

# Nozomi Nishimura

## List of Publications by Year in descending order

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Version: 2024-02-01

100  
papers

5,943  
citations

109137

35  
h-index

114278

63  
g-index

114  
all docs

114  
docs citations

114  
times ranked

7500  
citing authors

#	ARTICLE	IF	CITATIONS
1	Deep tissue multiphoton microscopy using longer wavelength excitation. <i>Optics Express</i> , 2009, 17, 13354.	1.7	567
2	In vivo three-photon imaging of activity of GCaMP6-labeled neurons deep in intact mouse brain. <i>Nature Methods</i> , 2017, 14, 388-390.	9.0	434
3	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, 1277-1309.	2.4	405
4	Suppressed Neuronal Activity and Concurrent Arteriolar Vasoconstriction May Explain Negative Blood Oxygenation Level-Dependent Signal. <i>Journal of Neuroscience</i> , 2007, 27, 4452-4459.	1.7	345
5	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, 365-370.	3.3	341
6	Two-Photon Imaging of Cortical Surface Microvessels Reveals a Robust Redistribution in Blood Flow after Vascular Occlusion. <i>PLoS Biology</i> , 2006, 4, e22.	2.6	329
7	Age-Related Intimal Stiffening Enhances Endothelial Permeability and Leukocyte Transmigration. <i>Science Translational Medicine</i> , 2011, 3, 112ra122.	5.8	324
8	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.	7.1	316
9	Targeted insult to subsurface cortical blood vessels using ultrashort laser pulses: three models of stroke. <i>Nature Methods</i> , 2006, 3, 99-108.	9.0	306
10	Dynamics of femtosecond laser-induced breakdown in water from femtoseconds to microseconds. <i>Optics Express</i> , 2002, 10, 196.	1.7	242
11	Preventing dementia by preventing stroke: The Berlin Manifesto. <i>Alzheimer's and Dementia</i> , 2019, 15, 961-984.	0.4	200
12	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-H1377.	1.5	129
13	Preictal and Ictal Neurovascular and Metabolic Coupling Surrounding a Seizure Focus. <i>Journal of Neuroscience</i> , 2011, 31, 13292-13300.	1.7	109
14	Limitations of Collateral Flow after Occlusion of a Single Cortical Penetrating Arteriole. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2010, 30, 1914-1927.	2.4	106
15	Impaired prosaposin lysosomal trafficking in frontotemporal lobar degeneration due to progranulin mutations. <i>Nature Communications</i> , 2017, 8, 15277.	5.8	87
16	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, 2243-2254.	2.4	85
17	Robust and Fragile Aspects of Cortical Blood Flow in Relation to the Underlying Angioarchitecture. <i>Microcirculation</i> , 2015, 22, 204-218.	1.0	78
18	Endothelial cells promote 3D invasion of GBM by IL-8-dependent induction of cancer stem cell properties. <i>Scientific Reports</i> , 2019, 9, 9069.	1.6	76

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19	Minimally disruptive laser-induced breakdown in water. <i>Optics Letters</i> , 1997, 22, 1817.	1.7	75
20	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.	1.3	70
21	Cortical Microhemorrhages Cause Local Inflammation but Do Not Trigger Widespread Dendrite Degeneration. <i>PLoS ONE</i> , 2011, 6, e26612.	1.1	66
22	A circuit motif in the zebrafish hindbrain for a two alternative behavioral choice to turn left or right. <i>ELife</i> , 2016, 5, .	2.8	65
23	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.	1.1	60
24	Flexible microfluidic devices supported by biodegradable insertion scaffolds for convection-enhanced neural drug delivery. <i>Biomedical Microdevices</i> , 2009, 11, 915-924.	1.4	57
25	Optoporation and Genetic Manipulation of Cells Using Femtosecond Laser Pulses. <i>Biophysical Journal</i> , 2013, 105, 862-871.	0.2	57
26	Diverse Inflammatory Response After Cerebral Microbleeds Includes Coordinated Microglial Migration and Proliferation. <i>Stroke</i> , 2018, 49, 1719-1726.	1.0	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. <i>Scientific Reports</i> , 2020, 10, 9884.	1.6	53
28	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.	2.4	53
29	Simultaneous optical and electrical in vivo analysis of the enteric nervous system. <i>Nature Communications</i> , 2016, 7, 11800.	5.8	51
30	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, 2120-2130.	1.9	46
31	A Notch positive feedback in the intestinal stem cell niche is essential for stem cell self-renewal. <i>Molecular Systems Biology</i> , 2017, 13, 927.	3.2	44
32	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.	1.3	42
33	Three-photon excited fluorescence imaging of unstained tissue using a GRIN lens endoscope. <i>Biomedical Optics Express</i> , 2013, 4, 652.	1.5	40
34	Mechanistic Insight into the TH1-Biased Immune Response to Recombinant Subunit Vaccines Delivered by Probiotic Bacteria-Derived Outer Membrane Vesicles. <i>PLoS ONE</i> , 2014, 9, e112802.	1.1	39
35	Stimulus-Evoked Calcium Transients in Somatosensory Cortex Are Temporarily Inhibited by a Nearby Microhemorrhage. <i>PLoS ONE</i> , 2013, 8, e65663.	1.1	38
36	VEGF signalling causes stalls in brain capillaries and reduces cerebral blood flow in Alzheimer's mice. <i>Brain</i> , 2022, 145, 1449-1463.	3.7	36

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37	Growth and hemodynamics after early embryonic aortic arch occlusion. <i>Biomechanics and Modeling in Mechanobiology</i> , 2015, 14, 735-751.	1.4	34
38	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-H1735.	1.5	32
39	Advanced Circuit and Cellular Imaging Methods in Nonhuman Primates. <i>Journal of Neuroscience</i> , 2019, 39, 8267-8274.	1.7	31
40	Comprehensive models of human primary and metastatic colorectal tumors in immunodeficient and immunocompetent mice by chemokine targeting. <i>Nature Biotechnology</i> , 2015, 33, 656-660.	9.4	30
41	In Vivo Calcium Imaging of Cardiomyocytes in the Beating Mouse Heart With Multiphoton Microscopy. <i>Frontiers in Physiology</i> , 2018, 9, 969.	1.3	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. <i>Nature Communications</i> , 2019, 10, 5647.	5.8	25
44	Principles, Design, and Construction of a Two-Photon Laser-Scanning Microscope for In Vitro and In Vivo Brain Imaging. <i>Frontiers in Neuroscience</i> , 2002, , .	0.0	24
45	Intestinal crypts recover rapidly from focal damage with coordinated motion of stem cells that is impaired by aging. <i>Scientific Reports</i> , 2018, 8, 10989.	1.6	24
46	Hyperspectral multiphoton microscopy for in vivo visualization of multiple, spectrally overlapped fluorescent labels. <i>Optica</i> , 2020, 7, 1587.	4.8	24
47	Big Effects From Tiny Vessels. <i>Stroke</i> , 2013, 44, S90-2.	1.0	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. <i>Molecular Neurodegeneration</i> , 2022, 17, 15.	4.4	15
50	Subâ€‘surface, micrometerâ€‘scale incisions produced in rodent cortex using tightlyâ€‘focused femtosecond laser pulses. <i>Lasers in Surgery and Medicine</i> , 2011, 43, 382-391.	1.1	14
51	Microvessel occlusions alter amyloid-beta plaque morphology in a mouse model of Alzheimerâ€™s disease. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2020, 40, 2115-2131.	2.4	14
52	Label-free imaging of atherosclerotic plaques using third-harmonic generation microscopy. <i>Biomedical Optics Express</i> , 2018, 9, 214.	1.5	13
53	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, , 174749301987191.	2.9	13
54	Optically Induced Occlusion of Single Blood Vessels in Rodent Neocortex. <i>Cold Spring Harbor Protocols</i> , 2013, 2013, pdb.prot079509.	0.2	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.	2.2	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, .	2.8	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.	2.4	8
62	Use of Tethered Enzymes as a Platform Technology for Rapid Analyte Detection. PLoS ONE, 2015, 10, e0142326.	1.1	6
63	Computed optical coherence microscopy of mouse brain ex vivo. Journal of Biomedical Optics, 2019, 24, 1.	1.4	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.	1.6	4
66	Aspirin treatment does not increase microhemorrhage size in young or aged mice. PLoS ONE, 2019, 14, e0204295.	1.1	3
67	All-optical thrombotic stroke model for near-surface blood vessels in rat: focal illumination of exogenous 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. <i>FASEB Journal</i> , 2022, 36, .	0.2	1
74	Neurological and Inflammatory Effects of Radio Frequency and Cryoablation in a Rat Sciatic Nerve Model of Submucosal Nerve Ablation. <i>American Journal of Rhinology and Allergy</i> , 2022, , 194589242210993.	1.0	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. <i>Microscopy and Microanalysis</i> , 2015, 21, 1721-1722.	0.2	0
78	A mathematical model relating cortical oxygenated and deoxygenated hemoglobin flows and volumes to neural activity. <i>Journal of Neural Engineering</i> , 2015, 12, 046013.	1.8	0
79	In vivo three-photon activity imaging of GCaMP6-labeled neurons in deep cortex and the hippocampus of the mouse brain. <i>Proceedings of SPIE</i> , 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. <i>SPIE Newsroom</i> , 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. <i>Blood</i> , 2010, 116, 4091-4091.	0.6	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, , .		0
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.	0.2	0
99	Navigating neurophotonics, words of wisdom: an interview with Professor David Kleinfeld. Neurophotonics, 2022, 9, 010401.	1.7	0
100	Spatiotemporal and Multicellular Intravital Microscopy Analysis during Cardiac Injury and Repair. FASEB Journal, 2022, 36, .	0.2	0