

# Joseph P Culver

## List of Publications by Year in descending order

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83  
papers

5,307  
citations

136950

32  
h-index

91884

69  
g-index

90  
all docs

90  
docs citations

90  
times ranked

3958  
citing authors

#	ARTICLE	IF	CITATIONS
1	Mapping distributed brain function and networks with diffuse optical tomography. <i>Nature Photonics</i> , 2014, 8, 448-454.	31.4	459
2	Diffuse Optical Tomography of Cerebral Blood Flow, Oxygenation, and Metabolism in Rat during Focal Ischemia. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2003, 23, 911-924.	4.3	381
3	Retinotopic mapping of adult human visual cortex with high-density diffuse optical tomography. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 12169-12174.	7.1	327
4	Resting-state functional connectivity in the human brain revealed with diffuse optical tomography. <i>NeuroImage</i> , 2009, 47, 148-156.	4.2	305
5	Hemodynamic evoked response of the sensorimotor cortex measured noninvasively with near-infrared optical imaging. <i>Psychophysiology</i> , 2003, 40, 548-560.	2.4	263
6	Imaging of Functional Connectivity in the Mouse Brain. <i>PLoS ONE</i> , 2011, 6, e16322.	2.5	217
7	A quantitative spatial comparison of high-density diffuse optical tomography and fMRI cortical mapping. <i>NeuroImage</i> , 2012, 61, 1120-1128.	4.2	205
8	Differentiation of benign and malignant breast tumors by in-vivo three-dimensional parallel-plate diffuse optical tomography. <i>Journal of Biomedical Optics</i> , 2009, 14, 024020.	2.6	189
9	Multimodality Molecular Imaging with Combined Optical and SPECT/PET Modalities: TABLE 1. <i>Journal of Nuclear Medicine</i> , 2008, 49, 169-172.	5.0	185
10	Volumetric diffuse optical tomography of brain activity. <i>Optics Letters</i> , 2003, 28, 2061.	3.3	159
11	Spontaneous Infra-slow Brain Activity Has Unique Spatiotemporal Dynamics and Laminar Structure. <i>Neuron</i> , 2018, 98, 297-305.e6.	8.1	152
12	Optical imaging of disrupted functional connectivity following ischemic stroke in mice. <i>NeuroImage</i> , 2014, 99, 388-401.	4.2	142
13	Best practices for fNIRS publications. <i>Neurophotonics</i> , 2021, 8, 012101.	3.3	142
14	Depth sensitivity and image reconstruction analysis of dense imaging arrays for mapping brain function with diffuse optical tomography. <i>Applied Optics</i> , 2009, 48, D137.	2.1	119
15	Quantitative evaluation of high-density diffuse optical tomography: in vivo resolution and mapping performance. <i>Journal of Biomedical Optics</i> , 2010, 15, 1.	2.6	119
16	Speckle contrast optical spectroscopy, a non-invasive, diffuse optical method for measuring microvascular blood flow in tissue. <i>Biomedical Optics Express</i> , 2014, 5, 2769.	2.9	106
17	Atlas-based head modeling and spatial normalization for high-density diffuse optical tomography: In vivo validation against fMRI. <i>NeuroImage</i> , 2014, 85, 117-126.	4.2	105
18	Phase-encoded retinotopy as an evaluation of diffuse optical neuroimaging. <i>NeuroImage</i> , 2010, 49, 568-577.	4.2	95

#	ARTICLE	IF	CITATIONS
19	High-density diffuse optical tomography for imaging human brain function. Review of Scientific Instruments, 2019, 90, 051101.	1.3	95
20	Functional connectivity structure of cortical calcium dynamics in anesthetized and awake mice. PLoS ONE, 2017, 12, e0185759.	2.5	93
21	Bedside optical imaging of occipital resting-state functional connectivity in neonates. NeuroImage, 2012, 59, 2529-2538.	4.2	92
22	Functional Imaging of the Developing Brain at the Bedside Using Diffuse Optical Tomography. Cerebral Cortex, 2016, 26, 1558-1568.	2.9	85
23	Speckle contrast optical tomography: A new method for deep tissue three-dimensional tomography of blood flow. Biomedical Optics Express, 2014, 5, 1275.	2.9	77
24	Evidence that cerebral blood volume can provide brain activation maps with better spatial resolution than deoxygenated hemoglobin. NeuroImage, 2005, 27, 947-959.	4.2	72
25	Statistical analysis of high density diffuse optical tomography. NeuroImage, 2014, 85, 104-116.	4.2	55
26	Image Quality Analysis of High-Density Diffuse Optical Tomography Incorporating a Subject-Specific Head Model. Frontiers in Neuroenergetics, 2012, 4, 6.	5.3	51
27	Neonatal hemodynamic response to visual cortex activity: high-density near-infrared spectroscopy study. Journal of Biomedical Optics, 2010, 15, 026010.	2.6	50
28	Sonothermogenetics for noninvasive and cell-type specific deep brain neuromodulation. Brain Stimulation, 2021, 14, 790-800.	1.6	44
29	Compact, multi-exposure speckle contrast optical spectroscopy (SCOS) device for measuring deep tissue blood flow. Biomedical Optics Express, 2018, 9, 322.	2.9	41
30	Global motion detection and censoring in high-density diffuse optical tomography. Human Brain Mapping, 2020, 41, 4093-4112.	3.6	41
31	Designing a large field-of-view two-photon microscope using optical invariant analysis. Neurophotonics, 2018, 5, 1.	3.3	41
32	Effective Connectivity Measured Using Optogenetically Evoked Hemodynamic Signals Exhibits Topography Distinct from Resting State Functional Connectivity in the Mouse. Cerebral Cortex, 2018, 28, 370-386.	2.9	38
33	High-density diffuse optical tomography of term infant visual cortex in the nursery. Journal of Biomedical Optics, 2012, 17, 081414.	2.6	37
34	Quantitative diffuse optical tomography for small animals using an ultrafast gated image intensifier. Journal of Biomedical Optics, 2008, 13, 011009.	2.6	36
35	Mapping Functional Connectivity Using Cerebral Blood Flow in the Mouse Brain. Journal of Cerebral Blood Flow and Metabolism, 2015, 35, 367-370.	4.3	35
36	Diffuse Optical Measurement of Hemoglobin and Cerebral Blood Flow in Rat Brain During Hypercapnia, Hypoxia and Cardiac Arrest. Advances in Experimental Medicine and Biology, 2003, 510, 293-297.	1.6	35

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37	Quantitative evaluation of atlas-based high-density diffuse optical tomography for imaging of the human visual cortex. <i>Biomedical Optics Express</i> , 2014, 5, 3882.	2.9	34
38	Mapping brain function during naturalistic viewing using high-density diffuse optical tomography. <i>Scientific Reports</i> , 2019, 9, 11115.	3.3	34
39	Mapping cortical responses to speech using high-density diffuse optical tomography. <i>NeuroImage</i> , 2015, 117, 319-326.	4.2	32
40	Cerebral functional connectivity and Mayer waves in mice: Phenomena and separability. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2017, 37, 471-484.	4.3	32
41	Separability of calcium slow waves and functional connectivity during wake, sleep, and anesthesia. <i>Neurophotonics</i> , 2019, 6, 1.	3.3	31
42	Sensory deprivation after focal ischemia in mice accelerates brain remapping and improves functional recovery through Arc-dependent synaptic plasticity. <i>Science Translational Medicine</i> , 2018, 10, .	12.4	28
43	Portable, field-based neuroimaging using high-density diffuse optical tomography. <i>NeuroImage</i> , 2020, 215, 116541.	4.2	26
44	Astrocyte deletion of $\hat{I}\pm 2$ -Na/K ATPase triggers episodic motor paralysis in mice via a metabolic pathway. <i>Nature Communications</i> , 2020, 11, 6164.	12.8	23
45	Fast and efficient image reconstruction for high density diffuse optical imaging of the human brain. <i>Biomedical Optics Express</i> , 2015, 6, 4567.	2.9	22
46	High-density speckle contrast optical tomography (SCOT) for three dimensional tomographic imaging of the small animal brain. <i>NeuroImage</i> , 2017, 153, 283-292.	4.2	21
47	Toward real-time diffuse optical tomography: accelerating light propagation modeling employing parallel computing on GPU and CPU. <i>Journal of Biomedical Optics</i> , 2017, 22, 1.	2.6	21
48	Altered hemodynamics contribute to local but not remote functional connectivity disruption due to glioma growth. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2020, 40, 100-115.	4.3	20
49	Local Perturbations of Cortical Excitability Propagate Differentially Through Large-Scale Functional Networks. <i>Cerebral Cortex</i> , 2020, 30, 3352-3369.	2.9	20
50	Near-field diffraction tomography with diffuse photon density waves. <i>Physical Review E</i> , 2000, 61, 4295-4309.	2.1	19
51	Prediction of Neonatal Seizures in Hypoxic-Ischemic Encephalopathy Using Electroencephalograph Power Analyses. <i>Pediatric Neurology</i> , 2017, 67, 64-70.e2.	2.1	19
52	Automated sleep state classification of wide-field calcium imaging data via multiplex visibility graphs and deep learning. <i>Journal of Neuroscience Methods</i> , 2022, 366, 109421.	2.5	18
53	Structured illumination diffuse optical tomography for noninvasive functional neuroimaging in mice. <i>Neurophotonics</i> , 2017, 4, 021102.	3.3	17
54	High-density speckle contrast optical tomography of cerebral blood flow response to functional stimuli in the rodent brain. <i>Neurophotonics</i> , 2019, 6, 1.	3.3	14

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55	Visual experience sculpts whole-cortex spontaneous infraslow activity patterns through an Arc-dependent mechanism. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E9952-E9961.	7.1	13
56	Homotopic contralesional excitation suppresses spontaneous circuit repair and global network reconnections following ischemic stroke. <i>ELife</i> , 0, 11, .	6.0	12
57	Evaluation of rigid registration methods for whole head imaging in diffuse optical tomography. <i>Neurophotonics</i> , 2015, 2, 035002.	3.3	11
58	Electrically coupled inhibitory interneurons constrain long-range connectivity of cortical networks. <i>NeuroImage</i> , 2020, 215, 116810.	4.2	11
59	Decoding visual information from high-density diffuse optical tomography neuroimaging data. <i>NeuroImage</i> , 2021, 226, 117516.	4.2	11
60	Mapping effective connectivity within cortical networks with diffuse optical tomography. <i>Neurophotonics</i> , 2017, 4, 041402.	3.3	9
61	Prefrontal cortex supports speech perception in listeners with cochlear implants. <i>ELife</i> , 0, 11, .	6.0	9
62	Time resolved speckle contrast optical spectroscopy at quasi-null source-detector separation for non-invasive measurement of microvascular blood flow. <i>Biomedical Optics Express</i> , 2021, 12, 1499.	2.9	8
63	Singular value decomposition based regularization prior to spectral mixing improves crosstalk in dynamic imaging using spectral diffuse optical tomography. <i>Biomedical Optics Express</i> , 2012, 3, 2036.	2.9	7
64	Functional Connectivity of the Developing Mouse Cortex. <i>Cerebral Cortex</i> , 2022, 32, 1755-1768.	2.9	7
65	Lightweight sCMOS-based high-density diffuse optical tomography. <i>Neurophotonics</i> , 2018, 5, 1.	3.3	7
66	SIRT1 mediates hypoxic postconditioning- and resveratrol-induced protection against functional connectivity deficits after subarachnoid hemorrhage. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2022, 42, 1210-1223.	4.3	7
67	Perfusion-based fluorescence imaging method delineates diverse organs and identifies multifocal tumors using generic near-infrared molecular probes. <i>Journal of Biophotonics</i> , 2018, 11, e201700232.	2.3	6
68	Diffuse Optical Tomography for Mapping Human Brain Function. , 2006, , .		5
69	Noninvasive imaging of focal atherosclerotic lesions using fluorescence molecular tomography. <i>Journal of Biomedical Optics</i> , 2014, 19, 110501.	2.6	5
70	Endothelial ether lipids link the vasculature to blood pressure, behavior, and neurodegeneration. <i>Journal of Lipid Research</i> , 2021, 62, 100079.	4.2	5
71	Maternal Fluoxetine Exposure Alters Cortical Hemodynamic and Calcium Response of Offspring to Somatosensory Stimuli. <i>ENeuro</i> , 2019, 6, ENEURO.0238-19.2019.	1.9	5
72	Special Section Guest Editorial: Clinical near-infrared spectroscopy and imaging of the brain. <i>Neurophotonics</i> , 2016, 3, 031401.	3.3	4

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73	Peripheral sensory stimulation elicits global slow waves by recruiting somatosensory cortex bilaterally. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	4
74	Special Section Guest Editorial: Clinical near-infrared spectroscopy and imaging. Journal of Biomedical Optics, 2016, 21, 091301.	2.6	3
75	A Multivariate Functional Connectivity Approach to Mapping Brain Networks and Imputing Neural Activity in Mice. Cerebral Cortex, 2022, 32, 1593-1607.	2.9	3
76	Topics in Biomedical Optics: introduction to the feature issue. Applied Optics, 2009, 48, TBO1.	2.1	1
77	Special Section Guest Editorial: Functional Near Infrared Spectroscopy, Part 1. Neurophotonics, 2017, 4, 021101.	3.3	1
78	Multimodal optical-nuclear molecular imaging of tumors. , 2008, , .		0
79	Development of diffuse correlation techniques for non-invasive measurement of cerebral blood flow and oxygen metabolism in rats. Journal of Cerebral Blood Flow and Metabolism, 2005, 25, S413-S413.	4.3	0
80	Special Section Guest Editorial: Functional Near Infrared Spectroscopy, Part 3. Neurophotonics, 2018, 5, 1.	3.3	0
81	Photometry for scalp morphology estimation for optical functional neuroimaging. , 2022, , .		0
82	Quantitative small animal fluorescence tomography using an ultra-fast gated image intensifier. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
83	Photometric Scalp Morphology Estimation through Hair for Optical Functional Neuroimaging. , 2022, , .		0