Thomas Witzel

List of Publications by Year
in descending order

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Version: 2024-02-01

96 papers	7,267 citations	81900 39 h-index	62596 80 g-index
104 all docs	104 docs citations	104 times ranked	7935 citing authors

#	Article	IF	Citations
1	Blippedâ€controlled aliasing in parallel imaging for simultaneous multislice echo planar imaging with reduced gâ€factor penalty. Magnetic Resonance in Medicine, 2012, 67, 1210-1224.	3.0	1,144
2	Pushing the limits of in vivo diffusion MRI for the Human Connectome Project. NeuroImage, 2013, 80, 220-233.	4.2	460
3	Assessing and improving the spatial accuracy in MEG source localization by depth-weighted minimum-norm estimates. NeuroImage, 2006, 31, 160-171.	4.2	420
4	Task-modulated "what" and "where" pathways in human auditory cortex. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 14608-14613.	7.1	315
5	The Human Connectome Project and beyond: Initial applications of 300mT/m gradients. NeuroImage, 2013, 80, 234-245.	4.2	309
6	Three dimensional echo-planar imaging at 7 Tesla. NeuroImage, 2010, 51, 261-266.	4.2	266
7	MGHâ€“USC Human Connectome Project datasets with ultra-high b-value diffusion MRI. NeuroImage, 2016, 124, 1108-1114.	4.2	209
8	Low-Cost High-Performance MRI. Scientific Reports, 2015, 5, 15177.	3.3	189
9	7 Tesla MRI of the ex vivo human brain at 100 micron resolution. Scientific Data, 2019, 6, 244.	5.3	179
10	Spectral spatiotemporal imaging of cortical oscillations and interactions in the human brain. NeuroImage, 2004, 23, 582-595.	4.2	169
11	The value of multichannel MEG and EEG in the presurgical evaluation of 70 epilepsy patients. Epilepsy Research, 2006, 69, 80-86.	1.6	154
12	Quantitative oxygenation venography from MRI phase. Magnetic Resonance in Medicine, 2014, 72, 149-159.	3.0	143
13	Sliceâ€selective RF pulses for in vivo B inhomogeneity mitigation at 7 tesla using parallel RF excitation with a 16â€element coil. Magnetic Resonance in Medicine, 2008, 60, 1422-1432.	3.0	140
14	Highâ€resolution in vivo diffusion imaging of the human brain with generalized slice dithered enhanced resolution: Simultaneous multislice (g<scp>S</scp>liderâ€<scp>SMS</scp>). Magnetic Resonance in Medicine, 2018, 79, 141-151.	3.0	134
15	Orbitofrontal Cortical Dysfunction in Akinetic Catatonia: A Functional Magnetic Resonance Imaging Study During Negative Emotional Stimulation. Schizophrenia Bulletin, 2004, 30, 405-427.	4.3	128
16	Lowâ€cost and portable MRI. Journal of Magnetic Resonance Imaging, 2020, 52, 686-696.	3.4	128
17	Reducing sensitivity losses due to respiration and motion in accelerated echo planar imaging by reordering the autocalibration data acquisition. Magnetic Resonance in Medicine, 2016, 75, 665-679.	3.0	113
18	Cancellation of EEG and MEG signals generated by extended and distributed sources. Human Brain Mapping, 2010, 31, 140-149.	3.6	111

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19	Onset timing of crossâ€sensory activations and multisensory interactions in auditory and visual sensory cortices. European Journal of Neuroscience, 2010, 31, 1772-1782.	2.6	107
20	A 32â€channel combined RF and B₀ shim array for 3T brain imaging. Magnetic Resonance in Medicine, 2016, 75, 441-451.	3.0	106
21	The impact of gradient strength on in vivo diffusion MRI estimates of axon diameter. NeuroImage, 2015, 106, 464-472.	4.2	95
22	The Structural Connectome of the Human Central Homeostatic Network. Brain Connectivity, 2016, 6, 187-200.	1.7	82
23	Right hemisphere has the last laugh: neural dynamics of joke appreciation. Cognitive, Affective and Behavioral Neuroscience, 2011, 11, 113-130.	2.0	73
24	Prednisone reduces muscle degeneration in dystrophin-deficient Caenorhabditis elegans. Neuromuscular Disorders, 2004, 14, 365-370.	0.6	71
25	In vivo mapping of human spinal cord microstructure at 300 mT/m. NeuroImage, 2015, 118, 494-507.	4.2	69
26	g-Ratio weighted imaging of the human spinal cord in vivo. NeuroImage, 2017, 145, 11-23.	4.2	66
27	Spatiotemporal cortical dynamics underlying abstract and concrete word reading. Human Brain Mapping, 2007, 28, 355-362.	3.6	64
28	DeepDTI: High-fidelity six-direction diffusion tensor imaging using deep learning. NeuroImage, 2020, 219, 117017.	4.2	63
29	Connectome 2.0: Developing the next-generation ultra-high gradient strength human MRI scanner for bridging studies of the micro-, meso- and macro-connectome. NeuroImage, 2021, 243, 118530.	4.2	58
30	Automatic cortical surface reconstruction of high-resolution T1 echo planar imaging data. NeuroImage, 2016, 134, 338-354.	4.2	57
31	Age-related alterations in axonal microstructure in the corpus callosum measured by high-gradient diffusion MRI. NeuroImage, 2019, 191, 325-336.	4.2	55
32	High-gradient diffusion MRI reveals distinct estimates of axon diameter index within different white matter tracts in the in vivo human brain. Brain Structure and Function, 2020, 225, 1277-1291.	2.3	55
33	Spatiotemporal maps of past-tense verb inflection. NeuroImage, 2003, 19, 91-100.	4.2	54
34	Investigating the Capability to Resolve Complex White Matter Structures with High b-Value Diffusion Magnetic Resonance Imaging on the MGH-USC Connectom Scanner. Brain Connectivity, 2014, 4, 718-726.	1.7	53
35	White matter compartment models for in vivo diffusion MRI at 300 mT/m. NeuroImage, 2015, 118, 468-483.	4.2	53
36	Colorectal cancer staging: comparison of whole-body PET/CT and PET/MR. Abdominal Radiology, 2017, 42, 1141-1151.	2.1	52

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37	Axon diameter index estimation independent of fiber orientation distribution using high-gradient diffusion MRI. NeuroImage, 2020, 222, 117197.	4.2	49
38	GABA-ergic Modulation of Prefrontal Spatio-temporal Activation Pattern during Emotional Processing: A Combined fMRI/MEG Study with Placebo and Lorazepam. Journal of Cognitive Neuroscience, 2002, 14, 348-370.	2.3	46
39	Ultrafast Brain MRI: Clinical Deployment and Comparison to Conventional Brain MRI at 3T. Journal of Neuroimaging, 2016, 26, 503-510.	2.0	46
40	Intracortical depth analyses of frequency-sensitive regions of human auditory cortex using 7T fMRI. NeuroImage, 2016, 143, 116-127.	4.2	46
41	Percutaneous Treatment for Mitral Regurgitation: The QuantumCor System. Journal of Interventional Cardiology, 2008, 21, 178-182.	1.2	45
42	Event-related single-shot volumetric functional magnetic resonance inverse imaging of visual processing. NeuroImage, 2008, 42, 230-247.	4.2	45
43	Stimulus-induced Rotary Saturation (SIRS): A potential method for the detection of neuronal currents with MRI. NeuroImage, 2008, 42, 1357-1365.	4.2	41
44	Ultrafast inverse imaging techniques for fMRI. NeuroImage, 2012, 62, 699-705.	4.2	40
45	A non-invasive method to relate the timing of neural activity to white matter microstructural integrity. NeuroImage, 2008, 42, 710-716.	4.2	39
46	Validation of diffusion MRI estimates of compartment size and volume fraction in a biomimetic brain phantom using a human MRI scanner with 300â€¯mT/m maximum gradient strength. NeuroImage, 2018, 182, 469-478.	4.2	39
47	Corpus callosum axon diameter relates to cognitive impairment in multiple sclerosis. Annals of Clinical and Translational Neurology, 2019, 6, 882-892.	3.7	38
48	The QuantumCor device for treating mitral regurgitation: An animal study. Catheterization and Cardiovascular Interventions, 2009, 74, 43-48.	1.7	37
49	Characterization of Axonal Disease in Patients with Multiple Sclerosis Using High-Gradient-Diffusion MR Imaging. Radiology, 2016, 280, 244-251.	7.3	37
50	fMRI hemodynamics accurately reflects neuronal timing in the human brain measured by MEG. NeuroImage, 2013, 78, 372-384.	4.2	36
51	Linear constraint minimum variance beamformer functional magnetic resonance inverse imaging. NeuroImage, 2008, 43, 297-311.	4.2	35
52	Whole-head rapid fMRI acquisition using echo-shifted magnetic resonance inverse imaging. NeuroImage, 2013, 78, 325-338.	4.2	35
53	Diffusion MRI microstructure models with in vivo human brain Connectome data: results from a multiâ€group comparison. NMR in Biomedicine, 2017, 30, e3734.	2.8	33
54	Reconstruction of MRI data encoded by multiple nonbijective curvilinear magnetic fields. Magnetic Resonance in Medicine, 2012, 68, 1145-1156.	3.0	31

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55	Imaging G-Ratio in Multiple Sclerosis Using High-Gradient Diffusion MRI and Macromolecular Tissue Volume. American Journal of Neuroradiology, 2019, 40, 1871-1877.	2.4	30
56	Spatio-temporal mapping cortical neuroplasticity in carpal tunnel syndrome. Brain, 2012, 135, 3062-3073.	7.6	29
57	Increasing fMRI Sampling Rate Improves Granger Causality Estimates. PLoS ONE, 2014, 9, e100319.	2.5	28
58	Motionâ€robust subâ€millimeter isotropic diffusion imaging through motion corrected generalized slice dithered enhanced resolution (MCâ€gSlider) acquisition. Magnetic Resonance in Medicine, 2018, 80, 1891-1906.	3.0	28
59	Physiological noise reduction using volumetric functional magnetic resonance inverse imaging. Human Brain Mapping, 2012, 33, 2815-2830.	3.6	26
60	A 16-channel AC/DC array coil for anesthetized monkey whole-brain imaging at 7T. NeuroImage, 2020, 207, 116396.	4.2	26
61	Differences in cortical response to acupressure and electroacupuncture stimuli. BMC Neuroscience, 2011, 12, 73.	1.9	24
62	HIgh b-value and high Resolution Integrated Diffusion (HIBRID) imaging. NeuroImage, 2017, 150, 162-176.	4.2	24
63	Design and implementation of a low-cost, tabletop MRI scanner for education and research prototyping. Journal of Magnetic Resonance, 2020, 310, 106625.	2.1	24
64	K-space reconstruction of magnetic resonance inverse imaging (K-InI) of human visuomotor systems. NeuroImage, 2010, 49, 3086-3098.	4.2	23
65	Spatiotemporal brain maps of delayed word repetition and recognition. NeuroImage, 2005, 28, 293-304.	4.2	19
66	Phase-matched virtual coil reconstruction for highly accelerated diffusion echo-planar imaging. NeuroImage, 2019, 194, 291-302.	4.2	19
67	Liquid crystal phantom for validation of microscopic diffusion anisotropy measurements on clinical MRI systems. Magnetic Resonance in Medicine, 2018, 79, 1817-1828.	3.0	18
68	Mapping the human connectome using diffusion MRI at 300 mT/m gradient strength: Methodological advances and scientific impact. NeuroImage, 2022, 254, 118958.	4.2	18
69	Diagnostic Performance of a 10-Minute Gadolinium-Enhanced Brain MRI Protocol Compared with the Standard Clinical Protocol for Detection of Intracranial Enhancing Lesions. American Journal of Neuroradiology, 2017, 38, 1689-1694.	2.4	17
70	Improving in vivo human cerebral cortical surface reconstruction using data-driven super-resolution. Cerebral Cortex, 2021, 31, 463-482.	2.9	17
71	Simultaneous Multisliceâ€“Based 5â€Minute Lumbar Spine MRI Protocol: Initial Experience in a Clinical Setting. Journal of Neuroimaging, 2017, 27, 442-446.	2.0	16
72	Comprehensive diffusion MRI dataset for in vivo human brain microstructure mapping using 300 mT/m gradients. Scientific Data, 2022, 9, 7.	5.3	16

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73	Spatiotemporal Mapping the Neural Correlates of Acupuncture with MEG. Journal of Alternative and Complementary Medicine, 2008, 14, 679-688.	2.1	15
74	Ultraâ€high spatial resolution BOLD fMRI in humans using combined segmentedâ€accelerated VFAâ€FLEET with a recursive RF pulse design. Magnetic Resonance in Medicine, 2021, 85, 120-139.	3.0	15
75	Axonal damage in the optic radiation assessed by white matter tract integrity metrics is associated with retinal thinning in multiple sclerosis. NeuroImage: Clinical, 2020, 27, 102293.	2.7	14
76	A 31â€channel integrated â€œAC/DCâ€•B₀ shim and radiofrequency receive array coil for improved 7T MRI. Magnetic Resonance in Medicine, 2022, 87, 1074-1092.	3.0	14
77	A 48-channel receive array coil for mesoscopic diffusion-weighted MRI of exÂvivo human brain on the 3 T connectome scanner. NeuroImage, 2021, 238, 118256.	4.2	13
78	Objective phonological and subjective perceptual characteristics of syllables modulate spatiotemporal patterns of superior temporal gyrus activity. NeuroImage, 2008, 40, 1888-1901.	4.2	12
79	An orthogonal shim coil for 3T brain imaging. Magnetic Resonance in Medicine, 2020, 83, 1499-1511.	3.0	11
80	Using TOP-C and AMPIC to port large parallel applications to the Computational Grid. Future Generation Computer Systems, 2003, 19, 587-596.	7.5	10
81	Accelerated wholeâ€brain perfusion imaging using a simultaneous multislice spinâ€echo and gradientâ€echo sequence with joint virtual coil reconstruction. Magnetic Resonance in Medicine, 2019, 82, 973-983.	3.0	10
82	Scan-rescan repeatability of axonal imaging metrics using high-gradient diffusion MRI and statistical implications for study design. NeuroImage, 2021, 240, 118323.	4.2	8
83	Accelerated radiation damping for increased spin equilibrium (ARISE): A new method for controlling the recovery of longitudinal magnetization. Magnetic Resonance in Medicine, 2008, 60, 1112-1121.	3.0	7
84	Functional magnetic resonance inverse imaging of human visuomotor systems using eigenspace linearly constrained minimum amplitude (eLCMA) beamformer. NeuroImage, 2011, 55, 87-100.	4.2	7
85	Multi-projection magnetic resonance inverse imaging of the human visuomotor system. NeuroImage, 2012, 61, 304-313.	4.2	7
86	Selective magnetic resonance imaging of magnetic nanoparticles by acoustically induced rotary saturation. Magnetic Resonance in Medicine, 2016, 75, 97-106.	3.0	7
87	Detection of nanotesla AC magnetic fields using steady-state SIRS and ultra-low field MRI. Journal of Neural Engineering, 2020, 17, 034001.	3.5	7
88	Improving the spatial resolution of magnetic resonance inverse imaging via the blipped-CAIPI acquisition scheme. NeuroImage, 2014, 91, 401-411.	4.2	5
89	Mitigate B₁⁺ inhomogeneity using spatially selective radiofrequency excitation with generalized spatial encoding magnetic fields. Magnetic Resonance in Medicine, 2014, 71, 1458-1469.	3.0	5
90	Collagen Mechanics: A Rationale for Radiofrequency Energy to Treat Mitral Regurgitaton. Journal of Interventional Cardiology, 2009, 22, 184-190.	1.2	3

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91	Spatio-temporal dynamics and laterality effects of face inversion, feature presence and configuration, and face outline. Frontiers in Human Neuroscience, 2014, 8, 868.	2.0	3
92	A comprehensive diffusion MRI dataset acquired on the MGH Connectome scanner in a biomimetic brain phantom. Data in Brief, 2018, 18, 334-339.	1.0	3
93	In vivo functional localization of the temporal monocular crescent representation in human primary visual cortex. NeuroImage, 2020, 209, 116516.	4.2	3
94	Rapid simultaneous acquisition of macromolecular tissue volume, susceptibility, and relaxometry maps. Magnetic Resonance in Medicine, 2022, 87, 781-790.	3.0	3
95	Connectome 2.0: Cutting-Edge Hardware Ushers in New Opportunities for Computational Diffusion MRI. Mathematics and Visualization, 2020, , 3-12.	0.6	3
96	Combining Noninvasive Electromagnetic and Hemodynamic Measures of Human Brain Activity. , 2021, , 179-193.		1