Carmen C Canavier

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

86 papers	2,486 citations	32 h-index	48 g-index
95 ext. papers	2,905 ext. citations	3.3 avg, IF	5.25 L-index

#	Paper	IF	Citations
86	Pulse-Coupled Oscillators **2022**, 2931-2940		
85	The Transcription Factor Shox2 Shapes Neuron Firing Properties and Suppresses Seizures by Regulation of Key Ion Channels in Thalamocortical Neurons. *Cerebral Cortex*, **2021**, 31, 3194-3212	5.1	1
84	Inactivation mode of sodium channels defines the different maximal firing rates of conventional versus atypical midbrain dopamine neurons. *PLoS Computational Biology*, **2021**, 17, e1009371	5	2
83	Phase response theory explains cluster formation in sparsely but strongly connected inhibitory neural networks and effects of jitter due to sparse connectivity. *Journal of Neurophysiology*, **2019**, 121, 1125-1142	3.2	4
82	Calcium dynamics control K-ATP channel-mediated bursting in substantia nigra dopamine neurons: a combined experimental and modeling study. *Journal of Neurophysiology*, **2018**, 119, 84-95	3.2	14
81	Intrinsic Mechanisms of Frequency Selectivity in the Proximal Dendrites of CA1 Pyramidal Neurons. *Journal of Neuroscience*, **2018**, 38, 8110-8127	6.6	11
80	Morphological and Biophysical Determinants of the Intracellular and Extracellular Waveforms in Nigral Dopaminergic Neurons: A Computational Study. *Journal of Neuroscience*, **2018**, 38, 8295-8310	6.6	9
79	Saccadic Eye Movement and Cognition. *FASEB Journal*, **2018**, 32, 782.5	0.9	
78	Role of the Axon Initial Segment in the Control of Spontaneous Frequency of Nigral Dopaminergic Neurons. *Journal of Neuroscience*, **2018**, 38, 733-744	6.6	25
77	Globally attracting synchrony in a network of oscillators with all-to-all inhibitory pulse coupling. *Physical Review E*, **2017**, 95, 032215	2.4	11
76	Stochastic slowly adapting ionic currents may provide a decorrelation mechanism for neural oscillators by causing wander in the intrinsic period. *Journal of Neurophysiology*, **2016**, 116, 1189-98	3.2	6
75	Implications of cellular models of dopamine neurons for disease. *Journal of Neurophysiology*, **2016**, 116, 2815-2830	3.2	10
74	A Mathematical Model of a Midbrain Dopamine Neuron Identifies Two Slow Variables Likely Responsible for Bursts Evoked by SK Channel Antagonists and Terminated by Depolarization Block. *Journal of Mathematical Neuroscience*, **2015**, 5, 5	2.4	7
73	Resonant Interneurons Can Increase Robustness of Gamma Oscillations. *Journal of Neuroscience*, **2015**, 35, 15682-95	6.6	52
72	Phase-resetting as a tool of information transmission. *Current Opinion in Neurobiology*, **2015**, 31, 206-13	7.6	65
71	Feedback control of variability in the cycle period of a central pattern generator. *Journal of Neurophysiology*, **2015**, 114, 2741-52	3.2	10
70	Implications of cellular models of dopamine neurons for schizophrenia. *Progress in Molecular Biology and Translational Science*, **2014**, 123, 53-82	4	9

69	Slow noise in the period of a biological oscillator underlies gradual trends and abrupt transitions in phasic relationships in hybrid neural networks. *PLoS Computational Biology*, **2014**, 10, e1003622	5	11
68	Mathematical analysis of depolarization block mediated by slow inactivation of fast sodium channels in midbrain dopamine neurons. *Journal of Neurophysiology*, **2014**, 112, 2779-90	3.2	14
67	Effect of heterogeneity and noise on cross frequency phase-phase and phase-amplitude coupling. *Network: Computation in Neural Systems*, **2014**, 25, 38-62	0.7	5
66	Perturbations can distinguish underlying dynamics in phase-locked two-neuron networks. *BMC Neuroscience*, **2013**, 14,	3.2	78
65	Hippocampal CA1 pyramidal neurons exhibit type 1 phase-response curves and type 1 excitability. *Journal of Neurophysiology*, **2013**, 109, 2757-66	3.2	16
64	Effect of phase response curve skew on synchronization with and without conduction delays. *Frontiers in Neural Circuits*, **2013**, 7, 194	3.5	13
63	Functional characterization of ether-go-go-related gene potassium channels in midbrain dopamine neurons - implications for a role in depolarization block. *European Journal of Neuroscience*, **2012**, 36, 2906-16	3.5	28
62	Theta entrainment of gamma modules: effects of heterogeneity and non-stationarity. *BMC Neuroscience*, **2012**, 13,	3.2	78
61	Fixed point topology and robustness to perturbations between pairs of coupled neurons. *BMC Neuroscience*, **2012**, 13,	3.2	78
60	History of the Application of the Phase Resetting Curve to Neurons Coupled in a Pulsatile Manner **2012**, 73-91		2
59	Phase Resetting Curve Analysis of Global Synchrony, the Splay Mode and Clustering in N Neuron all to all Pulse-Coupled Networks **2012**, 453-473		1
58	Pacemaker rate and depolarization block in nigral dopamine neurons: a somatic sodium channel balancing act. *Journal of Neuroscience*, **2012**, 32, 14519-31	6.6	38
57	Phase response theory extended to nonoscillatory network components. *Physical Review E*, **2012**, 85, 056208	2.4	6
56	Short conduction delays cause inhibition rather than excitation to favor synchrony in hybrid neuronal networks of the entorhinal cortex. *PLoS Computational Biology*, **2012**, 8, e1002306	5	24
55	Synaptic and intrinsic determinants of the phase resetting curve for weak coupling. *Journal of Computational Neuroscience*, **2011**, 30, 373-90	1.4	20
54	Stability of two cluster solutions in pulse coupled networks of neural oscillators. *Journal of Computational Neuroscience*, **2011**, 30, 427-45	1.4	15
53	Effects of conduction delays on the existence and stability of one to one phase locking between two pulse-coupled oscillators. *Journal of Computational Neuroscience*, **2011**, 31, 401-18	1.4	25
52	Responses of a bursting pacemaker to excitation reveal spatial segregation between bursting and spiking mechanisms. *Journal of Computational Neuroscience*, **2011**, 31, 419-40	1.4	7

51	The role of ERG current in pacemaking and bursting in dopamine neurons. *BMC Neuroscience*, **2011**, 12,	3.2	78
50	Phase Resetting in the Presence of Noise and Heterogeneity **2011**, 104-117		2
49	Inclusion of noise in iterated firing time maps based on the phase response curve. *Physical Review E* , **2010**, 81, 061923	2.4	2
48	Pulse coupled oscillators and the phase resetting curve. *Mathematical Biosciences*, **2010**, 226, 77-96	3.9	85
47	Regulation of firing frequency in a computational model of a midbrain dopaminergic neuron. *Journal of Computational Neuroscience*, **2010**, 28, 389-403	1.4	49
46	PRC skewness determines synchronization properties of pulse coupled circuits with delay. *BMC Neuroscience*, **2010**, 11,	3.2	1
45	Mutually pulse-coupled neurons that do not synchronize in isolation can synchronize via reciprocal coupling with another neural population. *BMC Neuroscience*, **2010**, 11,	3.2	1
44	Predictions of phase-locking in excitatory hybrid networks: excitation does not promote phase-locking in pattern-generating networks as reliably as inhibition. *Journal of Neurophysiology*, **2009**, 102, 69-84	3.2	28
43	Phase-resetting curves determine synchronization, phase locking, and clustering in networks of neural oscillators. *Journal of Neuroscience*, **2009**, 29, 5218-33	6.6	122
42	Phase resetting curves allow for simple and accurate prediction of robust N:1 phase locking for strongly coupled neural oscillators. *Biophysical Journal*, **2009**, 97, 59-73	2.9	26
41	Chaotic versus stochastic dynamics: a critical look at the evidence for nonlinear sequence dependent structure in dopamine neurons. *Journal of Neural Transmission Supplementum*, **2009**, 121-8		2
40	Functional phase response curves: a method for understanding synchronization of adapting neurons. *Journal of Neurophysiology*, **2009**, 102, 387-98	3.2	49
39	Dynamic-Clamp-Constructed Hybrid Circuits for the Study of Synchronization Phenomena in Networks of Bursting Neurons **2009**, 261-273		
38	Predicting excitatory phase resetting curves in bursting neurons. *BMC Neuroscience*, **2008**, 9,	3.2	2
37	Predicting n:1 locking in pulse coupled two-neuron networks using phase resetting theory. *BMC Neuroscience*, **2008**, 9, P136	3.2	1
36	A modeling study suggesting a possible pharmacological target to mitigate the effects of ethanol on reward-related dopaminergic signaling. *Journal of Neurophysiology*, **2008**, 99, 2703-7	3.2	17
35	Using phase resetting to predict 1:1 and 2:2 locking in two neuron networks in which firing order is not always preserved. *Journal of Computational Neuroscience*, **2008**, 24, 37-55	1.4	46
34	Computational model predicts a role for ERG current in repolarizing plateau potentials in dopamine neurons: implications for modulation of neuronal activity. *Journal of Neurophysiology*, **2007**, 98, 3006-22	3.2	36

33	Ether-a-go-go-related gene potassium channels: what's all the buzz about?. *Schizophrenia Bulletin*, **2007**, 33, 1263-9	1.3	34
32	Pulse coupled oscillators. *Scholarpedia Journal*, **2007**, 2, 1331	1.5	6
31	Technique for eliminating nonessential components in the refinement of a model of dopamine neurons. *Neurocomputing*, **2006**, 69, 1030-1034	5.4	3
30	An increase in AMPA and a decrease in SK conductance increase burst firing by different mechanisms in a model of a dopamine neuron in vivo. *Journal of Neurophysiology*, **2006**, 96, 2549-63	3.2	57
29	Phase response curve. *Scholarpedia Journal*, **2006**, 1, 1332	1.5	36
28	ANALYSIS OF CIRCUITS CONTAINING BURSTING NEURONS USING PHASE RESETTING CURVES **2005** , 175-200		5
27	Stability criterion for a two-neuron reciprocally coupled network based on the phase and burst resetting curves. *Neurocomputing*, **2005**, 65-66, 733-739	5.4	7
26	A modeling study suggests complementary roles for GABAA and NMDA receptors and the SK channel in regulating the firing pattern in midbrain dopamine neurons. *Journal of Neurophysiology*, **2004**, 91, 346-57	3.2	71
25	Multimodal behavior in a four neuron ring circuit: mode switching. *IEEE Transactions on Biomedical Engineering*, **2004**, 51, 205-18	5	27
24	Phase resetting and phase locking in hybrid circuits of one model and one biological neuron. *Biophysical Journal*, **2004**, 87, 2283-98	2.9	104
23	Scaling of prediction error does not confirm chaotic dynamics underlying irregular firing using interspike intervals from midbrain dopamine neurons. *Neuroscience*, **2004**, 129, 491-502	3.9	13
22	Dynamical Properties of Excitable Membranes **2004**, 161-196		4
21	Stability analysis of entrainment by two periodic inputs with a fixed delay. *Neurocomputing*, **2003**, 52-54, 59-63	5.4	6
20	Dynamics from a time series: can we extract the phase resetting curve from a time series?. *Biophysical Journal*, **2003**, 84, 2919-28	2.9	37
19	The influence of limit cycle topology on the phase resetting curve. *Neural Computation*, **2002**, 14, 1027-57	2.9	43
18	Electrical coupling between model midbrain dopamine neurons: effects on firing pattern and synchrony. *Journal of Neurophysiology*, **2002**, 87, 1526-41	3.2	32
17	Apamin-induced irregular firing in vitro and irregular single-spike firing observed in vivo in dopamine neurons is chaotic. *Neuroscience*, **2001**, 104, 829-40	3.9	21
16	Reciprocal excitatory synapses convert pacemaker-like firing into burst firing in a simple model of coupled neurons. *Neurocomputing*, **2000**, 32-33, 331-338	5.4	

15	Calcium dynamics underlying pacemaker-like and burst firing oscillations in midbrain dopaminergic neurons: a computational study. *Journal of Neurophysiology*, **1999**, 82, 2249-61	3.2	84
14	Computational model of the serotonergic modulation of sensory neurons in Aplysia. *Journal of Neurophysiology*, **1999**, 82, 2914-35	3.2	41
13	Sodium dynamics underlying burst firing and putative mechanisms for the regulation of the firing pattern in midbrain dopamine neurons: a computational approach. *Journal of Computational Neuroscience*, **1999**, 6, 49-69	1.4	48
12	A mathematical criterion based on phase response curves for stability in a ring of coupled oscillators. *Biological Cybernetics*, **1999**, 80, 11-23	2.8	60
11	Control of multistability in ring circuits of oscillators. *Biological Cybernetics*, **1999**, 80, 87-102	2.8	66
10	Phase response characteristics of model neurons determine which patterns are expressed in a ring circuit model of gait generation. *Biological Cybernetics*, **1997**, 77, 367-80	2.8	70
9	Analysis of the effects of modulatory agents on a modeled bursting neuron: dynamic interactions between voltage and calcium dependent systems. *Journal of Computational Neuroscience*, **1995**, 2, 19-44	1.4	34
8	Afferent synaptic drive of rat medial nucleus tractus solitarius neurons: dynamic simulation of graded vesicular mobilization, release, and non-NMDA receptor kinetics. *Journal of Neurophysiology*, **1995**, 74, 1529-48	3.2	26
7	Multiple modes of activity in a model neuron suggest a novel mechanism for the effects of neuromodulators. *Journal of Neurophysiology*, **1994**, 72, 872-82	3.2	67
6	Role of Nonlinear Dynamical Properties of a Modelled Bursting Neuron in Information Processing and Storage. *Animal Biology*, **1993**, 44, 339-356		
5	Nonlinear dynamics in a model neuron provide a novel mechanism for transient synaptic inputs to produce long-term alterations of postsynaptic activity. *Journal of Neurophysiology*, **1993**, 69, 2252-7	3.2	82
4	Simulation of the bursting activity of neuron R15 in Aplysia: role of ionic currents, calcium balance, and modulatory transmitters. *Journal of Neurophysiology*, **1991**, 66, 2107-24	3.2	91
3	Routes to chaos in a model of a bursting neuron. *Biophysical Journal*, **1990**, 57, 1245-51	2.9	63
2	KChIP4a selectively controls mesolimbic dopamine neuron inhibitory integration and learning from negative prediction errors		1
1	Repetitive Action Potential Firing1-13		