

Graeme W Davis

List of Publications by Year in descending order

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Version: 2024-02-01

62
papers

6,504
citations

81900

39
h-index

118850

62
g-index

88
all docs

88
docs citations

88
times ranked

5580
citing authors

#	ARTICLE	IF	CITATIONS
1	HOMEOSTATIC CONTROL OF NEURAL ACTIVITY: From Phenomenology to Molecular Design. Annual Review of Neuroscience, 2006, 29, 307-323.	10.7	482
2	Mechanisms Underlying the Rapid Induction and Sustained Expression of Synaptic Homeostasis. Neuron, 2006, 52, 663-677.	8.1	338
3	Maintaining the Stability of Neural Function: A Homeostatic Hypothesis. Annual Review of Physiology, 2001, 63, 847-869.	13.1	268
4	RIM-Binding Protein, a Central Part of the Active Zone, Is Essential for Neurotransmitter Release. Science, 2011, 334, 1565-1569.	12.6	257
5	Unrestricted Synaptic Growth in <i>spinster</i> a Late Endosomal Protein Implicated in TGF- β -Mediated Synaptic Growth Regulation. Neuron, 2002, 36, 403-416.	8.1	244
6	Dynactin Is Necessary for Synapse Stabilization. Neuron, 2002, 34, 729-741.	8.1	227
7	Homeostatic Signaling and the Stabilization of Neural Function. Neuron, 2013, 80, 718-728.	8.1	224
8	Synapse-specific control of synaptic efficacy at the terminals of a single neuron. Nature, 1998, 392, 82-86.	27.8	214
9	Homeostatic Control of Presynaptic Release Is Triggered by Postsynaptic Membrane Depolarization. Neuron, 2001, 30, 737-749.	8.1	214
10	Homeostatic Control of Presynaptic Neurotransmitter Release. Annual Review of Physiology, 2015, 77, 251-270.	13.1	212
11	Dap160/Intersectin Scaffolds the Periaxial Zone to Achieve High-Fidelity Endocytosis and Normal Synaptic Growth. Neuron, 2004, 43, 207-219.	8.1	203
12	Postsynaptic PKA Controls Quantal Size and Reveals a Retrograde Signal that Regulates Presynaptic Transmitter Release in <i>Drosophila</i> . Neuron, 1998, 20, 305-315.	8.1	196
13	The Schizophrenia Susceptibility Gene <i>dysbindin</i> Controls Synaptic Homeostasis. Science, 2009, 326, 1127-1130.	12.6	195
14	RIM Controls Homeostatic Plasticity through Modulation of the Readily-Releasable Vesicle Pool. Journal of Neuroscience, 2012, 32, 16574-16585.	3.6	180
15	Genetic Analysis of the Mechanisms Controlling Target Selection: Target-Derived Fasciclin II Regulates the Pattern of Synapse Formation. Neuron, 1997, 19, 561-573.	8.1	167
16	A Presynaptic Giant Ankyrin Stabilizes the NMJ through Regulation of Presynaptic Microtubules and Transsynaptic Cell Adhesion. Neuron, 2008, 58, 195-209.	8.1	164
17	A Presynaptic Homeostatic Signaling System Composed of the Eph Receptor, Ephexin, Cdc42, and CaV2.1 Calcium Channels. Neuron, 2009, 61, 556-569.	8.1	158
18	Presynaptic Spectrin Is Essential for Synapse Stabilization. Current Biology, 2005, 15, 918-928.	3.9	151

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19	Clathrin Dependence of Synaptic-Vesicle Formation at the Drosophila Neuromuscular Junction. <i>Current Biology</i> , 2008, 18, 401-409.	3.9	124
20	Genetic analysis of synaptic development and plasticity: homeostatic regulation of synaptic efficacy. <i>Current Opinion in Neurobiology</i> , 1998, 8, 149-156.	4.2	120
21	The BMP Ligand Gbb Gates the Expression of Synaptic Homeostasis Independent of Synaptic Growth Control. <i>Neuron</i> , 2007, 56, 109-123.	8.1	115
22	The Psychiatric Cell Map Initiative: A Convergent Systems Biological Approach to Illuminating Key Molecular Pathways in Neuropsychiatric Disorders. <i>Cell</i> , 2018, 174, 505-520.	28.9	108
23	Transsynaptic Control of Presynaptic Ca ²⁺ Influx Achieves Homeostatic Potentiation of Neurotransmitter Release. <i>Current Biology</i> , 2012, 22, 1102-1108.	3.9	107
24	Endostatin Is a Trans-Synaptic Signal for Homeostatic Synaptic Plasticity. <i>Neuron</i> , 2014, 83, 616-629.	8.1	98
25	Hts/Adducin Controls Synaptic Elaboration and Elimination. <i>Neuron</i> , 2011, 69, 1114-1131.	8.1	97
26	Rab3-GAP Controls the Progression of Synaptic Homeostasis at a Late Stage of Vesicle Release. <i>Neuron</i> , 2011, 69, 749-762.	8.1	96
27	A Presynaptic ENaC Channel Drives Homeostatic Plasticity. <i>Neuron</i> , 2013, 79, 1183-1196.	8.1	92
28	Retrograde semaphorinâ€plexin signalling drives homeostatic synaptic plasticity. <i>Nature</i> , 2017, 550, 109-113.	27.8	91
29	A Hierarchy of Cell Intrinsic and Target-Derived Homeostatic Signaling. <i>Neuron</i> , 2010, 66, 220-234.	8.1	88
30	RIM-Binding Protein Links Synaptic Homeostasis to the Stabilization and Replenishment of High Release Probability Vesicles. <i>Neuron</i> , 2015, 85, 1056-1069.	8.1	83
31	Discrete Residues in the C2B Domain of Synaptotagmin I Independently Specify Endocytic Rate and Synaptic Vesicle Size. <i>Neuron</i> , 2006, 50, 49-62.	8.1	81
32	Developmental neuroscience. <i>Current Opinion in Neurobiology</i> , 2011, 21, 1-4.	4.2	79
33	VCP-dependent muscle degeneration is linked to defects in a dynamic tubular lysosomal network in vivo. <i>ELife</i> , 2015, 4, .	6.0	73
34	Snapin is Critical for Presynaptic Homeostatic Plasticity. <i>Journal of Neuroscience</i> , 2012, 32, 8716-8724.	3.6	58
35	Molecular mechanisms that enhance synapse stability despite persistent disruption of the spectrin/ankyrin/microtubule cytoskeleton. <i>Journal of Cell Biology</i> , 2009, 187, 101-117.	5.2	55
36	Homeostatic synaptic depression is achieved through a regulated decrease in presynaptic calcium channel abundance. <i>ELife</i> , 2015, 4, .	6.0	54

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37	Glial-Derived Prodegenerative Signaling in the <i>Drosophila</i> Neuromuscular System. <i>Neuron</i> , 2011, 72, 760-775.	8.1	53
38	Stathmin is Required for Stability of the <i>Drosophila</i> Neuromuscular Junction. <i>Journal of Neuroscience</i> , 2011, 31, 15026-15034.	3.6	52
39	Engineering a light-activated caspase-3 for precise ablation of neurons in vivo. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E8174-E8183.	7.1	50
40	CaMKII β Is Required for Rapid Transsynaptic Homeostatic Signaling. <i>Cell Reports</i> , 2016, 16, 2875-2888.	6.4	49
41	The Innate Immune Receptor PGRP-LC Controls Presynaptic Homeostatic Plasticity. <i>Neuron</i> , 2015, 88, 1157-1164.	8.1	48
42	Presynaptic Homeostasis Opposes Disease Progression in Mouse Models of ALS-Like Degeneration: Evidence for Homeostatic Neuroprotection. <i>Neuron</i> , 2020, 107, 95-111.e6.	8.1	43
43	Synaptic Homeostasis Is Consolidated by the Cell Fate Gene <i>gooseberry</i> , a <i>Drosophila</i> <i>pax3/7</i> Homolog. <i>Journal of Neuroscience</i> , 2010, 30, 8071-8082.	3.6	42
44	KrÄppel Mediates the Selective Rebalancing of Ion Channel Expression. <i>Neuron</i> , 2014, 82, 537-544.	8.1	42
45	MCTP is an ER-resident calcium sensor that stabilizes synaptic transmission and homeostatic plasticity. <i>ELife</i> , 2017, 6, .	6.0	42
46	Retrograde signaling and the development of transmitter release properties in the invertebrate nervous system. <i>Journal of Neurobiology</i> , 1994, 25, 740-756.	3.6	35
47	S6 kinase localizes to the presynaptic active zone and functions with PDK1 to control synapse development. <i>Journal of Cell Biology</i> , 2011, 194, 921-935.	5.2	35
48	Molecular mechanisms that stabilize short term synaptic plasticity during presynaptic homeostatic plasticity. <i>ELife</i> , 2018, 7, .	6.0	32
49	Archaeorhodopsin Voltage Imaging: Synaptic Calcium and BK Channels Stabilize Action Potential Repolarization at the <i>Drosophila</i> Neuromuscular Junction. <i>Journal of Neuroscience</i> , 2014, 34, 14517-14525.	3.6	30
50	SVIP is a molecular determinant of lysosomal dynamic stability, neurodegeneration and lifespan. <i>Nature Communications</i> , 2021, 12, 513.	12.8	30
51	Molecular Interface of Neuronal Innate Immunity, Synaptic Vesicle Stabilization, and Presynaptic Homeostatic Plasticity. <i>Neuron</i> , 2018, 100, 1163-1179.e4.	8.1	27
52	Composition and Control of a Deg/ENaC Channel during Presynaptic Homeostatic Plasticity. <i>Cell Reports</i> , 2017, 20, 1855-1866.	6.4	26
53	Target-wide Induction and Synapse Type-Specific Robustness of Presynaptic Homeostasis. <i>Current Biology</i> , 2019, 29, 3863-3873.e2.	3.9	26
54	Evolution of Mechanisms that Control Mating in <i>Drosophila</i> Males. <i>Cell Reports</i> , 2019, 27, 2527-2536.e4.	6.4	23

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55	Dual separable feedback systems govern firing rate homeostasis. <i>ELife</i> , 2019, 8, .	6.0	23
56	A postsynaptic PI3K- α dependent signaling controller for presynaptic homeostatic plasticity. <i>ELife</i> , 2018, 7, .	6.0	21
57	Epigenetic Signaling in Glia Controls Presynaptic Homeostatic Plasticity. <i>Neuron</i> , 2020, 105, 491-505.e3.	8.1	17
58	Homeostatic plasticity fails at the intersection of autism-gene mutations and a novel class of common genetic modifiers. <i>ELife</i> , 2020, 9, .	6.0	14
59	Not Fade Away: Mechanisms of Neuronal ATP Homeostasis. <i>Neuron</i> , 2020, 105, 591-593.	8.1	7
60	Synapse formation revisited. <i>Nature Neuroscience</i> , 2001, 4, 558-560.	14.8	6
61	The Global Challenge in Neuroscience Education and Training: The MBL Perspective. <i>Neuron</i> , 2016, 92, 632-636.	8.1	6
62	Dystrobrevin is required postsynaptically for homeostatic potentiation at the <i>Drosophila</i> NMJ. <i>Biochimica Et Biophysica Acta - Molecular Basis of Disease</i> , 2019, 1865, 1579-1591.	3.8	3