Sacha B Nelson

List of Publications by Year
in descending order

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95 papers	24,324 citations	20817 60 h-index	37204 96 g-index
127 all docs	127 docs citations	127 times ranked	20855 citing authors

#	Article	IF	Citations
1	Homeostatic plasticity in the developing nervous system. Nature Reviews Neuroscience, 2004, 5, 97-107.	10.2	2,027
2	Activity-dependent scaling of quantal amplitude in neocortical neurons. Nature, 1998, 391, 892-896.	27.8	1,944
3	Synaptic plasticity: taming the beast. Nature Neuroscience, 2000, 3, 1178-1183.	14.8	1,822
4	A Resource of Cre Driver Lines for Genetic Targeting of GABAergic Neurons in Cerebral Cortex. Neuron, 2011, 71, 995-1013.	8.1	1,659
5	Highly Nonrandom Features of Synaptic Connectivity in Local Cortical Circuits. PLoS Biology, 2005, 3, e68.	5.6	1,222
6	Rate, Timing, and Cooperativity Jointly Determine Cortical Synaptic Plasticity. Neuron, 2001, 32, 1149-1164.	8.1	1,022
7	Excitatory/Inhibitory Balance and Circuit Homeostasis in Autism Spectrum Disorders. Neuron, 2015, 87, 684-698.	8.1	858
8	New insights into the classification and nomenclature of cortical GABAergic interneurons. Nature Reviews Neuroscience, 2013, 14, 202-216.	10.2	707
9	Hebb and homeostasis in neuronal plasticity. Current Opinion in Neurobiology, 2000, 10, 358-364.	4.2	594
10	Reduced cortical activity due to a shift in the balance between excitation and inhibition in a mouse model of Rett Syndrome. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 12560-12565.	7.1	558
11	Critical periods for experience-dependent synaptic scaling in visual cortex. Nature Neuroscience, 2002, 5, 783-789.	14.8	541
12	Neocortical LTD via Coincident Activation of Presynaptic NMDA and Cannabinoid Receptors. Neuron, 2003, 39, 641-654.	8.1	532
13	A Quantitative Description of Short-Term Plasticity at Excitatory Synapses in Layer 2/3 of Rat Primary Visual Cortex. Journal of Neuroscience, 1997, 17, 7926-7940.	3.6	527
14	The Disease Progression of Mecp2 Mutant Mice Is Affected by the Level of BDNF Expression. Neuron, 2006, 49, 341-348.	8.1	512
15	Molecular taxonomy of major neuronal classes in the adult mouse forebrain. Nature Neuroscience, 2006, 9, 99-107.	14.8	502
16	Short-Term Depression at Thalamocortical Synapses Contributes to Rapid Adaptation of Cortical Sensory Responses In Vivo. Neuron, 2002, 34, 437-446.	8.1	454
17	BDNF Has Opposite Effects on the Quantal Amplitude of Pyramidal Neuron and Interneuron Excitatory Synapses. Neuron, 1998, 21, 521-530.	8.1	425
18	Selective reconfiguration of layer 4 visual cortical circuitry by visual deprivation. Nature Neuroscience, 2004, 7, 1353-1359.	14.8	358

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19	Synaptic Depression and the Temporal Response Characteristics of V1 Cells. Journal of Neuroscience, 1998, 18, 4785-4799.	3.6	352
20	Potentiation of cortical inhibition by visual deprivation. Nature, 2006, 443, 81-84.	27.8	344
21	Layer V Neurons in Mouse Cortex Projecting to Different Targets Have Distinct Physiological Properties. Journal of Neurophysiology, 2007, 98, 3330-3340.	1.8	319
22	The Fezf2â€“Ctip2 genetic pathway regulates the fate choice of subcortical projection neurons in the developing cerebral cortex. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 11382-11387.	7.1	313
23	The Cellular and Synaptic Architecture of the Mechanosensory Dorsal Horn. Cell, 2017, 168, 295-310.e19.	28.9	306
24	Activity Coregulates Quantal AMPA and NMDA Currents at Neocortical Synapses. Neuron, 2000, 26, 659-670.	8.1	300
25	Spatio-Temporal Subthreshold Receptive Fields in the Vibrissa Representation of Rat Primary Somatosensory Cortex. Journal of Neurophysiology, 1998, 80, 2882-2892.	1.8	297
26	Transcriptional and Electrophysiological Maturation of Neocortical Fast-Spiking GABAergic Interneurons. Journal of Neuroscience, 2009, 29, 7040-7052.	3.6	256
27	Strength through Diversity. Neuron, 2008, 60, 477-482.	8.1	208
28	Convergence of pontine and proprioceptive streams onto multimodal cerebellar granule cells. ELife, 2013, 2, e00400.	6.0	206
29	Spike timing, calcium signals and synaptic plasticity. Current Opinion in Neurobiology, 2002, 12, 305-314.	4.2	199
30	Multiple Forms of Short-Term Plasticity at Excitatory Synapses in Rat Medial Prefrontal Cortex. Journal of Neurophysiology, 2000, 83, 3031-3041.	1.8	195
31	Fast Propagation of Firing Rates through Layered Networks of Noisy Neurons. Journal of Neuroscience, 2002, 22, 1956-1966.	3.6	193
32	Preclinical research in Rett syndrome: setting the foundation for translational success. DMM Disease Models and Mechanisms, 2012, 5, 733-745.	2.4	183
33	The NMDA-to-AMPA Ratio at Synapses Onto Layer 2/3 Pyramidal Neurons Is Conserved Across Prefrontal and Visual Cortices. Journal of Neurophysiology, 2003, 90, 771-779.	1.8	180
34	Complex cells as cortically amplified simple cells. Nature Neuroscience, 1999, 2, 277-282.	14.8	179
35	A role for microRNAs in the Drosophila circadian clock. Genes and Development, 2009, 23, 2179-2191.	5.9	178
36	Differential Depression at Excitatory and Inhibitory Synapses in Visual Cortex. Journal of Neuroscience, 1999, 19, 4293-4304.	3.6	174

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37	Orientation Selectivity without Orientation Maps in Visual Cortex of a Highly Visual Mammal. Journal of Neuroscience, 2005, 25, 19-28.	3.6	161
38	The problem of neuronal cell types: a physiological genomics approach. Trends in Neurosciences, 2006, 29, 339-345.	8.6	145
39	Dynamics of neuronal processing in rat somatosensory cortex. Trends in Neurosciences, 1999, 22, 513-520.	8.6	143
40	A proportional but slower NMDA potentiation follows AMPA potentiation in LTP. Nature Neuroscience, 2004, 7, 518-524.	14.8	139
41	Dissecting differential gene expression within the circadian neuronal circuit of Drosophila. Nature Neuroscience, 2010, 13, 60-68.	14.8	135
42	A manual method for the purification of fluorescently labeled neurons from the mammalian brain. Nature Protocols, 2007, 2, 2924-2929.	12.0	133
43	Prenatal thalamic waves regulate cortical area size prior to sensory processing. Nature Communications, 2017, 8, 14172.	12.8	132
44	A repeated molecular architecture across thalamic pathways. Nature Neuroscience, 2019, 22, 1925-1935.	14.8	132
45	A Critical and Cell-Autonomous Role for MeCP2 in Synaptic Scaling Up. Journal of Neuroscience, 2012, 32, 13529-13536.	3.6	122
46	Cell-Type-Specific Repression by Methyl-CpG-Binding Protein 2 Is Biased toward Long Genes. Journal of Neuroscience, 2014, 34, 12877-12883.	3.6	119
47	Postsynaptic Depolarization Scales Quantal Amplitude in Cortical Pyramidal Neurons. Journal of Neuroscience, 2001, 21, RC170-RC170.	3.6	114
48	Intact Long-Term Potentiation but Reduced Connectivity between Neocortical Layer 5 Pyramidal Neurons in a Mouse Model of Rett Syndrome. Journal of Neuroscience, 2009, 29, 11263-11270.	3.6	112
49	Striosomeâ€“dendron bouquets highlight a unique striatonigral circuit targeting dopamine-containing neurons. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 11318-11323.	7.1	112
50	Pathophysiology of Locus Ceruleus Neurons in a Mouse Model of Rett Syndrome. Journal of Neuroscience, 2009, 29, 12187-12195.	3.6	110
51	A Quantitative Comparison of Cell-Type-Specific Microarray Gene Expression Profiling Methods in the Mouse Brain. PLoS ONE, 2011, 6, e16493.	2.5	108
52	Genome-wide identification of targets of the droshaâ€“pasha/DGCR8 complex. Rna, 2009, 15, 537-545.	3.5	104
53	Cell Type-Specific Transcriptomics in the Brain. Journal of Neuroscience, 2011, 31, 6939-6943.	3.6	100
54	Activity-Dependent Remodeling of Presynaptic Inputs by Postsynaptic Expression of Activated CaMKII. Neuron, 2003, 39, 269-281.	8.1	93

#	Article	IF	Citations
55	Recent advances in single-cell MALDI mass spectrometry imaging and potential clinical impact. Expert Review of Proteomics, 2011, 8, 591-604.	3.0	89
56	Endocannabinoid-Dependent Neocortical Layer-5 LTD in the Absence of Postsynaptic Spiking. Journal of Neurophysiology, 2004, 92, 3338-3343.	1.8	85
57	Probing the transcriptome of neuronal cell types. Current Opinion in Neurobiology, 2006, 16, 571-576.	4.2	82
58	Multiple forms of long-term plasticity at unitary neocortical layer 5 synapses. Neuropharmacology, 2007, 52, 176-184.	4.1	82
59	Cell-typeâ€"based model explaining coexpression patterns of genes in the brain. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 5397-5402.	7.1	66
60	The squirrel as a rodent model of the human visual system. Visual Neuroscience, 2006, 23, 765-778.	1.0	64
61	Thinking Globally, Acting Locally. Neuron, 1998, 21, 933-935.	8.1	62
62	Lack of Patchy Horizontal Connectivity in Primary Visual Cortex of a Mammal without Orientation Maps. Journal of Neuroscience, 2006, 26, 7680-7692.	3.6	61
63	Mapping the transcriptional diversity of genetically and anatomically defined cell populations in the mouse brain. ELife, 2019, 8, .	6.0	59
64	Receptive Field Properties and Laminar Organization of Lateral Geniculate Nucleus in the Gray Squirrel (Sciurus carolinensis). Journal of Neurophysiology, 2003, 90, 3398-3418.	1.8	58
65	Region-Specific Spike-Frequency Acceleration in Layer 5 Pyramidal Neurons Mediated by Kv1 Subunits. Journal of Neuroscience, 2008, 28, 13716-13726.	3.6	58
66	Laminar Organization of Response Properties in Primary Visual Cortex of the Gray Squirrel<i>(Sciurus) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.8	57
67	A Mammalian enhancer trap resource for discovering and manipulating neuronal cell types. ELife, 2016, 5, e13503.	6.0	57
68	Synaptic depression: a key player in the cortical balancing act. Nature Neuroscience, 1998, 1, 539-541.	14.8	56
69	Single and population coding of taste in the gustatory cortex of awake mice. Journal of Neurophysiology, 2019, 122, 1342-1356.	1.8	44
70	Topographic organization of the optic radiation of the cat. Journal of Comparative Neurology, 1985, 240, 322-330.	1.6	35
71	Activityâ€dependent changes in the firing properties of neocortical fastâ€spiking interneurons in the absence of large changes in gene expression. Developmental Neurobiology, 2011, 71, 62-70.	3.0	35
72	Ten years of Nature Reviews Neuroscience: insights from the highly cited. Nature Reviews Neuroscience, 2010, 11, 718-726.	10.2	32

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73	Rate and timing in cortical synaptic plasticity. Philosophical Transactions of the Royal Society B: Biological Sciences, 2002, 357, 1851-1857.	4.0	28
74	Functional cell classes and functional architecture in the early visual system of a highly visual rodent. Progress in Brain Research, 2005, 149, 127-145.	1.4	24
75	Optogenetic Mapping of Intracortical Circuits Originating from Semilunar Cells in the Piriform Cortex. Cerebral Cortex, 2017, 27, bhv258.	2.9	24
76	Cortical RORÎ² is required for layer 4 transcriptional identity and barrel integrity. ELife, 2020, 9, .	6.0	21
77	Upregulation of Î¼3A Drives Homeostatic Plasticity by Rerouting AMPAR into the Recycling Endosomal Pathway. Cell Reports, 2016, 16, 2711-2722.	6.4	19
78	NMDA receptors in sensory information processing. Current Opinion in Neurobiology, 1992, 2, 484-488.	4.2	17
79	Decorrelation of spike trains by synaptic depression. Neurocomputing, 1999, 26-27, 147-153.	5.9	16
80	Dicer maintains the identity and function of proprioceptive sensory neurons. Journal of Neurophysiology, 2017, 117, 1057-1069.	1.8	16
81	Hebb and anti-Hebb meet in the brainstem. Nature Neuroscience, 2004, 7, 687-688.	14.8	15
82	The role of the gustatory cortex in incidental experience-evoked enhancement of later taste learning. Learning and Memory, 2018, 25, 587-600.	1.3	15
83	RNASeqMetaDB: a database and web server for navigating metadata of publicly available mouse RNA-Seq datasets. Bioinformatics, 2015, 31, 4038-4040.	4.1	14
84	Activity-dependent regulation of excitability in rat visual cortical neurons. Neurocomputing, 1999, 26-27, 101-106.	5.9	12
85	MeCP2: Phosphorylated Locally, Acting Globally. Neuron, 2011, 72, 3-5.	8.1	11
86	Deletion of Stk11 and Fos in mouse BLA projection neurons alters intrinsic excitability and impairs formation of long-term aversive memory. ELife, 2020, 9, .	6.0	7
87	A recurrent network model for the phase invariance of complex cell responses. Neurocomputing, 2000, 32-33, 339-344.	5.9	5
88	Timing Isn't Everything. Neuron, 2000, 26, 545-546.	8.1	5
89	Multi-unit spike-triggered averaging: a method for probing the physiology of central synapses. Journal of Neuroscience Methods, 2002, 120, 121-129.	2.5	5
90	Synapse and genome: An elusive tÃªte-Ã-tÃªte. Science Signaling, 2015, 8, pe2.	3.6	3

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91	ATAC-seq on Sorted Adult Mouse Neurons. Bio-protocol, 2019, 9, e3382.	0.4	2
92	Neurobiology of disease. Current Opinion in Neurobiology, 2011, 21, 823-826.	4.2	1
93	The squirrel as a rodent model of the human visual system. Visual Neuroscience, 2006, 23, 941-941.	1.0	0
94	Editorial overview: Neuronal Identity. Current Opinion in Neurobiology, 2019, 56, iii-iv.	4.2	0
95	Homeostasis. Cell Systems, 2021, 12, 1124-1126.	6.2	0