

# Tatyana O Sharpee

## List of Publications by Year in descending order

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Version: 2024-02-01

65  
papers

2,826  
citations

218381

26  
h-index

197535

49  
g-index

74  
all docs

74  
docs citations

74  
times ranked

2569  
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.	1.1	3
2	Using Global t-SNE to Preserve Intercluster Data Structure. Neural Computation, 2022, 34, 1637-1651.	1.3	4
3	Hyperbolic geometry of gene expression. IScience, 2021, 24, 102225.	1.9	15
4	How inhibitory neurons increase information transmission under threshold modulation. Cell Reports, 2021, 35, 109158.	2.9	4
5	The San Diego Nathan Shock Center: tackling the heterogeneity of aging. GeroScience, 2021, 43, 2139-2148.	2.1	2
6	Dynamical Electrical Complexity Is Reduced during Neuronal Differentiation in Autism Spectrum Disorder. Stem Cell Reports, 2019, 13, 474-484.	2.3	13
7	An argument for hyperbolic geometry in neural circuits. Current Opinion in Neurobiology, 2019, 58, 101-104.	2.0	10
8	Linking neural responses to behavior with information-preserving population vectors. Current Opinion in Behavioral Sciences, 2019, 29, 37-44.	2.0	11
9	Quantifying Information Conveyed by Large Neuronal Populations. Neural Computation, 2019, 31, 1015-1047.	1.3	3
10	Hyperbolic geometry of the olfactory space. Science Advances, 2018, 4, eaaq1458.	4.7	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.	5.8	21
13	Optimizing Neural Information Capacity through Discretization. Neuron, 2017, 94, 954-960.	3.8	10
14	On texture, form, and fixational eye movements. Current Opinion in Neurobiology, 2017, 46, 228-233.	2.0	1
15	Multidimensional receptive field processing by cat primary auditory cortical neurons. Neuroscience, 2017, 359, 130-141.	1.1	13
16	A Low-Rank Method for Characterizing High-Level Neural Computations. Frontiers in Computational Neuroscience, 2017, 11, 68.	1.2	6
17	How Invariant Feature Selectivity Is Achieved in Cortex. Frontiers in Synaptic Neuroscience, 2016, 8, 26.	1.3	3
18	Plasticity to the Rescue. Neuron, 2016, 92, 935-936.	3.8	0

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19	Low-dimensional dynamics of structured random networks. <i>Physical Review E</i> , 2016, 93, 022302.	0.8	25
20	Eigenvalue spectra of large correlated random matrices. <i>Physical Review E</i> , 2016, 94, 050101.	0.8	12
21	A Robust Feedforward Model of the Olfactory System. <i>PLoS Computational Biology</i> , 2016, 12, e1004850.	1.5	36
22	Taking a close look at electrosensing. <i>ELife</i> , 2016, 5, .	2.8	0
23	Transition to Chaos in Random Networks with Cell-Type-Specific Connectivity. <i>Physical Review Letters</i> , 2015, 114, 088101.	2.9	97
24	Critical and maximally informative encoding between neural populations in the retina. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 2533-2538.	3.3	69
25	Neural Mechanisms for Evaluating Environmental Variability in <i>Caenorhabditis elegans</i> . <i>Neuron</i> , 2015, 86, 428-441.	3.8	75
26	Spinal Locomotor Circuits Develop Using Hierarchical Rules Based on Motorneuron Position and Identity. <i>Neuron</i> , 2015, 87, 1008-1021.	3.8	47
27	Information theory of adaptation in neurons, behavior, and mood. <i>Current Opinion in Neurobiology</i> , 2014, 25, 47-53.	2.0	27
28	Toward Functional Classification of Neuronal Types. <i>Neuron</i> , 2014, 83, 1329-1334.	3.8	38
29	Mathematical approaches to modeling development and reprogramming. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 5076-5082.	3.3	39
30	Function determines structure in complex neural networks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 8327-8328.	3.3	1
31	Maximally informative foraging by <i>Caenorhabditis elegans</i> . <i>ELife</i> , 2014, 3, .	2.8	98
32	Computational Identification of Receptive Fields. <i>Annual Review of Neuroscience</i> , 2013, 36, 103-120.	5.0	79
33	Identifying Functional Bases for Multidimensional Neural Computations. <i>Neural Computation</i> , 2013, 25, 1870-1890.	1.3	25
34	Associative Learning Enhances Population Coding by Inverting Interneuronal Correlation Patterns. <i>Neuron</i> , 2013, 78, 352-363.	3.8	116
35	The Fine Structure of Shape Tuning in Area V4. <i>Neuron</i> , 2013, 78, 1102-1115.	3.8	77
36	Spike Triggered Covariance in Strongly Correlated Gaussian Stimuli. <i>PLoS Computational Biology</i> , 2013, 9, e1003206.	1.5	8

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37	Double-Gabor Filters Are Independent Components of Small Translation-Invariant Image Patches. <i>Neural Computation</i> , 2013, 25, 922-939.	1.3	7
38	Trade-off between curvature tuning and position invariance in visual area V4. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 11618-11623.	3.3	48
39	Protein Epistasis Revealed from Thermostability Profiles of <i>Nicotiana tabacum</i> 5-epi-Aristolochene Synthase. <i>FASEB Journal</i> , 2013, 27, 561.5.	0.2	0
40	Receptive field dimensionality increases from the auditory midbrain to cortex. <i>Journal of Neurophysiology</i> , 2012, 107, 2594-2603.	0.9	47
41	Adaptive Switches in Midbrain Circuits. <i>Neuron</i> , 2012, 73, 6-7.	3.8	3
42	Characterizing Responses of Translation-Invariant Neurons to Natural Stimuli: Maximally Informative Invariant Dimensions. <i>Neural Computation</i> , 2012, 24, 2384-2421.	1.3	15
43	Two-dimensional adaptation in the auditory forebrain. <i>Journal of Neurophysiology</i> , 2011, 106, 1841-1861.	0.9	22
44	Hierarchical representations in the auditory cortex. <i>Current Opinion in Neurobiology</i> , 2011, 21, 761-767.	2.0	92
45	Emergence of Learned Categorical Representations within an Auditory Forebrain Circuit. <i>Journal of Neuroscience</i> , 2011, 31, 2595-2606.	1.7	58
46	Second Order Dimensionality Reduction Using Minimum and Maximum Mutual Information Models. <i>PLoS Computational Biology</i> , 2011, 7, e1002249.	1.5	53
47	Minimal Models of Multidimensional Computations. <i>PLoS Computational Biology</i> , 2011, 7, e1001111.	1.5	34
48	Analyzing multicomponent receptive fields from neural responses to natural stimuli. <i>Network: Computation in Neural Systems</i> , 2011, 22, 45-73.	2.2	21
49	Defining rhythmic locomotor burst patterns using a continuous wavelet transform. <i>Annals of the New York Academy of Sciences</i> , 2010, 1198, 133-139.	1.8	8
50	Encoding of Temporal Information by Timing, Rate, and Place in Cat Auditory Cortex. <i>PLoS ONE</i> , 2010, 5, e11531.	1.1	27
51	Maximally informative pairwise interactions in networks. <i>Physical Review E</i> , 2009, 80, 031914.	0.8	9
52	Hierarchical computation in the canonical auditory cortical circuit. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 21894-21899.	3.3	101
53	Estimating linear/nonlinear models using Rényi divergences. <i>Network: Computation in Neural Systems</i> , 2009, 20, 49-68.	2.2	26
54	Predictable irregularities in retinal receptive fields. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 16499-16504.	3.3	46

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55	Contextual modulation of V1 receptive fields depends on their spatial symmetry. <i>Journal of Computational Neuroscience</i> , 2009, 26, 203-218.	0.6	13
56	Preserving Information in Neural Transmission. <i>Journal of Neuroscience</i> , 2009, 29, 6207-6216.	1.7	54
57	Cooperative Nonlinearities in Auditory Cortical Neurons. <i>Neuron</i> , 2008, 58, 956-966.	3.8	123
58	On the Importance of Static Nonlinearity in Estimating Spatiotemporal Neural Filters With Natural Stimuli. <i>Journal of Neurophysiology</i> , 2008, 99, 2496-2509.	0.9	44
59	Neural Decision Boundaries for Maximal Information Transmission. <i>PLoS ONE</i> , 2007, 2, e646.	1.1	15
60	Comparison of information and variance maximization strategies for characterizing neural feature selectivity. <i>Statistics in Medicine</i> , 2007, 26, 4009-4031.	0.8	16
61	Visual adaptation: Neural, psychological and computational aspects. <i>Vision Research</i> , 2007, 47, 3125-3131.	0.7	306
62	Responses of V1 Neurons to Two-Dimensional Hermite Functions. <i>Journal of Neurophysiology</i> , 2006, 95, 379-400.	0.9	39
63	Adaptive filtering enhances information transmission in visual cortex. <i>Nature</i> , 2006, 439, 936-942.	13.7	290
64	Analyzing Neural Responses to Natural Signals: Maximally Informative Dimensions. <i>Neural Computation</i> , 2004, 16, 223-250.	1.3	256
65	Probing feature selectivity of neurons in primary visual cortex with natural stimuli. , 2004, 5467, 212-222.		1