# Ashish Raj

List of Publications by Year
in descending order



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|---|---|---|---|
| 97 papers | 3,150 citations | 201674 27 h-index | 189892 50 g-index |
| 108 all docs | 108 docs citations | 108 times ranked | 4244 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Stability and dynamics of a spectral graph model of brain oscillations. Network Neuroscience, 2023, 7, 48-72. | 2.6 | 3 |
| 2 | Computational Models in Electroencephalography. Brain Topography, 2022, 35, 142-161. | 1.8 | 19 |
| 3 | Spectral graph theory of brain oscillationsâ€”Revisited and improved. NeuroImage, 2022, 249, 118919. | 4.2 | 22 |
| 4 | Modeling seeding and neuroanatomic spread of pathology in amyotrophic lateral sclerosis. NeuroImage, 2022, 251, 118968. | 4.2 | 5 |
| 5 | Predicting Functional Connectivity From Observed and Latent Structural Connectivity via Eigenvalue Mapping. Frontiers in Neuroscience, 2022, 16, 810111. | 2.8 | 7 |
| 6 | Matrix Inversion and Subset Selection (MISS): A pipeline for mapping of diverse cell types across the murine brain. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2111786119. | 7.1 | 5 |
| 7 | Time-varying dynamic network model for dynamic resting state functional connectivity in fMRI and MEG imaging. NeuroImage, 2022, 254, 119131. | 4.2 | 9 |
| 8 | High activity and high functional connectivity are mutually exclusive in resting state zebrafish and human brains. BMC Biology, 2022, 20, 84. | 3.8 | 2 |
| 9 | Algebraic relationship between the structural networkâ€™s Laplacian and functional networkâ€™s adjacency matrix is preserved in temporal lobe epilepsy subjects. NeuroImage, 2021, 228, 117705. | 4.2 | 10 |
| 10 | Population-based input function for TSPO quantification and kinetic modeling with [11C]-DPA-713. EJNMMI Physics, 2021, 8, 39. | 2.7 | 6 |
| 11 | Graph Models of Pathology Spread in Alzheimer's Disease: An Alternative to Conventional Graph Theoretic Analysis. Brain Connectivity, 2021, 11, 799-814. | 1.7 | 9 |
| 12 | Emergence of directional bias in tau deposition from axonal transport dynamics. PLoS Computational Biology, 2021, 17, e1009258. | 3.2 | 7 |
| 13 | Combined Model of Aggregation and Network Diffusion Recapitulates Alzheimer's Regional Tau-Positron Emission Tomography. Brain Connectivity, 2021, 11, 624-638. | 1.7 | 8 |
| 14 | Network model of pathology spread recapitulates neurodegeneration and selective vulnerability in Huntington's Disease. NeuroImage, 2021, 235, 118008. | 4.2 | 12 |
| 15 | Emergence of canonical functional networks from the structural connectome. NeuroImage, 2021, 237, 118190. | 4.2 | 15 |
| 16 | Network-constrained technique to characterize pathology progression rate in Alzheimerâ€™s disease. Brain Communications, 2021, 3, fcab144. | 3.3 | 3 |
| 17 | Macroscopic modelling of Alzheimerâ€™s disease: difficulties and challenges. Brain Multiphysics, 2021, 2, 100040. | 2.3 | 6 |
| 18 | New applications of diffusion model based prediction of pathological brain alterations: Introducing amyloidâ€tau interactions. Alzheimer's and Dementia, 2021, 17, . | 0.8 | 1 |

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|---|---|---|---|
| 19 | The effect of microglial genes on network diffusion of pathology in mouse models of tauopathy. Alzheimer's and Dementia, 2021, 17, . | 0.8 | 0 |
| 20 | Abnormal neural oscillations depicting excitatoryâ€inhibitory imbalance are distinctly associated with amyloid and tau depositions in Alzheimer's disease. Alzheimer's and Dementia, 2021, 17, . | 0.8 | 1 |
| 21 | Axonal transport dynamics explain directional bias in tau deposition.. Alzheimer's and Dementia, 2021, 17 Suppl 3, e052876. | 0.8 | 0 |
| 22 | Combining network spread with protein aggregation correctly recapitulates empirical spatio-temporal progression of Alzheimer's tau pathology.. Alzheimer's and Dementia, 2021, 17 Suppl 3, e054147. | 0.8 | 0 |
| 23 | Neural connectivity predicts spreading of alpha-synuclein pathology in fibril-injected mouse models: Involvement of retrograde and anterograde axonal propagation. Neurobiology of Disease, 2020, 134, 104623. | 4.4 | 57 |
| 24 | Molecular Imaging of Striatal Dopaminergic Neuronal Loss and the Neurovascular Unit in Parkinson Disease. Frontiers in Neuroscience, 2020, 14, 528809. | 2.8 | 13 |
| 25 | Network diffusion model enhances predictions of future tauâ€PET burden in Alzheimerâ€™s patients. Alzheimer's and Dementia, 2020, 16, e039480. | 0.8 | 0 |
| 26 | How â€˜atypicalâ€™ is the neuroimaging signature of Alzheimerâ€™s atypical variants? MRI and PET imaging of posterior cortical atrophy and logopenic variant of primary progressive aphasia. Alzheimer's and Dementia, 2020, 16, e040623. | 0.8 | 0 |
| 27 | Colocalization of atrophy and tau improves AI classification of Alzheimer phenotypical variants. Alzheimer's and Dementia, 2020, 16, e046258. | 0.8 | 1 |
| 28 | Origins of atrophy in Parkinson linked to early onset and local transcription patterns. Brain Communications, 2020, 2, fcaa065. | 3.3 | 9 |
| 29 | Spectral graph theory of brain oscillations. Human Brain Mapping, 2020, 41, 2980-2998. | 3.6 | 46 |
| 30 | Stereotaxic Diffusion Tensor Imaging White Matter Atlas for the in vivo Domestic Feline Brain. Frontiers in Neuroanatomy, 2020, 14, 1. | 1.7 | 19 |
| 31 | A dictionaryâ€based graphâ€cut algorithm for MRI reconstruction. NMR in Biomedicine, 2020, 33, e4344. | 2.8 | 0 |
| 32 | Dynamical Role of Pivotal Brain Regions in Parkinson Symptomatology Uncovered with Deep Learning. Brain Sciences, 2020, 10, 73. | 2.3 | 6 |
| 33 | Feasibility of Population-Based Input Function for Kinetic Analysis of [<sup>11</sup>C]-DPA-713. , 2020, , . | | 1 |
| 34 | Longitudinal increases in structural connectome segregation and functional connectome integration are associated with better recovery after mild TBI. Human Brain Mapping, 2019, 40, 4441-4456. | 3.6 | 39 |
| 35 | Systematic Differences Between Perceptually Relevant Image Statistics of Brain MRI and Natural Images. Frontiers in Neuroinformatics, 2019, 13, 46. | 2.5 | 2 |
| 36 | Regional transcriptional architecture of Parkinsonâ€™s disease pathogenesis and network spread. Brain, 2019, 142, 3072-3085. | 7.6 | 32 |

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|---|---|---|---|
| 37 | Slow-gamma frequencies are optimally guarded against effects of neurodegenerative diseases and traumatic brain injuries. Journal of Computational Neuroscience, 2019, 47, 1-16. | 1.0 | 4 |
| 38 | Normal diffusivity of the domestic feline brain. Journal of Comparative Neurology, 2019, 527, 1012-1023. | 1.6 | 3 |
| 39 | A method for inferring regional origins of neurodegeneration. Brain, 2018, 141, 863-876. | 7.6 | 37 |
| 40 | Regional expression of genes mediating trans-synaptic alpha-synuclein transfer predicts regional atrophy in Parkinson disease. NeuroImage: Clinical, 2018, 18, 456-466. | 2.7 | 47 |
| 41 | Preserved Structural Network Organization Mediates Pathology Spread in Alzheimerâ€™s Disease Spectrum Despite Loss of White Matter Tract Integrity. Journal of Alzheimer's Disease, 2018, 65, 747-764. | 2.6 | 21 |
| 42 | Functional brain connectivity is predictable from anatomic network's Laplacian eigen-structure. NeuroImage, 2018, 172, 728-739. | 4.2 | 114 |
| 43 | Regional vulnerability in Alzheimer's disease: The role of cellâ€autonomous and transneuronal processes. Alzheimer's and Dementia, 2018, 14, 797-810. | 0.8 | 17 |
| 44 | Mature Hippocampal Neurons Require LIS1 for Synaptic Integrity: Implications for Cognition. Biological Psychiatry, 2018, 83, 518-529. | 1.3 | 11 |
| 45 | Models of Network Spread and Network Degeneration in Brain Disorders. Biological Psychiatry: Cognitive Neuroscience and Neuroimaging, 2018, 3, 788-797. | 1.5 | 37 |
| 46 | Editorial: Network Spread Models of Neurodegenerative Diseases. Frontiers in Neurology, 2018, 9, 1159. | 2.4 | 6 |
| 47 | Age-Related Changes in Topological Degradation of White Matter Networks and Gene Expression in Chronic Schizophrenia. Brain Connectivity, 2017, 7, 574-589. | 1.7 | 8 |
| 48 | Analysis of Amyloid-Î² Pathology Spread in Mouse Models Suggests Spread Is Driven by Spatial Proximity, Not Connectivity. Frontiers in Neurology, 2017, 8, 653. | 2.4 | 20 |
| 49 | Predictive Model of Spread of Progressive Supranuclear Palsy Using Directional Network Diffusion. Frontiers in Neurology, 2017, 8, 692. | 2.4 | 36 |
| 50 | MRI Analysis of White Matter Myelin Water Content in Multiple Sclerosis: A Novel Approach Applied to Finding Correlates of Cortical Thinning. Frontiers in Neuroscience, 2017, 11, 284. | 2.8 | 14 |
| 51 | Brain network eigenmodes provide a robust and compact representation of the structural connectome in health and disease. PLoS Computational Biology, 2017, 13, e1005550. | 3.2 | 56 |
| 52 | Connectivity, not region-intrinsic properties, predicts regional vulnerability to progressive tau pathology in mouse models of disease. Acta Neuropathologica Communications, 2017, 5, 61. | 5.2 | 26 |
| 53 | Profilometry: A new statistical framework for the characterization of white matter pathways, with application to multiple sclerosis. Human Brain Mapping, 2016, 37, 989-1004. | 3.6 | 34 |
| 54 | Structural connectome disruption at baseline predicts 6-months post-stroke outcome. Human Brain Mapping, 2016, 37, 2587-2601. | 3.6 | 89 |

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|---|---|---|---|
| 55 | Feasibility and reproducibility of whole brain myelin water mapping in 4 minutes using fast acquisition with spiral trajectory and adiabatic T2prep (FAST-T2) at 3T. Magnetic Resonance in Medicine, 2016, 76, 456-465. | 3.0 | 53 |
| 56 | The Brainâ€™s Structural Connectome Mediates the Relationship between Regional Neuroimaging Biomarkers inÂAlzheimerâ€™s Disease. Journal of Alzheimer's Disease, 2016, 55, 1639-1657. | 2.6 | 18 |
| 57 | O4â€07â€02: NETWORK TRANSMISSION MODEL RECAPITULATES AMYLOID AND TAU SPREAD AND PREDICTS IMAGING FINDINGS. Alzheimer's and Dementia, 2016, 12, P347. | 0.8 | 0 |
| 58 | Network Analysis on Predicting Mean Diffusivity Change at Group Level in Temporal Lobe Epilepsy. Brain Connectivity, 2016, 6, 607-620. | 1.7 | 5 |
| 59 | Diffuse reduction of cerebral grey matter volumes in Erdheim-Chester disease. Orphanet Journal of Rare Diseases, 2016, 11, 109. | 2.7 | 19 |
| 60 | Measuring longitudinal myelin water fraction in new multiple sclerosis lesions. NeuroImage: Clinical, 2015, 9, 369-375. | 2.7 | 58 |
| 61 | Relating Cortical Atrophy in Temporal Lobe Epilepsy with Graph Diffusion-Based Network Models. PLoS Computational Biology, 2015, 11, e1004564. | 3.2 | 24 |
| 62 | Network Diffusion Model of Progression Predicts Longitudinal Patterns of Atrophy and Metabolism in Alzheimerâ€™s Disease. Cell Reports, 2015, 10, 359-369. | 6.4 | 177 |
| 63 | Exploring the brain's structural connectome: A quantitative stroke lesionâ€dysfunction mapping study. Human Brain Mapping, 2015, 36, 2147-2160. | 3.6 | 47 |
| 64 | Graph models of brain diseases. , 2015, , . | | 2 |
| 65 | Simultaneous Phase Unwrapping and Removal of Chemical Shift (SPURS) Using Graph Cuts: Application in Quantitative Susceptibility Mapping. IEEE Transactions on Medical Imaging, 2015, 34, 531-540. | 8.9 | 81 |
| 66 | Widespread white matter degeneration preceding the onset of dementia. Alzheimer's and Dementia, 2015, 11, 485. | 0.8 | 67 |
| 67 | Spatial patterns of genomeâ€wide expression profiles reflect anatomic and fiber connectivity architecture of healthy human brain. Human Brain Mapping, 2014, 35, 4204-4218. | 3.6 | 47 |
| 68 | Predicting Future Brain Tissue Loss From White Matter Connectivity Disruption in Ischemic Stroke. Stroke, 2014, 45, 717-722. | 2.0 | 44 |
| 69 | Network diffusion accurately models the relationship between structural and functional brain connectivity networks. NeuroImage, 2014, 90, 335-347. | 4.2 | 234 |
| 70 | Multi-Compartment T2 Relaxometry Using a Spatially Constrained Multi-Gaussian Model. PLoS ONE, 2014, 9, e98391. | 2.5 | 44 |
| 71 | Loss in connectivity among regions of the brain reward system in alcohol dependence. Human Brain Mapping, 2013, 34, 3129-3142. | 3.6 | 25 |
| 72 | The Network Modification (NeMo) Tool: Elucidating the Effect of White Matter Integrity Changes on Cortical and Subcortical Structural Connectivity. Brain Connectivity, 2013, 3, 451-463. | 1.7 | 95 |

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|---|---|---|---|
| 73 | Discriminative Random Field Segmentation of Lung Nodules in CT Studies. Computational and Mathematical Methods in Medicine, 2013, 2013, 1-9. | 1.3 | 0 |
| 74 | Robust Myelin Quantitative Imaging from Multi-echo T2 MRI Using Edge Preserving Spatial Priors. Lecture Notes in Computer Science, 2013, 16, 622-630. | 1.3 | 6 |
| 75 | A Pilot Study of Quantitative MRI Measurements of Ventricular Volume and Cortical Atrophy for the Differential Diagnosis of Normal Pressure Hydrocephalus. Neurology Research International, 2012, 2012, 1-6. | 1.3 | 36 |
| 76 | A Network Diffusion Model of Disease Progression in Dementia. Neuron, 2012, 73, 1204-1215. | 8.1 | 582 |
| 77 | Linking white matter integrity loss to associated cortical regions using structural connectivity information in Alzheimer's disease and fronto-temporal dementia: The Loss in Connectivity (LoCo) score. NeuroImage, 2012, 61, 1311-1323. | 4.2 | 26 |
| 78 | T<sub>2</sub>prep threeâ€dimensional spiral imaging with efficient whole brain coverage for myelin water quantification at 1.5 tesla. Magnetic Resonance in Medicine, 2012, 67, 614-621. | 3.0 | 67 |
| 79 | Bayesian algorithm using spatial priors for multiexponential T<sub>2</sub> relaxometry from multiecho spin echo MRI. Magnetic Resonance in Medicine, 2012, 68, 1536-1543. | 3.0 | 56 |
| 80 | Statistics of Weighted Brain Networks Reveal Hierarchical Organization and Gaussian Degree Distribution. PLoS ONE, 2012, 7, e35029. | 2.5 | 20 |
| 81 | Beyond the logistic growth model for nitrous oxide emission factors from agricultural soils. , 2011, , . | | 0 |
| 82 | The generation and validation of white matter connectivity importance maps. NeuroImage, 2011, 58, 109-121. | 4.2 | 35 |
| 83 | Spatial HARDI: Improved visualization of complex white matter architecture with Bayesian spatial regularization. NeuroImage, 2011, 54, 396-409. | 4.2 | 21 |
| 84 | Frequency dependent magnetization of superconductor strip. Superconductor Science and Technology, 2011, 24, 045006. | 3.5 | 18 |
| 85 | Frequency-dependent critical current and transport ac loss of superconductor strip and Roebel cable. Superconductor Science and Technology, 2011, 24, 065024. | 3.5 | 62 |
| 86 | The Wiring Economy Principle: Connectivity Determines Anatomy in the Human Brain. PLoS ONE, 2011, 6, e14832. | 2.5 | 67 |
| 87 | Current carrying capability of HTS Roebel cable. Physica C: Superconductivity and Its Applications, 2011, 471, 42-47. | 1.2 | 18 |
| 88 | A fast Edgeâ€preserving Bayesian reconstruction method for Parallel Imaging applications in cardiac MRI. Magnetic Resonance in Medicine, 2011, 65, 184-189. | 3.0 | 4 |
| 89 | Visualization and segmentation of liver tumors using dynamic contrast MRI. , 2009, 2009, 6985-9. | | 7 |
| 90 | A Bayesian Framework For Reconstruction Of Accelerated MRI Using Graph Cuts. Conference Record of the Asilomar Conference on Signals, Systems and Computers, 2007, , . | 0.0 | 0 |

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|---|---|---|---|
| 91 | A Maximum Likelihood Approach to Parallel Imaging With Coil Sensitivity Noise. IEEE Transactions on Medical Imaging, 2007, 26, 1046-1057. | 8.9 | 9 |
| 92 | Fast and Stable Bayesian Image Expansion Using Sparse Edge Priors. IEEE Transactions on Image Processing, 2007, 16, 1073-1084. | 9.8 | 4 |
| 93 | Bayesian parallel imaging with edge-preserving priors. Magnetic Resonance in Medicine, 2007, 57, 8-21. | 3.0 | 59 |
| 94 | Automatic algorithm for correcting motion artifacts in time-resolved two-dimensional magnetic resoance angiography using convex projections. Magnetic Resonance in Medicine, 2006, 55, 649-658. | 3.0 | 3 |
| 95 | Improved Signal-to-Noise Ratio in Parallel Coronary Artery Magnetic Resonance Angiography using Graph Cuts based Bayesian Reconstruction. , 2006, 2006, 703-6. | | 1 |
| 96 | Statistical Aspects of Parallel Imaging Reconstruction. , 2006, 2006, 377-80. | | 0 |
| 97 | Altered excitatory and inhibitory neuronal subpopulation parameters are distinctly associated with tau and amyloid in Alzheimerâ€™s disease. ELife, 0, 11, . | 6.0 | 45 |