Murilo S Baptista

List of Publications by Year
in descending order

100 papers	1,800 citations	236925 25 h-index	345221 36 g-index
102 all docs	102 docs citations	102 times ranked	1400 citing authors

#	Article	IF	Citations
1	Wireless Communication with Chaos. Physical Review Letters, 2013, 110, 184101.	7.8	109
2	Models for the modern power grid. European Physical Journal: Special Topics, 2014, 223, 2423-2437.	2.6	89
3	Combined effect of chemical and electrical synapses in Hindmarsh-Rose neural networks on synchronization and the rate of information. Physical Review E, 2010, 82, 036203.	2.1	86
4	Experimental validation of wireless communication with chaos. Chaos, 2016, 26, 083117.	2.5	56
5	Natural synchronization in power-grids with anti-correlated units. Communications in Nonlinear Science and Numerical Simulation, 2013, 18, 1035-1046.	3.3	47
6	General framework for phase synchronization through localized sets. Physical Review E, 2007, 75, 026216.	2.1	44
7	A chaotic spread spectrum system for underwater acoustic communication. Physica A: Statistical Mechanics and Its Applications, 2017, 478, 77-92.	2.6	44
8	Model for tumour growth with treatment by continuous and pulsed chemotherapy. BioSystems, 2014, 116, 43-48.	2.0	43
9	Cascade failure analysis of power grid using new load distribution law and node removal rule. Physica A: Statistical Mechanics and Its Applications, 2016, 442, 239-251.	2.6	41
10	Phase synchronization in the perturbed Chua circuit. Physical Review E, 2003, 67, 056212.	2.1	37
11	Antimonotonicity, Crisis and Multiple Attractors in a Simple Memristive Circuit. Journal of Circuits, Systems and Computers, 2018, 27, 1850026.	1.5	37
12	Spike timing-dependent plasticity induces non-trivial topology in the brain. Neural Networks, 2017, 88, 58-64.	5.9	36
13	Transmission of information in active networks. Physical Review E, 2008, 77, 026205.	2.1	35
14	Experimental observation of a complex periodic window. Physical Review E, 2008, 77, 037202.	2.1	35
15	Integrated chaotic communication scheme. Physical Review E, 2000, 62, 4835-4845.	2.1	34
16	Exact detection of direct links in networks of interacting dynamical units. New Journal of Physics, 2014, 16, 093010.	2.9	33
17	Trapping Phenomenon Attenuates the Consequences of Tipping Points for Limit Cycles. Scientific Reports, 2017, 7, 42351.	3.3	33
18	Do Brain Networks Evolve by Maximizing Their Information Flow Capacity?. PLoS Computational Biology, 2015, 11, e1004372.	3.2	32

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19	Synchronised firing patterns in a random network of adaptive exponential integrate-and-fire neuron model. Neural Networks, 2017, 90, 1-7.	5.9	31
20	Multi-Agent Systems in ICT Enabled Smart Grid: A Status Update on Technology Framework and Applications. IEEE Access, 2019, 7, 97959-97973.	4.2	30
21	Phase and average period of chaotic oscillators. Physics Letters, Section A: General, Atomic and Solid State Physics, 2007, 362, 159-165.	2.1	28
22	Multi-time-scale synchronization and information processing in bursting neuron networks. European Physical Journal: Special Topics, 2007, 146, 155-168.	2.6	28
23	Mathematical model of brain tumour with gliaâ€"neuron interactions and chemotherapy treatment. Journal of Theoretical Biology, 2015, 368, 113-121.	1.7	28
24	Bistable Firing Pattern in a Neural Network Model. Frontiers in Computational Neuroscience, 2019, 13, 19.	2.1	28
25	A symbolic network-based nonlinear theory for dynamical systems observability. Scientific Reports, 2018, 8, 3785.	3.3	27
26	Chaos-Based Underwater Communication With Arbitrary Transducers and Bandwidth. Applied Sciences (Switzerland), 2018, 8, 162.	2.5	27
27	Chaotic channel. Physical Review E, 2005, 72, 045202.	2.1	25
28	Detecting phase synchronization by localized maps: Application to neural networks. Europhysics Letters, 2007, 77, 40006.	2.0	25
29	Successful network inference from time-series data using mutual information rate. Chaos, 2016, 26, 043102.	2.5	24
30	Tumour chemotherapy strategy based on impulse control theory. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160221.	3.4	24
31	Digital underwater communication with chaos. Communications in Nonlinear Science and Numerical Simulation, 2019, 73, 14-24.	3.3	24
32	Chaotic, informational and synchronous behaviour of multiplex networks. Scientific Reports, 2016, 6, 22617.	3.3	23
33	Mutual Information Rate and Bounds for It. PLoS ONE, 2012, 7, e46745.	2.5	22
34	Control and prediction for blackouts caused by frequency collapse in smart grids. Chaos, 2016, 26, 093119.	2.5	22
35	Optimization of synchronizability in multiplex networks by rewiring one layer. Physical Review E, 2017, 95, 040301.	2.1	21
36	Symbolic computations of nonlinear observability. Physical Review E, 2015, 91, 062912.	2.1	20

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37	Characterization in bi-parameter space of a non-ideal oscillator. Physica A: Statistical Mechanics and Its Applications, 2017, 466, 224-231.	2.6	20
38	Information transfer in chaos-based communication. Physical Review E, 2002, 65, 055201.	2.1	18
39	ONSET OF PHASE SYNCHRONIZATION IN NEURONS WITH CHEMICAL SYNAPSE. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2007, 17, 3545-3549.	1.7	18
40	Finding Quasi-Optimal Network Topologies for Information Transmission in Active Networks. PLoS ONE, 2008, 3, e3479.	2.5	18
41	Riddling: Chimeraâ€™s dilemma. Chaos, 2018, 28, 081105.	2.5	17
42	Resiliently evolving supply-demand networks. Physical Review E, 2014, 89, 012801.	2.1	15
43	Structure and function in flow networks. Europhysics Letters, 2013, 101, 68001.	2.0	14
44	Network and external perturbation induce burst synchronisation in cat cerebral cortex. Communications in Nonlinear Science and Numerical Simulation, 2016, 34, 45-54.	3.3	13
45	Synaptic Plasticity and Spike Synchronisation in Neuronal Networks. Brazilian Journal of Physics, 2017, 47, 678-688.	1.4	13
46	Influence of Delayed Conductance on Neuronal Synchronization. Frontiers in Physiology, 2020, 11, 1053.	2.8	13
47	Shilnikov homoclinic orbit bifurcations in the Chuaâ€™s circuit. Chaos, 2006, 16, 043119.	2.5	12
48	Collective Almost Synchronisation in Complex Networks. PLoS ONE, 2012, 7, e48118.	2.5	12
49	Basin of attraction for chimera states in a network of RÃ¶ssler oscillators. Chaos, 2020, 30, 083115.	2.5	12
50	Chaos for communication. Nonlinear Dynamics, 2021, 105, 1821-1841.	5.2	12
51	Irrational phase synchronization. Physical Review E, 2004, 69, 056228.	2.1	11
52	Parameter space of experimental chaotic circuits with high-precision control parameters. Chaos, 2016, 26, 083107.	2.5	11
53	Entropy-based generating Markov partitions for complex systems. Chaos, 2018, 28, 033611.	2.5	11
54	FUNDAMENTALS OF A CLASSICAL CHAOS-BASED CRYPTOSYSTEM WITH SOME QUANTUM CRYPTOGRAPHY FEATURES. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1250243.	1.7	10

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55	Space-time nature of causality. Chaos, 2018, 28, 075509.	2.5	10
56	Upper bounds in phase synchronous weak coherent chaotic attractors. Physica D: Nonlinear Phenomena, 2006, 216, 260-268.	2.8	9
57	Dynamically Multilayered Visual System of the Multifractal Fly. Physical Review Letters, 2006, 97, 178102.	7.8	9
58	How complex a dynamical network can be?. Physics Letters, Section A: General, Atomic and Solid State Physics, 2011, 375, 1309-1318.	2.1	9
59	Weak connections form an infinite number of patterns in the brain. Scientific Reports, 2017, 7, 46472.	3.3	9
60	Evaluating performance of neural codes in model neural communication networks. Neural Networks, 2019, 109, 90-102.	5.9	9
61	Low-dimensional dynamics in observables from complex and higher-dimensional systems. Physica A: Statistical Mechanics and Its Applications, 2000, 287, 91-99.	2.6	8
62	Transmission of information and synchronization in a pair of coupled chaotic circuits: An experimental overview. European Physical Journal: Special Topics, 2008, 165, 119-128.	2.6	8
63	Dynamical estimates of chaotic systems from PoincarÃ© recurrences. Chaos, 2009, 19, 043115.	2.5	8
64	UNCOVERING MISSING SYMBOLS IN COMMUNICATION WITH FILTERED CHAOTIC SIGNALS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1250199.	1.7	8
65	Production and Transfer of Energy and Information in Hamiltonian Systems. PLoS ONE, 2014, 9, e89585.	2.5	8
66	Complementary action of chemical and electrical synapses to perception. Physica A: Statistical Mechanics and Its Applications, 2015, 430, 236-241.	2.6	8
67	Recurrence-based analysis of barrier breakup in the standard nontwist map. Chaos, 2018, 28, 085717.	2.5	8
68	Mirror node correlations tuning synchronization in multiplex networks. Physical Review E, 2017, 96, 062301.	2.1	8
69	Information Transmission in Phase Synchronous Chaotic Arrays. Chinese Physics Letters, 2006, 23, 560-563.	3.3	7
70	Synchronization and information transmission in spatio-temporal networks of deformable units. Pramana - Journal of Physics, 2008, 70, 1063-1076.	1.8	7
71	Attractor reconstruction of an impact oscillator for parameter identification. International Journal of Mechanical Sciences, 2015, 103, 212-223.	6.7	7
72	Markovian language model of the DNA and its information content. Royal Society Open Science, 2016, 3, 150527.	2.4	7

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73	Communication-Based on Topology Preservation of Chaotic Dynamics. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2003, 13, 2551-2560.	1.7	6
74	Unstable dimension variability structure in the parameter space of coupled HÃ©non maps. Applied Mathematics and Computation, 2016, 286, 23-28.	2.2	6
75	General analytical solutions for DC/AC circuit-network analysis. European Physical Journal: Special Topics, 2017, 226, 1829-1844.	2.6	6
76	Inference of topology and the nature of synapses, and the flow of information in neuronal networks. Physical Review E, 2018, 97, 022303.	2.1	6
77	Global bifurcation destroying the experimental torusT2. Physical Review E, 2006, 73, 017201.	2.1	5
78	A scenario for torus T2 destruction via a global bifurcation. Chaos, Solitons and Fractals, 2009, 39, 2198-2210.	5.1	5
79	Secure information transfer based on computing reservoir. Physics Letters, Section A: General, Atomic and Solid State Physics, 2013, 377, 760-765.	2.1	5
80	One node driving synchronisation. Scientific Reports, 2016, 5, 18091.	3.3	5
81	A complex biological system: the fly's visual module. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 345-357.	3.4	4
82	Approximate solution for frequency synchronization in a finite-size Kuramoto model. Physical Review E, 2015, 92, 062808.	2.1	4
83	ACTIVE NETWORKS THAT MAXIMIZE THE AMOUNT OF INFORMATION TRANSMISSION. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1230008.	1.7	3
84	Maintaining extensivity in evolutionary multiplex networks. PLoS ONE, 2017, 12, e0175389.	2.5	3
85	Dynamics of a parametrically excited simple pendulum. Chaos, 2018, 28, 033103.	2.5	3
86	Zooming into chaos as a pathway for the creation of a fast, light and reliable cryptosystem. Nonlinear Dynamics, 2021, 104, 753-764.	5.2	3
87	Extensivity in infinitely large multiplex networks. Applied Network Science, 2019, 4, .	1.5	2
88	Reconstruction of eye movements during blinks. Chaos, 2008, 18, 013126.	2.5	1
89	The Staircase Structure of the Southern Brazilian Continental Shelf. Mathematical Problems in Engineering, 2009, 2009, 1-17.	1.1	1
90	Experimental identification of chaotic fibers. Chaos, Solitons and Fractals, 2009, 39, 9-16.	5.1	1

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91	Theoretical knock-outs on biological networks. Journal of Theoretical Biology, 2016, 403, 38-44.	1.7	1
92	Tilted excitation implies odd periodic resonances. Physical Review E, 2016, 94, 012202.	2.1	1
93	Sensitive dependence on parameters of continuous-time nonlinear dynamical systems. Chaos, Solitons and Fractals, 2017, 99, 16-19.	5.1	1
94	Algorithms for recursive delegation. AI Communications, 2019, 32, 303-317.	1.2	1
95	Exploiting ergodicity of the logistic map using deep-zoom to improve security of chaos-based cryptosystems. International Journal of Modern Physics C, 2019, 30, 1950033.	1.7	1
96	Network mutual information and synchronization under time transformations. New Journal of Physics, 2008, 10, 083003.	2.9	0
97	Methods for removal of unwanted signals from gravity time-series: Comparison using linear techniques complemented with analysis of system dynamics. Chaos, 2017, 27, 103126.	2.5	0
98	How synapses can enhance sensibility of a neural network. Physica A: Statistical Mechanics and Its Applications, 2018, 492, 1045-1052.	2.6	0
99	Dynamical Modelling of Synthetic Aperture Sonar Images. , 2011, , .		0
100	A Coalitional Algorithm for Recursive Delegation. Lecture Notes in Computer Science, 2019, , 405-422.	1.3	0