

Partha P Mitra

List of Publications by Year in descending order

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Version: 2024-02-01

125
papers

20,360
citations

20817

60
h-index

19190

118
g-index

143
all docs

143
docs citations

143
times ranked

17768
citing authors

#	ARTICLE	IF	CITATIONS
1	Sizing up whole-brain neuronal tracing. <i>Science Bulletin</i> , 2022, 67, 883-884.	9.0	1
2	Multimodal cross-modal registration and quantification of metric distortions in marmoset whole brain histology using diffeomorphic mappings. <i>Journal of Comparative Neurology</i> , 2021, 529, 281-295.	1.6	8
3	Fitting elephants in modern machine learning by statistically consistent interpolation. <i>Nature Machine Intelligence</i> , 2021, 3, 378-386.	16.0	5
4	A multimodal cell census and atlas of the mammalian primary motor cortex. <i>Nature</i> , 2021, 598, 86-102.	27.8	316
5	Genetic dissection of the glutamatergic neuron system in cerebral cortex. <i>Nature</i> , 2021, 598, 182-187.	27.8	75
6	Cellular anatomy of the mouse primary motor cortex. <i>Nature</i> , 2021, 598, 159-166.	27.8	117
7	Open access resource for cellular-resolution analyses of corticocortical connectivity in the marmoset monkey. <i>Nature Communications</i> , 2020, 11, 1133.	12.8	86
8	ZEBrA: Zebra finch Expression Brain Atlas—A resource for comparative molecular neuroanatomy and brain evolution studies. <i>Journal of Comparative Neurology</i> , 2020, 528, 2099-2131.	1.6	30
9	Semantic segmentation of microscopic neuroanatomical data by combining topological priors with encoder-decoder deep networks. <i>Nature Machine Intelligence</i> , 2020, 2, 585-594.	16.0	12
10	Relation of koniocellular layers of dorsal lateral geniculate to inferior pulvinar nuclei in common marmosets. <i>European Journal of Neuroscience</i> , 2019, 50, 4004-4017.	2.6	11
11	Traumatic microbleeds suggest vascular injury and predict disability in traumatic brain injury. <i>Brain</i> , 2019, 142, 3550-3564.	7.6	83
12	Can One Concurrently Record Electrical Spikes from Every Neuron in a Mammalian Brain?. <i>Neuron</i> , 2019, 103, 1005-1015.	8.1	46
13	On Fundamental Limitations of Dynamic Feedback Control in Regular Large-Scale Networks. <i>IEEE Transactions on Automatic Control</i> , 2019, 64, 4936-4951.	5.7	16
14	An active texture-based digital atlas enables automated mapping of structures and markers across brains. <i>Nature Methods</i> , 2019, 16, 341-350.	19.0	26
15	Genetic Single Neuron Anatomy Reveals Fine Granularity of Cortical Axo-Axonic Cells. <i>Cell Reports</i> , 2019, 26, 3145-3159.e5.	6.4	51
16	Comparative Principles for Next-Generation Neuroscience. <i>Frontiers in Behavioral Neuroscience</i> , 2019, 13, 12.	2.0	18
17	Unidirectional monosynaptic connections from auditory areas to the primary visual cortex in the marmoset monkey. <i>Brain Structure and Function</i> , 2019, 224, 111-131.	2.3	34
18	A high-throughput neurohistological pipeline for brain-wide mesoscale connectivity mapping of the common marmoset. <i>ELife</i> , 2019, 8, .	6.0	51

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19	3D Mapping of Serial Histology Sections with Anomalies Using a Novel Robust Deformable Registration Algorithm. Lecture Notes in Computer Science, 2019, , 162-173.	1.3	8
20	Phase transitions in distributed control systems with multiplicative noise. Journal of Statistical Mechanics: Theory and Experiment, 2018, 2018, 013405.	2.3	1
21	On variational solutions for whole brain serial-section histology using a Sobolev prior in the computational anatomy random orbit model. PLoS Computational Biology, 2018, 14, e1006610.	3.2	17
22	Fast Convergence for Stochastic and Distributed Gradient Descent in the Interpolation Limit. , 2018, , .		1
23	Brain-wide Maps Reveal Stereotyped Cell-Type-Based Cortical Architecture and Subcortical Sexual Dimorphism. Cell, 2017, 171, 456-469.e22.	28.9	301
24	Performance of Image Matching in the Computational Anatomy Gateway. , 2017, , .		1
25	Metrics for comparing neuronal tree shapes based on persistent homology. PLoS ONE, 2017, 12, e0182184.	2.5	56
26	The Active Atlas: Combining 3D Anatomical Models with Texture Detectors. Lecture Notes in Computer Science, 2017, , 3-11.	1.3	0
27	Comparative three-dimensional connectome map of motor cortical projections in the mouse brain. Scientific Reports, 2016, 6, 20072.	3.3	94
28	Towards a comprehensive atlas of cortical connections in a primate brain: Mapping tracer injection studies of the common marmoset into a reference digital template. Journal of Comparative Neurology, 2016, 524, 2161-2181.	1.6	109
29	Conventions and nomenclature for double diffusion encoding NMR and MRI. Magnetic Resonance in Medicine, 2016, 75, 82-87.	3.0	154
30	Mean field analysis of sparse reconstruction with correlated variables. , 2016, , .		0
31	Frequency-selective control of cortical and subcortical networks by central thalamus. ELife, 2015, 4, e09215.	6.0	118
32	Brain-mapping projects using the common marmoset. Neuroscience Research, 2015, 93, 3-7.	1.9	82
33	High-Throughput Method of Whole-Brain Sectioning, Using the Tape-Transfer Technique. PLoS ONE, 2015, 10, e0102363.	2.5	41
34	Spectral Methods for Functional Brain Imaging. Cold Spring Harbor Protocols, 2014, 2014, pdb.top081075.	0.3	14
35	NSF workshop report: Discovering general principles of nervous system organization by comparing brain maps across species. Journal of Comparative Neurology, 2014, 522, 1445-1453.	1.6	35
36	The Circuit Architecture of Whole Brains at the Mesoscopic Scale. Neuron, 2014, 83, 1273-1283.	8.1	72

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37	Cell-type-based model explaining coexpression patterns of genes in the brain. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 5397-5402.	7.1	66
38	Computational neuroanatomy and co-expression of genes in the adult mouse brain, analysis tools for the Allen Brain Atlas. Quantitative Biology, 2013, 1, 91-100.	0.5	9
39	The Challenge of Connecting the Dots in the B.R.A.I.N.. Neuron, 2013, 80, 270-274.	8.1	73
40	A low-cost technique to cryo-protect and freeze rodent brains, precisely aligned to stereotaxic coordinates for whole-brain cryosectioning. Journal of Neuroscience Methods, 2013, 218, 206-213.	2.5	20
41	Co-expression Profiling of Autism Genes in the Mouse Brain. PLoS Computational Biology, 2013, 9, e1003128.	3.2	64
42	Panoptic Neuroanatomy: Digital Microscopy of Whole Brains and Brain-Wide Circuit Mapping. Brain, Behavior and Evolution, 2013, 81, 203-205.	1.7	4
43	Digital atlas of the zebra finch (<i>Taeniopygia guttata</i>) brain: A high-resolution photo atlas. Journal of Comparative Neurology, 2013, 521, 3702-3715.	1.6	67
44	The Angular Interval between the Direction of Progression and Body Orientation in Normal, Alcohol- and Cocaine Treated Fruit Flies. PLoS ONE, 2013, 8, e76257.	2.5	7
45	Computational neuroanatomy and gene expression: Optimal sets of marker genes for brain regions. , 2012, , .		4
46	Coherence in Large-Scale Networks: Dimension-Dependent Limitations of Local Feedback. IEEE Transactions on Automatic Control, 2012, 57, 2235-2249.	5.7	327
47	Computational methods and challenges for large-scale circuit mapping. Current Opinion in Neurobiology, 2012, 22, 162-169.	4.2	70
48	Compressed Genotyping. IEEE Transactions on Information Theory, 2010, 56, 706-723.	2.4	40
49	Characterization of trial-to-trial fluctuations in local field potentials recorded in cerebral cortex of awake behaving macaque. Journal of Neuroscience Methods, 2010, 186, 250-261.	2.5	8
50	Chronux: A platform for analyzing neural signals. Journal of Neuroscience Methods, 2010, 192, 146-151.	2.5	747
51	An assay for social interaction in <i>Drosophila</i> fragile X mutants. Fly, 2010, 4, 216-225.	1.7	34
52	Clustering of spatial gene expression patterns in the mouse brain and comparison with classical neuroanatomy. Methods, 2010, 50, 105-112.	3.8	70
53	The Brain Atlas Concordance Problem: Quantitative Comparison of Anatomical Parcellations. PLoS ONE, 2009, 4, e7200.	2.5	143
54	A Proposal for a Coordinated Effort for the Determination of Brainwide Neuroanatomical Connectivity in Model Organisms at a Mesoscopic Scale. PLoS Computational Biology, 2009, 5, e1000334.	3.2	242

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55	Chronux: a platform for analyzing neural signals. BMC Neuroscience, 2009, 10, .	1.9	5
56	De novo establishment of wild-type song culture in the zebra finch. Nature, 2009, 459, 564-568.	27.8	251
57	An anatomic gene expression atlas of the adult mouse brain. Nature Neuroscience, 2009, 12, 356-362.	14.8	264
58	Alta-Cyclic: a self-optimizing base caller for next-generation sequencing. Nature Methods, 2008, 5, 679-682.	19.0	166
59	Effect of topological dimension on rigidity of vehicle formations: Fundamental limitations of local feedback. , 2008, , .		35
60	An Analysis of the Abstracts Presented at the Annual Meetings of the Society for Neuroscience from 2001 to 2006. PLoS ONE, 2008, 3, e2052.	2.5	8
61	Computational Intelligence in Electrophysiology: Trends and Open Problems. Studies in Computational Intelligence, 2008, , 325-359.	0.9	2
62	A Technique for Characterizing the Development of Rhythms in Bird Song. PLoS ONE, 2008, 3, e1461.	2.5	52
63	Learning-related coordination of striatal and hippocampal theta rhythms during acquisition of a procedural maze task. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 5644-5649.	7.1	211
64	Oscillations of Local Field Potentials in the Rat Dorsal Striatum During Spontaneous and Instructed Behaviors. Journal of Neurophysiology, 2007, 97, 3800-3805.	1.8	97
65	Non-parametric methods for the analysis of neurobiological time-series data. , 2007, , .		1
66	Analysis of the Trajectory of Drosophila melanogaster in a Circular Open Field Arena. PLoS ONE, 2007, 2, e1083.	2.5	79
67	Characterizing Animal Behavior through Audio and Video Signal Processing. IEEE MultiMedia, 2007, 14, 32-41.	1.7	6
68	Comparing spectra and coherences for groups of unequal size. Journal of Neuroscience Methods, 2007, 159, 337-345.	2.5	143
69	Gamma-band synchronization in visual cortex predicts speed of change detection. Nature, 2006, 439, 733-736.	27.8	690
70	Dynamic Phenotypes: Time Series Analysis Techniques for Characterizing Neuronal and Behavioral Dynamics. Neuroinformatics, 2006, 4, 119-128.	2.8	7
71	Concentration maximization and local basis expansions (LBEX) for linear inverse problems. IEEE Transactions on Biomedical Engineering, 2006, 53, 1775-1782.	4.2	12
72	A Method for Detection and Classification of Events in Neural Activity. IEEE Transactions on Biomedical Engineering, 2006, 53, 1678-1687.	4.2	61

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73	Multimedia signal processing for behavioral quantification in neuroscience. , 2006, , .		0
74	How sleep affects the developmental learning of bird song. Nature, 2005, 433, 710-716.	27.8	285
75	Multiple neural spike train data analysis: state-of-the-art and future challenges. Nature Neuroscience, 2004, 7, 456-461.	14.8	734
76	Studying the Song Development Process: Rationale and Methods. Annals of the New York Academy of Sciences, 2004, 1016, 348-363.	3.8	82
77	Song Development: In Search of the Error-Signal. Annals of the New York Academy of Sciences, 2004, 1016, 364-376.	3.8	30
78	The effect of propagation nonlinearities on the information capacity of WDM optical fiber systems: cross-phase modulation and four-wave mixing. Physica D: Nonlinear Phenomena, 2004, 189, 81-99.	2.8	37
79	Neural prosthetic control signals from plan activity. NeuroReport, 2003, 14, 591-596.	1.2	166
80	The channel capacity of a fiber optics communication system: perturbation theory. Journal of Lightwave Technology, 2002, 20, 530-537.	4.6	94
81	Towards quantification of vocal imitation in the zebra finch. Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology, 2002, 188, 867-878.	1.6	26
82	How did brains evolve?. Nature, 2002, 415, 135-135.	27.8	5
83	Temporal structure in neuronal activity during working memory in macaque parietal cortex. Nature Neuroscience, 2002, 5, 805-811.	14.8	940
84	Markov random field models of multicasting in tree networks. Advances in Applied Probability, 2002, 34, 58-84.	0.7	24
85	Dynamics of the Vocal Imitation Process: How a Zebra Finch Learns Its Song. Science, 2001, 291, 2564-2569.	12.6	445
86	Information Capacity of Nonlinear Wavelength Division Multiplexing Fiber Optic Transmission Line. Optical Fiber Technology, 2001, 7, 275-288.	2.7	25
87	Tripling the capacity of wireless communications using electromagnetic polarization. Nature, 2001, 409, 316-318.	27.8	408
88	Scalable architecture in mammalian brains. Nature, 2001, 411, 189-193.	27.8	260
89	Nonlinear limits to the information capacity of optical fibre communications. Nature, 2001, 411, 1027-1030.	27.8	607
90	Sampling Properties of the Spectrum and Coherency of Sequences of Action Potentials. Neural Computation, 2001, 13, 717-749.	2.2	374

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91	A procedure for an automated measurement of song similarity. <i>Animal Behaviour</i> , 2000, 59, 1167-1176.	1.9	642
92	Vocal imitation in zebra finches is inversely related to model abundance. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1999, 96, 12901-12904.	7.1	125
93	Thalamocortical dysrhythmia: A neurological and neuropsychiatric syndrome characterized by magnetoencephalography. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1999, 96, 15222-15227.	7.1	1,227
94	Distributions of singular values for some random matrices. <i>Physical Review E</i> , 1999, 60, 3389-3392.	2.1	298
95	Analysis of Dynamic Brain Imaging Data. <i>Biophysical Journal</i> , 1999, 76, 691-708.	0.5	954
96	The role of nonlinear dynamics of the syrinx in the vocalizations of a songbird. <i>Nature</i> , 1998, 395, 67-71.	27.8	217
97	Fluctuations and stimulus-induced changes in blood flow observed in individual capillaries in layers 2 through 4 of rat neocortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1998, 95, 15741-15746.	7.1	775
98	Visual stimuli induce waves of electrical activity in turtle cortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1997, 94, 7621-7626.	7.1	297
99	Analytical calculation of intracellular calcium wave characteristics. <i>Biophysical Journal</i> , 1997, 72, 2430-2444.	0.5	54
100	Restricted diffusion and the return to the origin probability at intermediate and long times. <i>Physical Review E</i> , 1997, 55, 4225-4234.	2.1	13
101	Central Versus Peripheral Determinants of Patterned Spike Activity in Rat Vibrissa Cortex During Whisking. <i>Journal of Neurophysiology</i> , 1997, 78, 1144-1149.	1.8	215
102	Erratum to 'Automatic sorting of multiple unit neuronal signals in the presence of anisotropic and non-Gaussian variability'. <i>Journal of Neuroscience Methods</i> , 1997, 71, 233.	2.5	1
103	The nature of spatiotemporal changes in cerebral hemodynamics as manifested in functional magnetic resonance imaging. <i>Magnetic Resonance in Medicine</i> , 1997, 37, 511-518.	3.0	172
104	Possible Systematic Errors in Single-Shot Measurements of the Trace of the Diffusion Tensor. <i>Journal of Magnetic Resonance Series B</i> , 1996, 111, 15-22.	1.6	32
105	Automatic sorting of multiple unit neuronal signals in the presence of anisotropic and non-Gaussian variability. <i>Journal of Neuroscience Methods</i> , 1996, 69, 175-188.	2.5	319
106	Pore-Size Distributions and Tortuosity in Heterogeneous Porous Media. <i>Journal of Magnetic Resonance Series A</i> , 1995, 112, 83-91.	1.6	204
107	Effects of Finite Gradient-Pulse Widths in Pulsed-Field-Gradient Diffusion Measurements. <i>Journal of Magnetic Resonance Series A</i> , 1995, 113, 94-101.	1.6	188
108	Pulsed-Field-Gradient NMR Measurements of Restricted Diffusion and the Return-to-the-Origin Probability. <i>Journal of Magnetic Resonance Series A</i> , 1995, 114, 47-58.	1.6	51

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109	Self-diffusion in a periodic porous medium: A comparison of different approaches. Physical Review E, 1995, 51, 3393-3400.	2.1	74
110	Multiple wave-vector extensions of the NMR pulsed-field-gradient spin-echo diffusion measurement. Physical Review B, 1995, 51, 15074-15078.	3.2	233
111	Time-dependent diffusion of water in a biological model system.. Proceedings of the National Academy of Sciences of the United States of America, 1994, 91, 1229-1233.	7.1	469
112	Understanding far-infrared absorption in the $S=1$ antiferromagnetic chain compound NENP. Physical Review Letters, 1994, 72, 912-915.	7.8	74
113	Surface relaxation and the long-time diffusion coefficient in porous media: Periodic geometries. Physical Review B, 1994, 49, 215-225.	3.2	107
114	Mechanism of NMR Relaxation of Fluids in Rock. Journal of Magnetic Resonance Series A, 1994, 108, 206-214.	1.6	452
115	Probing the structure of porous media using NMR spin echoes. Magnetic Resonance Imaging, 1994, 12, 227-230.	1.8	22
116	Simulations of pulsed field gradient spin-echo measurements in porous media. Magnetic Resonance Imaging, 1994, 12, 241-244.	1.8	5
117	Fluctuation analysis of motor protein movement and single enzyme kinetics.. Proceedings of the National Academy of Sciences of the United States of America, 1994, 91, 11782-11786.	7.1	273
118	Time-Dependent Diffusion Coefficient of Fluids in Porous Media as a Probe of Surface-to-Volume Ratio. Journal of Magnetic Resonance Series A, 1993, 101, 342-346.	1.6	358
119	Short-time behavior of the diffusion coefficient as a geometrical probe of porous media. Physical Review B, 1993, 47, 8565-8574.	3.2	494
120	Diffusion propagator as a probe of the structure of porous media. Physical Review Letters, 1992, 68, 3555-3558.	7.8	492
121	Temperature dependence of the electron-spin-resonance spectrum of the chain-end $S=1/2$ modes in an $S=1$ antiferromagnetic chain. Physical Review B, 1992, 45, 5299-5306.	3.2	36
122	Effects of microgeometry and surface relaxation on NMR pulsed-field-gradient experiments: Simple pore geometries. Physical Review B, 1992, 45, 143-156.	3.2	210
123	Effects of surface relaxation on NMR pulsed field gradient experiments in porous media. Physica A: Statistical Mechanics and Its Applications, 1992, 186, 109-114.	2.6	12
124	Frustrated spin- $1/2$ model in two dimensions with a known ground state. Physical Review B, 1991, 44, 443-445.	3.2	19
125	Long-time magnetization relaxation of spins diffusing in a random field. Physical Review B, 1991, 44, 12035-12038.	3.2	22