Karl Deisseroth

List of Publications by Year
in descending order

378 papers	106,572 citations	154 156 h-index	232 305 g-index
395 all docs	395 docs citations	395 times ranked	63294 citing authors

#	Article	IF	Citations
1	Millisecond-timescale, genetically targeted optical control of neural activity. Nature Neuroscience, 2005, 8, 1263-1268.	14.8	4,110
2	Parvalbumin neurons and gamma rhythms enhance cortical circuit performance. Nature, 2009, 459, 698-702.	27.8	2,258
3	Driving fast-spiking cells induces gamma rhythm and controls sensory responses. Nature, 2009, 459, 663-667.	27.8	2,250
4	Neocortical excitation/inhibition balance in information processing and social dysfunction. Nature, 2011, 477, 171-178.	27.8	2,036
5	Structural and molecular interrogation of intact biological systems. Nature, 2013, 497, 332-337.	27.8	1,765
6	Optogenetics in Neural Systems. Neuron, 2011, 71, 9-34.	8.1	1,629
7	Multimodal fast optical interrogation of neural circuitry. Nature, 2007, 446, 633-639.	27.8	1,602
8	Optogenetics. Nature Methods, 2011, 8, 26-29.	19.0	1,574
9	The Development and Application of Optogenetics. Annual Review of Neuroscience, 2011, 34, 389-412.	10.7	1,567
10	Regulation of parkinsonian motor behaviours by optogenetic control of basal ganglia circuitry. Nature, 2010, 466, 622-626.	27.8	1,531
11	Optical Deconstruction of Parkinsonian Neural Circuitry. Science, 2009, 324, 354-359.	12.6	1,385
12	Optogenetic stimulation of a hippocampal engram activates fear memory recall. Nature, 2012, 484, 381-385.	27.8	1,278
13	Neural substrates of awakening probed with optogenetic control of hypocretin neurons. Nature, 2007, 450, 420-424.	27.8	1,157
14	Natural Neural Projection Dynamics Underlying Social Behavior. Cell, 2014, 157, 1535-1551.	28.9	1,121
15	Amygdala circuitry mediating reversible and bidirectional control of anxiety. Nature, 2011, 471, 358-362.	27.8	1,073
16	Phasic Firing in Dopaminergic Neurons Is Sufficient for Behavioral Conditioning. Science, 2009, 324, 1080-1084.	12.6	1,064
17	Input-specific control of reward and aversion in the ventral tegmental area. Nature, 2012, 491, 212-217.	27.8	1,062
18	CREB Phosphorylation and Dephosphorylation: A Ca2+- and Stimulus Durationâ€"Dependent Switch for Hippocampal Gene Expression. Cell, 1996, 87, 1203-1214.	28.9	1,055

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19	Optogenetics: 10 years of microbial opsins in neuroscience. Nature Neuroscience, 2015, 18, 1213-1225.	14.8	1,029
20	Rapid regulation of depression-related behaviours by control of midbrain dopamine neurons. Nature, 2013, 493, 532-536.	27.8	961
21	Molecular and Cellular Approaches for Diversifying and Extending Optogenetics. Cell, 2010, 141, 154-165.	28.9	919
22	Optogenetic interrogation of neural circuits: technology for probing mammalian brain structures. Nature Protocols, 2010, 5, 439-456.	12.0	895
23	Three-dimensional intact-tissue sequencing of single-cell transcriptional states. Science, 2018, 361, .	12.6	890
24	An optical neural interface:in vivocontrol of rodent motor cortex with integrated fiberoptic and optogenetic technology. Journal of Neural Engineering, 2007, 4, S143-S156.	3.5	878
25	Dopamine neurons modulate neural encoding and expression of depression-related behaviour. Nature, 2013, 493, 537-541.	27.8	874
26	Calmodulin supports both inactivation and facilitation of L-type calcium channels. Nature, 1999, 399, 159-162.	27.8	838
27	Encoding of conditioned fear in central amygdala inhibitory circuits. Nature, 2010, 468, 277-282.	27.8	813
28	Tuning arousal with optogenetic modulation of locus coeruleus neurons. Nature Neuroscience, 2010, 13, 1526-1533.	14.8	800
29	Cell Typeâ€"Specific Loss of BDNF Signaling Mimics Optogenetic Control of Cocaine Reward. Science, 2010, 330, 385-390.	12.6	778
30	Astrocytes Control Breathing Through pH-Dependent Release of ATP. Science, 2010, 329, 571-575.	12.6	752
31	Genetic dissection of an amygdala microcircuit that gates conditioned fear. Nature, 2010, 468, 270-276.	27.8	745
32	Excitatory transmission from the amygdala to nucleus accumbens facilitates reward seeking. Nature, 2011, 475, 377-380.	27.8	739
33	Advanced CLARITY for rapid and high-resolution imaging of intact tissues. Nature Protocols, 2014, 9, 1682-1697.	12.0	725
34	A causal link between prediction errors, dopamine neurons and learning. Nature Neuroscience, 2013, 16, 966-973.	14.8	723
35	Next-Generation Optical Technologies for Illuminating Genetically Targeted Brain Circuits. Journal of Neuroscience, 2006, 26, 10380-10386.	3.6	708
36	A skin-inspired organic digital mechanoreceptor. Science, 2015, 350, 313-316.	12.6	708

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37	Striatal Dopamine Release Is Triggered by Synchronized Activity in Cholinergic Interneurons. Neuron, 2012, 75, 58-64.	8.1	692
38	In Vivo Light-Induced Activation of Neural Circuitry in Transgenic Mice Expressing Channelrhodopsin-2. Neuron, 2007, 54, 205-218.	8.1	680
39	Principles for applying optogenetic tools derived from direct comparative analysis of microbial opsins. Nature Methods, 2012, 9, 159-172.	19.0	666
40	Signaling from Synapse to Nucleus: Postsynaptic CREB Phosphorylation during Multiple Forms of Hippocampal Synaptic Plasticity. Neuron, 1996, 16, 89-101.	8.1	660
41	Ultrafast optogenetic control. Nature Neuroscience, 2010, 13, 387-392.	14.8	660
42	Global and local fMRI signals driven by neurons defined optogenetically by type and wiring. Nature, 2010, 465, 788-792.	27.8	659
43	Optogenetic investigation of neural circuits underlying brain disease in animal models. Nature Reviews Neuroscience, 2012, 13, 251-266.	10.2	655
44	CLARITY for mapping the nervous system. Nature Methods, 2013, 10, 508-513.	19.0	654
45	Temporally precise in vivo control of intracellular signalling. Nature, 2009, 458, 1025-1029.	27.8	653
46	Channelrhodopsin-2 and optical control of excitable cells. Nature Methods, 2006, 3, 785-792.	19.0	641
47	Intact-Brain Analyses Reveal Distinct Information Carried by SNc Dopamine Subcircuits. Cell, 2015, 162, 635-647.	28.9	608
48	Excitation-Neurogenesis Coupling in Adult Neural Stem/Progenitor Cells. Neuron, 2004, 42, 535-552.	8.1	606
49	Cell typeâ€“specific channelrhodopsin-2 transgenic mice for optogenetic dissection of neural circuitry function. Nature Methods, 2011, 8, 745-752.	19.0	605
50	Translocation of calmodulin to the nucleus supports CREB phosphorylation in hippocampal neurons. Nature, 1998, 392, 198-202.	27.8	603
51	Recombinase-Driver Rat Lines: Tools, Techniques, and Optogenetic Application to Dopamine-Mediated Reinforcement. Neuron, 2011, 72, 721-733.	8.1	593
52	Circuit-breakers: optical technologies for probing neural signals and systems. Nature Reviews Neuroscience, 2007, 8, 577-581.	10.2	586
53	Genetic Reactivation of Cone Photoreceptors Restores Visual Responses in Retinitis Pigmentosa. Science, 2010, 329, 413-417.	12.6	578
54	Integration of optogenetics with complementary methodologies in systems neuroscience. Nature Reviews Neuroscience, 2017, 18, 222-235.	10.2	562

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55	Locus coeruleus and dopaminergic consolidation of everyday memory. Nature, 2016, 537, 357-362.	27.8	561
56	A critical role for NMDA receptors in parvalbumin interneurons for gamma rhythm induction and behavior. Molecular Psychiatry, 2012, 17, 537-548.	7.9	551
57	Midbrain circuits for defensive behaviour. Nature, 2016, 534, 206-212.	27.8	546
58	Diverging neural pathways assemble a behavioural state from separable features in anxiety. Nature, 2013, 496, 219-223.	27.8	543
59	Antidepressant Effect of Optogenetic Stimulation of the Medial Prefrontal Cortex. Journal of Neuroscience, 2010, 30, 16082-16090.	3.6	542
60	Phototactic guidance of a tissue-engineered soft-robotic ray. Science, 2016, 353, 158-162.	12.6	534
61	Bi-stable neural state switches. Nature Neuroscience, 2009, 12, 229-234.	14.8	533
62	Activation of specific interneurons improves V1 feature selectivity and visual perception. Nature, 2012, 488, 379-383.	27.8	530
63	A prefrontal cortexâ€"brainstem neuronal projection that controls response to behavioural challenge. Nature, 2012, 492, 428-432.	27.8	526
64	GABA Neurons of the VTA Drive Conditioned Place Aversion. Neuron, 2012, 73, 1173-1183.	8.1	514
65	Crystal structure of the channelrhodopsin light-gated cation channel. Nature, 2012, 482, 369-374.	27.8	503
66	Closed-loop optogenetic control of thalamus as a tool for interrupting seizures after cortical injury. Nature Neuroscience, 2013, 16, 64-70.	14.8	491
67	Red-shifted optogenetic excitation: a tool for fast neural control derived from Volvox carteri. Nature Neuroscience, 2008, 11, 631-633.	14.8	490
68	L-type calcium channels and GSK-3 regulate the activity of NF-ATc4 in hippocampal neurons. Nature, 1999, 401, 703-708.	27.8	486
69	Dynamics of Retrieval Strategies for Remote Memories. Cell, 2011, 147, 678-689.	28.9	481
70	Targeted optogenetic stimulation and recording of neurons in vivo using cell-type-specific expression of Channelrhodopsin-2. Nature Protocols, 2010, 5, 247-254.	12.0	477
71	Wirelessly powered, fully internal optogenetics for brain, spinal and peripheral circuits in mice. Nature Methods, 2015, 12, 969-974.	19.0	473
72	The Microbial Opsin Family of Optogenetic Tools. Cell, 2011, 147, 1446-1457.	28.9	471

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73	Causal interactions between fronto-parietal central executive and default-mode networks in humans. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 19944-19949.	7.1	466
74	Neuronal circuitry mechanism regulating adult quiescent neural stem-cell fate decision. Nature, 2012, 489, 150-154.	27.8	463
75	Visualizing Hypothalamic Network Dynamics for Appetitive and Consummatory Behaviors. Cell, 2015, 160, 516-527.	28.9	458
76	eNpHR: a Natronomonas halorhodopsin enhanced for optogenetic applications. Brain Cell Biology, 2008, 36, 129-139.	3.2	454
77	Wave optics theory and 3-D deconvolution for the light field microscope. Optics Express, 2013, 21, 25418.	3.4	452
78	Targeting and Readout Strategies for Fast Optical Neural Control<i>In Vitro</i>and<i>In Vivo</i>. Journal of Neuroscience, 2007, 27, 14231-14238.	3.6	450
79	Cortical layerâ€"specific critical dynamics triggering perception. Science, 2019, 365, .	12.6	447
80	Targeting cells with single vectors using multiple-feature Boolean logic. Nature Methods, 2014, 11, 763-772.	19.0	427
81	Prefrontal cortical regulation of brainwide circuit dynamics and reward-related behavior. Science, 2016, 351, aac9698.	12.6	427
82	Activity-dependent CREB phosphorylation: Convergence of a fast, sensitive calmodulin kinase pathway and a slow, less sensitive mitogen-activated protein kinase pathway. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 2808-2813.	7.1	425
83	Thalamic control of sensory selection in divided attention. Nature, 2015, 526, 705-709.	27.8	423
84	Repeated Cortico-Striatal Stimulation Generates Persistent OCD-Like Behavior. Science, 2013, 340, 1234-1239.	12.6	420
85	Cholinergic Interneurons Control Local Circuit Activity and Cocaine Conditioning. Science, 2010, 330, 1677-1681.	12.6	417
86	Gating of social reward by oxytocin in the ventral tegmental area. Science, 2017, 357, 1406-1411.	12.6	414
87	Sustained rescue of prefrontal circuit dysfunction by antidepressant-induced spine formation. Science, 2019, 364, .	12.6	412
88	High-efficiency channelrhodopsins for fast neuronal stimulation at low light levels. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 7595-7600.	7.1	409
89	An optogenetic toolbox designed for primates. Nature Neuroscience, 2011, 14, 387-397.	14.8	400
90	Basomedial amygdala mediates top-down control of anxiety and fear. Nature, 2015, 527, 179-185.	27.8	399

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91	Nociceptive Neurons Protect Drosophila Larvae from Parasitoid Wasps. Current Biology, 2007, 17, 2105-2116.	3.9	395
92	Hybrid Periportal Hepatocytes Regenerate the Injured Liver without Giving Rise to Cancer. Cell, 2015, 162, 766-779.	28.9	394
93	Prefrontal Parvalbumin Neurons in Control of Attention. Cell, 2016, 164, 208-218.	28.9	390
94	Molecular interrogation of hypothalamic organization reveals distinct dopamine neuronal subtypes. Nature Neuroscience, 2017, 20, 176-188.	14.8	384
95	Next-generation probes, particles, and proteins for neural interfacing. Science Advances, 2017, 3, e1601649.	10.3	377
96	Projections from neocortex mediate top-down control of memory retrieval. Nature, 2015, 526, 653-659.	27.8	376
97	Serotonin engages an anxiety and fear-promoting circuit in the extended amygdala. Nature, 2016, 537, 97-101.	27.8	362
98	Simultaneous fast measurement of circuit dynamics at multiple sites across the mammalian brain. Nature Methods, 2016, 13, 325-328.	19.0	359
99	Spaced stimuli stabilize MAPK pathway activation and its effects on dendritic morphology. Nature Neuroscience, 2001, 4, 151-158.	14.8	356
100	Ventral hippocampal afferents to the nucleus accumbens regulate susceptibility to depression. Nature Communications, 2015, 6, 7062.	12.8	356
101	Structure-Guided Transformation of Channelrhodopsin into a Light-Activated Chloride Channel. Science, 2014, 344, 420-424.	12.6	354
102	High-Speed Imaging Reveals Neurophysiological Links to Behavior in an Animal Model of Depression. Science, 2007, 317, 819-823.	12.6	349
103	A Neural Circuit Mechanism for Encoding Aversive Stimuli in the Mesolimbic Dopamine System. Neuron, 2019, 101, 133-151.e7.	8.1	349
104	High-speed mapping of synaptic connectivity using photostimulation in Channelrhodopsin-2 transgenic mice. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 8143-8148.	7.1	347
105	Closed-Loop and Activity-Guided Optogenetic Control. Neuron, 2015, 86, 106-139.	8.1	328
106	Nanotools for Neuroscience and Brain Activity Mapping. ACS Nano, 2013, 7, 1850-1866.	14.6	323
107	Optogenetic Interrogation of Dopaminergic Modulation of the Multiple Phases of Reward-Seeking Behavior. Journal of Neuroscience, 2011, 31, 10829-10835.	3.6	322
108	Signaling from synapse to nucleus: the logic behind the mechanisms. Current Opinion in Neurobiology, 2003, 13, 354-365.	4.2	321

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109	All-Optical Interrogation of Neural Circuits. Journal of Neuroscience, 2015, 35, 13917-13926.	3.6	320
110	Global Representations of Goal-Directed Behavior in Distinct Cell Types of Mouse Neocortex. Neuron, 2017, 94, 891-907.e6.	8.1	316
111	Simultaneous cellular-resolution optical perturbation and imaging of place cell firing fields. Nature Neuroscience, 2014, 17, 1816-1824.	14.8	315
112	Designer receptors show role for ventral pallidum input to ventral tegmental area in cocaine seeking. Nature Neuroscience, 2014, 17, 577-585.	14.8	314
113	Two-photon optogenetic toolbox for fast inhibition, excitation and bistable modulation. Nature Methods, 2012, 9, 1171-1179.	19.0	299
114	Synaptic Encoding of Fear Extinction in mPFC-amygdala Circuits. Neuron, 2013, 80, 1491-1507.	8.1	298
115	Wiring and Molecular Features of Prefrontal Ensembles Representing Distinct Experiences. Cell, 2016, 165, 1776-1788.	28.9	295
116	A Unique Population of Ventral Tegmental Area Neurons Inhibits the Lateral Habenula to Promote Reward. Neuron, 2013, 80, 1039-1053.	8.1	290
117	Mapping projections of molecularly defined dopamine neuron subtypes using intersectional genetic approaches. Nature Neuroscience, 2018, 21, 1260-1271.	14.8	283
118	Glutamatergic Signaling by Mesolimbic Dopamine Neurons in the Nucleus Accumbens. Journal of Neuroscience, 2010, 30, 7105-7110.	3.6	280
119	Competition between engrams influences fear memory formation and recall. Science, 2016, 353, 383-387.	12.6	278
120	Optical activation of lateral amygdala pyramidal cells instructs associative fear learning. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 12692-12697.	7.1	269
121	A Major External Source of Cholinergic Innervation of the Striatum and Nucleus Accumbens Originates in the Brainstem. Journal of Neuroscience, 2014, 34, 4509-4518.	3.6	267
122	Ca2+-dependent regulation in neuronal gene expression. Current Opinion in Neurobiology, 1997, 7, 419-429.	4.2	263
123	In vivo imaging identifies temporal signature of D1 and D2 medium spiny neurons in cocaine reward. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 2726-2731.	7.1	258
124	SNCA Triplication Parkinson's Patient's iPSC-derived DA Neurons Accumulate Î±-Synuclein and Are Susceptible to Oxidative Stress. PLoS ONE, 2011, 6, e26159.	2.5	257
125	Optogenetics enables functional analysis of human embryonic stem cellâ€“derived grafts in a Parkinson's disease model. Nature Biotechnology, 2015, 33, 204-209.	17.5	256
126	Dopaminergic dynamics underlying sex-specific cocaine reward. Nature Communications, 2017, 8, 13877.	12.8	256

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127	Thirst regulates motivated behavior through modulation of brainwide neural population dynamics. Science, 2019, 364, 253.	12.6	256
128	Two-photon optogenetics of dendritic spines and neural circuits. Nature Methods, 2012, 9, 1202-1205.	19.0	255
129	Modulation of prefrontal cortex excitation/inhibition balance rescues social behavior in <i>CNTNAP2</i> -deficient mice. Science Translational Medicine, 2017, 9, .	12.4	252
130	A Brainstem-Spinal Cord Inhibitory Circuit for Mechanical Pain Modulation by GABA and Enkephalins. Neuron, 2017, 93, 822-839.e6.	8.1	250
131	Cortically projecting basal forebrain parvalbumin neurons regulate cortical gamma band oscillations. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 3535-3540.	7.1	246
132	Modular organization of the brainstem noradrenaline system coordinates opposing learning states. Nature Neuroscience, 2017, 20, 1602-1611.	14.8	246
133	Escape Behavior Elicited by Single, Channelrhodopsin-2-Evoked Spikes in Zebrafish Somatosensory Neurons. Current Biology, 2008, 18, 1133-1137.	3.9	235
134	Thirst-associated preoptic neurons encode an aversive motivational drive. Science, 2017, 357, 1149-1155.	12.6	233
135	Sleep Homeostasis Modulates Hypocretin-Mediated Sleep-to-Wake Transitions. Journal of Neuroscience, 2009, 29, 10939-10949.	3.6	232
136	Topological supramolecular network enabled high-conductivity, stretchable organic bioelectronics. Science, 2022, 375, 1411-1417.	12.6	230
137	Optogenetic control of epileptiform activity. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 12162-12167.	7.1	225
138	Activation of Corticostriatal Circuitry Relieves Chronic Neuropathic Pain. Journal of Neuroscience, 2015, 35, 5247-5259.	3.6	224
139	Making Waves: Initiation and Propagation of Corticothalamic Ca2+ Waves InÂVivo. Neuron, 2013, 77, 1136-1150.	8.1	217
140	Optogenetic and Potassium Channel Gene Therapy in a Rodent Model of Focal Neocortical Epilepsy. Science Translational Medicine, 2012, 4, 161ra152.	12.4	216
141	SPED Light Sheet Microscopy: Fast Mapping of Biological System Structure and Function. Cell, 2015, 163, 1796-1806.	28.9	213
142	The form and function of channelrhodopsin. Science, 2017, 357, .	12.6	212
143	Optogenetic inhibition of cocaine seeking in rats. Addiction Biology, 2013, 18, 50-53.	2.6	208
144	Endocannabinoid Modulation of Orbitostriatal Circuits Gates Habit Formation. Neuron, 2016, 90, 1312-1324.	8.1	208

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145	Active Expiration Induced by Excitation of Ventral Medulla in Adult Anesthetized Rats. Journal of Neuroscience, 2011, 31, 2895-2905.	3.6	204
146	An interactive framework for whole-brain maps at cellular resolution. Nature Neuroscience, 2018, 21, 139-149.	14.8	204
147	Leptin regulates the reward value of nutrient. Nature Neuroscience, 2011, 14, 1562-1568.	14.8	201
148	Hypothalamic control of male aggression-seeking behavior. Nature Neuroscience, 2016, 19, 596-604.	14.8	201
149	Rational Engineering of XCaMPs, a Multicolor GECI Suite for InÂVivo Imaging of Complex Brain Circuit Dynamics. Cell, 2019, 177, 1346-1360.e24.	28.9	199
150	Structural foundations of optogenetics: Determinants of channelrhodopsin ion selectivity. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 822-829.	7.1	197
151	Synaptic Activity Unmasks Dopamine D2 Receptor Modulation of a Specific Class of Layer V Pyramidal Neurons in Prefrontal Cortex. Journal of Neuroscience, 2012, 32, 4959-4971.	3.6	194
152	Virally mediated optogenetic excitation and inhibition of pain in freely moving nontransgenic mice. Nature Biotechnology, 2014, 32, 274-278.	17.5	191
153	Chronic Optogenetic Activation Augments AÎ² Pathology in a Mouse Model of Alzheimer Disease. Cell Reports, 2015, 11, 859-865.	6.4	186
154	Critical Dependence of cAMP Response Element-Binding Protein Phosphorylation on L-Type Calcium Channels Supports a Selective Response to EPSPs in Preference to Action Potentials. Journal of Neuroscience, 2000, 20, 266-273.	3.6	185
155	A neuronal circuit for activating descending modulation of neuropathic pain. Nature Neuroscience, 2019, 22, 1659-1668.	14.8	185
156	The Brain Activity Map. Science, 2013, 339, 1284-1285.	12.6	181
157	The BRAIN Initiative: developing technology to catalyse neuroscience discovery. Philosophical Transactions of the Royal Society B: Biological Sciences, 2015, 370, 20140164.	4.0	179
158	Nucleus accumbens D2R cells signal prior outcomes and control risky decision-making. Nature, 2016, 531, 642-646.	27.8	178
159	Improved expression of halorhodopsin for light-induced silencing of neuronal activity. Brain Cell Biology, 2008, 36, 141-154.	3.2	176
160	Orderly recruitment of motor units under optical control in vivo. Nature Medicine, 2010, 16, 1161-1165.	30.7	176
161	Neuronal Dynamics Regulating Brain and Behavioral State Transitions. Cell, 2019, 177, 970-985.e20.	28.9	171
162	Hebbian and neuromodulatory mechanisms interact to trigger associative memory formation. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E5584-92.	7.1	170

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163	Optical Neural Interfaces. Annual Review of Biomedical Engineering, 2014, 16, 103-129.	12.3	170
164	Optogenetic neuronal stimulation promotes functional recovery after stroke. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12913-12918.	7.1	169
165	5-HT release in nucleus accumbens rescues social deficits in mouse autism model. Nature, 2018, 560, 589-594.	27.8	169
166	Interacting neural ensembles in orbitofrontal cortex for social and feeding behaviour. Nature, 2019, 565, 645-649.	27.8	165
167	<i>Dlx5</i>and<i>Dlx6</i>Regulate the Development of Parvalbumin-Expressing Cortical Interneurons. Journal of Neuroscience, 2010, 30, 5334-5345.	3.6	162
168	Leftâ€“right dissociation of hippocampal memory processes in mice. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15238-15243.	7.1	161
169	A new mode of corticothalamic transmission revealed in the Gria4âˆ’/âˆ’ model of absence epilepsy. Nature Neuroscience, 2011, 14, 1167-1173.	14.8	159
170	The central amygdala controls learning in the lateral amygdala. Nature Neuroscience, 2017, 20, 1680-1685.	14.8	159
171	Circuit dynamics of adaptive and maladaptive behaviour. Nature, 2014, 505, 309-317.	27.8	158
172	Reversible online control of habitual behavior by optogenetic perturbation of medial prefrontal cortex. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 18932-18937.	7.1	152
173	Medial prefrontal D1 dopamine neurons control food intake. Nature Neuroscience, 2014, 17, 248-253.	14.8	152
174	Distinct Thalamic Reticular Cell Types Differentially Modulate Normal and Pathological Cortical Rhythms. Cell Reports, 2017, 19, 2130-2142.	6.4	150
175	Enhancing the performance of the light field microscope using wavefront coding. Optics Express, 2014, 22, 24817.	3.4	149
176	Targeting Neural Circuits. Cell, 2016, 165, 524-534.	28.9	148
177	Color-tuned Channelrhodopsins for Multiwavelength Optogenetics. Journal of Biological Chemistry, 2012, 287, 31804-31812.	3.4	147
178	Ancestral Circuits for the Coordinated Modulation of Brain State. Cell, 2017, 171, 1411-1423.e17.	28.9	145
179	Deep posteromedial cortical rhythm in dissociation. Nature, 2020, 586, 87-94.	27.8	145
180	Communication in Neural Circuits: Tools, Opportunities, and Challenges. Cell, 2016, 164, 1136-1150.	28.9	143

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181	Hypothalamic Neurotensin Projections Promote Reward by Enhancing Glutamate Transmission in the VTA. Journal of Neuroscience, 2013, 33, 7618-7626.	3.6	140
182	Deep brain optogenetics without intracranial surgery. Nature Biotechnology, 2021, 39, 161-164.	17.5	139
183	Optogenetic Control of Targeted Peripheral Axons in Freely Moving Animals. PLoS ONE, 2013, 8, e72691.	2.5	138
184	Challenges and Opportunities for Next-Generation Intracortically Based Neural Prostheses. IEEE Transactions on Biomedical Engineering, 2011, 58, 1891-1899.	4.2	137
185	Brain-wide Electrical Spatiotemporal Dynamics Encode Depression Vulnerability. Cell, 2018, 173, 166-180.e14.	28.9	135
186	Genetically targeted chemical assembly of functional materials in living cells, tissues, and animals. Science, 2020, 367, 1372-1376.	12.6	132
187	Whole-tissue biopsy phenotyping of three-dimensional tumours reveals patterns of cancer heterogeneity. Nature Biomedical Engineering, 2017, 1, 796-806.	22.5	131
188	Fast near-wholeâ€“brain imaging in adult Drosophila during responses to stimuli and behavior. PLoS Biology, 2019, 17, e2006732.	5.6	130
189	Beyond the brain: Optogenetic control in the spinal cord and peripheral nervous system. Science Translational Medicine, 2016, 8, 337rv5.	12.4	129
190	Molecular and Circuit-Dynamical Identification of Top-Down Neural Mechanisms for Restraint of Reward Seeking. Cell, 2017, 170, 1013-1027.e14.	28.9	129
191	Dynamic changes in neural circuitry during adolescence are associated with persistent attenuation of fear memories. Nature Communications, 2016, 7, 11475.	12.8	127
192	Multiplexed Intact-Tissue Transcriptional Analysis at Cellular Resolution. Cell, 2016, 164, 792-804.	28.9	125
193	Optimization of CLARITY for Clearing Whole-Brain and Other Intact Organs. ENeuro, 2015, 2, ENEURO.0022-15.2015.	1.9	123
194	Developmental Dysfunction of VIP Interneurons Impairs Cortical Circuits. Neuron, 2017, 95, 884-895.e9.	8.1	123
195	Cerebellar nuclei evolved by repeatedly duplicating a conserved cell-type set. Science, 2020, 370, .	12.6	123
196	Segregated cholinergic transmission modulates dopamine neurons integrated in distinct functional circuits. Nature Neuroscience, 2016, 19, 1025-1033.	14.8	122
197	Dynamic Multiphosphorylation Passwords for Activity-Dependent Gene Expression. Neuron, 2002, 34, 179-182.	8.1	121
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