Nicholas C Spitzer

List of Publications by Year
in descending order

111 papers	9,636 citations	38742 50 h-index	37204 96 g-index
118 all docs	118 docs citations	118 times ranked	7558 citing authors

#	Article	IF	Citations
1	Photoperiodâ€induced neurotransmitter plasticity declines with aging: An epigenetic regulation?. Journal of Comparative Neurology, 2020, 528, 199-210.	1.6	9
2	Exercise enhances motor skill learning by neurotransmitter switching in the adult midbrain. Nature Communications, 2020, 11, 2195.	12.8	34
3	Decoding Neurotransmitter Switching: The Road Forward. Journal of Neuroscience, 2020, 40, 4078-4089.	3.6	16
4	Mechanism for neurotransmitter-receptor matching. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 4368-4374.	7.1	12
5	IGFBP2 Plays an Essential Role in Cognitive Development during Early Life. Advanced Science, 2019, 6, 1901152.	11.2	15
6	Neuronal activity regulates neurotransmitter switching in the adult brain following light-induced stress. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 5064-5071.	7.1	45
7	Neurotransmitter Switching in the Developing and Adult Brain. Annual Review of Neuroscience, 2017, 40, 1-19.	10.7	94
8	Neurotransmitter Switching Regulated by miRNAs Controls Changes in Social Preference. Neuron, 2017, 95, 1319-1333.e5.	8.1	51
9	Differences in Number of Midbrain Dopamine Neurons Associated with Summer and Winter Photoperiods in Humans. PLoS ONE, 2016, 11, e0158847.	2.5	79
10	Editorial: Dynamics of cyclic nucleotide signaling in neurons. Frontiers in Cellular Neuroscience, 2015, 9, 296.	3.7	3
11	Neurotransmitter Switching? No Surprise. Neuron, 2015, 86, 1131-1144.	8.1	78
12	Neuroscience Neurotransmitter-tailored dendritic trees. Science, 2015, 350, 510-511.	12.6	3
13	Non-Cell-Autonomous Mechanism of Activity-Dependent Neurotransmitter Switching. Neuron, 2014, 82, 1004-1016.	8.1	38
14	The Challenge of Connecting the Dots in the B.R.A.I.N.. Neuron, 2013, 80, 270-274.	8.1	73
15	Development of GABA Circuitry of Fast-Spiking Basket Interneurons in the Medial Prefrontal Cortex of<i>erbb4</i>-Mutant Mice. Journal of Neuroscience, 2013, 33, 19724-19733.	3.6	53
16	Activity-dependent competition regulates motor neuron axon pathfinding via PlexinA3. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 1524-1529.	7.1	64
17	Neurotransmitter Switching in the Adult Brain Regulates Behavior. Science, 2013, 340, 449-453.	12.6	282
18	Imaging and Manipulating Calcium Transients in Developing <i>Xenopus</i> Spinal Neurons. Cold Spring Harbor Protocols, 2013, 2013, pdb.prot066803.	0.3	3

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19	Activity-dependent neurotransmitter respecification. Nature Reviews Neuroscience, 2012, 13, 94-106.	10.2	136
20	Reserve pool neuron transmitter respecification: Novel neuroplasticity. Developmental Neurobiology, 2012, 72, 465-474.	3.0	35
21	Neurotransmitter phenotype plasticity: An unexpected mechanism in the toolbox of network activity homeostasis. Developmental Neurobiology, 2012, 72, 22-32.	3.0	24
22	Genetic patterns of correlation among subcortical volumes in humans: Results from a magnetic resonance imaging twin study. Human Brain Mapping, 2011, 32, 641-653.	3.6	47
23	Spatial and temporal second messenger codes for growth cone turning. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 13776-13781.	7.1	82
24	Calcium Signaling in Neuronal Development. Cold Spring Harbor Perspectives in Biology, 2011, 3, a004259-a004259.	5.5	241
25	Contexts for Dopamine Specification by Calcium Spike Activity in the CNS. Journal of Neuroscience, 2011, 31, 78-88.	3.6	33
26	How GABA generates depolarization. Journal of Physiology, 2010, 588, 757-758.	2.9	33
27	cJun integrates calcium activity and tlx3 expression to regulate neurotransmitter specification. Nature Neuroscience, 2010, 13, 944-950.	14.8	80
28	Target-Dependent Regulation of Neurotransmitter Specification and Embryonic Neuronal Calcium Spike Activity. Journal of Neuroscience, 2010, 30, 5792-5801.	3.6	10
29	Activity-Dependent Expression of Lmx1b Regulates Specification of Serotonergic Neurons Modulating Swimming Behavior. Neuron, 2010, 67, 321-334.	8.1	84
30	Phenotypic checkpoints regulate neuronal development. Trends in Neurosciences, 2010, 33, 485-492.	8.6	76
31	Spontaneous Calcium Spike Activity in Embryonic Spinal Neurons Is Regulated by Developmental Expression of the Na+, K+-ATPase Â3 Subunit. Journal of Neuroscience, 2009, 29, 7877-7885.	3.6	27
32	We've Got NERVE: A Call to Arms for Neuroscience Education. Journal of Neuroscience, 2009, 29, 3337-3339.	3.6	12
33	A bar code for differentiation. Nature, 2009, 458, 843-844.	27.8	6
34	Mechanisms of Synapse Formation: Activity-Dependent Selection of Neurotransmitters and Receptors. , 2009, , 1-12.		0
35	Brain awareness week and beyond: encouraging the next generation. Journal of Undergraduate Neuroscience Education: JUNE: A Publication of FUN, Faculty for Undergraduate Neuroscience, 2009, 8, A61-5.	0.0	6
36	Illumination controls differentiation of dopamine neurons regulating behaviour. Nature, 2008, 456, 195-201.	27.8	110

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37	Calcium: first messenger. Nature Neuroscience, 2008, 11, 243-244.	14.8	16
38	Embryonically Expressed GABA and Glutamate Drive Electrical Activity Regulating Neurotransmitter Specification. Journal of Neuroscience, 2008, 28, 4777-4784.	3.6	82
39	Neurite Outgrowth and In Vivo Sensory Innervation Mediated by a CaV2.2-Laminin Â2 Stop Signal. Journal of Neuroscience, 2008, 28, 2366-2374.	3.6	28
40	Implications of activity-dependent neurotransmitterâ€"receptor matching. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 1393-1399.	4.0	29
41	A Rosetta stone for analysis of human membrane protein function. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 10641-10642.	7.1	3
42	Activity-dependent neurotransmitter-receptor matching at the neuromuscular junction. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 335-340.	7.1	100
43	Electrical activity in early neuronal development. Nature, 2006, 444, 707-712.	27.8	655
44	Second Messenger Pas de Deux: The Coordinated Dance Between Calcium and cAMP. Science Signaling, 2006, 2006, pe22-pe22.	3.6	44
45	Calcium in the function of the nervous system: New implications. Cell Calcium, 2005, 37, 371-374.	2.4	14
46	Homeostatic activity-dependent paradigm for neurotransmitter specification. Cell Calcium, 2005, 37, 417-423.	2.4	34
47	Local calcium transients contribute to disappearance of pFAK, focal complex removal and deadhesion of neuronal growth cones and fibroblasts. Developmental Biology, 2005, 287, 201-212.	2.0	39
48	Coincidence detection enhances appropriate wiring of the nervous system. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 5311-5312.	7.1	21
49	Activity-dependent homeostatic specification of transmitter expression in embryonic neurons. Nature, 2004, 429, 523-530.	27.8	381
50	Calcium transients regulate patterned actin assembly during myofibrillogenesis. Developmental Dynamics, 2004, 229, 231-242.	1.8	24
51	Orchestrating neuronal differentiation: patterns of Ca2+ spikes specify transmitter choice. Trends in Neurosciences, 2004, 27, 415-421.	8.6	143
52	Activity-dependent neuronal differentiation prior to synapse formation: the functions of calcium transients. Journal of Physiology (Paris), 2002, 96, 73-80.	2.1	89
53	Outside and in: development of neuronal excitability. Current Opinion in Neurobiology, 2002, 12, 315-323.	4.2	83
54	Dynamic interactions of cyclic AMP transients and spontaneous Ca2+ spikes. Nature, 2002, 418, 93-96.	27.8	157

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55	Adaptation in the chemotactic guidance of nerve growth cones. Nature, 2002, 417, 411-418.	27.8	388
56	Filopodial Calcium Transients Promote Substrate-Dependent Growth Cone Turning. Science, 2001, 291, 1983-1987.	12.6	280
57	Sustained upregulation in embryonic spinal neurons of a Kv3.1 potassium channel gene encoding a delayed rectifier current. Journal of Neurobiology, 2000, 42, 347-356.	3.6	26
58	Coding of neuronal differentiation by calcium transients. BioEssays, 2000, 22, 811-817.	2.5	133
59	Regulation of growth cone behavior by calcium: New dynamics to earlier perspectives. Journal of Neurobiology, 2000, 44, 174-183.	3.6	141
60	Antisense Suppression of Potassium Channel Expression Demonstrates Its Role in Maturation of the Action Potential. Journal of Neuroscience, 2000, 20, 6087-6094.	3.6	22
61	Regulation of Calcineurin by Growth Cone Calcium Waves Controls Neurite Extension. Journal of Neuroscience, 2000, 20, 315-325.	3.6	141
62	Specific Frequencies of Spontaneous Ca2+ Transients Upregulate GAD 67 Transcripts in Embryonic Spinal Neurons. Molecular and Cellular Neurosciences, 2000, 16, 376-387.	2.2	66
63	Differentiation of electrical excitability in motoneurons. Brain Research Bulletin, 2000, 53, 547-552.	3.0	28
64	Sustained upregulation in embryonic spinal neurons of a Kv3.1 potassium channel gene encoding a delayed rectifier current. Journal of Neurobiology, 2000, 42, 347.	3.6	1
65	Coding of neuronal differentiation by calcium transients. BioEssays, 2000, 22, 811-817.	2.5	3
66	Ca2+-Permeable AMPA Receptors and Spontaneous Presynaptic Transmitter Release at Developing Excitatory Spinal Synapses. Journal of Neuroscience, 1999, 19, 8528-8541.	3.6	40
67	In vivo regulation of axon extension and pathfinding by growth-cone calcium transients. Nature, 1999, 397, 350-355.	27.8	448
68	New dimensions of neuronal plasticity. Nature Neuroscience, 1999, 2, 489-491.	14.8	43
69	Calcium Signaling in the Developing Xenopus Myotome. Developmental Biology, 1999, 213, 269-282.	2.0	56
70	Development of electrical excitability: Mechanisms and roles. , 1998, 37, 1-2.		6
71	Development of electrical excitability in embryonic neurons: Mechanisms and roles. Journal of Neurobiology, 1998, 37, 190-197.	3.6	75
72	Properties of Ectopic Neurons Induced byXenopusNeurogenin1 Misexpression. Molecular and Cellular Neurosciences, 1998, 12, 281-299.	2.2	33

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73	A Calcium Signaling Cascade Essential for Myosin Thick Filament Assembly in Xenopus Myocytes. Journal of Cell Biology, 1998, 141, 1349-1356.	5.2	68
74	AMPA and NMDA Receptors Expressed by Differentiating Xenopus Spinal Neurons. Journal of Neurophysiology, 1998, 79, 2986-2998.	1.8	35
75	Development of electrical excitability in embryonic neurons: Mechanisms and roles. Journal of Neurobiology, 1998, 37, 190-197.	3.6	3
76	Breaking the Code: Regulation of Neuronal Differentiation by Spontaneous Calcium Transients. Developmental Neuroscience, 1997, 19, 33-41.	2.0	118
77	Biological Information Processing: Bits of Progress. Science, 1997, 277, 1060-1061.	12.6	21
78	Purposeful patterns of spontaneous calcium transients in embryonic spinal neurons. Seminars in Cell and Developmental Biology, 1997, 8, 13-19.	5.0	16
79	Spontaneous Calcium Transients Regulate Myofibrillogenesis in EmbryonicXenopusMyocytes. Developmental Biology, 1996, 178, 484-497.	2.0	69
80	Mitochondrial Dysfunction Is a Primary Event in Glutamate Neurotoxicity. Journal of Neuroscience, 1996, 16, 6125-6133.	3.6	751
81	Temporal Regulation ofShaker- andShab-Like Potassium Channel Gene Expression in Single Embryonic Spinal Neurons during K+Current Development. Journal of Neuroscience, 1996, 16, 3287-3295.	3.6	58
82	Spontaneous calcium transients regulate neuronal plasticity in developing neurons. Journal of Neurobiology, 1995, 26, 316-324.	3.6	60
83	Distinct aspects of neuronal differentiation encoded by frequency of spontaneous Ca2+ transients. Nature, 1995, 375, 784-787.	27.8	530
84	Development of voltage-dependent and ligand-gated channels in excitable membranes. Progress in Brain Research, 1994, 102, 169-179.	1.4	27
85	Action potentials, calcium transients and the control of differentiation of excitable cells. Current Opinion in Neurobiology, 1994, 4, 70-77.	4.2	124
86	Spontaneous Ca2+ spikes and waves in embryonic neurons: signaling systems for differentiation. Trends in Neurosciences, 1994, 17, 115-118.	8.6	134
87	Chapter 12 Calcium and gene expression. Progress in Brain Research, 1994, 103, 123-126.	1.4	6
88	Calcium regulates neuronal differentiation both directly and via co-cultured myocytes. Journal of Neurobiology, 1993, 24, 506-514.	3.6	14
89	Calcium dependence of differentiation of GABA immunoreactivity in spinal neurons. Journal of Comparative Neurology, 1993, 337, 168-175.	1.6	64
90	Differentiation of delayed rectifier potassium current in embryonic amphibian myocytes. Developmental Biology, 1991, 144, 119-128.	2.0	29

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91	Calcium-induced release of calcium regulates differentiation of cultured spinal neurons. Neuron, 1991, 7, 787-796.	8.1	173
92	Role of calcium and protein kinase C in development of the delayed rectifier potassium current in xenopus spinal neurons. Neuron, 1991, 7, 797-805.	8.1	91
93	A developmental handshake: Neuronal control of ionic currents and their control of neuronal differentiation. Journal of Neurobiology, 1991, 22, 659-673.	3.6	187
94	Spontaneous calcium influx and its roles in differentiation of spinal neurons in culture. Developmental Biology, 1990, 141, 13-23.	2.0	130
95	A critical period of transcription required for differentiation of the action potential of spinal neurons. Neuron, 1989, 2, 1055-1062.	8.1	70
96	Autonomous early differentiation of neurons and muscle cells in single cell cultures. Developmental Biology, 1986, 113, 381-387.	2.0	40
97	Early differentiation of vertebrate spinal neurons in the absence of voltage-dependent Ca2+ and Na+ influx. Developmental Biology, 1984, 106, 89-96.	2.0	93
98	What do rohon-beard cells do?. Trends in Neurosciences, 1984, 7, 224-225.	8.6	11
99	The Differentiation of Membrane Properties of Spinal Neurons. , 1984, , 95-106.		6
100	The Early Differentiation of Neuronal Membrane Properties. , 1984, , 239-250.		3
101	The appearance and development of chemosensitivity in Rohonâ€"Beard neurones of the <i>Xenopus</i> spinal cord. Journal of Physiology, 1982, 330, 513-536.	2.9	52
102	Voltageâ€•and stageâ€development uncoupling of Rohonâ€Beard neurones during embryonic development of <i>Xenopus</i> tadpoles. Journal of Physiology, 1982, 330, 145-162.	2.9	41
103	Development of membrane properties in vertebrates. Trends in Neurosciences, 1981, 4, 169-172.	8.6	19
104	The mature electrical properties of identified neurones in grasshopper embryos. Journal of Physiology, 1981, 313, 369-384.	2.9	35
105	Ultrastructural development of Rohon-Beard neurons: Loss of intramitochondrial granules parallels loss of calcium action potentials. Journal of Comparative Neurology, 1979, 183, 741-752.	1.6	14
106	Embryonic development of identified neurones: differentiation from neuroblast to neurone. Nature, 1979, 280, 208-214.	27.8	376
107	Low pH selectively blocks calcium action potentials in amphibian neurons developing in culture. Brain Research, 1979, 161, 555-559.	2.2	13
108	Developmental changes in the inward current of the action potential of Rohonâ€Beard neurones. Journal of Physiology, 1977, 271, 93-117.	2.9	154

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109	Development of the action potential in embryo amphibian neuronsin vivo. Brain Research, 1976, 107, 610-616.	2.2	87
110	LOW RESISTANCE CONNECTIONS BETWEEN CELLS IN THE DEVELOPING ANTHER OF THE LILY. Journal of Cell Biology, 1970, 45, 565-575.	5.2	22
111	Global and Local Regulation of Neuronal Differentiation by Calcium Transients. Lecture Notes in Physics, 0, , 67-83.	0.7	0