Raul Vicente

List of Publications by Year
in descending order

77 papers	4,506 citations	212478 28 h-index	182931 54 g-index
78 all docs	78 docs citations	78 times ranked	4872 citing authors

#	Article	IF	Citations
1	Enhanced Interplay of Neuronal Coherence and Coupling in the Dying Human Brain. Frontiers in Aging Neuroscience, 2022, 14, 813531.	1.7	16
2	Quantifying Reinforcement-Learning Agentâ€™s Autonomy, Reliance on Memory and Internalisation of the Environment. Entropy, 2022, 24, 401.	1.1	0
3	Modelling the Impact of Robotics on Infectious Spread Among Healthcare Workers. Frontiers in Robotics and AI, 2021, 8, 652685.	2.0	3
4	Deep neural networks using a single neuron: folded-in-time architecture using feedback-modulated delay loops. Nature Communications, 2021, 12, 5164.	5.8	31
5	Information Bottleneck as Optimisation Method for SSVEP-Based BCI. Frontiers in Human Neuroscience, 2021, 15, 675091.	1.0	1
6	Perspective Taking in Deep Reinforcement Learning Agents. Frontiers in Computational Neuroscience, 2020, 14, 69.	1.2	8
7	Identifying task-relevant spectral signatures of perceptual categorization in the human cortex. Scientific Reports, 2020, 10, 7870.	1.6	1
8	A model for time interval learning in the Purkinje cell. PLoS Computational Biology, 2020, 16, e1007601.	1.5	6
9	A model for time interval learning in the Purkinje cell. , 2020, 16, e1007601.		0
10	A model for time interval learning in the Purkinje cell. , 2020, 16, e1007601.		0
11	A model for time interval learning in the Purkinje cell. , 2020, 16, e1007601.		0
12	A model for time interval learning in the Purkinje cell. , 2020, 16, e1007601.		0
13	MAXENT3D_PID: An Estimator for the Maximum-Entropy Trivariate Partial Information Decomposition. Entropy, 2019, 21, 862.	1.1	2
14	ViraMiner: Deep learning on raw DNA sequences for identifying viral genomes in human samples. PLoS ONE, 2019, 14, e0222271.	1.1	84
15	Efficient neural decoding of self-location with a deep recurrent network. PLoS Computational Biology, 2019, 15, e1006822.	1.5	33
16	IDTxl: The Information Dynamics Toolkit xl: a Python package for the efficient analysis of multivariate information dynamics in networks. Journal of Open Source Software, 2019, 4, 1081.	2.0	69
17	ViraMiner: Deep learning on raw DNA sequences for identifying viral genomes in human samples. , 2019, 14, e0222271.		0
18	ViraMiner: Deep learning on raw DNA sequences for identifying viral genomes in human samples. , 2019, 14, e0222271.		0

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19	ViraMiner: Deep learning on raw DNA sequences for identifying viral genomes in human samples. , 2019, 14, e0222271.		0
20	ViraMiner: Deep learning on raw DNA sequences for identifying viral genomes in human samples. , 2019, 14, e0222271.		0
21	BROJA-2PID: A Robust Estimator for Bivariate Partial Information Decomposition. Entropy, 2018, 20, 271.	1.1	18
22	Machine Learning for detection of viral sequences in human metagenomic datasets. BMC Bioinformatics, 2018, 19, 336.	1.2	44
23	Activations of deep convolutional neural networks are aligned with gamma band activity of human visual cortex. Communications Biology, 2018, 1, 107.	2.0	65
24	VREX: an open-source toolbox for creating 3D virtual reality experiments. BMC Psychology, 2017, 5, 4.	0.9	20
25	Analyzing Information Distribution in Complex Systems. Entropy, 2017, 19, 636.	1.1	7
26	Bivariate Partial Information Decomposition: The Optimization Perspective. Entropy, 2017, 19, 530.	1.1	18
27	Multiagent cooperation and competition with deep reinforcement learning. PLoS ONE, 2017, 12, e0172395.	1.1	419
28	An Efficient Data Partitioning to Improve Classification Performance While Keeping Parameters Interpretable. PLoS ONE, 2016, 11, e0161788.	1.1	33
29	Personality cannot be predicted from the power of resting state EEG. Frontiers in Human Neuroscience, 2015, 9, 63.	1.0	23
30	Assessing Coupling Dynamics from an Ensemble of Time Series. Entropy, 2015, 17, 1958-1970.	1.1	48
31	Untangling cross-frequency coupling in neuroscience. Current Opinion in Neurobiology, 2015, 31, 51-61.	2.0	455
32	Neuronal oscillations form parietal/frontal networks during contour integration. Frontiers in Integrative Neuroscience, 2014, 8, 64.	1.0	20
33	Transfer Entropy in Neuroscience. Understanding Complex Systems, 2014, , 3-36.	0.3	67
34	Neutralization of Nogo-A Enhances Synaptic Plasticity in the Rodent Motor Cortex and Improves Motor Learning in Vivo. Journal of Neuroscience, 2014, 34, 8685-8698.	1.7	71
35	Role of frequency mismatch in neuronal communication through coherence. Journal of Computational Neuroscience, 2014, 37, 193-208.	0.6	27
36	Efficient Estimation of Information Transfer. Understanding Complex Systems, 2014, , 37-58.	0.3	5

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37	Efficient Transfer Entropy Analysis of Non-Stationary Neural Time Series. PLoS ONE, 2014, 9, e102833.	1.1	113
38	Transfer entropy as a tool for reconstructing interaction delays in neural signals. , 2013, , .		3
39	Measuring Information-Transfer Delays. PLoS ONE, 2013, 8, e55809.	1.1	209
40	Brain-wide slowing of spontaneous alpha rhythms in mild cognitive impairment. Frontiers in Aging Neuroscience, 2013, 5, 100.	1.7	78
41	Emergent bimodal firing patterns implement different encoding strategies during gamma-band oscillations. Frontiers in Computational Neuroscience, 2013, 7, 18.	1.2	12
42	Dynamical properties of two delay-coupled lasers: on spectra, correlations, and synchronisation. Proceedings of SPIE, 2012, , .	0.8	0
43	Revisiting Wiener's principle of causality — interaction-delay reconstruction using transfer entropy and multivariate analysis on delay-weighted graphs. , 2012, 2012, 3676-9.		10
44	A Linear Model of Phase-Dependent Power Correlations in Neuronal Oscillations. Frontiers in Computational Neuroscience, 2011, 5, 34.	1.2	6
45	Spike Train Auto-Structure Impacts Post-Synaptic Firing and Timing-Based Plasticity. Frontiers in Computational Neuroscience, 2011, 5, 60.	1.2	0
46	Transfer entropy in magnetoencephalographic data: Quantifying information flow in cortical and cerebellar networks. Progress in Biophysics and Molecular Biology, 2011, 105, 80-97.	1.4	166
47	TRENTOOL: A Matlab open source toolbox to analyse information flow in time series data with transfer entropy. BMC Neuroscience, 2011, 12, 119.	0.8	189
48	Transfer entropyâ€"a model-free measure of effective connectivity for the neurosciences. Journal of Computational Neuroscience, 2011, 30, 45-67.	0.6	753
49	Effect of the Topology and Delayed Interactions in Neuronal Networks Synchronization. PLoS ONE, 2011, 6, e19900.	1.1	50
50	Synchronization and symmetry breaking of delay-coupled oscillators: on the role of phase and amplitude instabilities. , 2010, , .		4
51	A mechanism for achieving zero-lag long-range synchronization of neural activity. BMC Neuroscience, 2009, 10, .	0.8	1
52	Far in Space and Yet in Synchrony: Neuronal Mechanisms for Zero-Lag Long-Range Synchronization. , 2009, , 143-167.		0
53	Encryption test of pseudo-aleatory messages embedded on chaotic laser signals: An information theory approach. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 1018-1023.	0.9	36
54	Synchronization properties of three delay-coupled semiconductor lasers. Physical Review E, 2008, 78, 066202.	0.8	41

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55	Dynamical relaying can yield zero time lag neuronal synchrony despite long conduction delays. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 17157-17162.	3.3	310
56	Auto-structure of Presynaptic Activity Defines Postsynaptic Firing Statistics and Can Modulate STDP-Based Structure Formation and Learning. Lecture Notes in Computer Science, 2008, , 413-422.	1.0	1
57	Simultaneous bidirectional message transmission in a chaos-based communication scheme. Optics Letters, 2007, 32, 403.	1.7	147
58	Simultaneous bidirectional message transmission in a chaos-based communication scheme: erratum. Optics Letters, 2007, 32, 1271.	1.7	0
59	Synchronization properties of bidirectionally coupled semiconductor lasers under asymmetric operating conditions. Physical Review E, 2007, 75, 066202.	0.8	10
60	Zero-lag long-range synchronization of Hodgkin-Huxley neurons is enhanced by dynamical relaying. BMC Neuroscience, 2007, 8, .	0.8	0
61	Zero-Lag Long Range Synchronization of Neurons Is Enhanced by Dynamical Relaying. Lecture Notes in Computer Science, 2007, , 904-913.	1.0	2
62	Polarization switching dynamics and bistability in mutually coupled vertical cavity surface emitting lasers. , 2006, 6184, 354.		3
63	Zero-Lag Long-Range Synchronization via Dynamical Relaying. Physical Review Letters, 2006, 97, 123902.	2.9	268
64	Synchronization properties of two self-oscillating semiconductor lasers subject to delayed optoelectronic mutual coupling. Physical Review E, 2006, 73, 047201.	0.8	46
65	Bistable polarization switching in mutually coupled vertical-cavity surface-emitting lasers. Optics Letters, 2006, 31, 996.	1.7	29
66	Analysis and characterization of the hyperchaos generated by a semiconductor laser subject to a delayed feedback loop. IEEE Journal of Quantum Electronics, 2005, 41, 541-548.	1.0	194
67	Dynamics of semiconductor lasers with bidirectional optoelectronic coupling: Stability, route to chaos, and entrainment. Physical Review E, 2004, 70, 046216.	0.8	21
68	Experimentally observed dynamical characteristics of mutually coupled semiconductor lasers with or without optoelectronic feedback. , 2004, 5349, 319.		0
69	Simple interpretation of the dynamics of mutually coupled semiconductor lasers with detuning. , 2004, 5349, 307.		10
70	Nonlinear Dynamics of Semiconductor Lasers With Mutual Optoelectronic Coupling. IEEE Journal of Selected Topics in Quantum Electronics, 2004, 10, 936-943.	1.9	43
71	Synchronization properties of chaotic semiconductor lasers and applications to encryption. Comptes Rendus Physique, 2004, 5, 613-622.	0.3	18
72	Dynamics of mutually coupled VCSELs. , 2004, , .		6

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73	Analysis and characterization of the hyperchaos generated by a semiconductor laser subject to a delay feedback loop. , 2003, , .		6
74	ENTRAINMENT OF OPTICAL LOW-FREQUENCY FLUCTUATIONS IS ENHANCED BY COUPLING. Fluctuation and Noise Letters, 2003, 03, L127-L136.	1.0	2
75	Periodic entrainment of power dropouts in mutually coupled semiconductor lasers. Applied Physics Letters, 2002, 81, 5105-5107.	1.5	24
76	Dynamical entrainment of unidirectionally coupled single-mode diode lasers. , 2002, , .		0
77	Open-versus closed-loop performance of synchronized chaotic external-cavity semiconductor lasers. IEEE Journal of Quantum Electronics, 2002, 38, 1197-1204.	1.0	98