James J Knierim

List of Publications by Year
in descending order

74 papers	7,600 citations	87888 38 h-index	102487 66 g-index
204 all docs	204 docs citations	204 times ranked	4388 citing authors

#	Article	IF	Citations
1	Major Dissociation Between Medial and Lateral Entorhinal Input to Dorsal Hippocampus. Science, 2005, 308, 1792-1794.	12.6	578
2	Comparison of population coherence of place cells in hippocampal subfields CA1 and CA3. Nature, 2004, 430, 456-459.	27.8	390
3	CA3 Retrieves Coherent Representations from Degraded Input: Direct Evidence for CA3 Pattern Completion and Dentate Gyrus Pattern Separation. Neuron, 2014, 81, 416-427.	8.1	369
4	Representation of Non-Spatial and Spatial Information in the Lateral Entorhinal Cortex. Frontiers in Behavioral Neuroscience, 2011, 5, 69.	2.0	354
5	Integrating time from experience in the lateral entorhinal cortex. Nature, 2018, 561, 57-62.	27.8	344
6	Functional correlates of the lateral and medial entorhinal cortex: objects, path integration and localâ€“global reference frames. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130369.	4.0	335
7	Influence of boundary removal on the spatial representations of the medial entorhinal cortex. Hippocampus, 2008, 18, 1270-1282.	1.9	330
8	Ensemble Dynamics of Hippocampal Regions CA3 and CA1. Neuron, 2004, 44, 581-584.	8.1	302
9	Interactions Between Idiothetic Cues and External Landmarks in the Control of Place Cells and Head Direction Cells. Journal of Neurophysiology, 1998, 80, 425-446.	1.8	273
10	The hippocampus. Current Biology, 2015, 25, R1116-R1121.	3.9	229
11	Hippocampal place cells: Parallel input streams, subregional processing, and implications for episodic memory. Hippocampus, 2006, 16, 755-764.	1.9	221
12	Tracking the flow of hippocampal computation: Pattern separation, pattern completion, and attractor dynamics. Neurobiology of Learning and Memory, 2016, 129, 38-49.	1.9	219
13	Spatial Representations of Granule Cells and Mossy Cells of the Dentate Gyrus. Neuron, 2017, 93, 677-690.e5.	8.1	219
14	A Double Dissociation between Hippocampal Subfields. Neuron, 2004, 42, 803-815.	8.1	211
15	Egocentric coding of external items in the lateral entorhinal cortex. Science, 2018, 362, 945-949.	12.6	209
16	Dynamic Interactions between Local Surface Cues, Distal Landmarks, and Intrinsic Circuitry in Hippocampal Place Cells. Journal of Neuroscience, 2002, 22, 6254-6264.	3.6	180
17	Influence of local objects on hippocampal representations: Landmark vectors and memory. Hippocampus, 2013, 23, 253-267.	1.9	166
18	Attractor Dynamics of Spatially Correlated Neural Activity in the Limbic System. Annual Review of Neuroscience, 2012, 35, 267-285.	10.7	164

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19	Framing Spatial Cognition: Neural Representations of Proximal and Distal Frames of Reference and Their Roles in Navigation. Physiological Reviews, 2011, 91, 1245-1279.	28.8	150
20	Spatial Firing Correlates of Physiologically Distinct Cell Types of the Rat Dentate Gyrus. Journal of Neuroscience, 2012, 32, 3848-3858.	3.6	145
21	Attentive scanning behavior drives one-trial potentiation of hippocampal place fields. Nature Neuroscience, 2014, 17, 725-731.	14.8	136
22	Neural Population Evidence of Functional Heterogeneity along the CA3 Transverse Axis: Pattern Completion versus Pattern Separation. Neuron, 2015, 87, 1093-1105.	8.1	133
23	Head Direction Cell Representations Maintain Internal Coherence during Conflicting Proximal and Distal Cue Rotations: Comparison with Hippocampal Place Cells. Journal of Neuroscience, 2006, 26, 622-631.	3.6	132
24	Theta Modulation in the Medial and the Lateral Entorhinal Cortices. Journal of Neurophysiology, 2010, 104, 994-1006.	1.8	121
25	Conflicts between Local and Global Spatial Frameworks Dissociate Neural Representations of the Lateral and Medial Entorhinal Cortex. Journal of Neuroscience, 2013, 33, 9246-9258.	3.6	116
26	Perirhinal cortex represents nonspatial, but not spatial, information in rats foraging in the presence of objects: Comparison with lateral entorhinal cortex. Hippocampus, 2012, 22, 2045-2058.	1.9	113
27	Lateral entorhinal neurons are not spatially selective in cueâ€rich environments. Hippocampus, 2011, 21, 1363-1374.	1.9	97
28	Distal landmarks and hippocampal place cells: Effects of relative translation versus rotation. Hippocampus, 2003, 13, 604-617.	1.9	96
29	Three-dimensional spatial selectivity of hippocampal neurons during space flight. Nature Neuroscience, 2000, 3, 209-210.	14.8	95
30	Hippocampal Place-Cell Firing During Movement in Three-Dimensional Space. Journal of Neurophysiology, 2001, 85, 105-116.	1.8	91
31	Hebbian Analysis of the Transformation of Medial Entorhinal Grid-Cell Inputs to Hippocampal Place Fields. Journal of Neurophysiology, 2010, 103, 3167-3183.	1.8	91
32	Egocentric and allocentric representations of space in the rodent brain. Current Opinion in Neurobiology, 2020, 60, 12-20.	4.2	85
33	Integration of objects and space in perception and memory. Nature Neuroscience, 2017, 20, 1493-1503.	14.8	84
34	Recalibration of path integration in hippocampal place cells. Nature, 2019, 566, 533-537.	27.8	72
35	Cohesiveness of spatial and directional representations recorded from neural ensembles in the anterior thalamus, parasubiculum, medial entorhinal cortex, and hippocampus. Hippocampus, 2007, 17, 826-841.	1.9	62
36	Neural representations of location outside the hippocampus. Learning and Memory, 2006, 13, 405-415.	1.3	60

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37	Origin and role of path integration in the cognitive representations of the hippocampus: computational insights into open questions. Journal of Experimental Biology, 2019, 222, .	1.7	59
38	Coupling between place cells and head direction cells during relative translations and rotations of distal landmarks. Experimental Brain Research, 2005, 160, 344-359.	1.5	50
39	Framing of grid cells within and beyond navigation boundaries. ELife, 2017, 6, .	6.0	48
40	Parallel processing streams in the hippocampus. Current Opinion in Neurobiology, 2020, 64, 127-134.	4.2	46
41	Dentate Gyrus Mossy Cells Share a Role in Pattern Separation with Dentate Granule Cells and Proximal CA3 Pyramidal Cells. Journal of Neuroscience, 2019, 39, 9570-9584.	3.6	42
42	Functional Differences in the Backward Shifts of CA1 and CA3 Place Fields in Novel and Familiar Environments. PLoS ONE, 2012, 7, e36035.	2.5	33
43	Dominance of the Proximal Coordinate Frame in Determining the Locations of Hippocampal Place Cell Activity During Navigation. Journal of Neurophysiology, 2008, 99, 60-76.	1.8	32
44	From the GPS to HM: Place cells, grid cells, and memory. Hippocampus, 2015, 25, 719-725.	1.9	31
45	Sensory Feedback, Error Correction, and Remapping in a Multiple Oscillator Model of Place-Cell Activity. Frontiers in Computational Neuroscience, 2011, 5, 39.	2.1	27
46	The relationship between the field-shifting phenomenon and representational coherence of place cells in CA1 and CA3 in a cue-altered environment. Learning and Memory, 2007, 14, 807-815.	1.3	24
47	Backward Shift of Head Direction Tuning Curves of the Anterior Thalamus: Comparison with CA1 Place Fields. Neuron, 2006, 52, 717-729.	8.1	21
48	Aged rats with preserved memory dynamically recruit hippocampal inhibition in a local/global cue mismatch environment. Neurobiology of Aging, 2019, 76, 151-161.	3.1	21
49	Hippocampal Place Cells Encode Local Surface-Texture Boundaries. Current Biology, 2020, 30, 1397-1409.e7.	3.9	19
50	Heterogeneity of Age-Related Neural Hyperactivity along the CA3 Transverse Axis. Journal of Neuroscience, 2021, 41, 663-673.	3.6	18
51	Flexible encoding of objects and space in single cells of the dentate gyrus. Current Biology, 2022, 32, 1088-1101.e5.	3.9	18
52	Hippocampal remapping: implications for spatial learning and navigation. , 2003, , 226-239.		17
53	DISC1-mediated dysregulation of adult hippocampal neurogenesis in rats. Frontiers in Systems Neuroscience, 2015, 9, 93.	2.5	14
54	A Biophysical Model of Synaptic Plasticity and Metaplasticity Can Account for the Dynamics of the Backward Shift of Hippocampal Place Fields. Journal of Neurophysiology, 2008, 100, 983-992.	1.8	13

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55	Hippocampus. Wiley Interdisciplinary Reviews: Cognitive Science, 2012, 3, 231-251.	2.8	10
56	The Path-Integration Properties of Hippocampal Place Cells. , 2002, , 41-58.		9
57	AI mimics brain codes for navigation. Nature, 2018, 557, 313-314.	27.8	8
58	Imagining the Possibilities: Ripples, Routes, and Reactivation. Neuron, 2009, 63, 421-423.	8.1	7
59	Coming up: in search of the vertical dimension in the brain. Nature Neuroscience, 2011, 14, 1102-1103.	14.8	7
60	The Dome: A virtual reality apparatus for freely locomoting rodents. Journal of Neuroscience Methods, 2022, 368, 109336.	2.5	7
61	Wide-angle, monocular head tracking using passive markers. Journal of Neuroscience Methods, 2022, 368, 109453.	2.5	6
62	Loss of functional heterogeneity along the CA3 transverse axis in aging. Current Biology, 2022, 32, 2681-2693.e4.	3.9	5
63	How to Avoid Going Bump in the Night. Journal of General Physiology, 2004, 124, 3-6.	1.9	4
64	The Matrix In Your Head. Scientific American Mind, 2007, 18, 42-49.	0.0	4
65	Strides toward a Structure-Function Understanding of Cortical Representations of Allocentric Space. Neuron, 2014, 84, 1108-1109.	8.1	4
66	Information Processing in Neural Networks. , 2014, , 563-589.		3
67	Itâ€™s About Time: Temporal Dynamics of Dentate Gyrus Pattern Separation. Neuron, 2018, 98, 681-683.	8.1	2
68	The problem of conflicting reference frames when investigating three-dimensional space in surface-dwelling animals. Behavioral and Brain Sciences, 2013, 36, 564-565.	0.7	1
69	Decreased investigatory head scanning during exploration in learning-impaired, aged rats. Neurobiology of Aging, 2021, 98, 1-9.	3.1	1
70	The effect of synaptic plasticity on the stability of place fields under graded environmental perturbations. BMC Neuroscience, 2010, 11, .	1.9	0
71	The rhythm method of memory. Trends in Neurosciences, 2012, 35, 393-394.	8.6	0
72	The Roles of Hippocampal Subfields in Processing Spatial Contexts of Events: Neurophysiological and Behavioral Analyses. , 2008, , 82-106.		0

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73	Introduction: A Neural Systems Approach to Space, Time, and Memory in the Hippocampal Formation. , 2014, , 1-23.		0
74	Probing the Primate Visual Cortex: Pathways and Perspectives. , 1993, , 29-41.		0