Misha Tsodyks

List of Publications by Year
in descending order

72 papers	7,253 citations	126907 33 h-index	85541 71 g-index
81 all docs	81 docs citations	81 times ranked	5300 citing authors

#	Article	IF	Citations
1	Cross-fixation interactions of orientations suggest high-to-low-level decoding in visual working memory. Vision Research, 2022, 190, 107963.	1.4	0
2	Retroactive interference model of forgetting. Journal of Mathematical Neuroscience, 2021, 11, 4.	2.4	9
3	Multiscale representation of very large environments in the hippocampus of flying bats. Science, 2021, 372, .	12.6	50
4	Biases and Variability from Costly Bayesian Inference. Entropy, 2021, 23, 603.	2.2	4
5	Effects of order on memory of event times. Scientific Reports, 2021, 11, 17456.	3.3	2
6	Fundamental Law of Memory Recall. Physical Review Letters, 2020, 124, 018101.	7.8	22
7	Emergence of hierarchical organization in memory for random material. Scientific Reports, 2019, 9, 10448.	3.3	8
8	Optimal dynamic coding by mixed-dimensionality neurons in the head-direction system of bats. Nature Communications, 2018, 9, 3590.	12.8	23
9	Memory Retrieval from First Principles. Neuron, 2017, 94, 1027-1032.	8.1	27
10	Thetaâ€paced flickering between placeâ€cell maps in the hippocampus: A model based on shortâ€term synaptic plasticity. Hippocampus, 2017, 27, 959-970.	1.9	17
11	Synaptic Correlates of Working Memory Capacity. Neuron, 2017, 93, 323-330.	8.1	91
12	Visual perception as retrospective Bayesian decoding from high- to low-level features. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E9115-E9124.	7.1	30
13	Memory States and Transitions between Them in Attractor Neural Networks. Neural Computation, 2017, 29, 2684-2711.	2.2	11
14	Feature Detection in Visual Cortex during Different Functional States. Frontiers in Computational Neuroscience, 2017, 11, 21.	2.1	1
15	A theory of working memory without consciousness or sustained activity. ELife, 2017, 6, .	6.0	100
16	Stabilizing patterns in time: Neural network approach. PLoS Computational Biology, 2017, 13, e1005861.	3.2	2
17	Practice makes perfect in memory recall. Learning and Memory, 2016, 23, 169-173.	1.3	11
18	Neural Network Model of Memory Retrieval. Frontiers in Computational Neuroscience, 2015, 9, 149.	2.1	33

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19	Effects of long-term representations on free recall of unrelated words. Learning and Memory, 2015, 22, 101-108.	1.3	14
20	A unifying principle underlying the extracellular field potential spectral responses in the human cortex. Journal of Neurophysiology, 2015, 114, 505-519.	1.8	171
21	Shortâ€term plasticity based network model of place cells dynamics. Hippocampus, 2015, 25, 94-105.	1.9	69
22	Word length effect in free recall of randomly assembled word lists. Frontiers in Computational Neuroscience, 2014, 8, 129.	2.1	14
23	Continuous Attractor Network Model for Conjunctive Position-by-Velocity Tuning of Grid Cells. PLoS Computational Biology, 2014, 10, e1003558.	3.2	23
24	Working models of working memory. Current Opinion in Neurobiology, 2014, 25, 20-24.	4.2	199
25	Scaling Laws of Associative Memory Retrieval. Neural Computation, 2013, 25, 2523-2544.	2.2	44
26	From fixed points to chaos: Three models of delayed discrimination. Progress in Neurobiology, 2013, 103, 214-222.	5.7	151
27	Synaptic Scaling Enables Dynamically Distinct Short- and Long-Term Memory Formation. PLoS Computational Biology, 2013, 9, e1003307.	3.2	43
28	Neural information processing with dynamical synapses. Frontiers in Computational Neuroscience, 2013, 7, 188.	2.1	16
29	Population spikes in cortical networks during different functional states. Frontiers in Computational Neuroscience, 2012, 6, 43.	2.1	14
30	Associative Learning in Early Vision. , 2012, , 334-338.		0
31	Short-Term Facilitation may Stabilize Parametric Working Memory Trace. Frontiers in Computational Neuroscience, 2011, 5, 40.	2.1	94
32	Intracellular Dynamics of Virtual Place Cells. Neural Computation, 2011, 23, 651-655.	2.2	4
33	Neuronal Population Coding of Parametric Working Memory. Journal of Neuroscience, 2010, 30, 9424-9430.	3.6	167
34	Continuous Attractors with Morphed/Correlated Maps. PLoS Computational Biology, 2010, 6, e1000869.	3.2	35
35	Multiquantal release underlies the distribution of synaptic efficacies in the neocortex. Frontiers in Computational Neuroscience, 2009, 3, 27.	2.1	50
36	Mapping dynamic memories of gradually changing objects. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 5371-5376.	7.1	18

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37	Slow oscillations in neural networks with facilitating synapses. Journal of Computational Neuroscience, 2008, 25, 308-316.	1.0	46
38	Synaptic Theory of Working Memory. Science, 2008, 319, 1543-1546.	12.6	1,019
39	Persistent Activity in Neural Networks with Dynamic Synapses. PLoS Computational Biology, 2007, 3, e35.	3.2	105
40	Processing of sounds by population spikes in a model of primary auditory cortex. Frontiers in Neuroscience, 2007, 1, 197-209.	2.8	49
41	Spontaneous pattern generation by a network with dynamic synapses. BMC Neuroscience, 2007, 8, .	1.9	0
42	Singularities explained: Response to Klein. Vision Research, 2007, 47, 2918-2922.	1.4	5
43	The effects of perceptual history on memory of visual objects. Vision Research, 2007, 47, 965-973.	1.4	18
44	Inverse modeling of human contrast response. Vision Research, 2007, 47, 2855-2867.	1.4	9
45	Dynamics of Memory Representations in Networks with Novelty-Facilitated Synaptic Plasticity. Neuron, 2006, 52, 383-394.	8.1	72
46	Analysis of a two-alternative force-choice signal detection theory model. Journal of Mathematical Psychology, 2006, 50, 411-420.	1.8	20
47	Neural network model of the primary visual cortex: From functional architecture to lateral connectivity and back. Journal of Computational Neuroscience, 2006, 20, 219-241.	1.0	58
48	Singularities in the inverse modeling of 2AFC contrast discrimination data. Vision Research, 2006, 46, 259-266.	1.4	22
49	Recognition by Variance: Learning Rules for Spatiotemporal Patterns. Neural Computation, 2006, 18, 2343-2358.	2.2	22
50	The Emergence of Up and Down States in Cortical Networks. PLoS Computational Biology, 2006, 2, e23.	3.2	197
51	Attractor Neural Networks and Spatial Maps in Hippocampus. Neuron, 2005, 48, 168-169.	8.1	19
52	Perceptual learning in contrast discrimination: The effect of contrast uncertainty. Journal of Vision, 2004, 4, 2.	0.3	80
53	Neural networks and perceptual learning. Nature, 2004, 431, 775-781.	27.8	142
54	Multiple mechanisms govern the dynamics of depression at neocortical synapses of young rats. Journal of Physiology, 2004, 557, 415-438.	2.9	55

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55	Associative learning in early vision. Neural Networks, 2004, 17, 823-832.	5.9	17
56	Coding and learning of behavioral sequences. Trends in Neurosciences, 2004, 27, 11-14.	8.6	55
57	Spontaneously emerging cortical representations of visual attributes. Nature, 2003, 425, 954-956.	27.8	851
58	Coding of Temporal Information by Activity-Dependent Synapses. Journal of Neurophysiology, 2002, 87, 140-148.	1.8	241
59	Spike-timing-dependent synaptic plasticity â€“ the long road towards understanding neuronal mechanisms of learning and memory. Trends in Neurosciences, 2002, 25, 599-600.	8.6	36
60	Spike Frequency Adaptation and Neocortical Rhythms. Journal of Neurophysiology, 2002, 88, 761-770.	1.8	134
61	Context-enabled learning in the human visual system. Nature, 2002, 415, 790-793.	27.8	145
62	Computation by ensemble synchronization in recurrent networks with synaptic depression. Journal of Computational Neuroscience, 2002, 13, 111-124.	1.0	83
63	An Algorithm for Modifying Neurotransmitter Release Probability Based on Pre- and Postsynaptic Spike Timing. Neural Computation, 2001, 13, 35-67.	2.2	180
64	Activity of coupled excitatory and inhibitory neural populations with dynamic synapses. Neurocomputing, 2000, 32-33, 359-364.	5.9	1
65	Chaos in neural networks with dynamic synapses. Neurocomputing, 2000, 32-33, 365-370.	5.9	34
66	Relation Between Retinotopical and Orientation Maps in Visual Cortex. Neural Computation, 1999, 11, 375-379.	2.2	15
67	Analysis and modeling of population dynamics in the visual cortex. Neurocomputing, 1999, 26-27, 361-366.	5.9	2
68	Attractor neural network models of spatial maps in hippocampus. Hippocampus, 1999, 9, 481-489.	1.9	120
69	Potential for multiple mechanisms, phenomena and algorithms for synaptic plasticity at single synapses. Neuropharmacology, 1998, 37, 489-500.	4.1	118
70	Information Processing with Frequency-Dependent Synaptic Connections. Neurobiology of Learning and Memory, 1998, 70, 101-112.	1.9	129
71	Neural Networks with Dynamic Synapses. Neural Computation, 1998, 10, 821-835.	2.2	814
72	Redistribution of synaptic efficacy between neocortical pyramidal neurons. Nature, 1996, 382, 807-810.	27.8	747