

# Randall L Barbour

## List of Publications by Year in descending order

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49  
papers

2,039  
citations

361296

20  
h-index

377752

34  
g-index

50  
all docs

50  
docs citations

50  
times ranked

1133  
citing authors

#	ARTICLE	IF	CITATIONS
1	Comparison of finite-difference transport and diffusion calculations for photon migration in homogeneous and heterogeneous tissues. <i>Physics in Medicine and Biology</i> , 1998, 43, 1285-1302.	1.6	328
2	Three-dimensional optical tomography of hemodynamics in the human head. <i>Optics Express</i> , 2001, 9, 272.	1.7	256
3	Instrumentation for fast functional optical tomography. <i>Review of Scientific Instruments</i> , 2002, 73, 429-439.	0.6	146
4	Design and implementation of dynamic near-infrared optical tomographic imaging instrumentation for simultaneous dual-breast measurements. <i>Applied Optics</i> , 2005, 44, 2140.	2.1	138
5	Optical tomographic imaging of dynamic features of dense-scattering media. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2001, 18, 3018.	0.8	130
6	Simultaneous Low-Pass Filtering and Total Variation Denoising. <i>IEEE Transactions on Signal Processing</i> , 2014, 62, 1109-1124.	3.2	118
7	Instrumentation and calibration protocol for imaging dynamic features in dense-scattering media by optical tomography. <i>Applied Optics</i> , 2000, 39, 6466.	2.1	96
8	Influence of systematic errors in reference states on image quality and on stability of derived information for dc optical imaging. <i>Applied Optics</i> , 2001, 40, 5755.	2.1	90
9	Event-related fast optical signal in a rapid object recognition task: Improving detection by the independent component analysis. <i>Brain Research</i> , 2008, 1236, 145-158.	1.1	79
10	Normalized constraint algorithm for minimizing inter-parameter crosstalk in DC optical tomography. <i>Optics Express</i> , 2001, 9, 97.	1.7	77
11	A Programmable Laboratory Testbed in Support of Evaluation of Functional Brain Activation and Connectivity. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2012, 20, 170-183.	2.7	61
12	Luminescence optical tomography of dense scattering media. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1997, 14, 288.	0.8	55
13	Using co-variations in the Hb signal to detect visual activation: A near infrared spectroscopic imaging study. <i>NeuroImage</i> , 2009, 47, 473-481.	2.1	54
14	Optomechanical imaging system for breast cancer detection. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2011, 28, 2473.	0.8	37
15	Transient Artifact Reduction Algorithm (TARA) Based on Sparse Optimization. <i>IEEE Transactions on Signal Processing</i> , 2014, 62, 6596-6611.	3.2	36
16	Hemodynamic correlates of spontaneous neural activity measured by human whole-head resting state EEG + fNIRS. <i>NeuroImage</i> , 2016, 138, 76-87.	2.1	36
17	Optical Spectroscopy and Cerebral Vascular Effects of Alcohol in the Intact Brain: Effects on Tissue Deoxyhemoglobin, Blood Content, and Reduced Cytochrome Oxidase. <i>Alcoholism: Clinical and Experimental Research</i> , 1993, 17, 1319-1324.	1.4	30
18	Imaging of spatiotemporal coincident states by DC optical tomography. <i>IEEE Transactions on Medical Imaging</i> , 2002, 21, 852-866.	5.4	29

#	ARTICLE	IF	CITATIONS
19	On the geometry dependence of differential pathlength factor for near-infrared spectroscopy. I. Steady-state with homogeneous medium. <i>Journal of Biomedical Optics</i> , 2015, 20, 105005.	1.4	26
20	Endurance Exercise Enhances Emotional Valence and Emotion Regulation. <i>Frontiers in Human Neuroscience</i> , 2018, 12, 398.	1.0	22
21	Recovery of optical cross-section perturbations in dense-scattering media by transport-theory-based imaging operators and steady-state simulated data. <i>Applied Optics</i> , 1996, 35, 3963.	2.1	21
22	Dynamic studies of small animals with a four-color diffuse optical tomography imager. <i>Review of Scientific Instruments</i> , 2005, 76, 094302.	0.6	18
23	Image correction algorithm for functional three-dimensional diffuse optical tomography brain imaging. <i>Applied Optics</i> , 2007, 46, 1693.	2.1	18
24	<title>Clinical applications of dynamic optical tomography in vascular disease</title>. , 2001, , .		17
25	<title>Performance characteristics of silicon photodiode (SiPD)-based instrument for fast functional optical tomography</title>. , 2001, 4250, 171.		13
26	Spatial deconvolution technique to improve the accuracy of reconstructed three-dimensional diffuse optical tomographic images. <i>Applied Optics</i> , 2005, 44, 941.	2.1	13
27	Improved accuracy of reconstructed diffuse optical tomographic images by means of spatial deconvolution: two-dimensional quantitative characterization. <i>Applied Optics</i> , 2005, 44, 2115.	2.1	10
28	Strategies for Imaging Diffusing Media. <i>Transport Theory and Statistical Physics</i> , 2004, 33, 361-371.	0.4	9
29	Image quality improvement via spatial deconvolution in optical tomography: time-series imaging. <i>Journal of Biomedical Optics</i> , 2005, 10, 051701.	1.4	9
30	Validation of near infrared spectroscopic (NIRS) imaging using programmable phantoms. <i>Proceedings of SPIE</i> , 2008, , .	0.8	8
31	<title>Imaging of vascular chaos</title>. , 2001, , .		7
32	<title>Instrumentation for real-time dynamic optical tomography</title>. , 2001, , .		6
33	A fast reconstruction algorithm for implementation of time-series DC optical tomography. , 2003, 4955, 236.		6
34	Image correction scheme applied to functional diffuse optical tomography scattering images. <i>Applied Optics</i> , 2007, 46, 1705.	2.1	6
35	Signal source separation and localization in the analysis of dynamic near-infrared optical tomographic time series. , 2003, , .		5
36	Time-frequency analysis of functional optical mammographic images. , 2003, , .		5

#	ARTICLE	IF	CITATIONS
37	The design and characterization of a digital optical breast cancer imaging system. , 2008, 2008, 3735-8.		5
38	Enhanced resting-state dynamics of the hemoglobin signal as a novel biomarker for detection of breast cancer. Medical Physics, 2015, 42, 6406-6424.	1.6	5
39	Optical spectroscopy and prevention of deleterious cerebral vascular effects of ethanol by magnesium ions. European Journal of Pharmacology, 2002, 447, 79-86.	1.7	4
40	Functional imaging of the vascular bed by dynamic optical tomography. , 2004, , .		2
41	Hemoglobin state-flux: A finite-state model representation of the hemoglobin signal for evaluation of the resting state and the influence of disease. PLoS ONE, 2018, 13, e0198210.	1.1	2
42	Multimodal Integration of fMRI, EEG, and NIRS. , 2012, , .		2
43	Cerebral Monitoring and Surveillance Using High-Resolution Functional Optical Imaging. Neuromethods, 2014, , 307-330.	0.2	1
44	Data integrity assessment and instrument calibration for the DYNOT imaging system. , 2004, , .		1
45	Systems and Strategies for Accessing the Information Content of fNIRS Imaging in Support of Noninvasive BCI Applications. Lecture Notes in Computer Science, 2009, , 709-718.	1.0	1
46	Simultaneous Bilateral Optical Tomography of Vascular Dynamics of the Breast Using High-Density Sensing Arrays. , 2008, , .		0
47	Design of a Digital Optical Tomography System for Dynamic Breast Imaging. , 2008, , .		0
48	NIRS-Based Quantitative Measurement of Autoregulatory Effects on Microvascular Hemoglobin Oxygenation: Concept, Simulations, and Experimental Control Studies. , 2008, , .		0
49	Do Low-density Cerebral Oximetry Measures Accurately Detect Variability of Cerebral Perfusion During Cardiac Surgery?. , 2010, , .		0