

Georg A Nagel

List of Publications by Year in descending order

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68
papers

14,283
citations

101543

36
h-index

106344

65
g-index

71
all docs

71
docs citations

71
times ranked

10958
citing authors

#	ARTICLE	IF	CITATIONS
1	Millisecond-timescale, genetically targeted optical control of neural activity. <i>Nature Neuroscience</i> , 2005, 8, 1263-1268.	14.8	4,110
2	Channelrhodopsin-2, a directly light-gated cation-selective membrane channel. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 13940-13945.	7.1	2,348
3	Multimodal fast optical interrogation of neural circuitry. <i>Nature</i> , 2007, 446, 633-639.	27.8	1,602
4	Channelrhodopsin-1: A Light-Gated Proton Channel in Green Algae. <i>Science</i> , 2002, 296, 2395-2398.	12.6	1,013
5	Light Activation of Channelrhodopsin-2 in Excitable Cells of <i>Caenorhabditis elegans</i> Triggers Rapid Behavioral Responses. <i>Current Biology</i> , 2005, 15, 2279-2284.	3.9	869
6	Light-Induced Activation of Distinct Modulatory Neurons Triggers Appetitive or Aversive Learning in <i>Drosophila</i> Larvae. <i>Current Biology</i> , 2006, 16, 1741-1747.	3.9	557
7	Light Modulation of Cellular cAMP by a Small Bacterial Photoactivated Adenylyl Cyclase, bPAC, of the Soil Bacterium <i>Beggiatoa</i> . <i>Journal of Biological Chemistry</i> , 2011, 286, 1181-1188.	3.4	337
8	Fast manipulation of cellular cAMP level by light in vivo. <i>Nature Methods</i> , 2007, 4, 39-42.	19.0	237
9	Spectral Characteristics of the Photocycle of Channelrhodopsin-2 and Its Implication for Channel Function. <i>Journal of Molecular Biology</i> , 2008, 375, 686-694.	4.2	235
10	Structural Guidance of the Photocycle of Channelrhodopsin-2 by an Interhelical Hydrogen Bond. <i>Biochemistry</i> , 2010, 49, 267-278.	2.5	203
11	Channelrhodopsin-2â€œXXL, a powerful optogenetic tool for low-light applications. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 13972-13977.	7.1	182
12	The protein kinase A-regulated cardiac Cl ⁻ channel resembles the cystic fibrosis transmembrane conductance regulator. <i>Nature</i> , 1992, 360, 81-84.	27.8	170
13	Spatially asymmetric reorganization of inhibition establishes a motion-sensitive circuit. <i>Nature</i> , 2011, 469, 407-410.	27.8	165
14	Mechano-dependent signaling by Latrophilin/CIRL quenches cAMP in proprioceptive neurons. <i>ELife</i> , 2017, 6, .	6.0	138
15	Optogenetics: 10 years after ChR2 in neuronsâ€œviews from the community. <i>Nature Neuroscience</i> , 2015, 18, 1202-1212.	14.8	122
16	Conformational Changes of Channelrhodopsin-2. <i>Journal of the American Chemical Society</i> , 2009, 131, 7313-7319.	13.7	107
17	Interaction of cations, anions, and weak base quinine with rat renal cation transporter rOCT2 compared with rOCT1. <i>American Journal of Physiology - Renal Physiology</i> , 2001, 281, F454-F468.	2.7	103
18	Optogenetic manipulation of cGMP in cells and animals by the tightly light-regulated guanylyl-cyclase opsin CyclOp. <i>Nature Communications</i> , 2015, 6, 8046.	12.8	95

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19	From channelrhodopsins to optogenetics. <i>EMBO Molecular Medicine</i> , 2013, 5, 173-176.	6.9	84
20	Functional expression of bacteriorhodopsin in oocytes allows direct measurement of voltage dependence of light induced H ⁺ pumping. <i>FEBS Letters</i> , 1995, 377, 263-266.	2.8	82
21	PAC1±- an optogenetic tool for in vivo manipulation of cellular cAMP levels, neurotransmitter release, and behavior in <i>Caenorhabditis elegans</i> . <i>Journal of Neurochemistry</i> , 2011, 116, 616-625.	3.9	82
22	Mechanism of Electrogenic Cation Transport by the Cloned Organic Cation Transporter 2 from Rat. <i>Journal of Biological Chemistry</i> , 2000, 275, 29413-29420.	3.4	80
23	A Reevaluation of Substrate Specificity of the Rat Cation Transporter rOCT1. <i>Journal of Biological Chemistry</i> , 1997, 272, 31953-31956.	3.4	79
24	“Vision” in Single-Celled Algae. <i>Physiology</i> , 2004, 19, 133-137.	3.1	76
25	Different Affinities of Inhibitors to the Outwardly and Inwardly Directed Substrate Binding Site of Organic Cation Transporter 2. <i>Molecular Pharmacology</i> , 2003, 64, 1037-1047.	2.3	64
26	Hypothalamic dopamine neurons motivate mating through persistent cAMP signalling. <i>Nature</i> , 2021, 597, 245-249.	27.8	63
27	A LOV-domain-mediated blue-light-activated adenylate (adenylyl) cyclase from the cyanobacterium <i>Microcoleus chthonoplastes</i> PCC 7420. <i>Biochemical Journal</i> , 2013, 455, 359-365.	3.7	61
28	Non-specific activation of the epithelial sodium channel by the CFTR chloride channel. <i>EMBO Reports</i> , 2001, 2, 249-254.	4.5	59
29	Probing the Sensory Rhodopsin II Binding Domain of its Cognate Transducer by Calorimetry and Electrophysiology. <i>Journal of Molecular Biology</i> , 2003, 330, 1203-1213.	4.2	57
30	The Voltage-Dependent Proton Pumping in Bacteriorhodopsin Is Characterized by Optoelectric Behavior. <i>Biophysical Journal</i> , 2001, 81, 2059-2068.	0.5	56
31	Optogenetic Long-Term Manipulation of Behavior and Animal Development. <i>PLoS ONE</i> , 2011, 6, e18766.	2.5	55
32	Rhodopsin-cyclases for photocontrol of cGMP/cAMP and 2.3Å... structure of the adenylyl cyclase domain. <i>Nature Communications</i> , 2018, 9, 2046.	12.8	55
33	Dual Effects of Adp and Adenylylimidodiphosphate on Cftr Channel Kinetics Show Binding to Two Different Nucleotide Binding Sites. <i>Journal of General Physiology</i> , 1999, 114, 55-70.	1.9	54
34	Channelrhodopsin-mediated optogenetics highlights a central role of depolarization-dependent plant proton pumps. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 20920-20925.	7.1	46
35	Rhodopsin optogenetic toolbox v2.0 for light-sensitive excitation and inhibition in <i>Caenorhabditis elegans</i> . <i>PLoS ONE</i> , 2018, 13, e0191802.	2.5	44
36	Cardiac Na ⁺ -Ca ²⁺ Exchange System in Giant Membrane Patches. <i>Annals of the New York Academy of Sciences</i> , 1991, 639, 126-139.	3.8	42

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37	Synthetic Light-Activated Ion Channels for Optogenetic Activation and Inhibition. <i>Frontiers in Neuroscience</i> , 2018, 12, 643.	2.8	42
38	Microbial rhodopsins in the spotlight. <i>Current Opinion in Neurobiology</i> , 2010, 20, 610-616.	4.2	41
39	Degradation of channelopsin-2 in the absence of retinal and degradation resistance in certain mutants. <i>Biological Chemistry</i> , 2013, 394, 271-280.	2.5	38
40	Structural basis of TRPC4 regulation by calmodulin and pharmacological agents. <i>ELife</i> , 2020, 9, .	6.0	38
41	Two-component cyclase opsins of green algae are ATP-dependent and light-inhibited guanylyl cyclases. <i>BMC Biology</i> , 2018, 16, 144.	3.8	35
42	Optogenetic control of plant growth by a microbial rhodopsin. <i>Nature Plants</i> , 2021, 7, 144-151.	9.3	35
43	Differential function of the two nucleotide binding domains on cystic fibrosis transmembrane conductance regulator. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 1999, 1461, 263-274.	2.6	29
44	A novel rhodopsin phosphodiesterase from <i>Salpingoeca rosetta</i> shows light-enhanced substrate affinity. <i>Biochemical Journal</i> , 2018, 475, 1121-1128.	3.7	28
45	Optogenetic control of the guard cell membrane potential and stomatal movement by the light-gated anion channel <i>Gt</i> ACR1. <i>Science Advances</i> , 2021, 7, .	10.3	28
46	Protein kinase-independent activation of CFTR by phosphatidylinositol phosphates. <i>EMBO Reports</i> , 2004, 5, 85-90.	4.5	26
47	Mutated Channelrhodopsins with Increased Sodium and Calcium Permeability. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 664.	2.5	25
48	Optimized photo-stimulation of halorhodopsin for long-term neuronal inhibition. <i>BMC Biology</i> , 2019, 17, 95.	3.8	25
49	Increases in Intracellular Calcium Triggered by Channelrhodopsin-2 Potentiate the Response of Metabotropic Glutamate Receptor mGluR7. <i>Journal of Biological Chemistry</i> , 2008, 283, 24300-24307.	3.4	22
50	Apparent affinity of CFTR for ATP is increased by continuous kinase activity. <i>FEBS Letters</i> , 2003, 535, 141-146.	2.8	20
51	Negative charged threonine 95 of c-Jun is essential for c-Jun N-terminal kinase-dependent phosphorylation of threonine 91/93 and stress-induced c-Jun biological activity. <i>International Journal of Biochemistry and Cell Biology</i> , 2008, 40, 307-316.	2.8	16
52	Mechanistic insights in light-induced cAMP production by photoactivated adenylyl cyclase alpha (PAC \pm). <i>Biological Chemistry</i> , 2009, 390, 1105-11.	2.5	14
53	PACmn for improved optogenetic control of intracellular cAMP. <i>BMC Biology</i> , 2021, 19, 227.	3.8	13
54	Visual function restoration with a highly sensitive and fast Channelrhodopsin in blind mice. <i>Signal Transduction and Targeted Therapy</i> , 2022, 7, 104.	17.1	10

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55	Extending the Anion Channelrhodopsin-Based Toolbox for Plant Optogenetics. <i>Membranes</i> , 2021, 11, 287.	3.0	9
56	CFTR, investigated with the two-electrode voltage-clamp technique: the importance of knowing the series resistance. <i>Journal of Cystic Fibrosis</i> , 2004, 3, 109-111.	0.7	8
57	An engineered membrane-bound guanylyl cyclase with light-switchable activity. <i>BMC Biology</i> , 2021, 19, 54.	3.8	8
58	Modified Rhodopsins From <i>Aureobasidium pullulans</i> Excel With Very High Proton-Transport Rates. <i>Frontiers in Molecular Biosciences</i> , 2021, 8, 750528.	3.5	8
59	PMRT1, a <i>Plasmodium</i> -Specific Parasite Plasma Membrane Transporter, Is Essential for Asexual and Sexual Blood Stage Development. <i>MBio</i> , 2022, 13, e0062322.	4.1	7
60	Optogenetic tools for manipulation of cyclic nucleotides functionally coupled to cyclic nucleotide-gated channels. <i>British Journal of Pharmacology</i> , 2022, 179, 2519-2537.	5.4	6
61	Advances and prospects of rhodopsin-based optogenetics in plant research. <i>Plant Physiology</i> , 2021, 187, 572-589.	4.8	6
62	Characterization and Modification of Light-Sensitive Phosphodiesterases from Choanoflagellates. <i>Biomolecules</i> , 2022, 12, 88.	4.0	4
63	mem-iLID, a fast and economic protein purification method. <i>Bioscience Reports</i> , 2021, 41, .	2.4	3
64	Quantitative Analysis of ATP-Dependent Gating of CFTR. , 2002, 70, 67-98.		2
65	Action potentials in <i>Xenopus</i> oocytes triggered by blue light. <i>Journal of General Physiology</i> , 2020, 152, .	1.9	2
66	Transient Currents of Na ⁺ /K ⁺ -ATPase in Giant Patches from Guinea Pig Cardiomyocytes Induced by ATP Concentration Jumps or Voltage Pulses. <i>Annals of the New York Academy of Sciences</i> , 1997, 834, 435-438.	3.8	1
67	Characterization and Application of Natural Light-Sensitive Proteins. , 2009, , 47-56.		1
68	Na ⁺ ,K ⁺ -ATPase Pump Currents Activated by an ATP Concentration Jump Comparison of Studies with Purified Membrane fragments and Giant excised Patches. <i>Annals of the New York Academy of Sciences</i> , 1997, 834, 270-279.	3.8	0