Charu Ramakrishnan

List of Publications by Year
in descending order

86 papers	20,920 citations	30070 54 h-index	54911 84 g-index
97 all docs	97 docs citations	97 times ranked	22764 citing authors

#	Article	IF	Citations
1	Similar neural and perceptual masking effects of low-power optogenetic stimulation in primate V1. ELife, 2022, 11, .	6.0	6
2	A functional cellular framework for sex and estrous cycle-dependent gene expression and behavior. Cell, 2022, 185, 654-671.e22.	28.9	52
3	Structural basis for channel conduction in the pump-like channelrhodopsin ChRmine. Cell, 2022, 185, 672-689.e23.	28.9	72
4	Deep brain optogenetics without intracranial surgery. Nature Biotechnology, 2021, 39, 161-164.	17.5	139
5	Reciprocal Lateral Hypothalamic and Raphe GABAergic Projections Promote Wakefulness. Journal of Neuroscience, 2021, 41, 4840-4849.	3.6	15
6	Dendritic calcium signals in rhesus macaque motor cortex drive an optical brain-computer interface. Nature Communications, 2021, 12, 3689.	12.8	38
7	Selective filtering of excitatory inputs to nucleus accumbens by dopamine and serotonin. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	23
8	A neural circuit state change underlying skilled movements. Cell, 2021, 184, 3731-3747.e21.	28.9	45
9	Genetically identified amygdalaâ€“striatal circuits for valence-specific behaviors. Nature Neuroscience, 2021, 24, 1586-1600.	14.8	56
10	An uncommon neuronal class conveys visual signals from rods and cones to retinal ganglion cells. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, e2104884118.	7.1	6
11	Transcriptional and functional divergence in lateral hypothalamic glutamate neurons projecting to the lateral habenula and ventral tegmental area. Neuron, 2021, 109, 3823-3837.e6.	8.1	31
12	Sox6 expression distinguishes dorsally and ventrally biased dopamine neurons in the substantia nigra with distinctive properties and embryonic origins. Cell Reports, 2021, 37, 109975.	6.4	33
13	An Open Resource for Non-human Primate Optogenetics. Neuron, 2020, 108, 1075-1090.e6.	8.1	79
14	A Genetically Defined Compartmentalized Striatal Direct Pathway for Negative Reinforcement. Cell, 2020, 183, 211-227.e20.	28.9	49
15	Distinct Signaling by Ventral Tegmental Area Glutamate, GABA, and Combinatorial Glutamate-GABA Neurons in Motivated Behavior. Cell Reports, 2020, 32, 108094.	6.4	60
16	Striosomes Mediate Value-Based Learning Vulnerable in Age and a Huntingtonâ€™s Disease Model. Cell, 2020, 183, 918-934.e49.	28.9	27
17	Comprehensive Dual- and Triple-Feature Intersectional Single-Vector Delivery of Diverse Functional Payloads to Cells of Behaving Mammals. Neuron, 2020, 107, 836-853.e11.	8.1	93
18	Genetically targeted chemical assembly of functional materials in living cells, tissues, and animals. Science, 2020, 367, 1372-1376.	12.6	132

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19	Two genetically, anatomically and functionally distinct cell types segregate across anteroposterior axis of paraventricular thalamus. Nature Neuroscience, 2020, 23, 217-228.	14.8	107
20	High-speed interferometric imaging reveals dynamics of neuronal deformation during the action potential. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 10278-10285.	7.1	53
21	Cortical layerâ€“specific critical dynamics triggering perception. Science, 2019, 365, .	12.6	447
22	A neuronal circuit for activating descending modulation of neuropathic pain. Nature Neuroscience, 2019, 22, 1659-1668.	14.8	185
23	Mapping Brain-Wide Afferent Inputs of Parvalbumin-Expressing GABAergic Neurons in Barrel Cortex Reveals Local and Long-Range Circuit Motifs. Cell Reports, 2019, 28, 3450-3461.e8.	6.4	52
24	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
25	A hypothalamus-habenula circuit controls aversion. Molecular Psychiatry, 2019, 24, 1351-1368.	7.9	111
26	Functional maturation of human neural stem cells in a 3D bioengineered brain model enriched with fetal brain-derived matrix. Scientific Reports, 2019, 9, 17874.	3.3	46
27	Interacting neural ensembles in orbitofrontal cortex for social and feeding behaviour. Nature, 2019, 565, 645-649.	27.8	165
28	Investigating the feasibility of channelrhodopsin variants for nanoscale optogenetics. Neurophotonics, 2019, 6, 1.	3.3	15
29	Excitation of Diverse Classes of Cholecystokinin Interneurons in the Basal Amygdala Facilitates Fear Extinction. ENeuro, 2019, 6, ENEURO.0220-19.2019.	1.9	30
30	In Vivo Fiber Photometry Reveals Signature of Future Stress Susceptibility in Nucleus Accumbens. Neuropsychopharmacology, 2018, 43, 255-263.	5.4	105
31	Scale-Invariant Visual Capabilities Explained by Topographic Representations of Luminance and Texture in Primate V1. Neuron, 2018, 100, 1504-1512.e4.	8.1	8
32	Structural mechanisms of selectivity and gating in anion channelrhodopsins. Nature, 2018, 561, 349-354.	27.8	67
33	Crystal structure of the natural anion-conducting channelrhodopsin GtACR1. Nature, 2018, 561, 343-348.	27.8	93
34	Development of an optogenetic toolkit for neural circuit dissection in squirrel monkeys. Scientific Reports, 2018, 8, 6775.	3.3	28
35	Mapping projections of molecularly defined dopamine neuron subtypes using intersectional genetic approaches. Nature Neuroscience, 2018, 21, 1260-1271.	14.8	283
36	Three-dimensional intact-tissue sequencing of single-cell transcriptional states. Science, 2018, 361, .	12.6	890

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37	Dopaminergic dynamics underlying sex-specific cocaine reward. Nature Communications, 2017, 8, 13877.	12.8	256
38	Gamma oscillations organize top-down signalling to hypothalamus and enable food seeking. Nature, 2017, 542, 232-236.	27.8	102
39	A Brainstem-Spinal Cord Inhibitory Circuit for Mechanical Pain Modulation by GABA and Enkephalins. Neuron, 2017, 93, 822-839.e6.	8.1	250
40	Long-Range GABAergic Inputs Regulate Neural Stem Cell Quiescence and Control Adult Hippocampal Neurogenesis. Cell Stem Cell, 2017, 21, 604-617.e5.	11.1	119
41	The central amygdala controls learning in the lateral amygdala. Nature Neuroscience, 2017, 20, 1680-1685.	14.8	159
42	Thirst-associated preoptic neurons encode an aversive motivational drive. Science, 2017, 357, 1149-1155.	12.6	233
43	A Guide to Creating and Testing New INTRSECT Constructs. Current Protocols in Neuroscience, 2017, 80, 4.39.1-4.39.24.	2.6	25
44	Developmental Dysfunction of VIP Interneurons Impairs Cortical Circuits. Neuron, 2017, 95, 884-895.e9.	8.1	123
45	Molecular and Circuit-Dynamical Identification of Top-Down Neural Mechanisms for Restraint of Reward Seeking. Cell, 2017, 170, 1013-1027.e14.	28.9	129
46	Modulation of prefrontal cortex excitation/inhibition balance rescues social behavior in CNTNAP2 -deficient mice. Science Translational Medicine, 2017, 9, .	12.4	252
47	Place field assembly distribution encodes preferred locations. PLoS Biology, 2017, 15, e2002365.	5.6	51
48	Optogenetic approaches addressing extracellular modulation of neural excitability. Scientific Reports, 2016, 6, 23947.	3.3	34
49	Wiring and Molecular Features of Prefrontal Ensembles Representing Distinct Experiences. Cell, 2016, 165, 1776-1788.	28.9	295
50	Endocannabinoid Modulation of Orbitostriatal Circuits Gates Habit Formation. Neuron, 2016, 90, 1312-1324.	8.1	208
51	Serotonin engages an anxiety and fear-promoting circuit in the extended amygdala. Nature, 2016, 537, 97-101.	27.8	362
52	Competition between engrams influences fear memory formation and recall. Science, 2016, 353, 383-387.	12.6	278
53	InÂVivo Interrogation of Spinal Mechanosensory Circuits. Cell Reports, 2016, 17, 1699-1710.	6.4	62
54	Optogenetic and chemogenetic strategies for sustained inhibition of pain. Scientific Reports, 2016, 6, 30570.	3.3	72

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55	Midbrain circuits for defensive behaviour. Nature, 2016, 534, 206-212.	27.8	546
56	Nucleus accumbens D2R cells signal prior outcomes and control risky decision-making. Nature, 2016, 531, 642-646.	27.8	178
57	Simultaneous fast measurement of circuit dynamics at multiple sites across the mammalian brain. Nature Methods, 2016, 13, 325-328.	19.0	359
58	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
59	Prefrontal cortical regulation of brainwide circuit dynamics and reward-related behavior. Science, 2016, 351, aac9698.	12.6	427
60	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
61	Visualizing Hypothalamic Network Dynamics for Appetitive and Consummatory Behaviors. Cell, 2015, 160, 516-527.	28.9	458
62	Projections from neocortex mediate top-down control of memory retrieval. Nature, 2015, 526, 653-659.	27.8	376
63	Human pluripotent stem cell tools for cardiac optogenetics. , 2014, 2014, 6171-4.		13
64	Virally mediated optogenetic excitation and inhibition of pain in freely moving nontransgenic mice. Nature Biotechnology, 2014, 32, 274-278.	17.5	191
65	Structure-Guided Transformation of Channelrhodopsin into a Light-Activated Chloride Channel. Science, 2014, 344, 420-424.	12.6	354
66	Frequency-Dependent, Cell Type-Divergent Signaling in the Hippocamposeptal Projection. Journal of Neuroscience, 2014, 34, 11769-11780.	3.6	35
67	Targeting cells with single vectors using multiple-feature Boolean logic. Nature Methods, 2014, 11, 763-772.	19.0	427
68	Structural and molecular interrogation of intact biological systems. Nature, 2013, 497, 332-337.	27.8	1,765
69	A Unique Population of Ventral Tegmental Area Neurons Inhibits the Lateral Habenula to Promote Reward. Neuron, 2013, 80, 1039-1053.	8.1	290
70	Optogenetic Delay of Status Epilepticus Onset in an In Vivo Rodent Epilepsy Model. PLoS ONE, 2013, 8, e62013.	2.5	58
71	1PT128 Crystal Structure of a light-gated cation channel, channeirhodopsin(The 50th Annual Meeting) Tj ETQq1 1 0.784314 rgBT /Ov	0.1	0
72	Principles for applying optogenetic tools derived from direct comparative analysis of microbial opsins. Nature Methods, 2012, 9, 159-172.	19.0	666

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73	Two-photon optogenetic toolbox for fast inhibition, excitation and bistable modulation. Nature Methods, 2012, 9, 1171-1179.	19.0	299
74	Crystal structure of the channelrhodopsin light-gated cation channel. Nature, 2012, 482, 369-374.	27.8	503
75	Neocortical excitation/inhibition balance in information processing and social dysfunction. Nature, 2011, 477, 171-178.	27.8	2,036
76	Dynamics of Retrieval Strategies for Remote Memories. Cell, 2011, 147, 678-689.	28.9	481
77	Dynamics of Retrieval Strategies for Remote Memories. Cell, 2011, 147, 1197.	28.9	6
78	Recombinase-Driver Rat Lines: Tools, Techniques, and Optogenetic Application to Dopamine-Mediated Reinforcement. Neuron, 2011, 72, 721-733.	8.1	593
79	An optogenetic toolbox designed for primates. Nature Neuroscience, 2011, 14, 387-397.	14.8	400
80	Amygdala circuitry mediating reversible and bidirectional control of anxiety. Nature, 2011, 471, 358-362.	27.8	1,073
81	Global and local fMRI signals driven by neurons defined optogenetically by type and wiring. Nature, 2010, 465, 788-792.	27.8	659
82	Lee et al. reply. Nature, 2010, 468, E4-E5.	27.8	3
83	Cholinergic Interneurons Control Local Circuit Activity and Cocaine Conditioning. Science, 2010, 330, 1677-1681.	12.6	417
84	Molecular and Cellular Approaches for Diversifying and Extending Optogenetics. Cell, 2010, 141, 154-165.	28.9	919
85	Molecular chaperones and subcellular trafficking of steroid receptors. Journal of Steroid Biochemistry and Molecular Biology, 1998, 65, 51-58.	2.5	55
86	Steroid hormone responsiveness of a family of closely related mouse proviral elements. Mammalian Genome, 1997, 8, 811-817.	2.2	10