Henning Sprekeler

List of Publications by Year
in descending order

32 papers	1,991 citations	430442 18 h-index	433756 31 g-index
47 all docs	47 docs citations	47 times ranked	2045 citing authors

#	Article	IF	Citations
1	Inhibitory Plasticity Balances Excitation and Inhibition in Sensory Pathways and Memory Networks. Science, 2011, 334, 1569-1573.	6.0	613
2	Slowness and Sparseness Lead to Place, Head-Direction, and Spatial-View Cells. PLoS Computational Biology, 2007, 3, e166.	1.5	153
3	Theory and Simulation in Neuroscience. Science, 2012, 338, 60-65.	6.0	141
4	Functional Requirements for Reward-Modulated Spike-Timing-Dependent Plasticity. Journal of Neuroscience, 2010, 30, 13326-13337.	1.7	121
5	Reinforcement Learning Using a Continuous Time Actor-Critic Framework with Spiking Neurons. PLoS Computational Biology, 2013, 9, e1003024.	1.5	121
6	Sparse bursts optimize information transmission in a multiplexed neural code. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E6329-E6338.	3.3	99
7	Functional consequences of inhibitory plasticity: homeostasis, the excitation-inhibition balance and beyond. Current Opinion in Neurobiology, 2017, 43, 198-203.	2.0	69
8	Slowness: An Objective for Spike-Timing–Dependent Plasticity?. PLoS Computational Biology, 2007, 3, e112.	1.5	65
9	Memory replay in balanced recurrent networks. PLoS Computational Biology, 2017, 13, e1005359.	1.5	64
10	A thalamocortical top-down circuit for associative memory. Science, 2020, 370, 844-848.	6.0	63
11	Learning place cells, grid cells and invariances with excitatory and inhibitory plasticity. ELife, 2018, 7, .	2.8	46
12	Predictive Coding and the Slowness Principle: An Information-Theoretic Approach. Neural Computation, 2008, 20, 1026-1041.	1.3	44
13	Inhibition as a Binary Switch for Excitatory Plasticity in Pyramidal Neurons. PLoS Computational Biology, 2016, 12, e1004768.	1.5	42
14	Amplifying the redistribution of somato-dendritic inhibition by the interplay of three interneuron types. PLoS Computational Biology, 2019, 15, e1006999.	1.5	42
15	Learning prediction error neurons in a canonical interneuron circuit. ELife, 2020, 9, .	2.8	35
16	On the Relation of Slow Feature Analysis and Laplacian Eigenmaps. Neural Computation, 2011, 23, 3287-3302.	1.3	30
17	Perceptual learning, roving and the unsupervised bias. Vision Research, 2012, 61, 95-99.	0.7	28
18	Changing the responses of cortical neurons from sub- to suprathreshold using single spikes in vivo. ELife, 2013, 2, e00012.	2.8	26

#	Article	IF	Citations
19	Nonlinear Bayesian filtering and learning: a neuronal dynamics for perception. Scientific Reports, 2017, 7, 8722.	1.6	24
20	Learning excitatory-inhibitory neuronal assemblies in recurrent networks. ELife, 2021, 10, .	2.8	24
21	Paradoxical Evidence Integration in Rapid Decision Processes. PLoS Computational Biology, 2012, 8, e1002382.	1.5	17
22	Inheritance of Hippocampal Place Fields Through Hebbian Learning: Effects of Theta Modulation and Phase Precession on Structure Formation. Neural Computation, 2015, 27, 1624-1672.	1.3	14
23	The Silent Period of Evidence Integration in Fast Decision Making. PLoS ONE, 2013, 8, e46525.	1.1	9
24	Presynaptic inhibition rapidly stabilises recurrent excitation in the face of plasticity. PLoS Computational Biology, 2020, 16, e1008118.	1.5	9
25	A Theory of Slow Feature Analysis for Transformation-Based Input Signals with an Application to Complex Cells. Neural Computation, 2011, 23, 303-335.	1.3	7
26	A local measure of symmetry and orientation for individual spikes of grid cells. PLoS Computational Biology, 2019, 15, e1006804.	1.5	7
27	Invariant neural subspaces maintained by feedback modulation. ELife, 2022, 11, .	2.8	7
28	Optimizing interneuron circuits for compartment-specific feedback inhibition. PLoS Computational Biology, 2022, 18, e1009933.	1.5	6
29	Self-organization of a doubly asynchronous irregular network state for spikes and bursts. PLoS Computational Biology, 2021, 17, e1009478.	1.5	5
30	Understanding Slow Feature Analysis: A Mathematical Framework. SSRN Electronic Journal, 0, , .	0.4	4
31	Hebbian plasticity in parallel synaptic pathways: A circuit mechanism for systems memory consolidation. PLoS Computational Biology, 2021, 17, e1009681.	1.5	4
32	Nonlinear Supervised Locality Preserving Projections for Visual Pattern Discrimination. , 2014, , .		0