99, 168101.	2.9	25
47	Reduction Methodology for Fluctuation Driven Population Dynamics. Physical Review Letters, 2021, 127, 038301.	2.9	25
48	Studies of phase turbulence in the one-dimensional complex Ginzburg-Landau equation. Physical Review E, 1997, 55, 5073-5081.	0.8	24
49	First- and second-order clustering transitions for a system with infinite-range attractive interaction. Physical Review E, 2002, 66, 025103.	0.8	24
50	Relationship between directed percolation and the synchronization transition in spatially extended systems. Physical Review E, 2003, 67, 046217.	0.8	24
51	Dynamical response of the Hodgkin-Huxley model in the high-input regime. Physical Review E, 2006, 73, 041902.	0.8	24
52	Synchronization of Extended Chaotic Systems with Long-Range Interactions: An Analogy to LÃ©vy-Flight Spreading of Epidemics. Physical Review Letters, 2006, 97, 224101.	2.9	24
53	Evolution from ordinary to fast sound in water at room temperature. Chemical Physics Letters, 1993, 209, 408-416.	1.2	23
54	From multiplicative noise to directed percolation in wetting transitions. Physical Review E, 2003, 68, 065102.	0.8	22

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55	Internal representation of hippocampal neuronal population spans a time-distance continuum. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 7477-7482.	3.3	22
56	Cross frequency coupling in next generation inhibitory neural mass models. Chaos, 2020, 30, 053121.	1.0	22
57	Death and rebirth of neural activity in sparse inhibitory networks. New Journal of Physics, 2017, 19, 053011.	1.2	21
58	Single particle motion in a dense liquid: A competition of mode coupling effects. Journal of Non-Crystalline Solids, 1996, 205-207, 402-407.	1.5	20
59	A dynamical approach to protein folding. Journal of Biological Physics, 2001, 27, 181-203.	0.7	19
60	Doppler Effect of Nonlinear Waves and Superspirals in Oscillatory Media. Physical Review Letters, 2003, 91, 108302.	2.9	19
61	Cell Assembly Dynamics of Sparsely-Connected Inhibitory Networks: A Simple Model for the Collective Activity of Striatal Projection Neurons. PLoS Computational Biology, 2016, 12, e1004778.	1.5	19
62	Linear and nonlinear information flow in spatially extended systems. Physical Review E, 2001, 63, 056201.	0.8	18
63	Nonlinear analysis of the Eckhaus instability: modulated amplitude waves and phase chaos with nonzero average phase gradient. Physica D: Nonlinear Phenomena, 2003, 174, 152-167.	1.3	18
64	Stability of splay states in globally coupled rotators. Physical Review E, 2009, 80, 036209.	0.8	18
65	Stability of the splay state in networks of pulse-coupled neurons. Journal of Mathematical Neuroscience, 2012, 2, 12.	2.4	18
66	Synchronous dynamics in the presence of short-term plasticity. Physical Review E, 2013, 87, .	0.8	18
67	Contact processes with long range interactions. Journal of Statistical Mechanics: Theory and Experiment, 2006, 2006, P08008-P08008.	0.9	17
68	Collective irregular dynamics in balanced networks of leaky integrate-and-fire neurons. European Physical Journal: Special Topics, 2018, 227, 1185-1204.	1.2	17
69	Single-particle dynamics in simple liquids. Physica Scripta, 1995, T57, 13-17.	1.2	16
70	Unfolding times for proteins in a force clamp. Physical Review E, 2010, 81, 010902.	0.8	16
71	Linear stability in networks of pulse-coupled neurons. Frontiers in Computational Neuroscience, 2014, 8, 8.	1.2	16
72	Towards a statistical mechanics of spatiotemporal chaos. Physical Review Letters, 1992, 69, 3421-3424.	2.9	15

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73	Chronotopic Lyapunov analysis: II. Toward a unified approach. Journal of Statistical Physics, 1997, 88, 31-45.	0.5	15
74	Discrete breathers in a realistic coarse-grained model of proteins. Physical Biology, 2011, 8, 046008.	0.8	15
75	Comment on â€œUniversal Scaling Law for the Largest Lyapunov Exponent in Coupled Map Latticesâ€• Physical Review Letters, 1997, 78, 1391-1391.	2.9	14
76	Coarsening in surface growth models without slope selection. Journal of Physics A, 2000, 33, L77-L82.	1.6	14
77	Coherent response of the Hodgkinâ€“Huxley neuron in the high-input regime. Neurocomputing, 2007, 70, 1943-1948.	3.5	14
78	Coherent oscillations in balanced neural networks driven by endogenous fluctuations. Chaos, 2022, 32, 023120.	1.0	14
79	Liquid alkali metals: microscopic dynamics and transport coefficients. Journal of Non-Crystalline Solids, 1993, 156-158, 43-47.	1.5	13
80	Stable Chaos. Understanding Complex Systems, 2010, , 103-129.	0.3	13
81	Synchronization and Complex Dynamics of Oscillators with Delayed Pulse Coupling. Angewandte Chemie - International Edition, 2012, 51, 9489-9490.	7.2	13
82	Splay States in Finite Pulse-Coupled Networks of Excitable Neurons. SIAM Journal on Applied Dynamical Systems, 2012, 11, 864-894.	0.7	13
83	Modeling driver cells in developing neuronal networks. PLoS Computational Biology, 2018, 14, e1006551.	1.5	13
84	Single-particle motion in liquid sodium: thermal crossover between two dynamical regimes. Journal of Non-Crystalline Solids, 1996, 205-207, 299-303.	1.5	12
85	Thermally activated processes in polymer dynamics. Physical Review E, 2003, 68, 061111.	0.8	12
86	Chaotic synchronizations of spatially extended systems as nonequilibrium phase transitions. Chaos, 2008, 18, 037125.	1.0	12
87	Exact firing time statistics of neurons driven by discrete inhibitory noise. Scientific Reports, 2017, 7, 1577.	1.6	12
88	Exploring the energy landscape of model proteins: A metric criterion for the determination of dynamical connectivity. Physical Review E, 2005, 72, 051929.	0.8	11
89	Desynchronized stable states in diluted neural networks. Neurocomputing, 2007, 70, 1960-1965.	3.5	11
90	Coherence resonance due to correlated noise in neuronal models. Neurocomputing, 2007, 70, 1970-1976.	3.5	11

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91	Free-energy landscape of mechanically unfolded model proteins: Extended Jarzinsky versus inherent structure reconstruction. Physical Review E, 2008, 78, 031907.	0.8	11
92	Stable chaos in fluctuation driven neural circuits. Chaos, Solitons and Fractals, 2014, 69, 233-245.	2.5	11
93	Asynchronous and Coherent Dynamics in Balanced Excitatory-Inhibitory Spiking Networks. Frontiers in Systems Neuroscience, 2021, 15, 752261.	1.2	11
94	Comment on â€œLyapunov Exponent of a Many Body System and Its Transport Coefficientsâ€• Physical Review Letters, 1999, 83, 2676-2676.	2.9	10
95	Lyapunov exponents from node-counting arguments. European Physical Journal Special Topics, 1998, 08, Pr6-263-Pr6-270.	0.2	9
96	Nonlinearly driven transverse synchronization in coupled chaotic systems. Physica D: Nonlinear Phenomena, 2005, 208, 191-208.	1.3	9
97	Quantitative and qualitative analysis of asynchronous neural activity. Physical Review Research, 2020, 2, .	1.3	9
98	Spatio-temporal dynamics induced by competing instabilities in two asymmetrically coupled nonlinear evolution equations. Chaos, 2014, 24, 043142.	1.0	8
99	Sisyphus effect in pulse-coupled excitatory neural networks with spike-timing-dependent plasticity. Physical Review E, 2014, 89, 062701.	0.8	8
100	Emergent excitability in populations of nonexcitable units. Physical Review E, 2020, 102, 050201.	0.8	8
101	Entropy potential and Lyapunov exponents. Chaos, 1997, 7, 701-709.	1.0	7
102	Neural activity of heterogeneous inhibitory spiking networks with delay. Physical Review E, 2019, 99, 052412.	0.8	7
103	Stochastic dynamics of model proteins on a directed graph. Physical Review E, 2009, 79, 061925.	0.8	6
104	Front propagation in chaotic and noisy reaction-diffusion systems: a discrete-time map approach. European Physical Journal B, 2002, 25, 333-343.	0.6	5
105	Asymptotic and effective coarsening exponents in surface growth models. European Physical Journal B, 2006, 53, 401-404.	0.6	5
106	Synchronization of spatio-temporal chaos as an absorbing phase transition: a study in 2+1 dimensions. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P12018.	0.9	5
107	Stochastic mean-field formulation of the dynamics of diluted neural networks. Physical Review E, 2015, 91, 022928.	0.8	5
108	Dynamics of Fully Coupled Rotators with Unimodal and Bimodal Frequency Distribution. Understanding Complex Systems, 2016, , 25-45.	0.3	5

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109	Title is missing!. European Physical Journal B, 2002, 25, 519-529.	0.6	5
110	Analytical estimation of the maximal Lyapunov exponent in oscillator chains. European Physical Journal Special Topics, 1998, 08, Pr6-147-Pr6-156.	0.2	5
111	Longitudinal collective modes in liquid water. Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics, 1994, 16, 817-824.	0.4	4
112	Coarsening process in one-dimensional surface growth models. European Physical Journal B, 2002, 25, 519-529.	0.6	4
113	A novel integration scheme for partial differential equations: An application to the complex Ginzburg-Landau equation. Physica D: Nonlinear Phenomena, 1997, 103, 605-610.	1.3	3
114	Rate maintenance and resonance in the entorhinal cortex. European Journal of Neuroscience, 2010, 32, 1930-1939.	1.2	3
115	Convective Lyapunov spectra. Journal of Physics A: Mathematical and Theoretical, 2013, 46, 254013.	0.7	3
116	AN INTEGRATION SCHEME FOR REACTIONâ€“DIFFUSION MODELS. International Journal of Modern Physics C, 1999, 10, 1039-1050.	0.8	2
117	Out-of-Equilibrium versus Dynamical and Thermodynamical Transitions for a Model Protein. Progress of Theoretical Physics Supplement, 2010, 184, 339-350.	0.2	2
118	Dynamics versus energetics in phase separation. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P03016.	0.9	2
119	Disturbance propagation in coupled map lattices. , 1995, , 537-543.		2
120	NOISE-DRIVEN SYNCHRONIZATION IN COUPLED MAP LATTICES. , 2000, , .		2
121	Chimera States in Pulse Coupled Neural Networks: The Influence of Dilution and Noise. PoliTO Springer Series, 2019, , 65-79.	0.3	2
122	Partial synchronization in diluted neural networks. BMC Neuroscience, 2009, 10, .	0.8	1
123	Fractal Dimensions in Coupled Map Lattices. NATO ASI Series Series B: Physics, 1989, , 409-424.	0.2	1
124	Analysis and simulation of waves in reaction-diffusion systems. , 0, , .		0
125	Stability of splay states for pulse-coupled neuronal networks: finite size versus finite pulse-width effects. BMC Neuroscience, 2007, 8, .	0.8	0
126	Stability criteria for splay states in networks of "generalized" neuronal models. BMC Neuroscience, 2009, 10, .	0.8	0

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127	Coherent periodic activity in excitatory neural networks : the role of network connectivity. BMC Neuroscience, 2011, 12, .	0.8	0
128	Critical connectivity for emergence of collective oscillations in strongly diluted neural networks. BMC Neuroscience, 2013, 14, .	0.8	0
129	Stochastic mean-field formulation of the dynamics of diluted neural networks. BMC Neuroscience, 2015, 16, .	0.8	0
130	SPIRAL INSTABILITIES IN PERIODICALLY FORCED EXTENDED OSCILLATORY MEDIA. , 2005, , .		0
131	Anomalous Sound Dispersion in Liquid Water. , 1994, , 81-84.		0
132	MD Simulations of Stretched TIP4P-Water in the Supercooled Regime. , 1994, , 77-80.		0
133	Functional Cliques in Developmentally Correlated Neural Networks. PoliTO Springer Series, 2019, , 53-64.	0.3	0