

Chris B Schaffer

List of Publications by Year in Descending Order

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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 | Femtosecond optical parametric chirped-pulse amplification in birefringent step-index fiber.. <i>Optics Letters</i> , 2022 , 47, 545-548 | 3 | 0 |
| 104 | Synchronously pumped Raman laser for simultaneous degenerate and nondegenerate two-photon microscopy. <i>Biomedical Optics Express</i> , 2021 , 12, 2496-2507 | 3.5 | 1 |
| 103 | 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 |
| 102 | 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 |
| 101 | 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 |
| 100 | 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 |
| 99 | Hyperspectral multiphoton microscopy for visualization of multiple, spectrally overlapped fluorescent labels. <i>Optica</i> , 2020 , 7, 1587-1601 | 8.6 | 12 |
| 98 | 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 |
| 97 | 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 |
| 96 | 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 |
| 95 | 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 |
| 94 | 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 |
| 93 | 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 |
| 92 | 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 |
| 91 | 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 |
| 90 | 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 |
| 89 | Aspirin treatment does not increase microhemorrhage size in young or aged mice. <i>PLoS ONE</i> , 2019 , 14, e0204295 | 3.7 | 2 |

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| 88 | 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 |
| 87 | Preventing dementia by preventing stroke: The Berlin Manifesto. <i>Alzheimer's and Dementia</i> , 2019 , 15, 961-984 | 1.2 | 113 |
| 86 | Advanced Circuit and Cellular Imaging Methods in Nonhuman Primates. <i>Journal of Neuroscience</i> , 2019 , 39, 8267-8274 | 6.6 | 12 |
| 85 | Comparison of convolutional neural and fully convolutional networks for segmentation of 3D in vivo multiphoton microscopy images of brain vasculature 2019 , | | 1 |
| 84 | In Vivo Femtosecond Laser Subsurface Cortical Microtransections Attenuate Acute Rat Focal Seizures. <i>Cerebral Cortex</i> , 2019 , 29, 3415-3426 | 5.1 | 2 |
| 83 | 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 |
| 82 | 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 |
| 81 | ApoE disrupts neurovascular regulation and undermines white matter integrity and cognitive function. <i>Nature Communications</i> , 2018 , 9, 3816 | 17.4 | 65 |
| 80 | Diverse Inflammatory Response After Cerebral Microbleeds Includes Coordinated Microglial Migration and Proliferation. <i>Stroke</i> , 2018 , 49, 1719-1726 | 6.7 | 27 |
| 79 | 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 |
| 78 | TRAIL-coated leukocytes that prevent the bloodborne metastasis of prostate cancer. <i>Journal of Controlled Release</i> , 2016 , 223, 215-223 | 11.7 | 47 |
| 77 | 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 |
| 76 | 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 |
| 75 | 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 |
| 74 | Ultra-large field-of-view two-photon microscopy. <i>Optics Express</i> , 2015 , 23, 13833-47 | 3.3 | 73 |
| 73 | Vascular contributions to cognitive impairment and dementia including Alzheimer's disease. <i>Alzheimer's and Dementia</i> , 2015 , 11, 710-7 | 1.2 | 364 |
| 72 | Growth and hemodynamics after early embryonic aortic arch occlusion. <i>Biomechanics and Modeling in Mechanobiology</i> , 2015 , 14, 735-51 | 3.8 | 23 |
| 71 | Robust and fragile aspects of cortical blood flow in relation to the underlying angioarchitecture. <i>Microcirculation</i> , 2015 , 22, 204-218 | 2.9 | 62 |

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|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|
| 70 | Use of Tethered Enzymes as a Platform Technology for Rapid Analyte Detection. <i>PLoS ONE</i> , 2015 , 10, e0142326 | 3.7 | 5 |
| 69 | 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 |
| 68 | 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 |
| 67 | 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 |
| 66 | FTS-02-01: LEUKOCYTE PLUGGING OF CAPILLARIES REDUCES BRAIN BLOOD FLOW IN MOUSE MODELS OF ALZHEIMER'S DISEASE 2014 , 10, P285-P285 | | |
| 65 | Unnatural killer cells: TRAIL-coated leukocytes that kill cancer cells in the circulation 2014 , | | 1 |
| 64 | 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 |
| 63 | The challenge of connecting the dots in the B.R.A.I.N. <i>Neuron</i> , 2013 , 80, 270-4 | 13.9 | 60 |
| 62 | Optoporation and genetic manipulation of cells using femtosecond laser pulses. <i>Biophysical Journal</i> , 2013 , 105, 862-71 | 2.9 | 47 |
| 61 | three-photon microscopy of subcortical structures within an intact mouse brain. <i>Nature Photonics</i> , 2013 , 7, | 33.9 | 830 |
| 60 | Intracerebral haemorrhage associated with antithrombotic treatment: translational insights from experimental studies. <i>Lancet Neurology</i> , 2013 , 12, 394-405 | 24.1 | 44 |
| 59 | Femtosecond Laser Micromachining 2013 , 287-321 | | 7 |
| 58 | 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 |
| 57 | Optically induced occlusion of single blood vessels in rodent neocortex. <i>Cold Spring Harbor Protocols</i> , 2013 , 2013, 1153-60 | 1.2 | 11 |
| 56 | Ultrasonically actuated inserted neural probes for increased recording reliability 2013 , | | 4 |
| 55 | Stimulus-evoked calcium transients in somatosensory cortex are temporarily inhibited by a nearby microhemorrhage. <i>PLoS ONE</i> , 2013 , 8, e65663 | 3.7 | 25 |
| 54 | Intravenous tPA therapy does not worsen acute intracerebral hemorrhage in mice. <i>PLoS ONE</i> , 2013 , 8, e54203 | 3.7 | 14 |
| 53 | Ultrasonic actuation (UA) reduces the brain inflammatory response to neural microelectrode insertion. <i>FASEB Journal</i> , 2013 , 27, 927.14 | 0.9 | |

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| 52 | 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 |
| 51 | 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 |
| 50 | Chronic in vivo imaging in the mouse spinal cord using an implanted chamber. <i>Nature Methods</i> , 2012 , 9, 297-302 | 21.6 | 128 |
| 49 | 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 |
| 48 | Notch4 normalization reduces blood vessel size in arteriovenous malformations. <i>Science Translational Medicine</i> , 2012 , 4, 117ra8 | 17.5 | 65 |
| 47 | Ultrasonically enabled neural probes with co-located electrical and mechanical transduction 2012 , | | 1 |
| 46 | 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 |
| 45 | 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 |
| 44 | 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 |
| 43 | Cortical microhemorrhages cause local inflammation but do not trigger widespread dendrite degeneration. <i>PLoS ONE</i> , 2011 , 6, e26612 | 3.7 | 56 |
| 42 | Optically quantified cerebral blood flow. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2011 , 31, 1337-8.3 | 8.3 | 10 |
| 41 | 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 |
| 40 | 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, 174-7 | 0.9 | 3 |
| 39 | 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 |
| 38 | Preictal and ictal neurovascular and metabolic coupling surrounding a seizure focus. <i>Journal of Neuroscience</i> , 2011 , 31, 13292-300 | 6.6 | 87 |
| 37 | 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, 2243-34 | 7.3 | 64 |
| 36 | Age-related intimal stiffening enhances endothelial permeability and leukocyte transmigration. <i>Science Translational Medicine</i> , 2011 , 3, 112ra122 | 17.5 | 254 |
| 35 | 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 |

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| 34 | In vivo deep tissue imaging with long wavelength multiphoton excitation 2010 , | | 1 |
| 33 | 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, 2010</i> , 2010, 3377-8 | 0.9 | 2 |
| 32 | 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, 2010</i> , 299, H1728-35 | 5.2 | 29 |
| 31 | Stimulus-Evoked Calcium Transients in Somatosensory Cortex are Inhibited After a Nearby Microhemorrhage 2010 , | | 1 |
| 30 | In Vivo Imaging of Cerebral Circulation In Mouse Models of Polycythemia Vera. <i>Blood, 2010</i> , 116, 4091-4091 | | 1 |
| 29 | Flexible microfluidic devices supported by biodegradable insertion scaffolds for convection-enhanced neural drug delivery. <i>Biomedical Microdevices, 2009</i> , 11, 915-24 | 3.7 | 50 |
| 28 | Deep tissue multiphoton microscopy using longer wavelength excitation. <i>Optics Express, 2009</i> , 17, 13354-54 | 5.64 | 391 |
| 27 | Penetrating arterioles are a bottleneck in the perfusion of neocortex. <i>Proceedings of the National Academy of Sciences of the United States of America, 2007</i> , 104, 365-70 | 11.5 | 268 |
| 26 | Large two-photon absorptivity of hemoglobin in the infrared range of 780-880 nm. <i>Journal of Chemical Physics, 2007</i> , 126, 025102 | 3.9 | 30 |
| 25 | Photonic band-gap fiber gas cell fabricated using femtosecond micromachining. <i>Optics Express, 2007</i> , 15, 6690-5 | 3.3 | 78 |
| 24 | Spectroscopic analysis of the oxygenation state of hemoglobin using coherent anti-Stokes Raman scattering. <i>Journal of Biomedical Optics, 2006</i> , 11, 050502 | 3.5 | 22 |
| 23 | Two-photon imaging of cortical surface microvessels reveals a robust redistribution in blood flow after vascular occlusion. <i>PLoS Biology, 2006</i> , 4, e22 | 9.7 | 274 |
| 22 | In vivo manipulation of biological systems with femtosecond laser pulses 2006 , | | 7 |
| 21 | Three-dimensional micromachining inside transparent materials using femtosecond laser pulses: New applications 2006 , | | 7 |
| 20 | 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, 2006</i> , 23, 932 | 1.7 | 51 |
| 19 | 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, 2006</i> , 23, 2317-7 | 1.7 | 71 |
| 18 | Ultrafast Processes for Bulk Modification of Transparent Materials. <i>MRS Bulletin, 2006</i> , 31, 620-625 | 3.2 | 307 |
| 17 | Targeted insult to subsurface cortical blood vessels using ultrashort laser pulses: three models of stroke. <i>Nature Methods, 2006</i> , 3, 99-108 | 21.6 | 235 |

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|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|
| 16 | Femtosecond laser-drilled capillary integrated into a microfluidic device. <i>Applied Physics Letters</i> , 2005 , 86, 201106 | 3.4 | 91 |
| 15 | Morphology of femtosecond laser-induced structural changes in bulk transparent materials. <i>Applied Physics Letters</i> , 2004 , 84, 1441-1443 | 3.4 | 135 |
| 14 | 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 |
| 13 | Microexplosions in tellurite glasses. <i>Applied Physics A: Materials Science and Processing</i> , 2003 , 76, 379-384.6 | 4.6 | 22 |
| 12 | Customization of Poly(dimethylsiloxane) Stamps by Micromachining Using a Femtosecond-Pulsed Laser. <i>Advanced Materials</i> , 2003 , 15, 62-65 | 24 | 65 |
| 11 | All-optical histology using ultrashort laser pulses. <i>Neuron</i> , 2003 , 39, 27-41 | 13.9 | 164 |
| 10 | Dynamics of femtosecond laser-induced breakdown in water from femtoseconds to microseconds. <i>Optics Express</i> , 2002 , 10, 196-203 | 3.3 | 191 |
| 9 | . <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2001 , 7, 559-566 | 3.8 | 16 |
| 8 | Micromachining bulk glass by use of femtosecond laser pulses with nanojoule energy. <i>Optics Letters</i> , 2001 , 26, 93-5 | 3 | 584 |
| 7 | 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 |
| 6 | Laser-induced microexplosions in transparent materials: microstructuring with nanojoules 1999 , | | 6 |
| 5 | Ultrafast laser-induced microexplosions: explosive dynamics and submicrometer structures 1998 , 3269, 36 | | 15 |
| 4 | Minimally disruptive laser-induced breakdown in water. <i>Optics Letters</i> , 1997 , 22, 1817-9 | 3 | 58 |
| 3 | 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 |
| 2 | 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 |
| 1 | Increasing cerebral blood flow improves cognition into late stages in Alzheimer's disease mice | | 2 |