Bruno Weber

List of Publications by Year
in descending order

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Version: 2024-02-01

76 papers	5,012 citations	94433 37 h-index	106344 65 g-index
86 all docs	86 docs citations	86 times ranked	6261 citing authors

#	Article	IF	Citations
1	InÂVivo Evidence for a Lactate Gradient from Astrocytes to Neurons. Cell Metabolism, 2016, 23, 94-102.	16.2	437
2	In VivoEvidence for Lactate as a Neuronal Energy Source. Journal of Neuroscience, 2011, 31, 7477-7485.	3.6	353
3	Human hippocampus establishes associations in memory. Hippocampus, 1997, 7, 249-256.	1.9	277
4	The Microvascular System of the Striate and Extrastriate Visual Cortex of the Macaque. Cerebral Cortex, 2008, 18, 2318-2330.	2.9	229
5	Rapid Reconfiguration of the Functional Connectome after Chemogenetic Locus Coeruleus Activation. Neuron, 2019, 103, 702-718.e5.	8.1	198
6	Reorganization of cortical population activity imaged throughout long-term sensory deprivation. Nature Neuroscience, 2012, 15, 1539-1546.	14.8	193
7	Cortical Circuit Activity Evokes Rapid Astrocyte Calcium Signals on a Similar Timescale to Neurons. Neuron, 2018, 98, 726-735.e4.	8.1	178
8	Channel-Mediated Lactate Release by K⁺-Stimulated Astrocytes. Journal of Neuroscience, 2015, 35, 4168-4178.	3.6	163
9	Structural basis of astrocytic Ca2+ signals at tripartite synapses. Nature Communications, 2020, 11, 1906.	12.8	133
10	Neutrophils Obstructing Brain Capillaries Are a Major Cause of No-Reflow in Ischemic Stroke. Cell Reports, 2020, 33, 108260.	6.4	129
11	The Astrocyte: Powerhouse and Recycling Center. Cold Spring Harbor Perspectives in Biology, 2015, 7, a020396.	5.5	127
12	Topology and Hemodynamics of the Cortical Cerebrovascular System. Journal of Cerebral Blood Flow and Metabolism, 2012, 32, 952-967.	4.3	109
13	Oxyphor 2P: A High-Performance Probe for Deep-Tissue Longitudinal Oxygen Imaging. Cell Metabolism, 2019, 29, 736-744.e7.	16.2	105
14	Depth-dependent flow and pressure characteristics in cortical microvascular networks. PLoS Computational Biology, 2017, 13, e1005392.	3.2	99
15	Long-term In Vivo Calcium Imaging of Astrocytes Reveals Distinct Cellular Compartment Responses to Sensory Stimulation. Cerebral Cortex, 2018, 28, 184-198.	2.9	86
16	Vascular density and distribution in neocortex. NeuroImage, 2019, 197, 792-805.	4.2	86
17	DeepVesselNet: Vessel Segmentation, Centerline Prediction, and Bifurcation Detection in 3-D Angiographic Volumes. Frontiers in Neuroscience, 2020, 14, 592352.	2.8	83
18	Arousal-induced cortical activity triggers lactate release from astrocytes. Nature Metabolism, 2020, 2, 179-191.	11.9	82

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19	Non-Canonical Control of Neuronal Energy Status by the Na+ Pump. Cell Metabolism, 2019, 29, 668-680.e4.	16.2	79
20	A Probable Dual Mode of Action for Both L- and D-Lactate Neuroprotection in Cerebral Ischemia. Journal of Cerebral Blood Flow and Metabolism, 2015, 35, 1561-1569.	4.3	77
21	Joint 3-D vessel segmentation and centerline extraction using oblique Hough forests with steerable filters. Medical Image Analysis, 2015, 19, 220-249.	11.6	74
22	Changes of Cerebral Blood Flow during Short-Term Exposure to Normobaric Hypoxia. Journal of Cerebral Blood Flow and Metabolism, 1998, 18, 906-910.	4.3	67
23	NH4+ triggers the release of astrocytic lactate via mitochondrial pyruvate shunting. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 11090-11095.	7.1	67
24	Tactile frequency discrimination is enhanced by circumventing neocortical adaptation. Nature Neuroscience, 2014, 17, 1567-1573.	14.8	65
25	Assessment of brain responses to innocuous and noxious electrical forepaw stimulation in mice using BOLD fMRI. Pain, 2010, 151, 655-663.	4.2	64
26	Fiber-optic implant for simultaneous fluorescence-based calcium recordings and BOLD fMRI in mice. Nature Protocols, 2018, 13, 840-855.	12.0	64
27	A femoral arteriovenous shunt facilitates arterial whole blood sampling in animals. European Journal of Nuclear Medicine and Molecular Imaging, 2002, 29, 319-323.	6.4	59
28	Novel two-alternative forced choice paradigm for bilateral vibrotactile whisker frequency discrimination in head-fixed mice and rats. Journal of Neurophysiology, 2013, 109, 273-284.	1.8	59
29	Design and performance of an ultra-flexible two-photon microscope for in vivo research. Biomedical Optics Express, 2015, 6, 4228.	2.9	55
30	Two-Photon Absorbing Phosphorescent Metalloporphyrins: Effects of Ï€-Extension and Peripheral Substitution. Journal of the American Chemical Society, 2016, 138, 15648-15662.	13.7	55
31	Shear-stress sensing by PIEZO1 regulates tendon stiffness in rodents and influences jumping performance in humans. Nature Biomedical Engineering, 2021, 5, 1457-1471.	22.5	54
32	A dynamic model of oxygen transport from capillaries to tissue with moving red blood cells. American Journal of Physiology - Heart and Circulatory Physiology, 2015, 308, H206-H216.	3.2	50
33	A genetically encoded sensor for in vivo imaging of orexin neuropeptides. Nature Methods, 2022, 19, 231-241.	19.0	50
34	The impact of capillary dilation on the distribution of red blood cells in artificial networks. American Journal of Physiology - Heart and Circulatory Physiology, 2015, 308, H733-H742.	3.2	48
35	The relative influence of hematocrit and red blood cell velocity on oxygen transport from capillaries to tissue. Microcirculation, 2017, 24, e12337.	1.8	47
36	Direct vascular contact is a hallmark of cerebral astrocytes. Cell Reports, 2022, 39, 110599.	6.4	47

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37	A complete pupillometry toolbox for real-time monitoring of locus coeruleus activity in rodents. Nature Protocols, 2020, 15, 2301-2320.	12.0	46
38	Stimulation-Induced Increases of Astrocytic Oxidative Metabolism in Rats and Humans Investigated with 1-¹¹C-Acetate. Journal of Cerebral Blood Flow and Metabolism, 2009, 29, 44-56.	4.3	43
39	Decoupling astrocytes in adult mice impairs synaptic plasticity and spatial learning. Cell Reports, 2022, 38, 110484.	6.4	43
40	Red blood cells stabilize flow in brain microvascular networks. PLoS Computational Biology, 2019, 15, e1007231.	3.2	41
41	Current technical approaches to brain energy metabolism. Glia, 2018, 66, 1138-1159.	4.9	40
42	Quantitative Cerebral Blood Flow Measurements in the Rat Using a Beta-Probe and H215O. Journal of Cerebral Blood Flow and Metabolism, 2003, 23, 1455-1460.	4.3	39
43	Vascularization of Cytochrome Oxidase-Rich Blobs in the Primary Visual Cortex of Squirrel and Macaque Monkeys. Journal of Neuroscience, 2011, 31, 1246-1253.	3.6	39
44	Metabotropic glutamate receptor mGluR5 is not involved in the early hemodynamic response. Journal of Cerebral Blood Flow and Metabolism, 2011, 31, e1-e10.	4.3	39
45	In vivo imaging with a water immersion objective affects brain temperature, blood flow and oxygenation. ELife, 2019, 8, .	6.0	39
46	Quantitative evaluation of 11C-ABP688 as PET ligand for the measurement of the metabotropic glutamate receptor subtype 5 using autoradiographic studies and a beta-scintillator. NeuroImage, 2007, 35, 1086-1092.	4.2	37
47	A Bright and Colorful Future for G-Protein Coupled Receptor Sensors. Frontiers in Cellular Neuroscience, 2020, 14, 67.	3.7	35
48	CHIPS: an Extensible Toolbox for Cellular and Hemodynamic Two-Photon Image Analysis. Neuroinformatics, 2018, 16, 145-147.	2.8	31
49	Distinct signatures of calcium activity in brain mural cells. ELife, 2021, 10, .	6.0	31
50	Fear learning induces Î±7-nicotinic acetylcholine receptor-mediated astrocytic responsiveness that is required for memory persistence. Nature Neuroscience, 2021, 24, 1686-1698.	14.8	31
51	Deviant Processing in the Primary Somatosensory Cortex. Cerebral Cortex, 2015, 27, bhv283.	2.9	28
52	Sparse, reliable, and long-term stable representation of periodic whisker deflections in the mouse barrel cortex. NeuroImage, 2015, 115, 52-63.	4.2	26
53	Diversity of neurovascular coupling dynamics along vascular arbors in layer II/III somatosensory cortex. Communications Biology, 2021, 4, 855.	4.4	23
54	Stabilizing g-States in Centrosymmetric Tetrapyrroles: Two-Photon-Absorbing Porphyrins with Bright Phosphorescence. Journal of Physical Chemistry A, 2017, 121, 6243-6255.	2.5	22

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55	How doth the little busy bee: unexpected metabolism. Trends in Neurosciences, 2015, 38, 1-2.	8.6	21
56	DCC Is Required for the Development of Nociceptive Topognosis in Mice and Humans. Cell Reports, 2018, 22, 1105-1114.	6.4	21
57	The Relation Between Capillary Transit Times and Hemoglobin Saturation Heterogeneity. Part 1: Theoretical Models. Frontiers in Physiology, 2018, 9, 420.	2.8	21
58	The severity of microstrokes depends on local vascular topology and baseline perfusion. ELife, 2021, 10, .	6.0	20
59	The Relation Between Capillary Transit Times and Hemoglobin Saturation Heterogeneity. Part 2: Capillary Networks. Frontiers in Physiology, 2018, 9, 1296.	2.8	19
60	Monoamine oxidase B single-photon emission tomography with [123 I]Ro 43-0463: imaging in volunteers and patients with temporal lobe epilepsy. European Journal of Nuclear Medicine and Molecular Imaging, 1998, 25, 464-470.	6.4	16
61	Intravitreal AAV-Delivery of Genetically Encoded Sensors Enabling Simultaneous Two-Photon Imaging and Electrophysiology of Optic Nerve Axons. Frontiers in Cellular Neuroscience, 2018, 12, 377.	3.7	14
62	Performance Measurements of the SAFIR Prototype Detector With the STiC ASIC Readout. IEEE Transactions on Radiation and Plasma Medical Sciences, 2018, 2, 250-258.	3.7	13
63	Constant-infusion H(2)15O PET and acetazolamide challenge in the assessment of cerebral perfusion status. Journal of Nuclear Medicine, 2004, 45, 1344-50.	5.0	11
64	Vascular Response to Spreading Depolarization Predicts Stroke Outcome. Stroke, 2022, 53, 1386-1395.	2.0	11
65	Initial Characterization of the SAFIR Prototype PET-MR Scanner. IEEE Transactions on Radiation and Plasma Medical Sciences, 2020, 4, 613-621.	3.7	9
66	Predicting Vessel Diameter Changes to Up-Regulate Biphasic Blood Flow During Activation in Realistic Microvascular Networks. Frontiers in Physiology, 2020, 11, 566303.	2.8	8
67	Two-photon microscopy with double-circle trajectories for in vivo cerebral blood flow measurements. Experiments in Fluids, 2013, 54, 1.	2.4	7
68	What do we know about dynamic glucose-enhanced (DGE) MRI and how close is it to the clinics? Horizon 2020 GLINT consortium report. Magnetic Resonance Materials in Physics, Biology, and Medicine, 2022, 35, 87-104.	2.0	7
69	A beta-scintillator for surface measurements of radiotracer kinetics in the intact rodent cortex. NeuroImage, 2009, 48, 339-347.	4.2	6
70	Role of sex hormones in modulating myocardial perfusion and coronary flow reserve. European Journal of Nuclear Medicine and Molecular Imaging, 2022, 49, 2209-2218.	6.4	6
71	SAFIR-I: Design and Performance of a High-Rate Preclinical PET Insert for MRI. Sensors, 2021, 21, 7037.	3.8	3
72	Measurement of cerebral oxygen pressure in living mice by two-photon phosphorescence lifetime microscopy. STAR Protocols, 2022, 3, 101370.	1.2	3

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73	A FACED lift for cerebral blood flow imaging. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	3
74	Structural Basis of Astrocytic Ca ² Signals at Tripartite Synapses. SSRN Electronic Journal, 0, , .	0.4	2
75	Modeling the cerebral blood flow using a linear system approach. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 4020027-4020028.	0.2	0
76	Dual Ring Prototype Electronic System for the Small Animal Fast Insert for MRI. , 2018, , .		0