

# Venkatesh N Murthy

## List of Publications by Year in descending order

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Version: 2024-02-01

78  
papers

11,940  
citations

81839

39  
h-index

79644

73  
g-index

102  
all docs

102  
docs citations

102  
times ranked

12472  
citing authors

#	ARTICLE	IF	CITATIONS
1	DeepLabCut: markerless pose estimation of user-defined body parts with deep learning. Nature Neuroscience, 2018, 21, 1281-1289.	7.1	2,710
2	All-optical electrophysiology in mammalian neurons using engineered microbial rhodopsins. Nature Methods, 2014, 11, 825-833.	9.0	666
3	Inactivity Produces Increases in Neurotransmitter Release and Synapse Size. Neuron, 2001, 32, 673-682.	3.8	537
4	Heterogeneous Release Properties of Visualized Individual Hippocampal Synapses. Neuron, 1997, 18, 599-612.	3.8	526
5	Multiple forms of synaptic plasticity triggered by selective suppression of activity in individual neurons. Nature, 2002, 420, 414-418.	13.7	434
6	Rapid turnover of actin in dendritic spines and its regulation by activity. Nature Neuroscience, 2002, 5, 239-246.	7.1	430
7	Gradients of substrate-bound laminin orient axonal specification of neurons. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 12542-12547.	3.3	414
8	Role of Astrocytes in Neurovascular Coupling. Neuron, 2011, 71, 782-797.	3.8	347
9	CELLBIOLOGY OF THE PRESYNAPTIC TERMINAL. Annual Review of Neuroscience, 2003, 26, 701-728.	5.0	317
10	Precision and diversity in an odor map on the olfactory bulb. Nature Neuroscience, 2009, 12, 210-220.	7.1	290
11	Molecular organization of vomeronasal chemoreception. Nature, 2011, 478, 241-245.	13.7	286
12	Synaptic vesicles retain their identity through the endocytic cycle. Nature, 1998, 392, 497-501.	13.7	254
13	Coupling of Neural Activity to Blood Flow in Olfactory Glomeruli Is Mediated by Astrocytic Pathways. Neuron, 2008, 58, 897-910.	3.8	220
14	Non-redundant odor coding by sister mitral cells revealed by light addressable glomeruli in the mouse. Nature Neuroscience, 2010, 13, 1404-1412.	7.1	214
15	Inhibition of dynamin completely blocks compensatory synaptic vesicle endocytosis. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 17955-17960.	3.3	213
16	Functional Properties of Cortical Feedback Projections to the Olfactory Bulb. Neuron, 2012, 76, 1175-1188.	3.8	210
17	Reversal of synaptic vesicle docking at central synapses. Nature Neuroscience, 1999, 2, 503-507.	7.1	209
18	Synaptic gain control and homeostasis. Current Opinion in Neurobiology, 2003, 13, 560-567.	2.0	199

#	ARTICLE	IF	CITATIONS
19	Neuronal Representation of Social Information in the Medial Amygdala of Awake Behaving Mice. <i>Cell</i> , 2017, 171, 1176-1190.e17.	13.5	197
20	Serotonergic modulation of odor input to the mammalian olfactory bulb. <i>Nature Neuroscience</i> , 2009, 12, 784-791.	7.1	193
21	Activity-dependent regulation of inhibitory synaptic transmission in hippocampal neurons. <i>Nature Neuroscience</i> , 2006, 9, 642-649.	7.1	189
22	Nanowire transistor arrays for mapping neural circuits in acute brain slices. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 1882-1887.	3.3	187
23	Olfactory cortical neurons read out a relative time code in the olfactory bulb. <i>Nature Neuroscience</i> , 2013, 16, 949-957.	7.1	186
24	Multi-animal pose estimation, identification and tracking with DeepLabCut. <i>Nature Methods</i> , 2022, 19, 496-504.	9.0	165
25	Synaptic vesicle recycling studied in transgenic mice expressing synaptopHluorin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 6131-6136.	3.3	144
26	Olfactory Maps in the Brain. <i>Annual Review of Neuroscience</i> , 2011, 34, 233-258.	5.0	143
27	Activity-Dependent Regulation of Inhibition via GAD67. <i>Journal of Neuroscience</i> , 2012, 32, 8521-8531.	1.7	135
28	An olfactory cocktail party: figure-ground segregation of odorants in rodents. <i>Nature Neuroscience</i> , 2014, 17, 1225-1232.	7.1	129
29	Visualizing Postendocytic Traffic of Synaptic Vesicles at Hippocampal Synapses. <i>Neuron</i> , 2001, 31, 593-605.	3.8	126
30	Mice Develop Efficient Strategies for Foraging and Navigation Using Complex Natural Stimuli. <i>Current Biology</i> , 2016, 26, 1261-1273.	1.8	98
31	Activation of raphe nuclei triggers rapid and distinct effects on parallel olfactory bulb output channels. <i>Nature Neuroscience</i> , 2016, 19, 271-282.	7.1	98
32	Studying vesicle cycling in presynaptic terminals using the genetically encoded probe synaptopHluorin. <i>Nature Protocols</i> , 2006, 1, 2970-2978.	5.5	89
33	Antagonism in olfactory receptor neurons and its implications for the perception of odor mixtures. <i>ELife</i> , 2018, 7, .	2.8	72
34	LED Arrays as Cost Effective and Efficient Light Sources for Widefield Microscopy. <i>PLoS ONE</i> , 2008, 3, e2146.	1.1	66
35	Optophysiological analysis of associational circuits in the olfactory cortex. <i>Frontiers in Neural Circuits</i> , 2012, 6, 18.	1.4	64
36	Experience-Dependent Modification of Primary Sensory Synapses in the Mammalian Olfactory Bulb. <i>Journal of Neuroscience</i> , 2007, 27, 9427-9438.	1.7	58

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37	Real-time imaging of Rab3a and Rab5a reveals differential roles in presynaptic function. <i>Journal of Physiology</i> , 2005, 569, 103-117.	1.3	54
38	Spreading synapsins. <i>Nature Neuroscience</i> , 2001, 4, 1155-1157.	7.1	51
39	Antagonistic odor interactions in olfactory sensory neurons are widespread in freely breathing mice. <i>Nature Communications</i> , 2020, 11, 3350.	5.8	51
40	Synaptic Activity of the AFD Neuron in <i>Caenorhabditis elegans</i> Correlates with Thermotactic Memory. <i>Journal of Neuroscience</i> , 2003, 23, 373-376.	1.7	49
41	Reading Out Olfactory Receptors: Feedforward Circuits Detect Odors in Mixtures without Demixing. <i>Neuron</i> , 2016, 91, 1110-1123.	3.8	42
42	Rapid Learning of Odor-Value Association in the Olfactory Striatum. <i>Journal of Neuroscience</i> , 2020, 40, 4335-4347.	1.7	40
43	Carpenter ants use diverse antennae sampling strategies to track odor trails. <i>Journal of Experimental Biology</i> , 2018, 221, .	0.8	39
44	Distinct spatiotemporal activity in principal neurons of the mouse olfactory bulb in anesthetized and awake states. <i>Frontiers in Neural Circuits</i> , 2013, 7, 46.	1.4	38
45	Embryonic and postnatal neurogenesis produce functionally distinct subclasses of dopaminergic neuron. <i>ELife</i> , 2018, 7, .	2.8	38
46	Contrasting short-term plasticity at two sides of the mitral-granule reciprocal synapse in the mammalian olfactory bulb. <i>Journal of Physiology</i> , 2005, 569, 475-488.	1.3	36
47	Circuit Formation and Function in the Olfactory Bulb of Mice with Reduced Spontaneous Afferent Activity. <i>Journal of Neuroscience</i> , 2015, 35, 146-160.	1.7	36
48	Olfactory marker protein (OMP) regulates formation and refinement of the olfactory glomerular map. <i>Nature Communications</i> , 2018, 9, 5073.	5.8	36
49	Optical detection of synaptic vesicle exocytosis and endocytosis. <i>Current Opinion in Neurobiology</i> , 1999, 9, 314-320.	2.0	35
50	Development and Refinement of Functional Properties of Adult-Born Neurons. <i>Neuron</i> , 2017, 96, 883-896.e7.	3.8	35
51	How to monitor breathing in laboratory rodents: a review of the current methods. <i>Journal of Neurophysiology</i> , 2018, 120, 624-632.	0.9	35
52	How neuroscience labs can limit their environmental impact. <i>Nature Reviews Neuroscience</i> , 2020, 21, 347-348.	4.9	35
53	Microglial depletion disrupts normal functional development of adult-born neurons in the olfactory bulb. <i>ELife</i> , 2020, 9, .	2.8	35
54	Olfactory Sensing and Navigation in Turbulent Environments. <i>Annual Review of Condensed Matter Physics</i> , 2022, 13, 191-213.	5.2	35

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55	Neuronal integration in the adult mouse olfactory bulb is a non-selective addition process. <i>ELife</i> , 2019, 8, .	2.8	33
56	Distinct projection patterns of different classes of layer 2 principal neurons in the olfactory cortex. <i>Scientific Reports</i> , 2017, 7, 8282.	1.6	32
57	Mosaic representations of odors in the input and output layers of the mouse olfactory bulb. <i>Nature Neuroscience</i> , 2019, 22, 1306-1317.	7.1	30
58	Tailoring Uniform Coats for Synaptic Vesicles during Endocytosis. <i>Neuron</i> , 1999, 23, 419-422.	3.8	27
59	Illuminating Vertebrate Olfactory Processing. <i>Journal of Neuroscience</i> , 2012, 32, 14102-14108a.	1.7	25
60	Postnatal Development of Dendrodendritic Inhibition in the Mammalian Olfactory Bulb. <i>Frontiers in Cellular Neuroscience</i> , 2011, 5, 10.	1.8	22
61	Metabolic regulation of apoproteins of high-density lipoproteins by estrogen and progesterone in the baboon ( <i>Papio sp.</i> ). <i>Metabolism: Clinical and Experimental</i> , 1990, 39, 544-552.	1.5	20
62	Developmentally primed cortical neurons maintain fidelity of differentiation and establish appropriate functional connectivity after transplantation. <i>Nature Neuroscience</i> , 2018, 21, 517-529.	7.1	20
63	Population imaging at subcellular resolution supports specific and local inhibition by granule cells in the olfactory bulb. <i>Scientific Reports</i> , 2016, 6, 29308.	1.6	18
64	Synaptic plasticity: Step-wise strengthening. <i>Current Biology</i> , 1998, 8, R650-R653.	1.8	16
65	Calcium-activated chloride channels clamp odor-evoked spike activity in olfactory receptor neurons. <i>Scientific Reports</i> , 2018, 8, 10600.	1.6	13
66	Synaptic plasticity: Rush hour traffic in the AMPA lanes. <i>Current Biology</i> , 2001, 11, R274-R277.	1.8	9
67	Two-Photon Imaging of Neural Activity in Awake, Head-Restrained Mice. <i>NeuroMethods</i> , 2011, , 45-60.	0.2	9
68	Distinct representation of cue-outcome association by D1 and D2 neurons in the ventral striatum's olfactory tubercle. <i>ELife</i> , 0, 11, .	2.8	9
69	Deletion of TrkB in parvalbumin interneurons alters cortical neural dynamics. <i>Journal of Cellular Physiology</i> , 2022, 237, 949-964.	2.0	8
70	Dendritic Spines. <i>Current Biology</i> , 2002, 12, R5.	1.8	6
71	Analysis and Synthesis in Olfaction. <i>ACS Chemical Neuroscience</i> , 2014, 5, 870-872.	1.7	5
72	Processing of Odor Mixtures in the Mammalian Olfactory System. <i>Journal of the Indian Institute of Science</i> , 2017, 97, 415-421.	0.9	5

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73	Synaptic vesicles. <i>Current Biology</i> , 2004, 14, R294-R297.	1.8	4
74	Synaptic plasticity: Neighborhood influences. <i>Current Biology</i> , 1997, 7, R512-R515.	1.8	3
75	Getting the Membrane into Shape for Endocytosis. <i>Neuron</i> , 1999, 24, 2-4.	3.8	0
76	Looking back on the first year of <i>Neural Systems &amp; Circuits</i> . <i>Neural Systems &amp; Circuits</i> , 2012, 2, 1.	1.8	0
77	Cover Image, Volume 237, Number 1, January 2022. <i>Journal of Cellular Physiology</i> , 2022, 237, .	2.0	0
78	A new angle on odor trail tracking. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2121332119.	3.3	0