Gennady S Cymbalyuk

List of Publications by Year
in descending order

56 papers	1,478 citations	304743 22 h-index	315739 38 g-index
60 all docs	60 docs citations	60 times ranked	873 citing authors

#	Article	IF	Citations
1	Bursting in Leech Heart Interneurons: Cell-Autonomous and Network-Based Mechanisms. Journal of Neuroscience, 2002, 22, 10580-10592.	3.6	178
2	Transition between Tonic Spiking and Bursting in a Neuron Model via the Blue-Sky Catastrophe. Physical Review Letters, 2005, 94, 048101.	7.8	141
3	Mechanism of bistability: Tonic spiking and bursting in a neuron model. Physical Review E, 2005, 71, 056214.	2.1	128
4	A Multiconductance Silicon Neuron With Biologically Matched Dynamics. IEEE Transactions on Biomedical Engineering, 2004, 51, 342-354.	4.2	106
5	AnimatLab: A 3D graphics environment for neuromechanical simulations. Journal of Neuroscience Methods, 2010, 187, 280-288.	2.5	104
6	Origin of Bursting through Homoclinic Spike Adding in a Neuron Model. Physical Review Letters, 2007, 98, 134101.	7.8	90
7	Coexistence of Tonic Spiking Oscillations in a Leech Neuron Model. Journal of Computational Neuroscience, 2005, 18, 255-263.	1.0	79
8	Using a Hybrid Neural System to Reveal Regulation of Neuronal Network Activity by an Intrinsic Current. Journal of Neuroscience, 2004, 24, 5427-5438.	3.6	73
9	Six Types of Multistability in a Neuronal Model Based on Slow Calcium Current. PLoS ONE, 2011, 6, e21782.	2.5	42
10	Na+/K+ pump interacts with the h-current to control bursting activity in central pattern generator neurons of leeches. ELife, 2016, 5, .	6.0	42
11	Hybrid Systems Analysis of the Control of Burst Duration by Low-Voltage-Activated Calcium Current in Leech Heart Interneurons. Journal of Neurophysiology, 2006, 96, 2857-2867.	1.8	38
12	Heartbeat Control in Leeches. I. Constriction Pattern and Neural Modulation of Blood Pressure in Intact Animals. Journal of Neurophysiology, 2004, 91, 382-396.	1.8	36
13	Neuromechanical simulation of the locust jump. Journal of Experimental Biology, 2010, 213, 1060-1068.	1.7	36
14	Control of tumbling during the locust jump. Journal of Experimental Biology, 2010, 213, 3378-3387.	1.7	36
15	In-phase and antiphase self-oscillations in a model of two electrically coupled pacemakers. Biological Cybernetics, 1994, 71, 153-160.	1.3	34
16	High Prevalence of Multistability of Rest States and Bursting in a Database of a Model Neuron. PLoS Computational Biology, 2013, 9, e1002930.	3.2	30
17	Bistability of bursting and silence regimes in a model of a leech heart interneuron. Physical Review E, 2011, 84, 041910.	2.1	29
18	Serotonin Transduction Cascades Mediate Variable Changes in Pyloric Network Cycle Frequency in Response to the Same Modulatory Challenge. Journal of Neurophysiology, 2008, 99, 2844-2863.	1.8	28

#	ARTICLE	IF	CITATIONS
19	Title is missing!. Regular and Chaotic Dynamics, 2004, 9, 281.	0.8	28
20	Bistability of silence and seizure-like bursting. Journal of Neuroscience Methods, 2013, 220, 179-189.	2.5	24
21	Modeling Alternation to Synchrony with Inhibitory Coupling: A Neuromorphic VLSI Approach. Neural Computation, 2000, 12, 2259-2278.	2.2	23
22	Applications of the PoincarÃ© mapping technique to analysis of neuronal dynamics. Neurocomputing, 2007, 70, 2107-2111.	5.9	23
23	How a neuron model can demonstrate co-existence of tonic spiking and bursting. Neurocomputing, 2005, 65-66, 869-875.	5.9	21
24	A Codimension-2 Bifurcation Controlling Endogenous Bursting Activity and Pulse-Triggered Responses of a Neuron Model. PLoS ONE, 2014, 9, e85451.	2.5	18
25	Control of transitions between locomotor-like and paw shake-like rhythms in a model of a multistable central pattern generator. Journal of Neurophysiology, 2018, 120, 1074-1089.	1.8	16
26	Oscillatory network controlling six-legged locomotion. Neural Networks, 1998, 11, 1449-1460.	5.9	11
27	Comodulation of h- and Na⁺/K⁺ Pump Currents Expands the Range of Functional Bursting in a Central Pattern Generator by Navigating between Dysfunctional Regimes. Journal of Neuroscience, 2021, 41, 6468-6483.	3.6	10
28	Propensity for Bistability of Bursting and Silence in the Leech Heart Interneuron. Frontiers in Computational Neuroscience, 2018, 12, 5.	2.1	8
29	Control of Cat Walking and Paw-Shake by a Multifunctional Central Pattern Generator. Springer Series in Computational Neuroscience, 2016, , 333-359.	0.3	7
30	Asymmetric Control of Coexisting Slow and Fast Rhythms in a Multifunctional Central Pattern Generator: A Model Study. Neurophysiology, 2019, 51, 390-399.	0.3	6
31	Bifurcation of synchronous oscillations into torus in a system of two reciprocally inhibitory silicon neurons: Experimental observation and modeling. Chaos, 2004, 14, 995-1003.	2.5	4
32	Contributions of h- and Na+/K+ Pump Currents to the Generation of Episodic and Continuous Rhythmic Activities. Frontiers in Cellular Neuroscience, 2021, 15, 715427.	3.7	4
33	A bifurcation of a synchronous oscillations into a torus in a system of two mutually inhibitory aVLSI neurons: experimental observation. Neurocomputing, 2003, 52-54, 691-698.	5.9	3
34	Control of bursting properties in a silicon neuron CPG. Neurocomputing, 2002, 44-46, 645-651.	5.9	2
35	Paw-shake response and locomotion: can one CPG generate two different rhythmic behaviors?. BMC Neuroscience, 2012, 13, .	1.9	2
36	Hypoxic Depression of Pacemaker Activity of Interstitial Cells of Cajal: A Threat of Gastrointestinal Dysmotility and Necrosis. A Simulation Study. Neurophysiology, 2018, 50, 76-82.	0.3	2

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37	Role of the Plasma Membrane Ca2+-ATPase Pump in the Regulation of Rhythm Generation by an Interstitial Cell of Cajal: A Computational Study. Neurophysiology, 2019, 51, 312-321.	0.3	2
38	Control of bursting activity by modulation of ionic currents. BMC Neuroscience, 2009, 10, P27.	1.9	1
39	Coregulation of ionic currents maintaining the duty cycle of bursting. BMC Neuroscience, 2010, 11, .	1.9	1
40	Bringing rest into consideration: analyzing a database of computational models for multistability of oscillatory and stationary regimes. BMC Neuroscience, 2011, 12, .	1.9	1
41	Multifunctional central pattern generator controlling walking and paw shaking. BMC Neuroscience, 2014, 15, P181.	1.9	1
42	Cellular mechanisms generating bursting activity in neuronal networks. BMC Neuroscience, 2014, 15, .	1.9	1
43	Bifurcation control of gait transition in insect locomotion. BMC Neuroscience, 2014, 15, .	1.9	1
44	Asymmetric and transient properties of reciprocal activity of antagonists during the paw-shake response in the cat. PLoS Computational Biology, 2021, 17, e1009677.	3.2	1
45	Multistability in Neurodynamics: Overview. , 2022, , 83-85.		1
46	Grouping behavior of inter-pulse time intervals for triggered pulses in an AlGaAs/InGaAs multilayer structure. Physica D: Nonlinear Phenomena, 2006, 215, 159-165.	2.8	0
47	The anomalous effect of surface diffusion on the nuclear magnetic resonance signal in restricted geometry. Journal of Physics Condensed Matter, 2010, 22, 145304.	1.8	0
48	Dynamics of neuronal bursting. Journal of Biological Physics, 2011, 37, 239-240.	1.5	0
49	Protective role of the half-center oscillator connectivity against external perturbations. BMC Neuroscience, 2013, 14, P77.	1.9	0
50	A Family of Mechanisms Controlling Bursting Activity and Pulse-triggered Responses of a Neuron Model. , 2013, , .		0
51	Multistability in Neurodynamics: Overview. , 2021, , 1-3.		0
52	Contribution of the Na⁺/K⁺ Pump to Rhythmic Bursting, Explored with Modeling and Dynamic Clamp Analyses. Journal of Visualized Experiments, 2021, , .	0.3	0
53	Bifurcation Analysis. , 2014, , 1-6.		0
54	Multistability in Neurodynamics: Overview. , 2014, , 1-4.		0

#	Article	IF	Citations
55	Emergence of Extreme Paw Accelerations During Cat Paw Shaking: Interactions of Spinal Central Pattern Generator, Hindlimb Mechanics and Muscle Length-Depended Feedback. Frontiers in Integrative Neuroscience, 2022, 16, 810139.	2.1	0
56	Bifurcation Analysis. , 2022, , 438-443.		0