

# Dwight E Bergles

## List of Publications by Year in descending order

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115  
papers

19,509  
citations

16437

64  
h-index

25770

108  
g-index

139  
all docs

139  
docs citations

139  
times ranked

17990  
citing authors

#	ARTICLE	IF	CITATIONS
1	β-Lactam antibiotics offer neuroprotection by increasing glutamate transporter expression. <i>Nature</i> , 2005, 433, 73-77.	13.7	1,379
2	Reactive astrocyte nomenclature, definitions, and future directions. <i>Nature Neuroscience</i> , 2021, 24, 312-325.	7.1	1,098
3	Glutamatergic synapses on oligodendrocyte precursor cells in the hippocampus. <i>Nature</i> , 2000, 405, 187-191.	13.7	880
4	Electrical and synaptic integration of glioma into neural circuits. <i>Nature</i> , 2019, 573, 539-545.	13.7	706
5	NG2+ CNS Glial Progenitors Remain Committed to the Oligodendrocyte Lineage in Postnatal Life and following Neurodegeneration. <i>Neuron</i> , 2010, 68, 668-681.	3.8	681
6	Oligodendrocyte progenitors balance growth with self-repulsion to achieve homeostasis in the adult brain. <i>Nature Neuroscience</i> , 2013, 16, 668-676.	7.1	639
7	Glutamatergic synaptic input to glioma cells drives brain tumour progression. <i>Nature</i> , 2019, 573, 532-538.	13.7	628
8	NG2 cells generate both oligodendrocytes and gray matter astrocytes. <i>Development (Cambridge)</i> , 2008, 135, 145-157.	1.2	581
9	The origin of spontaneous activity in the developing auditory system. <i>Nature</i> , 2007, 450, 50-55.	13.7	509
10	Synaptic Activation of Glutamate Transporters in Hippocampal Astrocytes. <i>Neuron</i> , 1997, 19, 1297-1308.	3.8	487
11	Degeneration and impaired regeneration of gray matter oligodendrocytes in amyotrophic lateral sclerosis. <i>Nature Neuroscience</i> , 2013, 16, 571-579.	7.1	485
12	Norepinephrine Controls Astroglial Responsiveness to Local Circuit Activity. <i>Neuron</i> , 2014, 82, 1263-1270.	3.8	469
13	The blood-brain barrier: an engineering perspective. <i>Frontiers in Neuroengineering</i> , 2013, 6, 7.	4.8	458
14	Vesicular release of glutamate from unmyelinated axons in white matter. <i>Nature Neuroscience</i> , 2007, 10, 321-330.	7.1	429
15	Oligodendrocyte Development and Plasticity. <i>Cold Spring Harbor Perspectives in Biology</i> , 2016, 8, a020453.	2.3	402
16	Myelin remodeling through experience-dependent oligodendrogenesis in the adult somatosensory cortex. <i>Nature Neuroscience</i> , 2018, 21, 696-706.	7.1	389
17	Synaptic signaling between GABAergic interneurons and oligodendrocyte precursor cells in the hippocampus. <i>Nature Neuroscience</i> , 2004, 7, 24-32.	7.1	372
18	Transient Opening of the Mitochondrial Permeability Transition Pore Induces Microdomain Calcium Transients in Astrocyte Processes. <i>Neuron</i> , 2017, 93, 587-605.e7.	3.8	338

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19	Clearance of glutamate inside the synapse and beyond. <i>Current Opinion in Neurobiology</i> , 1999, 9, 293-298.	2.0	317
20	Variations in Promoter Activity Reveal a Differential Expression and Physiology of Glutamate Transporters by Glia in the Developing and Mature CNS. <i>Journal of Neuroscience</i> , 2007, 27, 6607-6619.	1.7	287
21	Glial Contribution to Glutamate Uptake at Schaffer Collateralâ€“Commissural Synapses in the Hippocampus. <i>Journal of Neuroscience</i> , 1998, 18, 7709-7716.	1.7	267
22	Hair Cell Mechanotransduction Regulates Spontaneous Activity and Spiral Ganglion Subtype Specification in the Auditory System. <i>Cell</i> , 2018, 174, 1247-1263.e15.	13.5	259
23	Photon capture and signalling by melanopsin retinal ganglion cells. <i>Nature</i> , 2009, 457, 281-287.	13.7	251
24	Oligodendrocyte precursor cells present antigen and are cytotoxic targets in inflammatory demyelination. <i>Nature Communications</i> , 2019, 10, 3887.	5.8	245
25	Glutamate transporters bring competition to the synapse. <i>Current Opinion in Neurobiology</i> , 2004, 14, 346-352.	2.0	241
26	Calcium dynamics in astrocyte processes during neurovascular coupling. <i>Nature Neuroscience</i> , 2015, 18, 210-218.	7.1	235
27	Excitability and Synaptic Communication within the Oligodendrocyte Lineage. <i>Journal of Neuroscience</i> , 2010, 30, 3600-3611.	1.7	232
28	Glutamate transporter currents in Bergmann glial cells follow the time course of extrasynaptic glutamate. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1997, 94, 14821-14825.	3.3	217
29	Coupled Activation of Primary Sensory Neurons Contributes to Chronic Pain. <i>Neuron</i> , 2016, 91, 1085-1096.	3.8	216
30	Developmental Regulation of Spontaneous Activity in the Mammalian Cochlea. <i>Journal of Neuroscience</i> , 2010, 30, 1539-1550.	1.7	195
31	Neuromodulators signal through astrocytes to alter neural circuit activity and behaviour. <i>Nature</i> , 2016, 539, 428-432.	13.7	189
32	The Density of EAAC1 (EAAT3) Glutamate Transporters Expressed by Neurons in the Mammalian CNS. <i>Journal of Neuroscience</i> , 2012, 32, 6000-6013.	1.7	188
33	Calcium action potentials in hair cells pattern auditory neuron activity before hearing onset. <i>Nature Neuroscience</i> , 2010, 13, 1050-1052.	7.1	183
34	Comparison of Coupled and Uncoupled Currents during Glutamate Uptake by GLT-1 Transporters. <i>Journal of Neuroscience</i> , 2002, 22, 10153-10162.	1.7	182
35	Excitatory actions of norepinephrine on multiple classes of hippocampal CA1 interneurons. <i>Journal of Neuroscience</i> , 1996, 16, 572-585.	1.7	177
36	Climbing Fiber Innervation of NG2-Expressing Glia in the Mammalian Cerebellum. <i>Neuron</i> , 2005, 46, 773-785.	3.8	177

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37	Multiscale Optical Ca <sup>2+</sup> Imaging of Tonal Organization in Mouse Auditory Cortex. <i>Neuron</i> , 2014, 83, 944-959.	3.8	173
38	Neuron-glia synapses in the brain. <i>Brain Research Reviews</i> , 2010, 63, 130-137.	9.1	168
39	Astrocyte Glutamate Transporters Regulate Metabotropic Glutamate Receptor-Mediated Excitation of Hippocampal Interneurons. <i>Journal of Neuroscience</i> , 2004, 24, 4551-4559.	1.7	154
40	A Requirement for Nuclear Factor- $\kappa$ B in Developmental and Plasticity-Associated Synaptogenesis. <i>Journal of Neuroscience</i> , 2011, 31, 5414-5425.	1.7	144
41	Glutamate Release Monitored with Astrocyte Transporter Currents during LTP. <i>Neuron</i> , 1998, 21, 425-433.	3.8	141
42	NMDA Receptor Signaling in Oligodendrocyte Progenitors Is Not Required for Oligodendrogenesis and Myelination. <i>Journal of Neuroscience</i> , 2011, 31, 12650-12662.	1.7	130
43	Human astrocytes develop physiological morphology and remain quiescent in a novel 3D matrix. <i>Biomaterials</i> , 2015, 42, 134-143.	5.7	129
44	Activity-dependent switch of GABAergic inhibition into glutamatergic excitation in astrocyte-neuron networks. <i>ELife</i> , 2016, 5, .	2.8	129
45	Homeostatic Control of Spontaneous Activity in the Developing Auditory System. <i>Neuron</i> , 2018, 99, 511-524.e5.	3.8	124
46	Synaptic signaling between neurons and glia. <i>Glia</i> , 2004, 47, 290-298.	2.5	121
47	Glial Cell Calcium Signaling Mediates Capillary Regulation of Blood Flow in the Retina. <i>Journal of Neuroscience</i> , 2016, 36, 9435-9445.	1.7	121
48	Entrapment via Synaptic-Like Connections between NG2 Proteoglycan+ Cells and Dystrophic Axons in the Lesion Plays a Role in Regeneration Failure after Spinal Cord Injury. <i>Journal of Neuroscience</i> , 2014, 34, 16369-16384.	1.7	116
49	Spontaneous Activity of Cochlear Hair Cells Triggered by Fluid Secretion Mechanism in Adjacent Support Cells. <i>Cell</i> , 2015, 163, 1348-1359.	13.5	115
50	Oligodendrocytes control potassium accumulation in white matter and seizure susceptibility. <i>ELife</i> , 2018, 7, .	2.8	111
51	Myelinogenic Plasticity of Oligodendrocyte Precursor Cells following Spinal Cord Contusion Injury. <i>Journal of Neuroscience</i> , 2017, 37, 8635-8654.	1.7	104
52	Mossy fiber growth and synaptogenesis in rat hippocampal slices in vitro. <i>Journal of Neuroscience</i> , 1994, 14, 1060-1078.	1.7	101
53	Neuronal activity regulates glutamate transporter dynamics in developing astrocytes. <i>Glia</i> , 2012, 60, 175-188.	2.5	101
54	Synaptic communication between neurons and NG2+ cells. <i>Current Opinion in Neurobiology</i> , 2006, 16, 515-521.	2.0	96

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55	4-Carboxymethoxy-5,7-Dinitroindolyl-Glu: An Improved Caged Glutamate for Expeditious Ultraviolet and Two-Photon Photolysis in Brain Slices. <i>Journal of Neuroscience</i> , 2007, 27, 6601-6604.	1.7	94
56	Spontaneous activity in the developing auditory system. <i>Cell and Tissue Research</i> , 2015, 361, 65-75.	1.5	93
57	Climbing Fiber Activation of EAAT4 Transporters and Kainate Receptors in Cerebellar Purkinje Cells. <i>Journal of Neuroscience</i> , 2004, 24, 103-111.	1.7	92
58	The Glutamate-Aspartate Transporter GLAST Mediates Glutamate Uptake at Inner Hair Cell Afferent Synapses in the Mammalian Cochlea. <i>Journal of Neuroscience</i> , 2006, 26, 7659-7664.	1.7	90
59	Specificity Controls for Immunocytochemistry. <i>Journal of Histochemistry and Cytochemistry</i> , 2012, 60, 174-187.	1.3	88
60	Electrophysiological properties of NG2 + cells: Matching physiological studies with gene expression profiles. <i>Brain Research</i> , 2016, 1638, 138-160.	1.1	82
61	Changes in the Excitability of Neocortical Neurons in a Mouse Model of Amyotrophic Lateral Sclerosis Are Not Specific to Corticospinal Neurons and Are Modulated by Advancing Disease. <i>Journal of Neuroscience</i> , 2017, 37, 9037-9053.	1.7	81
62	Lineage tracing reveals dynamic changes in oligodendrocyte precursor cells following cuprizone-induced demyelination. <i>Glia</i> , 2017, 65, 2087-2098.	2.5	81
63	Early white matter abnormalities, progressive brain pathology and motor deficits in a novel knock-in mouse model of Huntington's disease. <i>Human Molecular Genetics</i> , 2015, 24, 2508-2527.	1.4	78
64	Neuron-glia signaling in developing retina mediated by neurotransmitter spillover. <i>ELife</i> , 2015, 4, .	2.8	77
65	Physiological characteristics of NG2-expressing glial cells. <i>Journal of Neurocytology</i> , 2002, 31, 537-549.	1.6	72
66	Zones of Enhanced Glutamate Release from Climbing Fibers in the Mammalian Cerebellum. <i>Journal of Neuroscience</i> , 2010, 30, 7290-7299.	1.7	70
67	Spontaneous regeneration of cochlear supporting cells after neonatal ablation ensures hearing in the adult mouse. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 16919-16924.	3.3	67
68	Remyelination alters the pattern of myelin in the cerebral cortex. <i>ELife</i> , 2020, 9, .	2.8	67
69	A selective thyroid hormone $\hat{1}^2$ receptor agonist enhances human and rodent oligodendrocyte differentiation. <i>Glia</i> , 2014, 62, 1513-1529.	2.5	66
70	MCT1 Deletion in Oligodendrocyte Lineage Cells Causes Late-Onset Hypomyelination and Axonal Degeneration. <i>Cell Reports</i> , 2021, 34, 108610.	2.9	65
71	Molecularly defined cortical astroglia subpopulation modulates neurons via secretion of Norrin. <i>Nature Neuroscience</i> , 2019, 22, 741-752.	7.1	64
72	Oligodendrocytes Support Neuronal Glutamatergic Transmission via Expression of Glutamine Synthetase. <i>Cell Reports</i> , 2019, 27, 2262-2271.e5.	2.9	59

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73	Large-scale recording of astrocyte activity. <i>Current Opinion in Neurobiology</i> , 2015, 32, 95-106.	2.0	56
74	NMDA Receptors Enhance Spontaneous Activity and Promote Neuronal Survival in the Developing Cochlea. <i>Neuron</i> , 2016, 89, 337-350.	3.8	55
75	Changes in the Oligodendrocyte Progenitor Cell Proteome with Ageing. <i>Molecular and Cellular Proteomics</i> , 2020, 19, 1281-1302.	2.5	53
76	Specificity of antibodies: Unexpected cross-reactivity of antibodies directed against the excitatory amino acid transporter 3 (EAAT3). <i>Neuroscience</i> , 2005, 136, 649-660.	1.1	44
77	ATP-induced morphological changes in supporting cells of the developing cochlea. <i>Purinergic Signalling</i> , 2010, 6, 155-166.	1.1	42
78	Synthesis and Characterization of 4-Methoxy-7-nitroindolyl-d-aspartate, a Caged Compound for Selective Activation of Glutamate Transporters and N-Methyl-d-aspartate Receptors in Brain Tissue. <i>Biochemistry</i> , 2005, 44, 3316-3326.	1.2	37
79	Cortical neurons exhibit diverse myelination patterns that scale between mouse brain regions and regenerate after demyelination. <i>Nature Communications</i> , 2021, 12, 4767.	5.8	36
80	Analysis of cerebellar Purkinje cells using EAAT4 glutamate transporter promoter reporter in mice generated via bacterial artificial chromosome-mediated transgenesis. <i>Experimental Neurology</i> , 2007, 203, 205-212.	2.0	35
81	Purinergic signaling in cochlear supporting cells reduces hair cell excitability by increasing the extracellular space. <i>ELife</i> , 2020, 9, .	2.8	33
82	Immune cell modulation of oligodendrocyte lineage cells. <i>Neuroscience Letters</i> , 2020, 715, 134601.	1.0	32
83	Reduction of motion artifacts during <i>in vivo</i> two-photon imaging of brain through heartbeat triggered scanning. <i>Journal of Physiology</i> , 2012, 590, 2955-2963.	1.3	31
84	Purinergic Signaling Controls Spontaneous Activity in the Auditory System throughout Early Development. <i>Journal of Neuroscience</i> , 2021, 41, 594-612.	1.7	31
85	Synergistic Signaling by Light and Acetylcholine in Mouse Iris Sphincter Muscle. <i>Current Biology</i> , 2017, 27, 1791-1800.e5.	1.8	29
86	Ethanol abolishes vigilance-dependent astroglia network activation in mice by inhibiting norepinephrine release. <i>Nature Communications</i> , 2020, 11, 6157.	5.8	27
87	Inhibition of neutral sphingomyelinase 2 promotes remyelination. <i>Science Advances</i> , 2020, 6, .	4.7	23
88	Dual metabotropic glutamate receptor signaling enables coordination of astrocyte and neuron activity in developing sensory domains. <i>Neuron</i> , 2021, 109, 2545-2555.e7.	3.8	23
89	Problems and Pitfalls of Identifying Remyelination in Multiple Sclerosis. <i>Cell Stem Cell</i> , 2020, 26, 617-619.	5.2	21
90	Defining the Role of Astrocytes in Neuromodulation. <i>Neuron</i> , 2007, 54, 497-500.	3.8	20

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91	GluA2 overexpression in oligodendrocyte progenitors promotes postinjury oligodendrocyte regeneration. <i>Cell Reports</i> , 2021, 35, 109147.	2.9	19
92	Stage-specific control of oligodendrocyte survival and morphogenesis by TDP-43. <i>ELife</i> , 2022, 11, .	2.8	18
93	Throughput-Speed Product Augmentation for Scanning Fiber-Optic Two-Photon Endomicroscopy. <i>IEEE Transactions on Medical Imaging</i> , 2020, 39, 3779-3787.	5.4	17
94	Deep-learning two-photon fiberscopy for video-rate brain imaging in freely-behaving mice. <i>Nature Communications</i> , 2022, 13, 1534.	5.8	17
95	Focus scanning with feedback-control for fiber-optic nonlinear endomicroscopy. <i>Biomedical Optics Express</i> , 2017, 8, 2519.	1.5	16
96	Glutamate transporters bring competition to the synapse. <i>Current Opinion in Neurobiology</i> , 2004, 14, 346-346.	2.0	14
97	Hidden Progenitors Replace Microglia in the Adult Brain. <i>Neuron</i> , 2014, 82, 253-255.	3.8	13
98	Multicolor fiber-optic two-photon endomicroscopy for brain imaging. <i>Optics Letters</i> , 2021, 46, 1093.	1.7	13
99	Cell-type specific differences in promoter activity of the ALS-linked C9orf72 mouse ortholog. <i>Scientific Reports</i> , 2017, 7, 5685.	1.6	9
100	Automated in vivo Tracking of Cortical Oligodendrocytes. <i>Frontiers in Cellular Neuroscience</i> , 2021, 15, 667595.	1.8	9
101	Astrocyte Morphology Is Controlled by Neuron-Derived FGF. <i>Neuron</i> , 2014, 83, 255-257.	3.8	8
102	Ncm-d-aspartate: A novel caged d-aspartate suitable for activation of glutamate transporters and N-methyl-d-aspartate (NMDA) receptors in brain tissue. <i>Neuropharmacology</i> , 2005, 49, 831-842.	2.0	7
103	Same players, different game: AMPA receptor regulation in oligodendrocyte progenitors. <i>Nature Neuroscience</i> , 2011, 14, 1358-1360.	7.1	7
104	Persistent Cyfip1 Expression Is Required to Maintain the Adult Subventricular Zone Neurogenic Niche. <i>Journal of Neuroscience</i> , 2020, 40, 2015-2024.	1.7	6
105	Glial progenitor cells in the adult brain reveal their alternate fate. <i>Nature Neuroscience</i> , 2008, 11, 1365-1367.	7.1	4
106	The Role of Glutamate Transporters in Synaptic Transmission. , 2008, , 23-61.		4
107	Deficient mitochondrial respiration in astrocytes impairs trace fear conditioning and increases naloxoneâ€precipitated aversion in morphineâ€dependent mice. <i>Glia</i> , 2022, 70, 1289-1300.	2.5	4
108	Fiber optic fluorescence microscopy for functional brain imaging in awake, mobile mice. , 2014, , .		2

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109	Shape-shifting at a cerebellar synapse allows submillisecond signaling. <i>Nature Neuroscience</i> , 2005, 8, 1279-1281.	7.1	1
110	Through-skull vasculature assessment using fluorescence brain imaging on murine models at around 800 nm. , 2017, , .		1
111	Image Analysis of Dynamic Brain Activity Based on Gray Distance Compensation. <i>Applied Sciences (Switzerland)</i> , 2017, 7, 858.	1.3	1
112	Motion compensation for two photon microscopy by optical coherence tomography feedback. , 2011, , .		0
113	NMDA Receptors Enhance Spontaneous Activity and Promote Neuronal Survival in the Developing Cochlea. <i>Neuron</i> , 2016, 89, 672.	3.8	0
114	TMIC-18. ELECTRICAL CIRCUIT INTEGRATION OF GLIOMA THROUGH NEURON-GLIOMA SYNAPSES AND POTASSIUM CURRENTS. <i>Neuro-Oncology</i> , 2019, 21, vi251-vi251.	0.6	0
115	Glutamate uptake by astroglia. , 2004, , 239-261.		0