Saad Jbabdi

List of Publications by Citations

162 papers	21,365 citations	69 h-index	146 g-index
194 ext. papers	27,699 ext. citations	7.9 avg, IF	6.78 L-index

#	Paper	IF	Citations
162	Probabilistic diffusion tractography with multiple fibre orientations: What can we gain?. *NeuroImage*, **2007**, 34, 144-55	7.9	2514
161	The minimal preprocessing pipelines for the Human Connectome Project. *NeuroImage*, **2013**, 80, 105-24	7.9	2298
160	Bayesian analysis of neuroimaging data in FSL. *NeuroImage*, **2009**, 45, S173-86	7.9	1553
159	Multimodal population brain imaging in the UK Biobank prospective epidemiological study. *Nature Neuroscience*, **2016**, 19, 1523-1536	25.5	739
158	Advances in diffusion MRI acquisition and processing in the Human Connectome Project. *NeuroImage*, **2013**, 80, 125-43	7.9	596
157	Pushing spatial and temporal resolution for functional and diffusion MRI in the Human Connectome Project. *NeuroImage*, **2013**, 80, 80-104	7.9	534
156	Task-free MRI predicts individual differences in brain activity during task performance. *Science*, **2016**, 352, 216-20	33.3	432
155	Tractography: where do we go from here?. *Brain Connectivity*, **2011**, 1, 169-83	2.7	429
154	Image processing and Quality Control for the first 10,000 brain imaging datasets from UK Biobank. *NeuroImage*, **2018**, 166, 400-424	7.9	415
153	Diffusion-weighted imaging tractography-based parcellation of the human parietal cortex and comparison with human and macaque resting-state functional connectivity. *Journal of Neuroscience* , **2011**, 31, 4087-100	6.6	394
152	Connectivity-based subdivisions of the human right "temporoparietal junction area": evidence for different areas participating in different cortical networks. *Cerebral Cortex*, **2012**, 22, 1894-903	5.1	383
151	DTI measures in crossing-fibre areas: increased diffusion anisotropy reveals early white matter alteration in MCI and mild Alzheimer's disease. *NeuroImage*, **2011**, 55, 880-90	7.9	381
150	Automated probabilistic reconstruction of white-matter pathways in health and disease using an atlas of the underlying anatomy. *Frontiers in Neuroinformatics*, **2011**, 5, 23	3.9	361
149	MSM: a new flexible framework for Multimodal Surface Matching. *NeuroImage*, **2014**, 100, 414-26	7.9	347
148	Social network size affects neural circuits in macaques. *Science*, **2011**, 334, 697-700	33.3	332
147	Imaging human connectomes at the macroscale. *Nature Methods*, **2013**, 10, 524-39	21.6	294
146	Anatomical and functional connectivity of cytoarchitectonic areas within the human parietal operculum. *Journal of Neuroscience*, **2010**, 30, 6409-21	6.6	283

145	The organization of dorsal frontal cortex in humans and macaques. *Journal of Neuroscience*, **2013**, 33, 12255-74	6.6	281
144	Motor skill learning induces changes in white matter microstructure and myelination. *Journal of Neuroscience*, **2013**, 33, 19499-503	6.6	276
143	Diffusion-weighted imaging tractography-based parcellation of the human lateral premotor cortex identifies dorsal and ventral subregions with anatomical and functional specializations. *Journal of Neuroscience*, **2007**, 27, 10259-69	6.6	275
142	Measuring macroscopic brain connections in vivo. *Nature Neuroscience*, **2015**, 18, 1546-55	25.5	225
141	Using Diffusion Tractography to Predict Cortical Connection Strength and Distance: A Quantitative Comparison with Tracers in the Monkey. *Journal of Neuroscience*, **2016**, 36, 6758-70	6.6	225
140	Model-based analysis of multishell diffusion MR data for tractography: how to get over fitting problems. *Magnetic Resonance in Medicine*, **2012**, 68, 1846-55	4.4	222
139	A Bayesian framework for global tractography. *NeuroImage*, **2007**, 37, 116-29	7.9	215
138	Connectivity-based functional analysis of dopamine release in the striatum using diffusion-weighted MRI and positron emission tomography. *Cerebral Cortex*, **2014**, 24, 1165-77	5.1	203
137	Simulation of anisotropic growth of low-grade gliomas using diffusion tensor imaging. *Magnetic Resonance in Medicine*, **2005**, 54, 616-24	4.4	202
136	Probabilistic tractography recovers a rostrocaudal trajectory of connectivity variability in the human insular cortex. *Human Brain Mapping*, **2012**, 33, 2005-34	5.9	200
135	Diffusion imaging of whole, post-mortem human brains on a clinical MRI scanner. *NeuroImage*, **2011** , 57, 167-181	7.9	193
134	Changes in connectivity after visual cortical brain damage underlie altered visual function. *Brain*, **2008**, 131, 1433-44	11.2	185
133	Cortical and subcortical connectivity changes during decreasing levels of consciousness in humans: a functional magnetic resonance imaging study using propofol. *Journal of Neuroscience*, **2010**, 30, 9095-102	6.6	166
132	Human and monkey ventral prefrontal fibers use the same organizational principles to reach their targets: tracing versus tractography. *Journal of Neuroscience*, **2013**, 33, 3190-201	6.6	165
131	In vivo evidence for the selective subcortical degeneration in Huntington's disease. *NeuroImage*, **2009**, 46, 958-66	7.9	165
130	Network analysis detects changes in the contralesional hemisphere following stroke. *NeuroImage*, **2011**, 54, 161-9	7.9	160
129	Heritability of fractional anisotropy in human white matter: a comparison of Human Connectome Project and ENIGMA-DTI data. *NeuroImage*, **2015**, 111, 300-11	7.9	159
128	Spatially constrained hierarchical parcellation of the brain with resting-state fMRI. *NeuroImage*, **2013**, 76, 313-24	7.9	158

127	Causal effect of disconnection lesions on interhemispheric functional connectivity in rhesus monkeys. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 13982-7	11.5	152
126	Crossing fibres in tract-based spatial statistics. *NeuroImage*, **2010**, 49, 249-56	7.9	145
125	Symmetrical event-related EEG/fMRI information fusion in a variational Bayesian framework. *NeuroImage*, **2007**, 36, 69-87	7.9	143
124	High resolution diffusion-weighted imaging in fixed human brain using diffusion-weighted steady state free precession. *NeuroImage*, **2009**, 46, 775-85	7.9	142
123	MRI characteristics of the substantia nigra in Parkinson's disease: a combined quantitative T1 and DTI study. *NeuroImage*, **2009**, 47, 435-41	7.9	142
122	Effects of image reconstruction on fiber orientation mapping from multichannel diffusion MRI: reducing the noise floor using SENSE. *Magnetic Resonance in Medicine*, **2013**, 70, 1682-9	4.4	132
121	Subthalamic deep brain stimulation sweet spots and hyperdirect cortical connectivity in Parkinson's disease. *NeuroImage*, **2017**, 158, 332-345	7.9	131
120	Ball and rackets: Inferring fiber fanning from diffusion-weighted MRI. *NeuroImage*, **2012**, 60, 1412-25	7.9	124
119	Slow-wave activity saturation and thalamocortical isolation during propofol anesthesia in humans. *Science Translational Medicine*, **2013**, 5, 208ra148	17.5	119
118	Identification of large-scale networks in the brain using fMRI. *NeuroImage*, **2006**, 29, 1231-43	7.9	117
117	Determination of the human brainstem respiratory control network and its cortical connections in vivo using functional and structural imaging. *NeuroImage*, **2009**, 44, 295-305	7.9	116
116	High resolution whole brain diffusion imaging at 7T for the Human Connectome Project. *NeuroImage*, **2015**, 122, 318-31	7.9	114
115	Continuity, divergence, and the evolution of brain language pathways. *Frontiers in Evolutionary Neuroscience*, **2011**, 3, 11		111
114	Structural and functional bases for individual differences in motor learning. *Human Brain Mapping*, **2011**, 32, 494-508	5.9	107
113	Connectivity-based segmentation of the substantia nigra in human and its implications in Parkinson's disease. *NeuroImage*, **2010**, 52, 1175-80	7.9	102
112	Accelerating fibre orientation estimation from diffusion weighted magnetic resonance imaging using GPUs. *PLoS ONE*, **2013**, 8, e61892	3.7	101
111	Extending the Human Connectome Project across ages: Imaging protocols for the Lifespan Development and Aging projects. *NeuroImage*, **2018**, 183, 972-984	7.9	101
110	Differential structural and resting state connectivity between insular subdivisions and other pain-related brain regions. *Pain*, **2014**, 155, 2047-55	8	96

109	Evaluating fibre orientation dispersion in white matter: Comparison of diffusion MRI, histology and polarized light imaging. *NeuroImage*, **2017**, 157, 561-574	7.9	95
108	The CONNECT project: Combining macro- and micro-structure. *NeuroImage*, **2013**, 80, 273-82	7.9	93
107	fMRI and sleep correlates of the age-related impairment in motor memory consolidation. *Human Brain Mapping*, **2014**, 35, 3625-45	5.9	91
106	Structural correlates of preterm birth in the adolescent brain. *Pediatrics*, **2009**, 124, e964-72	7.4	85
105	Connectivity Fingerprints: From Areal Descriptions to Abstract Spaces. *Trends in Cognitive Sciences*, **2018**, 22, 1026-1037	14	83
104	Preoperative estimation of residual volume for WHO grade II glioma resected with intraoperative functional mapping. *Neuro-Oncology*, **2007**, 9, 63-9	1	82
103	Unmasking Latent Inhibitory Connections in Human Cortex to Reveal Dormant Cortical Memories. *Neuron*, **2016**, 90, 191-203	13.9	81
102	Accurate anisotropic fast marching for diffusion-based geodesic tractography. *International Journal of Biomedical Imaging*, **2008**, 2008, 320195	5.2	79
101	Functional Segmentation of the Anterior Limb of the Internal Capsule: Linking White Matter Abnormalities to Specific Connections. *Journal of Neuroscience*, **2018**, 38, 2106-2117	6.6	78
100	Automated quality control for within and between studies diffusion MRI data using a non-parametric framework for movement and distortion correction. *NeuroImage*, **2019**, 184, 801-812	7.9	78
99	Multiple-subjects connectivity-based parcellation using hierarchical Dirichlet process mixture models. *NeuroImage*, **2009**, 44, 373-84	7.9	77
98	Whole brain comparative anatomy using connectivity blueprints. *ELife*, **2018**, 7,	8.9	75
97	SARS-CoV-2 is associated with changes in brain structure in UK Biobank.. *Nature*, **2022**,	50.4	74
96	The topographic connectome. *Current Opinion in Neurobiology*, **2013**, 23, 207-15	7.6	73
95	Revealing the neural fingerprints of a missing hand. *ELife*, **2016**, 5,	8.9	73
94	The extreme capsule fiber complex in humans and macaque monkeys: a comparative diffusion MRI tractography study. *Brain Structure and Function*, **2016**, 221, 4059-4071	4	71
93	Fusion in diffusion MRI for improved fibre orientation estimation: An application to the 3T and 7T data of the Human Connectome Project. *NeuroImage*, **2016**, 134, 396-409	7.9	67
92	Comprehensive morphometry of subcortical grey matter structures in early-stage Parkinson's disease. *Human Brain Mapping*, **2014**, 35, 1681-90	5.9	66

91	Investigating the Stability of Fine-Grain Digit Somatotopy in Individual Human Participants. *Journal of Neuroscience*, **2016**, 36, 1113-27	6.6	63
90	Automated processing pipeline for neonatal diffusion MRI in the developing Human Connectome Project. *NeuroImage*, **2019**, 185, 750-763	7.9	59
89	Diffusion tractography of post-mortem human brains: optimization and comparison of spin echo and steady-state free precession techniques. *NeuroImage*, **2012**, 59, 2284-97	7.9	59
88	XTRACT - Standardised protocols for automated tractography in the human and macaque brain. *NeuroImage*, **2020**, 217, 116923	7.9	56
87	A probabilistic atlas of the cerebellar white matter. *NeuroImage*, **2016**, 124, 724-732	7.9	54
86	What is special about the human arcuate fasciculus? Lateralization, projections, and expansion. *Cortex*, **2019**, 118, 107-115	3.8	54
85	Preservation of motor skill learning in patients with multiple sclerosis. *Multiple Sclerosis Journal*, **2011**, 17, 103-15	5	52
84	Relating brain damage to brain plasticity in patients with multiple sclerosis. *Neurorehabilitation and Neural Repair*, **2012**, 26, 581-93	4.7	52
83	How can a Bayesian approach inform neuroscience?. *European Journal of Neuroscience*, **2012**, 35, 1169-79	3.5	51
82	Time-efficient and flexible design of optimized multishell HARDI diffusion. *Magnetic Resonance in Medicine*, **2018**, 79, 1276-1292	4.4	49
81	Connectivity-based segmentation of the periaqueductal gray matter in human with brainstem optimized diffusion MRI. *Human Brain Mapping*, **2015**, 36, 3459-71	5.9	49
80	Using GPUs to accelerate computational diffusion MRI: From microstructure estimation to tractography and connectomes. *NeuroImage*, **2019**, 188, 598-615	7.9	48
79	Motor practice promotes increased activity in brain regions structurally disconnected after subcortical stroke. *Neurorehabilitation and Neural Repair*, **2011**, 25, 607-16	4.7	42
78	Investigation of Slow-wave Activity Saturation during Surgical Anesthesia Reveals a Signature of Neural Inertia in Humans. *Anesthesiology*, **2017**, 127, 645-657	4.3	40
77	A connectional hub in the rostral anterior cingulate cortex links areas of emotion and cognitive control. *ELife*, **2019**, 8,	8.9	39
76	Cross-species cortical alignment identifies different types of anatomical reorganization in the primate temporal lobe. *ELife*, **2020**, 9,	8.9	37
75	Resting connectivity predicts task activation in pre-surgical populations. *NeuroImage: Clinical*, **2017**, 13, 378-385	5.3	36
74	A biophysical model of dynamic balancing of excitation and inhibition in fast oscillatory large-scale networks. *PLoS Computational Biology*, **2018**, 14, e1006007	5	35

73	Challenges and future directions for representations of functional brain organization. *Nature Neuroscience*, **2020**, 23, 1484-1495	25.5	35
72	Connectivity and the search for specializations in the language-capable brain. *Current Opinion in Behavioral Sciences*, **2018**, 21, 19-26	4	32
71	The spatial correspondence and genetic influence of interhemispheric connectivity with white matter microstructure. *Nature Neuroscience*, **2019**, 22, 809-819	25.5	31
70	Dentatorubrothalamic tract localization with postmortem MR diffusion tractography compared to histological 3D reconstruction. *Brain Structure and Function*, **2016**, 221, 3487-501	4	31
69	Mapping Connections in Humans and Non-Human Primates **2014**, 337-358		31
68	Multimodal surface matching: fast and generalisable cortical registration using discrete optimisation. *Lecture Notes in Computer Science*, **2013**, 23, 475-86	0.9	31
67	Brain imaging before and after COVID-19 in UK Biobank **2021**,		31
66	Pathology of callosal damage in ALS: An , 7 T diffusion tensor MRI study. *NeuroImage: Clinical*, **2017**, 15, 200-208	5.3	30
65	RubiX: combining spatial resolutions for Bayesian inference of crossing fibers in diffusion MRI. *IEEE Transactions on Medical Imaging*, **2013**, 32, 969-82	11.7	29
64	Improved tractography using asymmetric fibre orientation distributions. *NeuroImage*, **2017**, 158, 205-218	7.9	29
63	Improving diffusion-weighted imaging of post-mortem human brains: SSFP at 7 T. *NeuroImage*, **2014**, 102 Pt 2, 579-89	7.9	29
62	Towards HCP-Style macaque connectomes: 24-Channel 3T multi-array coil, MRI sequences and preprocessing. *NeuroImage*, **2020**, 215, 116800	7.9	28
61	Brain systems for probabilistic and dynamic prediction: computational specificity and integration. *PLoS Biology*, **2013**, 11, e1001662	9.7	27
60	Perceptually relevant remapping of human somatotopy in 24 hours. *ELife*, **2016**, 5,	8.9	27
59	Concurrent white matter bundles and grey matter networks using independent component analysis. *NeuroImage*, **2018**, 170, 296-306	7.9	26
58	Dissecting the pathobiology of altered MRI signal in amyotrophic lateral sclerosis: A post mortem whole brain sampling strategy for the integration of ultra-high-field MRI and quantitative neuropathology. *BMC Neuroscience*, **2018**, 19, 11	3.2	26
57	Diffusion tensor imaging of dolphin brains reveals direct auditory pathway to temporal lobe. *Proceedings of the Royal Society B: Biological Sciences*, **2015**, 282,	4.4	26
56	Longitudinal connections and the organization of the temporal cortex in macaques, great apes, and humans. *PLoS Biology*, **2020**, 18, e3000810	9.7	25

55	Long-range connectomics. *Annals of the New York Academy of Sciences*, **2013**, 1305, 83-93	6.5	24
54	Circuits, Networks, and Neuropsychiatric Disease: Transitioning From Anatomy to Imaging. *Biological Psychiatry*, **2020**, 87, 318-327	7.9	23
53	Four Deep Brain Stimulation Targets for Obsessive-Compulsive Disorder: Are They Different?. *Biological Psychiatry*, **2021**, 90, 667-677	7.9	23
52	MR Diffusion Tractography **2009**, 333-351		20
51	Anesthesia-induced Suppression of Human Dorsal Anterior Insula Responsivity at Loss of Volitional Behavioral Response. *Anesthesiology*, **2016**, 124, 766-78	4.3	19
50	Structural Variability in the Human Brain Reflects Fine-Grained Functional Architecture at the Population Level. *Journal of Neuroscience*, **2019**, 39, 6136-6149	6.6	18
49	Tractography Study of Deep Brain Stimulation of the Anterior Cingulate Cortex in Chronic Pain: Key to Improve the Targeting. *World Neurosurgery*, **2016**, 86, 361-70.e1-3	2.1	18
48	Thalamo-Cortical Disruption Contributes to Short-Term Memory Deficits in Patients with Medial Temporal Lobe Damage. *Cerebral Cortex*, **2015**, 25, 4584-95	5.1	15
47	A model for extra-axonal diffusion spectra with frequency-dependent restriction. *Magnetic Resonance in Medicine*, **2015**, 73, 2306-20	4.4	14
46	A Common Space Approach to Comparative Neuroscience. *Annual Review of Neuroscience*, **2021**, 44, 69-86	13	14
45	The temporoparietal fiber intersection area and wernicke perpendicular fasciculus. *Neurosurgery*, **2013**, 73, E381-2	3.2	13
44	Improved fibre dispersion estimation using b-tensor encoding. *NeuroImage*, **2020**, 215, 116832	7.9	12
43	Concurrent analysis of white matter bundles and grey matter networks in the chimpanzee. *Brain Structure and Function*, **2019**, 224, 1021-1033	4	12
42	An empirical, 21st century evaluation of phrenology. *Cortex*, **2018**, 106, 26-35	3.8	11
41	Joint modelling of diffusion MRI and microscopy. *NeuroImage*, **2019**, 201, 116014	7.9	10
40	A brain network processing the age of faces. *PLoS ONE*, **2012**, 7, e49451	3.7	10
39	FSL-MRS: An end-to-end spectroscopy analysis package. *Magnetic Resonance in Medicine*, **2021**, 85, 2950-2964	4.4	9
38	Modelling white matter in gyral blades as a continuous vector field. *NeuroImage*, **2021**, 227, 117693	7.9	8

37	Non-negative data-driven mapping of structural connections with application to the neonatal brain. *NeuroImage*, **2020**, 222, 117273	7.9	7
36	Modeling an equivalent b-value in diffusion-weighted steady-state free precession. *Magnetic Resonance in Medicine*, **2020**, 84, 873-884	4.4	7
35	Bayesian Optimisation of Large-Scale Biophysical Networks. *NeuroImage*, **2018**, 174, 219-236	7.9	7
34	A gyral coordinate system predictive of fibre orientations. *NeuroImage*, **2018**, 176, 417-430	7.9	7
33	MR Diffusion Tractography **2014**, 429-451		7
32	Image Processing and Quality Control for the first 10,000 Brain Imaging Datasets from UK Biobank		6
31	Cross-species cortical alignment identifies different types of neuroanatomical reorganization in the temporal lobe of higher primates		5
30	Feasibility of Diffusion Tensor and Morphologic Imaging of Peripheral Nerves at Ultra-High Field Strength. *Investigative Radiology*, **2018**, 53, 705-713	10.1	5
29	Human decisions about when to act originate within a basal forebrain-nigral circuit. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 11799-11810	11.5	4
28	Functional and diffusion MRI reveal the neurophysiological basis of neonatesSnoxious-stimulus evoked brain activity. *Nature Communications*, **2021**, 12, 2744	17.4	4
27	Choice of reference measurements affects quantification of long diffusion time behaviour using stimulated echoes. *Magnetic Resonance in Medicine*, **2018**, 79, 952-959	4.4	3
26	XTRACT - Standardised protocols for automated tractography in the human and macaque brain		3
25	Use of multi-flip angle measurements to account for transmit inhomogeneity and non-Gaussian diffusion in DW-SSFP. *NeuroImage*, **2020**, 220, 117113	7.9	3
24	Estimation of Li-Ion Degradation Test Sample Sizes Required to Understand Cell-to-Cell Variability**. *Batteries and Supercaps*,	5.6	3
23	Tract-Based Spatial Statistics and Other Approaches for Cross-Subject Comparison of Local Diffusion MRI Parameters **2015**, 437-464		2
22	Transient spectral events in resting state MEG predict individual task responses. *NeuroImage*, **2020**, 215, 116818	7.9	2
21	Cross-Subject Comparison of Local Diffusion MRI Parameters **2014**, 209-239		2
20	Imaging Structure and Function **2014**, 585-605		2

19	Joint modelling of diffusion MRI and microscopy		2
18	Towards HCP-Style Macaque Connectomes: 24-Channel 3T Multi-Array Coil, MRI Sequences and Preprocessing		2
17	The Digital Brain Bank, an open access platform for post-mortem datasets		2
16	Imaging Structure and Function **2009**, 461-480		1
15	Clinical applications of magnetic resonance imaging based functional and structural connectivity. *NeuroImage*, **2021**, 244, 118649	7.9	1
14	Whole brain comparative anatomy using connectivity blueprints		1
13	Using GPUs to accelerate computational diffusion MRI: From microstructure estimation to tractography and connectomes		1
12	An empirical, 21st century evaluation of phrenology		1
11	Use of multi-flip angle measurements to account for transmit inhomogeneity and non-Gaussian diffusion in DW-SSFP		1
10	Quantifying myelin in crossing fibers using diffusion-prepared phase imaging: Theory and simulations. *Magnetic Resonance in Medicine*, **2021**, 86, 2618-2634	4.4	1
9	Hierarchical modelling of functional brain networks in population and individuals from big fMRI data		1
8	Accurate predictions of individual differences in task-evoked brain activity from resting-state fMRI using a sparse ensemble learner		1
7	The Digital Brain Bank, an open access platform for post-mortem datasets.. *ELife*, **2022**, 11,	8.9	1
6	Hierarchical modelling of functional brain networks in population and individuals from big fMRI data. *NeuroImage*, **2021**, 243, 118513	7.9	0
5	Auditory and pain processing is severely disrupted at slow wave activity saturation under general anaesthesia. *British Journal of Anaesthesia*, **2019**, 123, e514	5.4	
4	219 A CLINICAL AND IMAGING PROTOCOL FOR THE DETAILED EVALUATION OF CHRONIC NEUROPATHIC PAIN IN MULTIPLE SCLEROSIS. *European Journal of Pain*, **2009**, 13, S71a	3.7	
3	486 CHRONIC NEUROPATHIC PAIN IN MULTIPLE SCLEROSIS: CLINICAL AND IMAGING FINDINGS, WITH A SPECIAL FOCUS ON THE THALAMUS. *European Journal of Pain*, **2009**, 13, S144b	3.7	
2	Integration of Measures of Functional and Structural MRI. *Neuromethods*, **2009**, 785-809	0.4	

List of Publications

1	A Machine Learning Approach to Diffusion MRI Partial Volume Estimation. *Lecture Notes in Computer Science*, **2018**, 42-51	0.9