

Sacha B Nelson

List of Publications by Year in descending order

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95
papers

24,324
citations

20759

60
h-index

37111

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. <i>Nature Reviews Neuroscience</i> , 2004, 5, 97-107.	4.9	2,027
2	Activity-dependent scaling of quantal amplitude in neocortical neurons. <i>Nature</i> , 1998, 391, 892-896.	13.7	1,944
3	Synaptic plasticity: taming the beast. <i>Nature Neuroscience</i> , 2000, 3, 1178-1183.	7.1	1,822
4	A Resource of Cre Driver Lines for Genetic Targeting of GABAergic Neurons in Cerebral Cortex. <i>Neuron</i> , 2011, 71, 995-1013.	3.8	1,659
5	Highly Nonrandom Features of Synaptic Connectivity in Local Cortical Circuits. <i>PLoS Biology</i> , 2005, 3, e68.	2.6	1,222
6	Rate, Timing, and Cooperativity Jointly Determine Cortical Synaptic Plasticity. <i>Neuron</i> , 2001, 32, 1149-1164.	3.8	1,022
7	Excitatory/Inhibitory Balance and Circuit Homeostasis in Autism Spectrum Disorders. <i>Neuron</i> , 2015, 87, 684-698.	3.8	858
8	New insights into the classification and nomenclature of cortical GABAergic interneurons. <i>Nature Reviews Neuroscience</i> , 2013, 14, 202-216.	4.9	707
9	Hebb and homeostasis in neuronal plasticity. <i>Current Opinion in Neurobiology</i> , 2000, 10, 358-364.	2.0	594
10	Reduced cortical activity due to a shift in the balance between excitation and inhibition in a mouse model of Rett Syndrome. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 12560-12565.	3.3	558
11	Critical periods for experience-dependent synaptic scaling in visual cortex. <i>Nature Neuroscience</i> , 2002, 5, 783-789.	7.1	541
12	Neocortical LTD via Coincident Activation of Presynaptic NMDA and Cannabinoid Receptors. <i>Neuron</i> , 2003, 39, 641-654.	3.8	532
13	A Quantitative Description of Short-Term Plasticity at Excitatory Synapses in Layer 2/3 of Rat Primary Visual Cortex. <i>Journal of Neuroscience</i> , 1997, 17, 7926-7940.	1.7	527
14	The Disease Progression of <i>Mecp2</i> Mutant Mice Is Affected by the Level of BDNF Expression. <i>Neuron</i> , 2006, 49, 341-348.	3.8	512
15	Molecular taxonomy of major neuronal classes in the adult mouse forebrain. <i>Nature Neuroscience</i> , 2006, 9, 99-107.	7.1	502
16	Short-Term Depression at Thalamocortical Synapses Contributes to Rapid Adaptation of Cortical Sensory Responses In Vivo. <i>Neuron</i> , 2002, 34, 437-446.	3.8	454
17	BDNF Has Opposite Effects on the Quantal Amplitude of Pyramidal Neuron and Interneuron Excitatory Synapses. <i>Neuron</i> , 1998, 21, 521-530.	3.8	425
18	Selective reconfiguration of layer 4 visual cortical circuitry by visual deprivation. <i>Nature Neuroscience</i> , 2004, 7, 1353-1359.	7.1	358

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19	Synaptic Depression and the Temporal Response Characteristics of V1 Cells. <i>Journal of Neuroscience</i> , 1998, 18, 4785-4799.	1.7	352
20	Potential of cortical inhibition by visual deprivation. <i>Nature</i> , 2006, 443, 81-84.	13.7	344
21	Layer V Neurons in Mouse Cortex Projecting to Different Targets Have Distinct Physiological Properties. <i>Journal of Neurophysiology</i> , 2007, 98, 3330-3340.	0.9	319
22	The <i>Fezf2</i> genetic pathway regulates the fate choice of subcortical projection neurons in the developing cerebral cortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 11382-11387.	3.3	313
23	The Cellular and Synaptic Architecture of the Mechanosensory Dorsal Horn. <i>Cell</i> , 2017, 168, 295-310.e19.	13.5	306
24	Activity Coregulates Quantal AMPA and NMDA Currents at Neocortical Synapses. <i>Neuron</i> , 2000, 26, 659-670.	3.8	300
25	Spatio-Temporal Subthreshold Receptive Fields in the Vibrissa Representation of Rat Primary Somatosensory Cortex. <i>Journal of Neurophysiology</i> , 1998, 80, 2882-2892.	0.9	297
26	Transcriptional and Electrophysiological Maturation of Neocortical Fast-Spiking GABAergic Interneurons. <i>Journal of Neuroscience</i> , 2009, 29, 7040-7052.	1.7	256
27	Strength through Diversity. <i>Neuron</i> , 2008, 60, 477-482.	3.8	208
28	Convergence of pontine and proprioceptive streams onto multimodal cerebellar granule cells. <i>ELife</i> , 2013, 2, e00400.	2.8	206
29	Spike timing, calcium signals and synaptic plasticity. <i>Current Opinion in Neurobiology</i> , 2002, 12, 305-314.	2.0	199
30	Multiple Forms of Short-Term Plasticity at Excitatory Synapses in Rat Medial Prefrontal Cortex. <i>Journal of Neurophysiology</i> , 2000, 83, 3031-3041.	0.9	195
31	Fast Propagation of Firing Rates through Layered Networks of Noisy Neurons. <i>Journal of Neuroscience</i> , 2002, 22, 1956-1966.	1.7	193
32	Preclinical research in Rett syndrome: setting the foundation for translational success. <i>DMM Disease Models and Mechanisms</i> , 2012, 5, 733-745.	1.2	183
33	The NMDA-to-AMPA Ratio at Synapses Onto Layer 2/3 Pyramidal Neurons Is Conserved Across Prefrontal and Visual Cortices. <i>Journal of Neurophysiology</i> , 2003, 90, 771-779.	0.9	180
34	Complex cells as cortically amplified simple cells. <i>Nature Neuroscience</i> , 1999, 2, 277-282.	7.1	179
35	A role for microRNAs in the <i>Drosophila</i> circadian clock. <i>Genes and Development</i> , 2009, 23, 2179-2191.	2.7	178
36	Differential Depression at Excitatory and Inhibitory Synapses in Visual Cortex. <i>Journal of Neuroscience</i> , 1999, 19, 4293-4304.	1.7	174

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37	Orientation Selectivity without Orientation Maps in Visual Cortex of a Highly Visual Mammal. <i>Journal of Neuroscience</i> , 2005, 25, 19-28.	1.7	161
38	The problem of neuronal cell types: a physiological genomics approach. <i>Trends in Neurosciences</i> , 2006, 29, 339-345.	4.2	145
39	Dynamics of neuronal processing in rat somatosensory cortex. <i>Trends in Neurosciences</i> , 1999, 22, 513-520.	4.2	143
40	A proportional but slower NMDA potentiation follows AMPA potentiation in LTP. <i>Nature Neuroscience</i> , 2004, 7, 518-524.	7.1	139
41	Dissecting differential gene expression within the circadian neuronal circuit of <i>Drosophila</i> . <i>Nature Neuroscience</i> , 2010, 13, 60-68.	7.1	135
42	A manual method for the purification of fluorescently labeled neurons from the mammalian brain. <i>Nature Protocols</i> , 2007, 2, 2924-2929.	5.5	133
43	Prenatal thalamic waves regulate cortical area size prior to sensory processing. <i>Nature Communications</i> , 2017, 8, 14172.	5.8	132
44	A repeated molecular architecture across thalamic pathways. <i>Nature Neuroscience</i> , 2019, 22, 1925-1935.	7.1	132
45	A Critical and Cell-Autonomous Role for MeCP2 in Synaptic Scaling Up. <i>Journal of Neuroscience</i> , 2012, 32, 13529-13536.	1.7	122
46	Cell-Type-Specific Repression by Methyl-CpG-Binding Protein 2 Is Biased toward Long Genes. <i>Journal of Neuroscience</i> , 2014, 34, 12877-12883.	1.7	119
47	Postsynaptic Depolarization Scales Quantal Amplitude in Cortical Pyramidal Neurons. <i>Journal of Neuroscience</i> , 2001, 21, RC170-RC170.	1.7	114
48	Intact Long-Term Potentiation but Reduced Connectivity between Neocortical Layer 5 Pyramidal Neurons in a Mouse Model of Rett Syndrome. <i>Journal of Neuroscience</i> , 2009, 29, 11263-11270.	1.7	112
49	Striosome "dendron bouquets" highlight a unique striatonigral circuit targeting dopamine-containing neurons. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 11318-11323.	3.3	112
50	Pathophysiology of Locus Ceruleus Neurons in a Mouse Model of Rett Syndrome. <i>Journal of Neuroscience</i> , 2009, 29, 12187-12195.	1.7	110
51	A Quantitative Comparison of Cell-Type-Specific Microarray Gene Expression Profiling Methods in the Mouse Brain. <i>PLoS ONE</i> , 2011, 6, e16493.	1.1	108
52	Genome-wide identification of targets of the <i>drosha</i> "pasha/DGCR8" complex. <i>Rna</i> , 2009, 15, 537-545.	1.6	104
53	Cell Type-Specific Transcriptomics in the Brain. <i>Journal of Neuroscience</i> , 2011, 31, 6939-6943.	1.7	100
54	Activity-Dependent Remodeling of Presynaptic Inputs by Postsynaptic Expression of Activated CaMKII. <i>Neuron</i> , 2003, 39, 269-281.	3.8	93

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55	Recent advances in single-cell MALDI mass spectrometry imaging and potential clinical impact. <i>Expert Review of Proteomics</i> , 2011, 8, 591-604.	1.3	89
56	Endocannabinoid-Dependent Neocortical Layer-5 LTD in the Absence of Postsynaptic Spiking. <i>Journal of Neurophysiology</i> , 2004, 92, 3338-3343.	0.9	85
57	Probing the transcriptome of neuronal cell types. <i>Current Opinion in Neurobiology</i> , 2006, 16, 571-576.	2.0	82
58	Multiple forms of long-term plasticity at unitary neocortical layer 5 synapses. <i>Neuropharmacology</i> , 2007, 52, 176-184.	2.0	82
59	Cell-type-based model explaining coexpression patterns of genes in the brain. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 5397-5402.	3.3	66
60	The squirrel as a rodent model of the human visual system. <i>Visual Neuroscience</i> , 2006, 23, 765-778.	0.5	64
61	Thinking Globally, Acting Locally. <i>Neuron</i> , 1998, 21, 933-935.	3.8	62
62	Lack of Patchy Horizontal Connectivity in Primary Visual Cortex of a Mammal without Orientation Maps. <i>Journal of Neuroscience</i> , 2006, 26, 7680-7692.	1.7	61
63	Mapping the transcriptional diversity of genetically and anatomically defined cell populations in the mouse brain. <i>ELife</i> , 2019, 8, .	2.8	59
64	Receptive Field Properties and Laminar Organization of Lateral Geniculate Nucleus in the Gray Squirrel (<i>Sciurus carolinensis</i>). <i>Journal of Neurophysiology</i> , 2003, 90, 3398-3418.	0.9	58
65	Region-Specific Spike-Frequency Acceleration in Layer 5 Pyramidal Neurons Mediated by Kv1 Subunits. <i>Journal of Neuroscience</i> , 2008, 28, 13716-13726.	1.7	58
66	Laminar Organization of Response Properties in Primary Visual Cortex of the Gray Squirrel(<i>Sciurus</i>) Tj ETQq0 0 0 rgBT/Overlock 10 Tf 50	0.9	57
67	A Mammalian enhancer trap resource for discovering and manipulating neuronal cell types. <i>ELife</i> , 2016, 5, e13503.	2.8	57
68	Synaptic depression: a key player in the cortical balancing act. <i>Nature Neuroscience</i> , 1998, 1, 539-541.	7.1	56
69	Single and population coding of taste in the gustatory cortex of awake mice. <i>Journal of Neurophysiology</i> , 2019, 122, 1342-1356.	0.9	44
70	Topographic organization of the optic radiation of the cat. <i>Journal of Comparative Neurology</i> , 1985, 240, 322-330.	0.9	35
71	Activity-dependent changes in the firing properties of neocortical fast-spiking interneurons in the absence of large changes in gene expression. <i>Developmental Neurobiology</i> , 2011, 71, 62-70.	1.5	35
72	Ten years of Nature Reviews Neuroscience: insights from the highly cited. <i>Nature Reviews Neuroscience</i> , 2010, 11, 718-726.	4.9	32

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73	Rate and timing in cortical synaptic plasticity. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2002, 357, 1851-1857.	1.8	28
74	Functional cell classes and functional architecture in the early visual system of a highly visual rodent. <i>Progress in Brain Research</i> , 2005, 149, 127-145.	0.9	24
75	Optogenetic Mapping of Intracortical Circuits Originating from Semilunar Cells in the Piriform Cortex. <i>Cerebral Cortex</i> , 2017, 27, bhv258.	1.6	24
76	Cortical ROR β 2 is required for layer 4 transcriptional identity and barrel integrity. <i>ELife</i> , 2020, 9, .	2.8	21
77	Upregulation of β 3A Drives Homeostatic Plasticity by Rerouting AMPAR into the Recycling Endosomal Pathway. <i>Cell Reports</i> , 2016, 16, 2711-2722.	2.9	19
78	NMDA receptors in sensory information processing. <i>Current Opinion in Neurobiology</i> , 1992, 2, 484-488.	2.0	17
79	Decorrelation of spike trains by synaptic depression. <i>Neurocomputing</i> , 1999, 26-27, 147-153.	3.5	16
80	Dicer maintains the identity and function of proprioceptive sensory neurons. <i>Journal of Neurophysiology</i> , 2017, 117, 1057-1069.	0.9	16
81	Hebb and anti-Hebb meet in the brainstem. <i>Nature Neuroscience</i> , 2004, 7, 687-688.	7.1	15
82	The role of the gustatory cortex in incidental experience-evoked enhancement of later taste learning. <i>Learning and Memory</i> , 2018, 25, 587-600.	0.5	15
83	RNASeqMetaDB: a database and web server for navigating metadata of publicly available mouse RNA-Seq datasets. <i>Bioinformatics</i> , 2015, 31, 4038-4040.	1.8	14
84	Activity-dependent regulation of excitability in rat visual cortical neurons. <i>Neurocomputing</i> , 1999, 26-27, 101-106.	3.5	12
85	MeCP2: Phosphorylated Locally, Acting Globally. <i>Neuron</i> , 2011, 72, 3-5.	3.8	11
86	Deletion of <i>Stk11</i> and <i>Fos</i> in mouse BLA projection neurons alters intrinsic excitability and impairs formation of long-term aversive memory. <i>ELife</i> , 2020, 9, .	2.8	7
87	A recurrent network model for the phase invariance of complex cell responses. <i>Neurocomputing</i> , 2000, 32-33, 339-344.	3.5	5
88	Timing Isn't Everything. <i>Neuron</i> , 2000, 26, 545-546.	3.8	5
89	Multi-unit spike-triggered averaging: a method for probing the physiology of central synapses. <i>Journal of Neuroscience Methods</i> , 2002, 120, 121-129.	1.3	5
90	Synapse and genome: An elusive β -catenin. <i>Science Signaling</i> , 2015, 8, pe2.	1.6	3

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91	ATAC-seq on Sorted Adult Mouse Neurons. Bio-protocol, 2019, 9, e3382.	0.2	2
92	Neurobiology of disease. Current Opinion in Neurobiology, 2011, 21, 823-826.	2.0	1
93	The squirrel as a rodent model of the human visual system. Visual Neuroscience, 2006, 23, 941-941.	0.5	0
94	Editorial overview: Neuronal Identity. Current Opinion in Neurobiology, 2019, 56, iii-iv.	2.0	0
95	Homeostasis. Cell Systems, 2021, 12, 1124-1126.	2.9	0