Erwin Neher

List of Publications by Year
in descending order

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Version: 2024-02-01

93 papers	16,768 citations	17776 65 h-index	48101 92 g-index
114 all docs	114 docs citations	114 times ranked	10053 citing authors

#	Article	IF	Citations
1	Regulation of a subset of release-ready vesicles by the presynaptic protein Mover. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	10
2	Non-negative Matrix Factorization as a Tool to Distinguish Between Synaptic Vesicles in Different Functional States. Neuroscience, 2021, 458, 182-202.	1.1	21
3	Munc13-1 is a Ca2+-phospholipid-dependent vesicle priming hub that shapes synaptic short-term plasticity and enables sustained neurotransmission. Neuron, 2021, 109, 3980-4000.e7.	3.8	31
4	Venus Flytrap: How an Excitable, Carnivorous Plant Works. Trends in Plant Science, 2018, 23, 220-234.	4.3	91
5	Neurosecretion: what can we learn from chromaffin cells. Pflugers Archiv European Journal of Physiology, 2018, 470, 7-11.	1.3	31
6	Dynamically Primed Synaptic Vesicle States: Key to Understand Synaptic Short-Term Plasticity. Neuron, 2018, 100, 1283-1291.	3.8	142
7	Two-component latency distributions indicate two-step vesicular release at simple glutamatergic synapses. Nature Communications, 2018, 9, 3943.	5.8	50
8	Insect haptoelectrical stimulation of Venus flytrap triggers exocytosis in gland cells. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 4822-4827.	3.3	50
9	Some Subtle Lessons from the Calyx of Held Synapse. Biophysical Journal, 2017, 112, 215-223.	0.2	37
10	Dynamics of volumeâ€averaged intracellular Ca²⁺ in a rat CNS nerve terminal during single and repetitive voltageâ€clamp depolarizations. Journal of Physiology, 2017, 595, 3219-3236.	1.3	20
11	The desert plant Phoenix dactylifera closes stomata via nitrateâ€regulated <scp>SLAC</scp>1 anion channel. New Phytologist, 2017, 216, 150-162.	3.5	62
12	Building Bridges through Science. Neuron, 2017, 96, 730-735.	3.8	2
13	Counting Vesicular Release Events Reveals Binomial Release Statistics at Single Glutamatergic Synapses. Journal of Neuroscience, 2016, 36, 4010-4025.	1.7	65
14	Actin- and Myosin-Dependent Vesicle Loading of Presynaptic Docking Sites Prior to Exocytosis. Neuron, 2016, 91, 808-823.	3.8	115
15	Superpriming of synaptic vesicles as a common basis for intersynapse variability and modulation of synaptic strength. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E4548-57.	3.3	100
16	The Venus Flytrap Dionaea muscipula Counts Prey-Induced Action Potentials to Induce Sodium Uptake. Current Biology, 2016, 26, 286-295.	1.8	127
17	Calcium sensor kinase activates potassium uptake systems in gland cells of Venus flytraps. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 7309-7314.	3.3	98
18	Complexin Stabilizes Newly Primed Synaptic Vesicles and Prevents Their Premature Fusion at the Mouse Calyx of Held Synapse. Journal of Neuroscience, 2015, 35, 8272-8290.	1.7	52

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19	Reduced endogenous Ca ²⁺ buffering speeds active zone Ca ²⁺ signaling. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E3075-84.	3.3	49
20	Merits and Limitations of Vesicle Pool Models in View of Heterogeneous Populations of Synaptic Vesicles. Neuron, 2015, 87, 1131-1142.	3.8	201
21	Calciumâ€buffering effects of gluconate and nucleotides, as determined by a novel fluorimetric titration method. Journal of Physiology, 2014, 592, 4863-4875.	1.3	19
22	Quantitative Aspects of Calcium Fluorimetry. Cold Spring Harbor Protocols, 2013, 2013, pdb.top078204.	0.2	7
23	Blocking Endocytosis Enhances Short-Term Synaptic Depression under Conditions of Normal Availability of Vesicles. Neuron, 2013, 80, 343-349.	3.8	97
24	The Dionaea muscipula Ammonium Channel DmAMT1 Provides NH4+ Uptake Associated with Venus Flytrapâ€™s Prey Digestion. Current Biology, 2013, 23, 1649-1657.	1.8	53
25	Dynamic Control of Synaptic Vesicle Replenishment and Short-Term Plasticity by Ca2+-Calmodulin-Munc13-1 Signaling. Neuron, 2013, 79, 82-96.	3.8	149
26	Superpriming of synaptic vesicles after their recruitment to the readily releasable pool. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 15079-15084.	3.3	78
27	Transients in global Ca²⁺ concentration induced by electrical activity in a giant nerve terminal. Journal of Physiology, 2013, 591, 3189-3195.	1.3	14
28	Protein scaffolds in the coupling of synaptic exocytosis and endocytosis. Nature Reviews Neuroscience, 2011, 12, 127-138.	4.9	497
29	A special pair of phytohormones controls excitability, slow closure, and external stomach formation in the Venus flytrap. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 15492-15497.	3.3	108
30	The reserve pool of synaptic vesicles acts as a buffer for proteins involved in synaptic vesicle recycling. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 17183-17188.	3.3	103
31	What is rate-limiting during sustained synaptic activity: vesicle supply or the availability of release sites. Frontiers in Synaptic Neuroscience, 2010, 2, 144.	1.3	146
32	Complexin: Does It Deserve Its Name?. Neuron, 2010, 68, 803-806.	3.8	29
33	Model of synaptic transmission in the calyx of Held. BMC Neuroscience, 2009, 10, .	0.8	0
34	Synaptotagmin Has an Essential Function in Synaptic Vesicle Positioning for Synchronous Release in Addition to Its Role as a Calcium Sensor. Neuron, 2009, 63, 482-496.	3.8	120
35	Blind Source Separation Techniques for the Decomposition of Multiply Labeled Fluorescence Images. Biophysical Journal, 2009, 96, 3791-3800.	0.2	113
36	Details of Ca²⁺ dynamics matter. Journal of Physiology, 2008, 586, 2031-2031.	1.3	15

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37	Analysis of FRET Signals in the Presence of Free Donors and Acceptors. Biophysical Journal, 2008, 94, 986-1000.	0.2	130
38	Multiple Roles of Calcium Ions in the Regulation of Neurotransmitter Release. Neuron, 2008, 59, 861-872.	3.8	750
39	Synaptic Vesicles in Mature Calyx of Held Synapses Sense Higher Nanodomain Calcium Concentrations during Action Potential-Evoked Glutamate Release. Journal of Neuroscience, 2008, 28, 14450-14458.	1.7	119
40	Quantitative Analysis of Calcium-Dependent Vesicle Recruitment and Its Functional Role at the Calyx of Held Synapse. Journal of Neuroscience, 2007, 27, 14286-14298.	1.7	124
41	The Coupling between Synaptic Vesicles and Ca2+ Channels Determines Fast Neurotransmitter Release. Neuron, 2007, 53, 563-575.	3.8	229
42	A comparison between exocytic control mechanisms in adrenal chromaffin cells and a glutamatergic synapse. Pflugers Archiv European Journal of Physiology, 2006, 453, 261-268.	1.3	90
43	Release kinetics, quantal parameters and their modulation during short-term depression at a developing synapse in the rat CNS. Journal of Physiology, 2005, 568, 513-537.	1.3	97
44	Presynaptic calcium and control of vesicle fusion. Current Opinion in Neurobiology, 2005, 15, 266-274.	2.0	301
45	Plasmalemmal Phosphatidylinositol-4,5-Bisphosphate Level Regulates the Releasable Vesicle Pool Size in Chromaffin Cells. Journal of Neuroscience, 2005, 25, 2557-2565.	1.7	208
46	Distinct Kinetic Changes in Neurotransmitter Release After SNARE Protein Cleavage. Science, 2005, 309, 491-494.	6.0	133
47	Applying spectral fingerprinting to the analysis of FRET images. Microscopy Research and Technique, 2004, 64, 185-195.	1.2	64
48	Regulation of Releasable Vesicle Pool Sizes by Protein Kinase A-Dependent Phosphorylation of SNAP-25. Neuron, 2004, 41, 417-429.	3.8	204
49	Combining deconvolution and fluctuation analysis to determine quantal parameters and release rates. Journal of Neuroscience Methods, 2003, 130, 143-157.	1.3	18
50	Direct modulation of synaptic vesicle priming by GABAB receptor activation at a glutamatergic synapse. Nature, 2003, 424, 775-778.	13.7	217
51	Differential Control of the Releasable Vesicle Pools by SNAP-25 Splice Variants and SNAP-23. Cell, 2003, 114, 75-86.	13.5	316
52	Heterogeneous Presynaptic Release Probabilities: Functional Relevance for Short-Term Plasticity. Biophysical Journal, 2003, 84, 1563-1579.	0.2	107
53	Probing the Intracellular Calcium Sensitivity of Transmitter Release during Synaptic Facilitation. Neuron, 2003, 37, 801-811.	3.8	169
54	Involvement of Actin Polymerization in Vesicle Recruitment at the Calyx of Held Synapse. Journal of Neuroscience, 2003, 23, 837-846.	1.7	104

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55	Emerging Roles of Presynaptic Proteins in Ca++-Triggered Exocytosis. Science, 2002, 298, 781-785.	6.0	303
56	Estimation of quantal parameters at the calyx of Held synapse. Neuroscience Research, 2002, 44, 343-356.	1.0	73
57	Vesicle pools and short-term synaptic depression: lessons from a large synapse. Trends in Neurosciences, 2002, 25, 206-212.	4.2	312
58	Separation of Presynaptic and Postsynaptic Contributions to Depression by Covariance Analysis of Successive EPSCs at the Calyx of Held Synapse. Journal of Neuroscience, 2002, 22, 728-739.	1.7	112
59	Estimating Synaptic Parameters from Mean, Variance, and Covariance in Trains of Synaptic Responses. Biophysical Journal, 2001, 81, 1970-1989.	0.2	98
60	Calcium Dependence of Exocytosis and Endocytosis at the Cochlear Inner Hair Cell Afferent Synapse. Neuron, 2001, 29, 681-690.	3.8	310
61	Calmodulin Mediates Rapid Recruitment of Fast-Releasing Synaptic Vesicles at a Calyx-Type Synapse. Neuron, 2001, 32, 1119-1131.	3.8	314
62	Estimation of Quantal Size and Number of Functional Active Zones at the Calyx of Held Synapse by Nonstationary EPSC Variance Analysis. Journal of Neuroscience, 2001, 21, 7889-7900.	1.7	133
63	Estimating Transmitter Release Rates from Postsynaptic Current Fluctuations. Journal of Neuroscience, 2001, 21, 9638-9654.	1.7	56
64	Combining Deconvolution and Noise Analysis for the Estimation of Transmitter Release Rates at the Calyx of Held. Journal of Neuroscience, 2001, 21, 444-461.	1.7	162
65	Quantitative Relationship between Transmitter Release and Calcium Current at the Calyx of Held Synapse. Journal of Neuroscience, 2001, 21, 462-476.	1.7	175
66	Intracellular calcium dependence of transmitter release rates at a fast central synapse. Nature, 2000, 406, 889-893.	13.7	699
67	Kinetics of Ca 2+ binding to parvalbumin in bovine chromaffin cells: implications for [Ca 2+] transients of neuronal dendrites. Journal of Physiology, 2000, 525, 419-432.	1.3	157
68	Differences in Ca 2+ buffering properties between excitatory and inhibitory hippocampal neurons from the rat. Journal of Physiology, 2000, 525, 405-418.	1.3	120
69	Munc13-1 acts as a priming factor for large dense-core vesicles in bovine chromaffin cells. EMBO Journal, 2000, 19, 3586-3596.	3.5	200
70	The Readily Releasable Pool of Vesicles in Chromaffin Cells Is Replenished in a Temperature-Dependent Manner and Transiently Overfills at 37Â°C. Journal of Neuroscience, 2000, 20, 8377-8383.	1.7	62
71	R-Type Ca2+Channels Are Coupled to the Rapid Component of Secretion in Mouse Adrenal Slice Chromaffin Cells. Journal of Neuroscience, 2000, 20, 8323-8330.	1.7	100
72	Calcium Buffers in Flash-Light. Biophysical Journal, 2000, 79, 2783-2784.	0.2	16

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73	Released Fraction and Total Size of a Pool of Immediately Available Transmitter Quanta at a Calyx Synapse. Neuron, 1999, 23, 399-409.	3.8	544
74	Mechanisms Underlying Phasic and Sustained Secretion in Chromaffin Cells from Mouse Adrenal Slices. Neuron, 1999, 23, 607-615.	3.8	231
75	Inhibition of SNARE Complex Assembly Differentially Affects Kinetic Components of Exocytosis. Cell, 1999, 99, 713-722.	13.5	286
76	Properties of a Model of Ca++-Dependent Vesicle Pool Dynamics and Short Term Synaptic Depression. Biophysical Journal, 1999, 77, 2418-2429.	0.2	85
77	Multiple kinetic components of exocytosis distinguished by neurotoxin sensitivity. Nature Neuroscience, 1998, 1, 192-200.	7.1	313
78	Usefulness and limitations of linear approximations to the understanding of Ca++ signals. Cell Calcium, 1998, 24, 345-357.	1.1	298
79	Munc13-1 Is a Presynaptic Phorbol Ester Receptor that Enhances Neurotransmitter Release. Neuron, 1998, 21, 123-136.	3.8	387
80	Vesicle Pools and Ca2+ Microdomains: New Tools for Understanding Their Roles in Neurotransmitter Release. Neuron, 1998, 20, 389-399.	3.8	931
81	Two-Dimensional Determination of the Cellular Ca2+ Binding in Bovine Chromaffin Cells. Biophysical Journal, 1998, 75, 1635-1647.	0.2	68
82	Ultrastructural Organization of Bovine Chromaffin Cell Cortexâ€"Analysis by Cryofixation and Morphometry of Aspects Pertinent to Exocytosis. Journal of Cell Biology, 1997, 139, 1709-1717.	2.3	187
83	Low Mobility of the Ca2+ Buffers in Axons of Cultured Aplysia Neurons. Neuron, 1997, 18, 473-481.	3.8	121
84	Alteration of Ca²⁺Dependence of Neurotransmitter Release by Disruption of Ca²⁺Channel/Syntaxin Interaction. Journal of Neuroscience, 1997, 17, 6647-6656.	1.7	176
85	Presynaptic Depression at a Calyx Synapse: The Small Contribution of Metabotropic Glutamate Receptors. Journal of Neuroscience, 1997, 17, 8137-8146.	1.7	251
86	Linearized Buffered Ca²⁺Diffusion in Microdomains and Its Implications for Calculation of [Ca²⁺] at the Mouth of a Calcium Channel. Journal of Neuroscience, 1997, 17, 6961-6973.	1.7	451
87	Protein Kinase C Enhances Exocytosis from Chromaffin Cells by Increasing the Size of the Readily Releasable Pool of Secretory Granules. Neuron, 1996, 16, 1209-1220.	3.8	380
88	Calcium dependence of the rate of exocytosis in a synaptic terminal. Nature, 1994, 371, 513-515.	13.7	702
89	A two-step model of secretion control in neuroendocrine cells. Pflugers Archiv European Journal of Physiology, 1993, 424, 105-112.	1.3	192
90	Small-conductance Ca2+-activated K+ channels in bovine chromaffin cells. Pflugers Archiv European Journal of Physiology, 1993, 423-423, 97-103.	1.3	60

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91	Delay in vesicle fusion revealed by electrochemical monitoring of single secretory events in adrenal chromaffin cells. Nature, 1992, 356, 60-63.	13.7	802
92	Patch-clamp techniques for time-resolved capacitance measurements in single cells. Pflugers Archiv European Journal of Physiology, 1988, 411, 137-146.	1.3	590
93	Receptor-operated Ca channels. Nature, 1987, 326, 242-242.	13.7	26