Robert S Zucker

List of Publications by Year
in descending order

101 papers	15,603 citations	34105 52 h-index	39675 94 g-index
146 all docs	146 docs citations	146 times ranked	9559 citing authors

#	Article	IF	Citations
1	Human Sperm Rotation is Regulated by Asymmetrically Positioned Flagellar Control Units. Biophysical Journal, 2018, 114, 302a.	0.5	0
2	Asymmetrically Positioned Flagellar Control Units Regulate Human Sperm Rotation. Cell Reports, 2018, 24, 2606-2613.	6.4	47
3	Release of Neurotransmitters. , 2014, , 443-488.		11
4	Synaptic Plasticity. , 2014, , 533-561.		3
5	Dance of the SNAREs: Assembly and Rearrangements Detected with FRET at Neuronal Synapses. Journal of Neuroscience, 2013, 33, 5507-5523.	3.6	26
6	Photorelease Techniques for Raising or Lowering Intracellular Ca2+. Methods in Cell Biology, 2010, 99, 27-66.	1.1	17
7	Syntaxin1a Dispersion and Assessment of cis-Snare-Complex Formation-Disassembly during Synaptic Transmission in Hippocampal Neurons. Biophysical Journal, 2010, 98, 679a.	0.5	0
8	A General Model of Synaptic Transmission and Short-Term Plasticity. Neuron, 2009, 62, 539-554.	8.1	173
9	A Peer Review How-To. Science, 2008, 319, 32-32.	12.6	11
10	Increased Ca²⁺ influx through Na⁺/Ca²⁺ exchanger during longâ€term facilitation at crayfish neuromuscular junctions. Journal of Physiology, 2007, 585, 413-427.	2.9	10
11	Presynaptic effectors contributing to cAMP-induced synaptic potentiation inDrosophila. Journal of Neurobiology, 2006, 66, 273-280.	3.6	45
12	Calcium Sensitivity of Neurotransmitter Release Differs at Phasic and Tonic Synapses. Journal of Neuroscience, 2005, 25, 3113-3125.	3.6	73
13	cAMP Acts on Exchange Protein Activated by cAMP/cAMP-Regulated Guanine Nucleotide Exchange Protein to Regulate Transmitter Release at the Crayfish Neuromuscular Junction. Journal of Neuroscience, 2005, 25, 208-214.	3.6	99
14	Minis: Whence and Wherefore?. Neuron, 2005, 45, 482-484.	8.1	31
15	Photolysis of Postsynaptic Caged Ca2+ Can Potentiate and Depress Mossy Fiber Synaptic Responses in Rat Hippocampal CA3 Pyramidal Neurons. Journal of Neurophysiology, 2004, 91, 1596-1607.	1.8	25
16	Release of Neurotransmitters. , 2004, , 197-244.		5
17	Calcium Influx Through HCN Channels Does Not Contribute to cAMP-Enhanced Transmission. Journal of Neurophysiology, 2004, 92, 644-647.	1.8	16
18	Roles of Ca2+, Hyperpolarization and Cyclic Nucleotide-Activated Channel Activation, and Actin in Temporal Synaptic Tagging. Journal of Neuroscience, 2004, 24, 4205-4212.	3.6	22

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19	Facilitation through Buffer Saturation: Constraints on Endogenous Buffering Properties. Biophysical Journal, 2004, 86, 2691-2709.	0.5	94
20	NCS-1 Stirs Somnolent Synapses. Nature Neuroscience, 2003, 6, 1006-1008.	14.8	14
21	Can a Synaptic Signal Arise from Noise?. Neuron, 2003, 38, 845-846.	8.1	10
22	New and Corrected Simulations of Synaptic Facilitation. Biophysical Journal, 2002, 83, 1368-1373.	0.5	83
23	Temporal Synaptic Tagging by Ih Activation and Actin. Neuron, 2002, 33, 601-613.	8.1	69
24	Short-Term Synaptic Plasticity. Annual Review of Physiology, 2002, 64, 355-405.	13.1	3,888
25	Phosphorylation and Local Presynaptic Protein Synthesis in Calcium- and Calcineurin-Dependent Induction of Crayfish Long-Term Facilitation. Neuron, 2001, 32, 489-501.	8.1	87
26	Roles for Mitochondrial and Reverse Mode Na⁺/Ca²⁺Exchange and the Plasmalemma Ca²⁺ATPase in Post-Tetanic Potentiation at Crayfish Neuromuscular Junctions. Journal of Neuroscience, 2001, 21, 9598-9607.	3.6	76
27	Presynaptic target of Ca 2+ action on neuropeptide and acetylcholine release in Aplysia californica. Journal of Physiology, 2001, 535, 647-662.	2.9	27
28	Increased Ca 2+ buffering enhances Ca 2+ â€dependent process. Journal of Physiology, 2001, 531, 583-583.	2.9	4
29	Photolysisâ€induced suppression of inhibition in rat hippocampal CA1 pyramidal neurons. Journal of Physiology, 2001, 533, 757-763.	2.9	43
30	Enhancement of synaptic transmission by cyclic AMP modulation of presynaptic Ih channels. Nature Neuroscience, 2000, 3, 133-141.	14.8	218
31	Effects of Mobile Buffers on Facilitation: Experimental and Computational Studies. Biophysical Journal, 2000, 78, 2735-2751.	0.5	89
32	Selective Induction of LTP and LTD by Postsynaptic [Ca²⁺]_i Elevation. Journal of Neurophysiology, 1999, 81, 781-787.	1.8	463
33	Calcium- and activity-dependent synaptic plasticity. Current Opinion in Neurobiology, 1999, 9, 305-313.	4.2	561
34	Magnesium Binding to DM-Nitrophen and Its Effect on the Photorelease of Calcium. Biophysical Journal, 1999, 77, 3384-3393.	0.5	13
35	Induction of Filopodia by Direct Local Elevation of Intracellular Calcium Ion Concentration. Journal of Cell Biology, 1999, 145, 1265-1276.	5.2	88
36	Regulation of Synaptic Vesicle Recycling by Calcium and Serotonin. Neuron, 1998, 21, 155-167.	8.1	94

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37	Mitochondrial Involvement in Post-Tetanic Potentiation of Synaptic Transmission. Neuron, 1997, 18, 483-491.	8.1	413
38	Activity-Dependent Potentiation of Synaptic Transmission From L30 Inhibitory Interneurons of <i>Aplysia </i>Depends on Residual Presynaptic Ca²⁺ But Not on Postsynaptic Ca²⁺. Journal of Neurophysiology, 1997, 78, 2061-2071.	1.8	13
39	Mechanisms Determining the Time Course of Secretion in Neuroendocrine Cells. Neuron, 1996, 16, 369-376.	8.1	138
40	Postsynaptic Levels of [Ca2+]i Needed to Trigger LTD and LTP. Neuron, 1996, 16, 619-629.	8.1	183
41	Postsynaptic Elevation of Calcium Induces Persistent Depression of Developing Neuromuscular Synapses. Neuron, 1996, 16, 745-754.	8.1	37
42	Exocytosis: A Molecular and Physiological Perspective. Neuron, 1996, 17, 1049-1055.	8.1	311
43	Spread of Synaptic Depression Mediated by Presynaptic Cytoplasmic Signaling. Science, 1996, 272, 998-1001.	12.6	51
44	Long-lasting potentiation and depression without presynaptic activity. Journal of Neurophysiology, 1996, 75, 2157-2160.	1.8	41
45	Ca2+ cooperativity in neurosecretion measured using photolabile Ca2+ chelators. Journal of Neurophysiology, 1994, 72, 825-830.	1.8	79
46	Residual Ca2 + and short-term synaptic plasticity. Nature, 1994, 371, 603-606.	27.8	322
47	Kinetics of the secretory response in bovine chromaffin cells following flash photolysis of caged Ca2+. Biophysical Journal, 1994, 67, 2546-2557.	0.5	332
48	Photolytic manipulation of Ca2+ and the time course of slow, Ca(2+)-activated K+ current in rat hippocampal neurones.. Journal of Physiology, 1994, 475, 229-239.	2.9	78
49	Photorelease Techniques for Raising or Lowering Intracellular Ca2+. Methods in Cell Biology, 1994, 40, 31-63.	1.1	29
50	The calcium concentration clamp: spikes and reversible pulses using the photolabile chelator DM-nitrophen. Cell Calcium, 1993, 14, 87-100.	2.4	83
51	Multiple calcium-dependent processes related to secretion in bovine chromaffin cells. Neuron, 1993, 10, 21-30.	8.1	515
52	Release of LHRH is linearly related to the time integral of presynaptic Ca+ elevation above a threshold level in bullfrog sympathetic ganglia. Neuron, 1993, 10, 465-473.	8.1	100
53	Calcium released by photolysis of DMâ€nitrophen triggers transmitter release at the crayfish neuromuscular junction.. Journal of Physiology, 1993, 462, 243-260.	2.9	31
54	Ca(2+)â€dependent inactivation of Ca2+ current in Aplysia neurons: kinetic studies using photolabile Ca2+ chelators.. Journal of Physiology, 1993, 464, 501-528.	2.9	33

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55	Calcium and Short-Term Synaptic Plasticity. Animal Biology, 1993, 44, 495-512.	0.4	20
56	Calcium and transmitter release at nerve terminals. Biochemical Society Transactions, 1993, 21, 395-401.	3.4	25
57	Monensin can transport calcium across cell membranes in a sodium independent fashion in the crayfish Procambarus clarkii. Neuroscience Letters, 1992, 143, 115-118.	2.1	7
58	Temporal limits on the rise in postsynaptic calcium required for the induction of long-term potentiation. Neuron, 1992, 9, 121-128.	8.1	241
59	Time course of transmitter release calculated from simulations of a calcium diffusion model. Biophysical Journal, 1992, 61, 671-682.	0.5	230
60	Effects of photolabile calcium chelators on fluorescent calcium indicators. Cell Calcium, 1992, 13, 29-40.	2.4	55
61	Modulation of M-current by intracellular Ca2+. Neuron, 1991, 6, 533-545.	8.1	94
62	Presynaptic Calcium in Transmitter Release and Posttetanic Potentiation. Annals of the New York Academy of Sciences, 1991, 635, 191-207.	3.8	86
63	Action potentials must admit calcium to evoke transmitter release. Nature, 1991, 350, 153-155.	27.8	104
64	Calcium released by photolysis of DM-nitrophen stimulates transmitter release at squid giant synapse.. Journal of Physiology, 1990, 426, 473-498.	2.9	92
65	"Caged calcium" in Aplysia pacemaker neurons. Characterization of calcium-activated potassium and nonspecific cation currents.. Journal of General Physiology, 1989, 93, 1017-1060.	1.9	54
66	Short-Term Synaptic Plasticity. Annual Review of Neuroscience, 1989, 12, 13-31.	10.7	1,406
67	Models of Calcium Regulation in Neurons. , 1989, , 403-422.		3
68	Membrane potential has no direct role in evoking neurotransmitter release. Nature, 1988, 335, 360-362.	27.8	78
69	Postsynaptic calcium is sufficient for potentiation of hippocampal synaptic transmission. Science, 1988, 242, 81-84.	12.6	851
70	Frequency Dependent Changes in Excitatory Synaptic Efficacy. , 1988, , 153-167.		7
71	The calcium hypothesis and modulation of transmitter release by hyperpolarizing pulses. Biophysical Journal, 1987, 52, 347-350.	0.5	13
72	Control of cytoplasmic calcium with photolabile tetracarboxylate 2-nitrobenzhydrol chelators. Biophysical Journal, 1986, 50, 843-853.	0.5	123

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73	Relationship between transmitter release and presynaptic calcium influx when calcium enters through discrete channels.. Proceedings of the National Academy of Sciences of the United States of America, 1986, 83, 3032-3036.	7.1	178
74	Mechanism of transmitter release: voltage hypothesis and calcium hypothesis. Science, 1986, 231, 574-579.	12.6	123
75	Cobalt blocks the decrease in MEPSP frequency on depolarization in calcium-free hypertonic media. Journal of Neurobiology, 1986, 17, 707-712.	3.6	8
76	Calciumâ€induced inactivation of calcium current causes the interâ€burst hyperpolarization of Aplysia bursting neurones.. Journal of Physiology, 1985, 362, 131-160.	2.9	98
77	Calciumâ€dependent inward current in Aplysia bursting paceâ€maker neurones.. Journal of Physiology, 1985, 362, 107-130.	2.9	121
78	Presynaptic calcium diffusion from various arrays of single channels. Implications for transmitter release and synaptic facilitation. Biophysical Journal, 1985, 48, 1003-1017.	0.5	268
79	Synaptic Facilitation and Residual Calcium. , 1985, , 461-475.		5
80	Post-tetanic decay of evoked and spontaneous transmitter release and a residual-calcium model of synaptic facilitation at crayfish neuromuscular junctions.. Journal of General Physiology, 1983, 81, 355-372.	1.9	74
81	Role of presynaptic calcium ions and channels in synaptic facilitation and depression at the squid giant synapse.. Journal of Physiology, 1982, 323, 173-193.	2.9	269
82	Stray light correction for microspectrophotometric determination of intracellular ion concentration. Journal of Neuroscience Methods, 1982, 5, 389-394.	2.5	3
83	Processes Underlying One Form of Synaptic Plasticity: Facilitation. Advances in Behavioral Biology, 1982, , 249-264.	0.2	8
84	Cytoplasmic alkalization reduces calcium buffering in molluscan central neurons. Brain Research, 1981, 225, 155-170.	2.2	15
85	Tetrathylammonium contains an impurity which alkalizes cytoplasm and reduce calcium buffering in neurons. Brain Research, 1981, 208, 473-478.	2.2	49
86	Aequorin response facilitation and intracellular calcium accumulation in molluscan neurones. Journal of Physiology, 1980, 300, 167-196.	2.9	123
87	Is synaptic facilitation caused by presynaptic spike broadening?. Nature, 1979, 278, 57-59.	27.8	30
88	Calcium activation of the cortical reaction in sea urchin eggs. Nature, 1979, 279, 820-820.	27.8	15
89	Effect of TEA on light emission from aequorin-injected Aplysia central neurons. Brain Research, 1979, 169, 91-102.	2.2	9
90	Intracellular calcium release and the mechanisms of parthenogenetic activation of the sea urchin egg. Developmental Biology, 1978, 65, 285-295.	2.0	97

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91	Command neurons: a more precise definition reveals gaps in our evidence and limits to our models. Behavioral and Brain Sciences, 1978, 1, 35-36.	0.7	3
92	Intracellular calcium release at fertilization in the sea urchin egg. Developmental Biology, 1977, 58, 185-196.	2.0	501
93	Long-lasting depression and the depletion hypothesis at crayfish neuromuscular junctions. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 1977, 121, 223-240.	1.6	49
94	Crayfish neuromuscular facilitation activated by constant presynaptic action potentials and depolarizing pulses. Journal of Physiology, 1974, 241, 69-89.	2.9	84
95	Characteristics of crayfish neuromuscular facilitation and their calcium dependence. Journal of Physiology, 1974, 241, 91-110.	2.9	100
96	Excitability changes in crayfish motor neurone terminals. Journal of Physiology, 1974, 241, 111-126.	2.9	49
97	Theoretical implications of the size principle of motoneurone recruitment. Journal of Theoretical Biology, 1973, 38, 587-596.	1.7	37
98	The joint peristimulus-time scatter diagram is an index of the operational significance of a synapse. Brain Research, 1973, 53, 458-464.	2.2	2
99	Changes in the statistics of transmitter release during facilitation. Journal of Physiology, 1973, 229, 787-810.	2.9	272
100	Neuronal Circuit Mediating Escape Responses in Crayfish. Science, 1971, 173, 645-650.	12.6	164
101	Field Potentials Generated by Dendritic Spikes and Synaptic Potentials. Science, 1969, 165, 409-413.	12.6	22