Pablo Varona

List of Publications by Year
in descending order

125 papers	3,247 citations	201674 27 h-index	168389 53 g-index
131 all docs	131 docs citations	131 times ranked	2284 citing authors

#	ARTICLE	IF	CITATIONS
1	Dynamic Clamp Technique. , 2022, , 1240-1243.		0
2	Binding brain dynamics building up heteroclinic networks. Physics of Life Reviews, 2021, 36, 33-34.	2.8	1
3	Effect of Electrical Synapses in the Cycle-by-Cycle Period and Burst Duration of Central Pattern Generators. Lecture Notes in Computer Science, 2021, , 81-92.	1.3	0
4	A Fine Dry-Electrode Selection to Characterize Event-Related Potentials in the Context of BCI. Lecture Notes in Computer Science, 2021, , 230-241.	1.3	2
5	Characterization of interval variability in the sequential activity of a central pattern generator model. Neurocomputing, 2021, 461, 667-678.	5.9	2
6	Nonlinear dynamics of creative thinking. Multimodal processes and the interaction of heteroclinic structures. Physics-Uspekhi, 2021, 64, 801-814.	2.2	2
7	Intrinsic and environmental factors modulating autonomous robotic search under high uncertainty. Scientific Reports, 2021, 11, 24509.	3.3	2
8	Sequential dynamics of complex networks in mind: Consciousness and creativity. Physics Reports, 2020, 883, 1-32.	25.6	26
9	Temporal discrimination from the interaction between dynamic synapses and intrinsic subthreshold oscillations. Neurocomputing, 2020, 417, 543-557.	5.9	2
10	A Low-Cost Computational Method for Characterizing Event-Related Potentials for BCI Applications and Beyond. IEEE Access, 2020, 8, 111089-111101.	4.2	9
11	Automatic Adaptation of Model Neurons and Connections to Build Hybrid Circuits with Living Networks. Neuroinformatics, 2020, 18, 377-393.	2.8	8
12	Robust dynamical invariants in sequential neural activity. Scientific Reports, 2019, 9, 9048.	3.3	9
13	RTHybrid: A Standardized and Open-Source Real-Time Software Model Library for Experimental Neuroscience. Frontiers in Neuroinformatics, 2019, 13, 11.	2.5	10
14	High and low dimensionality in neuroscience and artificial intelligence. Physics of Life Reviews, 2019, 29, 106-107.	2.8	2
15	Rhythmic control of oscillatory sequential dynamics in heteroclinic motifs. Neurocomputing, 2019, 331, 108-120.	5.9	7
16	An electrode selection approach in P300-based BCIs to address inter- and intra-subject variability. , 2018, , .		8
17	Discrete Sequential Information Coding: Heteroclinic Cognitive Dynamics. Frontiers in Computational Neuroscience, 2018, 12, 73.	2.1	25
18	Evolutionary Tuning of a Pulse Mormyrid Electromotor Model to Generate Stereotyped Sequences of Electrical Pulse Intervals. Lecture Notes in Computer Science, 2018, , 359-368.	1.3	2

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19	Consciousness as Sequential Dynamics, Robustness, and Mental Disorders. JAMA Psychiatry, 2017, 74, 771.	11.0	11
20	26th Annual Computational Neuroscience Meeting (CNS*2017): Part 3. BMC Neuroscience, 2017, 18, .	1.9	7
21	Asymmetry Factors Shaping Regular and Irregular Bursting Rhythms in Central Pattern Generators. Frontiers in Computational Neuroscience, 2017, 11, 9.	2.1	12
22	How to Reduce Classification Error in ERP-Based BCI: Maximum Relative Areas as a Feature for P300 Detection. Lecture Notes in Computer Science, 2017, , 486-497.	1.3	3
23	Analysis of Electroreception with Temporal Code-Driven Stimulation. Lecture Notes in Computer Science, 2017, , 101-111.	1.3	3
24	Effects of Locomotive Drift in Scale-Invariant Robotic Search Strategies. Lecture Notes in Computer Science, 2017, , 161-169.	1.3	2
25	Temporal Code-Driven Stimulation: Definition and Application to Electric Fish Signaling. Frontiers in Neuroinformatics, 2016, 10, 41.	2.5	8
26	Online Event Detection Requirements in Closed-Loop Neuroscience. , 2016, , 81-91.		6
27	Hierarchical dynamics of informational patterns and decision-making. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20160475.	2.6	16
28	Interplay between Subthreshold Oscillations and Depressing Synapses in Single Neurons. PLoS ONE, 2016, 11, e0145830.	2.5	14
29	Dynamic Clamp. , 2016, , 882-891.		0
30	Channel-specific input/output transformations arising from the interaction between dynamic synapses and subthreshold oscillations. BMC Neuroscience, 2015, 16, P274.	1.9	0
31	Regularization of a half-center oscillator network by closed-loop control. BMC Neuroscience, 2015, 16, .	1.9	0
32	Dynamical bridge between brain and mind. Trends in Cognitive Sciences, 2015, 19, 453-461.	7.8	60
33	Closed-loop control of a minimal central pattern generator network. Neurocomputing, 2015, 170, 55-62.	5.9	11
34	Hierarchical nonlinear dynamics of human attention. Neuroscience and Biobehavioral Reviews, 2015, 55, 18-35.	6.1	25
35	An active, inverse temperature modulation strategy for single sensor odorant classification. Sensors and Actuators B: Chemical, 2015, 206, 555-563.	7.8	48
36	Controlling a Smartphone Using Gaze Gestures as the Input Mechanism. Human-Computer Interaction, 2015, 30, 34-63.	4.4	34

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37	Delay-Dependent Response in Weakly Electric Fish under Closed-Loop Pulse Stimulation. PLoS ONE, 2015, 10, e0141007.	2.5	10
38	Dynamic Clamp. , 2015, , 1-11.		0
39	Chunking dynamics: heteroclinics in mind. Frontiers in Computational Neuroscience, 2014, 8, 22.	2.1	72
40	Dynamic Clamp Technique. , 2014, , 1-4.		3
41	Design Principles for Cooperative Robots with Uncertainty-Aware and Resource-Wise Adaptive Behavior. Lecture Notes in Computer Science, 2014, , 108-117.	1.3	2
42	Assisted closed-loops for brain-computer interfaces. BMC Neuroscience, 2013, 14, .	1.9	0
43	Sensory dynamics transformation into effective motor behavior. BMC Neuroscience, 2013, 14, .	1.9	0
44	Behavioral driving through on line monitoring and activity-dependent stimulation in weakly electric fish. BMC Neuroscience, 2013, 14, .	1.9	3
45	Event detection, multimodality and non-stationarity: Ordinal patterns, a tool to rule them all?. European Physical Journal: Special Topics, 2013, 222, 457-472.	2.6	9
46	Artificial intelligence in nanotechnology. Nanotechnology, 2013, 24, 452002.	2.6	70
47	Winnerless competition in coupled Lotka-Volterra maps. Physical Review E, 2013, 88, 012709.	2.1	7
48	Application of symbolic dynamics to characterize coordinated activity in the context of biological neural networks. Journal of the Franklin Institute, 2013, 350, 2967-2981.	3.4	2
49	Assisted closed-loop optimization of SSVEP-BCI efficiency. Frontiers in Neural Circuits, 2013, 7, 27.	2.8	31
50	Transient dynamics and rhythm coordination of inferior olive spatio-temporal patterns. Frontiers in Neural Circuits, 2013, 7, 138.	2.8	24
51	Transformation of Context-dependent Sensory Dynamics into Motor Behavior. PLoS Computational Biology, 2013, 9, e1002908.	3.2	15
52	Neural Dynamics of Attentional Cross-Modality Control. PLoS ONE, 2013, 8, e64406.	2.5	23
53	Transient Dynamics in Complex Systems: Heteroclinic Sequences with Multidimensional Unstable Manifolds. Discontinuity, Nonlinearity, and Complexity, 2013, 2, 21-41.	0.2	20
54	Gliding and saccadic gaze gesture recognition in real time. ACM Transactions on Interactive Intelligent Systems, 2012, 1, 1-27.	3.7	22

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55	Modeling Biological Neural Networks. , 2012, , 533-564.		5
56	Low cost remote gaze gesture recognition in real time. Applied Soft Computing Journal, 2012, 12, 2072-2084.	7.2	17
57	The use of artificial neural networks in electrostatic force microscopy. Nanoscale Research Letters, 2012, 7, 250.	5.7	5
58	Extending the bioinspired hierarchical temporal memory paradigm for sign language recognition. Neurocomputing, 2012, 79, 75-86.	5.9	22
59	Information flow dynamics in the brain. Physics of Life Reviews, 2012, 9, 51-73.	2.8	95
60	Instability, semantic dynamics and modeling brain data. Physics of Life Reviews, 2012, 9, 80-83.	2.8	2
61	Communication by identity discrimination in bioâ€inspired multiâ€agent systems. Concurrency Computation Practice and Experience, 2012, 24, 589-603.	2.2	5
62	Generalization of the Dynamic Clamp Concept in Neurophysiology and Behavior. PLoS ONE, 2012, 7, e40887.	2.5	25
63	The Dynamical Modeling of Cognitive Robot-Human Centered Interaction. Lecture Notes in Computer Science, 2012, , 228-237.	1.3	1
64	Robust Transient Dynamics and Brain Functions. Frontiers in Computational Neuroscience, 2011, 5, 24.	2.1	96
65	Online video tracking for activity-dependent stimulation in neuroethology. BMC Neuroscience, 2011, 12, .	1.9	6
66	A model study for causal relationships between voltage and calcium dynamics. BMC Neuroscience, 2011, 12, .	1.9	0
67	Bio-inspired design strategies for central pattern generator control in modular robotics. Bioinspiration and Biomimetics, 2011, 6, 016006.	2.9	30
68	Signature Neural Networks: Definition and Application to Multidimensional Sorting Problems. IEEE Transactions on Neural Networks, 2011, 22, 8-23.	4.2	15
69	Characterization of a clinical olfactory test with an artificial nose. Frontiers in Neuroengineering, 2011, 5, 1.	4.8	18
70	Gaze Gesture Recognition with Hierarchical Temporal Memory Networks. Lecture Notes in Computer Science, 2011, , 1-8.	1.3	5
71	Local Context Discrimination in Signature Neural Networks. Lecture Notes in Computer Science, 2011, , 400-408.	1.3	0
72	Flexible Entrainment in a Bio-inspired Modular Oscillator for Modular Robot Locomotion. Lecture Notes in Computer Science, 2011, , 532-539.	1.3	0

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73	Spike timing-dependent plasticity is affected by the interplay of intrinsic and network oscillations. Journal of Physiology (Paris), 2010, 104, 91-98.	2.1	7
74	Generalized Image Charge Method to Calculate Electrostatic Magnitudes at the Nanoscale Powered by Artificial Neural Networks. Journal of Electromagnetic Waves and Applications, 2010, 24, 1145-1155.	1.6	11
75	Heteroclinic binding. Dynamical Systems, 2010, 25, 433-442.	0.4	33
76	Optimizing Hierarchical Temporal Memory for Multivariable Time Series. Lecture Notes in Computer Science, 2010, , 506-518.	1.3	12
77	Optimal Message Interchange in a Self-organizing Multi-agent System. Studies in Computational Intelligence, 2010, , 131-141.	0.9	1
78	History-Dependent Excitability as a Single-Cell Substrate of Transient Memory for Information Discrimination. PLoS ONE, 2010, 5, e15023.	2.5	18
79	Determining Burst Firing Time Distributions from Multiple Spike Trains. Neural Computation, 2009, 21, 973-990.	2.2	3
80	An inverse problem solution for undetermined electrostatic force microscopy setups using neural networks. Nanotechnology, 2009, 20, 085702.	2.6	13
81	Temporal structure of bursting patterns as representation of input history. BMC Neuroscience, 2009, 10, .	1.9	0
82	Real-time activity-dependent drug microinjection. BMC Neuroscience, 2009, 10, .	1.9	12
83	RTBiomanager: a software platform to expand the applications of real-time technology in neuroscience. BMC Neuroscience, 2009, 10, .	1.9	16
84	Real-time control of stepper motors for mechano-sensory stimulation. Journal of Neuroscience Methods, 2008, 172, 105-111.	2.5	17
85	Transient Cognitive Dynamics, Metastability, and Decision Making. PLoS Computational Biology, 2008, 4, e1000072.	3.2	272
86	Connection Topology Selection in Central Pattern Generators by Maximizing the Gain of Information. Neural Computation, 2007, 19, 974-993.	2.2	5
87	Origin and role of neural signatures in bursting neurons. AIP Conference Proceedings, 2007, , .	0.4	0
88	Subthreshold oscillations and neuronal input–output relationships. Neurocomputing, 2007, 70, 1611-1614.	5.9	11
89	Reaction to neural signatures through excitatory synapses in central pattern generator models. Neurocomputing, 2007, 70, 1797-1801.	5.9	7
90	Temporal structure in the bursting activity of the leech heartbeat CPG neurons. Neurocomputing, 2007, 70, 1792-1796.	5.9	8

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91	Time-scales in the interplay between calcium and voltage dynamics. Neurocomputing, 2007, 70, 1949-1953.	5.9	2
92	Dynamical principles in neuroscience. Reviews of Modern Physics, 2006, 78, 1213-1265.	45.6	645
93	Neural Signatures: Multiple Coding in Spiking–bursting Cells. Biological Cybernetics, 2006, 95, 169-183.	1.3	37
94	Generation and reshaping of sequences in neural systems. Biological Cybernetics, 2006, 95, 519-536.	1.3	45
95	Heteroclinic Synchronization: Ultrasubharmonic Locking. Physical Review Letters, 2006, 96, 014101.	7.8	50
96	Interacting Slow and Fast Dynamics in Precise Spiking-Bursting Neurons. Lecture Notes in Computer Science, 2005, , 106-115.	1.3	3
97	Synchronization and coordination of sequences in two neural ensembles. Physical Review E, 2005, 71, 061909.	2.1	27
98	The Role of Sensory Network Dynamics in Generating a Motor Program. Journal of Neuroscience, 2005, 25, 9807-9815.	3.6	43
99	Networks of neurons that emit and recognize signatures. Neurocomputing, 2004, 58-60, 41-46.	5.9	4
100	Effect of individual spiking activity on rhythm generation of central pattern generators. Neurocomputing, 2004, 58-60, 535-540.	5.9	17
101	Competing sensory neurons and motor rhythm coordination. Neurocomputing, 2004, 58-60, 549-554.	5.9	16
102	HETEROCLINIC CONTOURS IN NEURAL ENSEMBLES AND THE WINNERLESS COMPETITION PRINCIPLE. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2004, 14, 1195-1208.	1.7	115
103	Dual Sensory-Motor Function for a Molluskan Statocyst Network. Journal of Neurophysiology, 2004, 91, 336-345.	1.8	49
104	Neurocomputation with Separatrices. AIP Conference Proceedings, 2003, , .	0.4	0
105	Stochastic Networks with Subthreshold Oscillations and Spiking Activity. Lecture Notes in Computer Science, 2003, , 32-39.	1.3	0
106	Winnerless competition between sensory neurons generates chaos: A possible mechanism for molluscan hunting behavior. Chaos, 2002, 12, 672-677.	2.5	58
107	Structural Inhomogeneities Differentially Modulate Action Currents and Population Spikes Initiated in the Axon or Dendrites. Journal of Neurophysiology, 2002, 88, 2809-2820.	1.8	29
108	Spatio-temporal patterns of network activity in the inferior olive. Neurocomputing, 2002, 44-46, 685-690.	5.9	11

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109	Characterization of Triphasic Rhythms in Central Pattern Generators (I): Interspike Interval Analysis. Lecture Notes in Computer Science, 2002, , 160-166.	1.3	13
110	Characterization of Triphasic Rhythms in Central Pattern Generators (II): Burst Information Analysis. Lecture Notes in Computer Science, 2002, , 167-173.	1.3	12
111	Topology selection by chaotic neurons of a pyloric central pattern generator. Biological Cybernetics, 2001, 84, L1-L8.	1.3	29
112	Dynamics of two electrically coupled chaotic neurons: Experimental observations and model analysis. Biological Cybernetics, 2001, 84, 91-101.	1.3	58
113	Regularization mechanisms of spiking–bursting neurons. Neural Networks, 2001, 14, 865-875.	5.9	48
114	Richer Network Dynamics of Intrinsically Non-regular Neurons Measured through Mutual Information. Lecture Notes in Computer Science, 2001, , 490-497.	1.3	2
115	Interacting biological and electronic neurons generate realistic oscillatory rhythms. NeuroReport, 2000, 11, 563-569.	1.2	89
116	Reliable circuits from irregular neurons: A dynamical approach to understanding central pattern generators. Journal of Physiology (Paris), 2000, 94, 357-374.	2.1	65
117	Macroscopic and Subcellular Factors Shaping Population Spikes. Journal of Neurophysiology, 2000, 83, 2192-2208.	1.8	78
118	NONLINEAR COOPERATIVE DYNAMICS OF LIVING NEURONS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2000, 10, 913-933.	1.7	15
119	Synchronous behavior of two coupled electronic neurons. Physical Review E, 2000, 62, 2644-2656.	2.1	160
120	Origin of coherent structures in a discrete chaotic medium. Physical Review E, 1999, 60, R1130-R1133.	2.1	21
121	Slow dynamics and regularization phenomena in ensembles of chaotic neurons. Physica A: Statistical Mechanics and Its Applications, 1999, 263, 405-414.	2.6	13
122	Current Source Density analysis as a tool to constrain the parameter space in hippocampal CA1 neuron models. Lecture Notes in Computer Science, 1997, , 82-90.	1.3	2
123	Dynamic feature linking in stochastic networks with short range interactions. Lecture Notes in Computer Science, 1996, , 101-106.	1.3	0
124	Introducing XSim: A neural network simulator that incorporates biological parameters. Lecture Notes in Computer Science, 1995, , 650-657.	1.3	2
125	Modeling the Sequential Pattern Variability of the Electromotor Command System of Pulse Electric Fish. Frontiers in Neuroinformatics, 0, 16, .	2.5	1