Thomas A Cleland

List of Publications by Year
in descending order

81	3,895	35	59
papers	citations	h-index	g-index

109264 (above h-index box)
133188 (above g-index box)

85	85	85	2943
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	2022 roadmap on neuromorphic computing and engineering. Neuromorphic Computing and Engineering, 2022, 2, 022501.	2.8	217
2	Behavioral models of odor similarity.. Behavioral Neuroscience, 2002, 116, 222-231.	0.6	189
3	Non-topographical contrast enhancement in the olfactory bulb. BMC Neuroscience, 2006, 7, 7.	0.8	166
4	Cholinergic modulation in the olfactory bulb influences spontaneous olfactory discrimination in adult rats. European Journal of Neuroscience, 2006, 24, 3234-3244.	1.2	155
5	Chronic in vivo imaging in the mouse spinal cord using an implanted chamber. Nature Methods, 2012, 9, 297-302.	9.0	154
6	Variant Brain-Derived Neurotrophic Factor (Val66Met) Alters Adult Olfactory Bulb Neurogenesis and Spontaneous Olfactory Discrimination. Journal of Neuroscience, 2008, 28, 2383-2393.	1.7	145
7	Relational representation in the olfactory system. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 1953-1958.	3.3	139
8	Inhibitory glutamate receptor channels. Molecular Neurobiology, 1996, 13, 97-136.	1.9	132
9	Computation in the Olfactory System. Chemical Senses, 2005, 30, 801-813.	1.1	125
10	Behavioral models of odor similarity.. Behavioral Neuroscience, 2002, 116, 222-231.	0.6	121
11	The anatomical logic of smell. Trends in Neurosciences, 2005, 28, 620-627.	4.2	106
12	Rapid online learning and robust recall in a neuromorphic olfactory circuit. Nature Machine Intelligence, 2020, 2, 181-191.	8.3	105
13	Cholinergic modulation of sensory representations in the olfactory bulb. Neural Networks, 2002, 15, 709-717.	3.3	94
14	Early transformations in odor representation. Trends in Neurosciences, 2010, 33, 130-139.	4.2	94
15	A Two-Layer Biophysical Model of Cholinergic Neuromodulation in Olfactory Bulb. Journal of Neuroscience, 2013, 33, 3037-3058.	1.7	93
16	Anatomical Contributions to Odorant Sampling and Representation in Rodents: Zoning in on Sniffing Behavior. Chemical Senses, 2006, 31, 131-144.	1.1	84
17	Distinct neural mechanisms mediate olfactory memory formation at different timescales. Learning and Memory, 2008, 15, 117-125.	0.5	77
18	Olfactory bulb habituation to odor stimuli.. Behavioral Neuroscience, 2010, 124, 490-499.	0.6	75

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19	Sequential mechanisms underlying concentration invariance in biological olfaction. Frontiers in Neuroengineering, 2011, 4, 21.	4.8	74
20	Embracing multiple definitions of learning. Trends in Neurosciences, 2015, 38, 405-407.	4.2	70
21	Configurational and Elemental Odor Mixture Perception Can Arise from Local Inhibition. Journal of Computational Neuroscience, 2004, 16, 39-47.	0.6	66
22	How spike synchronization among olfactory neurons can contribute to sensory discrimination. , 2001, 10, 187-193.		65
23	Toxoplasma gondii alters NMDAR signaling and induces signs of Alzheimer's disease in wild-type, C57BL/6 mice. Journal of Neuroinflammation, 2018, 15, 57.	3.1	64
24	Glomerular microcircuits in the olfactory bulb. Neural Networks, 2009, 22, 1169-1173.	3.3	63
25	Concentration Tuning Mediated by Spare Receptor Capacity in Olfactory Sensory Neurons: A Theoretical Study. Neural Computation, 1999, 11, 1673-1690.	1.3	58
26	Noradrenergic neuromodulation in the olfactory bulb modulates odor habituation and spontaneous discrimination.. Behavioral Neuroscience, 2008, 122, 816-826.	0.6	58
27	Neuromodulation of olfactory transformations. Current Opinion in Neurobiology, 2016, 40, 170-177.	2.0	54
28	Multiple learning parameters differentially regulate olfactory generalization.. Behavioral Neuroscience, 2009, 123, 26-35.	0.6	51
29	Dynamical Mechanisms of Odor Processing in Olfactory Bulb Mitral Cells. Journal of Neurophysiology, 2006, 96, 555-568.	0.9	50
30	One-Trial Associative Odor Learning in Neonatal Mice. Chemical Senses, 2006, 31, 343-349.	1.1	50
31	Dopamine Dâ‚‚ receptor activation modulates perceived odor intensity.. Behavioral Neuroscience, 2006, 120, 393-400.	0.6	48
32	Construction of Odor Representations by Olfactory Bulb Microcircuits. Progress in Brain Research, 2014, 208, 177-203.	0.9	45
33	On-Center/Inhibitory-Surround Decorrelation via Intraglomerular Inhibition in the Olfactory Bulb Glomerular Layer. Frontiers in Integrative Neuroscience, 2012, 6, 5.	1.0	43
34	A coupled-oscillator model of olfactory bulb gamma oscillations. PLoS Computational Biology, 2017, 13, e1005760.	1.5	43
35	How synchronization properties among second-order sensory neurons can mediate stimulus salience.. Behavioral Neuroscience, 2002, 116, 212-221.	0.6	42
36	Decorrelation of odor representations via spike timing dependent plasticity. Frontiers in Computational Neuroscience, 2010, 4, 157.	1.2	40

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37	Intensity Modulation of Olfactory Acuity.. Behavioral Neuroscience, 2003, 117, 1434-1440.	0.6	37
38	Central olfactory structures. Handbook of Clinical Neurology / Edited By P J Vinken and G W Bruyn, 2019, 164, 79-96.	1.0	35
39	Imprint switch mutations at Rasgrf1 support conflict hypothesis of imprinting and define a growth control mechanism upstream of IGF1. Mammalian Genome, 2009, 20, 654-663.	1.0	34
40	Opposing Effects of Dâ,•and Dâ,, Receptor Activation on Odor Discrimination Learning.. Behavioral Neuroscience, 2004, 118, 184-190.	0.6	33
41	Lateral dendritic shunt inhibition can regularize mitral cell spike patterning. Journal of Computational Neuroscience, 2008, 25, 25-38.	0.6	32
42	Code Generation in Computational Neuroscience: A Review of Tools and Techniques. Frontiers in Neuroinformatics, 2018, 12, 68.	1.3	32
43	Perceptual Spaces: Mathematical Structures to Neural Mechanisms. Journal of Neuroscience, 2013, 33, 17597-17602.	1.7	30
44	Implementation of Olfactory Bulb Glomerular-Layer Computations in a Digital Neurosynaptic Core. Frontiers in Neuroscience, 2012, 6, 83.	1.4	27
45	Compensatory responses to age-related decline in odor quality acuity: Cholinergic neuromodulation and olfactory enrichment. Neurobiology of Aging, 2011, 32, 2254-2265.	1.5	26
46	Properties and mechanisms of olfactory learning and memory. Frontiers in Behavioral Neuroscience, 2014, 8, 238.	1.0	26
47	Functional differentiation of cholinergic and noradrenergic modulation in a biophysical model of olfactory bulb granule cells. Journal of Neurophysiology, 2015, 114, 3177-3200.	0.9	24
48	Biophysical constraints on lateral inhibition in the olfactory bulb. Journal of Neurophysiology, 2016, 115, 2937-2949.	0.9	24
49	Dextran-coated iron oxide nanoparticle-induced nanotoxicity in neuron cultures. Scientific Reports, 2020, 10, 11239.	1.6	22
50	Context-dependent odor learning requires the anterior olfactory nucleus.. Behavioral Neuroscience, 2020, 134, 332-343.	0.6	22
51	Inhibitory Glutamate Receptor Channels in Cultured Lobster Stomatogastric Neurons. Journal of Neurophysiology, 1998, 79, 3189-3196.	0.9	20
52	A 768-Channel CMOS Microelectrode Array With Angle Sensitive Pixels for Neuronal Recording. IEEE Sensors Journal, 2013, 13, 3211-3218.	2.4	20
53	Characterizing complex chemosensors: information-theoretic analysis of olfactory systems. Trends in Neurosciences, 1999, 22, 102-108.	4.2	19
54	Dopaminergic Modulation of Inhibitory Glutamate Receptors in the Lobster Stomatogastric Ganglion. Journal of Neurophysiology, 1997, 78, 3450-3452.	0.9	18

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55	How synchronization properties among second-order sensory neurons can mediate stimulus salience.. Behavioral Neuroscience, 2002, 116, 212-221.	0.6	18
56	A Spike Time-Dependent Online Learning Algorithm Derived From Biological Olfaction. Frontiers in Neuroscience, 2019, 13, 656.	1.4	17
57	The hippocampus, medial prefrontal cortex, and selective memory retrieval: Evidence from a rodent model of the retrieval‐induced forgetting effect. Hippocampus, 2014, 24, 1070-1080.	0.9	14
58	A Systematic Framework for Olfactory Bulb Signal Transformations. Frontiers in Computational Neuroscience, 2020, 14, 579143.	1.2	13
59	Intramodal blocking between olfactory stimuli in rats. Physiology and Behavior, 2002, 75, 717-722.	1.0	12
60	A model of electrophysiological heterogeneity in periglomerular cells. Frontiers in Computational Neuroscience, 2013, 7, 49.	1.2	11
61	A 50&#x00B5;m pitch, 1120-channel, 20kHz frame rate microelectrode array for slice recording. , 2013, , .		10
62	Comparing Phlebotomy by Tail Tip Amputation, Facial Vein Puncture, and Tail Vein Incision in C57BL/6 Mice by Using Physiologic and Behavioral Metrics of Pain and Distress. Journal of the American Association for Laboratory Animal Science, 2017, 56, 307-317.	0.6	10
63	Kinase activity in the olfactory bulb is required for odor memory consolidation. Learning and Memory, 2018, 25, 198-205.	0.5	7
64	A physicochemical model of odor sampling. PLoS Computational Biology, 2021, 17, e1009054.	1.5	7
65	A neuromorphic transfer learning algorithm for orthogonalizing highly overlapping sensor array responses. , 2017, , .		6
66	The construction of olfactory representations. , 2008, , 247-280.		5
67	Signal Conditioning for Learning in the Wild. , 2019, , .		5
68	Generative Biophysical Modeling of Dynamical Networks in the Olfactory System. Methods in Molecular Biology, 2018, 1820, 265-288.	0.4	4
69	14-3-3. , 2008, , 1-1.		2
70	A scalable CMOS sensor array for neuronal recording and imaging. , 2011, , .		2
71	Inexpensive ethography using digital video. Journal of Neuroscience Methods, 2003, 125, 1-6.	1.3	1
72	Spatiotemporal Coding in the Olfactory System. , 2013, , 229-242.		1

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73	Olfactory Systems Theory â˜†. , 2017, , .		0
74	Olfactory Computation in Glomerular Microcircuits. , 2013, , 1-4.		0
75	Computational Modeling of Olfactory Behavior. , 2014, , 1-10.		0
76	Olfactory Computation in Glomerular Microcircuits. , 2019, , 1-5.		0
77	Computational Modeling of Olfactory Behavior. , 2019, , 1-10.		0
78	Modeling of Olfactory Processing. , 2020, , 650-660.		0
79	Contrast Enhancement. , 2009, , 876-880.		0
80	Olfactory Computation in Glomerular Microcircuits. , 2022, , 2508-2512.		0
81	Computational Modeling of Olfactory Behavior. , 2022, , 857-866.		0