

# German Mato

## List of Publications by Year in descending order

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47  
papers

2,422  
citations

394421

19  
h-index

289244

40  
g-index

50  
all docs

50  
docs citations

50  
times ranked

1731  
citing authors

#	ARTICLE	IF	CITATIONS
1	Synchrony in Excitatory Neural Networks. <i>Neural Computation</i> , 1995, 7, 307-337.	2.2	527
2	Phase Dynamics for Weakly Coupled Hodgkin-Huxley Neurons. <i>Europhysics Letters</i> , 1993, 23, 367-372.	2.0	269
3	Clustering and slow switching in globally coupled phase oscillators. <i>Physical Review E</i> , 1993, 48, 3470-3477.	2.1	216
4	On Numerical Simulations of Integrate-and-Fire Neural Networks. <i>Neural Computation</i> , 1998, 10, 467-483.	2.2	183
5	Electrical Synapses and Synchrony: The Role of Intrinsic Currents. <i>Journal of Neuroscience</i> , 2003, 23, 6280-6294.	3.6	152
6	Asynchronous States and the Emergence of Synchrony in Large Networks of Interacting Excitatory and Inhibitory Neurons. <i>Neural Computation</i> , 2003, 15, 1-56.	2.2	125
7	Short-Term Plasticity Explains Irregular Persistent Activity in Working Memory Tasks. <i>Journal of Neuroscience</i> , 2013, 33, 133-149.	3.6	106
8	Existence and Stability of Persistent States in Large Neuronal Networks. <i>Physical Review Letters</i> , 2001, 86, 4175-4178.	7.8	103
9	The Combined Effects of Inhibitory and Electrical Synapses in Synchrony. <i>Neural Computation</i> , 2005, 17, 633-670.	2.2	98
10	Synchrony in Heterogeneous Networks of Spiking Neurons. <i>Neural Computation</i> , 2000, 12, 1607-1641.	2.2	81
11	Self-Similarity Properties of Natural Images Resemble Those of Turbulent Flows. <i>Physical Review Letters</i> , 1998, 80, 1098-1101.	7.8	75
12	The interplay of seven subthreshold conductances controls the resting membrane potential and the oscillatory behavior of thalamocortical neurons. <i>Journal of Neurophysiology</i> , 2014, 112, 393-410.	1.8	41
13	Chapter 21 Mechanisms of synchrony of neural activity in large networks. <i>Handbook of Biological Physics</i> , 2001, 4, 887-968.	0.8	39
14	Stochastic resonance using noise generated by a neural network. <i>Physical Review E</i> , 1999, 59, 3339-3343.	2.1	38
15	Emergent Orientation Selectivity from Random Networks in Mouse Visual Cortex. <i>Cell Reports</i> , 2018, 24, 2042-2050.e6.	6.4	37
16	Type I and Type II Neuron Models Are Selectively Driven by Differential Stimulus Features. <i>Neural Computation</i> , 2008, 20, 2418-2440.	2.2	33
17	Stochastic resonance in neural systems: Effect of temporal correlation in the spike trains. <i>Physical Review E</i> , 1998, 58, 876-880.	2.1	29
18	Memorization Without Generalization in a Multilayered Neural Network. <i>Europhysics Letters</i> , 1992, 20, 471-476.	2.0	28

#	ARTICLE	IF	CITATIONS
19	Bifurcation structure determines different phase-amplitude coupling patterns in the activity of biologically plausible neural networks. <i>NeuroImage</i> , 2019, 202, 116031.	4.2	23
20	Automatic quantification of the LV function and mass: A deep learning approach for cardiovascular MRI. <i>Computer Methods and Programs in Biomedicine</i> , 2019, 169, 37-50.	4.7	23
21	Automatic myocardial segmentation by using a deep learning network in cardiac MRI. , 2017, , .		19
22	Inhibition potentiates the synchronizing action of electrical synapses. <i>Frontiers in Computational Neuroscience</i> , 2007, 1, 8.	2.1	18
23	Multi-fractal wavefunctions in one-dimensional disordered systems. <i>Journal of Physics C: Solid State Physics</i> , 1987, 20, L717-L721.	1.5	15
24	Patterns of synchrony in a heterogeneous Hodgkin-Huxley neural network with weak coupling. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1993, 200, 662-669.	2.6	15
25	Analysis of the role of the low threshold currents $I_T$ and $I_h$ in intrinsic delta oscillations of thalamocortical neurons. <i>Frontiers in Computational Neuroscience</i> , 2015, 9, 52.	2.1	15
26	Fractal wavefunctions in one-dimensional disordered systems with an electric field. <i>Journal of Physics Condensed Matter</i> , 1989, 1, 901-905.	1.8	12
27	Linking dynamical and functional properties of intrinsically bursting neurons. <i>Journal of Computational Neuroscience</i> , 2013, 35, 213-230.	1.0	11
28	Mechanisms for pattern specificity of deep-brain stimulation in Parkinson's disease. <i>PLoS ONE</i> , 2017, 12, e0182884.	2.5	11
29	Inward rectifier potassium current $I_{Kir}$ promotes intrinsic pacemaker activity of thalamocortical neurons. <i>Journal of Neurophysiology</i> , 2018, 119, 2358-2372.	1.8	10
30	Neural Network Models of Perceptual Learning of Angle Discrimination. <i>Neural Computation</i> , 1996, 8, 270-299.	2.2	9
31	Maximum Evidence Method for classification of brain tissues in MRI. <i>Pattern Recognition Letters</i> , 2011, 32, 12-18.	4.2	9
32	Spike-Timing-Dependent Plasticity and Reliability Optimization: The Role of Neuron Dynamics. <i>Neural Computation</i> , 2011, 23, 1768-1789.	2.2	8
33	Dynamical and topological aspects of consensus formation in complex networks. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2018, 495, 152-161.	2.6	8
34	Two types of ictal phase-amplitude couplings in epilepsy patients revealed by spectral harmonicity of intracerebral EEG recordings. <i>Clinical Neurophysiology</i> , 2020, 131, 1866-1885.	1.5	7
35	Hebbian Plasticity and Homeostasis in a Model of Hypercolumn of the Visual Cortex. <i>Neural Computation</i> , 2010, 22, 1837-1859.	2.2	6
36	Complex interplay between spectral harmonicity and different types of cross-frequency couplings in nonlinear oscillators and biologically plausible neural network models. <i>Physical Review E</i> , 2020, 102, 062401.	2.1	4

#	ARTICLE	IF	CITATIONS
37	The effect of synaptic plasticity on orientation selectivity in a balanced model of primary visual cortex. <i>Frontiers in Neural Circuits</i> , 2015, 9, 42.	2.8	2
38	CardIaC: an open-source application for myocardial strain analysis. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2021, 16, 65-79.	2.8	2
39	Differential contribution of the subthreshold operating currents $I_T$ , $I_h$ , and $I_{Kir}$ to the resonance of thalamocortical neurons. <i>Journal of Neurophysiology</i> , 2021, 126, 561-574.	1.8	2
40	Controlling chaos in systems of coupled oscillators. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2002, 307, 315-330.	2.6	1
41	Bayesian Estimation of Hyperparameters in MRI through the Maximum Evidence Method. , 2008, , .		1
42	Deformable CT Registration Using Fourier Basis Functions in 3D. , 2010, , .		1
43	Inferring single neuron properties in conductance based balanced networks. <i>Frontiers in Computational Neuroscience</i> , 2011, 5, 41.	2.1	1
44	Left ventricle segmentation using a Bayesian approach with distance dependent shape priors. <i>Biomedical Physics and Engineering Express</i> , 2020, 6, 045013.	1.2	1
45	Lecturers. <i>Les Houches Summer School Proceedings</i> , 2005, 80, ix.	0.2	0
46	Cuantificaci3n autom3tica de los vol3menes y funci3n de ambos ventr3culos en resonancia card3aca. Propuesta y evaluaci3n de un m3todo de inteligencia artificial. , 2021, 89, 350-354.		0
47	Detection of Fibrosis in Cine Magnetic Resonance Images Using Artificial Intelligence Techniques. , 2022, 90, 130-133.		0