Ernst Bamberg

List of Publications by Year
in descending order

48 papers	13,864 citations	101543 36 h-index	214800 47 g-index
48 all docs	48 docs citations	48 times ranked	10427 citing authors

#	Article	IF	Citations
1	Millisecond-timescale, genetically targeted optical control of neural activity. Nature Neuroscience, 2005, 8, 1263-1268.	14.8	4,110
2	Channelrhodopsin-2, a directly light-gated cation-selective membrane channel. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 13940-13945.	7.1	2,348
3	Multimodal fast optical interrogation of neural circuitry. Nature, 2007, 446, 633-639.	27.8	1,602
4	Channelrhodopsin-1: A Light-Gated Proton Channel in Green Algae. Science, 2002, 296, 2395-2398.	12.6	1,013
5	Light Activation of Channelrhodopsin-2 in Excitable Cells of Caenorhabditis elegans Triggers Rapid Behavioral Responses. Current Biology, 2005, 15, 2279-2284.	3.9	869
6	Ultra light-sensitive and fast neuronal activation with the Ca2+-permeable channelrhodopsin CatCh. Nature Neuroscience, 2011, 14, 513-518.	14.8	405
7	Spectral Characteristics of the Photocycle of Channelrhodopsin-2 and Its Implication for Channel Function. Journal of Molecular Biology, 2008, 375, 686-694.	4.2	235
8	Proteorhodopsin is a Light-driven Proton Pump with Variable Vectoriality. Journal of Molecular Biology, 2002, 321, 821-838.	4.2	225
9	Structural Guidance of the Photocycle of Channelrhodopsin-2 by an Interhelical Hydrogen Bond. Biochemistry, 2010, 49, 267-278.	2.5	203
10	Channelrhodopsin-2 is a leaky proton pump. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 12317-12322.	7.1	194
11	Targeting Channelrhodopsin-2 to ON-bipolar Cells With Vitreally Administered AAV Restores ON and OFF Visual Responses in Blind Mice. Molecular Therapy, 2015, 23, 7-16.	8.2	166
12	Structural insights into ion conduction by channelrhodopsin 2. Science, 2017, 358, .	12.6	160
13	General Concept for Ion Translocation by Halobacterial Retinal Proteins:â€‰ The Isomerization/Switch/Transfer (IST) Model. Biochemistry, 1997, 36, 2-7.	2.5	155
14	Transient protonation changes in channelrhodopsin-2 and their relevance to channel gating. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E1273-81.	7.1	150
15	Optogenetic stimulation of the auditory pathway. Journal of Clinical Investigation, 2014, 124, 1114-1129.	8.2	147
16	Crystal structure of a light-driven sodium pump. Nature Structural and Molecular Biology, 2015, 22, 390-395.	8.2	146
17	A New Promoter Allows Optogenetic Vision Restoration with Enhanced Sensitivity in Macaque Retina. Molecular Therapy, 2017, 25, 2546-2560.	8.2	131
18	High frequency neural spiking and auditory signaling by ultrafast red-shifted optogenetics. Nature Communications, 2018, 9, 1750.	12.8	128

#	ARTICLE	IF	CITATIONS
19	Optogenetics: 10 years after ChR2 in neuronsâ€"views from the community. Nature Neuroscience, 2015, 18, 1202-1212.	14.8	122
20	Proteorhodopsin. Biochimica Et Biophysica Acta - Bioenergetics, 2014, 1837, 614-625.	1.0	96
21	Enlightening the photoactive site of channelrhodopsin-2 by DNP-enhanced solid-state NMR spectroscopy. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 9896-9901.	7.1	93
22	Inward H ⁺ pump xenorhodopsin: Mechanism and alternative optogenetic approach. Science Advances, 2017, 3, e1603187.	10.3	93
23	Functional expression of bacteriorhodopsin in oocytes allows direct measurement of voltage dependence of light induced H⁺ pumping. FEBS Letters, 1995, 377, 263-266.	2.8	82
24	The DC gate in Channelrhodopsin-2: crucial hydrogen bonding interaction between C128 and D156. Photochemical and Photobiological Sciences, 2010, 9, 194-198.	2.9	79
25	Projection Structure of Channelrhodopsin-2 at 6ÂÅ Resolution by Electron Crystallography. Journal of Molecular Biology, 2011, 414, 86-95.	4.2	70
26	Structure and mechanisms of sodium-pumping KR2 rhodopsin. Science Advances, 2019, 5, eaav2671.	10.3	68
27	Molecular mechanism of light-driven sodium pumping. Nature Communications, 2020, 11, 2137.	12.8	67
28	The retinal structure of channelrhodopsinâ€2 assessed by resonance Raman spectroscopy. FEBS Letters, 2009, 583, 3676-3680.	2.8	63
29	Functional Maturation of Human Stem Cell-Derived Neurons in Long-Term Cultures. PLoS ONE, 2017, 12, e0169506.	2.5	62
30	Unique structure and function of viral rhodopsins. Nature Communications, 2019, 10, 4939.	12.8	59
31	Lightâ€Induced Movement of the Transmembrane Helixâ€…B in Channelrhodopsinâ€2. Angewandte Chemie - International Edition, 2013, 52, 9705-9708.	13.8	57
32	Temporal evolution of helix hydration in a light-gated ion channel correlates with ion conductance. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E5796-804.	7.1	52
33	Voltage- and pH-Dependent Changes in Vectoriality of Photocurrents Mediated by Wild-type and Mutant Proteorhodopsins upon Expression in Xenopus Oocytes. Journal of Molecular Biology, 2009, 393, 320-341.	4.2	49
34	Channelrhodopsin-mediated optogenetics highlights a central role of depolarization-dependent plant proton pumps. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 20920-20925.	7.1	46
35	Light-Induced Helix Movements in Channelrhodopsin-2. Journal of Molecular Biology, 2015, 427, 341-349.	4.2	42
36	Biophysical Properties of Optogenetic Tools and Their Application for Vision Restoration Approaches. Frontiers in Systems Neuroscience, 2016, 10, 74.	2.5	41

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37	Structure of the lightâ€driven sodium pump <scp>KR</scp>2 and its implications for optogenetics. FEBS Journal, 2016, 283, 1232-1238.	4.7	41
38	Viral rhodopsins 1 areÂan unique family of light-gated cation channels. Nature Communications, 2020, 11, 5707.	12.8	33
39	Tuning the Primary Reaction of Channelrhodopsin-2 by Imidazole, pH, andÂSite-Specific Mutations. Biophysical Journal, 2012, 102, 2649-2657.	0.5	32
40	Kinetics of proton release and uptake by channelrhodopsinâ€2. FEBS Letters, 2012, 586, 1344-1348.	2.8	27
41	On-demand optogenetic activation of human stem-cell-derived neurons. Scientific Reports, 2017, 7, 14450.	3.3	23
42	True-atomic-resolution insights into the structure and functional role of linear chains and low-barrier hydrogen bonds in proteins. Nature Structural and Molecular Biology, 2022, 29, 440-450.	8.2	21
43	Structure-based insights into evolution of rhodopsins. Communications Biology, 2021, 4, 821.	4.4	14
44	Voltage Dependence of Proton Pumping by Bacteriorhodopsin Mutants with Altered Lifetime of the M Intermediate. PLoS ONE, 2013, 8, e73338.	2.5	14
45	Ultrafast Protein Response in Channelrhodopsin-2 Studied by Time-Resolved Infrared Spectroscopy. Journal of Physical Chemistry Letters, 2018, 9, 7180-7184.	4.6	12
46	The Voltage Dependent Sidedness of the Reprotonation of the Retinal Schiff Base Determines the Unique Inward Pumping of Xenorhodopsin. Angewandte Chemie - International Edition, 2021, 60, 23010-23017.	13.8	10
47	Optogenetic Control of Ca 2+ and Voltage-Dependent Large Conductance (BK) Potassium Channels. Journal of Molecular Biology, 2017, 429, 911-921.	4.2	9
48	Die spannungsabhÃngige Richtung der Reprotonierung der Schiff'schen Base bestimmt das EinwÄrtspumpen von Xenorhodopsin. Angewandte Chemie, 2021, 133, 23192.	2.0	0