List of Publications by Year in descending order

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| # | Article | IF | CITATIONS |
|----|--|------|-----------|
| 1 | Deep tissue multiphoton microscopy using longer wavelength excitation. Optics Express, 2009, 17, 13354. | 3.4 | 567 |
| 2 | In vivo three-photon imaging of activity of GCaMP6-labeled neurons deep in intact mouse brain. Nature Methods, 2017, 14, 388-390. | 19.0 | 434 |
| 3 | Two-Photon Microscopy as a Tool to Study Blood Flow and Neurovascular Coupling in the Rodent Brain. Journal of Cerebral Blood Flow and Metabolism, 2012, 32, 1277-1309. | 4.3 | 405 |
| 4 | Suppressed Neuronal Activity and Concurrent Arteriolar Vasoconstriction May Explain Negative Blood Oxygenation Level-Dependent Signal. Journal of Neuroscience, 2007, 27, 4452-4459. | 3.6 | 345 |
| 5 | Penetrating arterioles are a bottleneck in the perfusion of neocortex. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 365-370. | 7.1 | 341 |
| 6 | Two-Photon Imaging of Cortical Surface Microvessels Reveals a Robust Redistribution in Blood Flow after Vascular Occlusion. PLoS Biology, 2006, 4, e22. | 5.6 | 329 |
| 7 | Age-Related Intimal Stiffening Enhances Endothelial Permeability and Leukocyte Transmigration. Science Translational Medicine, 2011, 3, 112ra122. | 12.4 | 324 |
| 8 | Neutrophil adhesion in brain capillaries reduces cortical blood flow and impairs memory function in Alzheimer's disease mouse models. Nature Neuroscience, 2019, 22, 413-420. | 14.8 | 316 |
| 9 | Targeted insult to subsurface cortical blood vessels using ultrashort laser pulses: three models of stroke. Nature Methods, 2006, 3, 99-108. | 19.0 | 306 |
| 10 | Dynamics of femtosecond laser-induced breakdown in water from femtoseconds to microseconds. Optics Express, 2002, 10, 196. | 3.4 | 242 |
| 11 | Preventing dementia by preventing stroke: The Berlin Manifesto. Alzheimer's and Dementia, 2019, 15, 961-984. | 0.8 | 200 |
| 12 | In vivo two-photon excited fluorescence microscopy reveals cardiac- and respiration-dependent pulsatile blood flow in cortical blood vessels in mice. American Journal of Physiology - Heart and Circulatory Physiology, 2012, 302, H1367-H1377. | 3.2 | 129 |
| 13 | Preictal and Ictal Neurovascular and Metabolic Coupling Surrounding a Seizure Focus. Journal of Neuroscience, 2011, 31, 13292-13300. | 3.6 | 109 |
| 14 | Limitations of Collateral Flow after Occlusion of a Single Cortical Penetrating Arteriole. Journal of Cerebral Blood Flow and Metabolism, 2010, 30, 1914-1927. | 4.3 | 106 |
| 15 | Impaired prosaposin lysosomal trafficking in frontotemporal lobar degeneration due to progranulin mutations. Nature Communications, 2017, 8, 15277. | 12.8 | 87 |
| 16 | Occlusion of Cortical Ascending Venules Causes Blood Flow Decreases, Reversals in Flow Direction, and Vessel Dilation in Upstream Capillaries. Journal of Cerebral Blood Flow and Metabolism, 2011, 31, 2243-2254. | 4.3 | 85 |
| 17 | Robust and Fragile Aspects of Cortical Blood Flow in Relation to the Underlying Angioarchitecture. Microcirculation, 2015, 22, 204-218. | 1.8 | 78 |
| 18 | Endothelial cells promote 3D invasion of GBM by IL-8-dependent induction of cancer stem cell properties. Scientific Reports, 2019, 9, 9069. | 3.3 | 76 |

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|----|---|------|-----------|
| 19 | Minimally disruptive laser-induced breakdown in water. Optics Letters, 1997, 22, 1817. | 3.3 | 75 |
| 20 | Brain Capillary Networks Across Species: A few Simple Organizational Requirements Are Sufficient to Reproduce Both Structure and Function. Frontiers in Physiology, 2019, 10, 233. | 2.8 | 70 |
| 21 | Cortical Microhemorrhages Cause Local Inflammation but Do Not Trigger Widespread Dendrite Degeneration. PLoS ONE, 2011, 6, e26612. | 2.5 | 66 |
| 22 | A circuit motif in the zebrafish hindbrain for a two alternative behavioral choice to turn left or right. ELife, 2016, 5, . | 6.0 | 65 |
| 23 | Deep convolutional neural networks for segmenting 3D in vivo multiphoton images of vasculature in Alzheimer disease mouse models. PLoS ONE, 2019, 14, e0213539. | 2.5 | 60 |
| 24 | Flexible microfluidic devices supported by biodegradable insertion scaffolds for convection-enhanced neural drug delivery. Biomedical Microdevices, 2009, 11, 915-924. | 2.8 | 57 |
| 25 | Optoporation and Genetic Manipulation of Cells Using Femtosecond LaserÂPulses. Biophysical Journal, 2013, 105, 862-871. | 0.5 | 57 |
| 26 | Diverse Inflammatory Response After Cerebral Microbleeds Includes Coordinated Microglial Migration and Proliferation. Stroke, 2018, 49, 1719-1726. | 2.0 | 53 |
| 27 | High fat diet worsens Alzheimer's disease-related behavioral abnormalities and neuropathology in APP/PS1 mice, but not by synergistically decreasing cerebral blood flow. Scientific Reports, 2020, 10, 9884. | 3.3 | 53 |
| 28 | Causes and consequences of baseline cerebral blood flow reductions in Alzheimer's disease. Journal of Cerebral Blood Flow and Metabolism, 2021, 41, 1501-1516. | 4.3 | 53 |
| 29 | Simultaneous optical and electrical in vivo analysis of the enteric nervous system. Nature Communications, 2016, 7, 11800. | 12.8 | 51 |
| 30 | Stalled cerebral capillary blood flow in mouse models of essential thrombocythemia and polycythemia vera revealed by in vivo twoâ€photon imaging. Journal of Thrombosis and Haemostasis, 2014, 12, 2120-2130. | 3.8 | 46 |
| 31 | A Notch positive feedback in the intestinal stem cell niche is essential for stem cell selfâ€renewal. Molecular Systems Biology, 2017, 13, 927. | 7.2 | 44 |
| 32 | Real-Time Imaging of Perivascular Transport of Nanoparticles During Convection-Enhanced Delivery in the Rat Cortex. Annals of Biomedical Engineering, 2012, 40, 292-303. | 2.5 | 42 |
| 33 | Three-photon excited fluorescence imaging of unstained tissue using a GRIN lens endoscope. Biomedical Optics Express, 2013, 4, 652. | 2.9 | 40 |
| 34 | Mechanistic Insight into the TH1-Biased Immune Response to Recombinant Subunit Vaccines Delivered by Probiotic Bacteria-Derived Outer Membrane Vesicles. PLoS ONE, 2014, 9, e112802. | 2.5 | 39 |
| 35 | Stimulus-Evoked Calcium Transients in Somatosensory Cortex Are Temporarily Inhibited by a Nearby Microhemorrhage. PLoS ONE, 2013, 8, e65663. | 2.5 | 38 |
| 36 | VEGF signalling causes stalls in brain capillaries and reduces cerebral blood flow in Alzheimer's mice. Brain, 2022, 145, 1449-1463. | 7.6 | 36 |

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|----|--|------|-----------|
| 37 | Growth and hemodynamics after early embryonic aortic arch occlusion. Biomechanics and Modeling in Mechanobiology, 2015, 14, 735-751. | 2.8 | 34 |
| 38 | Two-photon microscopy-guided femtosecond-laser photoablation of avian cardiogenesis: noninvasive creation of localized heart defects. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 299, H1728-H1735. | 3.2 | 32 |
| 39 | Advanced Circuit and Cellular Imaging Methods in Nonhuman Primates. Journal of Neuroscience, 2019, 39, 8267-8274. | 3.6 | 31 |
| 40 | Comprehensive models of human primary and metastatic colorectal tumors in immunodeficient and immunocompetent mice by chemokine targeting. Nature Biotechnology, 2015, 33, 656-660. | 17.5 | 30 |
| 41 | In Vivo Calcium Imaging of Cardiomyocytes in the Beating Mouse Heart With Multiphoton Microscopy. Frontiers in Physiology, 2018, 9, 969. | 2.8 | 30 |
| 42 | <title>Ultrafast laser-induced microexplosions: explosive dynamics and submicrometer structures</title> . , 1998, 3269, 36. | | 27 |
| 43 | An intravital window to image the colon in real time. Nature Communications, 2019, 10, 5647. | 12.8 | 25 |
| 44 | Principles, Design,and Construction of a Two-Photon Laser-Scanning Microscopefor In Vitro and In Vivo Brain Imaging. Frontiers in Neuroscience, 2002, , . | 0.0 | 24 |
| 45 | Intestinal crypts recover rapidly from focal damage with coordinated motion of stem cells that is impaired by aging. Scientific Reports, 2018, 8, 10989. | 3.3 | 24 |
| 46 | Hyperspectral multiphoton microscopy for in vivo visualization of multiple, spectrally overlapped fluorescent labels. Optica, 2020, 7, 1587. | 9.3 | 24 |
| 47 | Big Effects From Tiny Vessels. Stroke, 2013, 44, S90-2. | 2.0 | 21 |
| 48 | <title>Thresholds for femtosecond laser-induced breakdown in bulk transparent solids and water</title> . , 1998, 3451, 2. | | 20 |
| 49 | Differential regulation of progranulin derived granulin peptides. Molecular Neurodegeneration, 2022, 17, 15. | 10.8 | 15 |
| 50 | Subâ€surface, micrometerâ€scale incisions produced in rodent cortex using tightlyâ€focused femtosecond laser pulses. Lasers in Surgery and Medicine, 2011, 43, 382-391. | 2.1 | 14 |
| 51 | Microvessel occlusions alter amyloid-beta plaque morphology in a mouse model of Alzheimer's disease. Journal of Cerebral Blood Flow and Metabolism, 2020, 40, 2115-2131. | 4.3 | 14 |
| 52 | Label-free imaging of atherosclerotic plaques using third-harmonic generation microscopy. Biomedical Optics Express, 2018, 9, 214. | 2.9 | 13 |
| 53 | Special topic section: linkages among cerebrovascular, cardiovascular, and cognitive disorders: Preventing dementia by preventing stroke: The Berlin Manifesto. International Journal of Stroke, 2019, , 174749301987191. | 5.9 | 13 |
| 54 | Optically Induced Occlusion of Single Blood Vessels in Rodent Neocortex. Cold Spring Harbor Protocols, 2013, 2013, pdb.prot079509. | 0.3 | 12 |

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|----|---|-----|-----------|
| 55 | In Vivo Three-photon Calcium Imaging of Brain Activity from Layer 6 Neurons in Mouse Brain. , 2014, , . | | 12 |
| 56 | <title>Laser-induced microexplosions in transparent materials: microstructuring with nanojoules</title> . , 1999, , . | | 11 |
| 57 | A topological encoding convolutional neural network for segmentation of 3D multiphoton images of brain vasculature using persistent homology. , 2020, 2020, 4262-4271. | | 11 |
| 58 | Intravital Microscopy of the Beating Murine Heart to Understand Cardiac Leukocyte Dynamics. Frontiers in Immunology, 2020, 11, 92. | 4.8 | 11 |
| 59 | In vivo manipulation of biological systems with femtosecond laser pulses. , 2006, , . | | 9 |
| 60 | Genetically engineered mice for combinatorial cardiovascular optobiology. ELife, 2021, 10, . | 6.0 | 9 |
| 61 | Experimentally constrained circuit model of cortical arteriole networks for understanding flow redistribution due to occlusion and neural activation. Journal of Cerebral Blood Flow and Metabolism, 2018, 38, 38-44. | 4.3 | 8 |
| 62 | Use of Tethered Enzymes as a Platform Technology for Rapid Analyte Detection. PLoS ONE, 2015, 10, e0142326. | 2.5 | 6 |
| 63 | Computed optical coherence microscopy of mouse brain ex vivo. Journal of Biomedical Optics, 2019, 24, 1. | 2.6 | 5 |
| 64 | In vivo deep tissue imaging with long wavelength multiphoton excitation. Proceedings of SPIE, 2010, , . | 0.8 | 4 |
| 65 | In Vivo Femtosecond Laser Subsurface Cortical Microtransections Attenuate Acute Rat Focal Seizures. Cerebral Cortex, 2019, 29, 3415-3426. | 2.9 | 4 |
| 66 | Aspirin treatment does not increase microhemorrhage size in young or aged mice. PLoS ONE, 2019, 14, e0204295. | 2.5 | 3 |
| 67 | All-optical thrombotic stroke model for near-surface blood vessels in rat: focal illumination of exogeneous photosensitizers combined with real-time two-photon imaging. , 2003, , . | | 2 |
| 68 | In-Vivo Three-Photon Excited Fluorescence Imaging in the Spinal Cord of Awake, Locomoting Mouse. , 2016, , . | | 2 |
| 69 | Higher-Order Multiphoton Microscopy of the Beating Mouse Heart Using Resonant Scanning. , 2016, , . | | 2 |
| 70 | Stimulus-Evoked Calcium Transients in Somatosensory Cortex are Inhibited After a Nearby Microhemorrhage. , 2010, , . | | 1 |
| 71 | In Vivo Multiphoton Microscopy of the Beating Mouse Heart in Health and Disease. , 2019, , | | 1 |
| 72 | Comparison of convolutional neural and fully convolutional networks for segmentation of 3D in vivo multiphoton microscopy images of brain vasculature. , 2019, , . | | 1 |

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|----|--|-----|-----------|
| 73 | Arrested Neutrophils in Capillaries is a Novel Mechanism of Myocardial Hypoperfusion in Heart Failure with Preserved Ejection Fraction. FASEB Journal, 2022, 36, . | 0.5 | 1 |
| 74 | Neurological and Inflammatory Effects of Radio Frequency and Cryoablation in a Rat Sciatic Nerve Model of Submucosal Nerve Ablation. American Journal of Rhinology and Allergy, 2022, , 194589242210993. | 2.0 | 1 |
| 75 | Targeted disruption of deep-lying neocortical microvessels in rat using ultrashort laser pulses. , 2004, , . | | 0 |
| 76 | Little Channels, Big Disease: Using Microfluidics to Investigate Cancer Metastasis. , 2011, , . | | 0 |
| 77 | In vivo Three Photon Imaging of Neuronal Activities from Hippocampus in Intact Mouse Brain. Microscopy and Microanalysis, 2015, 21, 1721-1722. | 0.4 | Ο |
| 78 | A mathematical model relating cortical oxygenated and deoxygenated hemoglobin flows and volumes to neural activity. Journal of Neural Engineering, 2015, 12, 046013. | 3.5 | 0 |
| 79 | In vivo three-photon activity imaging of GCaMP6-labeled neurons in deep cortex and the hippocampus of the mouse brain. Proceedings of SPIE, 2017, , . | 0.8 | 0 |
| 80 | Two-photon fluorescence microscopy of collateral blood flow following photothrombotic stroke in rat neocortex. , 2003, , . | | 0 |
| 81 | Two-Photon Imaging of Cortical Microvascular Blood Flow in Response to Single Vessel Occlusion. , 2005, , . | | 0 |
| 82 | Laser photoablation: a new biomedical tool. SPIE Newsroom, 2006, , . | 0.1 | 0 |
| 83 | Applying optical imaging to study neurovascular coupling in cerebral cortex: from populational scale to single-cell single-vessel measurements. , 2006, , . | | 0 |
| 84 | Ablation of the Mauthner Cell Lateral Dendrite using Femtosecond Laser Pulses. , 2008, , . | | 0 |
| 85 | Femtosecond Laser-Driven Photodisruption to Induce Single Venule Occlusions in Rodent Brain. , 2008, , . | | 0 |
| 86 | Femtosecond Laser-Induced Microvascular Clots Trigger Alzheimer's Disease Pathology. , 2008, , . | | 0 |
| 87 | Femtosecond Laser Ablation to Induce Occlusions in Single, Targeted Venules in Rat Brain. , 2010, , . | | 0 |
| 88 | Nonlinear Optical Tools for Studying Small-Stroke at Microscopic Scales. , 2010, , . | | 0 |
| 89 | In Vivo Imaging of Cerebral Circulation In Mouse Models of Polycythemia Vera. Blood, 2010, 116, 4091-4091. | 1.4 | 0 |
| 90 | In-Vivo Imaging of Beating Mouse Heart with Multiphoton Microscopy. , 2012, , . | | 0 |

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|-----|--|-----|-----------|
| 91 | Three-Photon Excited Fluorescence Imaging of Unstained Tissue Using a GRIN Endoscope. , 2013, , . | | 0 |
| 92 | Understanding the Dynamics of the Stem Cell Niche in the Small Intestine with Femtosecond Laser Photodisruption. , 2015, , . | | 0 |
| 93 | In vivo Three-photon Imaging of Brain Activity from Cortical and Subcortical Neurons in Intact Mouse Brain. , 2015, , . | | 0 |
| 94 | The inflammatory response following a laser-induced cortical microhemorrhage in a rodent model is dominated by brain-resident microglia and not blood-borne macrophages. , 2016, , . | | 0 |
| 95 | Label-Free Detection of Atherosclerotic Plaque Formation Using Third Harmonic Generation Microscopy. , 2016, , . | | 0 |
| 96 | Multicolor Genetically-Encoded Calcium-Sensitive Bioluminescent Reporters of Neural Activity for Brain-Machine Interfaces. , 2017, , . | | 0 |
| 97 | Two-Photon Imaging Reveals Capillary Occlusions are Responsible for Reduced Brain Blood Flow and Cognitive Decline in Alzheimer's Disease Mouse Models. , 2017, , . | | Ο |
| 98 | Intravital Multiphoton Microscopy of the Beating Mouse Heart Reveals Altered Cardiomyocyte Contraction Dynamics and Increased Microvascular Patrolling by Leukocytes during Cardiac Hypertrophy. FASEB Journal, 2020, 34, 1-1. | 0.5 | 0 |
| 99 | Navigating neurophotonics, words of wisdom: an interview with Professor David Kleinfeld. Neurophotonics, 2022, 9, 010401. | 3.3 | 0 |
| 100 | Spatiotemporal and Multicellular Intravital Microscopy Analysis during Cardiac Injury and Repair. FASEB Journal, 2022, 36, . | 0.5 | 0 |