Caswell Barry

List of Publications by Year
in descending order

41 papers	5,772 citations	236612 25 h-index	276539 41 g-index
59 all docs	59 docs citations	59 times ranked	3755 citing authors

#	Article	IF	Citations
1	Evidence for grid cells in a human memory network. Nature, 2010, 463, 657-661.	13.7	904
2	An oscillatory interference model of grid cell firing. Hippocampus, 2007, 17, 801-812.	0.9	655
3	Experience-dependent rescaling of entorhinal grids. Nature Neuroscience, 2007, 10, 682-684.	7.1	489
4	Vector-based navigation using grid-like representations in artificial agents. Nature, 2018, 557, 429-433.	13.7	414
5	The Boundary Vector Cell Model of Place Cell Firing and Spatial Memory. Reviews in the Neurosciences, 2006, 17, 71-97.	1.4	316
6	Grid cell symmetry is shaped by environmental geometry. Nature, 2015, 518, 232-235.	13.7	288
7	The Tolman-Eichenbaum Machine: Unifying Space and Relational Memory through Generalization in the Hippocampal Formation. Cell, 2020, 183, 1249-1263.e23.	13.5	259
8	The Role of Hippocampal Replay in Memory andÂPlanning. Current Biology, 2018, 28, R37-R50.	1.8	251
9	Specific evidence of low-dimensional continuous attractor dynamics in grid cells. Nature Neuroscience, 2013, 16, 1077-1084.	7.1	248
10	Using Grid Cells for Navigation. Neuron, 2015, 87, 507-520.	3.8	210
11	Hippocampal place cells construct reward related sequences through unexplored space. ELife, 2015, 4, e06063.	2.8	206
12	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
13	Coordinated grid and place cell replay during rest. Nature Neuroscience, 2016, 19, 792-794.	7.1	147
14	What do grid cells contribute to place cell firing?. Trends in Neurosciences, 2014, 37, 136-145.	4.2	116
15	Grid Cells Form a Global Representation of Connected Environments. Current Biology, 2015, 25, 1176-1182.	1.8	112
16	Neural systems supporting navigation. Current Opinion in Behavioral Sciences, 2015, 1, 47-55.	2.0	109
17	Task Demands Predict a Dynamic Switch in the Content of Awake Hippocampal Replay. Neuron, 2017, 96, 925-935.e6.	3.8	84
18	The abrupt development of adult-like grid cell firing in the medial entorhinal cortex. Frontiers in Neural Circuits, 2012, 6, 21.	1.4	72

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19	Spatial goal coding in the hippocampal formation. Neuron, 2022, 110, 394-422.	3.8	62
20	NKX2-1 Is Required in the Embryonic Septum for Cholinergic System Development, Learning, and Memory. Cell Reports, 2017, 20, 1572-1584.	2.9	61
21	Possible role of acetylcholine in regulating spatial novelty effects on theta rhythm and grid cells. Frontiers in Neural Circuits, 2012, 6, 5.	1.4	58
22	Learning in a geometric model of place cell firing. Hippocampus, 2007, 17, 786-800.	0.9	45
23	Deforming the metric of cognitive maps distorts memory. Nature Human Behaviour, 2020, 4, 177-188.	6.2	45
24	Models of grid cells and theta oscillations. Nature, 2012, 488, E1-E1.	13.7	38
25	Hippocampal Attractor Dynamics Predict Memory-Based Decision Making. Current Biology, 2016, 26, 1750-1757.	1.8	36
26	Efficient neural decoding of self-location with a deep recurrent network. PLoS Computational Biology, 2019, 15, e1006822.	1.5	33
27	Neurobiological successor features for spatial navigation. Hippocampus, 2020, 30, 1347-1355.	0.9	31
28	Modulating medial septal cholinergic activity reduces medial entorhinal theta frequency without affecting speed or grid coding. Scientific Reports, 2017, 7, 14573.	1.6	30
29	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
30	Temporally delayed linear modelling (TDLM) measures replay in both animals and humans. ELife, 2021, 10, .	2.8	22
31	Interpreting wide-band neural activity using convolutional neural networks. ELife, 2021, 10, .	2.8	17
32	State transitions in the statistically stable place cell population correspond to rate of perceptual change. Current Biology, 2022, 32, 3505-3514.e7.	1.8	15
33	Entorhinal Neurons Exhibit Cue Locking in Rodent VR. Frontiers in Cellular Neuroscience, 2018, 12, 512.	1.8	14
34	From A to Z: a potential role for grid cells in spatial navigation. Neural Systems & Circuits, 2012, 2, 6.	1.8	12
35	Choice of method of place cell classification determines the population of cells identified. PLoS Computational Biology, 2021, 17, e1008835.	1.5	10
36	Ripple band phase precession of place cell firing during replay. Current Biology, 2022, 32, 64-73.e5.	1.8	10

#	Article	IF	Citations
37	3D Mapping in the Brain. Science, 2013, 340, 279-280.	6.0	9
38	Distorted Grids as a Spatial Label and Metric. Trends in Cognitive Sciences, 2016, 20, 164-167.	4.0	9
39	From Cells to Systems. Neuroscientist, 2012, 18, 556-566.	2.6	8
40	Spatial Cognition: Grid Cell Firing Depends on Self-Motion Cues. Current Biology, 2015, 25, R827-R829.	1.8	8
41	Conjunctive Representations in the Hippocampus: What and Where?. Journal of Neuroscience, 2010, 30, 799-801.	1.7	4