

Richard B Buxton

List of Publications by Year in descending order

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59
papers

9,517
citations

168829

31
h-index

169272

56
g-index

62
all docs

62
docs citations

62
times ranked

9473
citing authors

#	ARTICLE	IF	CITATIONS
1	A novel nonlinear analysis of blood flow dynamics applied to the human lung. <i>Journal of Applied Physiology</i> , 2022, , .	1.2	2
2	The thermodynamics of thinking: connections between neural activity, energy metabolism and blood flow. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2021, 376, 20190624.	1.8	33
3	A suite of neurophotonic tools to underpin the contribution of internal brain states in fMRI. <i>Current Opinion in Biomedical Engineering</i> , 2021, 18, 100273.	1.8	6
4	The potential for gas-free measurements of absolute oxygen metabolism during both baseline and activation states in the human brain. <i>NeuroImage</i> , 2020, 207, 116342.	2.1	13
5	Hemodynamic latency is associated with reduced intelligence across the lifespan: an fMRI DCM study of aging, cerebrovascular integrity, and cognitive ability. <i>Brain Structure and Function</i> , 2020, 225, 1705-1717.	1.2	6
6	Regional pulmonary perfusion patterns in humans are not significantly altered by inspiratory hypercapnia. <i>Journal of Applied Physiology</i> , 2019, 127, 365-375.	1.2	7
7	Dependence of the MR signal on the magnetic susceptibility of blood studied with models based on real microvascular networks. <i>Magnetic Resonance in Medicine</i> , 2019, 81, 3865-3874.	1.9	12
8	Awake Mouse Imaging: From Two-Photon Microscopy to Blood Oxygen Level-Dependent Functional Magnetic Resonance Imaging. <i>Biological Psychiatry: Cognitive Neuroscience and Neuroimaging</i> , 2019, 4, 533-542.	1.1	49
9	Cell type specificity of neurovascular coupling in cerebral cortex. <i>ELife</i> , 2016, 5, .	2.8	176
10	Beyond BOLD correlations: A more quantitative approach for investigating brain networks. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2016, 36, 461-462.	2.4	2
11	The roadmap for estimation of cell-type-specific neuronal activity from non-invasive measurements. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2016, 371, 20150356.	1.8	41
12	Validation and optimization of hypercapnic-calibrated fMRI from oxygen-sensitive two-photon microscopy. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2016, 371, 20150359.	1.8	27
13	Two-photon microscopy measurement of cerebral metabolic rate of oxygen using periarteriolar oxygen concentration gradients. <i>NeuroPhotonics</i> , 2016, 3, 045005.	1.7	39
14	Wedge-shaped slice-selective adiabatic inversion pulse for controlling temporal width of bolus in pulsed arterial spin labeling. <i>Magnetic Resonance in Medicine</i> , 2016, 76, 838-847.	1.9	2
15	A novel Bayesian approach to accounting for uncertainty in fMRI-derived estimates of cerebral oxygen metabolism fluctuations. <i>NeuroImage</i> , 2016, 129, 198-213.	2.1	14
16	Measurement of oxygen extraction fraction (OEF): An optimized BOLD signal model for use with hypercapnic and hyperoxic calibration. <i>NeuroImage</i> , 2016, 129, 159-174.	2.1	28
17	Striatal and Pallidal Activation during Reward Modulated Movement Using a Translational Paradigm. <i>Journal of the International Neuropsychological Society</i> , 2015, 21, 399-411.	1.2	8
18	Acetazolamide during acute hypoxia improves tissue oxygenation in the human brain. <i>Journal of Applied Physiology</i> , 2015, 119, 1494-1500.	1.2	19

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19	A statistical clustering approach to discriminating perfusion from conduit vessel signal contributions in a pulmonary ASL MR image. <i>NMR in Biomedicine</i> , 2015, 28, 1117-1124.	1.6	9
20	Inhaled nitric oxide alters the distribution of blood flow in the healthy human lung, suggesting active hypoxic pulmonary vasoconstriction in normoxia. <i>Journal of Applied Physiology</i> , 2015, 118, 331-343.	1.2	30
21	Quantifying the Microvascular Origin of BOLD-fMRI from First Principles with Two-Photon Microscopy and an Oxygen-Sensitive Nanoprobe. <i>Journal of Neuroscience</i> , 2015, 35, 3663-3675.	1.7	196
22	Calibrating the BOLD response without administering gases: Comparison of hypercapnia calibration with calibration using an asymmetric spin echo. <i>NeuroImage</i> , 2015, 104, 423-429.	2.1	39
23	Understanding the dynamic relationship between cerebral blood flow and the BOLD signal: Implications for quantitative functional MRI. <i>NeuroImage</i> , 2015, 116, 158-167.	2.1	34
24	The coupling of cerebral blood flow and oxygen metabolism with brain activation is similar for simple and complex stimuli in human primary visual cortex. <i>NeuroImage</i> , 2015, 104, 156-162.	2.1	11
25	Variability of the coupling of blood flow and oxygen metabolism responses in the brain: a problem for interpreting BOLD studies but potentially a new window on the underlying neural activity. <i>Frontiers in Neuroscience</i> , 2014, 8, 139.	1.4	53
26	3-Nitropropionic Acid-Induced Ischemia Tolerance in the Rat Brain is Mediated by Reduced Metabolic Activity and Cerebral Blood Flow. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2014, 34, 1522-1530.	2.4	23
27	Coupling of cerebral blood flow and oxygen metabolism is conserved for chromatic and luminance stimuli in human visual cortex. <i>NeuroImage</i> , 2013, 68, 221-228.	2.1	12
28	Luminance contrast of a visual stimulus modulates the BOLD response more than the cerebral blood flow response in the human brain. <i>NeuroImage</i> , 2013, 64, 104-111.	2.1	33
29	The physics of functional magnetic resonance imaging (fMRI). <i>Reports on Progress in Physics</i> , 2013, 76, 096601.	8.1	165
30	A review of calibrated blood oxygenation level-dependent (BOLD) methods for the measurement of task-induced changes in brain oxygen metabolism. <i>NMR in Biomedicine</i> , 2013, 26, 987-1003.	1.6	130
31	Dynamic models of BOLD contrast. <i>NeuroImage</i> , 2012, 62, 953-961.	2.1	180
32	“Overshoot” of O_2 Required to Maintain Baseline Tissue Oxygenation at Locations Distal to Blood Vessels. <i>Journal of Neuroscience</i> , 2011, 31, 13676-13681.	1.7	175
33	Interpreting oxygenation-based neuroimaging signals: the importance and the challenge of understanding brain oxygen metabolism. <i>Frontiers in Neuroenergetics</i> , 2010, 2, 8.	5.3	159
34	Caffeine-induced uncoupling of cerebral blood flow and oxygen metabolism: A calibrated BOLD fMRI study. <i>NeuroImage</i> , 2008, 40, 237-247.	2.1	148
35	Regional differences in the coupling of cerebral blood flow and oxygen metabolism changes in response to activation: Implications for BOLD-fMRI. <i>NeuroImage</i> , 2008, 39, 1510-1521.	2.1	143
36	Modeling the hemodynamic response to brain activation. <i>NeuroImage</i> , 2004, 23, S220-S233.	2.1	1,023

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37	The development of face and location processing: an fMRI study. <i>Developmental Science</i> , 2003, 6, 100-117.	1.3	184
38	Estimation of respiration-induced noise fluctuations from undersampled multislice fMRI data. <i>Magnetic Resonance in Medicine</i> , 2001, 45, 635-644.	1.9	84
39	Altered brain response to verbal learning following sleep deprivation. <i>Nature</i> , 2000, 403, 655-657.	13.7	563
40	Rehearsal in Spatial Working Memory: Evidence From Neuroimaging. <i>Psychological Science</i> , 1999, 10, 433-437.	1.8	174
41	Dynamic imaging of perfusion in human skeletal muscle during exercise with arterial spin labeling. <i>Magnetic Resonance in Medicine</i> , 1999, 42, 258-267.	1.9	110
42	Brain activation and pupil response during covert performance of the Stroop Color Word task. <i>Journal of the International Neuropsychological Society</i> , 1999, 5, 308-319.	1.2	138
43	Probabilistic analysis of functional magnetic resonance imaging data. <i>Magnetic Resonance in Medicine</i> , 1998, 39, 132-148.	1.9	44
44	Quantitative imaging of perfusion using a single subtraction (QUIPSS and QUIPSS II). <i>Magnetic Resonance in Medicine</i> , 1998, 39, 702-708.	1.9	653
45	Dynamics of blood flow and oxygenation changes during brain activation: The balloon model. <i>Magnetic Resonance in Medicine</i> , 1998, 39, 855-864.	1.9	1,526
46	A theoretical and experimental comparison of continuous and pulsed arterial spin labeling techniques for quantitative perfusion imaging. <i>Magnetic Resonance in Medicine</i> , 1998, 40, 348-355.	1.9	228
47	Attentional Activation of the Cerebellum Independent of Motor Involvement. <i>Science</i> , 1997, 275, 1940-1943.	6.0	722
48	A Model for the Coupling between Cerebral Blood Flow and Oxygen Metabolism during Neural Stimulation. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 1997, 17, 64-72.	2.4	708
49	Slice profile effects in adiabatic inversion: Application to multislice perfusion imaging. <i>Magnetic Resonance in Medicine</i> , 1997, 38, 558-564.	1.9	75
50	Implementation of quantitative perfusion imaging techniques for functional brain mapping using pulsed arterial spin labeling. , 1997, 10, 237-249.		531
51	Sensory mapping in a congenitally deaf subject: MEC and fMRI studies of cross-modal non-plasticity. , 1997, 5, 437-444.		29
52	Magnetic resonance perfusion imaging. <i>International Journal of Imaging Systems and Technology</i> , 1995, 6, 230-237.	2.7	16
53	Distortions from curved flow in magnetic resonance imaging. <i>Magnetic Resonance in Medicine</i> , 1993, 29, 84-93.	1.9	16
54	The diffusion sensitivity of fast steady-state free precession imaging. <i>Magnetic Resonance in Medicine</i> , 1993, 29, 235-243.	1.9	115

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55	Pulsatile flow artifacts in 3D magnetic resonance imaging. <i>Magnetic Resonance in Medicine</i> , 1993, 30, 296-304.	1.9	17
56	The use of Imagent ^R BP in Diagnostic Imaging Research and ¹⁹ F Magnetic Resonance for PO ₂ Measurements. <i>Biomaterials, Artificial Cells, and Immobilization Biotechnology: Official Journal of the International Society for Artificial Cells and Immobilization Biotechnology</i> , 1992, 20, 917-920.	0.2	3
57	Elimination of oblique flow artifacts in magnetic resonance imaging. <i>Magnetic Resonance in Medicine</i> , 1992, 25, 299-307.	1.9	39
58	MR Contrast Due to Microscopically Heterogeneous Magnetic Susceptibility: Numerical Simulations and Applications to Cerebral Physiology. <i>Magnetic Resonance in Medicine</i> , 1991, 17, 336-347.	1.9	346
59	Quantitation of structural distortion of the cervical neural foramina in gradient-echo MR imaging. <i>Journal of Magnetic Resonance Imaging</i> , 1991, 1, 683-687.	1.9	21