Mriganka Sur

List of Publications by Year
in descending order

108 papers	12,953 citations	30070 54 h-index	28297 105 g-index
120 all docs	120 docs citations	120 times ranked	13613 citing authors

#	Article	IF	Citations
1	In vivo interrogation of gene function in the mammalian brain using CRISPR-Cas9. Nature Biotechnology, 2015, 33, 102-106.	17.5	675
2	Patterning and Plasticity of the Cerebral Cortex. Science, 2005, 310, 805-810.	12.6	591
3	Tuned Responses of Astrocytes and Their Influence on Hemodynamic Signals in the Visual Cortex. Science, 2008, 320, 1638-1643.	12.6	552
4	Partial reversal of Rett Syndrome-like symptoms in MeCP2 mutant mice. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 2029-2034.	7.1	511
5	Division and subtraction by distinct cortical inhibitory networks in vivo. Nature, 2012, 488, 343-348.	27.8	490
6	Induction of visual orientation modules in auditory cortex. Nature, 2000, 404, 841-847.	27.8	477
7	Adaptation-Induced Plasticity of Orientation Tuning in Adult Visual Cortex. Neuron, 2000, 28, 287-298.	8.1	437
8	Visual behaviour mediated by retinal projections directed to the auditory pathway. Nature, 2000, 404, 871-876.	27.8	414
9	Induction of Expansion and Folding in Human Cerebral Organoids. Cell Stem Cell, 2017, 20, 385-396.e3.	11.1	346
10	Development and plasticity of cortical areas and networks. Nature Reviews Neuroscience, 2001, 2, 251-262.	10.2	317
11	Invariant computations in local cortical networks with balanced excitation and inhibition. Nature Neuroscience, 2005, 8, 194-201.	14.8	282
12	Global Transcriptional and Translational Repression in Human-Embryonic-Stem-Cell-Derived Rett Syndrome Neurons. Cell Stem Cell, 2013, 13, 446-458.	11.1	273
13	Dendritic Spine Dynamics Are Regulated by Monocular Deprivation and Extracellular Matrix Degradation. Neuron, 2004, 44, 1021-1030.	8.1	267
14	Disruption of retinogeniculate afferent segregation by antagonists to NMDA receptors. Nature, 1991, 351, 568-570.	27.8	248
15	Genes, circuits, and precision therapies for autism and related neurodevelopmental disorders. Science, 2015, 350, .	12.6	230
16	Remodeling of Synaptic Structure in Sensory Cortical Areas<i>In Vivo</i>. Journal of Neuroscience, 2006, 26, 3021-3029.	3.6	216
17	Response Features of Parvalbumin-Expressing Interneurons Suggest Precise Roles for Subtypes of Inhibition in Visual Cortex. Neuron, 2010, 67, 847-857.	8.1	214
18	Cross-modal plasticity in cortical development: differentiation and specification of sensory neocortex. Trends in Neurosciences, 1990, 13, 227-233.	8.6	213

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19	Noradrenergic signaling in the wakeful state inhibits microglial surveillance and synaptic plasticity in the mouse visual cortex. Nature Neuroscience, 2019, 22, 1782-1792.	14.8	211
20	Active control of arousal by a locus coeruleus GABAergic circuit. Nature Neuroscience, 2019, 22, 218-228.	14.8	211
21	Gene expression changes and molecular pathways mediating activity-dependent plasticity in visual cortex. Nature Neuroscience, 2006, 9, 660-668.	14.8	199
22	Dynamics of neuronal sensitivity in visual cortex and local feature discrimination. Nature Neuroscience, 2002, 5, 883-891.	14.8	185
23	Distinct roles of visual, parietal, and frontal motor cortices in memory-guided sensorimotor decisions. ELife, 2016, 5, .	6.0	183
24	An acetylcholine-activated microcircuit drives temporal dynamics of cortical activity. Nature Neuroscience, 2015, 18, 892-902.	14.8	182
25	Motility of dendritic spines in visual cortex in vivo: Changes during the critical period and effects of visual deprivation. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 16024-16029.	7.1	179
26	Safety, pharmacokinetics, and preliminary assessment of efficacy of mecasermin (recombinant human) Tj ETQq0 0 0 rgBT /Overlock 10 T United States of America, 2014, 111, 4596-4601.	7.1	178
27	Neuron-glia networks: integral gear of brain function. Frontiers in Cellular Neuroscience, 2014, 8, 378.	3.7	175
28	Functional recovery with recombinant human IGF1 treatment in a mouse model of Rett Syndrome. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 9941-9946.	7.1	172
29	miR-132, an experience-dependent microRNA, is essential for visual cortex plasticity. Nature Neuroscience, 2011, 14, 1240-1242.	14.8	167
30	Rett syndrome: insights into genetic, molecular and circuit mechanisms. Nature Reviews Neuroscience, 2018, 19, 368-382.	10.2	164
31	Nucleus basalis-enabled stimulus-specific plasticity in the visual cortex is mediated by astrocytes. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E2832-41.	7.1	162
32	Foci of orientation plasticity in visual cortex. Nature, 2001, 411, 80-86.	27.8	158
33	Jointly reduced inhibition and excitation underlies circuit-wide changes in cortical processing in Rett syndrome. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E7287-E7296.	7.1	148
34	Loss of Arc renders the visual cortex impervious to the effects of sensory experience or deprivation. Nature Neuroscience, 2010, 13, 450-457.	14.8	142
35	Locally coordinated synaptic plasticity of visual cortex neurons in vivo. Science, 2018, 360, 1349-1354.	12.6	137
36	Ten_m3 Regulates Eye-Specific Patterning in the Mammalian Visual Pathway and Is Required for Binocular Vision. PLoS Biology, 2007, 5, e241.	5.6	135

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37	Synaptic Integration by V1 Neurons Depends on Location within the Orientation Map. Neuron, 2002, 36, 969-978.	8.1	130
38	Functional imaging of visual cortical layers and subplate in awake mice with optimized three-photon microscopy. Nature Communications, 2019, 10, 177.	12.8	121
39	Visual projections induced into the auditory pathway of ferrets. I. Novel inputs to primary auditory cortex (AI) from the LP/pulvinar complex and the topography of the MGN-AI projection. Journal of Comparative Neurology, 1990, 298, 50-68.	1.6	117
40	Molecular mechanisms of experience-dependent plasticity in visual cortex. Philosophical Transactions of the Royal Society B: Biological Sciences, 2009, 364, 341-355.	4.0	113
41	Pharmacological enhancement of <i>KCC2</i> gene expression exerts therapeutic effects on human Rett syndrome neurons and <i>Mecp2</i> mutant mice. Science Translational Medicine, 2019, 11, .	12.4	111
42	The Coordinated Mapping of Visual Space and Response Features in Visual Cortex. Neuron, 2005, 47, 267-280.	8.1	110
43	Task-dependent representations of stimulus and choice in mouse parietal cortex. Nature Communications, 2018, 9, 2596.	12.8	103
44	The Emerging Role of microRNAs in Schizophrenia and Autism Spectrum Disorders. Frontiers in Psychiatry, 2012, 3, 39.	2.6	98
45	Development of X- and Y-cell retinogeniculate terminations in kittens. Nature, 1984, 310, 246-249.	27.8	91
46	Direct modulation of GFAP-expressing glia in the arcuate nucleus bi-directionally regulates feeding. ELife, 2016, 5, .	6.0	91
47	Optically imaged maps of orientation preference in primary visual cortex of cats and ferrets. Journal of Comparative Neurology, 1997, 387, 358-370.	1.6	87
48	Two-photon imaging in mice shows striosomes and matrix have overlapping but differential reinforcement-related responses. ELife, 2017, 6, .	6.0	86
49	The role of GABAergic signalling in neurodevelopmental disorders. Nature Reviews Neuroscience, 2021, 22, 290-307.	10.2	83
50	Towards a better diagnosis and treatment of Rett syndrome: a model synaptic disorder. Brain, 2019, 142, 239-248.	7.6	82
51	Plasticity and specificity of cortical processing networks. Trends in Neurosciences, 2006, 29, 323-329.	8.6	72
52	Î²2-Adrenergic receptor agonist ameliorates phenotypes and corrects microRNA-mediated IGF1 deficits in a mouse model of Rett syndrome. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 9947-9952.	7.1	67
53	Gene expression patterns in visual cortex during the critical period: Synaptic stabilization and reversal by visual deprivation. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 9409-9414.	7.1	66
54	Developmental Dynamics of Rett Syndrome. Neural Plasticity, 2016, 2016, 1-9.	2.2	65

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55	Differential Gene Expression between Sensory Neocortical Areas: Potential Roles for Ten_m3 and Bcl6 in Patterning Visual and Somatosensory Pathways. Cerebral Cortex, 2008, 18, 53-66.	2.9	62
56	Locus Coeruleus Norepinephrine in Learned Behavior: Anatomical Modularity and Spatiotemporal Integration in Targets. Frontiers in Neural Circuits, 2021, 15, 638007.	2.8	57
57	Effects of Synaptic Activity on Dendritic Spine Motility of Developing Cortical Layer V Pyramidal Neurons. Cerebral Cortex, 2006, 16, 730-741.	2.9	51
58	Spatial Correlations in Natural Scenes Modulate Response Reliability in Mouse Visual Cortex. Journal of Neuroscience, 2015, 35, 14661-14680.	3.6	51
59	Rett Syndrome: Genes, Synapses, Circuits, and Therapeutics. Frontiers in Psychiatry, 2012, 3, 34.	2.6	50
60	Response-dependent dynamics of cell-specific inhibition in cortical networks in vivo. Nature Communications, 2014, 5, 5689.	12.8	50
61	Pattern formation by retinal afferents in the ferret lateral geniculate nucleus: Developmental segregation and the role of N-methyl-D-aspartate receptors. Journal of Comparative Neurology, 1999, 411, 327-345.	1.6	49
62	Alteration of Visual Input Results in a Coordinated Reorganization of Multiple Visual Cortex Maps. Journal of Neuroscience, 2007, 27, 10299-10310.	3.6	48
63	Differential Gene Expression in the Developing Lateral Geniculate Nucleus and Medial Geniculate Nucleus Reveals Novel Roles for Zic4 and Foxp2 in Visual and Auditory Pathway Development. Journal of Neuroscience, 2009, 29, 13672-13683.	3.6	48
64	Spatiotemporal dynamics of noradrenaline during learned behaviour. Nature, 2022, 606, 732-738.	27.8	48
65	Experimentally induced visual projections to the auditory thalamus in ferrets: Evidence for a W cell pathway. Journal of Comparative Neurology, 1993, 334, 263-280.	1.6	46
66	Mechanisms and therapeutic challenges in autism spectrum disorders. Current Opinion in Neurology, 2013, 26, 154-159.	3.6	46
67	Distinct prefrontal top-down circuits differentially modulate sensorimotor behavior. Nature Communications, 2020, 11, 6007.	12.8	46
68	Experimentally Induced Retinal Projections to the Ferret Auditory Thalamus: Development of Clustered Eye-Specific Patterns in a Novel Target. Journal of Neuroscience, 1997, 17, 2040-2055.	3.6	43
69	Enhanced Plasticity of Retinothalamic Projections in an Ephrin-A2/A5 Double Mutant. Journal of Neuroscience, 2001, 21, 7684-7690.	3.6	42
70	Rapid experience-dependent plasticity of synapse function and structure in ferret visual cortex in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 21235-21240.	7.1	40
71	Brainstem inputs to the ferret medial geniculate nucleus and the effect of early deafferentation on novel retinal projections to the auditory thalamus. , 1998, 400, 417-439.		37
72	Acceleration of visually cued conditioned fear through the auditory pathway. Nature Neuroscience, 2004, 7, 968-973.	14.8	36

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73	Visual activity and cortical rewiring: activity-dependent plasticity of cortical networks. Progress in Brain Research, 2006, 157, 3-381.	1.4	35
74	Reflections on the past two decades of neuroscience. Nature Reviews Neuroscience, 2020, 21, 524-534.	10.2	35
75	Mechanisms of Plasticity in the Developing and Adult Visual Cortex. Progress in Brain Research, 2013, 207, 243-254.	1.4	34
76	Dynamics of orientation tuning in cat V1 neurons depend on location within layers and orientation maps. Frontiers in Neuroscience, 2007, 1, 145-159.	2.8	31
77	Ephrin-A2 and -A5 influence patterning of normal and novel retinal projections to the thalamus: Conserved mapping mechanisms in visual and auditory thalamic targets. Journal of Comparative Neurology, 2005, 488, 140-151.	1.6	28
78	Experience-dependent regulation of CaMKII activity within single visual cortex synapses in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 21241-21246.	7.1	28
79	Intrinsic patterning and experience-dependent mechanisms that generate eye-specific projections and binocular circuits in the visual pathway. Current Opinion in Neurobiology, 2009, 19, 181-187.	4.2	26
80	Major Vault Protein, a Candidate Gene in 16p11.2 Microdeletion Syndrome, Is Required for the Homeostatic Regulation of Visual Cortical Plasticity. Journal of Neuroscience, 2018, 38, 3890-3900.	3.6	26
81	Bottom-up and top-down dynamics in visual cortex. Progress in Brain Research, 2005, 149, 65-81.	1.4	23
82	Neural mechanisms of sensorimotor transformation and action selection. European Journal of Neuroscience, 2019, 49, 1055-1060.	2.6	23
83	Local networks in visual cortex and their influence on neuronal responses and dynamics. Journal of Physiology (Paris), 2004, 98, 429-441.	2.1	21
84	El-Boustani et al. reply. Nature, 2014, 508, E3-E4.	27.8	17
85	Cell-specific modulation of plasticity and cortical state by cholinergic inputs to the visual cortex. Journal of Physiology (Paris), 2016, 110, 37-43.	2.1	17
86	Neural Speech Decoding During Audition, Imagination and Production. IEEE Access, 2020, 8, 149714-149729.	4.2	17
87	Reliable Sensory Processing in Mouse Visual Cortex through Cooperative Interactions between Somatostatin and Parvalbumin Interneurons. Journal of Neuroscience, 2021, 41, 8761-8778.	3.6	17
88	STAT1 Regulates the Homeostatic Component of Visual Cortical Plasticity via an AMPA Receptor-Mediated Mechanism. Journal of Neuroscience, 2014, 34, 10256-10263.	3.6	16
89	Normal eye-specific patterning of retinal inputs to murine subcortical visual nuclei in the absence of brain-derived neurotrophic factor. Visual Neuroscience, 2005, 22, 27-36.	1.0	14
90	Two-way communication with neural networks in vivo using focused light. Nature Protocols, 2013, 8, 1184-1203.	12.0	14

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91	Cortical-subcortical interactions in goal-directed behavior. Physiological Reviews, 2023, 103, 347-389.	28.8	13
92	GSK3ÃŸ inhibitor CHIR 99021 modulates cerebral organoid development through dose-dependent regulation of apoptosis, proliferation, differentiation and migration. PLoS ONE, 2021, 16, e0251173.	2.5	12
93	Brainâ€wide mapping of inputs to the mouse lateral posterior (LP/Pulvinar) thalamusâ€"anterior cingulate cortex network. Journal of Comparative Neurology, 2022, 530, 1992-2013.	1.6	12
94	Heterosynaptic Plasticity and the Experience-Dependent Refinement of Developing Neuronal Circuits. Frontiers in Neural Circuits, 2021, 15, 803401.	2.8	12
95	Astrocyte glutamate uptake coordinates experienceâ€dependent, eyeâ€specific refinement in developing visual cortex. Glia, 2021, 69, 1723-1735.	4.9	11
96	De-scattering with Excitation Patterning enables rapid wide-field imaging through scattering media. Science Advances, 2021, 7, .	10.3	11
97	Multiplexed action-outcome representation by striatal striosome-matrix compartments detected with a mouse cost-benefit foraging task. Nature Communications, 2022, 13, 1541.	12.8	11
98	Spike Estimation From Fluorescence Signals Using High-Resolution Property of Group Delay. IEEE Transactions on Signal Processing, 2019, 67, 2923-2936.	5.3	9
99	Signal-to-signal neural networks for improved spike estimation from calcium imaging data. PLoS Computational Biology, 2021, 17, e1007921.	3.2	9
100	Quantitative third-harmonic generation imaging of mouse visual cortex areas reveals correlations between functional maps and structural substrates. Biomedical Optics Express, 2020, 11, 5650.	2.9	9
101	GDspike: An accurate spike estimation algorithm from noisy calcium fluorescence signals. , 2017, , .		8
102	Evidence of Task-Independent Person-Specific Signatures in EEG Using Subspace Techniques. IEEE Transactions on Information Forensics and Security, 2021, 16, 2856-2871.	6.9	8
103	Functional parcellation of mouse visual cortex using statistical techniques reveals response-dependent clustering of cortical processing areas. PLoS Computational Biology, 2021, 17, e1008548.	3.2	4
104	Subspace techniques for task-independent EEG person identification. , 2019, 2019, 4545-4548.		3
105	Molecular Signatures of Response to Mecasermin in Children With Rett Syndrome. Frontiers in Neuroscience, 2022, 16, .	2.8	2
106	The Emerging Nature of Nurture. Science, 2008, 322, 1636-1636.	12.6	1
107	Hemodynamic molecular imaging of tumor-associated enzyme activity in the living brain. ELife, 2021, 10, .	6.0	1
108	A Platform for Spatiotemporal â€œMatrixâ€• Stimulation in Brain Networks Reveals Novel Forms of Circuit Plasticity. Frontiers in Neural Circuits, 2021, 15, 792228.	2.8	0