Murilo S Baptista

List of Publications by Year
in descending order

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100 papers	1,800 citations	236833 25 h-index	345118 36 g-index
102 all docs	102 docs citations	102 times ranked	1400 citing authors

#	Article	IF	Citations
1	Zooming into chaos as a pathway for the creation of a fast, light and reliable cryptosystem. Nonlinear Dynamics, 2021, 104, 753-764.	2.7	3
2	Chaos for communication. Nonlinear Dynamics, 2021, 105, 1821-1841.	2.7	12
3	Influence of Delayed Conductance on Neuronal Synchronization. Frontiers in Physiology, 2020, 11, 1053.	1.3	13
4	Basin of attraction for chimera states in a network of RÃ¶ssler oscillators. Chaos, 2020, 30, 083115.	1.0	12
5	Extensivity in infinitely large multiplex networks. Applied Network Science, 2019, 4, .	0.8	2
6	Algorithms for recursive delegation. AI Communications, 2019, 32, 303-317.	0.8	1
7	Multi-Agent Systems in ICT Enabled Smart Grid: A Status Update on Technology Framework and Applications. IEEE Access, 2019, 7, 97959-97973.	2.6	30
8	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.	0.8	1
9	Digital underwater communication with chaos. Communications in Nonlinear Science and Numerical Simulation, 2019, 73, 14-24.	1.7	24
10	Bistable Firing Pattern in a Neural Network Model. Frontiers in Computational Neuroscience, 2019, 13, 19.	1.2	28
11	Evaluating performance of neural codes in model neural communication networks. Neural Networks, 2019, 109, 90-102.	3.3	9
12	A Coalitional Algorithm for Recursive Delegation. Lecture Notes in Computer Science, 2019, , 405-422.	1.0	0
13	Inference of topology and the nature of synapses, and the flow of information in neuronal networks. Physical Review E, 2018, 97, 022303.	0.8	6
14	A symbolic network-based nonlinear theory for dynamical systems observability. Scientific Reports, 2018, 8, 3785.	1.6	27
15	Dynamics of a parametrically excited simple pendulum. Chaos, 2018, 28, 033103.	1.0	3
16	Entropy-based generating Markov partitions for complex systems. Chaos, 2018, 28, 033611.	1.0	11
17	Antimonotonicity, Crisis and Multiple Attractors in a Simple Memristive Circuit. Journal of Circuits, Systems and Computers, 2018, 27, 1850026.	1.0	37
18	How synapses can enhance sensibility of a neural network. Physica A: Statistical Mechanics and Its Applications, 2018, 492, 1045-1052.	1.2	0

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19	Chaos-Based Underwater Communication With Arbitrary Transducers and Bandwidth. Applied Sciences (Switzerland), 2018, 8, 162.	1.3	27
20	Recurrence-based analysis of barrier breakup in the standard nontwist map. Chaos, 2018, 28, 085717.	1.0	8
21	Space-time nature of causality. Chaos, 2018, 28, 075509.	1.0	10
22	Riddling: Chimeraâ€™s dilemma. Chaos, 2018, 28, 081105.	1.0	17
23	Spike timing-dependent plasticity induces non-trivial topology in the brain. Neural Networks, 2017, 88, 58-64.	3.3	36
24	A chaotic spread spectrum system for underwater acoustic communication. Physica A: Statistical Mechanics and Its Applications, 2017, 478, 77-92.	1.2	44
25	Tumour chemotherapy strategy based on impulse control theory. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160221.	1.6	24
26	Weak connections form an infinite number of patterns in the brain. Scientific Reports, 2017, 7, 46472.	1.6	9
27	Trapping Phenomenon Attenuates the Consequences of Tipping Points for Limit Cycles. Scientific Reports, 2017, 7, 42351.	1.6	33
28	Sensitive dependence on parameters of continuous-time nonlinear dynamical systems. Chaos, Solitons and Fractals, 2017, 99, 16-19.	2.5	1
29	Synchronised firing patterns in a random network of adaptive exponential integrate-and-fire neuron model. Neural Networks, 2017, 90, 1-7.	3.3	31
30	Synaptic Plasticity and Spike Synchronisation in Neuronal Networks. Brazilian Journal of Physics, 2017, 47, 678-688.	0.7	13
31	Optimization of synchronizability in multiplex networks by rewiring one layer. Physical Review E, 2017, 95, 040301.	0.8	21
32	General analytical solutions for DC/AC circuit-network analysis. European Physical Journal: Special Topics, 2017, 226, 1829-1844.	1.2	6
33	Characterization in bi-parameter space of a non-ideal oscillator. Physica A: Statistical Mechanics and Its Applications, 2017, 466, 224-231.	1.2	20
34	Methods for removal of unwanted signals from gravity time-series: Comparison using linear techniques complemented with analysis of system dynamics. Chaos, 2017, 27, 103126.	1.0	0
35	Maintaining extensivity in evolutionary multiplex networks. PLoS ONE, 2017, 12, e0175389.	1.1	3
36	Mirror node correlations tuning synchronization in multiplex networks. Physical Review E, 2017, 96, 062301.	0.8	8

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37	Successful network inference from time-series data using mutual information rate. Chaos, 2016, 26, 043102.	1.0	24
38	Experimental validation of wireless communication with chaos. Chaos, 2016, 26, 083117.	1.0	56
39	Chaotic, informational and synchronous behaviour of multiplex networks. Scientific Reports, 2016, 6, 22617.	1.6	23
40	Parameter space of experimental chaotic circuits with high-precision control parameters. Chaos, 2016, 26, 083107.	1.0	11
41	Control and prediction for blackouts caused by frequency collapse in smart grids. Chaos, 2016, 26, 093119.	1.0	22
42	Unstable dimension variability structure in the parameter space of coupled HÃ©non maps. Applied Mathematics and Computation, 2016, 286, 23-28.	1.4	6
43	Theoretical knock-outs on biological networks. Journal of Theoretical Biology, 2016, 403, 38-44.	0.8	1
44	Tilted excitation implies odd periodic resonances. Physical Review E, 2016, 94, 012202.	0.8	1
45	One node driving synchronisation. Scientific Reports, 2016, 5, 18091.	1.6	5
46	Markovian language model of the DNA and its information content. Royal Society Open Science, 2016, 3, 150527.	1.1	7
47	Network and external perturbation induce burst synchronisation in cat cerebral cortex. Communications in Nonlinear Science and Numerical Simulation, 2016, 34, 45-54.	1.7	13
48	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.	1.2	41
49	Symbolic computations of nonlinear observability. Physical Review E, 2015, 91, 062912.	0.8	20
50	Approximate solution for frequency synchronization in a finite-size Kuramoto model. Physical Review E, 2015, 92, 062808.	0.8	4
51	Mathematical model of brain tumour with gliaâ€“neuron interactions and chemotherapy treatment. Journal of Theoretical Biology, 2015, 368, 113-121.	0.8	28
52	Complementary action of chemical and electrical synapses to perception. Physica A: Statistical Mechanics and Its Applications, 2015, 430, 236-241.	1.2	8
53	Attractor reconstruction of an impact oscillator for parameter identification. International Journal of Mechanical Sciences, 2015, 103, 212-223.	3.6	7
54	Do Brain Networks Evolve by Maximizing Their Information Flow Capacity?. PLoS Computational Biology, 2015, 11, e1004372.	1.5	32

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55	Production and Transfer of Energy and Information in Hamiltonian Systems. PLoS ONE, 2014, 9, e89585.	1.1	8
56	Exact detection of direct links in networks of interacting dynamical units. New Journal of Physics, 2014, 16, 093010.	1.2	33
57	Models for the modern power grid. European Physical Journal: Special Topics, 2014, 223, 2423-2437.	1.2	89
58	Resiliently evolving supply-demand networks. Physical Review E, 2014, 89, 012801.	0.8	15
59	Model for tumour growth with treatment by continuous and pulsed chemotherapy. BioSystems, 2014, 116, 43-48.	0.9	43
60	Secure information transfer based on computing reservoir. Physics Letters, Section A: General, Atomic and Solid State Physics, 2013, 377, 760-765.	0.9	5
61	Wireless Communication with Chaos. Physical Review Letters, 2013, 110, 184101.	2.9	109
62	Natural synchronization in power-grids with anti-correlated units. Communications in Nonlinear Science and Numerical Simulation, 2013, 18, 1035-1046.	1.7	47
63	Structure and function in flow networks. Europhysics Letters, 2013, 101, 68001.	0.7	14
64	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.	0.7	10
65	UNCOVERING MISSING SYMBOLS IN COMMUNICATION WITH FILTERED CHAOTIC SIGNALS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1250199.	0.7	8
66	ACTIVE NETWORKS THAT MAXIMIZE THE AMOUNT OF INFORMATION TRANSMISSION. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1230008.	0.7	3
67	Mutual Information Rate and Bounds for It. PLoS ONE, 2012, 7, e46745.	1.1	22
68	Collective Almost Synchronisation in Complex Networks. PLoS ONE, 2012, 7, e48118.	1.1	12
69	How complex a dynamical network can be?. Physics Letters, Section A: General, Atomic and Solid State Physics, 2011, 375, 1309-1318.	0.9	9
70	Dynamical Modelling of Synthetic Aperture Sonar Images. , 2011, , .		0
71	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.	0.8	86
72	The Staircase Structure of the Southern Brazilian Continental Shelf. Mathematical Problems in Engineering, 2009, 2009, 1-17.	0.6	1

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73	Dynamical estimates of chaotic systems from PoincarÃ© recurrences. Chaos, 2009, 19, 043115.	1.0	8
74	Experimental identification of chaotic fibers. Chaos, Solitons and Fractals, 2009, 39, 9-16.	2.5	1
75	A scenario for torus T2 destruction via a global bifurcation. Chaos, Solitons and Fractals, 2009, 39, 2198-2210.	2.5	5
76	Synchronization and information transmission in spatio-temporal networks of deformable units. Pramana - Journal of Physics, 2008, 70, 1063-1076.	0.9	7
77	Transmission of information and synchronization in a pair of coupled chaotic circuits: An experimental overview. European Physical Journal: Special Topics, 2008, 165, 119-128.	1.2	8
78	Transmission of information in active networks. Physical Review E, 2008, 77, 026205.	0.8	35
79	Network mutual information and synchronization under time transformations. New Journal of Physics, 2008, 10, 083003.	1.2	0
80	Reconstruction of eye movements during blinks. Chaos, 2008, 18, 013126.	1.0	1
81	Experimental observation of a complex periodic window. Physical Review E, 2008, 77, 037202.	0.8	35
82	A complex biological system: the fly's visual module. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 345-357.	1.6	4
83	Finding Quasi-Optimal Network Topologies for Information Transmission in Active Networks. PLoS ONE, 2008, 3, e3479.	1.1	18
84	ONSET OF PHASE SYNCHRONIZATION IN NEURONS WITH CHEMICAL SYNAPSE. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2007, 17, 3545-3549.	0.7	18
85	Detecting phase synchronization by localized maps: Application to neural networks. Europhysics Letters, 2007, 77, 40006.	0.7	25
86	General framework for phase synchronization through localized sets. Physical Review E, 2007, 75, 026216.	0.8	44
87	Phase and average period of chaotic oscillators. Physics Letters, Section A: General, Atomic and Solid State Physics, 2007, 362, 159-165.	0.9	28
88	Multi-time-scale synchronization and information processing in bursting neuron networks. European Physical Journal: Special Topics, 2007, 146, 155-168.	1.2	28
89	Upper bounds in phase synchronous weak coherent chaotic attractors. Physica D: Nonlinear Phenomena, 2006, 216, 260-268.	1.3	9
90	Information Transmission in Phase Synchronous Chaotic Arrays. Chinese Physics Letters, 2006, 23, 560-563.	1.3	7

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91	Global bifurcation destroying the experimental torusT2. Physical Review E, 2006, 73, 017201.	0.8	5
92	Shilnikov homoclinic orbit bifurcations in the Chuaâ€™s circuit. Chaos, 2006, 16, 043119.	1.0	12
93	Dynamically Multilayered Visual System of the Multifractal Fly. Physical Review Letters, 2006, 97, 178102.	2.9	9
94	Chaotic channel. Physical Review E, 2005, 72, 045202.	0.8	25
95	Irrational phase synchronization. Physical Review E, 2004, 69, 056228.	0.8	11
96	Communication-Based on Topology Preservation of Chaotic Dynamics. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2003, 13, 2551-2560.	0.7	6
97	Phase synchronization in the perturbed Chua circuit. Physical Review E, 2003, 67, 056212.	0.8	37
98	Information transfer in chaos-based communication. Physical Review E, 2002, 65, 055201.	0.8	18
99	Low-dimensional dynamics in observables from complex and higher-dimensional systems. Physica A: Statistical Mechanics and Its Applications, 2000, 287, 91-99.	1.2	8
100	Integrated chaotic communication scheme. Physical Review E, 2000, 62, 4835-4845.	0.8	34