

Christopher A Del Negro

List of Publications by Year in descending order

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56
papers

5,259
citations

136950

32
h-index

155660

55
g-index

65
all docs

65
docs citations

65
times ranked

2823
citing authors

#	ARTICLE	IF	CITATIONS
1	Looking for inspiration: new perspectives on respiratory rhythm. <i>Nature Reviews Neuroscience</i> , 2006, 7, 232-241.	10.2	733
2	Breathing matters. <i>Nature Reviews Neuroscience</i> , 2018, 19, 351-367.	10.2	446
3	Understanding the Rhythm of Breathing: So Near, Yet So Far. <i>Annual Review of Physiology</i> , 2013, 75, 423-452.	13.1	369
4	Sodium and Calcium Current-Mediated Pacemaker Neurons and Respiratory Rhythm Generation. <i>Journal of Neuroscience</i> , 2005, 25, 446-453.	3.6	258
5	Respiratory rhythm generation in neonatal and adult mammals: the hybrid pacemaker network model. <i>Respiration Physiology</i> , 2000, 122, 131-147.	2.7	249
6	Persistent Sodium Current, Membrane Properties and Bursting Behavior of Pre-Bötzinger Complex Inspiratory Neurons In Vitro. <i>Journal of Neurophysiology</i> , 2002, 88, 2242-2250.	1.8	232
7	Respiratory Rhythm. <i>Neuron</i> , 2002, 34, 821-830.	8.1	229
8	Models of Respiratory Rhythm Generation in the Pre-Bötzinger Complex. III. Experimental Tests of Model Predictions. <i>Journal of Neurophysiology</i> , 2001, 86, 59-74.	1.8	206
9	Inspiratory bursts in the preBötzinger complex depend on a calcium-activated non-specific cation current linked to glutamate receptors in neonatal mice. <i>Journal of Physiology</i> , 2007, 582, 113-125.	2.9	194
10	Developmental Origin of PreBötzinger Complex Respiratory Neurons. <i>Journal of Neuroscience</i> , 2010, 30, 14883-14895.	3.6	175
11	Calcium-activated nonspecific cation current and synaptic depression promote network-dependent burst oscillations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 2939-2944.	7.1	149
12	Ionic Basis for Serotonin-Induced Bistable Membrane Properties in Guinea Pig Trigeminal Motoneurons. <i>Journal of Neurophysiology</i> , 1998, 79, 2847-2856.	1.8	122
13	Flufenamic acid as an ion channel modulator. , 2013, 138, 272-284.		122
14	Role of persistent sodium current in mouse preBötzinger Complex neurons and respiratory rhythm generation. <i>Journal of Physiology</i> , 2007, 580, 485-496.	2.9	121
15	Estimating Action Potential Thresholds From Neuronal Time-Series: New Metrics and Evaluation of Methodologies. <i>IEEE Transactions on Biomedical Engineering</i> , 2004, 51, 1665-1672.	4.2	103
16	Periodicity, Mixed-Mode Oscillations, and Quasiperiodicity in a Rhythm-Generating Neural Network. <i>Biophysical Journal</i> , 2002, 82, 206-214.	0.5	95
17	Evidence for a Novel Bursting Mechanism in Rodent Trigeminal Neurons. <i>Biophysical Journal</i> , 1998, 75, 174-182.	0.5	87
18	Phosphatidylinositol 4,5-bisphosphate regulates inspiratory burst activity in the neonatal mouse preBötzinger complex. <i>Journal of Physiology</i> , 2007, 582, 1047-1058.	2.9	87

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19	Laser ablation of Dbx1 neurons in the pre-Bötzing complex stops inspiratory rhythm and impairs output in neonatal mice. <i>ELife</i> , 2014, 3, e03427.	6.0	82
20	Physiological and Theoretical Analysis of K^{+} Currents Controlling Discharge in Neonatal Rat Mesencephalic Trigeminal Neurons. <i>Journal of Neurophysiology</i> , 1997, 77, 537-553.	1.8	71
21	Interactions of persistent sodium and calcium-activated nonspecific cationic currents yield dynamically distinct bursting regimes in a model of respiratory neurons. <i>Journal of Computational Neuroscience</i> , 2011, 31, 305-328.	1.0	62
22	Physiological and morphological properties of Dbx1-derived respiratory neurons in the pre-Bötzing complex of neonatal mice. <i>Journal of Physiology</i> , 2013, 591, 2687-2703.	2.9	55
23	AMPA and metabotropic glutamate receptors cooperatively generate inspiratory-like depolarization in mouse respiratory neurons <i>in vitro</i> . <i>European Journal of Neuroscience</i> , 2008, 28, 2434-2442.	2.6	54
24	Identification of the pre-Bötzing complex inspiratory center in calibrated "sandwich" slices from newborn mice with fluorescent Dbx1 interneurons. <i>Physiological Reports</i> , 2014, 2, e12111.	1.7	54
25	Neurokinin Receptor-Expressing Pre-Bötzing Complex Neurons in Neonatal Mice Studied In Vitro. <i>Journal of Neurophysiology</i> , 2007, 97, 4215-4224.	1.8	53
26	Outward Currents Influencing Bursting Dynamics in Guinea Pig Trigeminal Motoneurons. <i>Journal of Neurophysiology</i> , 1999, 81, 1478-1485.	1.8	50
27	Dbx1 precursor cells are a source of inspiratory XII premotoneurons. <i>ELife</i> , 2015, 4, .	6.0	50
28	Asymmetric control of inspiratory and expiratory phases by excitability in the respiratory network of neonatal mice <i>in vitro</i> . <i>Journal of Physiology</i> , 2009, 587, 1217-1231.	2.9	49
29	Synaptic Depression Influences Inspiratory-Expiratory Phase Transition in Dbx1 Interneurons of the preBötzing Complex in Neonatal Mice. <i>Journal of Neuroscience</i> , 2015, 35, 11606-11611.	3.6	47
30	Outward Currents Contributing to Inspiratory Burst Termination in preBötzing Complex Neurons of Neonatal Mice Studied in Vitro. <i>Frontiers in Neural Circuits</i> , 2010, 4, 124.	2.8	46
31	Synaptically activated burst-generating conductances may underlie a group-pacemaker mechanism for respiratory rhythm generation in mammals. <i>Progress in Brain Research</i> , 2010, 187, 111-136.	1.4	44
32	Regulation of Intrinsic and Synaptic Properties of Neonatal Rat Trigeminal Motoneurons by Metabotropic Glutamate Receptors. <i>Journal of Neuroscience</i> , 1998, 18, 9216-9226.	3.6	42
33	Cumulative lesioning of respiratory interneurons disrupts and precludes motor rhythms in vitro. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 8286-8291.	7.1	41
34	Trpm4 ion channels in pre-Bötzing complex interneurons are essential for breathing motor pattern but not rhythm. <i>PLoS Biology</i> , 2019, 17, e2006094.	5.6	41
35	Dendritic Calcium Activity Precedes Inspiratory Bursts in preBötzing Complex Neurons. <i>Journal of Neuroscience</i> , 2011, 31, 1017-1022.	3.6	39
36	Breathing Rhythm and Pattern and Their Influence on Emotion. <i>Annual Review of Neuroscience</i> , 2022, 45, 223-247.	10.7	39

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37	A "group pacemaker"™ mechanism for respiratory rhythm generation. <i>Journal of Physiology</i> , 2008, 586, 2245-2246.	2.9	37
38	Transient Suppression of Dbx1 Pre-Bötzing Interneurons Disrupts Breathing in Adult Mice. <i>PLoS ONE</i> , 2016, 11, e0162418.	2.5	34
39	Dbx1 Pre-Bötzing Complex Interneurons Comprise the Core Inspiratory Oscillator for Breathing in Unanesthetized Adult Mice. <i>ENeuro</i> , 2018, 5, ENEURO.0130-18.2018.	1.9	33
40	Transcriptome of neonatal pre-Bötzing complex neurones in Dbx1 reporter mice. <i>Scientific Reports</i> , 2017, 7, 8669.	3.3	27
41	4-Aminopyridine-sensitive outward currents in pre-Bötzing complex neurons influence respiratory rhythm generation in neonatal mice. <i>Journal of Physiology</i> , 2008, 586, 1921-1936.	2.9	23
42	Atoh1-dependent rhombic lip neurons are required for temporal delay between independent respiratory oscillators in embryonic mice. <i>ELife</i> , 2014, 3, e02265.	6.0	23
43	Fate mapping neurons and glia derived from Dbx1-expressing progenitors in mouse pre-Bötzing complex. <i>Physiological Reports</i> , 2017, 5, e13300.	1.7	22
44	Evaluating the Burstlet Theory of Inspiratory Rhythm and Pattern Generation. <i>ENeuro</i> , 2020, 7, ENEURO.0314-19.2019.	1.9	21
45	Oscillation Regularity in Noise-Driven Excitable Systems with Multi-Time-Scale Adaptation. <i>Physical Review Letters</i> , 2008, 101, 088101.	7.8	18
46	What Role Do Pacemakers Play in the Generation of Respiratory Rhythm?. <i>Advances in Experimental Medicine and Biology</i> , 2008, 605, 88-93.	1.6	15
47	Automated cell-specific laser detection and ablation of neural circuits in neonatal brain tissue. <i>Journal of Physiology</i> , 2013, 591, 2393-2401.	2.9	14
48	Organotypic slice cultures containing the pre-Bötzing complex generate respiratory-like rhythms. <i>Journal of Neurophysiology</i> , 2016, 115, 1063-1070.	1.8	14
49	Mechanisms Leading to Rhythm Cessation in the Respiratory Pre-Bötzing Complex Due to Piecewise Cumulative Neuronal Deletions. <i>ENeuro</i> , 2015, 2, ENEURO.0031-15.2015.	1.9	12
50	Morphology of Dbx1 respiratory neurons in the pre-Bötzing complex and reticular formation of neonatal mice. <i>Scientific Data</i> , 2017, 4, 170097.	5.3	11
51	Dendritic A-Current in Rhythmically Active Pre-Bötzing Complex Neurons in Organotypic Cultures from Newborn Mice. <i>Journal of Neuroscience</i> , 2018, 38, 3039-3049.	3.6	11
52	Functional Interactions between Mammalian Respiratory Rhythmogenic and Premotor Circuitry. <i>Journal of Neuroscience</i> , 2016, 36, 7223-7233.	3.6	9
53	Role of Synaptic Inhibition in the Coupling of the Respiratory Rhythms that Underlie Eupnea and Sigh Behaviors. <i>ENeuro</i> , 2020, 7, ENEURO.0302-19.2020.	1.9	9
54	KCNQ Current Contributes to Inspiratory Burst Termination in the Pre-Bötzing Complex of Neonatal Rats in vitro. <i>Frontiers in Physiology</i> , 2021, 12, 626470.	2.8	8

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55	Transcriptomes of electrophysiologically recorded Dbx1-derived respiratory neurons of the preBötzing complex in neonatal mice. <i>Scientific Reports</i> , 2022, 12, 2923.	3.3	7
56	Disparate purinergic modulation of respiration in rats and mice. <i>Journal of Physiology</i> , 2011, 589, 4409-4410.	2.9	2