

Antonio C Roque

List of Publications by Year in descending order

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99
papers

939
citations

516215

16
h-index

610482

24
g-index

108
all docs

108
docs citations

108
times ranked

1005
citing authors

#	ARTICLE	IF	CITATIONS
1	Phase transitions and self-organized criticality in networks of stochastic spiking neurons. <i>Scientific Reports</i> , 2016, 6, 35831.	1.6	65
2	Physics of psychophysics: Stevens and Weber-Fechner laws are transfer functions of excitable media. <i>Physical Review E</i> , 2002, 65, 060901.	0.8	60
3	A Computational Study on the Role of Gap Junctions and Rod Ih Conductance in the Enhancement of the Dynamic Range of the Retina. <i>PLoS ONE</i> , 2009, 4, e6970.	1.1	45
4	The non-equilibrium nature of culinary evolution. <i>New Journal of Physics</i> , 2008, 10, 073020.	1.2	35
5	Effects of Altered Excitation-Inhibition Balance on Decision Making in a Cortical Circuit Model. <i>Journal of Neuroscience</i> , 2022, 42, 1035-1053.	1.7	33
6	Conflict as a determinant of rat behavior in three types of elevated plus-maze. <i>Behavioural Processes</i> , 2003, 63, 87-93.	0.5	25
7	Signal compression in the sensory periphery. <i>Neurocomputing</i> , 2005, 65-66, 691-696.	3.5	25
8	Combined Role of Seizure-Induced Dendritic Morphology Alterations and Spine Loss in Newborn Granule Cells with Mossy Fiber Sprouting on the Hyperexcitability of a Computer Model of the Dentate Gyrus. <i>PLoS Computational Biology</i> , 2014, 10, e1003601.	1.5	25
9	A minimal model for excitable and bursting elements. <i>Neurocomputing</i> , 2001, 38-40, 255-261.	3.5	24
10	Mammography and Computerized Decision Systems. <i>Annals of the New York Academy of Sciences</i> , 2002, 980, 83-94.	1.8	23
11	A realistic model of rod photoreceptor for use in a retina network model. <i>Neurocomputing</i> , 2006, 69, 1020-1024.	3.5	23
12	Anxiety-like behavior in rats: a computational model. <i>Neural Networks</i> , 2000, 13, 21-29.	3.3	22
13	Sustained oscillations, irregular firing, and chaotic dynamics in hierarchical modular networks with mixtures of electrophysiological cell types. <i>Frontiers in Computational Neuroscience</i> , 2014, 8, 103.	1.2	22
14	A Negative Slope Conductance of the Persistent Sodium Current Prolongs Subthreshold Depolarizations. <i>Biophysical Journal</i> , 2017, 113, 2207-2217.	0.2	22
15	Dynamics of spontaneous activity in random networks with multiple neuron subtypes and synaptic noise. <i>Journal of Computational Neuroscience</i> , 2018, 45, 1-28.	0.6	22
16	Dynamic Range of Vertebrate Retina Ganglion Cells: Importance of Active Dendrites and Coupling by Electrical Synapses. <i>PLoS ONE</i> , 2012, 7, e48517.	1.1	21
17	Intrinsic and synaptic properties of hippocampal CA1 pyramidal neurons of the Wistar Audiogenic Rat (WAR) strain, a genetic model of epilepsy. <i>Scientific Reports</i> , 2018, 8, 10412.	1.6	21
18	A computational model for exploratory activity of rats with different anxiety levels in elevated plus-maze. <i>Journal of Neuroscience Methods</i> , 2014, 236, 44-50.	1.3	20

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19	Modelling intracellular competition for calcium: kinetic and thermodynamic control of different molecular modes of signal decoding. <i>Scientific Reports</i> , 2016, 6, 23730.	1.6	19
20	Self-Consistent Scheme for Spike-Train Power Spectra in Heterogeneous Sparse Networks. <i>Frontiers in Computational Neuroscience</i> , 2018, 12, 9.	1.2	19
21	Self-sustained activity of low firing rate in balanced networks. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2020, 537, 122671.	1.2	19
22	Stochastic Induction of Long-Term Potentiation and Long-Term Depression. <i>Scientific Reports</i> , 2016, 6, 30899.	1.6	18
23	A biophysical model of vertebrate olfactory epithelium and bulb exhibiting gap junction dependent odor-evoked spatiotemporal patterns of activity. <i>BioSystems</i> , 2004, 73, 25-43.	0.9	17
24	Mathematical methods to model rodent behavior in the elevated plus-maze. <i>Journal of Neuroscience Methods</i> , 2013, 220, 141-148.	1.3	16
25	The Periglomerular Cell of the Olfactory Bulb and its Role in Controlling Mitral Cell Spiking: A Computational Model. <i>PLoS ONE</i> , 2013, 8, e56148.	1.1	16
26	Characterization of the rat exploratory behavior in the elevated plus-maze with Markov chains. <i>Journal of Neuroscience Methods</i> , 2010, 193, 288-295.	1.3	15
27	Ih Equalizes Membrane Input Resistance in a Heterogeneous Population of Fusiform Neurons in the Dorsal Cochlear Nucleus. <i>Frontiers in Cellular Neuroscience</i> , 2016, 10, 249.	1.8	14
28	Mechanisms of Self-Sustained Oscillatory States in Hierarchical Modular Networks with Mixtures of Electrophysiological Cell Types. <i>Frontiers in Computational Neuroscience</i> , 2016, 10, 23.	1.2	14
29	Computational models of dentate gyrus with epilepsy-induced morphological alterations in granule cells. <i>Epilepsy and Behavior</i> , 2014, 38, 63-70.	0.9	13
30	The role of negative conductances in neuronal subthreshold properties and synaptic integration. <i>Biophysical Reviews</i> , 2017, 9, 827-834.	1.5	13
31	Morphological Alterations in Newly Born Dentate Gyrus Granule Cells That Emerge after Status Epilepticus Contribute to Make Them Less Excitable. <i>PLoS ONE</i> , 2012, 7, e40726.	1.1	13
32	Fetal source extraction from magnetocardiographic recordings by dependent component analysis. <i>Physics in Medicine and Biology</i> , 2005, 50, 4457-4464.	1.6	12
33	A unified theory of E/I synaptic balance, quasycritical neuronal avalanches and asynchronous irregular spiking. <i>Journal of Physics Complexity</i> , 2021, 2, 045001.	0.9	11
34	Characterization of rat behavior in the elevated plus-maze using a directed graph. <i>Journal of Neuroscience Methods</i> , 2009, 184, 251-255.	1.3	10
35	A Dynamical Model of Fast Cortical Reorganization. <i>Journal of Computational Neuroscience</i> , 2004, 16, 177-201.	0.6	9
36	Dependent component analysis for the magnetogastrographic detection of human electrical response activity. <i>Physiological Measurement</i> , 2007, 28, 1029-1044.	1.2	8

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37	Asymmetrical voltage response in resonant neurons shaped by nonlinearities. <i>Chaos</i> , 2019, 29, 103135.	1.0	7
38	Dynamical phenomena in complex networks: fundamentals and applications. <i>European Physical Journal: Special Topics</i> , 2021, 230, 2711-2716.	1.2	7
39	Interference with the GABAergic system in the dorsolateral telencephalon and modulation of the electric organ discharge frequency in the weakly electric fish <i>Gymnotus carapo</i> . <i>Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology</i> , 2001, 187, 925-933.	0.7	6
40	Interplay of activation kinetics and the derivative conductance determines resonance properties of neurons. <i>Physical Review E</i> , 2018, 97, 042408.	0.8	6
41	Binding of Filamentous Actin to CaMKII as Potential Regulation Mechanism of Bidirectional Synaptic Plasticity by I^2 CaMKII in Cerebellar Purkinje Cells. <i>Scientific Reports</i> , 2020, 10, 9019.	1.6	6
42	A realistic computational model of formation and variability of tonotopic maps in the auditory cortex. <i>Neurocomputing</i> , 1999, 26-27, 355-359.	3.5	5
43	Simulation of a vertebrate receptor cell of the olfactory epithelium for use in network models. <i>Neurocomputing</i> , 2002, 44-46, 177-182.	3.5	5
44	Use of Evolutionary Robots as an Auxiliary Tool for Developing Behavioral Models of Rats in an Elevated Plus-Maze. , 2010, , .		5
45	NetPyNE Implementation and Scaling of the Potjans-Diesmann Cortical Microcircuit Model. <i>Neural Computation</i> , 2021, 33, 1993-2032.	1.3	5
46	Biologically Plausible Models of Topographic Map Formation in the Somatosensory and Auditory Cortices. <i>International Journal of Neural Systems</i> , 1999, 09, 265-271.	3.2	4
47	Computational model of topographic reorganization in somatosensory cortex in response to digit lesions. <i>Neurocomputing</i> , 1999, 26-27, 435-441.	3.5	4
48	Realistic computer simulation of cortical lesion induced imbalances in properties of somatotopic maps. <i>Neurocomputing</i> , 2000, 32-33, 453-459.	3.5	4
49	Optimal Interplay between Synaptic Strengths and Network Structure Enhances Activity Fluctuations and Information Propagation in Hierarchical Modular Networks. <i>Brain Sciences</i> , 2020, 10, 228.	1.1	4
50	Building a model of the brain: from detailed connectivity maps to network organization. <i>European Physical Journal: Special Topics</i> , 2021, 230, 2887-2909.	1.2	4
51	A Model Based on Genetic Algorithm for Investigation of the Behavior of Rats in the Elevated Plus-Maze. <i>Lecture Notes in Computer Science</i> , 2012, , 151-158.	1.0	4
52	A biologically plausible computational model of classical conditioning induced reorganization of tonotopic maps in the auditory cortex. <i>Neurocomputing</i> , 2000, 32-33, 685-691.	3.5	3
53	Segmentation of digitized mammograms using self-organizing maps in a breast cancer computer aided diagnosis system. , 0, , .		3
54	Shannon's entropy applied to the analysis of tonotopic reorganization in a computational model of classical conditioning. <i>Neurocomputing</i> , 2002, 44-46, 359-364.	3.5	3

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55	Electrical responses of three classes of granule cells of the olfactory bulb to synaptic inputs in different dendritic locations. <i>Frontiers in Computational Neuroscience</i> , 2014, 8, 128.	1.2	3
56	Aplicação de Redes Neurais Artificiais na Classificação de Padrões Posturais em Crianças Respiradoras Bucais e Nasais. <i>Revista De Informatica Teorica E Aplicada</i> , 2007, 14, 91-107.	0.2	3
57	Granger causality in the frequency domain: derivation and applications. <i>Revista Brasileira De Ensino De Fisica</i> , 0, 42, .	0.2	3
58	Alterations of maps induced by blockage of synaptic receptors in a computer simulation of the somatosensory system. <i>Neurocomputing</i> , 2001, 38-40, 1453-1459.	3.5	2
59	A biologically plausible neural network model of the primate primary visual system. <i>Neurocomputing</i> , 2002, 44-46, 957-963.	3.5	2
60	Self-sustained waves in a computational model of the olfactory epithelium with gap junctions. <i>Neurocomputing</i> , 2004, 58-60, 1033-1039.	3.5	2
61	A computational model of the primary auditory cortex exhibiting plasticity in the frequency representation. <i>Neurocomputing</i> , 2006, 70, 3-8.	3.5	2
62	Reduced compartmental model of the periglomerular cell of the mammalian olfactory bulb. <i>BMC Neuroscience</i> , 2009, 10, .	0.8	2
63	Role of morphological changes in newly born granule cells of hippocampus after status epilepticus induced by pilocarpine in hyperexcitability. <i>BMC Neuroscience</i> , 2012, 13, .	0.8	2
64	Effect of synaptic plasticity on functional connectivity and global activity of a neocortical network model. <i>BMC Neuroscience</i> , 2015, 16, .	0.8	2
65	Non-Decaying postsynaptic potentials and delayed spikes in hippocampal pyramidal neurons generated by a zero slope conductance created by the persistent Na^+ current. <i>Channels</i> , 2018, 12, 81-88.	1.5	2
66	Molecular mechanisms of detection and discrimination of dynamic signals. <i>Scientific Reports</i> , 2018, 8, 2480.	1.6	2
67	Modeling Hippocampal CA1 Gabaergic Synapses of Audiogenic Rats. <i>International Journal of Neural Systems</i> , 2020, 30, 2050022.	3.2	2
68	Impact of the activation rate of the hyperpolarization-activated current I_{h} on the neuronal membrane time constant and synaptic potential duration. <i>European Physical Journal: Special Topics</i> , 0, , 1.	1.2	2
69	Using information theory for the analysis of cortical reorganization in a realistic computational model of the somatosensory system. <i>Neurocomputing</i> , 2002, 44-46, 923-928.	3.5	1
70	Sensitivity of AMPA receptor channel to calcium oscillations: a computational study. <i>Neurocomputing</i> , 2003, 52-54, 341-346.	3.5	1
71	A possible mechanism of curvature coding in early vision. <i>Neurocomputing</i> , 2005, 65-66, 117-124.	3.5	1
72	A large-scale realistic model of V1 exhibiting orientation selectivity diversity and laminar dependence. <i>BMC Neuroscience</i> , 2007, 8, .	0.8	1

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73	A novel anxiety index for the rat behavior in the elevated plus-maze. BMC Neuroscience, 2013, 14, .	0.8	1
74	Self-sustained activity in neural networks: influence of network topology and cell types. BMC Neuroscience, 2013, 14, .	0.8	1
75	Î²CaMKII regulates bidirectional long-term plasticity in cerebellar Purkinje cells by a CaMKII/PP2B switch mechanism. BMC Neuroscience, 2014, 15, .	0.8	1
76	Firing properties of ventral medullary respiratory neurons in sinoaortic denervated rats. Experimental Physiology, 2019, 104, 39-49.	0.9	1
77	Goalkeeper Game: A New Assessment Tool for Prediction of Gait Performance Under Complex Condition in People With Parkinson's Disease. Frontiers in Aging Neuroscience, 2020, 12, 50.	1.7	1
78	Modeling and characterizing stochastic neurons based on in vitro voltage-dependent spike probability functions. European Physical Journal: Special Topics, 0, , 1.	1.2	1
79	Archetypes and Outliers in the Neuromorphological Space. Springer Series in Computational Neuroscience, 2014, , 41-59.	0.3	1
80	A realistic model of tonotopic reorganization in the auditory cortex in response to cochlear lesions. Neurocomputing, 2001, 38-40, 1169-1174.	3.5	0
81	Respiratory rhythm and EEG oscillations in the olfactory system: a study using a biologically detailed model. BMC Neuroscience, 2007, 8, .	0.8	0
82	The effect of gap junctions on the dynamic range in a model of the rod photoreceptors layer. BMC Neuroscience, 2007, 8, .	0.8	0
83	Reduced compartmental Hodgkin-Huxley type models of three different cortical neuron classes. BMC Neuroscience, 2009, 10, .	0.8	0
84	Stability and sensitivity analysis of reduced compartmental models of primary visual cortical neurons. BMC Neuroscience, 2009, 10, .	0.8	0
85	A Java-based simulation environment for networks of simplified neuron models. BMC Neuroscience, 2009, 10, .	0.8	0
86	A three-compartment conductance-based model of the rat olfactory receptor neuron. BMC Neuroscience, 2010, 11, .	0.8	0
87	Interplay of periglomerular and granule cell inhibitory synapses on mitral cell spiking. BMC Neuroscience, 2011, 12, .	0.8	0
88	Cross-modular processing in a spiking neural network model. BMC Neuroscience, 2011, 12, .	0.8	0
89	Lateral inhibition and odor discrimination in a model of the olfactory bulb. BMC Neuroscience, 2013, 14, .	0.8	0
90	Foreword to the Special Issue on LASCON 2012. Journal of Neuroscience Methods, 2013, 220, 99.	1.3	0

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91	Electrical coupling in the retina ganglion cell layer increases the dynamic range. BMC Neuroscience, 2014, 15, .	0.8	0
92	A cortical multi-layered model and the properties of its internally-generated activity. BMC Neuroscience, 2015, 16, .	0.8	0
93	Unravelling how \hat{I}^2 CaMKII controls the direction of plasticity at parallel fibre-Purkinje cell synapses. AIP Conference Proceedings, 2015, , .	0.3	0
94	Conductance-based models and the fragmentation problem: A case study based on hippocampal CA1 pyramidal cell models and epilepsy. Epilepsy and Behavior, 2021, 121, 106841.	0.9	0
95	Modelos de redes de neurÃ³nios para o neocÃ³rtex e fenÃ³menos emergentes observados. Revista Brasileira De Ensino De Fisica, 2021, 43, .	0.2	0
96	Extraction of Gastric Electrical Response Activity from Magnetogastrographic Recordings by DCA. Lecture Notes in Computer Science, 2007, , 585-592.	1.0	0
97	NEMOS: A Java-Based Tool for Neural Models Simulations. Frontiers in Neuroinformatics, 0, 3, .	1.3	0
98	Pattern Recognition Using a Recurrent Neural Network Inspired on the Olfactory Bulb. Lecture Notes in Computer Science, 2011, , 275-285.	1.0	0
99	AplicaÃ§Ãµes da teoria da informaÃ§Ã£o Ã neurociÃªncia. Revista Brasileira De Ensino De Fisica, 2019, 41, .	0.2	0