

Michele Migliore

List of Publications by Year in descending order

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130
papers

7,052
citations

71102

41
h-index

69250

77
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137
all docs

137
docs citations

137
times ranked

6756
citing authors

#	ARTICLE	IF	CITATIONS
1	Sequence Learning in a Single Trial: A Spiking Neurons Model Based on Hippocampal Circuitry. IEEE Transactions on Neural Networks and Learning Systems, 2022, 33, 3178-3183.	11.3	4
2	Membrane electrical properties of mouse hippocampal CA1 pyramidal neurons during strong inputs. Biophysical Journal, 2022, 121, 644-657.	0.5	3
3	Early derailment of firing properties in CA1 pyramidal cells of the ventral hippocampus in an Alzheimer's disease mouse model. Experimental Neurology, 2022, 350, 113969.	4.1	16
4	Linking Brain Structure, Activity, and Cognitive Function through Computation. ENeuro, 2022, 9, ENEURO.0316-21.2022.	1.9	22
5	Reconstruction of the Hippocampus. Advances in Experimental Medicine and Biology, 2022, 1359, 261-283.	1.6	10
6	SenseLab: Integration of Multidisciplinary Neuroscience Data. , 2022, , 3069-3072.		0
7	Action Potential Back-Propagation. , 2022, , 151-156.		0
8	Reduced Morphology Models. , 2022, , 3007-3018.		0
9	On the structural connectivity of large-scale models of brain networks at cellular level. Scientific Reports, 2021, 11, 4345.	3.3	6
10	Effects of $I_{sub}h$ and TASK-like shunting current on dendritic impedance in layer 5 pyramidal-tract neurons. Journal of Neurophysiology, 2021, 125, 1501-1516.	1.8	9
11	Analysis of Age-Dependent Alterations in Excitability Properties of CA1 Pyramidal Neurons in an APPPS1 Model of Alzheimer's Disease. Frontiers in Aging Neuroscience, 2021, 13, 668948.	3.4	12
12	The EBRAINS NeuroFeatureExtract: An Online Resource for the Extraction of Neural Activity Features From Electrophysiological Data. Frontiers in Neuroinformatics, 2021, 15, 713899.	2.5	4
13	Circadian Modulation of Neurons and Astrocytes Controls Synaptic Plasticity in Hippocampal Area CA1. Cell Reports, 2020, 33, 108255.	6.4	45
14	Cover Image, Volume 30, Issue 11. Hippocampus, 2020, 30, C1.	1.9	0
15	Predicting brain organization with a computational model: 50-year perspective on lateral inhibition and oscillatory gating by dendrodendritic synapses. Journal of Neurophysiology, 2020, 124, 375-387.	1.8	6
16	Graph-theoretical derivation of brain structural connectivity. Applied Mathematics and Computation, 2020, 377, 125150.	2.2	12
17	Data-driven integration of hippocampal CA1 synaptic physiology <i>in silico</i> . Hippocampus, 2020, 30, 1129-1145.	1.9	38
18	Computational Modeling of Inhibitory Transsynaptic Signaling in Hippocampal and Cortical Neurons Expressing Intrabodies Against Gephyrin. Frontiers in Cellular Neuroscience, 2020, 14, 173.	3.7	2

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19	Spatial graphs and Convolutional Models. , 2020, , .		3
20	The Amyloid Precursor Protein C-Terminal Domain Alters CA1 Neuron Firing, Modifying Hippocampus Oscillations and Impairing Spatial Memory Encoding. Cell Reports, 2019, 29, 317-331.e5.	6.4	24
21	The Scientific Case for Brain Simulations. Neuron, 2019, 102, 735-744.	8.1	123
22	A kinetic model for Brain-Derived Neurotrophic Factor mediated spike timing-dependent LTP. PLoS Computational Biology, 2019, 15, e1006975.	3.2	9
23	The subthreshold-active KV7 current regulates neurotransmission by limiting spike-induced Ca ²⁺ influx in hippocampal mossy fiber synaptic terminals. Communications Biology, 2019, 2, 145.	4.4	19
24	Neuron Names: A Gene- and Property-Based Name Format, With Special Reference to Cortical Neurons. Frontiers in Neuroanatomy, 2019, 13, 25.	1.7	29
25	The physiological variability of channel density in hippocampal CA1 pyramidal cells and interneurons explored using a unified data-driven modeling workflow. PLoS Computational Biology, 2018, 14, e1006423.	3.2	91
26	Parallel odor processing by mitral and middle tufted cells in the olfactory bulb. Scientific Reports, 2018, 8, 7625.	3.3	24
27	Visualization of Simulated Arrhythmias due to Gap Junctions. , 2018, , .		0
28	Optimizing computer models of corticospinal neurons to replicate in vitro dynamics. Journal of Neurophysiology, 2017, 117, 148-162.	1.8	37
29	The possible consequences for cognitive functions of external electric fields at power line frequency on hippocampal CA1 pyramidal neurons. European Journal of Neuroscience, 2017, 45, 1024-1031.	2.6	3
30	Twenty years of ModelDB and beyond: building essential modeling tools for the future of neuroscience. Journal of Computational Neuroscience, 2017, 42, 1-10.	1.0	182
31	Odor Experience Facilitates Sparse Representations of New Odors in a Large-Scale Olfactory Bulb Model. Frontiers in Neuroanatomy, 2016, 10, 10.	1.7	5
32	Glomerular and Mitral-Granule Cell Microcircuits Coordinate Temporal and Spatial Information Processing in the Olfactory Bulb. Frontiers in Computational Neuroscience, 2016, 10, 67.	2.1	14
33	A General Procedure to Study Subcellular Models of Transsynaptic Signaling at Inhibitory Synapses. Frontiers in Neuroinformatics, 2016, 10, 23.	2.5	3
34	Principal cell activity induces spine relocation of adult-born interneurons in the olfactory bulb. Nature Communications, 2016, 7, 12659.	12.8	42
35	Premature changes in neuronal excitability account for hippocampal network impairment and autistic-like behavior in neonatal BTBR T+tf/J mice. Scientific Reports, 2016, 6, 31696.	3.3	26
36	Predicting the response of olfactory sensory neurons to odor mixtures from single odor response. Scientific Reports, 2016, 6, 24091.	3.3	11

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37	Learning experience facilitates sparse coding of new odors in a large-scale olfactory bulb model. BMC Neuroscience, 2015, 16, .	1.9	0
38	The origin of Diastolic Micro-Signals observed in defibrillator recipients might be qualitatively explained by a simple computational model. , 2015, , .		0
39	Early-Onset Epileptic Encephalopathy Caused by Gain-of-Function Mutations in the Voltage Sensor of K _v 7.2 and K _v 7.3 Potassium Channel Subunits. Journal of Neuroscience, 2015, 35, 3782-3793.	3.6	151
40	Effect of the Initial Synaptic State on the Probability to Induce Long-Term Potentiation and Depression. Biophysical Journal, 2015, 108, 1038-1046.	0.5	16
41	Synaptic clusters function as odor operators in the olfactory bulb. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 8499-8504.	7.1	31
42	Computational Model of Erratic Arrhythmias in a Cardiac Cell Network: The Role of Gap Junctions. PLoS ONE, 2014, 9, e100288.	2.5	12
43	Effects of low frequency electric fields on synaptic integration in hippocampal CA1 pyramidal neurons: implications for power line emissions. Frontiers in Cellular Neuroscience, 2014, 8, 310.	3.7	23
44	Distributed organization of a brain microcircuit analyzed by three-dimensional modeling: the olfactory bulb. Frontiers in Computational Neuroscience, 2014, 8, 50.	2.1	38
45	Sparse Coding and Lateral Inhibition Arising from Balanced and Unbalanced Dendrodendritic Excitation and Inhibition. Journal of Neuroscience, 2014, 34, 13701-13713.	3.6	44
46	Effects of increasing CREB-dependent transcription on the storage and recall processes in a hippocampal CA1 microcircuit. Hippocampus, 2014, 24, 165-177.	1.9	30
47	Action Potential Backpropagation. , 2014, , 1-6.		0
48	Reduced Morphology Models. , 2014, , 1-14.		0
49	Intrinsic Electrophysiology of Mouse Corticospinal Neurons: a Class-Specific Triad of Spike-Related Properties. Cerebral Cortex, 2013, 23, 1965-1977.	2.9	83
50	Functional Impact of Dendritic Branch-Point Morphology. Journal of Neuroscience, 2013, 33, 2156-2165.	3.6	78
51	Integration of synchronous synaptic input in CA1 pyramidal neuron depends on spatial and temporal distributions of the input. Hippocampus, 2013, 23, 87-99.	1.9	3
52	Using Strahler's analysis to reduce up to 200-fold the run time of realistic neuron models. Scientific Reports, 2013, 3, 2934.	3.3	15
53	Sparse Distributed Representation of Odors in a Large-scale Olfactory Bulb Circuit. PLoS Computational Biology, 2013, 9, e1003014.	3.2	37
54	Genotype-phenotype correlations in neonatal epilepsies caused by mutations in the voltage sensor of K _v 7.2 potassium channel subunits. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 4386-4391.	7.1	154

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55	Computational modeling of the effects of amyloid-beta on release probability at hippocampal synapses. <i>Frontiers in Computational Neuroscience</i> , 2013, 7, 1.	2.1	175
56	Functional neurology of a brain system: a 3D olfactory bulb model to process natural odorants. <i>Functional Neurology</i> , 2013, 28, 241-3.	1.3	7
57	Fast and accurate low-dimensional reduction of biophysically detailed neuron models. <i>Scientific Reports</i> , 2012, 2, 928.	3.3	32
58	On the mechanisms underlying the depolarization block in the spiking dynamics of CA1 pyramidal neurons. <i>Journal of Computational Neuroscience</i> , 2012, 33, 207-225.	1.0	119
59	Know Your Current Ih: Interaction with a Shunting Current Explains the Puzzling Effects of Its Pharmacological or Pathological Modulations. <i>PLoS ONE</i> , 2012, 7, e36867.	2.5	53
60	Mitral cell spike synchrony modulated by dendrodendritic synapse location. <i>Frontiers in Computational Neuroscience</i> , 2012, 6, 3.	2.1	37
61	Progressive effect of beta amyloid peptides accumulation on CA1 pyramidal neurons: a model study suggesting possible treatments. <i>Frontiers in Computational Neuroscience</i> , 2012, 6, 52.	2.1	16
62	Dorsoventral Differences in Intrinsic Properties in Developing CA1 Pyramidal Cells. <i>Journal of Neuroscience</i> , 2012, 32, 3736-3747.	3.6	42
63	Differential effects of Kv7 (M ϵ) channels on synaptic integration in distinct subcellular compartments of rat hippocampal pyramidal neurons. <i>Journal of Physiology</i> , 2011, 589, 6029-6038.	2.9	47
64	A computer model of unitary responses from associational/commissural and perforant path synapses in hippocampal CA3 pyramidal cells. <i>Journal of Computational Neuroscience</i> , 2011, 31, 137-158.	1.0	20
65	A modeling study suggesting how a reduction in the context-dependent input on CA1 pyramidal neurons could generate schizophrenic behavior. <i>Neural Networks</i> , 2011, 24, 552-559.	5.9	9
66	A Multi-Compartment Model for Interneurons in the Dorsal Lateral Geniculate Nucleus. <i>PLoS Computational Biology</i> , 2011, 7, e1002160.	3.2	36
67	PRECLINICAL STUDY: FULL ARTICLE: Altered architecture and functional consequences of the mesolimbic dopamine system in cannabis dependence. <i>Addiction Biology</i> , 2010, 15, 266-276.	2.6	51
68	Control of GABA release at single mossy fiber-CA3 connections in the developing hippocampus. <i>Frontiers in Synaptic Neuroscience</i> , 2010, 2, 1.	2.5	105
69	Abnormal excitability of oblique dendrites implicated in early Alzheimer's: a computational study. <i>Frontiers in Neural Circuits</i> , 2010, 4, .	2.8	32
70	Functional Roles of Distributed Synaptic Clusters in the Mitralâ€“Granule Cell Network of the Olfactory Bulb. <i>Frontiers in Integrative Neuroscience</i> , 2010, 4, 122.	2.1	31
71	Local Control of Postinhibitory Rebound Spiking in CA1 Pyramidal Neuron Dendrites. <i>Journal of Neuroscience</i> , 2010, 30, 6434-6442.	3.6	72
72	CA3 Cells: Detailed and Simplified Pyramidal Cell Models. , 2010, , 353-374.		3

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73	Feed-forward inhibition as a buffer of the neuronal input-output relation. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 18004-18009.	7.1	74
74	h channel-dependent deficit of theta oscillation resonance and phase shift in temporal lobe epilepsy. Neurobiology of Disease, 2009, 33, 436-447.	4.4	129
75	Neutralization of a unique, negatively-charged residue in the voltage sensor of KV7.2 subunits in a sporadic case of benign familial neonatal seizures. Neurobiology of Disease, 2009, 34, 501-510.	4.4	25
76	The membrane response of hippocampal CA3b pyramidal neurons near rest: Heterogeneity of passive properties and the contribution of hyperpolarization-activated currents. Neuroscience, 2009, 160, 359-370.	2.3	17
77	Dendritic action potentials connect distributed dendrodendritic microcircuits. Journal of Computational Neuroscience, 2008, 24, 207-221.	1.0	51
78	Distinct classes of pyramidal cells exhibit mutually exclusive firing patterns in hippocampal area CA3b. Hippocampus, 2008, 18, 411-424.	1.9	109
79	Single neuron binding properties and the magical number 7. Hippocampus, 2008, 18, 1122-1130.	1.9	41
80	Realistic simulations of neuronal activity: A contribution to the debate on direct detection of neuronal currents by MRI. NeuroImage, 2008, 39, 87-106.	4.2	55
81	Functional significance of axonal Kv7 channels in hippocampal pyramidal neurons. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 7869-7874.	7.1	242
82	Computational Models of Neuronal Biophysics and the Characterization of Potential Neuropharmacological Targets. Current Medicinal Chemistry, 2008, 15, 2456-2471.	2.4	22
83	A Modeling Study Suggesting a Possible Pharmacological Target to Mitigate the Effects of Ethanol on Reward-Related Dopaminergic Signaling. Journal of Neurophysiology, 2008, 99, 2703-2707.	1.8	23
84	SenseLab: new developments in disseminating neuroscience information. Briefings in Bioinformatics, 2007, 8, 150-162.	6.5	31
85	Signaling properties of stratum oriens interneurons in the hippocampus of transgenic mice expressing EGFP in a subset of somatostatin-containing cells. Hippocampus, 2007, 17, 538-553.	1.9	21
86	The olfactory granule cell: From classical enigma to central role in olfactory processing. Brain Research Reviews, 2007, 55, 373-382.	9.0	150
87	Input-output relations in the entorhinal cortex dentate hippocampal system: Evidence for a non-linear transfer of signals. Neuroscience, 2006, 142, 247-265.	2.3	45
88	Parallel network simulations with NEURON. Journal of Computational Neuroscience, 2006, 21, 119-129.	1.0	170
89	Electrophysiological Properties and Modeling of Murine Vomeronasal Sensory Neurons in Acute Slice Preparations. Chemical Senses, 2006, 31, 425-435.	2.0	31
90	An integrated approach to classifying neuronal phenotypes. Nature Reviews Neuroscience, 2005, 6, 810-818.	10.2	111

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91	The Role of Distal Dendritic Gap Junctions in Synchronization of Mitral Cell Axonal Output. <i>Journal of Computational Neuroscience</i> , 2005, 18, 151-161.	1.0	71
92	Signal Propagation in Oblique Dendrites of CA1 Pyramidal Cells. <i>Journal of Neurophysiology</i> , 2005, 94, 4145-4155.	1.8	84
93	Activity-Dependent Adjustments of the Inhibitory Network in the Olfactory Bulb following Early Postnatal Deprivation. <i>Neuron</i> , 2005, 46, 103-116.	8.1	152
94	On the Initiation and Propagation of Dendritic Spikes in CA1 Pyramidal Neurons. <i>Journal of Neuroscience</i> , 2004, 24, 11046-11056.	3.6	303
95	Semi-Automated Population of an Online Database of Neuronal Models (ModelDB) With Citation Information, Using PubMed for Validation. <i>Neuroinformatics</i> , 2004, 2, 327-332.	2.8	17
96	Dendritic I_h Selectively Blocks Temporal Summation of Unsynchronized Distal Inputs in CA1 Pyramidal Neurons. <i>Journal of Computational Neuroscience</i> , 2004, 16, 5-13.	1.0	69
97	ModelDB: A Database to Support Computational Neuroscience. <i>Journal of Computational Neuroscience</i> , 2004, 17, 7-11.	1.0	311
98	ModelDB: Making Models Publicly Accessible to Support Computational Neuroscience. <i>Neuroinformatics</i> , 2003, 1, 135-140.	2.8	103
99	Text Mining Neuroscience Journal Articles to Populate Neuroscience Databases. <i>Neuroinformatics</i> , 2003, 1, 215-238.	2.8	17
100	On the integration of subthreshold inputs from Perforant Path and Schaffer Collaterals in hippocampal CA1 pyramidal neurons. <i>Journal of Computational Neuroscience</i> , 2003, 14, 185-192.	1.0	38
101	Normalization of Ca^{2+} Signals by Small Oblique Dendrites of CA1 Pyramidal Neurons. <i>Journal of Neuroscience</i> , 2003, 23, 3243-3250.	3.6	84
102	Creating knowledgebases to text-mine PUBMED articles using clustering techniques. <i>AMIA ... Annual Symposium proceedings</i> , 2003, , 821.	0.2	0
103	Dendritic K^+ channels contribute to spike-timing dependent long-term potentiation in hippocampal pyramidal neurons. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 8366-8371.	7.1	267
104	A new bursting model of CA3 pyramidal cell physiology suggests multiple locations for spike initiation. <i>BioSystems</i> , 2002, 67, 129-137.	2.0	51
105	Pharmacological upregulation of h -channels reduces the excitability of pyramidal neuron dendrites. <i>Nature Neuroscience</i> , 2002, 5, 767-774.	14.8	404
106	Emerging rules for the distributions of active dendritic conductances. <i>Nature Reviews Neuroscience</i> , 2002, 3, 362-370.	10.2	291
107	Quantitative Modeling of Perception and Production of Time Intervals. <i>Journal of Neurophysiology</i> , 2001, 86, 2754-2760.	1.8	8
108	A model of the effects of cognitive load on the subjective estimation and production of time intervals. <i>BioSystems</i> , 2000, 58, 187-193.	2.0	4

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109	Dendritic potassium channels in hippocampal pyramidal neurons. <i>Journal of Physiology</i> , 2000, 525, 75-81.	2.9	246
110	Role of an A-type K ⁺ conductance in the back-propagation of action potentials in the dendrites of hippocampal pyramidal neurons. <i>Journal of Computational Neuroscience</i> , 1999, 7, 5-15.	1.0	307
111	Computational model of the effects of stochastic conditioning on the induction of long-term potentiation and depression. <i>Biological Cybernetics</i> , 1999, 81, 291-298.	1.3	5
112	Long-Term Potentiation and Depression Induced by a Stochastic Conditioning of a Model Synapse. <i>Biophysical Journal</i> , 1999, 77, 1234-1243.	0.5	19
113	Energy efficient modulation of dendritic processing functions. <i>BioSystems</i> , 1998, 48, 157-163.	2.0	2
114	Possible roles of retrograde messengers on LTP, LTD, and associative memory. <i>BioSystems</i> , 1997, 40, 127-132.	2.0	7
115	Modeling the attenuation and failure of action potentials in the dendrites of hippocampal neurons. <i>Biophysical Journal</i> , 1996, 71, 2394-2403.	0.5	45
116	Input-output relations in the entorhinal-hippocampal-entorhinal loop: Entorhinal cortex and dentate gyrus. <i>Hippocampus</i> , 1995, 5, 440-451.	1.9	16
117	A model for long-term potentiation and depression. <i>Journal of Computational Neuroscience</i> , 1995, 2, 335-343.	1.0	15
118	Monte Carlo evaluation of the hydration free energy for hydronium, hydroxyl and ammonium ions.. <i>Journal of Molecular Liquids</i> , 1993, 58, 117-128.	4.9	2
119	A Kinetic Model of Short- and Long-Term Potentiation. <i>Neural Computation</i> , 1993, 5, 636-647.	2.2	4
120	An algorithm to find all paths between two nodes in a graph. <i>Journal of Computational Physics</i> , 1990, 87, 231-236.	3.8	25
121	Hydration free energy for Li ⁺ at infinite dilution with a three-body ab initio potential. <i>Journal of Chemical Physics</i> , 1989, 90, 4629-4630.	3.0	41
122	Hydration of the hydroxide ion: Ab initio calculations and monte carlo simulation. <i>Chemical Physics Letters</i> , 1988, 149, 201-205.	2.6	18
123	Monte Carlo study of free energy of hydration for Li ⁺ , Na ⁺ , K ⁺ , F ⁻ , and Cl ⁻ with ab initio potentials. <i>Journal of Chemical Physics</i> , 1988, 88, 7766-7771.	3.0	82
124	Solute-induced Water Structure: Computer Simulation on a Model System. <i>Molecular Simulation</i> , 1988, 1, 225-238.	2.0	15
125	Molecular Dynamics Study of a KCl Aqueous Solution: Dynamical Results. <i>Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences</i> , 1987, 42, 227-230.	1.5	7
126	Order parameters of gels and gelation kinetics of aqueous agarose systems: Relation to the spinodal decomposition of the sol. <i>Biopolymers</i> , 1987, 26, 743-761.	2.4	60

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127	Hydration of the hydronium ion. Chemical Physics Letters, 1986, 125, 419-424.	2.6	54
128	MONTE CARLO SIMULATION OF WATER INTERACTION WITH GRAMICIDIN A TRANSMEMBRANE CHANNEL : HYDROGEN BOND ANALYSIS. Journal De Physique Colloque, 1984, 45, C7-219-C7-223.	0.2	0
129	Biomolecular-Solvent Stereodynamic Coupling Probed by Deuteration. Journal of Biomolecular Structure and Dynamics, 1983, 1, 473-486.	3.5	17
130	Microcomputer-based system for automation of spectrophotometric data acquisition for long-lasting kinetics. Journal of Physics E: Scientific Instruments, 1981, 14, 426-428.	0.7	5