Tatyana O Sharpee

List of Publications by Year
in descending order

65	2,826	218677	197818
papers	citations	26	49
		h-index	g-index

74	74	74	2569
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Hyperbolic odorant mixtures as a basis for more efficient signaling between flowering plants and bees. PLoS ONE, 2022, 17, e0270358.	2.5	3
2	Using Global t-SNE to Preserve Intercluster Data Structure. Neural Computation, 2022, 34, 1637-1651.	2.2	4
3	Hyperbolic geometry of gene expression. IScience, 2021, 24, 102225.	4.1	15
4	How inhibitory neurons increase information transmission under threshold modulation. Cell Reports, 2021, 35, 109158.	6.4	4
5	The San Diego Nathan Shock Center: tackling the heterogeneity of aging. GeroScience, 2021, 43, 2139-2148.	4.6	2
6	Dynamical Electrical Complexity Is Reduced during Neuronal Differentiation in Autism Spectrum Disorder. Stem Cell Reports, 2019, 13, 474-484.	4.8	13
7	An argument for hyperbolic geometry in neural circuits. Current Opinion in Neurobiology, 2019, 58, 101-104.	4.2	10
8	Linking neural responses to behavior with information-preserving population vectors. Current Opinion in Behavioral Sciences, 2019, 29, 37-44.	3.9	11
9	Quantifying Information Conveyed by Large Neuronal Populations. Neural Computation, 2019, 31, 1015-1047.	2.2	3
10	Hyperbolic geometry of the olfactory space. Science Advances, 2018, 4, eaaq1458.	10.3	56
11	Optimal information transmission by overlapping retinal cell mosaics. , 2018, 2018, .		0
12	Cross-orientation suppression in visual area V2. Nature Communications, 2017, 8, 15739.	12.8	21
13	Optimizing Neural Information Capacity through Discretization. Neuron, 2017, 94, 954-960.	8.1	10
14	On texture, form, and fixational eye movements. Current Opinion in Neurobiology, 2017, 46, 228-233.	4.2	1
15	Multidimensional receptive field processing by cat primary auditory cortical neurons. Neuroscience, 2017, 359, 130-141.	2.3	13
16	A Low-Rank Method for Characterizing High-Level Neural Computations. Frontiers in Computational Neuroscience, 2017, 11, 68.	2.1	6
17	How Invariant Feature Selectivity Is Achieved in Cortex. Frontiers in Synaptic Neuroscience, 2016, 8, 26.	2.5	3
18	Plasticity to the Rescue. Neuron, 2016, 92, 935-936.	8.1	0

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19	Low-dimensional dynamics of structured random networks. Physical Review E, 2016, 93, 022302.	2.1	25
20	Eigenvalue spectra of large correlated random matrices. Physical Review E, 2016, 94, 050101.	2.1	12
21	A Robust Feedforward Model of the Olfactory System. PLoS Computational Biology, 2016, 12, e1004850.	3.2	36
22	Taking a close look at electrosensing. ELife, 2016, 5, .	6.0	0
23	Transition to Chaos in Random Networks with Cell-Type-Specific Connectivity. Physical Review Letters, 2015, 114, 088101.	7.8	97
24	Critical and maximally informative encoding between neural populations in the retina. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 2533-2538.	7.1	69
25	Neural Mechanisms for Evaluating Environmental Variability in Caenorhabditis elegans. Neuron, 2015, 86, 428-441.	8.1	75
26	Spinal Locomotor Circuits Develop Using Hierarchical Rules Based on Motorneuron Position and Identity. Neuron, 2015, 87, 1008-1021.	8.1	47
27	Information theory of adaptation in neurons, behavior, and mood. Current Opinion in Neurobiology, 2014, 25, 47-53.	4.2	27
28	Toward Functional Classification of Neuronal Types. Neuron, 2014, 83, 1329-1334.	8.1	38
29	Mathematical approaches to modeling development and reprogramming. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 5076-5082.	7.1	39
30	Function determines structure in complex neural networks. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 8327-8328.	7.1	1
31	Maximally informative foraging by Caenorhabditis elegans. ELife, 2014, 3, .	6.0	98
32	Computational Identification of Receptive Fields. Annual Review of Neuroscience, 2013, 36, 103-120.	10.7	79
33	Identifying Functional Bases for Multidimensional Neural Computations. Neural Computation, 2013, 25, 1870-1890.	2.2	25
34	Associative Learning Enhances Population Coding by Inverting Interneuronal Correlation Patterns. Neuron, 2013, 78, 352-363.	8.1	116
35	The Fine Structure of Shape Tuning in Area V4. Neuron, 2013, 78, 1102-1115.	8.1	77
36	Spike Triggered Covariance in Strongly Correlated Gaussian Stimuli. PLoS Computational Biology, 2013, 9, e1003206.	3.2	8

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37	Double-Gabor Filters Are Independent Components of Small Translation-Invariant Image Patches. Neural Computation, 2013, 25, 922-939.	2.2	7
38	Trade-off between curvature tuning and position invariance in visual area V4. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 11618-11623.	7.1	48
39	Protein Epistasis Revealed from Thermostability Profiles of Nicotiana tabacum 5â€epiâ€Aristolochene Synthase. FASEB Journal, 2013, 27, 561.5.	0.5	0
40	Receptive field dimensionality increases from the auditory midbrain to cortex. Journal of Neurophysiology, 2012, 107, 2594-2603.	1.8	47
41	Adaptive Switches in Midbrain Circuits. Neuron, 2012, 73, 6-7.	8.1	3
42	Characterizing Responses of Translation-Invariant Neurons to Natural Stimuli: Maximally Informative Invariant Dimensions. Neural Computation, 2012, 24, 2384-2421.	2.2	15
43	Two-dimensional adaptation in the auditory forebrain. Journal of Neurophysiology, 2011, 106, 1841-1861.	1.8	22
44	Hierarchical representations in the auditory cortex. Current Opinion in Neurobiology, 2011, 21, 761-767.	4.2	92
45	Emergence of Learned Categorical Representations within an Auditory Forebrain Circuit. Journal of Neuroscience, 2011, 31, 2595-2606.	3.6	58
46	Second Order Dimensionality Reduction Using Minimum and Maximum Mutual Information Models. PLoS Computational Biology, 2011, 7, e1002249.	3.2	53
47	Minimal Models of Multidimensional Computations. PLoS Computational Biology, 2011, 7, e1001111.	3.2	34
48	Analyzing multicomponent receptive fields from neural responses to natural stimuli. Network: Computation in Neural Systems, 2011, 22, 45-73.	3.6	21
49	Defining rhythmic locomotor burst patterns using a continuous wavelet transform. Annals of the New York Academy of Sciences, 2010, 1198, 133-139.	3.8	8
50	Encoding of Temporal Information by Timing, Rate, and Place in Cat Auditory Cortex. PLoS ONE, 2010, 5, e11531.	2.5	27
51	Maximally informative pairwise interactions in networks. Physical Review E, 2009, 80, 031914.	2.1	9
52	Hierarchical computation in the canonical auditory cortical circuit. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 21894-21899.	7.1	101
53	Estimating linearâ€"nonlinear models using RÃ©nyi divergences. Network: Computation in Neural Systems, 2009, 20, 49-68.	3.6	26
54	Predictable irregularities in retinal receptive fields. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 16499-16504.	7.1	46

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55	Contextual modulation of V1 receptive fields depends on their spatial symmetry. Journal of Computational Neuroscience, 2009, 26, 203-218.	1.0	13
56	Preserving Information in Neural Transmission. Journal of Neuroscience, 2009, 29, 6207-6216.	3.6	54
57	Cooperative Nonlinearities in Auditory Cortical Neurons. Neuron, 2008, 58, 956-966.	8.1	123
58	On the Importance of Static Nonlinearity in Estimating Spatiotemporal Neural Filters With Natural Stimuli. Journal of Neurophysiology, 2008, 99, 2496-2509.	1.8	44
59	Neural Decision Boundaries for Maximal Information Transmission. PLoS ONE, 2007, 2, e646.	2.5	15
60	Comparison of information and variance maximization strategies for characterizing neural feature selectivity. Statistics in Medicine, 2007, 26, 4009-4031.	1.6	16
61	Visual adaptation: Neural, psychological and computational aspects. Vision Research, 2007, 47, 3125-3131.	1.4	306
62	Responses of V1 Neurons to Two-Dimensional Hermite Functions. Journal of Neurophysiology, 2006, 95, 379-400.	1.8	39
63	Adaptive filtering enhances information transmission in visual cortex. Nature, 2006, 439, 936-942.	27.8	290
64	Analyzing Neural Responses to Natural Signals: Maximally Informative Dimensions. Neural Computation, 2004, 16, 223-250.	2.2	256
65	Probing feature selectivity of neurons in primary visual cortex with natural stimuli. , 2004, 5467, 212-222.		1