

Gyorgy Buzsaki

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263
papers

62,041
citations

122
h-index

249
g-index

298
ext. papers

75,368
ext. citations

12.9
avg, IF

8.48
L-index

#	Paper	IF	Citations
263	Neuronal oscillations in cortical networks. <i>Science</i> , 2004 , 304, 1926-9	33.3	4101
262	Theta oscillations in the hippocampus. <i>Neuron</i> , 2002 , 33, 325-40	13.9	2193
261	The origin of extracellular fields and currents--EEG, ECoG, LFP and spikes. <i>Nature Reviews Neuroscience</i> , 2012 , 13, 407-20	13.5	2191
260	Rhythms of the Brain 2006 ,		2030
259	Mechanisms of gamma oscillations. <i>Annual Review of Neuroscience</i> , 2012 , 35, 203-25	17	1517
258	Large-scale recording of neuronal ensembles. <i>Nature Neuroscience</i> , 2004 , 7, 446-51	25.5	1255
257	Gamma oscillation by synaptic inhibition in a hippocampal interneuronal network model. <i>Journal of Neuroscience</i> , 1996 , 16, 6402-13	6.6	1220
256	Petilla terminology: nomenclature of features of GABAergic interneurons of the cerebral cortex. <i>Nature Reviews Neuroscience</i> , 2008 , 9, 557-68	13.5	1092
255	Cellular bases of hippocampal EEG in the behaving rat. <i>Brain Research Reviews</i> , 1983 , 287, 139-71		1047
254	Brain-state- and cell-type-specific firing of hippocampal interneurons in vivo. <i>Nature</i> , 2003 , 421, 844-8	50.4	999
253	Memory, navigation and theta rhythm in the hippocampal-entorhinal system. <i>Nature Neuroscience</i> , 2013 , 16, 130-8	25.5	949
252	Entrainment of neocortical neurons and gamma oscillations by the hippocampal theta rhythm. <i>Neuron</i> , 2008 , 60, 683-97	13.9	912
251	A toolbox of Cre-dependent optogenetic transgenic mice for light-induced activation and silencing. <i>Nature Neuroscience</i> , 2012 , 15, 793-802	25.5	845
250	Accuracy of tetrode spike separation as determined by simultaneous intracellular and extracellular measurements. <i>Journal of Neurophysiology</i> , 2000 , 84, 401-14	3.2	838
249	Selective suppression of hippocampal ripples impairs spatial memory. <i>Nature Neuroscience</i> , 2009 , 12, 1222-3	25.5	822
248	Internally generated cell assembly sequences in the rat hippocampus. <i>Science</i> , 2008 , 321, 1322-7	33.3	773
247	Neural syntax: cell assemblies, synapsembles, and readers. <i>Neuron</i> , 2010 , 68, 362-85	13.9	748

246	Mechanisms of gamma oscillations in the hippocampus of the behaving rat. <i>Neuron</i> , 2003 , 37, 311-22	13.9	746
245	Temporal structure in spatially organized neuronal ensembles: a role for interneuronal networks. <i>Current Opinion in Neurobiology</i> , 1995 , 5, 504-10	7.6	707
244	Hippocampal sharp wave-ripple: A cognitive biomarker for episodic memory and planning. <i>Hippocampus</i> , 2015 , 25, 1073-188	3.5	700
243	Oscillatory coupling of hippocampal pyramidal cells and interneurons in the behaving Rat. <i>Journal of Neuroscience</i> , 1999 , 19, 274-87	6.6	684
242	Forward and reverse hippocampal place-cell sequences during ripples. <i>Nature Neuroscience</i> , 2007 , 10, 1241-2	25.5	677
241	Temporal encoding of place sequences by hippocampal cell assemblies. <i>Neuron</i> , 2006 , 50, 145-57	13.9	666
240	Hippocampal sharp waves: their origin and significance. <i>Brain Research</i> , 1986 , 398, 242-52	3.7	666
239	Intracellular features predicted by extracellular recordings in the hippocampus in vivo. <i>Journal of Neurophysiology</i> , 2000 , 84, 390-400	3.2	665
238	Communication between neocortex and hippocampus during sleep in rodents. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 2065-9	11.5	637
237	Replay and time compression of recurring spike sequences in the hippocampus. <i>Journal of Neuroscience</i> , 1999 , 19, 9497-507	6.6	631
236	Organization of cell assemblies in the hippocampus. <i>Nature</i> , 2003 , 424, 552-6	50.4	630
235	Theta rhythm of navigation: link between path integration and landmark navigation, episodic and semantic memory. <i>Hippocampus</i> , 2005 , 15, 827-40	3.5	624
234	Characterization of neocortical principal cells and interneurons by network interactions and extracellular features. <i>Journal of Neurophysiology</i> , 2004 , 92, 600-8	3.2	562
233	GABAergic cells are the major postsynaptic targets of mossy fibers in the rat hippocampus. <i>Journal of Neuroscience</i> , 1998 , 18, 3386-403	6.6	561
232	NeuroGrid: recording action potentials from the surface of the brain. <i>Nature Neuroscience</i> , 2015 , 18, 310-5	25.5	538
231	High-frequency oscillations in human brain. <i>Hippocampus</i> , 1999 , 9, 137-42	3.5	507
230	The log-dynamic brain: how skewed distributions affect network operations. <i>Nature Reviews Neuroscience</i> , 2014 , 15, 264-78	13.5	494
229	Cross-frequency phase-phase coupling between β and γ oscillations in the hippocampus. <i>Journal of Neuroscience</i> , 2012 , 32, 423-35	6.6	494

228	Early motor activity drives spindle bursts in the developing somatosensory cortex. <i>Nature</i> , 2004 , 432, 758-61	50.4	468
227	Scaling brain size, keeping timing: evolutionary preservation of brain rhythms. <i>Neuron</i> , 2013 , 80, 751-64	13.9	458
226	Reliability and state dependence of pyramidal cell-interneuron synapses in the hippocampus: an ensemble approach in the behaving rat. <i>Neuron</i> , 1998 , 21, 179-89	13.9	452
225	Theta oscillations provide temporal windows for local circuit computation in the entorhinal-hippocampal loop. <i>Neuron</i> , 2009 , 64, 267-80	13.9	450
224	Behavior-dependent short-term assembly dynamics in the medial prefrontal cortex. <i>Nature Neuroscience</i> , 2008 , 11, 823-33	25.5	445
223	High-frequency oscillations in the output networks of the hippocampal-entorhinal axis of the freely behaving rat. <i>Journal of Neuroscience</i> , 1996 , 16, 3056-66	6.6	444
222	Control of timing, rate and bursts of hippocampal place cells by dendritic and somatic inhibition. <i>Nature Neuroscience</i> , 2012 , 15, 769-75	25.5	410
221	On the origin of the extracellular action potential waveform: A modeling study. <i>Journal of Neurophysiology</i> , 2006 , 95, 3113-28	3.2	394
220	Spike sorting for large, dense electrode arrays. <i>Nature Neuroscience</i> , 2016 , 19, 634-641	25.5	392
219	Theta oscillations in somata and dendrites of hippocampal pyramidal cells in vivo: activity-dependent phase-precession of action potentials. <i>Hippocampus</i> , 1998 , 8, 244-61	3.5	389
218	Sequential structure of neocortical spontaneous activity in vivo. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 347-52	11.5	385
217	Interneuron Diversity series: Circuit complexity and axon wiring economy of cortical interneurons. <i>Trends in Neurosciences</i> , 2004 , 27, 186-93	13.3	373
216	Integration and segregation of activity in entorhinal-hippocampal subregions by neocortical slow oscillations. <i>Neuron</i> , 2006 , 52, 871-82	13.9	363
215	Intrinsic circuit organization and theta-gamma oscillation dynamics in the entorhinal cortex of the rat. <i>Journal of Neuroscience</i> , 2010 , 30, 11128-42	6.6	358
214	Klusters, NeuroScope, NDManager: a free software suite for neurophysiological data processing and visualization. <i>Journal of Neuroscience Methods</i> , 2006 , 155, 207-16	3	350
213	Ensemble patterns of hippocampal CA3-CA1 neurons during sharp wave-associated population events. <i>Neuron</i> , 2000 , 28, 585-94	13.9	343
212	Single granule cells reliably discharge targets in the hippocampal CA3 network in vivo. <i>Nature Neuroscience</i> , 2002 , 5, 790-5	25.5	336
211	A 4 Hz oscillation adaptively synchronizes prefrontal, VTA, and hippocampal activities. <i>Neuron</i> , 2011 , 72, 153-65	13.9	328

210	Direct effects of transcranial electric stimulation on brain circuits in rats and humans. <i>Nature Communications</i> , 2018 , 9, 483	17.4	323
209	Massively parallel recording of unit and local field potentials with silicon-based electrodes. <i>Journal of Neurophysiology</i> , 2003 , 90, 1314-23	3.2	315
208	Gamma oscillations dynamically couple hippocampal CA3 and CA1 regions during memory task performance. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 14495-500	11.5	313
207	Calcium dynamics of cortical astrocytic networks in vivo. <i>PLoS Biology</i> , 2004 , 2, E96	9.7	310
206	Inhibition and brain work. <i>Neuron</i> , 2007 , 56, 771-83	13.9	306
205	Intracellular correlates of hippocampal theta rhythm in identified pyramidal cells, granule cells, and basket cells. <i>Hippocampus</i> , 1995 , 5, 78-90	3.5	305
204	Closed-loop control of epilepsy by transcranial electrical stimulation. <i>Science</i> , 2012 , 337, 735-7	33.3	302
203	A neural coding scheme formed by the combined function of gamma and theta oscillations. <i>Schizophrenia Bulletin</i> , 2008 , 34, 974-80	1.3	302
202	Brain rhythms and neural syntax: implications for efficient coding of cognitive content and neuropsychiatric disease. <i>Dialogues in Clinical Neuroscience</i> , 2012 , 14, 345-67	5.7	295
201	Spike train dynamics predicts theta-related phase precession in hippocampal pyramidal cells. <i>Nature</i> , 2002 , 417, 738-41	50.4	286
200	Temporal interaction between single spikes and complex spike bursts in hippocampal pyramidal cells. <i>Neuron</i> , 2001 , 32, 141-9	13.9	283
199	Cellular-synaptic generation of sleep spindles, spike-and-wave discharges, and evoked thalamocortical responses in the neocortex of the rat. <i>Journal of Neuroscience</i> , 1997 , 17, 6783-97	6.6	281
198	Transcranial electric stimulation entrains cortical neuronal populations in rats. <i>Journal of Neuroscience</i> , 2010 , 30, 11476-85	6.6	275
197	Correlated bursts of activity in the neonatal hippocampus in vivo. <i>Science</i> , 2002 , 296, 2049-52	33.3	257
196	Monolithically Integrated Π EDs on Silicon Neural Probes for High-Resolution Optogenetic Studies in Behaving Animals. <i>Neuron</i> , 2015 , 88, 1136-1148	13.9	256
195	Cannabinoids reveal importance of spike timing coordination in hippocampal function. <i>Nature Neuroscience</i> , 2006 , 9, 1526-33	25.5	255
194	Theta phase segregation of input-specific gamma patterns in entorhinal-hippocampal networks. <i>Neuron</i> , 2014 , 84, 470-85	13.9	252
193	Hippocampal CA1 pyramidal cells form functionally distinct sublayers. <i>Nature Neuroscience</i> , 2011 , 14, 1174-81	25.5	245

192	Theta and gamma coordination of hippocampal networks during waking and rapid eye movement sleep. <i>Journal of Neuroscience</i> , 2008 , 28, 6731-41	6.6	245
191	Neuronal diversity in GABAergic long-range projections from the hippocampus. <i>Journal of Neuroscience</i> , 2007 , 27, 8790-804	6.6	245
190	Gamma frequency oscillation in the hippocampus of the rat: intracellular analysis in vivo. <i>European Journal of Neuroscience</i> , 1998 , 10, 718-28	3.5	237
189	Fast network oscillations in the hippocampal CA1 region of the behaving rat. <i>Journal of Neuroscience</i> , 1999 , 19, RC20	6.6	233
188	Interactions between hippocampus and medial septum during sharp waves and theta oscillation in the behaving rat. <i>Journal of Neuroscience</i> , 1999 , 19, 6191-9	6.6	233
187	Pyramidal cell-interneuron interactions underlie hippocampal ripple oscillations. <i>Neuron</i> , 2014 , 83, 467-480	13.9	227
186	Tools for probing local circuits: high-density silicon probes combined with optogenetics. <i>Neuron</i> , 2015 , 86, 92-105	13.9	225
185	Sustained activation of hippocampal pyramidal cells by 'space clamping' in a running wheel. <i>European Journal of Neuroscience</i> , 1999 , 11, 344-52	3.5	221
184	Advanced neurotechnologies for chronic neural interfaces: new horizons and clinical opportunities. <i>Journal of Neuroscience</i> , 2008 , 28, 11830-8	6.6	220
183	Large-scale, high-density (up to 512 channels) recording of local circuits in behaving animals. <i>Journal of Neurophysiology</i> , 2014 , 111, 1132-49	3.2	216
182	Selective impairment of hippocampal gamma oscillations in connexin-36 knock-out mouse in vivo. <i>Journal of Neuroscience</i> , 2003 , 23, 1013-8	6.6	213
181	GABAergic circuits mediate the reinforcement-related signals of striatal cholinergic interneurons. <i>Nature Neuroscience</i> , 2011 , 15, 123-30	25.5	210
180	Distinct representations and theta dynamics in dorsal and ventral hippocampus. <i>Journal of Neuroscience</i> , 2010 , 30, 1777-87	6.6	207
179	Inhibition-induced theta resonance in cortical circuits. <i>Neuron</i> , 2013 , 80, 1263-76	13.9	206
178	REM sleep reorganizes hippocampal excitability. <i>Neuron</i> , 2012 , 75, 1001-7	13.9	199
177	What is memory? The present state of the engram. <i>BMC Biology</i> , 2016 , 14, 40	7.3	197
176	Optogenetic activation of septal cholinergic neurons suppresses sharp wave ripples and enhances theta oscillations in the hippocampus. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 13535-40	11.5	192
175	What does gamma coherence tell us about inter-regional neural communication?. <i>Nature Neuroscience</i> , 2015 , 18, 484-9	25.5	191

174	Dendritic spikes are enhanced by cooperative network activity in the intact hippocampus. <i>Journal of Neuroscience</i> , 1998 , 18, 3919-28	6.6	191
173	How can drug discovery for psychiatric disorders be improved?. <i>Nature Reviews Drug Discovery</i> , 2007 , 6, 189-201	64.1	186
172	Multi-array silicon probes with integrated optical fibers: light-assisted perturbation and recording of local neural circuits in the behaving animal. <i>European Journal of Neuroscience</i> , 2010 , 31, 2279-91	3.5	184
171	Viewpoints: how the hippocampus contributes to memory, navigation and cognition. <i>Nature Neuroscience</i> , 2017 , 20, 1434-1447	25.5	182
170	Relationships between hippocampal sharp waves, ripples, and fast gamma oscillation: influence of dentate and entorhinal cortical activity. <i>Journal of Neuroscience</i> , 2011 , 31, 8605-16	6.6	181
169	Hippocampal place cell assemblies are speed-controlled oscillators. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 8149-54	11.5	179
168	Interdependence of multiple theta generators in the hippocampus: a partial coherence analysis. <i>Journal of Neuroscience</i> , 1999 , 19, 6200-12	6.6	176
167	Diode probes for spatiotemporal optical control of multiple neurons in freely moving animals. <i>Journal of Neurophysiology</i> , 2012 , 108, 349-63	3.2	175
166	Interaction between neocortical and hippocampal networks via slow oscillations. <i>Thalamus & Related Systems</i> , 2005 , 3, 245-259		175
165	Immediate neurophysiological effects of transcranial electrical stimulation. <i>Nature Communications</i> , 2018 , 9, 5092	17.4	175
164	Learning-enhanced coupling between ripple oscillations in association cortices and hippocampus. <i>Science</i> , 2017 , 358, 369-372	33.3	173
163	Preconfigured, skewed distribution of firing rates in the hippocampus and entorhinal cortex. <i>Cell Reports</i> , 2013 , 4, 1010-21	10.6	168
162	Diversity in neural firing dynamics supports both rigid and learned hippocampal sequences. <i>Science</i> , 2016 , 351, 1440-3	33.3	166
161	Physiological patterns in the hippocampo-entorhinal cortex system. <i>Hippocampus</i> , 2000 , 10, 457-65	3.5	161
160	Traveling theta waves along the entire septotemporal axis of the hippocampus. <i>Neuron</i> , 2012 , 75, 410-7	13.9	159
159	Network Homeostasis and State Dynamics of Neocortical Sleep. <i>Neuron</i> , 2016 , 90, 839-52	13.9	159
158	Place representation within hippocampal networks is modified by long-term potentiation. <i>Neuron</i> , 2003 , 39, 843-53	13.9	157
157	Natural logarithmic relationship between brain oscillators. <i>Thalamus & Related Systems</i> , 2003 , 2, 145		152

156	Commissural projection to the dentate gyrus of the rat: evidence for feed-forward inhibition. <i>Brain Research</i> , 1981 , 230, 346-50	3.7	151
155	Interneurons in the hippocampal dentate gyrus: an in vivo intracellular study. <i>European Journal of Neuroscience</i> , 1997 , 9, 573-88	3.5	147
154	Tasks for inhibitory interneurons in intact brain circuits. <i>Neuropharmacology</i> , 2015 , 88, 10-23	5.5	144
153	High frequency oscillations in the intact brain. <i>Progress in Neurobiology</i> , 2012 , 98, 241-9	10.9	144
152	Physiological Properties and Behavioral Correlates of Hippocampal Granule Cells and Mossy Cells. <i>Neuron</i> , 2017 , 93, 691-704.e5	13.9	139
151	The spiking component of oscillatory extracellular potentials in the rat hippocampus. <i>Journal of Neuroscience</i> , 2012 , 32, 11798-811	6.6	139
150	The effect of spatially inhomogeneous extracellular electric fields on neurons. <i>Journal of Neuroscience</i> , 2010 , 30, 1925-36	6.6	139
149	Behavior-dependent coordination of multiple theta dipoles in the hippocampus. <i>Journal of Neuroscience</i> , 2009 , 29, 1381-94	6.6	135
148	Internally organized mechanisms of the head direction sense. <i>Nature Neuroscience</i> , 2015 , 18, 569-75	25.5	130
147	Reactivations of emotional memory in the hippocampus-amygdala system during sleep. <i>Nature Neuroscience</i> , 2017 , 20, 1634-1642	25.5	130
146	Band-tunable and multiplexed integrated circuits for simultaneous recording and stimulation with microelectrode arrays. <i>IEEE Transactions on Biomedical Engineering</i> , 2005 , 52, 1303-11	5	130
145	Activity dynamics and behavioral correlates of CA3 and CA1 hippocampal pyramidal neurons. <i>Hippocampus</i> , 2012 , 22, 1659-80	3.5	129
144	Interictal epileptiform discharges induce hippocampal-cortical coupling in temporal lobe epilepsy. <i>Nature Medicine</i> , 2016 , 22, 641-8	50.5	127
143	Space and Time: The Hippocampus as a Sequence Generator. <i>Trends in Cognitive Sciences</i> , 2018 , 22, 853-869	8.9	125
142	High-Density Stretchable Electrode Grids for Chronic Neural Recording. <i>Advanced Materials</i> , 2018 , 30, e1706520	24	124
141	Entorhinal-CA3 Dual-Input Control of Spike Timing in the Hippocampus by Theta-Gamma Coupling. <i>Neuron</i> , 2017 , 93, 1213-1226.e5	13.9	121
140	An implantable neural probe with monolithically integrated dielectric waveguide and recording electrodes for optogenetics applications. <i>Journal of Neural Engineering</i> , 2013 , 10, 056012	5	121
139	Somadendritic backpropagation of action potentials in cortical pyramidal cells of the awake rat. <i>Journal of Neurophysiology</i> , 1998 , 79, 1587-91	3.2	116

138	Long-term potentiation induced by physiologically relevant stimulus patterns. <i>Brain Research</i> , 1987 , 435, 331-3	3.7	116
137	Long-duration hippocampal sharp wave ripples improve memory. <i>Science</i> , 2019 , 364, 1082-1086	33.3	112
136	Alteration of theta timescale dynamics of hippocampal place cells by a cannabinoid is associated with memory impairment. <i>Journal of Neuroscience</i> , 2009 , 29, 12597-605	6.6	112
135	Feed-forward and feed-back activation of the dentate gyrus in vivo during dentate spikes and sharp wave bursts. <i>Hippocampus</i> , 1997 , 7, 437-50	3.5	106
134	Low frequency transcranial electrical stimulation does not entrain sleep rhythms measured by human intracranial recordings. <i>Nature Communications</i> , 2017 , 8, 1199	17.4	105
133	Local generation and propagation of ripples along the septotemporal axis of the hippocampus. <i>Journal of Neuroscience</i> , 2013 , 33, 17029-41	6.6	103
132	Pyramidal Cell-Interneuron Circuit Architecture and Dynamics in Hippocampal Networks. <i>Neuron</i> , 2017 , 96, 505-520.e7	13.9	101
131	Role of Hippocampal CA2 Region in Triggering Sharp-Wave Ripples. <i>Neuron</i> , 2016 , 91, 1342-1355	13.9	100
130	Optogenetics: 10 years after ChR2 in neurons--views from the community. <i>Nature Neuroscience</i> , 2015 , 18, 1202-12	25.5	98
129	Cell assembly sequences arising from spike threshold adaptation keep track of time in the hippocampus. <i>Journal of Neuroscience</i> , 2011 , 31, 2828-34	6.6	98
128	Organic electronics for high-resolution electrocorticography of the human brain. <i>Science Advances</i> , 2016 , 2, e1601027	14.3	97
127	The Functional Anatomy of Time: What and When in the Brain. <i>Trends in Cognitive Sciences</i> , 2016 , 20, 500-511	14	97
126	Spatially distributed local fields in the hippocampus encode rat position. <i>Science</i> , 2014 , 344, 626-30	33.3	97
125	Hippocampal network dynamics constrain the time lag between pyramidal cells across modified environments. <i>Journal of Neuroscience</i> , 2008 , 28, 13448-56	6.6	97
124	Neurodata Without Borders: Creating a Common Data Format for Neurophysiology. <i>Neuron</i> , 2015 , 88, 629-34	13.9	96
123	Temporal delays among place cells determine the frequency of population theta oscillations in the hippocampus. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 7957-62	11.5	95
122	Populations of hippocampal inhibitory neurons express different levels of cytochrome c. <i>European Journal of Neuroscience</i> , 2006 , 23, 2581-94	3.5	94
121	Three-dimensional reconstruction of the axon arbor of a CA3 pyramidal cell recorded and filled in vivo. <i>Brain Structure and Function</i> , 2007 , 212, 75-83	4	93

120	Quantifying circular-linear associations: hippocampal phase precession. <i>Journal of Neuroscience Methods</i> , 2012 , 207, 113-24	3	92
119	Firing rate and theta-phase coding by hippocampal pyramidal neurons during 'space clamping'. <i>European Journal of Neuroscience</i> , 1999 , 11, 4373-80	3.5	91
118	Hebbian modification of a hippocampal population pattern in the rat. <i>Journal of Physiology</i> , 1999 , 521 Pt 1, 159-67	3.9	89
117	Hippocampal pyramidal cell-interneuron spike transmission is frequency dependent and responsible for place modulation of interneuron discharge. <i>Journal of Neuroscience</i> , 2002 , 22, RC197	6.6	85
116	Sharp wave ripples during learning stabilize the hippocampal spatial map. <i>Nature Neuroscience</i> , 2017 , 20, 845-853	25.5	84
115	Homeostatic maintenance of neuronal excitability by burst discharges in vivo. <i>Cerebral Cortex</i> , 2002 , 12, 893-9	5.1	84
114	Excitation and inhibition compete to control spiking during hippocampal ripples: intracellular study in behaving mice. <i>Journal of Neuroscience</i> , 2014 , 34, 16509-17	6.6	83
113	Space and time in the brain. <i>Science</i> , 2017 , 358, 482-485	33.3	81
112	Single-trial phase precession in the hippocampus. <i>Journal of Neuroscience</i> , 2009 , 29, 13232-41	6.6	81
111	Layer-Specific Physiological Features and Interlaminar Interactions in the Primary Visual Cortex of the Mouse. <i>Neuron</i> , 2019 , 101, 500-513.e5	13.9	80
110	Epileptic seizures caused by inactivation of a novel gene, jerky, related to centromere binding protein-B in transgenic mice. <i>Nature Genetics</i> , 1995 , 11, 71-5	36.3	79
109	Extracellular field signatures of CA1 spiking cell assemblies during sharp wave-ripple complexes. <i>BMC Neuroscience</i> , 2013 , 14,	3.2	78
108	Two-phase computational model training long-term memories in the entorhinal-hippocampal region. <i>Annals of the New York Academy of Sciences</i> , 2000 , 911, 83-111	6.5	78
107	Spike phase precession persists after transient intrahippocampal perturbation. <i>Nature Neuroscience</i> , 2005 , 8, 67-71	25.5	74
106	Temporal coupling of field potentials and action potentials in the neocortex. <i>European Journal of Neuroscience</i> , 2018 , 48, 2482-2497	3.5	72
105	A Shared Vision for Machine Learning in Neuroscience. <i>Journal of Neuroscience</i> , 2018 , 38, 1601-1607	6.6	70
104	Unusual target selectivity of perisomatic inhibitory cells in the hilar region of the rat hippocampus. <i>Journal of Neuroscience</i> , 2000 , 20, 6907-19	6.6	68
103	Neuroelectronics and Biooptics: Closed-Loop Technologies in Neurological Disorders. <i>JAMA Neurology</i> , 2015 , 72, 823-9	17.2	65

102	Fiberless multicolor neural optoelectrode for in vivo circuit analysis. <i>Scientific Reports</i> , 2016 , 6, 30961	4.9	65
101	Operational dynamics in the hippocampal-entorhinal axis. <i>Neuroscience and Biobehavioral Reviews</i> , 1998 , 22, 303-10	9	65
100	The grafted hippocampus: an epileptic focus. <i>Experimental Neurology</i> , 1989 , 105, 10-22	5.7	63
99	In vivo optogenetic identification and manipulation of GABAergic interneuron subtypes. <i>Current Opinion in Neurobiology</i> , 2014 , 26, 88-95	7.6	61
98	Spatial coding and physiological properties of hippocampal neurons in the Cornu Ammonis subregions. <i>Hippocampus</i> , 2016 , 26, 1593-1607	3.5	60
97	The Brain from Inside Out 2019 ,		60
96	Large-scale recording of neurons by movable silicon probes in behaving rodents. <i>Journal of Visualized Experiments</i> , 2012 , e3568	1.6	59
95	Sleep, Memory & Brain Rhythms. <i>Daedalus</i> , 2015 , 144, 67-82	2	57
94	Excitation-Transcription Coupling in Parvalbumin-Positive Interneurons Employs a Novel CaM Kinase-Dependent Pathway Distinct from Excitatory Neurons. <i>Neuron</i> , 2016 , 90, 292-307	13.9	56
93	Striatal GABAergic and cortical glutamatergic neurons mediate contrasting effects of cannabinoids on cortical network synchrony. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 719-24	11.5	54
92	Local generation of multineuronal spike sequences in the hippocampal CA1 region. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 10521-6	11.5	53
91	Dual color optogenetic control of neural populations using low-noise, multishank optoelectrodes. <i>Microsystems and Nanoengineering</i> , 2018 , 4,	7.7	52
90	Emergence and propagation of interictal spikes in the subcortically denervated hippocampus. <i>Hippocampus</i> , 1991 , 1, 163-80	3.5	51
89	Cocaine Place Conditioning Strengthens Location-Specific Hippocampal Coupling to the Nucleus Accumbens. <i>Neuron</i> , 2018 , 98, 926-934.e5	13.9	50
88	Cerebellar neuronal activity correlates with spike and wave EEG patterns in the rat. <i>Epilepsy Research</i> , 1993 , 16, 1-9	3	48
87	Millisecond timescale synchrony among hippocampal neurons. <i>Journal of Neuroscience</i> , 2014 , 34, 14984-84	6.6	47
86	Spatial organization of physiological activity in the hippocampal region: relevance to memory formation. <i>Progress in Brain Research</i> , 1990 , 83, 257-68	2.9	46
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