Neil Burgess

List of Publications by Year
in descending order

153 papers	29,573 citations	6250 80 h-index	8384 147 g-index
159 all docs	159 docs citations	159 times ranked	16882 citing authors

#	Article	IF	Citations
1	The Human Hippocampus and Spatial and Episodic Memory. Neuron, 2002, 35, 625-641.	3.8	1,974
2	Knowing Where and Getting There: A Human Navigation Network. Science, 1998, 280, 921-924.	6.0	1,154
3	Geometric determinants of the place fields of hippocampal neurons. Nature, 1996, 381, 425-428.	13.7	1,001
4	The hippocampus and memory: insights from spatial processing. Nature Reviews Neuroscience, 2008, 9, 182-194.	4.9	912
5	Evidence for grid cells in a human memory network. Nature, 2010, 463, 657-661.	13.7	904
6	Intrusive images in psychological disorders: Characteristics, neural mechanisms, and treatment implications.. Psychological Review, 2010, 117, 210-232.	2.7	903
7	Development of the Hippocampal Cognitive Map in Preweanling Rats. Science, 2010, 328, 1573-1576.	6.0	828
8	Remembering the past and imagining the future: A neural model of spatial memory and imagery.. Psychological Review, 2007, 114, 340-375.	2.7	796
9	Dual phase and rate coding in hippocampal place cells: Theoretical significance and relationship to entorhinal grid cells. Hippocampus, 2005, 15, 853-866.	0.9	731
10	The Well-Worn Route and the Path Less Traveled. Neuron, 2003, 37, 877-888.	3.8	729
11	An oscillatory interference model of grid cell firing. Hippocampus, 2007, 17, 801-812.	0.9	655
12	Boundary Vector Cells in the Subiculum of the Hippocampal Formation. Journal of Neuroscience, 2009, 29, 9771-9777.	1.7	626
13	Spatial memory: how egocentric and allocentric combine. Trends in Cognitive Sciences, 2006, 10, 551-557.	4.0	625
14	Attractor Dynamics in the Hippocampal Representation of the Local Environment. Science, 2005, 308, 873-876.	6.0	574
15	Independent rate and temporal coding in hippocampal pyramidal cells. Nature, 2003, 425, 828-832.	13.7	514
16	Parallel striatal and hippocampal systems for landmarks and boundaries in spatial memory. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 5915-5920.	3.3	493
17	Experience-dependent rescaling of entorhinal grids. Nature Neuroscience, 2007, 10, 682-684.	7.1	489
18	Spatial Cognition and the Brain. Annals of the New York Academy of Sciences, 2008, 1124, 77-97.	1.8	468

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19	A Temporoparietal and Prefrontal Network for Retrieving the Spatial Context of Lifelike Events. NeuroImage, 2001, 14, 439-453.	2.1	447
20	Long-term plasticity in hippocampal place-cell representation of environmental geometry. Nature, 2002, 416, 90-94.	13.7	411
21	Space in the brain: how the hippocampal formation supports spatial cognition. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20120510.	1.8	386
22	Knowing Where Things Are: Parahippocampal Involvement in Encoding Object Locations in Virtual Large-Scale Space. Journal of Cognitive Neuroscience, 1998, 10, 61-76.	1.1	357
23	A model of hippocampal function. Neural Networks, 1994, 7, 1065-1081.	3.3	355
24	Modeling place fields in terms of the cortical inputs to the hippocampus. Hippocampus, 2000, 10, 369-379.	0.9	350
25	The Boundary Vector Cell Model of Place Cell Firing and Spatial Memory. Reviews in the Neurosciences, 2006, 17, 71-97.	1.4	316
26	Navigation expertise and the human hippocampus: A structural brain imaging analysis. Hippocampus, 2003, 13, 250-259.	0.9	304
27	Toward a network model of the articulatory loop*1. Journal of Memory and Language, 1992, 31, 429-460.	1.1	303
28	Recoding, storage, rehearsal and grouping in verbal short-term memory: an fMRI study. Neuropsychologia, 2000, 38, 426-440.	0.7	297
29	Brain oscillations and memory. Current Opinion in Neurobiology, 2010, 20, 143-149.	2.0	289
30	The hippocampus is required for short-term topographical memory in humans. Hippocampus, 2007, 17, 34-48.	0.9	288
31	Unilateral temporal lobectomy patients show lateralized topographical and episodic memory deficits in a virtual town. Brain, 2001, 124, 2476-2489.	3.7	284
32	How vision and movement combine in the hippocampal place code. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 378-383.	3.3	283
33	Human spatial navigation: cognitive maps, sexual dimorphism, and neural substrates. Current Opinion in Neurobiology, 1999, 9, 171-177.	2.0	282
34	Neuronal computations underlying the firing of place cells and their role in navigation. Hippocampus, 1996, 6, 749-762.	0.9	262
35	Grid cells and theta as oscillatory interference: Theory and predictions. Hippocampus, 2008, 18, 1157-1174.	0.9	258
36	Distinct error-correcting and incidental learning of location relative to landmarks and boundaries. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 5909-5914.	3.3	254

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37	Hippocampal Amnesia. Neurocase, 2001, 7, 357-382.	0.2	249
38	Specific evidence of low-dimensional continuous attractor dynamics in grid cells. Nature Neuroscience, 2013, 16, 1077-1084.	7.1	248
39	Lateralized human hippocampal activity predicts navigation based on sequence or place memory. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 14466-14471.	3.3	243
40	Human hippocampus and viewpoint dependence in spatial memory. Hippocampus, 2002, 12, 811-820.	0.9	241
41	A revised model of short-term memory and long-term learning of verbal sequences. Journal of Memory and Language, 2006, 55, 627-652.	1.1	228
42	Using Grid Cells for Navigation. Neuron, 2015, 87, 507-520.	3.8	210
43	Evidence for holistic episodic recollection via hippocampal pattern completion. Nature Communications, 2015, 6, 7462.	5.8	207
44	Bilateral hippocampal pathology impairs topographical and episodic memory but not visual pattern matching. Hippocampus, 2001, 11, 715-725.	0.9	189
45	Grid cell firing patterns signal environmental novelty by expansion. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 17687-17692.	3.3	175
46	Grid cells and theta as oscillatory interference: Electrophysiological data from freely moving rats. Hippocampus, 2008, 18, 1175-1185.	0.9	174
47	The Cognitive Architecture of Spatial Navigation: Hippocampal and Striatal Contributions. Neuron, 2015, 88, 64-77.	3.8	169
48	Models of place and grid cell firing and theta rhythmicity. Current Opinion in Neurobiology, 2011, 21, 734-744.	2.0	158
49	Environmental novelty is signaled by reduction of the hippocampal theta frequency. Hippocampus, 2008, 18, 340-348.	0.9	151
50	Neural Representations of Location Composed of Spatially Periodic Bands. Science, 2012, 337, 853-857.	6.0	148
51	Theta-Modulated Place-by-Direction Cells in the Hippocampal Formation in the Rat. Journal of Neuroscience, 2004, 24, 8265-8277.	1.7	144
52	Differential developmental trajectories for egocentric, environmental and intrinsic frames of reference in spatial memory. Cognition, 2006, 101, 153-172.	1.1	141
53	Predictions derived from modelling the hippocampal role in navigation. Biological Cybernetics, 2000, 83, 301-312.	0.6	140
54	A neural-level model of spatial memory and imagery. ELife, 2018, 7, .	2.8	138

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55	Grid-like Processing of Imagined Navigation. Current Biology, 2016, 26, 842-847.	1.8	137
56	Differentiation of mild cognitive impairment using an entorhinal cortex-based test of virtual reality navigation. Brain, 2019, 142, 1751-1766.	3.7	136
57	Geometric determinants of human spatial memory. Cognition, 2004, 94, 39-75.	1.1	134
58	Orientational manoeuvres in the dark: dissociating allocentric and egocentric influences on spatial memory. Cognition, 2004, 94, 149-166.	1.1	129
59	Movement-Related Theta Rhythm in Humans: Coordinating Self-Directed Hippocampal Learning. PLoS Biology, 2012, 10, e1001267.	2.6	127
60	A Hybrid Oscillatory Interference/Continuous Attractor Network Model of Grid Cell Firing. Journal of Neuroscience, 2014, 34, 5065-5079.	1.7	126
61	Computational models of working memory: putting long-term memory into context. Trends in Cognitive Sciences, 2005, 9, 535-541.	4.0	125
62	Anterior Hippocampus and Goal-Directed Spatial Decision Making. Journal of Neuroscience, 2011, 31, 4613-4621.	1.7	124
63	Neural Mechanisms of Self-Location. Current Biology, 2014, 24, R330-R339.	1.8	123
64	Consolidation of Complex Events via Reinstatement in Posterior Cingulate Cortex. Journal of Neuroscience, 2015, 35, 14426-14434.	1.7	121
65	Interaction Between Hippocampus and Cerebellum Crus I in Sequence-Based but not Place-Based Navigation. Cerebral Cortex, 2015, 25, 4146-4154.	1.6	120
66	Imagining Being Somewhere Else: Neural Basis of Changing Perspective in Space. Cerebral Cortex, 2012, 22, 166-174.	1.6	119
67	Evidence for Encoding versus Retrieval Scheduling in the Hippocampus by Theta Phase and Acetylcholine. Journal of Neuroscience, 2013, 33, 8689-8704.	1.7	118
68	What do grid cells contribute to place cell firing?. Trends in Neurosciences, 2014, 37, 136-145.	4.2	116
69	Grid Cells Form a Global Representation of Connected Environments. Current Biology, 2015, 25, 1176-1182.	1.8	112
70	Neurodevelopmental Aspects of Spatial Navigation: A Virtual Reality fMRI Study. NeuroImage, 2002, 15, 396-406.	2.1	110
71	The hippocampus, space, and viewpoints in episodic memory. Quarterly Journal of Experimental Psychology Section A: Human Experimental Psychology, 2002, 55, 1057-1080.	2.3	109
72	The role of spatial boundaries in shaping long-term event representations. Cognition, 2016, 154, 151-164.	1.1	107

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73	Peripheral Inflammation Acutely Impairs Human Spatial Memory via Actions on Medial Temporal Lobe Glucose Metabolism. Biological Psychiatry, 2014, 76, 585-593.	0.7	103
74	Topographical shortâ€term memory differentiates Alzheimer's disease from frontotemporal lobar degeneration. Hippocampus, 2010, 20, 1154-1169.	0.9	101
75	Medial prefrontal theta phase coupling during spatial memory retrieval. Hippocampus, 2014, 24, 656-665.	0.9	99
76	Parallel memory systems for talking about location and age in precuneus, caudate and Broca's region. NeuroImage, 2006, 32, 1850-1864.	2.1	95
77	The role of landmarks and boundaries in the development of spatial memory. Developmental Science, 2010, 13, 170-180.	1.3	95
78	Negative affect impairs associative memory but not item memory. Learning and Memory, 2014, 21, 21-27.	0.5	94
79	Selective Interference with Verbal Short-Term Memory for Serial Order Information: A New Paradigm and Tests of a Timing-Signal Hypothesis. Quarterly Journal of Experimental Psychology Section A: Human Experimental Psychology, 2003, 56, 1307-1334.	2.3	93
80	Establishing the Boundaries: The Hippocampal Contribution to Imagining Scenes. Journal of Neuroscience, 2010, 30, 11688-11695.	1.7	93
81	Visual influence on path integration in darkness indicates a multimodal representation of large-scale space. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 1152-1157.	3.3	93
82	Neuronal vector coding in spatial cognition. Nature Reviews Neuroscience, 2020, 21, 453-470.	4.9	93
83	Human hippocampal theta power indicates movement onset and distance travelled. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 12297-12302.	3.3	87
84	Theta phase precession of grid and place cell firing in open environments. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20120532.	1.8	86
85	Doing the right thing: A common neural circuit for appropriate violent or compassionate behavior. NeuroImage, 2006, 30, 1069-1076.	2.1	84
86	Hippocampal Volume Reduction in Humans Predicts Impaired Allocentric Spatial Memory in Virtual-Reality Navigation. Journal of Neuroscience, 2015, 35, 14123-14131.	1.7	84
87	Directional control of hippocampal place fields. Experimental Brain Research, 1997, 117, 131-142.	0.7	82
88	A metric for the cognitive map: found at last?. Trends in Cognitive Sciences, 2006, 10, 1-3.	4.0	82
89	Novelty and Anxiolytic Drugs Dissociate Two Components of Hippocampal Theta in Behaving Rats. Journal of Neuroscience, 2013, 33, 8650-8667.	1.7	81
90	Theta activity, virtual navigation and the human hippocampus. Trends in Cognitive Sciences, 1999, 3, 403-406.	4.0	79

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91	Lost and Found: Bespoke Memory Testing for Alzheimer's Disease and Semantic Dementia. Journal of Alzheimer's Disease, 2010, 21, 1347-1365.	1.2	78
92	Complementary memory systems: competition, cooperation and compensation. Trends in Neurosciences, 2005, 28, 169-170.	4.2	75
93	The Hippocampal Role in Spatial Memory and the Familiarity-Recollection Distinction: A Case Study.. Neuropsychology, 2004, 18, 405-417.	1.0	74
94	Opposing effects of negative emotion on amygdalar and hippocampal memory for items and associations. Social Cognitive and Affective Neuroscience, 2016, 11, 981-990.	1.5	73
95	Boundary coding in the rat subiculum. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20120514.	1.8	71
96	Pattern Completion in Multielement Event Engrams. Current Biology, 2014, 24, 988-992.	1.8	71
97	The associative structure of memory for multi-element events.. Journal of Experimental Psychology: General, 2013, 142, 1370-1383.	1.5	65
98	Negative emotional content disrupts the coherence of episodic memories.. Journal of Experimental Psychology: General, 2018, 147, 243-256.	1.5	65
99	The Neural Representation of Prospective Choice during Spatial Planning and Decisions. PLoS Biology, 2017, 15, e1002588.	2.6	64
100	Environmental Anchoring of Head Direction in a Computational Model of Retrosplenial Cortex. Journal of Neuroscience, 2016, 36, 11601-11618.	1.7	62
101	Forward and Backward Inference in Spatial Cognition. PLoS Computational Biology, 2013, 9, e1003383.	1.5	61
102	A CONSTRUCTIVE ALGORITHM THAT CONVERGES FOR REAL-VALUED INPUT PATTERNS. International Journal of Neural Systems, 1994, 05, 59-66.	3.2	58
103	Environmental novelty elicits a later theta phase of firing in CA1 but not subiculum. Hippocampus, 2010, 20, 229-234.	0.9	58
104	Frontal eye fields involved in shifting frame of reference within working memory for scenes. Neuropsychologia, 2008, 46, 399-408.	0.7	56
105	Neural bases of autobiographical support for episodic recollection of faces. Hippocampus, 2009, 19, 718-730.	0.9	54
106	Differential effects of negative emotion on memory for items and associations, and their relationship to intrusive imagery. Current Opinion in Behavioral Sciences, 2017, 17, 124-132.	2.0	54
107	Acute Effects of Alcohol on Intrusive Memory Development and Viewpoint Dependence in Spatial Memory Support a Dual Representation Model. Biological Psychiatry, 2010, 68, 280-286.	0.7	52
108	The Hippocampus Supports Recognition Memory for Familiar Words but Not Unfamiliar Faces. Current Biology, 2008, 18, 1932-1936.	1.8	50

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109	Impaired memory for scenes but not faces in developmental hippocampal amnesia: A case study. Neuropsychologia, 2008, 46, 1050-1059.	0.7	49
110	Using a Mobile Robot to Test a Model of the Rat Hippocampus. Connection Science, 1998, 10, 291-300.	1.8	48
111	Anterior prefrontal involvement in episodic retrieval reflects contextual interference. NeuroImage, 2005, 28, 256-267.	2.1	48
112	Human hippocampal processing of environmental novelty during spatial navigation. Hippocampus, 2014, 24, 740-750.	0.9	48
113	Spatial cell firing during virtual navigation of open arenas by head-restrained mice. ELife, 2018, 7, .	2.8	47
114	Characterizing multiple independent behavioral correlates of cell firing in freely moving animals. Hippocampus, 2005, 15, 149-153.	0.9	45
115	Learning in a geometric model of place cell firing. Hippocampus, 2007, 17, 786-800.	0.9	45
116	Children reorient using the left/right sense of coloured landmarks at 18â€“24 months. Cognition, 2008, 106, 519-527.	1.1	43
117	How environment and selfâ€motion combine in neural representations of space. Journal of Physiology, 2016, 594, 6535-6546.	1.3	43
118	Examining the role of the temporo-parietal network in memory, imagery, and viewpoint transformations. Frontiers in Human Neuroscience, 2014, 8, 709.	1.0	42
119	The 2014 Nobel Prize in Physiology or Medicine: A Spatial Model for Cognitive Neuroscience. Neuron, 2014, 84, 1120-1125.	3.8	40
120	A general model of hippocampal and dorsal striatal learning and decision making. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 31427-31437.	3.3	40
121	What can the hippocampal representation of environmental geometry tell us about Hebbian learning?. Biological Cybernetics, 2002, 87, 356-372.	0.6	39
122	Models of grid cells and theta oscillations. Nature, 2012, 488, E1-E1.	13.7	38
123	Contextualisation in the revised dual representation theory of PTSD: A response to Pearson and colleagues. Journal of Behavior Therapy and Experimental Psychiatry, 2014, 45, 217-219.	0.6	38
124	How vision and self-motion combine or compete during path reproduction changes with age. Scientific Reports, 2016, 6, 29163.	1.6	37
125	The 4 Mountains Test: A Short Test of Spatial Memory with High Sensitivity for the Diagnosis of Pre-dementia Alzheimer's Disease. Journal of Visualized Experiments, 2016, , .	0.2	36
126	Hippocampal Attractor Dynamics Predict Memory-Based Decision Making. Current Biology, 2016, 26, 1750-1757.	1.8	36

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127	Slave to the rhythm: Experimental tests of a model for verbal short-term memory and long-term sequence learning. Journal of Memory and Language, 2009, 61, 97-111.	1.1	33
128	Medial Prefrontalâ€“Medial Temporal Theta Phase Coupling in Dynamic Spatial Imagery. Journal of Cognitive Neuroscience, 2017, 29, 507-519.	1.1	33
129	Ventromedial prefrontal cortex, adding value to autobiographical memories. Scientific Reports, 2016, 6, 28630.	1.6	32
130	Neural representations in human spatial memory. Trends in Cognitive Sciences, 2003, 7, 517-519.	4.0	31
131	Medial Prefrontal Cortex: Adding Value to Imagined Scenarios. Journal of Cognitive Neuroscience, 2015, 27, 1957-1967.	1.1	31
132	Modulating medial septal cholinergic activity reduces medial entorhinal theta frequency without affecting speed or grid coding. Scientific Reports, 2017, 7, 14573.	1.6	30
133	Huntington's disease patients display progressive deficits in hippocampal-dependent cognition during a task of spatial memory. Cortex, 2019, 119, 417-427.	1.1	25
134	Optimal configurations of spatial scale for grid cell firing under noise and uncertainty. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130290.	1.8	24
135	The hippocampus and spatial constraints on mental imagery. Frontiers in Human Neuroscience, 2012, 6, 142.	1.0	20
136	Controlling Phase Noise in Oscillatory Interference Models of Grid Cell Firing. Journal of Neuroscience, 2014, 34, 6224-6232.	1.7	20
137	Effects of pre-experimental knowledge on recognition memory. Learning and Memory, 2011, 18, 11-14.	0.5	18
138	A model of head direction and landmark coding in complex environments. PLoS Computational Biology, 2021, 17, e1009434.	1.5	14
139	Extinction learning is slower, weaker and less context specific after alcohol. Neurobiology of Learning and Memory, 2015, 125, 55-62.	1.0	12
140	Hippocampal theta frequency, novelty, and behavior. Hippocampus, 2009, 19, 409-410.	0.9	11
141	From Cells to Systems. Neuroscientist, 2012, 18, 556-566.	2.6	8
142	Neuroimaging correlates of false memory in 'Alzheimer's disease: A preliminary systematic review. Psychiatry Research - Neuroimaging, 2020, 296, 111021.	0.9	8
143	The Function of Oscillations in the Hippocampal Formation. , 2014, , 303-350.		8
144	Temporal Neuronal Oscillations can Produce Spatial Phase Codes. , 2011, , 59-69.		7

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145	Introduction to What are the parietal and hippocampal contributions to spatial cognition?, the proceedings of a Discussion held at The Royal Society. Philosophical Transactions of the Royal Society B: Biological Sciences, 1997, 352, 1397-1399.	1.8	3
146	The Virtues of Youth and Maturity (in Dentate Granule Cells). Cell, 2012, 149, 18-20.	13.5	3
147	Neural network models of list learning. Network: Computation in Neural Systems, 1991, 2, 399-422.	2.2	3
148	How Cumulative Error in Grid Cell Firing Is Literally Bounded by the Environment. Neuron, 2015, 86, 607-609.	3.8	2
149	Are New Place Representations Independent of Theta and Path Integration?. Neuron, 2014, 82, 721-722.	3.8	1
150	Location-dependent threat and associated neural abnormalities in clinical anxiety. Communications Biology, 2021, 4, 1263.	2.0	1
151	Oscillatory dynamics in an attractor neural network with firing rate adaptation. , 2013, , .		0
152	Disrupting the Grid Cellsâ€™ Need for Speed. Neuron, 2016, 91, 502-503.	3.8	0
153	T180. Impaired Theta Phase-Coupling Between Hippocampus and Medial Prefrontal Cortex in Schizophrenia. Biological Psychiatry, 2019, 85, S199.	0.7	0