Michele Migliore

List of Publications by Year
in descending order

130 papers	7,052 citations	71102 41 h-index	69250 77 g-index
137 all docs	137 docs citations	137 times ranked	6756 citing authors

#	Article	IF	Citations
1	Pharmacological upregulation of h-channels reduces the excitability of pyramidal neuron dendrites. Nature Neuroscience, 2002, 5, 767-774.	14.8	404
2	ModelDB: A Database to Support Computational Neuroscience. Journal of Computational Neuroscience, 2004, 17, 7-11.	1.0	311
3	Role of an A-type K+ conductance in the back-propagation of action potentials in the dendrites of hippocampal pyramidal neurons. Journal of Computational Neuroscience, 1999, 7, 5-15.	1.0	307
4	On the Initiation and Propagation of Dendritic Spikes in CA1 Pyramidal Neurons. Journal of Neuroscience, 2004, 24, 11046-11056.	3.6	303
5	Emerging rules for the distributions of active dendritic conductances. Nature Reviews Neuroscience, 2002, 3, 362-370.	10.2	291
6	Dendritic K+ channels contribute to spike-timing dependent long-term potentiation in hippocampal pyramidal neurons. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 8366-8371.	7.1	267
7	Dendritic potassium channels in hippocampal pyramidal neurons. Journal of Physiology, 2000, 525, 75-81.	2.9	246
8	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
9	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
10	Computational modeling of the effects of amyloid-beta on release probability at hippocampal synapses. Frontiers in Computational Neuroscience, 2013, 7, 1.	2.1	175
11	Parallel network simulations with NEURON. Journal of Computational Neuroscience, 2006, 21, 119-129.	1.0	170
12	Genotypeâ€“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
13	Activity-Dependent Adjustments of the Inhibitory Network in the Olfactory Bulb following Early Postnatal Deprivation. Neuron, 2005, 46, 103-116.	8.1	152
14	Early-Onset Epileptic Encephalopathy Caused by Gain-of-Function Mutations in the Voltage Sensor of K_v7.2 and K_v7.3 Potassium Channel Subunits. Journal of Neuroscience, 2015, 35, 3782-3793.	3.6	151
15	The olfactory granule cell: From classical enigma to central role in olfactory processing. Brain Research Reviews, 2007, 55, 373-382.	9.0	150
16	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
17	The Scientific Case for Brain Simulations. Neuron, 2019, 102, 735-744.	8.1	123
18	On the mechanisms underlying the depolarization block in the spiking dynamics of CA1 pyramidal neurons. Journal of Computational Neuroscience, 2012, 33, 207-225.	1.0	119

#	Article	IF	Citations
19	An integrated approach to classifying neuronal phenotypes. Nature Reviews Neuroscience, 2005, 6, 810-818.	10.2	111
20	Distinct classes of pyramidal cells exhibit mutually exclusive firing patterns in hippocampal area CA3b. Hippocampus, 2008, 18, 411-424.	1.9	109
21	Control of GABA release at single mossy fiber-CA3 connections in the developing hippocampus. Frontiers in Synaptic Neuroscience, 2010, 2, 1.	2.5	105
22	ModelDB: Making Models Publicly Accessible to Support Computational Neuroscience. Neuroinformatics, 2003, 1, 135-140.	2.8	103
23	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
24	Normalization of Ca²⁺Signals by Small Oblique Dendrites of CA1 Pyramidal Neurons. Journal of Neuroscience, 2003, 23, 3243-3250.	3.6	84
25	Signal Propagation in Oblique Dendrites of CA1 Pyramidal Cells. Journal of Neurophysiology, 2005, 94, 4145-4155.	1.8	84
26	Intrinsic Electrophysiology of Mouse Corticospinal Neurons: a Class-Specific Triad of Spike-Related Properties. Cerebral Cortex, 2013, 23, 1965-1977.	2.9	83
27	Monte Carlo study of free energy of hydration for Li+, Na+, K+, Fâˆ’, and Clâˆ’ with ab initio potentials. Journal of Chemical Physics, 1988, 88, 7766-7771.	3.0	82
28	Functional Impact of Dendritic Branch-Point Morphology. Journal of Neuroscience, 2013, 33, 2156-2165.	3.6	78
29	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
30	Local Control of Postinhibitory Rebound Spiking in CA1 Pyramidal Neuron Dendrites. Journal of Neuroscience, 2010, 30, 6434-6442.	3.6	72
31	The Role of Distal Dendritic Gap Junctions in Synchronization of Mitral Cell Axonal Output. Journal of Computational Neuroscience, 2005, 18, 151-161.	1.0	71
32	Dendritic I_hSelectively Blocks Temporal Summation of Unsynchronized Distal Inputs in CA1 Pyramidal Neurons. Journal of Computational Neuroscience, 2004, 16, 5-13.	1.0	69
33	Order parameters of gels and gelation kinetics of aqueous agarose systems: Relation to the spinodal decomposition of the sol. Biopolymers, 1987, 26, 743-761.	2.4	60
34	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
35	Hydration of the hydronium ion. Chemical Physics Letters, 1986, 125, 419-424.	2.6	54
36	Know Your Current Ih: Interaction with a Shunting Current Explains the Puzzling Effects of Its Pharmacological or Pathological Modulations. PLoS ONE, 2012, 7, e36867.	2.5	53

#	Article	IF	Citations
37	A new bursting model of CA3 pyramidal cell physiology suggests multiple locations for spike initiation. BioSystems, 2002, 67, 129-137.	2.0	51
38	Dendritic action potentials connect distributed dendrodendritic microcircuits. Journal of Computational Neuroscience, 2008, 24, 207-221.	1.0	51
39	PRECLINICAL STUDY: FULL ARTICLE: Altered architecture and functional consequences of the mesolimbic dopamine system in cannabis dependence. Addiction Biology, 2010, 15, 266-276.	2.6	51
40	Differential effects of Kv7 (Mâ€) channels on synaptic integration in distinct subcellular compartments of rat hippocampal pyramidal neurons. Journal of Physiology, 2011, 589, 6029-6038.	2.9	47
41	Modeling the attenuation and failure of action potentials in the dendrites of hippocampal neurons. Biophysical Journal, 1996, 71, 2394-2403.	0.5	45
42	Inputâ€"output relations in the entorhinal cortexâ€"dentateâ€"hippocampal system: Evidence for a non-linear transfer of signals. Neuroscience, 2006, 142, 247-265.	2.3	45
43	Circadian Modulation of Neurons and Astrocytes Controls Synaptic Plasticity in Hippocampal Area CA1. Cell Reports, 2020, 33, 108255.	6.4	45
44	Sparse Coding and Lateral Inhibition Arising from Balanced and Unbalanced Dendrodendritic Excitation and Inhibition. Journal of Neuroscience, 2014, 34, 13701-13713.	3.6	44
45	Dorsoventral Differences in Intrinsic Properties in Developing CA1 Pyramidal Cells. Journal of Neuroscience, 2012, 32, 3736-3747.	3.6	42
46	Principal cell activity induces spine relocation of adult-born interneurons in the olfactory bulb. Nature Communications, 2016, 7, 12659.	12.8	42
47	Hydration free energy for Li+ at infinite dilution with a threeâ€body ab initio potential. Journal of Chemical Physics, 1989, 90, 4629-4630.	3.0	41
48	Single neuron binding properties and the magical number 7. Hippocampus, 2008, 18, 1122-1130.	1.9	41
49	On the integration of subthreshold inputs from Perforant Path and Schaffer Collaterals in hippocampal CA1 pyramidal neurons. Journal of Computational Neuroscience, 2003, 14, 185-192.	1.0	38
50	Distributed organization of a brain microcircuit analyzed by three-dimensional modeling: the olfactory bulb. Frontiers in Computational Neuroscience, 2014, 8, 50.	2.1	38
51	Dataâ€driven integration of hippocampal <scp>CA1</scp> synaptic physiology <i>in silico</i>. Hippocampus, 2020, 30, 1129-1145.	1.9	38
52	Mitral cell spike synchrony modulated by dendrodendritic synapse location. Frontiers in Computational Neuroscience, 2012, 6, 3.	2.1	37
53	Sparse Distributed Representation of Odors in a Large-scale Olfactory Bulb Circuit. PLoS Computational Biology, 2013, 9, e1003014.	3.2	37
54	Optimizing computer models of corticospinal neurons to replicate in vitro dynamics. Journal of Neurophysiology, 2017, 117, 148-162.	1.8	37

#	Article	IF	Citations
55	A Multi-Compartment Model for Interneurons in the Dorsal Lateral Geniculate Nucleus. PLoS Computational Biology, 2011, 7, e1002160.	3.2	36
56	Abnormal excitability of oblique dendrites implicated in early Alzheimer's: a computational study. Frontiers in Neural Circuits, 2010, 4, .	2.8	32
57	Fast and accurate low-dimensional reduction of biophysically detailed neuron models. Scientific Reports, 2012, 2, 928.	3.3	32
58	Electrophysiological Properties and Modeling of Murine Vomeronasal Sensory Neurons in Acute Slice Preparations. Chemical Senses, 2006, 31, 425-435.	2.0	31
59	SenseLab: new developments in disseminating neuroscience information. Briefings in Bioinformatics, 2007, 8, 150-162.	6.5	31
60	Functional Roles of Distributed Synaptic Clusters in the Mitralâ€"Granule Cell Network of the Olfactory Bulb. Frontiers in Integrative Neuroscience, 2010, 4, 122.	2.1	31
61	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
62	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
63	Neuron Names: A Gene- and Property-Based Name Format, With Special Reference to Cortical Neurons. Frontiers in Neuroanatomy, 2019, 13, 25.	1.7	29
64	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
65	An algorithm to find all paths between two nodes in a graph. Journal of Computational Physics, 1990, 87, 231-236.	3.8	25
66	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
67	Parallel odor processing by mitral and middle tufted cells in the olfactory bulb. Scientific Reports, 2018, 8, 7625.	3.3	24
68	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
69	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
70	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
71	Computational Models of Neuronal Biophysics and the Characterization of Potential Neuropharmacological Targets. Current Medicinal Chemistry, 2008, 15, 2456-2471.	2.4	22
72	Linking Brain Structure, Activity, and Cognitive Function through Computation. ENeuro, 2022, 9, ENEURO.0316-21.2022.	1.9	22

#	Article	IF	Citations
73	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
74	A computer model of unitary responses from associational/commissural and perforant path synapses in hippocampal CA3 pyramidal cells. Journal of Computational Neuroscience, 2011, 31, 137-158.	1.0	20
75	Long-Term Potentiation and Depression Induced by a Stochastic Conditioning of a Model Synapse. Biophysical Journal, 1999, 77, 1234-1243.	0.5	19
76	The subthreshold-active KV7 current regulates neurotransmission by limiting spike-induced Ca2+ influx in hippocampal mossy fiber synaptic terminals. Communications Biology, 2019, 2, 145.	4.4	19
77	Hydration of the hydroxide ion: Ab initio calculations and monte carlo simulation. Chemical Physics Letters, 1988, 149, 201-205.	2.6	18
78	Biomolecular-Solvent Stereodynamic Coupling Probed by Deuteration. Journal of Biomolecular Structure and Dynamics, 1983, 1, 473-486.	3.5	17
79	Text Mining Neuroscience Journal Articles to Populate Neuroscience Databases. Neuroinformatics, 2003, 1, 215-238.	2.8	17
80	Semi-Automated Population of an Online Database of Neuronal Models (ModelDB) With Citation Information, Using PubMed for Validation. Neuroinformatics, 2004, 2, 327-332.	2.8	17
81	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
82	Input-output relations in the entorhinal-hippocampal-entorhinal loop: Entorhinal cortex and dentate gyrus. Hippocampus, 1995, 5, 440-451.	1.9	16
83	Progressive effect of beta amyloid peptides accumulation on CA1 pyramidal neurons: a model study suggesting possible treatments. Frontiers in Computational Neuroscience, 2012, 6, 52.	2.1	16
84	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
85	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
86	Solute-induced Water Structure: Computer Simulation on a Model System. Molecular Simulation, 1988, 1, 225-238.	2.0	15
87	A model for long-term potentiation and depression. Journal of Computational Neuroscience, 1995, 2, 335-343.	1.0	15
88	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
89	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
90	Computational Model of Erratic Arrhythmias in a Cardiac Cell Network: The Role of Gap Junctions. PLoS ONE, 2014, 9, e100288.	2.5	12

#	Article	IF	Citations
91	Graph-theoretical derivation of brain structural connectivity. Applied Mathematics and Computation, 2020, 377, 125150.	2.2	12
92	Analysis of Age-Dependent Alterations in Excitability Properties of CA1 Pyramidal Neurons in an APPPS1 Model of Alzheimerâ€™s Disease. Frontiers in Aging Neuroscience, 2021, 13, 668948.	3.4	12
93	Predicting the response of olfactory sensory neurons to odor mixtures from single odor response. Scientific Reports, 2016, 6, 24091.	3.3	11
94	Reconstruction of the Hippocampus. Advances in Experimental Medicine and Biology, 2022, 1359, 261-283.	1.6	10
95	A modeling study suggesting how a reduction in the context-dependent input on CA1 pyramidal neurons could generate schizophrenic behavior. Neural Networks, 2011, 24, 552-559.	5.9	9
96	A kinetic model for Brain-Derived Neurotrophic Factor mediated spike timing-dependent LTP. PLoS Computational Biology, 2019, 15, e1006975.	3.2	9
97	Effects of <i>I_h</i> and TASK-like shunting current on dendritic impedance in layer 5 pyramidal-tract neurons. Journal of Neurophysiology, 2021, 125, 1501-1516.	1.8	9
98	Quantitative Modeling of Perception and Production of Time Intervals. Journal of Neurophysiology, 2001, 86, 2754-2760.	1.8	8
99	Molecular Dynamics Study of a KCl Aqueous Solution: Dynamical Results. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1987, 42, 227-230.	1.5	7
100	Possible roles of retrograde messengers on LTP, LTD, and associative memory. BioSystems, 1997, 40, 127-132.	2.0	7
101	Functional neurology of a brain system: a 3D olfactory bulb model to process natural odorants. Functional Neurology, 2013, 28, 241-3.	1.3	7
102	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
103	On the structural connectivity of large-scale models of brain networks at cellular level. Scientific Reports, 2021, 11, 4345.	3.3	6
104	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
105	Computational model of the effects of stochastic conditioning on the induction of long-term potentiation and depression. Biological Cybernetics, 1999, 81, 291-298.	1.3	5
106	Odor Experience Facilitates Sparse Representations of New Odors in a Large-Scale Olfactory Bulb Model. Frontiers in Neuroanatomy, 2016, 10, 10.	1.7	5
107	A Kinetic Model of Short- and Long-Term Potentiation. Neural Computation, 1993, 5, 636-647.	2.2	4
108	A model of the effects of cognitive load on the subjective estimation and production of time intervals. BioSystems, 2000, 58, 187-193.	2.0	4

#	Article	IF	Citations
109	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
110	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
111	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
112	A General Procedure to Study Subcellular Models of Transsynaptic Signaling at Inhibitory Synapses. Frontiers in Neuroinformatics, 2016, 10, 23.	2.5	3
113	The possible consequences for cognitive functions of external electric fields at power line frequency on hippocampal <scp>CA</scp>1 pyramidal neurons. European Journal of Neuroscience, 2017, 45, 1024-1031.	2.6	3
114	Spatial graphs and Convolutive Models. , 2020, , .		3
115	CA3 Cells: Detailed and Simplified Pyramidal Cell Models. , 2010, , 353-374.		3
116	Membrane electrical properties of mouse hippocampal CA1 pyramidal neurons during strong inputs. Biophysical Journal, 2022, 121, 644-657.	0.5	3
117	Monte Carlo evaluation of the hydration free energy for hydronium, hydroxyl and ammonium ions.. Journal of Molecular Liquids, 1993, 58, 117-128.	4.9	2
118	Energy efficient modulation of dendritic processing functions. BioSystems, 1998, 48, 157-163.	2.0	2
119	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
120	Learning experience facilitates sparse coding of new odors in a large-scale olfactory bulb model. BMC Neuroscience, 2015, 16, .	1.9	0
121	The origin of Diastolic Micro-Signals observed in defibrillator recipients might be qualitatively explained by a simple computational model. , 2015, , .		0
122	Cover Image, Volume 30, Issue 11. Hippocampus, 2020, 30, C1.	1.9	0
123	Action Potential Backpropagation. , 2014, , 1-6.		0
124	Reduced Morphology Models. , 2014, , 1-14.		0
125	Visualization of Simulated Arrhythmias due to Gap Junctions. , 2018, , .		0
126	Creating knowledgebases to text-mine PUBMED articles using clustering techniques. AMIA ... Annual Symposium proceedings, 2003, , 821.	0.2	0

#	Article	IF	Citations
127	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
128	SenseLab: Integration of Multidisciplinary Neuroscience Data. , 2022, , 3069-3072.		0
129	Action Potential Back-Propagation. , 2022, , 151-156.		0
130	Reduced Morphology Models. , 2022, , 3007-3018.		0