

Chris B Schaffer

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

105
papers

8,234
citations

46
h-index

90
g-index

126
ext. papers

10,259
ext. citations

6.9
avg, IF

5.86
L-index

#	Paper	IF	Citations
105	three-photon microscopy of subcortical structures within an intact mouse brain. <i>Nature Photonics</i> , 2013 , 7,	33.9	830
104	Micromachining bulk glass by use of femtosecond laser pulses with nanojoule energy. <i>Optics Letters</i> , 2001 , 26, 93-5	3	584
103	Laser-induced breakdown and damage in bulk transparent materials induced by tightly focused femtosecond laser pulses. <i>Measurement Science and Technology</i> , 2001 , 12, 1784-1794	2	519
102	Deep tissue multiphoton microscopy using longer wavelength excitation. <i>Optics Express</i> , 2009 , 17, 13354-54	5.64	391
101	Vascular contributions to cognitive impairment and dementia including Alzheimer's disease. <i>Alzheimer's and Dementia</i> , 2015 , 11, 710-7	1.2	364
100	Ultrafast Processes for Bulk Modification of Transparent Materials. <i>MRS Bulletin</i> , 2006 , 31, 620-625	3.2	307
99	Two-photon microscopy as a tool to study blood flow and neurovascular coupling in the rodent brain. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2012 , 32, 1277-309	7.3	288
98	Bulk heating of transparent materials using a high-repetition-rate femtosecond laser. <i>Applied Physics A: Materials Science and Processing</i> , 2003 , 76, 351-354	2.6	287
97	Two-photon imaging of cortical surface microvessels reveals a robust redistribution in blood flow after vascular occlusion. <i>PLoS Biology</i> , 2006 , 4, e22	9.7	274
96	Penetrating arterioles are a bottleneck in the perfusion of neocortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 365-70	11.5	268
95	Age-related intimal stiffening enhances endothelial permeability and leukocyte transmigration. <i>Science Translational Medicine</i> , 2011 , 3, 112ra122	17.5	254
94	Targeted insult to subsurface cortical blood vessels using ultrashort laser pulses: three models of stroke. <i>Nature Methods</i> , 2006 , 3, 99-108	21.6	235
93	Dynamics of femtosecond laser-induced breakdown in water from femtoseconds to microseconds. <i>Optics Express</i> , 2002 , 10, 196-203	3.3	191
92	All-optical histology using ultrashort laser pulses. <i>Neuron</i> , 2003 , 39, 27-41	13.9	164
91	Neutrophil adhesion in brain capillaries reduces cortical blood flow and impairs memory function in Alzheimer's disease mouse models. <i>Nature Neuroscience</i> , 2019 , 22, 413-420	25.5	152
90	TRAIL-coated leukocytes that kill cancer cells in the circulation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 930-5	11.5	143
89	Morphology of femtosecond laser-induced structural changes in bulk transparent materials. <i>Applied Physics Letters</i> , 2004 , 84, 1441-1443	3.4	135

88	In vivo imaging of myelin in the vertebrate central nervous system using third harmonic generation microscopy. <i>Biophysical Journal</i> , 2011 , 100, 1362-71	2.9	129
87	Chronic in vivo imaging in the mouse spinal cord using an implanted chamber. <i>Nature Methods</i> , 2012 , 9, 297-302	21.6	128
86	Preventing dementia by preventing stroke: The Berlin Manifesto. <i>Alzheimer's and Dementia</i> , 2019 , 15, 961-984	1.2	113
85	In vivo two-photon excited fluorescence microscopy reveals cardiac- and respiration-dependent pulsatile blood flow in cortical blood vessels in mice. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2012 , 302, H1367-77	5.2	95
84	Cyclic strain anisotropy regulates valvular interstitial cell phenotype and tissue remodeling in three-dimensional culture. <i>Acta Biomaterialia</i> , 2012 , 8, 1710-9	10.8	92
83	Femtosecond laser-drilled capillary integrated into a microfluidic device. <i>Applied Physics Letters</i> , 2005 , 86, 201106	3.4	91
82	Limitations of collateral flow after occlusion of a single cortical penetrating arteriole. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2010 , 30, 1914-27	7.3	88
81	Preictal and ictal neurovascular and metabolic coupling surrounding a seizure focus. <i>Journal of Neuroscience</i> , 2011 , 31, 13292-300	6.6	87
80	Photonic band-gap fiber gas cell fabricated using femtosecond micromachining. <i>Optics Express</i> , 2007 , 15, 6690-5	3.3	78
79	Ultra-large field-of-view two-photon microscopy. <i>Optics Express</i> , 2015 , 23, 13833-47	3.3	73
78	Numerical aperture dependence of damage and supercontinuum generation from femtosecond laser pulses in bulk fused silica. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2006 , 23, 2317-7	7.7	71
77	Anticoagulation with the oral direct thrombin inhibitor dabigatran does not enlarge hematoma volume in experimental intracerebral hemorrhage. <i>Circulation</i> , 2011 , 124, 1654-62	16.7	70
76	Notch4 normalization reduces blood vessel size in arteriovenous malformations. <i>Science Translational Medicine</i> , 2012 , 4, 117ra8	17.5	65
75	Customization of Poly(dimethylsiloxane) Stamps by Micromachining Using a Femtosecond-Pulsed Laser. <i>Advanced Materials</i> , 2003 , 15, 62-65	24	65
74	ApoB disrupts neurovascular regulation and undermines white matter integrity and cognitive function. <i>Nature Communications</i> , 2018 , 9, 3816	17.4	65
73	Occlusion of cortical ascending venules causes blood flow decreases, reversals in flow direction, and vessel dilation in upstream capillaries. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2011 , 31, 2243-54	7.3	64
72	Robust and fragile aspects of cortical blood flow in relation to the underlying angioarchitecture. <i>Microcirculation</i> , 2015 , 22, 204-218	2.9	62
71	The challenge of connecting the dots in the B.R.A.I.N. <i>Neuron</i> , 2013 , 80, 270-4	13.9	60

70	Constitutively active Notch4 receptor elicits brain arteriovenous malformations through enlargement of capillary-like vessels. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 18007-12	11.5	60
69	Mixing injector enables time-resolved crystallography with high hit rate at X-ray free electron lasers. <i>Structural Dynamics</i> , 2016 , 3, 054301	3.2	59
68	Minimally disruptive laser-induced breakdown in water. <i>Optics Letters</i> , 1997 , 22, 1817-9	3	58
67	Line-scanning particle image velocimetry: an optical approach for quantifying a wide range of blood flow speeds in live animals. <i>PLoS ONE</i> , 2012 , 7, e38590	3.7	57
66	Cortical microhemorrhages cause local inflammation but do not trigger widespread dendrite degeneration. <i>PLoS ONE</i> , 2011 , 6, e26612	3.7	56
65	The origin and implementation of the Broadening Experiences in Scientific Training programs: an NIH common fund initiative. <i>FASEB Journal</i> , 2016 , 30, 507-14	0.9	55
64	Spectroscopy of third-harmonic generation: evidence for resonances in model compounds and ligated hemoglobin. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2006 , 23, 932	1.7	51
63	Programmable shaping of ultrabroad-bandwidth pulses from a Ti:sapphire laser. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1995 , 12, 1968	1.7	51
62	Flexible microfluidic devices supported by biodegradable insertion scaffolds for convection-enhanced neural drug delivery. <i>Biomedical Microdevices</i> , 2009 , 11, 915-24	3.7	50
61	TRAIL-coated leukocytes that prevent the bloodborne metastasis of prostate cancer. <i>Journal of Controlled Release</i> , 2016 , 223, 215-223	11.7	47
60	Optoporation and genetic manipulation of cells using femtosecond laser pulses. <i>Biophysical Journal</i> , 2013 , 105, 862-71	2.9	47
59	Intracerebral haemorrhage associated with antithrombotic treatment: translational insights from experimental studies. <i>Lancet Neurology</i> , 2013 , 12, 394-405	24.1	44
58	Spatio-temporal dynamics of cerebral capillary segments with stalling red blood cells. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2019 , 39, 886-900	7.3	38
57	Vascular contributions to cognitive impairment and dementia (VCID): A report from the 2018 National Heart, Lung, and Blood Institute and National Institute of Neurological Disorders and Stroke Workshop. <i>Alzheimer's and Dementia</i> , 2020 , 16, 1714-1733	1.2	36
56	Real-time imaging of perivascular transport of nanoparticles during convection-enhanced delivery in the rat cortex. <i>Annals of Biomedical Engineering</i> , 2012 , 40, 292-303	4.7	35
55	A circuit motif in the zebrafish hindbrain for a two alternative behavioral choice to turn left or right. <i>ELife</i> , 2016 , 5,	8.9	33
54	Stalled cerebral capillary blood flow in mouse models of essential thrombocythemia and polycythemia vera revealed by in vivo two-photon imaging. <i>Journal of Thrombosis and Haemostasis</i> , 2014 , 12, 2120-30	15.4	30
53	Large two-photon absorptivity of hemoglobin in the infrared range of 780-880 nm. <i>Journal of Chemical Physics</i> , 2007 , 126, 025102	3.9	30

52	Brain Capillary Networks Across Species: A few Simple Organizational Requirements Are Sufficient to Reproduce Both Structure and Function. <i>Frontiers in Physiology</i> , 2019 , 10, 233	4.6	29
51	Deep convolutional neural networks for segmenting 3D in vivo multiphoton images of vasculature in Alzheimer disease mouse models. <i>PLoS ONE</i> , 2019 , 14, e0213539	3.7	29
50	Two-photon microscopy-guided femtosecond-laser photoablation of avian cardiogenesis: noninvasive creation of localized heart defects. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2010 , 299, H1728-35	5.2	29
49	Dynamic capillary stalls in reperfused ischemic penumbra contribute to injury: A hyperacute role for neutrophils in persistent traffic jams. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2021 , 41, 236-252	7.3	27
48	Diverse Inflammatory Response After Cerebral Microbleeds Includes Coordinated Microglial Migration and Proliferation. <i>Stroke</i> , 2018 , 49, 1719-1726	6.7	27
47	Stimulus-evoked calcium transients in somatosensory cortex are temporarily inhibited by a nearby microhemorrhage. <i>PLoS ONE</i> , 2013 , 8, e65663	3.7	25
46	Growth and hemodynamics after early embryonic aortic arch occlusion. <i>Biomechanics and Modeling in Mechanobiology</i> , 2015 , 14, 735-51	3.8	23
45	Spectroscopic analysis of the oxygenation state of hemoglobin using coherent anti-Stokes Raman scattering. <i>Journal of Biomedical Optics</i> , 2006 , 11, 050502	3.5	22
44	Microexplosions in tellurite glasses. <i>Applied Physics A: Materials Science and Processing</i> , 2003 , 76, 379-384	4.6	22
43	High fat diet worsens Alzheimer's disease-related behavioral abnormalities and neuropathology in APP/PS1 mice, but not by synergistically decreasing cerebral blood flow. <i>Scientific Reports</i> , 2020 , 10, 9884	4.9	21
42	Increasing cerebral blood flow improves cognition into late stages in Alzheimer's disease mice. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2020 , 40, 1441-1452	7.3	21
41	. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2001 , 7, 559-566	3.8	16
40	Ultrafast laser-induced microexplosions: explosive dynamics and submicrometer structures 1998 , 3269, 36		15
39	Big effects from tiny vessels: imaging the impact of microvascular clots and hemorrhages on the brain. <i>Stroke</i> , 2013 , 44, S90-2	6.7	14
38	Intravenous tPA therapy does not worsen acute intracerebral hemorrhage in mice. <i>PLoS ONE</i> , 2013 , 8, e54203	3.7	14
37	Advanced Circuit and Cellular Imaging Methods in Nonhuman Primates. <i>Journal of Neuroscience</i> , 2019 , 39, 8267-8274	6.6	12
36	Hyperspectral multiphoton microscopy for visualization of multiple, spectrally overlapped fluorescent labels. <i>Optica</i> , 2020 , 7, 1587-1601	8.6	12
35	Causes and consequences of baseline cerebral blood flow reductions in Alzheimer's disease. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2021 , 41, 1501-1516	7.3	12

34	Surgical preparations, labeling strategies, and optical techniques for cell-resolved, in vivo imaging in the mouse spinal cord. <i>Experimental Neurology</i> , 2019 , 318, 192-204	5.7	11
33	Optically induced occlusion of single blood vessels in rodent neocortex. <i>Cold Spring Harbor Protocols</i> , 2013 , 2013, 1153-60	1.2	11
32	Optically quantified cerebral blood flow. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2011 , 31, 1337-8.3	8.3	10
31	Sub-surface, micrometer-scale incisions produced in rodent cortex using tightly-focused femtosecond laser pulses. <i>Lasers in Surgery and Medicine</i> , 2011 , 43, 382-91	3.6	10
30	Characterization of blood flow in the mouse dorsal spinal venous system before and after dorsal spinal vein occlusion. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2015 , 35, 667-75	7.3	9
29	Special topic section: linkages among cerebrovascular, cardiovascular, and cognitive disorders: Preventing dementia by preventing stroke: The Berlin Manifesto. <i>International Journal of Stroke</i> , 2019 , 1747493019871915	6.3	8
28	Femtosecond Laser Micromachining 2013 , 287-321		7
27	In vivo manipulation of biological systems with femtosecond laser pulses 2006 ,		7
26	Three-dimensional micromachining inside transparent materials using femtosecond laser pulses: New applications 2006 ,		7
25	A procedure for implanting a spinal chamber for longitudinal in vivo imaging of the mouse spinal cord. <i>Journal of Visualized Experiments</i> , 2014 ,	1.6	6
24	Laser-induced microexplosions in transparent materials: microstructuring with nanojoules 1999 ,		6
23	Use of Tethered Enzymes as a Platform Technology for Rapid Analyte Detection. <i>PLoS ONE</i> , 2015 , 10, e0142326	3.7	5
22	Microvessel occlusions alter amyloid-beta plaque morphology in a mouse model of Alzheimer's disease. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2020 , 40, 2115-2131	7.3	5
21	A topological encoding convolutional neural network for segmentation of 3D multiphoton images of brain vasculature using persistent homology. <i>IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops</i> , 2020 , 2020, 4262-4271	1.3	5
20	Experimentally constrained circuit model of cortical arteriole networks for understanding flow redistribution due to occlusion and neural activation. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2018 , 38, 38-44	7.3	5
19	Ultrasonically actuated inserted neural probes for increased recording reliability 2013 ,		4
18	A pilot study investigating the effects of voluntary exercise on capillary stalling and cerebral blood flow in the APP/PS1 mouse model of Alzheimer's disease. <i>PLoS ONE</i> , 2020 , 15, e0235691	3.7	4
17	Estimating brain microvascular blood flows from partial two-photon microscopy data by computation with a circuit model. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2011 , 2011, 171-7	0.9	3

16	Aspirin treatment does not increase microhemorrhage size in young or aged mice. <i>PLoS ONE</i> , 2019 , 14, e0204295	3.7	2
15	Optical tools to produce and study small strokes in animal models. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2010 , 2010, 3377-8	0.9	2
14	Label-free assessment of hemodynamics in individual cortical brain vessels using third harmonic generation microscopy. <i>Biomedical Optics Express</i> , 2020 , 11, 2665-2678	3.5	2
13	Increasing cerebral blood flow improves cognition into late stages in Alzheimer's disease mice		2
12	In Vivo Femtosecond Laser Subsurface Cortical Microtransections Attenuate Acute Rat Focal Seizures. <i>Cerebral Cortex</i> , 2019 , 29, 3415-3426	5.1	2
11	Unnatural killer cells: TRAIL-coated leukocytes that kill cancer cells in the circulation 2014 ,		1
10	In vivo deep tissue imaging with long wavelength multiphoton excitation 2010 ,		1
9	Ultrasonically enabled neural probes with co-located electrical and mechanical transduction 2012 ,		1
8	Stimulus-Evoked Calcium Transients in Somatosensory Cortex are Inhibited After a Nearby Microhemorrhage 2010 ,		1
7	Voluntary running does not increase capillary blood flow but promotes neurogenesis and short-term memory in the APP/PS1 mouse model of Alzheimer's disease		1
6	Comparison of convolutional neural and fully convolutional networks for segmentation of 3D in vivo multiphoton microscopy images of brain vasculature 2019 ,		1
5	Synchronously pumped Raman laser for simultaneous degenerate and nondegenerate two-photon microscopy. <i>Biomedical Optics Express</i> , 2021 , 12, 2496-2507	3.5	1
4	Femtosecond optical parametric chirped-pulse amplification in birefringent step-index fiber.. <i>Optics Letters</i> , 2022 , 47, 545-548	3	0
3	FTS-02-01: LEUKOCYTE PLUGGING OF CAPILLARIES REDUCES BRAIN BLOOD FLOW IN MOUSE MODELS OF ALZHEIMER'S DISEASE 2014 , 10, P285-P285		
2	In Vivo Imaging of Cerebral Circulation In Mouse Models of Polycythemia Vera. <i>Blood</i> , 2010 , 116, 4091-4091		
1	Ultrasonic actuation (UA) reduces the brain inflammatory response to neural microelectrode insertion. <i>FASEB Journal</i> , 2013 , 27, 927.14	0.9	