

AndrÃ© Longtin

List of Publications by Year in descending order

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138
papers

10,719
citations

44042

48
h-index

32815

100
g-index

147
all docs

147
docs citations

147
times ranked

6370
citing authors

#	ARTICLE	IF	CITATIONS
1	Non-additive activity modulation during a decision making task involving tactic selection. <i>Cognitive Neurodynamics</i> , 2022, 16, 117-133.	2.3	4
2	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.	1.8	11
3	Mutual information resonances in delay-coupled limit cycle and quasi-cycle brain rhythms. <i>Biological Cybernetics</i> , 2022, 116, 129-146.	0.6	0
4	Brain rhythm bursts are enhanced by multiplicative noise. <i>Chaos</i> , 2021, 31, 013117.	1.0	5
5	Enhanced Signal Detection by Adaptive Decorrelation of Interspike Intervals. <i>Neural Computation</i> , 2021, 33, 341-375.	1.3	3
6	Vibrational resonance in a neuron-astrocyte coupled model. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021, 379, 20200267.	1.6	9
7	Amplitude-phase description of stochastic neural oscillators across the Hopf bifurcation. <i>Physical Review Research</i> , 2021, 3, .	1.3	6
8	Mechanisms of Flexible Information Sharing through Noisy Oscillations. <i>Biology</i> , 2021, 10, 764.	1.3	4
9	Prestimulus dynamics blend with the stimulus in neural variability quenching. <i>NeuroImage</i> , 2021, 238, 118160.	2.1	17
10	Dynamical invariants and inverse period-doubling cascades in multi-delay systems. <i>Chaos</i> , 2021, 31, 103129.	1.0	2
11	Complexity Collapse, Fluctuating Synchrony, and Transient Chaos in Neural Networks With Delay Clusters. <i>Frontiers in Systems Neuroscience</i> , 2021, 15, 720744.	1.2	1
12	Inference of a Mesoscopic Population Model from Population Spike Trains. <i>Neural Computation</i> , 2020, 32, 1448-1498.	1.3	10
13	Phase dynamics of delay-coupled quasi-cycles with application to brain rhythms. <i>Physical Review Research</i> , 2020, 2, .	1.3	5
14	Multi-delay complexity collapse. <i>Physical Review Research</i> , 2020, 2, .	1.3	5
15	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
16	Data-driven inference for stationary jump-diffusion processes with application to membrane voltage fluctuations in pyramidal neurons. <i>Journal of Mathematical Neuroscience</i> , 2019, 9, 6.	2.4	7
17	Electrosensory Contrast Signals for Interacting Weakly Electric Fish. <i>Frontiers in Integrative Neuroscience</i> , 2019, 13, 36.	1.0	12
18	Parsing Out the Variability of Transmission at Central Synapses Using Optical Quantal Analysis. <i>Frontiers in Synaptic Neuroscience</i> , 2019, 11, 22.	1.3	18

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19	Interspike interval correlations in networks of inhibitory integrate-and-fire neurons. <i>Physical Review E</i> , 2019, 99, 032402.	0.8	2
20	Determinants of Brain Rhythm Burst Statistics. <i>Scientific Reports</i> , 2019, 9, 18335.	1.6	25
21	The temporal signature of self: Temporal measures of resting-state EEG predict self-consciousness. <i>Human Brain Mapping</i> , 2019, 40, 789-803.	1.9	76
22	Learning to generalize. <i>ELife</i> , 2019, 8, .	2.8	0
23	Centre of pressure during quiet stance and dual-task one month after mild traumatic brain injury: In adolescents. <i>Journal of Concussion</i> , 2018, 2, 205970021880491.	0.2	1
24	Non-monotonic accumulation of spike time variance during membrane potential oscillations. <i>Biological Cybernetics</i> , 2018, 112, 539-545.	0.6	1
25	A time-stamp mechanism may provide temporal information necessary for egocentric to allocentric spatial transformations. <i>ELife</i> , 2018, 7, .	2.8	32
26	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.	1.6	92
27	Optimal Design for Estimation in Diffusion Processes from First Hitting Times. <i>SIAM-ASA Journal on Uncertainty Quantification</i> , 2017, 5, 88-110.	1.1	8
28	Mean, covariance, and effective dimension of stochastic distributed delay dynamics. <i>Chaos</i> , 2017, 27, 114322.	1.0	8
29	Evolution of moments and correlations in nonrenewal escape-time processes. <i>Physical Review E</i> , 2017, 95, 052127.	0.8	7
30	A stochastic-field description of finite-size spiking neural networks. <i>PLoS Computational Biology</i> , 2017, 13, e1005691.	1.5	24
31	Nonstationary Stochastic Dynamics Underlie Spontaneous Transitions between Active and Inactive Behavioral States. <i>ENeuro</i> , 2017, 4, ENEURO.0355-16.2017.	0.9	13
32	Active sensing associated with spatial learning reveals memory-based attention in an electric fish. <i>Journal of Neurophysiology</i> , 2016, 115, 2577-2592.	0.9	58
33	Weak signal amplification and detection by higher-order sensory neurons. <i>Journal of Neurophysiology</i> , 2016, 115, 2158-2175.	0.9	17
34	Balanced ionotropic receptor dynamics support signal estimation via voltage-dependent membrane noise. <i>Journal of Neurophysiology</i> , 2016, 115, 530-545.	0.9	12
35	A stochastic model of input effectiveness during irregular gamma rhythms. <i>Journal of Computational Neuroscience</i> , 2016, 40, 85-101.	0.6	5
36	Oscillatorylike behavior in feedforward neuronal networks. <i>Physical Review E</i> , 2015, 92, 012703.	0.8	6

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37	The neural dynamics of sensory focus. <i>Nature Communications</i> , 2015, 6, 8764.	5.8	24
38	Ultrafast traveling wave dominates the electric organ discharge of <i>Apteronotus leptorhynchus</i> : an inverse modelling study. <i>Scientific Reports</i> , 2015, 5, 15780.	1.6	9
39	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.	0.9	19
40	Contrast coding in the electrosensory system: parallels with visual computation. <i>Nature Reviews Neuroscience</i> , 2015, 16, 733-744.	4.9	71
41	Attractor dynamics in local neuronal networks. <i>Frontiers in Neural Circuits</i> , 2014, 8, 22.	1.4	8
42	Subtractive, divisive and non-monotonic gain control in feedforward nets linearized by noise and delays. <i>Frontiers in Computational Neuroscience</i> , 2014, 8, 19.	1.2	15
43	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.	1.2	47
44	Enhanced sensory sampling precedes self-initiated locomotion in an electric fish. <i>Journal of Experimental Biology</i> , 2014, 217, 3615-3628.	0.8	26
45	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.	1.7	27
46	Linear noise approximation for oscillations in a stochastic inhibitory network with delay. <i>Physical Review E</i> , 2014, 90, 012702.	0.8	9
47	Long-term Behavioral Tracking of Freely Swimming Weakly Electric Fish. <i>Journal of Visualized Experiments</i> , 2014, , .	0.2	13
48	Temperature Fluctuations for a System in Contact with a Heat Bath. <i>Journal of Statistical Physics</i> , 2013, 153, 1132-1142.	0.5	6
49	Linear response theory for two neural populations applied to gamma oscillation generation. <i>Physical Review E</i> , 2013, 87, .	0.8	1
50	Learning Contrast-Invariant Cancellation of Redundant Signals in Neural Systems. <i>PLoS Computational Biology</i> , 2013, 9, e1003180.	1.5	20
51	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.	3.3	26
52	Coding Conspecific Identity and Motion in the Electric Sense. <i>PLoS Computational Biology</i> , 2012, 8, e1002564.	1.5	49
53	Signal cancellation in neural systems: encoding sensory input in the weakly electric fish. , 2012, , .		0
54	Reduced dynamics for delayed systems with harmonic or stochastic forcing. <i>Chaos</i> , 2012, 22, 043121.	1.0	10

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55	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.	2.0	62
56	Efficient computation via sparse coding in electrosensory neural networks. <i>Current Opinion in Neurobiology</i> , 2011, 21, 752-760.	2.0	84
57	Coherence depression in stochastic excitable systems with two-frequency forcing. <i>Chaos</i> , 2011, 21, 047507.	1.0	3
58	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.	1.7	54
59	Effects of the anesthetic agent propofol on neural populations. <i>Cognitive Neurodynamics</i> , 2010, 4, 37-59.	2.3	67
60	Kinetics of Fast Short-Term Depression Are Matched to Spike Train Statistics to Reduce Noise. <i>Journal of Neurophysiology</i> , 2010, 103, 3337-3348.	0.9	12
61	Linear Versus Nonlinear Signal Transmission in Neuron Models With Adaptation Currents or Dynamic Thresholds. <i>Journal of Neurophysiology</i> , 2010, 104, 2806-2820.	0.9	93
62	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.	3.3	27
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.	0.9	37
64	Broadband Coding with Dynamic Synapses. <i>Journal of Neuroscience</i> , 2009, 29, 2076-2087.	1.7	62
65	Feedback-induced gain control in stochastic spiking networks. <i>Biological Cybernetics</i> , 2009, 100, 475-489.	0.6	31
66	Neuronal dynamics of sensory coding: the legacy of Jose Pedro Segundo. <i>Biological Cybernetics</i> , 2009, 100, 409-411.	0.6	1
67	Delayed visual feedback reveals distinct time scales in balance control. <i>Neuroscience Letters</i> , 2009, 452, 37-41.	1.0	35
68	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.	1.3	103
69	Electric field interactions in pairs of electric fish: modeling and mimicking naturalistic inputs. <i>Biological Cybernetics</i> , 2008, 98, 479-490.	0.6	38
70	Neural dynamics of envelope coding. <i>Mathematical Biosciences</i> , 2008, 214, 87-99.	0.9	24
71	Driving neural oscillations with correlated spatial input and topographic feedback. <i>Physical Review E</i> , 2008, 78, 021911.	0.8	14
72	Spatial Acuity and Prey Detection in Weakly Electric Fish. <i>PLoS Computational Biology</i> , 2007, 3, e38.	1.5	69

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73	Additive Global Noise Delays Turing Bifurcations. <i>Physical Review Letters</i> , 2007, 98, 230601.	2.9	43
74	Threshold fatigue and information transfer. <i>Journal of Computational Neuroscience</i> , 2007, 23, 301-311.	0.6	58
75	A Synchronization-Desynchronization Code for Natural Communication Signals. <i>Neuron</i> , 2006, 52, 347-358.	3.8	98
76	Comment on "Characterization of Subthreshold Voltage Fluctuations in Neuronal Membranes" by M. Rudolph and A. Destexhe. <i>Neural Computation</i> , 2006, 18, 1896-1931.	1.3	30
77	Modeling the electric field of weakly electric fish. <i>Journal of Experimental Biology</i> , 2006, 209, 3636-3651.	0.8	66
78	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.	3.3	93
79	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.	0.8	33
80	Delayed excitatory and inhibitory feedback shape neural information transmission. <i>Physical Review E</i> , 2005, 72, 051917.	0.8	49
81	Theory of oscillatory firing induced by spatially correlated noise and delayed inhibitory feedback. <i>Physical Review E</i> , 2005, 72, 061919.	0.8	137
82	Spike-Frequency Adaptation Separates Transient Communication Signals from Background Oscillations. <i>Journal of Neuroscience</i> , 2005, 25, 2312-2321.	1.7	173
83	Oscillatory Activity in Electrosensory Neurons Increases with the Spatial Correlation of the Stochastic Input Stimulus. <i>Physical Review Letters</i> , 2004, 93, 048101.	2.9	105
84	Noise Shaping by Interval Correlations Increases Information Transfer. <i>Physical Review Letters</i> , 2004, 92, 080601.	2.9	111
85	ISI CORRELATIONS AND INFORMATION TRANSFER. <i>Fluctuation and Noise Letters</i> , 2004, 04, L195-L205.	1.0	9
86	Comparison of Coding Capabilities of Type I and Type II Neurons. <i>Journal of Computational Neuroscience</i> , 2004, 16, 299-313.	0.6	42
87	To Burst or Not to Burst?. <i>Journal of Computational Neuroscience</i> , 2004, 17, 127-136.	0.6	44
88	Coding of information in models of tuberos electrosensory neurons. <i>Mathematical Biosciences</i> , 2004, 188, 157-174.	0.9	2
89	Type I burst excitability. <i>Journal of Computational Neuroscience</i> , 2003, 14, 329-342.	0.6	33
90	Inhibitory feedback required for network oscillatory responses to communication but not prey stimuli. <i>Nature</i> , 2003, 421, 539-543.	13.7	152

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91	Non-classical receptive field mediates switch in a sensory neuron's frequency tuning. <i>Nature</i> , 2003, 423, 77-81.	13.7	168
92	Dynamics of Deterministic and Stochastic Paired Excitatoryâ€”Inhibitory Delayed Feedback. <i>Neural Computation</i> , 2003, 15, 2779-2822.	1.3	21
93	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.	1.3	86
94	Analytic Expressions for Rate and CV of a Type I Neuron Driven by White Gaussian Noise. <i>Neural Computation</i> , 2003, 15, 1761-1788.	1.3	95
95	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.	2.2	33
96	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.	1.7	46
97	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.	2.2	19
98	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.	2.2	16
99	PHASE LOCKING AND RESONANCES FOR STOCHASTIC EXCITABLE SYSTEMS. <i>Fluctuation and Noise Letters</i> , 2002, 02, L183-L203.	1.0	5
100	A dynamical model of saccade generation in reading based on spatially distributed lexical processing. <i>Vision Research</i> , 2002, 42, 621-636.	0.7	310
101	Maximizing spike train coherence or incoherence in the leaky integrate-and-fire model. <i>Physical Review E</i> , 2002, 66, 031916.	0.8	135
102	A Two-Variable Model of Somaticâ€”Dendritic Interactions in a Bursting Neuron. <i>Bulletin of Mathematical Biology</i> , 2002, 64, 829-860.	0.9	24
103	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.	1.3	52
104	Noise-induced divisive gain control in neuron models. <i>BioSystems</i> , 2002, 67, 147-156.	0.9	28
105	Ghostbursting: a novel neuronal burst mechanism. <i>Journal of Computational Neuroscience</i> , 2002, 12, 5-25.	0.6	113
106	Negative Interspike Interval Correlations Increase the Neuronal Capacity for Encoding Time-Dependent Stimuli. <i>Journal of Neuroscience</i> , 2001, 21, 5328-5343.	1.7	191
107	Model of Gamma Frequency Burst Discharge Generated by Conditional Backpropagation. <i>Journal of Neurophysiology</i> , 2001, 86, 1523-1545.	0.9	60
108	Variability of the electric organ discharge interval duration in resting <i>Gymnotus carapo</i> . <i>Biological Cybernetics</i> , 2001, 84, 309-321.	0.6	11

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109	Noise-induced stabilization of bumps in systems with long-range spatial coupling. <i>Physica D: Nonlinear Phenomena</i> , 2001, 160, 149-172.	1.3	38
110	Two-category Model of Task Allocation with Application to Ant Societies. <i>Bulletin of Mathematical Biology</i> , 2001, 63, 1125-1161.	0.9	1
111	Subtractive and Divisive Inhibition: Effect of Voltage-Dependent Inhibitory Conductances and Noise. <i>Neural Computation</i> , 2001, 13, 227-248.	1.3	97
112	Transition rates for stochastic delay differential equations. <i>AIP Conference Proceedings</i> , 2000, , .	0.3	0
113	Effect of noise on the tuning properties of excitable systems. <i>Chaos, Solitons and Fractals</i> , 2000, 11, 1835-1848.	2.5	43
114	Stochastic aspects of neural phase locking to periodic signals. <i>AIP Conference Proceedings</i> , 2000, , .	0.3	1
115	Rate processes in a delayed, stochastically driven, and overdamped system. <i>Physical Review E</i> , 2000, 61, 4906-4914.	0.8	114
116	Suprathreshold Stochastic Firing Dynamics with Memory in P-Type Electroreceptors. <i>Physical Review Letters</i> , 2000, 85, 1576-1579.	2.9	110
117	ENCODING CARRIER AMPLITUDE MODULATIONS VIA STOCHASTIC PHASE SYNCHRONIZATION. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2000, 10, 2447-2463.	0.7	7
118	Adiabatic and Non-adiabatic Resonances in Excitable Systems. , 2000, , 172-181.		1
119	Small delay approximation of stochastic delay differential equations. <i>Physical Review E</i> , 1999, 59, 3970-3982.	0.8	302
120	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.	0.9	84
121	Power spectra and dynamical invariants for delay-differential and difference equations. <i>Physica D: Nonlinear Phenomena</i> , 1998, 113, 1-25.	1.3	38
122	Chaos control in multistable delay-differential equations and their singular limit maps. <i>Physical Review E</i> , 1998, 58, 410-422.	0.8	24
123	Stochastic and Deterministic Resonances for Excitable Systems. <i>Physical Review Letters</i> , 1998, 81, 4012-4015.	2.9	119
124	Autonomous stochastic resonance in bursting neurons. <i>Physical Review E</i> , 1997, 55, 868-876.	0.8	280
125	Stochastic resonance in models of neuronal ensembles. <i>Physical Review E</i> , 1997, 55, 1798-1808.	0.8	150
126	Interspike interval attractors from chaotically driven neuron models. <i>Physica D: Nonlinear Phenomena</i> , 1997, 104, 184-204.	1.3	66

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127	Encoding with Bursting, Subthreshold Oscillations, and Noise in Mammalian Cold Receptors. <i>Neural Computation</i> , 1996, 8, 215-255.	1.3	90
128	Multistability and Delayed Recurrent Loops. <i>Physical Review Letters</i> , 1996, 76, 708-711.	2.9	304
129	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.	0.9	37
130	Bistability and the dynamics of periodically forced sensory neurons. <i>Biological Cybernetics</i> , 1994, 70, 569-578.	0.6	94
131	Solution multistability in first-order nonlinear differential delay equations. <i>Chaos</i> , 1993, 3, 167-176.	1.0	92
132	Testing for nonlinearity in time series: the method of surrogate data. <i>Physica D: Nonlinear Phenomena</i> , 1992, 58, 77-94.	1.3	3,281
133	Noise-induced transitions at a Hopf bifurcation in a first-order delay-differential equation. <i>Physical Review A</i> , 1991, 44, 4801-4813.	1.0	40
134	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.	2.9	450
135	Noise and critical behavior of the pupil light reflex at oscillation onset. <i>Physical Review A</i> , 1990, 41, 6992-7005.	1.0	133
136	Evaluation of pupil constriction and dilation from cycling measurements. <i>Vision Research</i> , 1990, 30, 515-525.	0.7	54
137	Complex dynamics and bifurcations in neurology. <i>Journal of Theoretical Biology</i> , 1989, 138, 129-147.	0.8	76
138	Complex oscillations in the human pupil light reflex with "mixed" and delayed feedback. <i>Mathematical Biosciences</i> , 1988, 90, 183-199.	0.9	185