J Donald Tournier

List of Publications by Year
in descending order

101 papers	18,229 citations	71102 41 h-index	37204 96 g-index
113 all docs	113 docs citations	113 times ranked	10492 citing authors

#	Article	IF	Citations
1	Robust determination of the fibre orientation distribution in diffusion MRI: Non-negativity constrained super-resolved spherical deconvolution. NeuroImage, 2007, 35, 1459-1472.	4.2	1,860
2	MRtrix3: A fast, flexible and open software framework for medical image processing and visualisation. NeuroImage, 2019, 202, 116137.	4.2	1,555
3	Direct estimation of the fiber orientation density function from diffusion-weighted MRI data using spherical deconvolution. NeuroImage, 2004, 23, 1176-1185.	4.2	1,466
4	MRtrix: Diffusion tractography in crossing fiber regions. International Journal of Imaging Systems and Technology, 2012, 22, 53-66.	4.1	1,191
5	Multi-tissue constrained spherical deconvolution for improved analysis of multi-shell diffusion MRI data. NeuroImage, 2014, 103, 411-426.	4.2	1,063
6	Anatomically-constrained tractography: Improved diffusion MRI streamlines tractography through effective use of anatomical information. NeuroImage, 2012, 62, 1924-1938.	4.2	897
7	Investigating the prevalence of complex fiber configurations in white matter tissue with diffusion magnetic resonance imaging. Human Brain Mapping, 2013, 34, 2747-2766.	3.6	887
8	Diffusion tensor imaging and beyond. Magnetic Resonance in Medicine, 2011, 65, 1532-1556.	3.0	771
9	SIFT: Spherical-deconvolution informed filtering of tractograms. NeuroImage, 2013, 67, 298-312.	4.2	573
10	Resolving crossing fibres using constrained spherical deconvolution: Validation using diffusion-weighted imaging phantom data. NeuroImage, 2008, 42, 617-625.	4.2	524
11	SIFT2: Enabling dense quantitative assessment of brain white matter connectivity using streamlines tractography. NeuroImage, 2015, 119, 338-351.	4.2	506
12	Apparent Fibre Density: A novel measure for the analysis of diffusion-weighted magnetic resonance images. NeuroImage, 2012, 59, 3976-3994.	4.2	491
13	Investigating white matter fibre density and morphology using fixel-based analysis. NeuroImage, 2017, 144, 58-73.	4.2	437
14	White matter fiber tractography: why we need to move beyond DTI. Journal of Neurosurgery, 2013, 118, 1367-1377.	1.6	386
15	Track-density imaging (TDI): Super-resolution white matter imaging using whole-brain track-density mapping. NeuroImage, 2010, 53, 1233-1243.	4.2	361
16	Determination of the appropriate b value and number of gradient directions for highâ€angularâ€resolution diffusionâ€weighted imaging. NMR in Biomedicine, 2013, 26, 1775-1786.	2.8	346
17	Probabilistic fiber tracking using the residual bootstrap with constrained spherical deconvolution. Human Brain Mapping, 2011, 32, 461-479.	3.6	335
18	The developing human connectome project: A minimal processing pipeline for neonatal cortical surface reconstruction. NeuroImage, 2018, 173, 88-112.	4.2	315

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19	Connectivity-based fixel enhancement: Whole-brain statistical analysis of diffusion MRI measures in the presence of crossing fibres. NeuroImage, 2015, 117, 40-55.	4.2	276
20	Symmetric diffeomorphic registration of fibre orientation distributions. NeuroImage, 2011, 56, 1171-1180.	4.2	229
21	Fibre-specific white matter reductions in Alzheimerâ€™s disease and mild cognitive impairment. Brain, 2018, 141, 888-902.	7.6	226
22	The effects of SIFT on the reproducibility and biological accuracy of the structural connectome. NeuroImage, 2015, 104, 253-265.	4.2	213
23	Early development of structural networks and the impact of prematurity on brain connectivity. NeuroImage, 2017, 149, 379-392.	4.2	187
24	Contralateral cerebello-thalamo-cortical pathways with prominent involvement of associative areas in humans in vivo. Brain Structure and Function, 2015, 220, 3369-3384.	2.3	154
25	Contralateral cortico-ponto-cerebellar pathways reconstruction in humans in vivo: implications for reciprocal cerebro-cerebellar structural connectivity in motor and non-motor areas. Scientific Reports, 2017, 7, 12841.	3.3	152
26	Automated processing pipeline for neonatal diffusion MRI in the developing Human Connectome Project. NeuroImage, 2019, 185, 750-763.	4.2	127
27	Modelling white matter with spherical deconvolution: How and why?. NMR in Biomedicine, 2019, 32, e3945.	2.8	127
28	Super-resolution track-density imaging studies of mouse brain: Comparison to histology. NeuroImage, 2012, 59, 286-296.	4.2	105
29	Limitations and requirements of diffusion tensor fiber tracking: An assessment using simulations. Magnetic Resonance in Medicine, 2002, 47, 701-708.	3.0	103
30	Reorientation of fiber orientation distributions using apodized point spread functions. Magnetic Resonance in Medicine, 2012, 67, 844-855.	3.0	103
31	Interhemispheric temporal lobe connectivity predicts language impairment in adolescents born preterm. Brain, 2012, 135, 3781-3798.	7.6	100
32	Track density imaging (TDI): Validation of super resolution property. NeuroImage, 2011, 56, 1259-1266.	4.2	92
33	Identification and interpretation of microstructural abnormalities in motor pathways in adolescents born preterm. NeuroImage, 2014, 87, 209-219.	4.2	92
34	Quantification of the shape of fiber tracts. Magnetic Resonance in Medicine, 2006, 55, 894-903.	3.0	82
35	A generalised framework for super-resolution track-weighted imaging. NeuroImage, 2012, 59, 2494-2503.	4.2	77
36	A software tool to generate simulated white matter structures for the assessment of fibre-tracking algorithms. NeuroImage, 2009, 47, 1288-1300.	4.2	75

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37	INCITE: A randomised trial comparing constraint induced movement therapy and bimanual training in children with congenital hemiplegia. BMC Neurology, 2010, 10, 4.	1.8	73
38	Timeâ€efficient and flexible design of optimized multishell HARDI diffusion. Magnetic Resonance in Medicine, 2018, 79, 1276-1292.	3.0	72
39	Diffusion-weighted magnetic resonance imaging fibre tracking using a front evolution algorithm. NeuroImage, 2003, 20, 276-288.	4.2	64
40	Super-resolution track-density imaging of thalamic substructures: Comparison with high-resolution anatomical magnetic resonance imaging at 7.0T. Human Brain Mapping, 2013, 34, 2538-2548.	3.6	61
41	Development of human white matter pathways in utero over the second and third trimester. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	55
42	Cross-scanner and cross-protocol multi-shell diffusion MRI data harmonization: Algorithms and results. NeuroImage, 2020, 221, 117128.	4.2	54
43	Heterogeneity in Brain Microstructural Development Following Preterm Birth. Cerebral Cortex, 2020, 30, 4800-4810.	2.9	54
44	Diffusion MRI in the brain â€“ Theory and concepts. Progress in Nuclear Magnetic Resonance Spectroscopy, 2019, 112-113, 1-16.	7.5	51
45	Voxel-wise comparisons of cellular microstructure and diffusion-MRI in mouse hippocampus using 3D Bridging of Optically-clear histology with Neuroimaging Data (3D-BOND). Scientific Reports, 2018, 8, 4011.	3.3	47
46	A framework for multi-component analysis of diffusion MRI data over the neonatal period. NeuroImage, 2019, 186, 321-337.	4.2	47
47	Inherent and unpredictable bias in multi-component DESPOT myelin water fraction estimation. NeuroImage, 2019, 195, 78-88.	4.2	45
48	Quantification of voxel-wise total fibre density: Investigating the problems associated with track-count mapping. NeuroImage, 2015, 117, 284-293.	4.2	44
49	Scattered slice SHARD reconstruction for motion correction in multi-shell diffusion MRI. NeuroImage, 2021, 225, 117437.	4.2	44
50	The Developing Human Connectome Project Neonatal Data Release. Frontiers in Neuroscience, 2022, 16, .	2.8	42
51	Evaluation of the accuracy and angular resolution of q-ball imaging. NeuroImage, 2008, 42, 262-271.	4.2	41
52	Track-weighted functional connectivity (TW-FC): A tool for characterizing the structuralâ€“functional connections in the brain. NeuroImage, 2013, 70, 199-210.	4.2	40
53	Language ability in preterm children is associated with arcuate fasciculi microstructure at term. Human Brain Mapping, 2017, 38, 3836-3847.	3.6	40
54	Preterm birth alters the development of cortical microstructure and morphology at term-equivalent age. NeuroImage, 2021, 243, 118488.	4.2	40

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55	Quantification of track-weighted imaging (TWI): Characterisation of within-subject reproducibility and between-subject variability. NeuroImage, 2014, 87, 18-31.	4.2	36
56	Speech and Oromotor Outcome in Adolescents Born Preterm: Relationship to Motor Tract Integrity. Journal of Pediatrics, 2012, 160, 402-408.e1.	1.8	35
57	Alterations in the optic radiations of very preterm childrenâ€"Perinatal predictors and relationships with visual outcomes. NeuroImage: Clinical, 2014, 4, 145-153.	2.7	35
58	A longitudinal fixel-based analysis of white matter alterations in patients with Parkinson's disease. NeuroImage: Clinical, 2019, 24, 102098.	2.7	35
59	Predicting hand function after hemidisconnection. Brain, 2016, 139, 2456-2468.	7.6	34
60	Tractâ€specific atrophy in focal epilepsy: Disease, genetics, or seizures?. Annals of Neurology, 2017, 81, 240-250.	5.3	34
61	The role of wholeâ€brain diffusion MRI as a tool for studying human in vivo cortical segregation based on a measure of neurite density. Magnetic Resonance in Medicine, 2018, 79, 2738-2744.	3.0	33
62	Corticobulbar tract changes as predictors of dysarthria in childhood brain injury. Neurology, 2013, 80, 926-932.	1.1	32
63	Beyond the lesion: neuroimaging foundations for post-stroke recovery. Future Neurology, 2013, 8, 507-527.	0.5	29
64	Fixel-based analysis of the preterm brain: Disentangling bundle-specific white matter microstructural and macrostructural changes in relation to clinical risk factors. NeuroImage: Clinical, 2019, 23, 101820.	2.7	27
65	Fetal whole heart blood flow imaging using 4D cine MRI. Nature Communications, 2020, 11, 4992.	12.8	26
66	A kâ€space sharing 3D GRASE pseudocontinuous ASL method for wholeâ€brain restingâ€state functional connectivity. International Journal of Imaging Systems and Technology, 2012, 22, 37-43.	4.1	25
67	Pediatric traumatic brain injury: Language outcomes and their relationship to the arcuate fasciculus. Brain and Language, 2013, 127, 388-398.	1.6	25
68	Periventricular Nodular Heterotopia: Detection of Abnormal Microanatomic Fiber Structures with Whole-Brain Diffusion MR Imaging Tractography. Radiology, 2016, 281, 896-906.	7.3	23
69	The effect of finite diffusion gradient pulse duration on fibre orientation estimation in diffusion MRI. NeuroImage, 2010, 51, 743-751.	4.2	22
70	Cerebello-cerebral connectivity in the developing brain. Brain Structure and Function, 2017, 222, 1625-1634.	2.3	22
71	Slice-level diffusion encoding for motion and distortion correction. Medical Image Analysis, 2018, 48, 214-229.	11.6	22
72	Cortical abnormalities and language function in young patients with basal ganglia stroke. NeuroImage, 2007, 36, 431-440.	4.2	21

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73	Higher Order Spherical Harmonics Reconstruction of Fetal Diffusion MRI With Intensity Correction. IEEE Transactions on Medical Imaging, 2020, 39, 1104-1113.	8.9	20
74	Learning Compact <inline-formula> <tex-math notation="LaTeX">${q}$ </tex-math> </inline-formula>-Space Representations for Multi-Shell Diffusion-Weighted MRI. IEEE Transactions on Medical Imaging, 2019, 38, 834-843.	8.9	19
75	A dataâ€driven approach to optimising the encoding for multiâ€shell diffusion MRI with application to neonatal imaging. NMR in Biomedicine, 2020, 33, e4348.	2.8	18
76	A variable flip angle-based method for reducing blurring in 3D GRASE ASL. Physics in Medicine and Biology, 2014, 59, 5559-5573.	3.0	17
77	Advanced Fiber Tracking in Early Acquired Brain Injury Causing Cerebral Palsy. American Journal of Neuroradiology, 2015, 36, 181-187.	2.4	17
78	Assessment of radial glia in the frontal lobe of fetuses with Down syndrome. Acta Neuropathologica Communications, 2020, 8, 141.	5.2	17
79	Mapping somatosensory connectivity in adult mice using diffusion MRI tractography and super-resolution track density imaging. NeuroImage, 2014, 102, 381-392.	4.2	15
80	Reduced structural connectivity in cortico-striatal-thalamic network in neonates with congenital heart disease. NeuroImage: Clinical, 2020, 28, 102423.	2.7	14
81	The Biophysics of Crossing Fibers. , 2010, , 465-482.		13
82	Reconstructing contralateral fiber tracts: methodological aspect of cerebello-thalamo-cortical pathway reconstruction. Functional Neurology, 2016, 31, 229-238.	1.3	11
83	Predicting age and clinical risk from the neonatal connectome. NeuroImage, 2022, 257, 119319.	4.2	11
84	Diffusion magnetic resonance imaging assessment of regional white matter maturation in preterm neonates. Neuroradiology, 2021, 63, 573-583.	2.2	10
85	Introduction to Diffusion Tensor Imaging. , 2016, , 7-19.		9
86	On the need for bundle-specific microstructure kernels in diffusion MRI. NeuroImage, 2020, 208, 116460.	4.2	9
87	Multi-Channel 4D Parametrized Atlas of Macro- and Microstructural Neonatal Brain Development. Frontiers in Neuroscience, 2021, 15, 661704.	2.8	8
88	Motor Abilities in Adolescents Born Preterm Are Associated With Microstructure of the Corpus Callosum. Frontiers in Neurology, 2019, 10, 367.	2.4	7
89	An MR fingerprinting approach for quantitative inhomogeneous magnetization transfer imaging. Magnetic Resonance in Medicine, 2022, 87, 220-235.	3.0	7
90	Fourier Tract Sampling (FouTS): A framework for improved inference of white matter tracts from diffusion MRI by explicitly modelling tract volume. NeuroImage, 2015, 120, 412-427.	4.2	6

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91	Estimation of uncertainty in constrained spherical deconvolution fiber orientations. , 2008, , .		5
92	High Angular Resolution Diffusion Imaging. , 2016, , 383-406.		5
93	Brain network hubs and cognitive performance of survivors of childhood infratentorial tumors. Radiotherapy and Oncology, 2021, 161, 118-125.	0.6	5
94	The developing brain structural and functional connectome fingerprint. Developmental Cognitive Neuroscience, 2022, 55, 101117.	4.0	5
95	New anatomic MRI techniques. Epilepsia, 2010, 51, 80-82.	5.1	4
96	Reply: Cortical tau pathology: a major player in fibre-specific white matter reductions in Alzheimer's disease?. Brain, 2018, 141, e45-e45.	7.6	4
97	dStripe: Slice artefact correction in diffusion MRI via constrained neural network. Medical Image Analysis, 2021, 74, 102255.	11.6	3
98	Multi-channel Registration for Diffusion MRI: Longitudinal Analysis for the Neonatal Brain. Lecture Notes in Computer Science, 2020, , 111-121.	1.3	3
99	Developing a Framework for Studying Brain Networks in Neonatal Hypoxic-Ischemic Encephalopathy. Communications in Computer and Information Science, 2018, , 203-216.	0.5	1
100	Fiber Tracking with DWI. , 2015, , 265-269.		0
101	Modeling Fiber Orientations Using Diffusion MRI. Advances in Magnetic Resonance Technology and Applications, 2020, 1, 509-532.	0.1	0