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	The Dome: A virtual reality apparatus for freely locomoting rodents. Journal of Neuroscience Methods, 2022, 368, 109336.	2.5	7
2	Wide-angle, monocular head tracking using passive markers. Journal of Neuroscience Methods, 2022, 368, 109453.	2.5	6
3	Flexible encoding of objects and space in single cells of the dentate gyrus. Current Biology, 2022, 32, 1088-1101.e5.	3.9	18
4	Loss of functional heterogeneity along the CA3 transverse axis in aging. Current Biology, 2022, 32, 2681-2693.e4.	3.9	5
5	Heterogeneity of Age-Related Neural Hyperactivity along the CA3 Transverse Axis. Journal of Neuroscience, 2021, 41, 663-673.	3.6	18
6	Decreased investigatory head scanning during exploration in learning-impaired, aged rats. Neurobiology of Aging, 2021, 98, 1-9.	3.1	1
7	Egocentric and allocentric representations of space in the rodent brain. Current Opinion in Neurobiology, 2020, 60, 12-20.	4.2	85
8	Parallel processing streams in the hippocampus. Current Opinion in Neurobiology, 2020, 64, 127-134.	4.2	46
9	Hippocampal Place Cells Encode Local Surface-Texture Boundaries. Current Biology, 2020, 30, 1397-1409.e7.	3.9	19
10	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
11	Recalibration of path integration in hippocampal place cells. Nature, 2019, 566, 533-537.	27.8	72
12	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
13	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
14	Egocentric coding of external items in the lateral entorhinal cortex. Science, 2018, 362, 945-949.	12.6	209
15	Integrating time from experience in the lateral entorhinal cortex. Nature, 2018, 561, 57-62.	27.8	344
16	Itâ€™s About Time: Temporal Dynamics of Dentate Gyrus Pattern Separation. Neuron, 2018, 98, 681-683.	8.1	2
17	AI mimics brain codes for navigation. Nature, 2018, 557, 313-314.	27.8	8
18	Spatial Representations of Granule Cells and Mossy Cells of the Dentate Gyrus. Neuron, 2017, 93, 677-690.e5.	8.1	219

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19	Integration of objects and space in perception and memory. Nature Neuroscience, 2017, 20, 1493-1503.	14.8	84
20	Framing of grid cells within and beyond navigation boundaries. ELife, 2017, 6, .	6.0	48
21	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
22	DISC1-mediated dysregulation of adult hippocampal neurogenesis in rats. Frontiers in Systems Neuroscience, 2015, 9, 93.	2.5	14
23	The hippocampus. Current Biology, 2015, 25, R1116-R1121.	3.9	229
24	Neural Population Evidence of Functional Heterogeneity along the CA3 Transverse Axis: Pattern Completion versus Pattern Separation. Neuron, 2015, 87, 1093-1105.	8.1	133
25	From the GPS to HM: Place cells, grid cells, and memory. Hippocampus, 2015, 25, 719-725.	1.9	31
26	Information Processing in Neural Networks. , 2014, , 563-589.		3
27	Strides toward a Structure-Function Understanding of Cortical Representations of Allocentric Space. Neuron, 2014, 84, 1108-1109.	8.1	4
28	Attentive scanning behavior drives one-trial potentiation of hippocampal place fields. Nature Neuroscience, 2014, 17, 725-731.	14.8	136
29	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
30	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
31	Introduction: A Neural Systems Approach to Space, Time, and Memory in the Hippocampal Formation. , 2014, , 1-23.		0
32	Influence of local objects on hippocampal representations: Landmark vectors and memory. Hippocampus, 2013, 23, 253-267.	1.9	166
33	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
34	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
35	The rhythm method of memory. Trends in Neurosciences, 2012, 35, 393-394.	8.6	0
36	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

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37	Attractor Dynamics of Spatially Correlated Neural Activity in the Limbic System. Annual Review of Neuroscience, 2012, 35, 267-285.	10.7	164
38	Spatial Firing Correlates of Physiologically Distinct Cell Types of the Rat Dentate Gyrus. Journal of Neuroscience, 2012, 32, 3848-3858.	3.6	145
39	Hippocampus. Wiley Interdisciplinary Reviews: Cognitive Science, 2012, 3, 231-251.	2.8	10
40	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
41	Representation of Non-Spatial and Spatial Information in the Lateral Entorhinal Cortex. Frontiers in Behavioral Neuroscience, 2011, 5, 69.	2.0	354
42	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
43	Lateral entorhinal neurons are not spatially selective in cueâ€rich environments. Hippocampus, 2011, 21, 1363-1374.	1.9	97
44	Coming up: in search of the vertical dimension in the brain. Nature Neuroscience, 2011, 14, 1102-1103.	14.8	7
45	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
46	The effect of synaptic plasticity on the stability of place fields under graded environmental perturbations. BMC Neuroscience, 2010, 11, .	1.9	0
47	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
48	Theta Modulation in the Medial and the Lateral Entorhinal Cortices. Journal of Neurophysiology, 2010, 104, 994-1006.	1.8	121
49	Imagining the Possibilities: Ripples, Routes, and Reactivation. Neuron, 2009, 63, 421-423.	8.1	7
50	Influence of boundary removal on the spatial representations of the medial entorhinal cortex. Hippocampus, 2008, 18, 1270-1282.	1.9	330
51	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
52	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
53	The Roles of Hippocampal Subfields in Processing Spatial Contexts of Events: Neurophysiological and Behavioral Analyses. , 2008, , 82-106.		0
54	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

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55	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
56	The Matrix In Your Head. Scientific American Mind, 2007, 18, 42-49.	0.0	4
57	Backward Shift of Head Direction Tuning Curves of the Anterior Thalamus: Comparison with CA1 Place Fields. Neuron, 2006, 52, 717-729.	8.1	21
58	Hippocampal place cells: Parallel input streams, subregional processing, and implications for episodic memory. Hippocampus, 2006, 16, 755-764.	1.9	221
59	Neural representations of location outside the hippocampus. Learning and Memory, 2006, 13, 405-415.	1.3	60
60	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
61	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
62	Major Dissociation Between Medial and Lateral Entorhinal Input to Dorsal Hippocampus. Science, 2005, 308, 1792-1794.	12.6	578
63	How to Avoid Going Bump in the Night. Journal of General Physiology, 2004, 124, 3-6.	1.9	4
64	Comparison of population coherence of place cells in hippocampal subfields CA1 and CA3. Nature, 2004, 430, 456-459.	27.8	390
65	A Double Dissociation between Hippocampal Subfields. Neuron, 2004, 42, 803-815.	8.1	211
66	Ensemble Dynamics of Hippocampal Regions CA3 and CA1. Neuron, 2004, 44, 581-584.	8.1	302
67	Distal landmarks and hippocampal place cells: Effects of relative translation versus rotation. Hippocampus, 2003, 13, 604-617.	1.9	96
68	Hippocampal remapping: implications for spatial learning and navigation. , 2003, , 226-239.		17
69	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
70	The Path-Integration Properties of Hippocampal Place Cells. , 2002, , 41-58.		9
71	Hippocampal Place-Cell Firing During Movement in Three-Dimensional Space. Journal of Neurophysiology, 2001, 85, 105-116.	1.8	91
72	Three-dimensional spatial selectivity of hippocampal neurons during space flight. Nature Neuroscience, 2000, 3, 209-210.	14.8	95

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73	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
74	Probing the Primate Visual Cortex: Pathways and Perspectives. , 1993, , 29-41.		0