

David R Busch

List of Publications by Year in descending order

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Version: 2024-02-01

84
papers

1,563
citations

257450

24
h-index

315739

38
g-index

86
all docs

86
docs citations

86
times ranked

1557
citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	Modified Beer-Lambert law for blood flow. <i>Biomedical Optics Express</i> , 2014, 5, 4053.	2.9	186
3	Time to surgery and preoperative cerebral hemodynamics predict postoperative white matter injury in neonates with hypoplastic left heart syndrome. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2014, 148, 2181-2188.	0.8	112
4	Pressure modulation algorithm to separate cerebral hemodynamic signals from extracerebral artifacts. <i>Neurophotonics</i> , 2015, 2, 035004.	3.3	70
5	Preoperative cerebral hemodynamics from birth to surgery in neonates with critical congenital heart disease. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2018, 156, 1657-1664.	0.8	61
6	Continuous non-invasive optical monitoring of cerebral blood flow and oxidative metabolism after acute brain injury. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2019, 39, 1469-1485.	4.3	60
7	Early postoperative changes in cerebral oxygen metabolism following neonatal cardiac surgery: Effects of surgical duration. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2013, 145, 196-205.e1.	0.8	55
8	Noninvasive optical monitoring of critical closing pressure and arteriole compliance in human subjects. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2017, 37, 2691-2705.	4.3	51
9	Effects of exercise training on calf muscle oxygen extraction and blood flow in patients with peripheral artery disease. <i>Journal of Applied Physiology</i> , 2017, 123, 1599-1609.	2.5	51
10	Influence of probe pressure on the diffuse correlation spectroscopy blood flow signal: extra-cerebral contributions. <i>Biomedical Optics Express</i> , 2013, 4, 978.	2.9	50
11	Noninvasive continuous optical monitoring of absolute cerebral blood flow in critically ill adults. <i>Neurophotonics</i> , 2018, 5, 1.	3.3	42
12	Optically Measured Microvascular Blood Flow Contrast of Malignant Breast Tumors. <i>PLoS ONE</i> , 2014, 9, e99683.	2.5	39
13	Detection of Brain Hypoxia Based on Noninvasive Optical Monitoring of Cerebral Blood Flow with Diffuse Correlation Spectroscopy. <i>Neurocritical Care</i> , 2019, 30, 72-80.	2.4	39
14	Determination of the optical properties of two-layer turbid media by use of a frequency-domain hybrid Monte Carlo diffusion model. <i>Applied Optics</i> , 2001, 40, 3810.	2.1	34
15	Toward Noninvasive Characterization of Breast Cancer and Cancer Metabolism with Diffuse Optics. <i>PET Clinics</i> , 2013, 8, 345-365.	3.0	32
16	Tissue oxygen saturation predicts response to breast cancer neoadjuvant chemotherapy within 10 days of treatment. <i>Journal of Biomedical Optics</i> , 2018, 24, 1.	2.6	32
17	Early microvascular cerebral blood flow response to head-of-bed elevation is related to outcome in acute ischemic stroke. <i>Journal of Neurology</i> , 2019, 266, 990-997.	3.6	31
18	Continuous cerebral hemodynamic measurement during deep hypothermic circulatory arrest. <i>Biomedical Optics Express</i> , 2016, 7, 3461.	2.9	30

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19	Non-invasive optical neuromonitoring of the temperature-dependence of cerebral oxygen metabolism during deep hypothermic cardiopulmonary bypass in neonatal swine. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2020, 40, 187-203.	4.3	30
20	Noninvasive Optical Quantification of Cerebral Venous Oxygen Saturation in Humans. <i>Academic Radiology</i> , 2014, 21, 162-167.	2.5	27
21	Cerebral Blood Flow Response to Hypercapnia in Children with Obstructive Sleep Apnea Syndrome. <i>Sleep</i> , 2016, 39, 209-216.	1.1	26
22	Hybrid time-domain and continuous-wave diffuse optical tomography instrument with concurrent, clinical magnetic resonance imaging for breast cancer imaging. <i>Journal of Biomedical Optics</i> , 2019, 24, 1.	2.6	26
23	Optical malignancy parameters for monitoring progression of breast cancer neoadjuvant chemotherapy. <i>Biomedical Optics Express</i> , 2013, 4, 105.	2.9	25
24	Computer aided automatic detection of malignant lesions in diffuse optical mammography. <i>Medical Physics</i> , 2010, 37, 1840-1849.	3.0	24
25	Blood Flow Reduction in Breast Tissue due to Mammographic Compression. <i>Academic Radiology</i> , 2014, 21, 151-161.	2.5	23
26	Noninvasive optical measurement of microvascular cerebral hemodynamics and autoregulation in the neonatal ECMO patient. <i>Pediatric Research</i> , 2020, 88, 925-933.	2.3	23
27	Peripheral microcirculatory alterations are associated with the severity of acute respiratory distress syndrome in COVID-19 patients admitted to intermediate respiratory and intensive care units. <i>Critical Care</i> , 2021, 25, 381.	5.8	23
28	Heterodyne frequency-domain multispectral diffuse optical tomography of breast cancer in the parallel-plane transmission geometry. <i>Medical Physics</i> , 2016, 43, 4383-4395.	3.0	21
29	Macroscopic optical physiological parameters correlate with microscopic proliferation and vessel area breast cancer signatures. <i>Breast Cancer Research</i> , 2015, 17, 72.	5.0	18
30	Scoring system for periventricular leukomalacia in infants with congenital heart disease. <i>Pediatric Research</i> , 2015, 78, 304-309.	2.3	18
31	Longitudinal optical monitoring of blood flow in breast tumors during neoadjuvant chemotherapy. <i>Physics in Medicine and Biology</i> , 2017, 62, 4637-4653.	3.0	12
32	Diffuse Correlation Spectroscopy Analysis Implemented on a Field Programmable Gate Array. <i>IEEE Access</i> , 2019, 7, 122503-122512.	4.2	11
33	Laser safety in fiber-optic monitoring of spinal cord hemodynamics: a preclinical evaluation. <i>Journal of Biomedical Optics</i> , 2018, 23, 1.	2.6	11
34	Towards detection of brain injury using multimodal non-invasive neuromonitoring in adults undergoing extracorporeal membrane oxygenation. <i>Biomedical Optics Express</i> , 2020, 11, 6551.	2.9	11
35	Performance Assessment of a Commercial Continuous-Wave Near-Infrared Spectroscopy Tissue Oximeter for Suitability for Use in an International, Multi-Center Clinical Trial. <i>Sensors</i> , 2021, 21, 6957.	3.8	10
36	Association of Ongoing Cerebral Oxygen Extraction During Deep Hypothermic Circulatory Arrest With Postoperative Brain Injury. <i>Seminars in Thoracic and Cardiovascular Surgery</i> , 2022, 34, 1275-1284.	0.6	7

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37	Diffuse optical tomography in the presence of a chest wall. <i>Journal of Biomedical Optics</i> , 2013, 18, 026016.	2.6	6
38	Perfusion Enhancement with Respiratory Impedance After Stroke (PERI-Stroke). <i>Neurotherapeutics</i> , 2019, 16, 1296-1303.	4.4	6
39	Multi-Site Optical Monitoring of Spinal Cord Ischemia during Spine Distraction. <i>Journal of Neurotrauma</i> , 2020, 37, 2014-2022.	3.4	5
40	Breast cancer differential diagnosis using diffuse optical spectroscopic imaging and regression with z-score normalized data. <i>Journal of Biomedical Optics</i> , 2021, 26, .	2.6	5
41	Effects of circulatory arrest and cardiopulmonary bypass on cerebral autoregulation in neonatal swine. <i>Pediatric Research</i> , 2022, 91, 1374-1382.	2.3	5
42	Blood flow response to orthostatic challenge identifies signatures of the failure of static cerebral autoregulation in patients with cerebrovascular disease. <i>BMC Neurology</i> , 2021, 21, 154.	1.8	4
43	Evaluation of a New Catheter for Simultaneous Intracranial Pressure Monitoring and Cerebral Spinal Fluid Drainage: A Pilot Study. <i>Neurocritical Care</i> , 2019, 31, 225-226.	2.4	3
44	Towards rapid intraoperative axial localization of spinal cord ischemia with epidural diffuse correlation monitoring. <i>PLoS ONE</i> , 2021, 16, e0251271.	2.5	3
45	Differentiation of benign and malignant breast lesions by in-vivo three-dimensional diffuse optical tomography.. , 2009, , .		3
46	Probe Pressure Modulation Algorithm Reduces Extracerebral Contamination in Optical Measurements of Cerebral Blood Flow. , 2014, , .		3
47	SUâ€”Hâ€”Bâ€”8: Blood Flow and Volume Changes during Simulated Mammography. <i>Medical Physics</i> , 2010, 37, 3331-3331.	3.0	2
48	<title>Experimental tests of a two-layer Monte Carlo-diffusion hybrid model for photon migration in the frequency domain</title>. , 2001, , .		1
49	Modified Beer-Lambert law for blood flow. , 2015, , .		1
50	Effect of anesthesia on cerebral oxygenation and blood flow in neonates with critical congenital heart disease. , 2016, , .		1
51	Characterization of Metabolic Pathways in Breast Cancer using Diffuse Optical Tomography. , 2014, , .		1
52	Blood Flow Response to Orthostatic Challenges in Health and Diseased Populations. , 2016, , .		1
53	Comparison of imaged ICG and Gd kinetics with a DOT-MRI instrument. , 2006, , .		1
54	Multimodal Structural Priors for Spatially-Dense Diffuse Optical Tomography of Breast Cancer. , 2016, , .		1

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55	Asymmetric, dynamic adaptation in prefrontal cortex during dichotic listening tasks. Neurophotonics, 2020, 7, 045008.	3.3	1
56	Fast CW imager for ICG and Gd kinetics. , 2006, , .		0
57	307. Critical Care Medicine, 2013, 41, A71-A72.	0.9	0
58	Introduction to the Special Issue. Academic Radiology, 2014, 21, 137-138.	2.5	0
59	Multi-modal diffuse optical techniques for breast cancer neoadjuvant chemotherapy monitoring (Conference Presentation). , 2017, , .		0
60	Noninvasive Optical Monitoring of Cerebral Blood Flow, Critical Closing Pressure, and Arteriole Compliance in Adult Human Subjects. , 2018, , .		0
61	Tissue Oxygen Saturation Predicts Response to Breast Cancer Neoadjuvant Chemotherapy within 10 Days. , 2018, , .		0
62	Effects of compression on transillumination measurements of blood flow and chromophore concentrations in human breast tissue.. , 2008, , .		0
63	Computer-Aided Detection of Tumors in 3D Tomograms from Diffuse Optical Mammography. , 2010, , .		0
64	Breast Cancer Therapy Monitoring with Diffuse Optical Tomography and Diffuse Correlation Spectroscopy. , 2010, , .		0
65	Development of a Frequency-Domain Multi-Spectral Breast Diffuse Optical Tomography Instrument. , 2010, , .		0
66	TU-E-201C-07: Computer Aided Detection for Diffuse Optical Mammography. Medical Physics, 2010, 37, 3405-3406.	3.0	0
67	SUâ€GGâ€171: Diffuse Optical Measurements of Blood Oxygenation and Flow for Monitoring CMRO2 in Neonates with Congenital Heart Defects. Medical Physics, 2010, 37, 3141-3141.	3.0	0
68	Computer Aided Monitoring of Neoadjuvant Chemotherapy for Breast Cancer. , 2012, , .		0
69	Early Changes in Breast Cancer Blood Flow due to Chemotherapy: Potential Predictor for Therapeutic Efficacy. , 2012, , .		0
70	Microvascular Blood Flow Changes in Human Breast During Simulated Mammography. , 2012, , .		0
71	Abstract P2-03-10: Non-invasively measured Warburg effect: Optically measured tissue oxygenation and its correlation with Ki67 proliferation. , 2013, , .		0
72	Optical Monitoring of Blood Flow during Extracorporeal Membrane Oxygenation Therapy. , 2014, , .		0

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73	Optical Monitoring of Cerebral Blood Flow in Patients with Acute Ischemic Stroke During Intravenous Administration of Normal Saline. , 2014, , .		0
74	Pre-Operative Cerebral Hemodynamics in Infants with Critical Congenital Heart Disease. , 2014, , .		0
75	Cerebral Autoregulation During Pediatric Extracorporeal Membrane Oxygenation Therapy. , 2016, , .		0
76	Pressure Modulation Algorithm to Separate Cerebral Hemodynamic Signals from Extracerebral Artifacts. , 2016, , .		0
77	Intraoperative Monitoring of Spinal Cord Blood Flow. , 2017, , .		0
78	Development of a Continuous, Axially-Resolved, Optical Monitor of Spinal Cord Blood Flow. , 2018, , .		0
79	Non-Invasive Diffuse Optical Quantification of Changes in Cerebral Oxygen Metabolism Following Deep Hypothermia and Circulatory Arrest in a Neonatal Swine Model. , 2018, , .		0
80	Continuous and Minimally Invasive Measurement of Blood Flow in the Spinal Cord. , 2018, , .		0
81	Pilot Study of Blood Flow Markers during Neoadjuvant Chemotherapy. , 2018, , .		0
82	Noninvasive Continuous Optical Monitoring of Absolute Cerebral Blood Flow in Adult Human Subjects. , 2018, , .		0
83	Application of Non-Invasive Cerebral Blood Flow Monitoring Modalities in Adults Undergoing Extracorporeal Membrane Oxygenation. , 2020, , .		0
84	A Pilot Study Comparing Optically Measured Cerebral Autoregulation During Pediatric Extracorporeal Life Support and Neurological Injury. , 2022, , .		0