Carlo Pierpaoli

List of Publications by Year
in descending order

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113 papers	22,636 citations	41323 49 h-index	30058 103 g-index
118 all docs	118 docs citations	118 times ranked	16603 citing authors

#	Article	IF	Citations
1	Microstructural and Physiological Features of Tissues Elucidated by Quantitative-Diffusion-Tensor MRI. Journal of Magnetic Resonance Series B, 1996, 111, 209-219.	1.6	3,801
2	In vivo fiber tractography using DT-MRI data. Magnetic Resonance in Medicine, 2000, 44, 625-632.	1.9	2,778
3	Diffusion tensor MR imaging of the human brain.. Radiology, 1996, 201, 637-648.	3.6	2,477
4	Toward a quantitative assessment of diffusion anisotropy. Magnetic Resonance in Medicine, 1996, 36, 893-906.	1.9	2,219
5	Water Diffusion Changes in Wallerian Degeneration and Their Dependence on White Matter Architecture. NeuroImage, 2001, 13, 1174-1185.	2.1	839
6	Color schemes to represent the orientation of anisotropic tissues from diffusion tensor data: Application to white matter fiber tract mapping in the human brain. Magnetic Resonance in Medicine, 1999, 42, 526-540.	1.9	704
7	Anatomical accuracy of brain connections derived from diffusion MRI tractography is inherently limited. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 16574-16579.	3.3	657
8	RESTORE: Robust estimation of tensors by outlier rejection. Magnetic Resonance in Medicine, 2005, 53, 1088-1095.	1.9	573
9	Spatial transformations of diffusion tensor magnetic resonance images. IEEE Transactions on Medical Imaging, 2001, 20, 1131-1139.	5.4	559
10	A simplified method to measure the diffusion tensor from seven MR images. Magnetic Resonance in Medicine, 1998, 39, 928-934.	1.9	558
11	Image processing and analysis methods for the Adolescent Brain Cognitive Development Study. NeuroImage, 2019, 202, 116091.	2.1	539
12	Gleaning multicomponent T₁ and T₂ information from steadyâ€state imaging data. Magnetic Resonance in Medicine, 2008, 60, 1372-1387.	1.9	413
13	Superficial white matter fiber systems impede detection of long-range cortical connections in diffusion MR tractography. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E2820-8.	3.3	364
14	Microstructural and physiological features of tissues elucidated by quantitative-diffusion-tensor MRI. Journal of Magnetic Resonance, 2011, 213, 560-570.	1.2	363
15	Mean apparent propagator (MAP) MRI: A novel diffusion imaging method for mapping tissue microstructure. NeuroImage, 2013, 78, 16-32.	2.1	320
16	Characterization of and correction for eddy current artifacts in echo planar diffusion imaging. Magnetic Resonance in Medicine, 1998, 39, 801-812.	1.9	314
17	Color schemes to represent the orientation of anisotropic tissues from diffusion tensor data: application to white matter fiber tract mapping in the human brain. Magnetic Resonance in Medicine, 2000, 43, 921-921.	1.9	224
18	Age effects on diffusion tensor magnetic resonance imaging tractography measures of frontal cortex connections in schizophrenia. Human Brain Mapping, 2006, 27, 230-238.	1.9	224

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19	Histopathologic correlates of abnormal water diffusion in cerebral ischemia: diffusion-weighted MR imaging and light and electron microscopic study.. Radiology, 1993, 189, 439-448.	3.6	220
20	A unifying theoretical and algorithmic framework for least squares methods of estimation in diffusion tensor imaging. Journal of Magnetic Resonance, 2006, 182, 115-125.	1.2	216
21	Limits to anatomical accuracy of diffusion tractography using modern approaches. NeuroImage, 2019, 185, 1-11.	2.1	200
22	Effects of image distortions originating from susceptibility variations and concomitant fields on diffusion MRI tractography results. NeuroImage, 2012, 61, 275-288.	2.1	195
23	Visualizing and characterizing white matter fiber structure and architecture in the human pyramidal tract using diffusion tensor MRI. Magnetic Resonance Imaging, 1999, 17, 1121-1133.	1.0	190
24	The DTI Challenge: Toward Standardized Evaluation of Diffusion Tensor Imaging Tractography for Neurosurgery. Journal of Neuroimaging, 2015, 25, 875-882.	1.0	147
25	DR-BUDDI (Diffeomorphic Registration for Blip-Up blip-Down Diffusion Imaging) method for correcting echo planar imaging distortions. NeuroImage, 2015, 106, 284-299.	2.1	144
26	Brain parenchyma apparent diffusion coefficient alterations associated with experimental complex partial status epilepticus. Magnetic Resonance Imaging, 1994, 12, 865-871.	1.0	135
27	Confidence mapping in diffusion tensor magnetic resonance imaging tractography using a bootstrap approach. Magnetic Resonance in Medicine, 2005, 53, 1143-1149.	1.9	133
28	Comparative MR Imaging Study of Brain Maturation in Kittens with T1, T2, and the Trace of the Diffusion Tensor. Radiology, 1999, 210, 133-142.	3.6	132
29	PASTA: Pointwise assessment of streamline tractography attributes. Magnetic Resonance in Medicine, 2005, 53, 1462-1467.	1.9	113
30	High Temporal Resolution Diffusion MRI of Global Cerebral Ischemia and Reperfusion. Journal of Cerebral Blood Flow and Metabolism, 1996, 16, 892-905.	2.4	110
31	Frequency dependence of MR relaxation times II. Iron oxides. Journal of Magnetic Resonance Imaging, 1993, 3, 641-648.	1.9	106
32	Clinical feasibility of using mean apparent propagator (MAP) MRI to characterize brain tissue microstructure. NeuroImage, 2016, 127, 422-434.	2.1	101
33	Neuronal-Specific TUBB3 Is Not Required for Normal Neuronal Function but Is Essential for Timely Axon Regeneration. Cell Reports, 2018, 24, 1865-1879.e9.	2.9	101
34	Comparison of EPI Distortion Correction Methods in Diffusion Tensor MRI Using a Novel Framework. Lecture Notes in Computer Science, 2008, 11, 321-329.	1.0	97
35	Informed RESTORE: A method for robust estimation of diffusion tensor from low redundancy datasets in the presence of physiological noise artifacts. Magnetic Resonance in Medicine, 2012, 68, 1654-1663.	1.9	96
36	Impact of time-of-day on brain morphometric measures derived from T1-weighted magnetic resonance imaging. NeuroImage, 2016, 133, 41-52.	2.1	95

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37	Diffusion MRI and the detection of alterations following traumatic brain injury. Journal of Neuroscience Research, 2018, 96, 612-625.	1.3	85
38	Diffusion Tensor Imaging in Young Children with Autism: Biological Effects and Potential Confounds. Biological Psychiatry, 2012, 72, 1043-1051.	0.7	82
39	T₂ relaxometry of normal pediatric brain development. Journal of Magnetic Resonance Imaging, 2009, 29, 258-267.	1.9	76
40	Genetic contributions to white matter architecture revealed by diffusion tensor imaging in Williams syndrome. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 15117-15122.	3.3	74
41	Dependence on diffusion time of apparent diffusion tensor of ex vivo calf tongue and heart. Magnetic Resonance in Medicine, 2005, 54, 1387-1396.	1.9	73
42	A Diffusion Tensor Magnetic Resonance Imaging Study of Frontal Cortex Connections in Very-Late-Onset Schizophrenia-Like Psychosis. American Journal of Geriatric Psychiatry, 2005, 13, 1092-1099.	0.6	71
43	Benzodiazepine receptors and diazepam binding inhibitor: A possible link between stress, anxiety and the immune system. Psychoneuroendocrinology, 1993, 18, 3-22.	1.3	70
44	Regional distribution of measurement error in diffusion tensor imaging. Psychiatry Research - Neuroimaging, 2006, 147, 69-78.	0.9	68
45	Analysis of the effects of noise, DWI sampling, and value of assumed parameters in diffusion MRI models. Magnetic Resonance in Medicine, 2017, 78, 1767-1780.	1.9	63
46	Linear leastâ€squares method for unbiased estimation of T₁ from SPGR signals. Magnetic Resonance in Medicine, 2008, 60, 496-501.	1.9	58
47	Brain connections derived from diffusion MRI tractography can be highly anatomically accurateâ€”if we know where white matter pathways start, where they end, and where they do not go. Brain Structure and Function, 2020, 225, 2387-2402.	1.2	58
48	DR-TAMAS: Diffeomorphic Registration for Tensor Accurate Alignment of Anatomical Structures. NeuroImage, 2016, 132, 439-454.	2.1	55
49	Effects of physiological noise in population analysis of diffusion tensor MRI data. NeuroImage, 2011, 54, 1168-1177.	2.1	54
50	Diazepam binding inhibitor (DBI) increases after acute stress in rat. Neuropharmacology, 1991, 30, 1445-1452.	2.0	52
51	Probabilistic Identification and Estimation of Noise (PIESNO): A self-consistent approach and its applications in MRI. Journal of Magnetic Resonance, 2009, 199, 94-103.	1.2	52
52	Impact of time-of-day on diffusivity measures of brain tissue derived from diffusion tensor imaging. NeuroImage, 2018, 173, 25-34.	2.1	48
53	Estimating intensity variance due to noise in registered images: Applications to diffusion tensor MRI. NeuroImage, 2005, 26, 673-684.	2.1	44
54	A Diffusion Tensor Magnetic Resonance Imaging Study of Frontal Cortex Connections in Very-Late-Onset Schizophrenia-Like Psychosis. American Journal of Geriatric Psychiatry, 2005, 13, 1092-1099.	0.6	42

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55	Characterization of peripheral benzodiazepine receptors in human blood mononuclear cells. Neuropharmacology, 1990, 29, 375-378.	2.0	39
56	Variance of estimated DTI-derived parameters via first-order perturbation methods. Magnetic Resonance in Medicine, 2007, 57, 141-149.	1.9	39
57	Color schemes to represent the orientation of anisotropic tissues from diffusion tensor data: Application to white matter fiber tract mapping in the human brain. Magnetic Resonance in Medicine, 1999, 42, 526-540.	1.9	39
58	Simultaneous Measurement of Î”R2 and Î”R2* in Cat Brain during Hypoxia and Hypercapnia. NeuroImage, 1997, 6, 191-200.	2.1	38
59	Whole-Brain DTI Assessment of White Matter Damage in Children with Bilateral Cerebral Palsy: Evidence of Involvement beyond the Primary Target of the Anoxic Insult. American Journal of Neuroradiology, 2016, 37, 1347-1353.	1.2	37
60	Error Propagation Framework for Diffusion Tensor Imaging via Diffusion Tensor Representations. IEEE Transactions on Medical Imaging, 2007, 26, 1017-1034.	5.4	36
61	A framework for the analysis of phantom data in multicenter diffusion tensor imaging studies. Human Brain Mapping, 2013, 34, 2439-2454.	1.9	32
62	The diffusion tensor imaging (DTI) component of the NIH MRI study of normal brain development (PedsDTI). NeuroImage, 2016, 124, 1125-1130.	2.1	32
63	Defining an Analytic Framework to Evaluate Quantitative MRI Markers of Traumatic Axonal Injury: Preliminary Results in a Mouse Closed Head Injury Model. ENeuro, 2017, 4, ENEURO.0164-17.2017.	0.9	32
64	Artifacts in Diffusion MRI. , 2010, , 303-318.		32
65	Quantitative Brain MRI. Topics in Magnetic Resonance Imaging, 2010, 21, 63.	0.7	31
66	Diffusion MRI properties of the human uncinate fasciculus correlate with the ability to learn visual associations. Cortex, 2015, 72, 65-78.	1.1	31
67	Evaluating corrections for Eddyâ€currents and other EPI distortions in diffusion MRI: methodology and a dataset for benchmarking. Magnetic Resonance in Medicine, 2019, 81, 2774-2787.	1.9	31
68	The Future for Diffusion Tensor Imaging in Neuropsychiatry. Journal of Neuropsychiatry and Clinical Neurosciences, 2002, 14, 1-5.	0.9	30
69	Population based MRI and DTI templates of the adult ferret brain and tools for voxelwise analysis. NeuroImage, 2017, 152, 575-589.	2.1	30
70	Acute noise stress in rats increases the levels of diazepam binding inhibitor (DBI) in hippocampus and adrenal gland. Psychopharmacology, 1991, 103, 339-342.	1.5	29
71	Establishing the ferret as a gyrencephalic animal model of traumatic brain injury: Optimization of controlled cortical impact procedures. Journal of Neuroscience Methods, 2017, 285, 82-96.	1.3	29
72	Diffusionâ€weighted radial fast spinâ€echo for highâ€resolution diffusion tensor imaging at 3T. Magnetic Resonance in Medicine, 2008, 60, 270-276.	1.9	27

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73	The Elliptical Cone of Uncertainty and Its Normalized Measures in Diffusion Tensor Imaging. IEEE Transactions on Medical Imaging, 2008, 27, 834-846.	5.4	26
74	Diffusion and Perfusion MRI in Epilepsy. Epilepsia, 2002, 43, 69-77.	2.6	23
75	The spectrum of brainstem malformations associated to mutations of the tubulin genes family: MRI and DTI analysis. European Radiology, 2019, 29, 770-782.	2.3	22
76	In vivo fiber tractography using DT-MRI data. , 2000, 44, 625.		21
77	The phenotypic landscape of a Tbc1d24 mutant mouse includes convulsive seizures resembling human early infantile epileptic encephalopathy. Human Molecular Genetics, 2019, 28, 1530-1547.	1.4	20
78	Effect of anticonvulsant drugs on peripheral benzodiazepine receptors of human lymphocytes. Neuropharmacology, 1995, 34, 427-431.	2.0	18
79	In vivo diffusion tensor imaging of the human optic chiasm at sub-millimeter resolution. NeuroImage, 2009, 47, 1244-1251.	2.1	18
80	Robust fat suppression at 3T in highâ€resolution diffusionâ€weighted singleâ€shot echoâ€planar imaging of human brain. Magnetic Resonance in Medicine, 2011, 66, 1658-1665.	1.9	18
81	Progression of histopathological and behavioral abnormalities following mild traumatic brain injury in the male ferret. Journal of Neuroscience Research, 2018, 96, 556-572.	1.3	18
82	Analysis of the contribution of experimental bias, experimental noise, and inter-subject biological variability on the assessment of developmental trajectories in diffusion MRI studies of the brain. NeuroImage, 2015, 109, 480-492.	2.1	16
83	Direct and specific assessment of axonal injury and spinal cord microenvironments using diffusion correlation imaging. NeuroImage, 2020, 221, 117195.	2.1	16
84	Using double pulsed-field gradient MRI to study tissue microstructure in traumatic brain injury (TBI). Microporous and Mesoporous Materials, 2018, 269, 156-159.	2.2	15
85	Detection and Distinction of Mild Brain Injury Effects in a Ferret Model Using Diffusion Tensor MRI (DTI) and DTI-Driven Tensor-Based Morphometry (D-TBM). Frontiers in Neuroscience, 2018, 12, 573.	1.4	15
86	An automatic method for estimating noise-induced signal variance in magnitude-reconstructed magnetic resonance images. , 2005, , .		13
87	Hypoplasia of cerebellar afferent networks in Down syndrome revealed by DTI-driven tensor based morphometry. Scientific Reports, 2020, 10, 5447.	1.6	13
88	Automatic Deformable Diffusion Tensor Registration for Fiber Population Analysis. Lecture Notes in Computer Science, 2008, 11, 1014-1022.	1.0	13
89	Peripheral benzodiazepine receptors and glucose metabolism in human gliomas. Journal of Neuro-Oncology, 1994, 22, 15-22.	1.4	12
90	Blue blood or black blood: R1 effects in gradient-echo echo-planar functional neuroimaging. Magnetic Resonance Imaging, 1995, 13, 369-378.	1.0	12

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91	Inferring Structural and Architectural Features of Brain Tissue from DT-MRI Measurements. CNS Spectrums, 2002, 7, 510-515.	0.7	12
92	Diffusion Tensor Histogram Analysis of Pediatric Diffuse Intrinsic Pontine Glioma. BioMed Research International, 2014, 2014, 1-9.	0.9	12
93	Tensorâ€based morphometry using scalar and directional information of diffusion tensor MRI data (DTBM): Application to hereditary spastic paraplegia. Human Brain Mapping, 2018, 39, 4643-4651.	1.9	12
94	The effect of Zika virus infection in the ferret. Journal of Comparative Neurology, 2019, 527, 1706-1719.	0.9	10
95	Empirical field mapping for gradient nonlinearity correction of multi-site diffusion weighted MRI. Magnetic Resonance Imaging, 2021, 76, 69-78.	1.0	10
96	Brain phenotyping in Moebius syndrome and other congenital facial weakness disorders by diffusion MRI morphometry. Brain Communications, 2020, 2, fcaa014.	1.5	9
97	DR-BUDDI: Diffeomorphic Registration for Blip Up-Down Diffusion Imaging. Lecture Notes in Computer Science, 2014, 17, 218-226.	1.0	9
98	Mapping gradient nonlinearity and miscalibration using diffusionâ€weighted MR images of a uniform isotropic phantom. Magnetic Resonance in Medicine, 2021, 86, 3259-3273.	1.9	8
99	Phantom-based field maps for gradient nonlinearity correction in diffusion imaging. , 2018, 10573, .		8
100	Threeâ€dimensional mapping of lingual myoarchitecture by diffusion tensor MRI. NMR in Biomedicine, 2008, 21, 479-488.	1.6	7
101	Investigation of vibrationâ€induced artifact in clinical diffusionâ€weighted imaging of pediatric subjects. Human Brain Mapping, 2015, 36, 4745-4757.	1.9	6
102	Harmonization of methods to facilitate reproducibility in medical data processing: Applications to diffusion tensor magnetic resonance imaging. , 2016, , .		6
103	Characterization and correlation of signal drift in diffusion weighted MRI. Magnetic Resonance Imaging, 2019, 57, 133-142.	1.0	6
104	Improved reproducibility of diffusion MRI of the human brain with a fourâ€way blipâ€up and down phaseâ€encoding acquisition approach. Magnetic Resonance in Medicine, 2021, 85, 2696-2708.	1.9	5
105	Erratum to "Error propagation framework for diffusion tensor imaging via diffusion tensor representations". IEEE Transactions on Medical Imaging, 2007, 26, 1424-1424.	5.4	3
106	Tract Orientation and Angular Dispersion Deviation Indicator (TOADDI): A framework for single-subject analysis in diffusion tensor imaging. NeuroImage, 2016, 126, 151-163.	2.1	3
107	Investigation of the effect of dietary intake of omegaâ€3 polyunsaturated fatty acids on traumaâ€induced white matter injury with quantitative diffusion MRI in mice. Journal of Neuroscience Research, 2020, 98, 2232-2244.	1.3	3
108	Translationally Relevant Magnetic Resonance Imaging Markers in a Ferret Model of Closed Head Injury. Frontiers in Neuroscience, 2021, 15, 779533.	1.4	2

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109	Estimating intensity variance due to noise in registered images. , 2005, , .		1
110	A new linear least squares method for T1 estimation from SPGR signals with multiple TRs. , 2009, , .		0
111	The Elusive Goal of Obtaining Quantitative MRI Data That do not Need Inter-Site Harmonization A-Posteriori: Can We Achieve It?. Biological Psychiatry, 2020, 87, S55.	0.7	0
112	Finding the baby in the bath water â€“ evidence for training-specific changes in MRI measures of brain structure and function. Journal of Vision, 2018, 18, 760.	0.1	0
113	Consideration of cerebrospinal fluid intensity variation in diffusion weighted MRI. , 2019, 10948, .		0