

Jeffrey C Smith

List of Publications by Year in descending order

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44
papers

7,092
citations

156536

32
h-index

299063

42
g-index

54
all docs

54
docs citations

54
times ranked

3361
citing authors

#	ARTICLE	IF	CITATIONS
1	Modulation of inspiratory burst duration and frequency by bombesin in vitro. Pflugers Archiv European Journal of Physiology, 2023, 475, 101-117.	1.3	4
2	Advancing respiratory cardiovascular physiology with the working heart brainstem preparation over 25 years. Journal of Physiology, 2022, 600, 2049-2075.	1.3	22
3	Synuclein Deficiency Results in Age-Related Respiratory and Cardiovascular Dysfunctions in Mice. Brain Sciences, 2020, 10, 583.	1.1	4
4	Robustness of respiratory rhythm generation across dynamic regimes. PLoS Computational Biology, 2019, 15, e1006860.	1.5	16
5	Biophysical mechanisms in the mammalian respiratory oscillator re-examined with a new data-driven computational model. ELife, 2019, 8, .	2.8	21
6	Astrocytes modulate brainstem respiratory rhythm-generating circuits and determine exercise capacity. Nature Communications, 2018, 9, 370.	5.8	104
7	Kinetic properties of persistent Na ⁺ current orchestrate oscillatory bursting in respiratory neurons. Journal of General Physiology, 2018, 150, 1523-1540.	0.9	29
8	Regulation of myelin structure and conduction velocity by perinodal astrocytes. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 11832-11837.	3.3	139
9	Organization of the core respiratory network: Insights from optogenetic and modeling studies. PLoS Computational Biology, 2018, 14, e1006148.	1.5	53
10	Morphometric analysis of astrocytes in brainstem respiratory regions. Journal of Comparative Neurology, 2018, 526, 2032-2047.	0.9	44
11	Transient Receptor Potential Channels TRPM4 and TRPC3 Critically Contribute to Respiratory Motor Pattern Formation but not Rhythmogenesis in Rodent Brainstem Circuits. ENeuro, 2018, 5, ENEURO.0332-17.2018.	0.9	32
12	Breathing to inspire and arouse. Science, 2017, 355, 1370-1371.	6.0	6
13	Respiratory rhythm irregularity after carotid body denervation in rats. Respiratory Physiology and Neurobiology, 2017, 246, 92-97.	0.7	24
14	Perturbations of Respiratory Rhythm and Pattern by Disrupting Synaptic Inhibition within Pre-Bötzing and Bötzing Complexes. ENeuro, 2016, 3, ENEURO.0011-16.2016.	0.9	79
15	Voltage-Dependent Rhythmogenic Property of Respiratory Pre-Bötzing Complex Glutamatergic, Dbx1-Derived, and Somatostatin-Expressing Neuron Populations Revealed by Graded Optogenetic Inhibition. ENeuro, 2016, 3, ENEURO.0081-16.2016.	0.9	49
16	Mixed-mode oscillations and population bursting in the pre-Bötzing complex. ELife, 2016, 5, e13403.	2.8	41
17	Rhythmic Bursting in the Pre-Bötzing Complex. Progress in Brain Research, 2014, 209, 1-23.	0.9	42
18	Effects of Glycinergic Inhibition Failure on Respiratory Rhythm and Pattern Generation. Progress in Brain Research, 2014, 209, 25-38.	0.9	18

#	ARTICLE	IF	CITATIONS
19	Respiratory Rhythm Generation In Vivo. <i>Physiology</i> , 2014, 29, 58-71.	1.6	166
20	A Closed-Loop Model of the Respiratory System: Focus on Hypercapnia and Active Expiration. <i>PLoS ONE</i> , 2014, 9, e109894.	1.1	62
21	Structural-Functional Properties of Identified Excitatory and Inhibitory Interneurons within Pre-Bötzing Complex Respiratory Microcircuits. <i>Journal of Neuroscience</i> , 2013, 33, 2994-3009.	1.7	88
22	Brainstem respiratory networks: building blocks and microcircuits. <i>Trends in Neurosciences</i> , 2013, 36, 152-162.	4.2	330
23	Sodium and calcium mechanisms of rhythmic bursting in excitatory neural networks of the pre-Bötzing complex: a computational modelling study. <i>European Journal of Neuroscience</i> , 2013, 37, 212-230.	1.2	68
24	Computational Models and Emergent Properties of Respiratory Neural Networks. , 2012, 2, 1619-1670.		91
25	Interacting oscillations in neural control of breathing: modeling and qualitative analysis. <i>Journal of Computational Neuroscience</i> , 2011, 30, 607-632.	0.6	65
26	Essential Role of Phox2b-Expressing Ventrolateral Brainstem Neurons in the Chemosensory Control of Inspiration and Expiration. <i>Journal of Neuroscience</i> , 2010, 30, 12466-12473.	1.7	136
27	Isolation of Somatic Na ⁺ Currents by Selective Inactivation of Axonal Channels with a Voltage Prepulse. <i>Journal of Neuroscience</i> , 2010, 30, 7740-7748.	1.7	57
28	TASK Channels Contribute to the K ⁺ -Dominated Leak Current Regulating Respiratory Rhythm Generation In Vitro. <i>Journal of Neuroscience</i> , 2010, 30, 4273-4284.	1.7	65
29	Kinetic Properties and Functional Dynamics of Sodium Channels during Repetitive Spiking in a Slow Pacemaker Neuron. <i>Journal of Neuroscience</i> , 2010, 30, 12113-12127.	1.7	52
30	Multiple Rhythmic States in a Model of the Respiratory Central Pattern Generator. <i>Journal of Neurophysiology</i> , 2009, 101, 2146-2165.	0.9	129
31	Real-Time Kinetic Modeling of Voltage-Gated Ion Channels Using Dynamic Clamp. <i>Biophysical Journal</i> , 2008, 95, 66-87.	0.2	119
32	Functional Imaging, Spatial Reconstruction, and Biophysical Analysis of a Respiratory Motor Circuit Isolated In Vitro. <i>Journal of Neuroscience</i> , 2008, 28, 2353-2365.	1.7	107
33	Persistent Na ⁺ and K ⁺ -Dominated Leak Currents Contribute to Respiratory Rhythm Generation in the Pre-Bötzing Complex In Vitro. <i>Journal of Neuroscience</i> , 2008, 28, 1773-1785.	1.7	157
34	Respiratory rhythm generation during gasping depends on persistent sodium current. <i>Nature Neuroscience</i> , 2006, 9, 311-313.	7.1	184
35	Persistent Sodium Current, Membrane Properties and Bursting Behavior of Pre-Bötzing Complex Inspiratory Neurons In Vitro. <i>Journal of Neurophysiology</i> , 2002, 88, 2242-2250.	0.9	232
36	Models of Respiratory Rhythm Generation in the Pre-Bötzing Complex. III. Experimental Tests of Model Predictions. <i>Journal of Neurophysiology</i> , 2001, 86, 59-74.	0.9	206

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37	Respiratory rhythm generation in neonatal and adult mammals: the hybrid pacemaker network model. <i>Respiration Physiology</i> , 2000, 122, 131-147.	2.8	249
38	Models of Respiratory Rhythm Generation in the Pre-Bötzinger Complex. I. Bursting Pacemaker Neurons. <i>Journal of Neurophysiology</i> , 1999, 82, 382-397.	0.9	527
39	Models of Respiratory Rhythm Generation in the Pre-Bötzinger Complex. II. Populations of Coupled Pacemaker Neurons. <i>Journal of Neurophysiology</i> , 1999, 82, 398-415.	0.9	327
40	Neuronal pacemaker for breathing visualized in vitro. <i>Nature</i> , 1999, 400, 360-363.	13.7	470
41	Pre-Botzinger complex: a brainstem region that may generate respiratory rhythm in mammals. <i>Science</i> , 1991, 254, 726-729.	6.0	1,892
42	Brainstem projections to the major respiratory neuron populations in the medulla of the cat. <i>Journal of Comparative Neurology</i> , 1989, 281, 69-96.	0.9	373
43	Neural mechanisms generating locomotion studied in mammalian brain stem spinal cord in vitro. <i>FASEB Journal</i> , 1988, 2, 2283-2288.	0.2	204
44	Predictions and experimental tests of a new biophysical model of the mammalian respiratory oscillator. <i>ELife</i> , 0, 11, .	2.8	6