

Essa Yacoub

List of Publications by Year in descending order

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Version: 2024-02-01

137
papers

28,647
citations

17429

63
h-index

12933

131
g-index

155
all docs

155
docs citations

155
times ranked

19212
citing authors

#	ARTICLE	IF	CITATIONS
1	The WU-Minn Human Connectome Project: An overview. <i>NeuroImage</i> , 2013, 80, 62-79.	2.1	4,282
2	A multi-modal parcellation of human cerebral cortex. <i>Nature</i> , 2016, 536, 171-178.	13.7	3,634
3	Multimodal population brain imaging in the UK Biobank prospective epidemiological study. <i>Nature Neuroscience</i> , 2016, 19, 1523-1536.	7.1	1,414
4	Resting-state fMRI in the Human Connectome Project. <i>NeuroImage</i> , 2013, 80, 144-168.	2.1	1,367
5	Multiband multislice GE-EPI at 7 tesla, with 16-fold acceleration using partial parallel imaging with application to high spatial and temporal whole-brain fMRI. <i>Magnetic Resonance in Medicine</i> , 2010, 63, 1144-1153.	1.9	1,329
6	Multiplexed Echo Planar Imaging for Sub-Second Whole Brain FMRI and Fast Diffusion Imaging. <i>PLoS ONE</i> , 2010, 5, e15710.	1.1	1,164
7	ICA-based artefact removal and accelerated fMRI acquisition for improved resting state network imaging. <i>NeuroImage</i> , 2014, 95, 232-247.	2.1	1,148
8	Advances in diffusion MRI acquisition and processing in the Human Connectome Project. <i>NeuroImage</i> , 2013, 80, 125-143.	2.1	851
9	The Human Connectome Project's neuroimaging approach. <i>Nature Neuroscience</i> , 2016, 19, 1175-1187.	7.1	825
10	Pushing spatial and temporal resolution for functional and diffusion MRI in the Human Connectome Project. <i>NeuroImage</i> , 2013, 80, 80-104.	2.1	769
11	Sustained Negative BOLD, Blood Flow and Oxygen Consumption Response and Its Coupling to the Positive Response in the Human Brain. <i>Neuron</i> , 2002, 36, 1195-1210.	3.8	565
12	High-field fMRI unveils orientation columns in humans. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 10607-10612.	3.3	500
13	Evaluation of slice accelerations using multiband echo planar imaging at 3T. <i>NeuroImage</i> , 2013, 83, 991-1001.	2.1	442
14	Imaging brain function in humans at 7 Tesla. <i>Magnetic Resonance in Medicine</i> , 2001, 45, 588-594.	1.9	421
15	Microvascular BOLD contribution at 4 and 7 T in the human brain: Gradient-echo and spin-echo fMRI with suppression of blood effects. <i>Magnetic Resonance in Medicine</i> , 2003, 49, 1019-1027.	1.9	331
16	Reconstruction of the orientation distribution function in single- and multiple-shell q-ball imaging within constant solid angle. <i>Magnetic Resonance in Medicine</i> , 2010, 64, 554-566.	1.9	329
17	Contextual Feedback to Superficial Layers of V1. <i>Current Biology</i> , 2015, 25, 2690-2695.	1.8	303
18	Extending the Human Connectome Project across ages: Imaging protocols for the Lifespan Development and Aging projects. <i>NeuroImage</i> , 2018, 183, 972-984.	2.1	290

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19	Spin-echo fMRI in humans using high spatial resolutions and high magnetic fields. <i>Magnetic Resonance in Medicine</i> , 2003, 49, 655-664.	1.9	284
20	Spatio-temporal point-spread function of fMRI signal in human gray matter at 7 Tesla. <i>NeuroImage</i> , 2007, 35, 539-552.	2.1	266
21	T1 weighted brain images at 7 Tesla unbiased for Proton Density, T2 contrast and RF coil receive B1 sensitivity with simultaneous vessel visualization. <i>NeuroImage</i> , 2009, 46, 432-446.	2.1	260
22	Robust detection of ocular dominance columns in humans using Hahn Spin Echo BOLD functional MRI at 7 Tesla. <i>NeuroImage</i> , 2007, 37, 1161-1177.	2.1	258
23	The UNC/UMN Baby Connectome Project (BCP): An overview of the study design and protocol development. <i>NeuroImage</i> , 2019, 185, 891-905.	2.1	234
24	Heritability of fractional anisotropy in human white matter: A comparison of Human Connectome Project and ENIGMA-DTI data. <i>NeuroImage</i> , 2015, 111, 300-311.	2.1	227
25	Ultrahigh field magnetic resonance imaging and spectroscopy. <i>Magnetic Resonance Imaging</i> , 2003, 21, 1263-1281.	1.0	218
26	An Assessment of Current Brain Targets for Deep Brain Stimulation Surgery With Susceptibility-Weighted Imaging at 7 Tesla. <i>Neurosurgery</i> , 2010, 67, 1745-1756.	0.6	202
27	An Open Resource for Non-human Primate Imaging. <i>Neuron</i> , 2018, 100, 61-74.e2.	3.8	190
28	Encoding of Natural Sounds at Multiple Spectral and Temporal Resolutions in the Human Auditory Cortex. <i>PLoS Computational Biology</i> , 2014, 10, e1003412.	1.5	187
29	The Lifespan Human Connectome Project in Aging: An overview. <i>NeuroImage</i> , 2019, 185, 335-348.	2.1	186
30	The Lifespan Human Connectome Project in Development: A large-scale study of brain connectivity development in 5–21 year olds. <i>NeuroImage</i> , 2018, 183, 456-468.	2.1	184
31	Signal and noise characteristics of Hahn SE and GE BOLD fMRI at 7 T in humans. <i>NeuroImage</i> , 2005, 24, 738-750.	2.1	182
32	Layer-Specific fMRI Reflects Different Neuronal Computations at Different Depths in Human V1. <i>PLoS ONE</i> , 2012, 7, e32536.	1.1	172
33	Evaluation of 2D multiband EPI imaging for high-resolution, whole-brain, task-based fMRI studies at 3T: Sensitivity and slice leakage artifacts. <i>NeuroImage</i> , 2016, 124, 32-42.	2.1	170
34	Combined imaging-histological study of cortical laminar specificity of fMRI signals. <i>NeuroImage</i> , 2006, 29, 879-887.	2.1	163
35	Mapping the Organization of Axis of Motion Selective Features in Human Area MT Using High-Field fMRI. <i>PLoS ONE</i> , 2011, 6, e28716.	1.1	163
36	Comprehensive in vivo Mapping of the Human Basal Ganglia and Thalamic Connectome in Individuals Using 7T MRI. <i>PLoS ONE</i> , 2012, 7, e29153.	1.1	159

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37	Frequency preference and attention effects across cortical depths in the human primary auditory cortex. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 16036-16041.	3.3	153
38	Cortical Depth Dependent Functional Responses in Humans at 7T: Improved Specificity with 3D GRASE. PLoS ONE, 2013, 8, e60514.	1.1	151
39	High-resolution, spin-echo BOLD, and CBF fMRI at 4 and 7 T. Magnetic Resonance in Medicine, 2002, 48, 589-593.	1.9	145
40	The Human Connectome Project 7 Tesla retinotopy dataset: Description and population receptive field analysis. Journal of Vision, 2018, 18, 23.	0.1	139
41	Zoomed Functional Imaging in the Human Brain at 7 Tesla with Simultaneous High Spatial and High Temporal Resolution. NeuroImage, 2002, 17, 272-286.	2.1	134
42	A Hough transform global probabilistic approach to multiple-subject diffusion MRI tractography. Medical Image Analysis, 2011, 15, 414-425.	7.0	126
43	Multiband accelerated spin-echo echo planar imaging with reduced peak RF power using time-shifted RF pulses. Magnetic Resonance in Medicine, 2013, 69, 1261-1267.	1.9	126
44	Perfusion-based high-resolution functional imaging in the human brain at 7 Tesla. Magnetic Resonance in Medicine, 2002, 47, 903-911.	1.9	117
45	Tradeoffs in pushing the spatial resolution of fMRI for the 7T Human Connectome Project. NeuroImage, 2017, 154, 23-32.	2.1	117
46	The Human Connectome Project: A retrospective. NeuroImage, 2021, 244, 118543.	2.1	114
47	The rapid development of high speed, resolution and precision in fMRI. NeuroImage, 2012, 62, 720-725.	2.1	109
48	Investigation of the initial dip in fMRI at 7 Tesla. NMR in Biomedicine, 2001, 14, 408-412.	1.6	108
49	Design of an MRI-Compatible Robotic Stereotactic Device for Minimally Invasive Interventions in the Breast. Journal of Biomechanical Engineering, 2004, 126, 458-465.	0.6	107
50	The Evaluation of Preprocessing Choices in Single-Subject BOLD fMRI Using NPAIRS Performance Metrics. NeuroImage, 2003, 18, 10-27.	2.1	105
51	Mechanisms underlying decoding at 7T: Ocular dominance columns, broad structures, and macroscopic blood vessels in V1 convey information on the stimulated eye. NeuroImage, 2010, 49, 1957-1964.	2.1	105
52	The Spatial Dependence of the Poststimulus Undershoot as Revealed by High-Resolution BOLD- and CBV-Weighted fMRI. Journal of Cerebral Blood Flow and Metabolism, 2006, 26, 634-644.	2.4	93
53	The impact of ultra-high field MRI on cognitive and computational neuroimaging. NeuroImage, 2018, 168, 366-382.	2.1	93
54	Accelerating the Evolution of Nonhuman Primate Neuroimaging. Neuron, 2020, 105, 600-603.	3.8	92

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55	Fusion in diffusion MRI for improved fibre orientation estimation: An application to the 3T and 7T data of the Human Connectome Project. <i>NeuroImage</i> , 2016, 134, 396-409.	2.1	91
56	High-Resolution Mapping of Myeloarchitecture In Vivo: Localization of Auditory Areas in the Human Brain. <i>Cerebral Cortex</i> , 2015, 25, 3394-3405.	1.6	90
57	Spatial organization of frequency preference and selectivity in the human inferior colliculus. <i>Nature Communications</i> , 2013, 4, 1386.	5.8	89
58	Reconstructing the spectrotemporal modulations of real-life sounds from fMRI response patterns. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 4799-4804.	3.3	88
59	Feasibility of Using Ultra-High Field (7 T) MRI for Clinical Surgical Targeting. <i>PLoS ONE</i> , 2012, 7, e37328.	1.1	86
60	RASER: A new ultrafast magnetic resonance imaging method. <i>Magnetic Resonance in Medicine</i> , 2007, 58, 794-799.	1.9	85
61	The story of the initial dip in fMRI. <i>NeuroImage</i> , 2012, 62, 1103-1108.	2.1	85
62	High resolution data analysis strategies for mesoscale human functional MRI at 7 and 9.4 T. <i>NeuroImage</i> , 2018, 164, 48-58.	2.1	84
63	Study protocol: the Whitehall II imaging sub-study. <i>BMC Psychiatry</i> , 2014, 14, 159.	1.1	82
64	Functional mapping of the magnocellular and parvocellular subdivisions of human LGN. <i>NeuroImage</i> , 2014, 102, 358-369.	2.1	75
65	Processing of Natural Sounds: Characterization of Multipeak Spectral Tuning in Human Auditory Cortex. <i>Journal of Neuroscience</i> , 2013, 33, 11888-11898.	1.7	73
66	Sub-millimeter T2 weighted fMRI at 7 T: comparison of 3D-GRASE and 2D SE-EPI. <i>Frontiers in Neuroscience</i> , 2015, 9, 163.	1.4	70
67	Whole brain high-resolution functional imaging at ultra high magnetic fields: An application to the analysis of resting state networks. <i>NeuroImage</i> , 2011, 57, 1031-1044.	2.1	68
68	Lowering the thermal noise barrier in functional brain mapping with magnetic resonance imaging. <i>Nature Communications</i> , 2021, 12, 5181.	5.8	68
69	Neural correlates of visual form and visual spatial processing. <i>Human Brain Mapping</i> , 1999, 8, 60-71.	1.9	67
70	Further evaluation of the initial negative response in functional magnetic resonance imaging. <i>Magnetic Resonance in Medicine</i> , 1999, 41, 436-441.	1.9	64
71	Frontiers of brain mapping using MRI. <i>Journal of Magnetic Resonance Imaging</i> , 2006, 23, 945-957.	1.9	58
72	Simultaneous multi-slice Turbo-FLASH imaging with CAIPIRINHA for whole brain distortion-free pseudo-continuous arterial spin labeling at 3 and 7 T. <i>NeuroImage</i> , 2015, 113, 279-288.	2.1	57

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73	NOise reduction with DIstribution Corrected (NORDIC) PCA in dMRI with complex-valued parameter-free locally low-rank processing. <i>NeuroImage</i> , 2021, 226, 117539.	2.1	57
74	The nonhuman primate neuroimaging and neuroanatomy project. <i>NeuroImage</i> , 2021, 229, 117726.	2.1	57
75	Modeling and analysis of mechanisms underlying fMRI-based decoding of information conveyed in cortical columns. <i>NeuroImage</i> , 2011, 56, 627-642.	2.1	56
76	Processing of frequency and location in human subcortical auditory structures. <i>Scientific Reports</i> , 2015, 5, 17048.	1.6	54
77	Sensitivity and specificity considerations for fMRI encoding, decoding, and mapping of auditory cortex at ultra-high field. <i>NeuroImage</i> , 2018, 164, 18-31.	2.1	52
78	In vivo micro-MRI of intracortical neurovasculature. <i>NeuroImage</i> , 2006, 32, 62-69.	2.1	48
79	Retinotopic mapping with spin echo BOLD at 7T. <i>Magnetic Resonance Imaging</i> , 2010, 28, 1258-1269.	1.0	45
80	Microstructure Imaging of Crossing (MIX) White Matter Fibers from diffusion MRI. <i>Scientific Reports</i> , 2016, 6, 38927.	1.6	43
81	Magnetic Resonance Field Strength Effects on Diffusion Measures and Brain Connectivity Networks. <i>Brain Connectivity</i> , 2013, 3, 72-86.	0.8	42
82	High-Field fMRI for Human Applications: An Overview of Spatial Resolution and Signal Specificity. <i>Open Neuroimaging Journal</i> , 2011, 5, 74-89.	0.2	40
83	Spatial specificity of the functional MRI blood oxygenation response relative to neuronal activity. <i>NeuroImage</i> , 2018, 164, 32-47.	2.1	39
84	Linearity of blood-oxygenation-level dependent signal at microvasculature. <i>NeuroImage</i> , 2009, 48, 313-318.	2.1	38
85	Human habenula segmentation using myelin content. <i>NeuroImage</i> , 2016, 130, 145-156.	2.1	38
86	Strategies and prospects for cortical depth dependent T2 and T2* weighted BOLD fMRI studies. <i>NeuroImage</i> , 2019, 197, 668-676.	2.1	34
87	Processing complexity increases in superficial layers of human primary auditory cortex. <i>Scientific Reports</i> , 2019, 9, 5502.	1.6	32
88	High-resolution whole-brain diffusion MRI at 7T using radiofrequency parallel transmission. <i>Magnetic Resonance in Medicine</i> , 2018, 80, 1857-1870.	1.9	31
89	Characterizing cerebral hemodynamics across the adult lifespan with arterial spin labeling MRI data from the Human Connectome Project-Aging. <i>NeuroImage</i> , 2021, 230, 117807.	2.1	31
90	Variable flip angle 3D-CRASE for high resolution fMRI at 7 tesla. <i>Magnetic Resonance in Medicine</i> , 2016, 76, 897-904.	1.9	30

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91	Ultra-high field (10.5 T) resting state fMRI in the macaque. <i>NeuroImage</i> , 2020, 223, 117349.	2.1	30
92	Decreases in ADC observed in tissue areas during activation in the cat visual cortex at 9.4 T using high diffusion sensitization. <i>Magnetic Resonance Imaging</i> , 2008, 26, 889-896.	1.0	29
93	Cortical fibers orientation mapping using in-vivo whole brain 7T diffusion MRI. <i>NeuroImage</i> , 2018, 178, 104-118.	2.1	29
94	Featural and temporal attention selectively enhance task-appropriate representations in human primary visual cortex. <i>Nature Communications</i> , 2014, 5, 5643.	5.8	27
95	Multimodal 7T Imaging of Thalamic Nuclei for Preclinical Deep Brain Stimulation Applications. <i>Frontiers in Neuroscience</i> , 2016, 10, 264.	1.4	25
96	Recent Advances in High-Resolution MR Application and Its Implications for Neurovascular Coupling Research. <i>Frontiers in Neuroenergetics</i> , 2010, 2, 130.	5.3	23
97	Less noise, more activation: Multiband acquisition schemes for auditory functional MRI. <i>Magnetic Resonance in Medicine</i> , 2015, 74, 462-467.	1.9	23
98	Spin echo functional MRI in bilateral auditory cortices at 7T: An application of B1 shimming. <i>NeuroImage</i> , 2012, 63, 1313-1320.	2.1	22
99	Evaluating the Columnar Stability of Acoustic Processing in the Human Auditory Cortex. <i>Journal of Neuroscience</i> , 2018, 38, 7822-7832.	1.7	22
100	Human Connectome Project-style resting-state functional MRI at 7 Tesla using radiofrequency parallel transmission. <i>NeuroImage</i> , 2019, 184, 396-408.	2.1	22
101	Diffusion Imaging in the Post HCP Era. <i>Journal of Magnetic Resonance Imaging</i> , 2021, 54, 36-57.	1.9	22
102	Minimal specifications for non-human primate MRI: Challenges in standardizing and harmonizing data collection. <i>NeuroImage</i> , 2021, 236, 118082.	2.1	22
103	Toward next-generation primate neuroscience: A collaboration-based strategic plan for integrative neuroimaging. <i>Neuron</i> , 2022, 110, 16-20.	3.8	22
104	Pushing the spatio-temporal limits of MRI and fMRI. <i>NeuroImage</i> , 2018, 164, 1-3.	2.1	20
105	Empirical transmit field bias correction of T1w/T2w myelin maps. <i>NeuroImage</i> , 2022, 258, 119360.	2.1	20
106	A 3D wavelet fusion approach for the reconstruction of isotropic-resolution MR images from orthogonal anisotropic-resolution scans. <i>Magnetic Resonance in Medicine</i> , 2012, 67, 1167-1172.	1.9	19
107	Using precise word timing information improves decoding accuracy in a multiband-accelerated multimodal reading experiment. <i>Cognitive Neuropsychology</i> , 2016, 33, 265-275.	0.4	18
108	Using high spatial resolution fMRI to understand representation in the auditory network. <i>Progress in Neurobiology</i> , 2021, 207, 101887.	2.8	17

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109	In Vivo 7T MRI of the Non-Human Primate Brainstem. PLoS ONE, 2015, 10, e0127049.	1.1	17
110	Phase-cycled simultaneous multislice balanced SSFP imaging with CAIPIRINHA for efficient banding reduction. Magnetic Resonance in Medicine, 2016, 76, 1764-1774.	1.9	16
111	An 8-dipole transceive and 24-loop receive array for non-human primate head imaging at 10.5 T. NMR in Biomedicine, 2021, 34, e4472.	1.6	16
112	Estimation of the CSA-ODF using Bayesian compressed sensing of multi-shell HARDI. Magnetic Resonance in Medicine, 2014, 72, 1471-1485.	1.9	15
113	Functional MRI mapping neuronal inhibition and excitation at columnar level in human visual cortex. Experimental Brain Research, 2010, 204, 515-524.	0.7	14
114	Multiple Q-Shell ODF Reconstruction in Q-Ball Imaging. Lecture Notes in Computer Science, 2009, 12, 423-431.	1.0	14
115	Triple diffusion encoding MRI predicts intra-axonal and extra-axonal diffusion tensors in white matter. Magnetic Resonance in Medicine, 2020, 83, 2209-2220.	1.9	13
116	Representation of pitch chroma by multi-peak spectral tuning in human auditory cortex. NeuroImage, 2015, 106, 161-169.	2.1	12
117	New strategy for reconstructing partial-Fourier imaging data in functional MRI. Magnetic Resonance in Medicine, 2001, 46, 1045-1048.	1.9	11
118	Differential information content in staggered multiple shell hardi measured by the tensor distribution function. , 2011, , .		10
119	Temporal multivariate pattern analysis (tMVPA): A single trial approach exploring the temporal dynamics of the BOLD signal. Journal of Neuroscience Methods, 2018, 308, 74-87.	1.3	10
120	Multivoxel Pattern of Blood Oxygen Level Dependent Activity can be sensitive to stimulus specific fine scale responses. Scientific Reports, 2020, 10, 7565.	1.6	10
121	20-fold Accelerated 7T fMRI Using Referenceless Self-Supervised Deep Learning Reconstruction. , 2021, 2021, 3765-3769.		10
122	Spatial specificity of high-resolution, spin-echo BOLD, and CBF fMRI at 7 T. Magnetic Resonance in Medicine, 2004, 51, 646-647.	1.9	9
123	Clarifying the role of higher-level cortices in resolving perceptual ambiguity using ultra high field fMRI. NeuroImage, 2021, 227, 117654.	2.1	9
124	Filtering respiratory motion artifact from resting state fMRI data in infant and toddler populations. NeuroImage, 2022, 247, 118838.	2.1	9
125	High Magnetic Fields for Imaging Cerebral Morphology, Function, and Biochemistry. Biological Magnetic Resonance, 2006, , 285-342.	0.4	8
126	Nonadditive Two-Way ANOVA for Event-Related fMRI Data Analysis. NeuroImage, 2001, 14, 406-416.	2.1	7

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127	Ultra-high field (10.5T) diffusion-weighted MRI of the macaque brain. <i>NeuroImage</i> , 2022, 255, 119200.	2.1	7
128	Real-time motion monitoring improves functional MRI data quality in infants. <i>Developmental Cognitive Neuroscience</i> , 2022, 55, 101116.	1.9	7
129	Resting-state functional connectivity identifies individuals and predicts age in 8-to-26-month-olds. <i>Developmental Cognitive Neuroscience</i> , 2022, 56, 101123.	1.9	7
130	Statistical power or more precise insights into neuro-temporal dynamics? Assessing the benefits of rapid temporal sampling in fMRI. <i>Progress in Neurobiology</i> , 2021, 207, 102171.	2.8	6
131	Improved Simultaneous Multi-Slice Functional MRI Using Self-supervised Deep Learning. , 2021, , .		6
132	Design of a Robotic Stereotactic Device for Biopsy and Minimally Invasive Interventions in the Breast With Real Time MRI Guidance. , 2002, , .		2
133	The Use of Ultrahigh Field Functional MRI in Neuroscience Applications. , 2019, , 419-435.		1
134	Neural correlates of visual form and visual spatial processing. <i>Human Brain Mapping</i> , 1999, 8, 60-71.	1.9	1
135	Efficient estimation via envelope chain in magnetic resonance imaging-based studies. <i>Scandinavian Journal of Statistics</i> , 0, , .	0.9	0
136	How pushing the spatiotemporal resolution of fMRI can advance neuroscience. <i>Progress in Neurobiology</i> , 2021, 207, 102184.	2.8	0
137	Neuroscience applications of functional MRI. <i>Advances in Magnetic Resonance Technology and Applications</i> , 2021, , 261-276.	0.0	0