

AndrÃ© Longtin

List of Publications by Year in descending order

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138
papers

10,719
citations

44069

48
h-index

32842

100
g-index

147
all docs

147
docs citations

147
times ranked

6370
citing authors

#	ARTICLE	IF	CITATIONS
1	Testing for nonlinearity in time series: the method of surrogate data. <i>Physica D: Nonlinear Phenomena</i> , 1992, 58, 77-94.	2.8	3,281
2	Time-interval sequences in bistable systems and the noise-induced transmission of information by sensory neurons. <i>Physical Review Letters</i> , 1991, 67, 656-659.	7.8	450
3	A dynamical model of saccade generation in reading based on spatially distributed lexical processing. <i>Vision Research</i> , 2002, 42, 621-636.	1.4	310
4	Multistability and Delayed Recurrent Loops. <i>Physical Review Letters</i> , 1996, 76, 708-711.	7.8	304
5	Small delay approximation of stochastic delay differential equations. <i>Physical Review E</i> , 1999, 59, 3970-3982.	2.1	302
6	Autonomous stochastic resonance in bursting neurons. <i>Physical Review E</i> , 1997, 55, 868-876.	2.1	280
7	Negative Interspike Interval Correlations Increase the Neuronal Capacity for Encoding Time-Dependent Stimuli. <i>Journal of Neuroscience</i> , 2001, 21, 5328-5343.	3.6	191
8	Complex oscillations in the human pupil light reflex with "mixed" and delayed feedback. <i>Mathematical Biosciences</i> , 1988, 90, 183-199.	1.9	185
9	Spike-Frequency Adaptation Separates Transient Communication Signals from Background Oscillations. <i>Journal of Neuroscience</i> , 2005, 25, 2312-2321.	3.6	173
10	Non-classical receptive field mediates switch in a sensory neuron's frequency tuning. <i>Nature</i> , 2003, 423, 77-81.	27.8	168
11	Inhibitory feedback required for network oscillatory responses to communication but not prey stimuli. <i>Nature</i> , 2003, 421, 539-543.	27.8	152
12	Stochastic resonance in models of neuronal ensembles. <i>Physical Review E</i> , 1997, 55, 1798-1808.	2.1	150
13	Theory of oscillatory firing induced by spatially correlated noise and delayed inhibitory feedback. <i>Physical Review E</i> , 2005, 72, 061919.	2.1	137
14	Maximizing spike train coherence or incoherence in the leaky integrate-and-fire model. <i>Physical Review E</i> , 2002, 66, 031916.	2.1	135
15	Noise and critical behavior of the pupil light reflex at oscillation onset. <i>Physical Review A</i> , 1990, 41, 6992-7005.	2.5	133
16	Stochastic and Deterministic Resonances for Excitable Systems. <i>Physical Review Letters</i> , 1998, 81, 4012-4015.	7.8	119
17	Rate processes in a delayed, stochastically driven, and overdamped system. <i>Physical Review E</i> , 2000, 61, 4906-4914.	2.1	114
18	Ghostbursting: a novel neuronal burst mechanism. <i>Journal of Computational Neuroscience</i> , 2002, 12, 5-25.	1.0	113

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19	Noise Shaping by Interval Correlations Increases Information Transfer. <i>Physical Review Letters</i> , 2004, 92, 080601.	7.8	111
20	Suprathreshold Stochastic Firing Dynamics with Memory in P-Type Electrosensory Neurons. <i>Physical Review Letters</i> , 2000, 85, 1576-1579.	7.8	110
21	Oscillatory Activity in Electrosensory Neurons Increases with the Spatial Correlation of the Stochastic Input Stimulus. <i>Physical Review Letters</i> , 2004, 93, 048101.	7.8	105
22	Additive noise-induced Turing transitions in spatial systems with application to neural fields and the Swift-Hohenberg equation. <i>Physica D: Nonlinear Phenomena</i> , 2008, 237, 755-773.	2.8	103
23	A Synchronization-Desynchronization Code for Natural Communication Signals. <i>Neuron</i> , 2006, 52, 347-358.	8.1	98
24	Subtractive and Divisive Inhibition: Effect of Voltage-Dependent Inhibitory Conductances and Noise. <i>Neural Computation</i> , 2001, 13, 227-248.	2.2	97
25	Analytic Expressions for Rate and CV of a Type I Neuron Driven by White Gaussian Noise. <i>Neural Computation</i> , 2003, 15, 1761-1788.	2.2	95
26	Bistability and the dynamics of periodically forced sensory neurons. <i>Biological Cybernetics</i> , 1994, 70, 569-578.	1.3	94
27	The cellular basis for parallel neural transmission of a high-frequency stimulus and its low-frequency envelope. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 14596-14601.	7.1	93
28	Linear Versus Nonlinear Signal Transmission in Neuron Models With Adaptation Currents or Dynamic Thresholds. <i>Journal of Neurophysiology</i> , 2010, 104, 2806-2820.	1.8	93
29	Solution multistability in first-order nonlinear differential delay equations. <i>Chaos</i> , 1993, 3, 167-176.	2.5	92
30	Is There a Nonadditive Interaction Between Spontaneous and Evoked Activity? Phase-Dependence and Its Relation to the Temporal Structure of Scale-Free Brain Activity. <i>Cerebral Cortex</i> , 2017, 27, bhv288.	2.9	92
31	Encoding with Bursting, Subthreshold Oscillations, and Noise in Mammalian Cold Receptors. <i>Neural Computation</i> , 1996, 8, 215-255.	2.2	90
32	Interspike Interval Correlations, Memory, Adaptation, and Refractoriness in a Leaky Integrate-and-Fire Model with Threshold Fatigue. <i>Neural Computation</i> , 2003, 15, 253-278.	2.2	86
33	Synchronization of delay-differential equations with application to private communication. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1998, 244, 59-70.	2.1	84
34	Efficient computation via sparse coding in electrosensory neural networks. <i>Current Opinion in Neurobiology</i> , 2011, 21, 752-760.	4.2	84
35	Complex dynamics and bifurcations in neurology. <i>Journal of Theoretical Biology</i> , 1989, 138, 129-147.	1.7	76
36	The temporal signature of self: Temporal measures of resting-state EEG predict self-consciousness. <i>Human Brain Mapping</i> , 2019, 40, 789-803.	3.6	76

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37	Contrast coding in the electrosensory system: parallels with visual computation. <i>Nature Reviews Neuroscience</i> , 2015, 16, 733-744.	10.2	71
38	Spatial Acuity and Prey Detection in Weakly Electric Fish. <i>PLoS Computational Biology</i> , 2007, 3, e38.	3.2	69
39	Effects of the anesthetic agent propofol on neural populations. <i>Cognitive Neurodynamics</i> , 2010, 4, 37-59.	4.0	67
40	Interspike interval attractors from chaotically driven neuron models. <i>Physica D: Nonlinear Phenomena</i> , 1997, 104, 184-204.	2.8	66
41	Modeling the electric field of weakly electric fish. <i>Journal of Experimental Biology</i> , 2006, 209, 3636-3651.	1.7	66
42	Broadband Coding with Dynamic Synapses. <i>Journal of Neuroscience</i> , 2009, 29, 2076-2087.	3.6	62
43	Cellular and circuit properties supporting different sensory coding strategies in electric fish and other systems. <i>Current Opinion in Neurobiology</i> , 2012, 22, 686-692.	4.2	62
44	Model of Gamma Frequency Burst Discharge Generated by Conditional Backpropagation. <i>Journal of Neurophysiology</i> , 2001, 86, 1523-1545.	1.8	60
45	Threshold fatigue and information transfer. <i>Journal of Computational Neuroscience</i> , 2007, 23, 301-311.	1.0	58
46	Active sensing associated with spatial learning reveals memory-based attention in an electric fish. <i>Journal of Neurophysiology</i> , 2016, 115, 2577-2592.	1.8	58
47	Evaluation of pupil constriction and dilation from cycling measurements. <i>Vision Research</i> , 1990, 30, 515-525.	1.4	54
48	Frequency-Tuned Cerebellar Channels and Burst-Induced LTD Lead to the Cancellation of Redundant Sensory Inputs. <i>Journal of Neuroscience</i> , 2011, 31, 11028-11038.	3.6	54
49	Bifurcation analysis of a class of first-order nonlinear delay-differential equations with reflectional symmetry. <i>Physica D: Nonlinear Phenomena</i> , 2002, 166, 131-146.	2.8	52
50	Delayed excitatory and inhibitory feedback shape neural information transmission. <i>Physical Review E</i> , 2005, 72, 051917.	2.1	49
51	Coding Conspecific Identity and Motion in the Electric Sense. <i>PLoS Computational Biology</i> , 2012, 8, e1002564.	3.2	49
52	Differential effects of excitatory and inhibitory heterogeneity on the gain and asynchronous state of sparse cortical networks. <i>Frontiers in Computational Neuroscience</i> , 2014, 8, 107.	2.1	47
53	A Dynamic Dendritic Refractory Period Regulates Burst Discharge in the Electrosensory Lobe of Weakly Electric Fish. <i>Journal of Neuroscience</i> , 2003, 23, 1524-1534.	3.6	46
54	To Burst or Not to Burst?. <i>Journal of Computational Neuroscience</i> , 2004, 17, 127-136.	1.0	44

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55	Effect of noise on the tuning properties of excitable systems. <i>Chaos, Solitons and Fractals</i> , 2000, 11, 1835-1848.	5.1	43
56	Additive Global Noise Delays Turing Bifurcations. <i>Physical Review Letters</i> , 2007, 98, 230601.	7.8	43
57	Comparison of Coding Capabilities of Type I and Type II Neurons. <i>Journal of Computational Neuroscience</i> , 2004, 16, 299-313.	1.0	42
58	Noise-induced transitions at a Hopf bifurcation in a first-order delay-differential equation. <i>Physical Review A</i> , 1991, 44, 4801-4813.	2.5	40
59	Power spectra and dynamical invariants for delay-differential and difference equations. <i>Physica D: Nonlinear Phenomena</i> , 1998, 113, 1-25.	2.8	38
60	Noise-induced stabilization of bumps in systems with long-range spatial coupling. <i>Physica D: Nonlinear Phenomena</i> , 2001, 160, 149-172.	2.8	38
61	Electric field interactions in pairs of electric fish: modeling and mimicking naturalistic inputs. <i>Biological Cybernetics</i> , 2008, 98, 479-490.	1.3	38
62	Controlling chaos to store information in delay-differential equations. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1995, 205, 18-24.	2.1	37
63	Postsynaptic Receptive Field Size and Spike Threshold Determine Encoding of High-Frequency Information Via Sensitivity to Synchronous Presynaptic Activity. <i>Journal of Neurophysiology</i> , 2009, 101, 1160-1170.	1.8	37
64	Delayed visual feedback reveals distinct time scales in balance control. <i>Neuroscience Letters</i> , 2009, 452, 37-41.	2.1	35
65	Type I burst excitability. <i>Journal of Computational Neuroscience</i> , 2003, 14, 329-342.	1.0	33
66	The effects of spontaneous activity, background noise, and the stimulus ensemble on information transfer in neurons. <i>Network: Computation in Neural Systems</i> , 2003, 14, 803-824.	3.6	33
67	Effect of an exponentially decaying threshold on the firing statistics of a stochastic integrate-and-fire neuron. <i>Journal of Theoretical Biology</i> , 2005, 232, 505-521.	1.7	33
68	A time-stamp mechanism may provide temporal information necessary for egocentric to allocentric spatial transformations. <i>ELife</i> , 2018, 7, .	6.0	32
69	Feedback-induced gain control in stochastic spiking networks. <i>Biological Cybernetics</i> , 2009, 100, 475-489.	1.3	31
70	Comment on "Characterization of Subthreshold Voltage Fluctuations in Neuronal Membranes" by M. Rudolph and A. Destexhe. <i>Neural Computation</i> , 2006, 18, 1896-1931.	2.2	30
71	Noise-induced divisive gain control in neuron models. <i>BioSystems</i> , 2002, 67, 147-156.	2.0	28
72	Biophysical information representation in temporally correlated spike trains. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 21973-21978.	7.1	27

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73	A Neural Code for Looming and Receding Motion Is Distributed over a Population of Electrosensory ON and OFF Contrast Cells. <i>Journal of Neuroscience</i> , 2014, 34, 5583-5594.	3.6	27
74	Speed-invariant encoding of looming object distance requires power law spike rate adaptation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 13624-13629.	7.1	26
75	Enhanced sensory sampling precedes self-initiated locomotion in an electric fish. <i>Journal of Experimental Biology</i> , 2014, 217, 3615-3628.	1.7	26
76	Determinants of Brain Rhythm Burst Statistics. <i>Scientific Reports</i> , 2019, 9, 18335.	3.3	25
77	Chaos control in multistable delay-differential equations and their singular limit maps. <i>Physical Review E</i> , 1998, 58, 410-422.	2.1	24
78	A Two-Variable Model of Somatic-Dendritic Interactions in a Bursting Neuron. <i>Bulletin of Mathematical Biology</i> , 2002, 64, 829-860.	1.9	24
79	Neural dynamics of envelope coding. <i>Mathematical Biosciences</i> , 2008, 214, 87-99.	1.9	24
80	The neural dynamics of sensory focus. <i>Nature Communications</i> , 2015, 6, 8764.	12.8	24
81	A stochastic-field description of finite-size spiking neural networks. <i>PLoS Computational Biology</i> , 2017, 13, e1005691.	3.2	24
82	Dynamics of Deterministic and Stochastic Paired Excitatory-Inhibitory Delayed Feedback. <i>Neural Computation</i> , 2003, 15, 2779-2822.	2.2	21
83	Learning Contrast-Invariant Cancellation of Redundant Signals in Neural Systems. <i>PLoS Computational Biology</i> , 2013, 9, e1003180.	3.2	20
84	Counting on dis-inhibition: a circuit motif for interval counting and selectivity in the anuran auditory system. <i>Journal of Neurophysiology</i> , 2015, 114, 2804-2815.	1.8	19
85	The effects of spontaneous activity, background noise, and the stimulus ensemble on information transfer in neurons. <i>Network: Computation in Neural Systems</i> , 2003, 14, 803-824.	3.6	19
86	Parsing Out the Variability of Transmission at Central Synapses Using Optical Quantal Analysis. <i>Frontiers in Synaptic Neuroscience</i> , 2019, 11, 22.	2.5	18
87	Weak signal amplification and detection by higher-order sensory neurons. <i>Journal of Neurophysiology</i> , 2016, 115, 2158-2175.	1.8	17
88	Prestimulus dynamics blend with the stimulus in neural variability quenching. <i>NeuroImage</i> , 2021, 238, 118160.	4.2	17
89	The effects of spontaneous activity, background noise, and the stimulus ensemble on information transfer in neurons. <i>Network: Computation in Neural Systems</i> , 2003, 14, 803-24.	3.6	16
90	Subtractive, divisive and non-monotonic gain control in feedforward nets linearized by noise and delays. <i>Frontiers in Computational Neuroscience</i> , 2014, 8, 19.	2.1	15

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91	Driving neural oscillations with correlated spatial input and topographic feedback. <i>Physical Review E</i> , 2008, 78, 021911.	2.1	14
92	Long-term Behavioral Tracking of Freely Swimming Weakly Electric Fish. <i>Journal of Visualized Experiments</i> , 2014, , .	0.3	13
93	Nonstationary Stochastic Dynamics Underlie Spontaneous Transitions between Active and Inactive Behavioral States. <i>ENeuro</i> , 2017, 4, ENEURO.0355-16.2017.	1.9	13
94	Kinetics of Fast Short-Term Depression Are Matched to Spike Train Statistics to Reduce Noise. <i>Journal of Neurophysiology</i> , 2010, 103, 3337-3348.	1.8	12
95	Balanced ionotropic receptor dynamics support signal estimation via voltage-dependent membrane noise. <i>Journal of Neurophysiology</i> , 2016, 115, 530-545.	1.8	12
96	Electrosensory Contrast Signals for Interacting Weakly Electric Fish. <i>Frontiers in Integrative Neuroscience</i> , 2019, 13, 36.	2.1	12
97	Variability of the electric organ discharge interval duration in resting <i>Gymnotus carapo</i> . <i>Biological Cybernetics</i> , 2001, 84, 309-321.	1.3	11
98	Mixed selectivity coding of sensory and motor social signals in the thalamus of a weakly electric fish. <i>Current Biology</i> , 2022, 32, 51-63.e3.	3.9	11
99	Reduced dynamics for delayed systems with harmonic or stochastic forcing. <i>Chaos</i> , 2012, 22, 043121.	2.5	10
100	Inference of a Mesoscopic Population Model from Population Spike Trains. <i>Neural Computation</i> , 2020, 32, 1448-1498.	2.2	10
101	ISI CORRELATIONS AND INFORMATION TRANSFER. <i>Fluctuation and Noise Letters</i> , 2004, 04, L195-L205.	1.5	9
102	Linear noise approximation for oscillations in a stochastic inhibitory network with delay. <i>Physical Review E</i> , 2014, 90, 012702.	2.1	9
103	Ultrafast traveling wave dominates the electric organ discharge of <i>Apteronotus leptorhynchus</i> : an inverse modelling study. <i>Scientific Reports</i> , 2015, 5, 15780.	3.3	9
104	Vibrational resonance in a neuron-astrocyte coupled model. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021, 379, 20200267.	3.4	9
105	Attractor dynamics in local neuronal networks. <i>Frontiers in Neural Circuits</i> , 2014, 8, 22.	2.8	8
106	Optimal Design for Estimation in Diffusion Processes from First Hitting Times. <i>SIAM-ASA Journal on Uncertainty Quantification</i> , 2017, 5, 88-110.	2.0	8
107	Mean, covariance, and effective dimension of stochastic distributed delay dynamics. <i>Chaos</i> , 2017, 27, 114322.	2.5	8
108	Linking demyelination to compound action potential dispersion with a spike-diffuse-spike approach. <i>Journal of Mathematical Neuroscience</i> , 2019, 9, 3.	2.4	8

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109	ENCODING CARRIER AMPLITUDE MODULATIONS VIA STOCHASTIC PHASE SYNCHRONIZATION. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2000, 10, 2447-2463.	1.7	7
110	Evolution of moments and correlations in nonrenewal escape-time processes. Physical Review E, 2017, 95, 052127.	2.1	7
111	Data-driven inference for stationary jump-diffusion processes with application to membrane voltage fluctuations in pyramidal neurons. Journal of Mathematical Neuroscience, 2019, 9, 6.	2.4	7
112	Temperature Fluctuations for a System in Contact with a Heat Bath. Journal of Statistical Physics, 2013, 153, 1132-1142.	1.2	6
113	Oscillatorylike behavior in feedforward neuronal networks. Physical Review E, 2015, 92, 012703.	2.1	6
114	Amplitude-phase description of stochastic neural oscillators across the Hopf bifurcation. Physical Review Research, 2021, 3, .	3.6	6
115	PHASE LOCKING AND RESONANCES FOR STOCHASTIC EXCITABLE SYSTEMS. Fluctuation and Noise Letters, 2002, 02, L183-L203.	1.5	5
116	A stochastic model of input effectiveness during irregular gamma rhythms. Journal of Computational Neuroscience, 2016, 40, 85-101.	1.0	5
117	Brain rhythm bursts are enhanced by multiplicative noise. Chaos, 2021, 31, 013117.	2.5	5
118	Phase dynamics of delay-coupled quasi-cycles with application to brain rhythms. Physical Review Research, 2020, 2, .	3.6	5
119	Multi-delay complexity collapse. Physical Review Research, 2020, 2, .	3.6	5
120	Non-additive activity modulation during a decision making task involving tactic selection. Cognitive Neurodynamics, 2022, 16, 117-133.	4.0	4
121	Mechanisms of Flexible Information Sharing through Noisy Oscillations. Biology, 2021, 10, 764.	2.8	4
122	Coherence depression in stochastic excitable systems with two-frequency forcing. Chaos, 2011, 21, 047507.	2.5	3
123	Enhanced Signal Detection by Adaptive Decorrelation of Interspike Intervals. Neural Computation, 2021, 33, 341-375.	2.2	3
124	Coding of information in models of tuberos electrosensors. Mathematical Biosciences, 2004, 188, 157-174.	1.9	2
125	Interspike interval correlations in networks of inhibitory integrate-and-fire neurons. Physical Review E, 2019, 99, 032402.	2.1	2
126	Dynamical invariants and inverse period-doubling cascades in multi-delay systems. Chaos, 2021, 31, 103129.	2.5	2

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127	Stochastic aspects of neural phase locking to periodic signals. AIP Conference Proceedings, 2000, , .	0.4	1
128	Two-category Model of Task Allocation with Application to Ant Societies. Bulletin of Mathematical Biology, 2001, 63, 1125-1161.	1.9	1
129	Neuronal dynamics of sensory coding: the legacy of Jose Pedro Segundo. Biological Cybernetics, 2009, 100, 409-411.	1.3	1
130	Linear response theory for two neural populations applied to gamma oscillation generation. Physical Review E, 2013, 87, .	2.1	1
131	Centre of pressure during quiet stance and dual-task one month after mild traumatic brain injury: In adolescents. Journal of Concussion, 2018, 2, 205970021880491.	0.6	1
132	Non-monotonic accumulation of spike time variance during membrane potential oscillations. Biological Cybernetics, 2018, 112, 539-545.	1.3	1
133	Adiabatic and Non-adiabatic Resonances in Excitable Systems. , 2000, , 172-181.		1
134	Complexity Collapse, Fluctuating Synchrony, and Transient Chaos in Neural Networks With Delay Clusters. Frontiers in Systems Neuroscience, 2021, 15, 720744.	2.5	1
135	Transition rates for stochastic delay differential equations. AIP Conference Proceedings, 2000, , .	0.4	0
136	Signal cancellation in neural systems: encoding sensory input in the weakly electric fish. , 2012, , .		0
137	Learning to generalize. ELife, 2019, 8, .	6.0	0
138	Mutual information resonances in delay-coupled limit cycle and quasi-cycle brain rhythms. Biological Cybernetics, 2022, 116, 129-146.	1.3	0