

David Attwell

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/8913017/publications.pdf>

Version: 2024-02-01

131
papers

29,806
citations

12597

71
h-index

14779

131
g-index

170
all docs

170
docs citations

170
times ranked

28859
citing authors

#	ARTICLE	IF	CITATIONS
1	An Energy Budget for Signaling in the Grey Matter of the Brain. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2001, 21, 1133-1145.	2.4	2,708
2	Glial and neuronal control of brain blood flow. <i>Nature</i> , 2010, 468, 232-243.	13.7	2,003
3	Capillary pericytes regulate cerebral blood flow in health and disease. <i>Nature</i> , 2014, 508, 55-60.	13.7	1,466
4	Synaptic Energy Use and Supply. <i>Neuron</i> , 2012, 75, 762-777.	3.8	1,209
5	Glutamate release in severe brain ischaemia is mainly by reversed uptake. <i>Nature</i> , 2000, 403, 316-321.	13.7	991
6	Bidirectional control of CNS capillary diameter by pericytes. <i>Nature</i> , 2006, 443, 700-704.	13.7	953
7	The emerging spectrum of COVID-19 neurology: clinical, radiological and laboratory findings. <i>Brain</i> , 2020, 143, 3104-3120.	3.7	880
8	Nonvesicular release of neurotransmitter. <i>Neuron</i> , 1993, 11, 401-407.	3.8	873
9	The neural basis of functional brain imaging signals. <i>Trends in Neurosciences</i> , 2002, 25, 621-625.	4.2	793
10	Oligodendrocyte Dynamics in the Healthy Adult CNS: Evidence for Myelin Remodeling. <i>Neuron</i> , 2013, 77, 873-885.	3.8	721
11	Astrocyte calcium signaling: the third wave. <i>Nature Neuroscience</i> , 2016, 19, 182-189.	7.1	718
12	Non-vesicular release of glutamate from glial cells by reversed electrogenic glutamate uptake. <i>Nature</i> , 1990, 348, 443-446.	13.7	695
13	NMDA receptors are expressed in oligodendrocytes and activated in ischaemia. <i>Nature</i> , 2005, 438, 1162-1166.	13.7	666
14	Triggering and execution of neuronal death in brain ischaemia: two phases of glutamate release by different mechanisms. <i>Trends in Neurosciences</i> , 1994, 17, 359-365.	4.2	590
15	Do astrocytes really exocytose neurotransmitters?. <i>Nature Reviews Neuroscience</i> , 2010, 11, 227-238.	4.9	577
16	Updated Energy Budgets for Neural Computation in the Neocortex and Cerebellum. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2012, 32, 1222-1232.	2.4	542
17	What is a pericyte?. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2016, 36, 451-455.	2.4	481
18	Amyloid β oligomers constrict human capillaries in Alzheimer's disease via signaling to pericytes. <i>Science</i> , 2019, 365, .	6.0	436

#	ARTICLE	IF	CITATIONS
19	Potential of NMDA receptor currents by arachidonic acid. <i>Nature</i> , 1992, 355, 722-725.	13.7	435
20	Astrocytes mediate neurovascular signaling to capillary pericytes but not to arterioles. <i>Nature Neuroscience</i> , 2016, 19, 1619-1627.	7.1	435
21	Stoichiometry of the Glial Glutamate Transporter GLT-1 Expressed Inducibly in a Chinese Hamster Ovary Cell Line Selected for Low Endogenous Na ⁺ -Dependent Glutamate Uptake. <i>Journal of Neuroscience</i> , 1998, 18, 9620-9628.	1.7	427
22	Pericyte-mediated regulation of capillary diameter: a component of neurovascular coupling in health and disease. <i>Frontiers in Neuroenergetics</i> , 2010, 2, .	5.3	404
23	Electrogenic glutamate uptake is a major current carrier in the membrane of axolotl retinal glial cells. <i>Nature</i> , 1987, 327, 707-709.	13.7	398
24	The Energetics of CNS White Matter. <i>Journal of Neuroscience</i> , 2012, 32, 356-371.	1.7	387
25	Arachidonic acid induces a prolonged inhibition of glutamate uptake into glial cells. <i>Nature</i> , 1989, 342, 918-920.	13.7	383
26	The glial cell glutamate uptake carrier countertransports pH-changing anions. <i>Nature</i> , 1992, 360, 471-474.	13.7	372
27	Oxidative Phosphorylation, Not Glycolysis, Powers Presynaptic and Postsynaptic Mechanisms Underlying Brain Information Processing. <i>Journal of Neuroscience</i> , 2012, 32, 8940-8951.	1.7	353
28	Tonic and Spillover Inhibition of Granule Cells Control Information Flow through Cerebellar Cortex. <i>Neuron</i> , 2002, 33, 625-633.	3.8	333
29	Electrogenic glutamate uptake in glial cells is activated by intracellular potassium. <i>Nature</i> , 1988, 335, 433-435.	13.7	329
30	Microglial Ramification, Surveillance, and Interleukin-1 ^β Release Are Regulated by the Two-Pore Domain K ⁺ Channel THIK-1. <i>Neuron</i> , 2018, 97, 299-312.e6.	3.8	323
31	Spiking and nonspiking classes of oligodendrocyte precursor glia in CNS white matter. <i>Nature Neuroscience</i> , 2008, 11, 450-456.	7.1	303
32	Neuregulin and BDNF Induce a Switch to NMDA Receptor-Dependent Myelination by Oligodendrocytes. <i>PLoS Biology</i> , 2013, 11, e1001743.	2.6	264
33	Tuning of Ranvier node and internode properties in myelinated axons to adjust action potential timing. <i>Nature Communications</i> , 2015, 6, 8073.	5.8	228
34	Node of Ranvier length as a potential regulator of myelinated axon conduction speed. <i>ELife</i> , 2017, 6, .	2.8	226
35	Multiple modes of GABAergic inhibition of rat cerebellar granule cells. <i>Journal of Physiology</i> , 2003, 548, 97-110.	1.3	221
36	Endfeet of retinal glial cells have higher densities of ion channels that mediate K ⁺ buffering. <i>Nature</i> , 1986, 324, 466-468.	13.7	190

#	ARTICLE	IF	CITATIONS
37	Non-signalling energy use in the brain. <i>Journal of Physiology</i> , 2015, 593, 3417-3429.	1.3	170
38	Glutamate uptake from the synaptic cleft does not shape the decay of the non-NMDA component of the synaptic current. <i>Neuron</i> , 1993, 11, 541-549.	3.8	167
39	Fast Removal of Synaptic Glutamate by Postsynaptic Transporters. <i>Neuron</i> , 2000, 28, 547-558.	3.8	165
40	Targeting pericytes for therapeutic approaches to neurological disorders. <i>Acta Neuropathologica</i> , 2018, 136, 507-523.	3.9	165
41	Neuroenergetics and the kinetic design of excitatory synapses. <i>Nature Reviews Neuroscience</i> , 2005, 6, 841-849.	4.9	156
42	Cerebral blood flow decrease as an early pathological mechanism in Alzheimer's disease. <i>Acta Neuropathologica</i> , 2020, 140, 793-810.	3.9	154
43	Dorsally and Ventrally Derived Oligodendrocytes Have Similar Electrical Properties but Myelinate Preferred Tracts. <i>Journal of Neuroscience</i> , 2011, 31, 6809-6819.	1.7	151
44	Modulation of non-vesicular glutamate release by pH. <i>Nature</i> , 1996, 379, 171-174.	13.7	147
45	Modulation of ASIC channels in rat cerebellar purkinje neurons by ischaemia-related signals. <i>Journal of Physiology</i> , 2002, 543, 521-529.	1.3	147
46	Tonic release of glutamate by a DIDS-sensitive mechanism in rat hippocampal slices. <i>Journal of Physiology</i> , 2005, 564, 397-410.	1.3	143
47	Proton-gated Ca ²⁺ -permeable TRP channels damage myelin in conditions mimicking ischaemia. <i>Nature</i> , 2016, 529, 523-527.	13.7	142
48	Tonic excitation and inhibition of neurons: ambient transmitter sources and computational consequences. <i>Progress in Biophysics and Molecular Biology</i> , 2005, 87, 3-16.	1.4	141
49	GABA _C Receptor Sensitivity Is Modulated by Interaction with MAP1B. <i>Journal of Neuroscience</i> , 2000, 20, 8643-8650.	1.7	140
50	Regulation of developing myelin sheath elongation by oligodendrocyte calcium transients in vivo. <i>Nature Neuroscience</i> , 2018, 21, 24-28.	7.1	138
51	The node of Ranvier in CNS pathology. <i>Acta Neuropathologica</i> , 2014, 128, 161-175.	3.9	134
52	The physiology of developmental changes in BOLD functional imaging signals. <i>Developmental Cognitive Neuroscience</i> , 2011, 1, 199-216.	1.9	132
53	Signal clipping by the rod output synapse. <i>Nature</i> , 1987, 328, 522-524.	13.7	125
54	Modulation of extracellular glutamate concentration in rat brain slices by cystine-glutamate exchange. <i>Journal of Physiology</i> , 1999, 514, 783-793.	1.3	123

#	ARTICLE	IF	CITATIONS
55	Role of glial amino acid transporters in synaptic transmission and brain energetics. <i>Glia</i> , 2004, 47, 217-225.	2.5	119
56	Anion Conductance Behavior of the Glutamate Uptake Carrier in Salamander Retinal Glial Cells. <i>Journal of Neuroscience</i> , 1996, 16, 6722-6731.	1.7	111
57	Signalling through AMPA receptors on oligodendrocyte precursors promotes myelination by enhancing oligodendrocyte survival. <i>ELife</i> , 2017, 6, .	2.8	111
58	Sequential Release of GABA by Exocytosis and Reversed Uptake Leads to Neuronal Swelling in Simulated Ischemia of Hippocampal Slices. <i>Journal of Neuroscience</i> , 2004, 24, 3837-3849.	1.7	109
59	The Energy Use Associated with Neural Computation in the Cerebellum. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2010, 30, 403-414.	2.4	107
60	The properties of single cones isolated from the tiger salamander retina. <i>Journal of Physiology</i> , 1982, 328, 259-283.	1.3	106
61	A presynaptic action of glutamate at the cone output synapse. <i>Nature</i> , 1988, 332, 451-453.	13.7	106
62	Capillary pericytes mediate coronary no-reflow after myocardial ischaemia. <i>ELife</i> , 2017, 6, .	2.8	106
63	Endocannabinoid signaling depends on the spatial pattern of synapse activation. <i>Nature Neuroscience</i> , 2005, 8, 776-781.	7.1	103
64	Imaging pericytes and capillary diameter in brain slices and isolated retinae. <i>Nature Protocols</i> , 2014, 9, 323-336.	5.5	98
65	Control of brain energy supply by astrocytes. <i>Current Opinion in Neurobiology</i> , 2017, 47, 80-85.	2.0	97
66	A Preferential Role for Glycolysis in Preventing the Anoxic Depolarization of Rat Hippocampal Area CA1 Pyramidal Cells. <i>Journal of Neuroscience</i> , 2005, 25, 848-859.	1.7	95
67	Modulation by zinc of the glutamate transporters in glial cells and cones isolated from the tiger salamander retina. <i>Journal of Physiology</i> , 1998, 506, 363-376.	1.3	83
68	The ionic stoichiometry of the GLAST glutamate transporter in salamander retinal glia. <i>Journal of Physiology</i> , 2006, 577, 591-599.	1.3	83
69	Endogenous GABA controls oligodendrocyte lineage cell number, myelination, and CNS internode length. <i>Glia</i> , 2017, 65, 309-321.	2.5	83
70	A role for pericytes in coronary no-reflow. <i>Nature Reviews Cardiology</i> , 2014, 11, 427-432.	6.1	81
71	Morphological and electrical properties of oligodendrocytes in the white matter of the corpus callosum and cerebellum. <i>Journal of Physiology</i> , 2011, 589, 559-573.	1.3	80
72	Receptors, Ion Channels, and Signaling Mechanisms Underlying Microglial Dynamics. <i>Journal of Biological Chemistry</i> , 2015, 290, 12443-12450.	1.6	77

#	ARTICLE	IF	CITATIONS
73	Testing NMDA receptor block as a therapeutic strategy for reducing ischaemic damage to CNS white matter. <i>Glia</i> , 2008, 56, 233-240.	2.5	76
74	Reversal or reduction of glutamate and GABA transport in CNS pathology and therapy. <i>Pflugers Archiv European Journal of Physiology</i> , 2004, 449, 132-142.	1.3	75
75	The Role of Glial Glutamate Transporters in Maintaining the Independent Operation of Juvenile Mouse Cerebellar Parallel Fibre Synapses. <i>Journal of Physiology</i> , 2003, 552, 89-107.	1.3	72
76	Ion Channels and Receptors as Determinants of Microglial Function. <i>Trends in Neurosciences</i> , 2019, 42, 278-292.	4.2	69
77	Control of intracellular chloride concentration and GABA response polarity in rat retinal ON bipolar cells. <i>Journal of Physiology</i> , 2002, 545, 183-198.	1.3	64
78	Glia and neurons in dialogue. <i>Nature</i> , 1994, 369, 707-708.	13.7	60
79	The receptor subunits generating NMDA receptor mediated currents in oligodendrocytes. <i>Journal of Physiology</i> , 2010, 588, 3403-3414.	1.3	60
80	Energy-Efficient Information Transfer by Visual Pathway Synapses. <i>Current Biology</i> , 2015, 25, 3151-3160.	1.8	60
81	Non-synaptic Release of ATP by Electrical Stimulation in Slices of Rat Hippocampus, Cerebellum and Habenula. <i>European Journal of Neuroscience</i> , 1996, 8, 1510-1515.	1.2	52
82	Chapter 4 Physiological and pathological operation of glutamate transporters. <i>Progress in Brain Research</i> , 1998, 116, 45-57.	0.9	51
83	Brain Uptake of Glutamate: Food for Thought. <i>Journal of Nutrition</i> , 2000, 130, 1023S-1025S.	1.3	51
84	Knocking out the glial glutamate transporter GLT-1 reduces glutamate uptake but does not affect hippocampal glutamate dynamics in early simulated ischaemia. <i>European Journal of Neuroscience</i> , 2002, 15, 308-314.	1.2	50
85	Combining patch-clamping of cells in brain slices with immunocytochemical labeling to define cell type and developmental stage. <i>Nature Protocols</i> , 2006, 1, 1977-1986.	5.5	50
86	Astrocyte Ca ²⁺ -evoked ATP release regulates myelinated axon excitability and conduction speed. <i>Science</i> , 2021, 374, eabh2858.	6.0	50
87	The Amino Terminus of the Glial Glutamate Transporter GLT-1 Interacts with the LIM Protein Ajuba. <i>Molecular and Cellular Neurosciences</i> , 2002, 19, 152-164.	1.0	49
88	Feeding the brain. <i>Nature</i> , 2004, 431, 137-138.	13.7	47
89	THE SHARPEY-SCHAFFER LECTURE ION CHANNELS AND SIGNAL PROCESSING IN THE OUTER RETINA. <i>Quarterly Journal of Experimental Physiology (Cambridge, England)</i> , 1986, 71, 496-536.	1.0	46
90	Effects of the ecto-ATPase apyrase on microglial ramification and surveillance reflect cell depolarization, not ATP depletion. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E1608-E1617.	3.3	46

#	ARTICLE	IF	CITATIONS
91	The Ca ²⁺ -gated channel TMEM16A amplifies capillary pericyte contraction and reduces cerebral blood flow after ischemia. <i>Journal of Clinical Investigation</i> , 2022, 132, .	3.9	46
92	The electrical response of cerebellar Purkinje neurons to simulated ischaemia. <i>Brain</i> , 2005, 128, 2408-2420.	3.7	44
93	P2Y ₁₃ receptors regulate microglial morphology, surveillance, and resting levels of interleukin 1 β release. <i>Glia</i> , 2020, 68, 328-344.	2.5	44
94	Short- and long-term depression of rat cerebellar parallel fibre synaptic transmission mediated by synaptic crosstalk. <i>Journal of Physiology</i> , 2007, 578, 545-550.	1.3	43
95	The effect of N-acetyl-aspartyl-glutamate and N-acetyl-aspartate on white matter oligodendrocytes. <i>Brain</i> , 2009, 132, 1496-1508.	3.7	43
96	Glutamate Does Not Play a Major Role in Controlling Bone Growth. <i>Journal of Bone and Mineral Research</i> , 2001, 16, 742-749.	3.1	42
97	G protein-coupled receptor 37-like 1 modulates astrocyte glutamate transporters and neuronal NMDA receptors and is neuroprotective in ischemia. <i>Glia</i> , 2018, 66, 47-61.	2.5	41
98	Assessing the physiological concentration and targets of nitric oxide in brain tissue. <i>Journal of Physiology</i> , 2008, 586, 3597-3615.	1.3	40
99	Non-signalling energy use in the developing rat brain. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2017, 37, 951-966.	2.4	37
100	C-terminal interactions modulate the affinity of GLAST glutamate transporters in salamander retinal glial cells. <i>Journal of Physiology</i> , 1999, 520, 393-397.	1.3	33
101	Release of l-aspartate by reversal of glutamate transporters. <i>Neuropharmacology</i> , 2005, 49, 843-849.	2.0	30
102	NMDA Receptors: Power Switches for Oligodendrocytes. <i>Neuron</i> , 2016, 91, 3-5.	3.8	30
103	A chemokine-glutamate connection. <i>Nature Neuroscience</i> , 2001, 4, 676-678.	7.1	28
104	Amines, Astrocytes, and Arousal. <i>Neuron</i> , 2017, 94, 228-231.	3.8	28
105	Why do oligodendrocyte lineage cells express glutamate receptors?. <i>F1000 Biology Reports</i> , 2010, 2, 57.	4.0	28
106	The role of pericytes in brain disorders: from the periphery to the brain. <i>Journal of Neurochemistry</i> , 2019, 150, 648-665.	2.1	26
107	Charge compensation for NADPH oxidase activity in microglia in rat brain slices does not involve a proton current. <i>European Journal of Neuroscience</i> , 2008, 28, 1146-1156.	1.2	25
108	The cortical energy needed for conscious perception. <i>NeuroImage</i> , 2008, 40, 1460-1468.	2.1	24

#	ARTICLE	IF	CITATIONS
109	Energy-efficient information transfer at thalamocortical synapses. <i>PLoS Computational Biology</i> , 2019, 15, e1007226.	1.5	22
110	Inducible expression of the GLT-1 glutamate transporter in a CHO cell line selected for low endogenous glutamate uptake. <i>FEBS Letters</i> , 1998, 422, 339-342.	1.3	21
111	Monitoring phagocytic uptake of amyloid β^2 into glial cell lysosomes in real time. <i>Chemical Science</i> , 2021, 12, 10901-10918.	3.7	19
112	Effect of Acute Exposure to Ammonia on Glutamate Transport in Glial Cells Isolated From the Salamander Retina. <i>Journal of Neurophysiology</i> , 2001, 86, 836-844.	0.9	17
113	An astrocyte TRP switch for inhibition. <i>Nature Neuroscience</i> , 2012, 15, 3-4.	7.1	16
114	Synapse development is regulated by microglial THIK-1 K ⁺ channels. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	14
115	Diverse mechanisms regulating brain energy supply at the capillary level. <i>Current Opinion in Neurobiology</i> , 2021, 69, 41-50.	2.0	13
116	Brain's immune cells put the brakes on neurons. <i>Nature</i> , 2020, 586, 366-367.	13.7	13
117	Glutaric Acid Affects Pericyte Contractility and Migration: Possible Implications for GA-I Pathogenesis. <i>Molecular Neurobiology</i> , 2019, 56, 7694-7707.	1.9	12
118	OUP accepted manuscript. <i>Brain</i> , 2020, 143, e101.	3.7	12
119	Immune-vascular mural cell interactions: consequences for immune cell trafficking, cerebral blood flow, and the blood-brain barrier. <i>Neurophotonics</i> , 2022, 9, 031914.	1.7	12
120	The Effect of Hyperoxemia on Neurological Outcomes of Adult Patients: A Systematic Review and Meta-Analysis. <i>Neurocritical Care</i> , 2022, 36, 1027-1043.	1.2	10
121	Hyperoxia evokes pericyte-mediated capillary constriction. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2022, 42, 2032-2047.	2.4	10
122	Pericyte-mediated constriction of renal capillaries evokes no-reflow and kidney injury following ischaemia. <i>ELife</i> , 2022, 11, .	2.8	9
123	Vision: Phototransduction changes focus. <i>Nature</i> , 1985, 317, 14-15.	13.7	8
124	Neural Energy Consumption and the Representation of Mental Events. , 2005, , 111-124.		7
125	Optimising the energetic cost of the glutamatergic synapse. <i>Neuropharmacology</i> , 2021, 197, 108727.	2.0	7
126	Neuronal energy use and brain evolution. <i>Current Biology</i> , 2022, 32, R650-R655.	1.8	7

#	ARTICLE	IF	CITATIONS
127	Analysis of Signaling Mechanisms Regulating Microglial Process Movement. <i>Methods in Molecular Biology</i> , 2019, 2034, 191-205.	0.4	5
128	Brain power. <i>Nature</i> , 2008, 456, 715-716.	13.7	4
129	The non-adrenergic imidazoline-1 receptor protein nischarin is a key regulator of astrocyte glutamate uptake. <i>IScience</i> , 2022, 25, 104127.	1.9	3
130	The Curious Incident of the [Silent] Dog in the Night-Time. <i>Journal of Bone and Mineral Research</i> , 2001, 16, 1731-1732.	3.1	2
131	Coupling cellular metabolism to neuronal signalling. <i>Journal of Physiology</i> , 2015, 593, 3413-3415.	1.3	2