Michael E Hasselmo

List of Publications by Year in Descending Order

270 papers	20,047 citations	76 h-index	137 g-index
354 ext. papers	22,874 ext. citations	5.8 avg, IF	7.3 L-index

#	Paper	IF	Citations
270	Consistent population activity on the scale of minutes in the mouse hippocampus.. *Hippocampus*, **2022**,	3.5	2
269	Adaptive integration of self-motion and goals in posterior parietal cortex.. *Cell Reports*, **2022**, 38, 110504	10.6	0
268	Impact of optogenetic pulse design on CA3 learning and replay: A neural model. *Cell Reports Methods*, **2022**, 100208		
267	Neural circuits and symbolic processing. *Neurobiology of Learning and Memory*, **2021**, 186, 107552	3.1	0
266	Neural responses in retrosplenial cortex associated with environmental alterations. *IScience*, **2021**, 24, 103377	6.1	1
265	The Unexplored Territory of Neural Models: Potential Guides for Exploring the Function of Metabotropic Neuromodulation. *Neuroscience*, **2021**, 456, 143-158	3.9	3
264	Hippocampal spatial memory representations in mice are heterogeneously stable. *Hippocampus*, **2021**, 31, 244-260	3.5	11
263	Trajectory-modulated hippocampal neurons persist throughout memory-guided navigation. *Nature Communications*, **2020**, 11, 2443	17.4	15
262	A Geometric Characterization of Population Coding in the Prefrontal Cortex and Hippocampus during a Paired-Associate Learning Task. *Journal of Cognitive Neuroscience*, **2020**, 32, 1455-1465	3.1	1
261	Prefrontal oscillations modulate the propagation of neuronal activity required for working memory. *Neurobiology of Learning and Memory*, **2020**, 173, 107228	3.1	6
260	Egocentric boundary vector tuning of the retrosplenial cortex. *Science Advances*, **2020**, 6, eaaz2322	14.3	51
259	A neural circuit model for a contextual association task inspired by recommender systems. *Hippocampus*, **2020**, 30, 384-395	3.5	7
258	Overview of computational models of hippocampus and related structures: Introduction to the special issue. *Hippocampus*, **2020**, 30, 295-301	3.5	2
257	Navigating Through Time: A Spatial Navigation Perspective on How the Brain May Encode Time. *Annual Review of Neuroscience*, **2020**, 43, 73-93	17	11
256	Bio-inspired multi-scale fusion. *Biological Cybernetics*, **2020**, 114, 209-229	2.8	2
255	Effects of visual inputs on neural dynamics for coding of location and running speed in medial entorhinal cortex. *ELife*, **2020**, 9,	8.9	2
254	The brain in motion: How ensemble fluidity drives memory-updating and flexibility. *ELife*, **2020**, 9,	8.9	15

253	Introduction to part two of the special issue on computational models of hippocampus and related structures. *Hippocampus*, **2020**, 30, 1328-1331	3.5	
252	Neurophysiological coding of space and time in the hippocampus, entorhinal cortex, and retrosplenial cortex. *Brain and Neuroscience Advances*, **2020**, 4, 2398212820972871	4	5
251	Neuronal representation of environmental boundaries in egocentric coordinates. *Nature Communications*, **2019**, 10, 2772	17.4	35
250	The Role of Hierarchical Dynamical Functions in Coding for Episodic Memory and Cognition. *Journal of Cognitive Neuroscience*, **2019**, 31, 1271-1289	3.1	2
249	The Firing Rate Speed Code of Entorhinal Speed Cells Differs across Behaviorally Relevant Time Scales and Does Not Depend on Medial Septum Inputs. *Journal of Neuroscience*, **2019**, 39, 3434-3453	6.6	22
248	A neural microcircuit model for a scalable scale-invariant representation of time. *Hippocampus*, **2019**, 29, 260-274	3.5	28
247	A network model of behavioural performance in a rule learning task. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2018**, 373,	5.8	14
246	Structural Differences in Hippocampal and Entorhinal Gray Matter Volume Support Individual Differences in First Person Navigational Ability. *Neuroscience*, **2018**, 380, 123-131	3.9	14
245	The Same Hippocampal CA1 Population Simultaneously Codes Temporal Information over Multiple Timescales. *Current Biology*, **2018**, 28, 1499-1508.e4	6.3	84
244	Reconciling the different faces of hippocampal theta: The role of theta oscillations in cognitive, emotional and innate behaviors. *Neuroscience and Biobehavioral Reviews*, **2018**, 85, 65-80	9	62
243	Neural mechanisms of navigation involving interactions of cortical and subcortical structures. *Journal of Neurophysiology*, **2018**, 119, 2007-2029	3.2	23
242	Neural circuits for learning context-dependent associations of stimuli. *Neural Networks*, **2018**, 107, 48-60	9.1	5
241	Flexible resonance in prefrontal networks with strong feedback inhibition. *PLoS Computational Biology*, **2018**, 14, e1006357	5	15
240	Specific Basal Forebrain-Cortical Cholinergic Circuits Coordinate Cognitive Operations. *Journal of Neuroscience*, **2018**, 38, 9446-9458	6.6	63
239	Hippocampal Place Fields Maintain a Coherent and Flexible Map across Long Timescales. *Current Biology*, **2018**, 28, 3578-3588.e6	6.3	42
238	Avoiding Catastrophic Forgetting. *Trends in Cognitive Sciences*, **2017**, 21, 407-408	14	9
237	Howard Eichenbaum 1947-2017. *Nature Neuroscience*, **2017**, 20, 1432-1433	25.5	1
236	Distinct Functional Groups Emerge from the Intrinsic Properties of Molecularly Identified Entorhinal Interneurons and Principal Cells. *Cerebral Cortex*, **2017**, 27, 3186-3207	5.1	20

235	Post-Inhibitory Rebound Spikes in Rat Medial Entorhinal Layer II/III Principal Cells: In Vivo, In Vitro, and Computational Modeling Characterization. *Cerebral Cortex*, **2017**, 27, 2111-2125	5.1	16
234	Howard Eichenbaum (1947-2017). *Science*, **2017**, 357, 875	33.3	1
233	Systemic administration of two different anxiolytic drugs decreases local field potential theta frequency in the medial entorhinal cortex without affecting grid cell firing fields. *Neuroscience*, **2017**, 364, 60-70	3.9	9
232	A model of symbolic processing in Raven progressive matrices. *Biologically Inspired Cognitive Architectures*, **2017**, 21, 47-58		4
231	Models of spatial and temporal dimensions of memory. *Current Opinion in Behavioral Sciences*, **2017** , 17, 27-33	4	11
230	Feature extraction in Q-learning using neural networks **2017**,		3
229	Modulation of Hippocampal Circuits by Muscarinic and Nicotinic Receptors. *Frontiers in Neural Circuits*, **2017**, 11, 102	3.5	41
228	Individual Differences in Human Path Integration Abilities Correlate with Gray Matter Volume in Retrosplenial Cortex, Hippocampus, and Medial Prefrontal Cortex. *ENeuro*, **2017**, 4,	3.9	28
227	Rebound spiking in layer II medial entorhinal cortex stellate cells: Possible mechanism of grid cell function. *Neurobiology of Learning and Memory*, **2016**, 129, 83-98	3.1	19
226	Multiple Running Speed Signals in Medial Entorhinal Cortex. *Neuron*, **2016**, 91, 666-79	13.9	94
225	Computational Neuroscience: Hippocampus **2016**, 3081-3095		
224	Computational Neuroscience: Hippocampus **2016**, 1-15		
223	Which way and how far? Tracking of translation and rotation information for human path integration. *Human Brain Mapping*, **2016**, 37, 3636-55	5.9	14
222	Unlocking neural complexity with a robotic key. *Journal of Physiology*, **2016**, 594, 6559-6567	3.9	0
221	Modelling effects on grid cells of sensory input during self-motion. *Journal of Physiology*, **2016**, 594, 6513-6526	3.9	16
220	Physiological Properties of Neurons in Bat Entorhinal Cortex Exhibit an Inverse Gradient along the Dorsal-Ventral Axis Compared to Entorhinal Neurons in Rat. *Journal of Neuroscience*, **2016**, 36, 4591-9	6.6	2
219	Potential roles of cholinergic modulation in the neural coding of location and movement speed. *Journal of Physiology (Paris)*, **2016**, 110, 52-64		11
218	Functional connections between optic flow areas and navigationally responsive brain regions during goal-directed navigation. *NeuroImage*, **2015**, 118, 386-96	7.9	33

217	Remembering by index and content: Response to Sarah Robins. *Philosophical Psychology*, **2015**, 28, 916-919	1.1	2
216	Current questions on space and time encoding. *Hippocampus*, **2015**, 25, 744-52	3.5	9
215	During Running in Place, Grid Cells Integrate Elapsed Time and Distance Run. *Neuron*, **2015**, 88, 578-89	13.9	143
214	A simple biophysically plausible model for long time constants in single neurons. *Hippocampus*, **2015**, 25, 27-37	3.5	36
213	A hierarchical model of goal directed navigation selects trajectories in a visual environment. *Neurobiology of Learning and Memory*, **2015**, 117, 109-21	3.1	18
212	Examination of rhythmicity of extracellularly recorded neurons in the entorhinal cortex. *Hippocampus*, **2015**, 25, 460-73	3.5	20
211	Head direction is coded more strongly than movement direction in a population of entorhinal neurons. *Brain Research*, **2015**, 1621, 355-67	3.7	42
210	Rebound spiking properties of mouse medial entorhinal cortex neurons in vivo. *European Journal of Neuroscience*, **2015**, 42, 2974-84	3.5	8
209	Differences in Visual-Spatial Input May Underlie Different Compression Properties of Firing Fields for Grid Cell Modules in Medial Entorhinal Cortex. *PLoS Computational Biology*, **2015**, 11, e1004596	5	18
208	If I had a million neurons: Potential tests of cortico-hippocampal theories. *Progress in Brain Research* , **2015**, 219, 1-19	2.9	4
207	Bio-inspired homogeneous multi-scale place recognition. *Neural Networks*, **2015**, 72, 48-61	9.1	11
206	There and Back Again: Hippocampus and Retrosplenial Cortex Track Homing Distance during Human Path Integration. *Journal of Neuroscience*, **2015**, 35, 15442-52	6.6	66
205	Models and Theoretical Frameworks for Hippocampal and Entorhinal Cortex Function in Memory and Navigation. *Springer Series in Computational Neuroscience*, **2015**, 247-268	1.1	2
204	A unified mathematical framework for coding time, space, and sequences in the hippocampal region. *Journal of Neuroscience*, **2014**, 34, 4692-707	6.6	111
203	A high-resolution study of hippocampal and medial temporal lobe correlates of spatial context and prospective overlapping route memory. *Hippocampus*, **2014**, 24, 819-39	3.5	36
202	Neuronal rebound spiking, resonance frequency and theta cycle skipping may contribute to grid cell firing in medial entorhinal cortex. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2014**, 369, 20120523	5.8	30
201	A biologically inspired hierarchical goal directed navigation model. *Journal of Physiology (Paris)*, **2014**, 108, 28-37		44
200	CA3 sees the big picture while dentate gyrus splits hairs. *Neuron*, **2014**, 81, 226-8	13.9	9

199	Grid cell spatial tuning reduced following systemic muscarinic receptor blockade. *Hippocampus*, **2014**, 24, 643-55	3.5	32
198	Theta rhythm and the encoding and retrieval of space and time. *NeuroImage*, **2014**, 85 Pt 2, 656-66	7.9	140
197	Deep belief networks learn context dependent behavior. *PLoS ONE*, **2014**, 9, e93250	3.7	3
196	DC-shifts in amplitude in-field generated by an oscillatory interference model of grid cell firing. *Frontiers in Systems Neuroscience*, **2014**, 8, 1	3.5	122
195	Grid cell firing properties vary as a function of theta phase locking preferences in the rat medial entorhinal cortex. *Frontiers in Systems Neuroscience*, **2014**, 8, 193	3.5	24
194	Grid cell firing patterns may arise from feedback interaction between intrinsic rebound spiking and transverse traveling waves with multiple heading angles. *Frontiers in Systems Neuroscience*, **2014**, 8, 201	3.5	17
193	Multi-scale bio-inspired place recognition **2014**,		11
192	Medial entorhinal grid cells and head direction cells rotate with a T-maze more often during less recently experienced rotations. *Cerebral Cortex*, **2014**, 24, 1630-44	5.1	14
191	A model of hippocampal spiking responses to items during learning of a context-dependent task. *Frontiers in Systems Neuroscience*, **2014**, 8, 178	3.5	5
190	Modulatory Influences on the Hippocampus and Entorhinal Cortex **2014**, 153-189		2
189	Bat and rat neurons differ in theta-frequency resonance despite similar coding of space. *Science*, **2013**, 340, 363-7	33.3	75
188	Location memory: separate cortical coding for distal and local cues. *Current Biology*, **2013**, 23, R685-7	6.3	
187	Rhythm-induced spike-timing patterns characterized by 1D firing maps. *Journal of Computational Neuroscience*, **2013**, 34, 59-71	1.4	2
186	Cholinergic receptor activation supports persistent firing in layer III neurons in the medial entorhinal cortex. *Behavioural Brain Research*, **2013**, 254, 108-15	3.4	15
185	In vivo cholinergic modulation of the cellular properties of medial entorhinal cortex neurons. *Journal of Physiology*, **2013**, 591, 2611-27	3.9	19
184	Hippocampal "time cells": time versus path integration. *Neuron*, **2013**, 78, 1090-101	13.9	302
183	Segregation of cortical head direction cell assemblies on alternating cycles. *Nature Neuroscience*, **2013**, 16, 739-48	25.5	69
182	Modeling of grid cell activity demonstrates in vivo entorhinal 'look-ahead' properties. *Neuroscience*, **2013**, 247, 395-411	3.9	5

181	Phase coding by grid cells in unconstrained environments: two-dimensional phase precession. *European Journal of Neuroscience*, **2013**, 38, 2526-41	3.5	51
180	Cholinergic blockade reduces theta-gamma phase amplitude coupling and speed modulation of theta frequency consistent with behavioral effects on encoding. *Journal of Neuroscience*, **2013**, 33, 19635-46	6.6	80
179	Complementary roles of medial temporal lobes and mid-dorsolateral prefrontal cortex for working memory for novel and familiar trial-unique visual stimuli. *European Journal of Neuroscience*, **2013**, 37, 668-78	3.5	14
178	Hippocampus and retrosplenial cortex combine path integration signals for successful navigation. *Journal of Neuroscience*, **2013**, 33, 19304-13	6.6	97
177	Comparison of properties of medial entorhinal cortex layer II neurons in two anatomical dimensions with and without cholinergic activation. *PLoS ONE*, **2013**, 8, e73904	3.7	10
176	20 Years of the Dynamics of Memory: The Long and Winding Road Linking Cellular Mechanisms to Behavior **2013**, 207-227		
175	Head direction cells in the postsubiculum do not show replay of prior waking sequences during sleep. *Hippocampus*, **2012**, 22, 604-18	3.5	23
174	GABAergic contributions to gating, timing, and phase precession of hippocampal neuronal activity during theta oscillations. *Hippocampus*, **2012**, 22, 1597-621	3.5	55
173	Voltage dependence of subthreshold resonance frequency in layer II of medial entorhinal cortex. *Hippocampus*, **2012**, 22, 1733-49	3.5	22
172	Modeling the influence of optic flow on grid cell firing in the absence of other cues1. *Journal of Computational Neuroscience*, **2012**, 33, 475-93	1.4	18
171	Malignant synaptic growth and Alzheimer's disease. *Future Neurology*, **2012**, 7, 557-571	1.5	5
170	Cholinergic modulation of cognitive processing: insights drawn from computational models. *Frontiers in Behavioral Neuroscience*, **2012**, 6, 24	3.5	90
169	Effects of acetylcholine on neuronal properties in entorhinal cortex. *Frontiers in Behavioral Neuroscience*, **2012**, 6, 32	3.5	39
168	Possible role of acetylcholine in regulating spatial novelty effects on theta rhythm and grid cells. *Frontiers in Neural Circuits*, **2012**, 6, 5	3.5	52
167	A model combining oscillations and attractor dynamics for generation of grid cell firing. *Frontiers in Neural Circuits*, **2012**, 6, 30	3.5	44
166	Phase precession and variable spatial scaling in a periodic attractor map model of medial entorhinal grid cells with realistic after-spike dynamics. *Hippocampus*, **2012**, 22, 772-89	3.5	116
165	A goal-directed spatial navigation model using forward trajectory planning based on grid cells. *European Journal of Neuroscience*, **2012**, 35, 916-31	3.5	105
164	Modeling boundary vector cell firing given optic flow as a cue. *PLoS Computational Biology*, **2012**, 8, e1002553	3.5	25

163	Reduced spiking in entorhinal cortex during the delay period of a cued spatial response task. *Learning and Memory*, **2012**, 19, 219-30	2.8	13
162	Neuromodulation of I(h) in layer II medial entorhinal cortex stellate cells: a voltage-clamp study. *Journal of Neuroscience*, **2012**, 32, 9066-72	6.6	31
161	Reduction of theta rhythm dissociates grid cell spatial periodicity from directional tuning. *Science*, **2011**, 332, 595-9	33.3	303
160	Spatial Memory Sequence Encoding and Replay During Modeled Theta and Ripple Oscillations. *Cognitive Computation*, **2011**, 3, 554-574	4.4	23
159	Role of ICAN in rate, spike time, and theta phase coding by persistent spiking neurons of the medial entorhinal cortex. *BMC Neuroscience*, **2011**, 12,	3.2	78
158	Bio-inspired models of memory capacity, recall performance and theta phase precession in the hippocampus **2011**,		4
157	Frequency of subthreshold oscillations at different membrane potential voltages in neurons at different anatomical positions on the dorsoventral axis in the rat medial entorhinal cortex. *Journal of Neuroscience*, **2011**, 31, 12683-94	6.6	41
156	Modes and models of forebrain cholinergic neuromodulation of cognition. *Neuropsychopharmacology*, **2011**, 36, 52-73	8.7	489
155	How We Remember **2011**,		28
154	Working Memory Performance Correlates with Prefrontal-Hippocampal Theta Interactions but not with Prefrontal Neuron Firing Rates. *Frontiers in Integrative Neuroscience*, **2010**, 4, 2	3.2	157
153	Cholinergic modulation of the resonance properties of stellate cells in layer II of medial entorhinal cortex. *Journal of Neurophysiology*, **2010**, 104, 258-70	3.2	82
152	Which way was I going? Contextual retrieval supports the disambiguation of well learned overlapping navigational routes. *Journal of Neuroscience*, **2010**, 30, 7414-22	6.6	91
151	Coupled noisy spiking neurons as velocity-controlled oscillators in a model of grid cell spatial firing. *Journal of Neuroscience*, **2010**, 30, 13850-60	6.6	88
150	Cellular dynamical mechanisms for encoding the time and place of events along spatiotemporal trajectories in episodic memory. *Behavioural Brain Research*, **2010**, 215, 261-74	3.4	32
149	Network dynamics of encoding and retrieval of behavioural spike sequences during theta and ripples in a CA1 model of the hippocampus. *BMC Neuroscience*, **2010**, 11,	3.2	78
148	Dynamics and Function of a CA1 Model of the Hippocampus during Theta and Ripples. *Lecture Notes in Computer Science*, **2010**, 230-240	0.9	3
147	Sources of the spatial code within the hippocampus. *F1000 Biology Reports*, **2009**, 1, 3		
146	Persistent firing supported by an intrinsic cellular mechanism in a component of the head direction system. *Journal of Neuroscience*, **2009**, 29, 4945-52	6.6	74

145	Decoding movement trajectories through a T-maze using point process filters applied to place field data from rat hippocampal region CA1. *Neural Computation*, **2009**, 21, 3305-34	2.9	33
144	Evaluation of the oscillatory interference model of grid cell firing through analysis and measured period variance of some biological oscillators. *PLoS Computational Biology*, **2009**, 5, e1000573	5	49
143	Greater working memory load results in greater medial temporal activity at retrieval. *Cerebral Cortex*, **2009**, 19, 2561-71	5.1	53
142	Knock-out of HCN1 subunit flattens dorsal-ventral frequency gradient of medial entorhinal neurons in adult mice. *Journal of Neuroscience*, **2009**, 29, 7625-30	6.6	94
141	A phase code for memory could arise from circuit mechanisms in entorhinal cortex. *Neural Networks*, **2009**, 22, 1129-38	9.1	19
140	A model of episodic memory: mental time travel along encoded trajectories using grid cells. *Neurobiology of Learning and Memory*, **2009**, 92, 559-73	3.1	106
139	mGluR-dependent persistent firing in entorhinal cortex layer III neurons. *European Journal of Neuroscience*, **2008**, 28, 1116-26	3.5	78
138	Temporally structured replay of neural activity in a model of entorhinal cortex, hippocampus and postsubiculum. *European Journal of Neuroscience*, **2008**, 28, 1301-15	3.5	26
137	Consequences of parameter differences in a model of short-term persistent spiking buffers provided by pyramidal cells in entorhinal cortex. *Brain Research*, **2008**, 1202, 54-67	3.7	6
136	Time constants of h current in layer ii stellate cells differ along the dorsal to ventral axis of medial entorhinal cortex. *Journal of Neuroscience*, **2008**, 28, 9414-25	6.6	94
135	Neuroscience. The scale of experience. *Science*, **2008**, 321, 46-7	33.3	9
134	A model of behavioral treatments for self-mutilation behavior in Lesch-Nyhan syndrome. *NeuroReport*, **2008**, 19, 459-62	1.7	14
133	Analyses of Markov decision process structure regarding the possible strategic use of interacting memory systems. *Frontiers in Computational Neuroscience*, **2008**, 2, 6	3.5	8
132	Linking cellular mechanisms to behavior: entorhinal persistent spiking and membrane potential oscillations may underlie path integration, grid cell firing, and episodic memory. *Neural Plasticity*, **2008**, 2008, 658323	3.3	49
131	Modeling the role of working memory and episodic memory in behavioral tasks. *Hippocampus*, **2008** , 18, 193-209	3.5	80
130	Computation by oscillations: implications of experimental data for theoretical models of grid cells. *Hippocampus*, **2008**, 18, 1186-99	3.5	60
129	Grid cell mechanisms and function: contributions of entorhinal persistent spiking and phase resetting. *Hippocampus*, **2008**, 18, 1213-29	3.5	162
128	Foreword: Special issue on grid cells. *Hippocampus*, **2008**, 18, 1141	3.5	0

127	Reversed and forward buffering of behavioral spike sequences enables retrospective and prospective retrieval in hippocampal regions CA3 and CA1. *Neural Networks*, **2008**, 21, 276-88	9.1	24
126	The influence of Markov decision process structure on the possible strategic use of working memory and episodic memory. *PLoS ONE*, **2008**, 3, e2756	3.7	9
125	Mechanisms for Memory-Guided Behavior Involving Persistent Firing and Theta Rhythm Oscillations in the Entorhinal Cortex. *Lecture Notes in Computer Science*, **2008**, 28-37	0.9	
124	First-in-first-out item replacement in a model of short-term memory based on persistent spiking. *Cerebral Cortex*, **2007**, 17, 1766-81	5.1	35
123	Modeling of context-dependent retrieval in hippocampal region CA1: implications for cognitive function in schizophrenia. *Schizophrenia Research*, **2007**, 89, 177-90	3.6	34
122	Switching between "On" and "Off" states of persistent activity in lateral entorhinal layer III neurons. *Hippocampus*, **2007**, 17, 257-63	3.5	94
121	Grid cell firing may arise from interference of theta frequency membrane potential oscillations in single neurons. *Hippocampus*, **2007**, 17, 1252-71	3.5	230
120	Neuromodulation by glutamate and acetylcholine can change circuit dynamics by regulating the relative influence of afferent input and excitatory feedback. *Molecular Neurobiology*, **2007**, 36, 184-200	6.2	121
119	Arc length coding by interference of theta frequency oscillations may underlie context-dependent hippocampal unit data and episodic memory function. *Learning and Memory*, **2007**, 14, 782-94	2.8	33
118	Spatial representations of hippocampal CA1 neurons are modulated by behavioral context in a hippocampus-dependent memory task. *Journal of Neuroscience*, **2007**, 27, 2416-23	6.6	86
117	Coincidence detection of place and temporal context in a network model of spiking hippocampal neurons. *PLoS Computational Biology*, **2007**, 3, e234	5	26
116	A reversing buffer mechanism that enables instances of retrospective activity in hippocampal regions CA3 and CA1. *Neural Networks (IJCNN), International Joint Conference on*, **2007**,		1
115	Temporal frequency of subthreshold oscillations scales with entorhinal grid cell field spacing. *Science*, **2007**, 315, 1719-22	33.3	300
114	Cholinergic suppression of glutamatergic synaptic transmission in hippocampal region CA3 exhibits laminar selectivity: Implication for hippocampal network dynamics. *Neuroscience*, **2007**, 149, 760-7	3.9	34
113	Hippocampal CA1 spiking during encoding and retrieval: relation to theta phase. *Neurobiology of Learning and Memory*, **2007**, 87, 9-20	3.1	108
112	The role of acetylcholine in learning and memory. *Current Opinion in Neurobiology*, **2006**, 16, 710-5	7.6	975
111	Difference in time course of modulation of synaptic transmission by group II versus group III metabotropic glutamate receptors in region CA1 of the hippocampus. *Hippocampus*, **2006**, 16, 1004-16	3.5	9
110	An analysis of the mean theta phase of population activity in a model of hippocampal region CA1. *Network: Computation in Neural Systems*, **2006**, 17, 277-97	0.7	5

109	Mechanism of graded persistent cellular activity of entorhinal cortex layer v neurons. *Neuron*, **2006**, 49, 735-46	13.9	219
108	Gradual translocation of spatial correlates of neuronal firing in the hippocampus toward prospective reward locations. *Neuron*, **2006**, 51, 639-50	13.9	124
107	Muscarinic suppression in stratum radiatum of CA1 shows dependence on presynaptic M1 receptors and is not dependent on effects at GABA(B) receptors. *Neurobiology of Learning and Memory*, **2006**, 85, 153-63	3.1	46
106	Mechanisms underlying working memory for novel information. *Trends in Cognitive Sciences*, **2006**, 10, 487-93	14	230
105	Cholinergic modulation of cortical function. *Journal of Molecular Neuroscience*, **2006**, 30, 133-5	3.3	138
104	A biophysical implementation of a bidirectional graph search algorithm to solve multiple goal navigation tasks. *Connection Science*, **2005**, 17, 145-164	2.8	13
103	Unraveling the attentional functions of cortical cholinergic inputs: interactions between signal-driven and cognitive modulation of signal detection. *Brain Research Reviews*, **2005**, 48, 98-111		557
102	Expecting the unexpected: modeling of neuromodulation. *Neuron*, **2005**, 46, 526-8	13.9	7
101	Less is more: how reduced activity reflects stronger recognition. *Neuron*, **2005**, 47, 625-7	13.9	1
100	A model of prefrontal cortical mechanisms for goal-directed behavior. *Journal of Cognitive Neuroscience*, **2005**, 17, 1115-29	3.1	63
99	The role of hippocampal regions CA3 and CA1 in matching entorhinal input with retrieval of associations between objects and context: theoretical comment on Lee et al. (2005). *Behavioral Neuroscience*, **2005**, 119, 342-5	2.1	66
98	The temporal context model in spatial navigation and relational learning: toward a common explanation of medial temporal lobe function across domains. *Psychological Review*, **2005**, 112, 75-116	6.3	213
97	A model of STDP based on spatially and temporally local information: derivation and combination with gated decay. *Neural Networks*, **2005**, 18, 458-66	9.1	9
96	Hippocampal mechanisms for the context-dependent retrieval of episodes. *Neural Networks*, **2005**, 18, 1172-90	9.1	217
95	Nicotinic modulation of glutamatergic synaptic transmission in region CA3 of the hippocampus. *European Journal of Neuroscience*, **2005**, 22, 1349-56	3.5	40
94	Nicotinic modulation of glutamatergic synaptic transmission in region CA3 of the hippocampus. *European Journal of Neuroscience*, **2005**, 22, 2679-2679	3.5	
93	A simple rule for spike-timing-dependent plasticity: local influence of AHP current. *Neurocomputing* , **2005**, 65-66, 885-890	5.4	2
92	Medial prefrontal cortex cells show dynamic modulation with the hippocampal theta rhythm dependent on behavior. *Hippocampus*, **2005**, 15, 739-49	3.5	228

91	What is the function of hippocampal theta rhythm?--Linking behavioral data to phasic properties of field potential and unit recording data. *Hippocampus*, **2005**, 15, 936-49	3.5	326
90	Encoding and retrieval in the CA3 region of the hippocampus: a model of theta-phase separation. *Journal of Neurophysiology*, **2005**, 94, 70-82	3.2	90
89	An integrate-and-fire model of prefrontal cortex neuronal activity during performance of goal-directed decision making. *Cerebral Cortex*, **2005**, 15, 1964-81	5.1	33
88	Cholinergic deafferentation of the entorhinal cortex in rats impairs encoding of novel but not familiar stimuli in a delayed nonmatch-to-sample task. *Journal of Neuroscience*, **2005**, 25, 10273-81	6.6	78
87	Scopolamine reduces persistent activity related to long-term encoding in the parahippocampal gyrus during delayed matching in humans. *Journal of Neuroscience*, **2005**, 25, 9112-23	6.6	113
86	Coincidence Detection of Place and Temporal Context in a Network Model of Spiking Hippocampal Neurons. *PLoS Computational Biology*, **2005**, preprint, e234	5	
85	Theta rhythmic stimulation of stratum lacunosum-moleculare in rat hippocampus contributes to associative LTP at a phase offset in stratum radiatum. *Journal of Neurophysiology*, **2004**, 92, 1615-24	3.2	32
84	Persistence of parahippocampal representation in the absence of stimulus input enhances long-term encoding: a functional magnetic resonance imaging study of subsequent memory after a delayed match-to-sample task. *Journal of Neuroscience*, **2004**, 24, 11088-97	6.6	157
83	Ionic mechanisms in the generation of subthreshold oscillations and action potential clustering in entorhinal layer II stellate neurons. *Hippocampus*, **2004**, 14, 368-84	3.5	109
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25	Bursting and Oscillations in a Biophysical Model of Hippocampal Region CA3: Implications for Associative Memory and Epileptiform Activity **1997**, 547-552		1
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7	Internally Generated Time in the Rodent Hippocampus is Logarithmically Compressed		1
6	Egocentric boundary vector tuning of the retrosplenial cortex		2
5	Hippocampal spatial memory representations in mice are heterogeneously stable		2
4	A model for experience-dependent changes in the responses of inferotemporal neurons		17
3	Prefrontal oscillations modulate the propagation of neuronal activity required for working memory		1
2	Consistent population activity on the scale of minutes in the mouse hippocampus		2

List of Publications

1 A compressed representation of spatial distance in the rodent hippocampus 3