Matthew A Wilson

List of Publications by Year
in descending order

95	19,994	57681 46	64407 83
papers	citations	h-index	g-index

97	97	97	13340
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Dissociating Behavior and Spatial Working Memory Demands Using an H Maze. Bio-protocol, 2021, 11, e3947.	0.2	1
2	Lateral septum as a nexus for mood, motivation, and movement. Neuroscience and Biobehavioral Reviews, 2021, 126, 544-559.	2.9	55
3	Bayesian Algorithmic Decoding of Acceleration and Speed Software (BADASS). Software Impacts, 2021, 10, 100125.	0.8	0
4	Eszopiclone and Zolpidem Produce Opposite Effects on Hippocampal Ripple Density. Frontiers in Pharmacology, 2021, 12, 792148.	1.6	2
5	An easy-to-assemble, robust, and lightweight drive implant for chronic tetrode recordings in freely moving animals. Journal of Neural Engineering, 2020, 17, 026044.	1.8	40
6	mPFC spindle cycles organize sparse thalamic activation and recently active CA1 cells during non-REM sleep. ELife, 2020, 9, .	2.8	37
7	Differences in reward biased spatial representations in the lateral septum and hippocampus. ELife, 2020, 9, .	2.8	29
8	Temporal coding and rate remapping: Representation of nonspatial information in the hippocampus. Hippocampus, 2019, 29, 111-127.	0.9	25
9	Locomotor and Hippocampal Processing Converge in the Lateral Septum. Current Biology, 2019, 29, 3177-3192.e3.	1.8	47
10	Real-Time Readout of Large-Scale Unsorted Neural Ensemble Place Codes. Cell Reports, 2018, 25, 2635-2642.e5.	2.9	20
11	Deciphering Neural Codes of Memory during Sleep. Trends in Neurosciences, 2017, 40, 260-275.	4.2	57
12	Oscillations, neural computations and learning during wake and sleep. Current Opinion in Neurobiology, 2017, 44, 193-201.	2.0	28
13	Thalamocortical synchronization during induction and emergence from propofol-induced unconsciousness. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E6660-E6668.	3.3	135
14	Tracking the Time-Dependent Role of the Hippocampus in Memory Recall Using DREADDs. PLoS ONE, 2016, 11, e0154374.	1.1	24
15	A Novel Nonparametric Approach for Neural Encoding and Decoding Models of Multimodal Receptive Fields. Neural Computation, 2016, 28, 1356-1387.	1.3	13
16	Bayesian nonparametric methods for discovering latent structures of rat hippocampal ensemble spikes. , 2016, , .		8
17	Uncovering representations of sleep-associated hippocampal ensemble spike activity. Scientific Reports, 2016, 6, 32193.	1.6	24
18	Neuronal encoding models of complex receptive fields: A comparison of nonparametric and parametric approaches. , 2016, , .		1

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19	A Bayesian nonparametric approach for uncovering rat hippocampal population codes during spatial navigation. Journal of Neuroscience Methods, 2016, 263, 36-47.	1.3	38
20	Kernel density compression for real-time Bayesian encoding/decoding of unsorted hippocampal spikes. Knowledge-Based Systems, 2016, 94, 1-12.	4.0	22
21	VTA neurons coordinate with the hippocampal reactivation of spatial experience. ELife, 2015, 4, .	2.8	136
22	Thalamic reticular nucleus induces fast and local modulation of arousal state. ELife, 2015, 4, e08760.	2.8	149
23	Phase organization of network computations. Current Opinion in Neurobiology, 2015, 31, 250-253.	2.0	29
24	Optogenetic activation of cholinergic neurons in the PPT or LDT induces REM sleep. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 584-589.	3.3	235
25	Delta Frequency Optogenetic Stimulation of the Thalamic Nucleus Reuniens Is Sufficient to Produce Working Memory Deficits: Relevance to Schizophrenia. Biological Psychiatry, 2015, 77, 1098-1107.	0.7	68
26	Slow-Î³ Rhythms Coordinate Cingulate Cortical Responses to Hippocampal Sharp-Wave Ripples during Wakefulness. Cell Reports, 2015, 13, 1327-1335.	2.9	37
27	Thalamic Circuit Mechanisms Link Sensory Processing in Sleep and Attention. Frontiers in Neural Circuits, 2015, 9, 83.	1.4	45
28	Enhancement of encoding and retrieval functions through theta phase-specific manipulation of hippocampus. ELife, 2014, 3, e03061.	2.8	226
29	Computational modeling and analysis of hippocampal-prefrontal information coding during a spatial decision-making task. Frontiers in Behavioral Neuroscience, 2014, 8, 62.	1.0	6
30	Bayesian decoding using unsorted spikes in the rat hippocampus. Journal of Neurophysiology, 2014, 111, 217-227.	0.9	96
31	Neural Representation of Spatial Topology in the Rodent Hippocampus. Neural Computation, 2014, 26, 1-39.	1.3	139
32	State-Dependent Architecture of Thalamic Reticular Subnetworks. Cell, 2014, 158, 808-821.	13.5	237
33	Impaired Hippocampal Ripple-Associated Replay in a Mouse Model of Schizophrenia. Neuron, 2013, 80, 484-493.	3.8	106
34	Cingulate-Hippocampus Coherence and Trajectory Coding in a Sequential Choice Task. Neuron, 2013, 80, 1277-1289.	3.8	58
35	A variational nonparametric bayesian approach for inferring rat hippocampal population codes. , 2013, 2013, 7092-5.		1
36	Transductive neural decoding for unsorted neuronal spikes of rat hippocampus. , 2012, 2012, 1310-3.		13

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37	Uncovering spatial topology represented by rat hippocampal population neuronal codes. Journal of Computational Neuroscience, 2012, 33, 227-255.	0.6	42
38	Biasing the content of hippocampal replay during sleep. Nature Neuroscience, 2012, 15, 1439-1444.	7.1	306
39	Computing Confidence Intervals for Point Process Models. Neural Computation, 2011, 23, 2731-2745.	1.3	9
40	Assessing neuronal interactions of cell assemblies during general anesthesia. , 2011, 2011, 4175-8.		4
41	Disruption of rippleâ€associated hippocampal activity during rest impairs spatial learning in the rat. Hippocampus, 2010, 20, 1-10.	0.9	613
42	Variational Bayesian inference for point process generalized linear models in neural spike trains analysis. , 2010, , .		6
43	Characterizing the Frequency Structure of Fast Oscillations in the Rodent Hippocampus. Frontiers in Integrative Neuroscience, 2009, 3, 11.	1.0	22
44	Discrete- and Continuous-Time Probabilistic Models and Algorithms for Inferring Neuronal UP and DOWN States. Neural Computation, 2009, 21, 1797-1862.	1.3	39
45	Lack of kainic acidâ€induced gamma oscillations predicts subsequent CA1 excitotoxic cell death. European Journal of Neuroscience, 2009, 30, 1036-1055.	1.2	21
46	Measuring instantaneous frequency of local field potential oscillations using the Kalman smoother. Journal of Neuroscience Methods, 2009, 184, 365-374.	1.3	23
47	Hippocampal Replay of Extended Experience. Neuron, 2009, 63, 497-507.	3.8	670
48	Micro-drive array for chronic in vivo recording: tetrode assembly. Journal of Visualized Experiments, 2009, , .	0.2	74
49	Micro-drive array for chronic in vivo recording: drive fabrication. Journal of Visualized Experiments, 2009, , .	0.2	77
50	Probabilistic models and inference algorithms for neuronal decoding of UP and DOWN states. BMC Neuroscience, 2008, 9, .	0.8	0
51	Firing Rate Dynamics in the Hippocampus Induced by Trajectory Learning. Journal of Neuroscience, 2008, 28, 4679-4689.	1.7	30
52	Instantaneous frequency and amplitude modulation of EEG in the hippocampus reveals state dependent temporal structure. , 2008, 2008, 1711-5.		6
53	All My Circuits: Using Multiple Electrodes to Understand Functioning Neural Networks. Neuron, 2008, 60, 483-488.	3.8	66
54	Large-Scale Chronically Implantable Precision Motorized Microdrive Array for Freely Behaving Animals. Journal of Neurophysiology, 2008, 100, 2430-2440.	0.9	72

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55	Dentate Gyrus NMDA Receptors Mediate Rapid Pattern Separation in the Hippocampal Network. Science, 2007, 317, 94-99.	6.0	841
56	Spatial selectivity and theta phase precession in CA1 interneurons. Hippocampus, 2007, 17, 161-174.	0.9	94
57	Hippocampal theta sequences. Hippocampus, 2007, 17, 1093-1099.	0.9	263
58	Coordinated memory replay in the visual cortex and hippocampus during sleep. Nature Neuroscience, 2007, 10, 100-107.	7.1	1,450
59	Construction of Point Process Adaptive Filter Algorithms for Neural Systems Using Sequential Monte Carlo Methods. IEEE Transactions on Biomedical Engineering, 2007, 54, 419-428.	2.5	74
60	Neuroscience and Architecture: Seeking Common Ground. Cell, 2006, 127, 239-242.	13.5	51
61	Reverse replay of behavioural sequences in hippocampal place cells during the awake state. Nature, 2006, 440, 680-683.	13.7	1,395
62	An analysis of hippocampal spatio-temporal representations using a Bayesian algorithm for neural spike train decoding. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2005, 13, 131-136.	2.7	48
63	Phase precession of medial prefrontal cortical activity relative to the hippocampal theta rhythm. Hippocampus, 2005, 15, 867-873.	0.9	191
64	Theta Rhythms Coordinate Hippocampalâ€“Prefrontal Interactions in a Spatial Memory Task. PLoS Biology, 2005, 3, e402.	2.6	857
65	Prefrontal Phase Locking to Hippocampal Theta Oscillations. Neuron, 2005, 46, 141-151.	3.8	868
66	Analyzing Functional Connectivity Using a Network Likelihood Model of Ensemble Neural Spiking Activity. Neural Computation, 2005, 17, 1927-1961.	1.3	198
67	Dynamic Analyses of Information Encoding in Neural Ensembles. Neural Computation, 2004, 16, 277-307.	1.3	179
68	A Combinatorial Method for Analyzing Sequential Firing Patterns Involving an Arbitrary Number of Neurons Based on Relative Time Order. Journal of Neurophysiology, 2004, 92, 2555-2573.	0.9	38
69	NMDA receptors, place cells and hippocampal spatial memory. Nature Reviews Neuroscience, 2004, 5, 361-372.	4.9	519
70	Response to Melamed et al.: Coding and learning of behavioral sequences â€“ open questions and potential solutions. Trends in Neurosciences, 2004, 27, 14-15.	4.2	4
71	Hippocampal CA3 NMDA Receptors Are Crucial for Memory Acquisition of One-Time Experience. Neuron, 2003, 38, 305-315.	3.8	426
72	Genetic neuroscience of mammalian learning and memory. Philosophical Transactions of the Royal Society B: Biological Sciences, 2003, 358, 787-795.	1.8	83

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73	Requirement for Hippocampal CA3 NMDA Receptors in Associative Memory Recall. Science, 2002, 297, 211-218.	6.0	965
74	Hippocampal Memory Formation, Plasticity, and the Role of Sleep. Neurobiology of Learning and Memory, 2002, 78, 565-569.	1.0	34
75	Memory of Sequential Experience in the Hippocampus during Slow Wave Sleep. Neuron, 2002, 36, 1183-1194.	3.8	1,117
76	Contrasting Patterns of Receptive Field Plasticity in the Hippocampus and the Entorhinal Cortex: An Adaptive Filtering Approach. Journal of Neuroscience, 2002, 22, 3817-3830.	1.7	68
77	Construction and analysis of non-Gaussian spatial models of neural spiking activity. Neurocomputing, 2002, 44-46, 309-314.	3.5	6
78	Entorhinal Place Cells: Trajectory Encoding. , 2002, , 97-116.		0
79	Temporally Structured Replay of Awake Hippocampal Ensemble Activity during Rapid Eye Movement Sleep. Neuron, 2001, 29, 145-156.	3.8	1,006
80	An Important Role of Neural Activity-Dependent CaMKIV Signaling in the Consolidation of Long-Term Memory. Cell, 2001, 106, 771-783.	13.5	253
81	A Comparison of the Firing Properties of Putative Excitatory and Inhibitory Neurons From CA1 and the Entorhinal Cortex. Journal of Neurophysiology, 2001, 86, 2029-2040.	0.9	173
82	Experience-Dependent Changes in Extracellular Spike Amplitude May Reflect Regulation of Dendritic Action Potential Back-Propagation in Rat Hippocampal Pyramidal Cells. Journal of Neuroscience, 2001, 21, 240-248.	1.7	68
83	Construction and analysis of non-Poisson stimulus-response models of neural spiking activity. Journal of Neuroscience Methods, 2001, 105, 25-37.	1.3	174
84	Diagnostic methods for statistical models of place cell spiking activity. Neurocomputing, 2001, 38-40, 1087-1093.	3.5	22
85	A time-dependent analysis of spatial information encoding in the rat hippocampus. Neurocomputing, 2000, 32-33, 629-635.	3.5	2
86	From hippocampus to V1: Effect of LTP on spatio-temporal dynamics of receptive fields. Neurocomputing, 2000, 32-33, 905-911.	3.5	39
87	Formation of Temporal Memory Requires NMDA Receptors within CA1 Pyramidal Neurons. Neuron, 2000, 25, 473-480.	3.8	304
88	Experience-Dependent Asymmetric Shape of Hippocampal Receptive Fields. Neuron, 2000, 25, 707-715.	3.8	426
89	Interaction between spike waveform classification and temporal sequence detection. Journal of Neuroscience Methods, 1999, 94, 41-52.	1.3	85
90	Coordinated Interactions between Hippocampal Ripples and Cortical Spindles during Slow-Wave Sleep. Neuron, 1998, 21, 1123-1128.	3.8	876

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91	A Statistical Paradigm for Neural Spike Train Decoding Applied to Position Prediction from Ensemble Firing Patterns of Rat Hippocampal Place Cells. Journal of Neuroscience, 1998, 18, 7411-7425.	1.7	479
92	Synaptic plasticity, place cells and spatial memory: study with second generation knockouts. Trends in Neurosciences, 1997, 20, 102-106.	4.2	106
93	Impaired Hippocampal Representation of Space in CA1-Specific NMDAR1 Knockout Mice. Cell, 1996, 87, 1339-1349.	13.5	561
94	Theta phase precession in hippocampal neuronal populations and the compression of temporal sequences. , 1996, 6, 149-172.		1,372
95	On crucial roles of hippocampal NMDA receptors in acquisition and recall of associative memory. , 0, , 326-356.		0