Ruedi Stoop

List of Publications by Year
in descending order

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75 papers	975 citations	471509 17 h-index	552781 26 g-index
78 all docs	78 docs citations	78 times ranked	733 citing authors

#	Article	IF	Citations
1	Encounter with Chaos. , 1992, , .		110
2	An Ontology for Pharmaceutical Ligands and Its Application for in Silico Screening and Library Design. Journal of Chemical Information and Computer Sciences, 2002, 42, 947-955.	2.8	104
3	Real-World Existence and Origins of the Spiral Organization of Shrimp-Shaped Domains. Physical Review Letters, 2010, 105, 074102.	7.8	74
4	Local Cochlear Correlations of Perceived Pitch. Physical Review Letters, 2010, 105, 048101.	7.8	32
5	Beyond Scale-Free Small-World Networks: Cortical Columns for Quick Brains. Physical Review Letters, 2013, 110, 108105.	7.8	30
6	Avalanche and edge-of-chaos criticality do not necessarily co-occur in neural networks. Chaos, 2017, 27, 047408.	2.5	29
7	Sequential Superparamagnetic Clustering for Unbiased Classification of High-Dimensional Chemical Data. Journal of Chemical Information and Computer Sciences, 2004, 44, 1358-1364.	2.8	28
8	Pitch sensation involves stochastic resonance. Scientific Reports, 2013, 3, 2676.	3.3	28
9	Sequential clustering: tracking down the most natural clusters. Journal of Statistical Mechanics: Theory and Experiment, 2005, 2005, P11014-P11014.	2.3	26
10	When pyramidal neurons lock, when they respond chaotically, and when they like to synchronize. Neuroscience Research, 2000, 36, 81-91.	1.9	24
11	A full computation-relevant topological dynamics classification of elementary cellular automata. Chaos, 2012, 22, 043143.	2.5	23
12	Complexity of Dynamics as Variability of Predictability. Journal of Statistical Physics, 2004, 114, 1127-1137.	1.2	22
13	Collective bursting in layer IV. Cognitive Brain Research, 2002, 13, 293-304.	3.0	21
14	A generalization of the van-der-Pol oscillator underlies active signal amplification in Drosophila hearing. European Biophysics Journal, 2006, 35, 511-516.	2.2	21
15	From Hearing to Listening: Design and Properties of an Actively Tunable Electronic Hearing Sensor. Sensors, 2007, 7, 3287-3298.	3.8	20
16	Superpositions of multifractals: Generators of phase transitions in the generalized thermodynamic formalism. Journal of Statistical Physics, 1996, 82, 1063-1080.	1.2	19
17	Measuring spike pattern reliability with the Lempelâ€“Ziv-distance. Journal of Neuroscience Methods, 2006, 156, 342-350.	2.5	19
18	Two universal physical principles shape the power-law statistics of real-world networks. Scientific Reports, 2015, 5, 12353.	3.3	19

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19	Auditory Power-Law Activation Avalanches Exhibit a Fundamental Computational Ground State. Physical Review Letters, 2016, 117, 038102.	7.8	18
20	Phase transitions in experimental systems. Physica D: Nonlinear Phenomena, 1991, 50, 405-411.	2.8	17
21	Hebbian Self-Organizing Integrate-and-Fire Networks for Data Clustering. Neural Computation, 2010, 22, 273-288.	2.2	17
22	Auditory two-tone suppression from a subcritical Hopf cochlea. Physica A: Statistical Mechanics and Its Applications, 2005, 351, 175-183.	2.6	16
23	SHRIMPS: OCCURRENCE, SCALING AND RELEVANCE. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1230032.	1.7	16
24	Signal-Coupled Subthreshold Hopf-Type Systems Show a Sharpened Collective Response. Physical Review Letters, 2016, 116, 108101.	7.8	15
25	Universal dynamical properties preclude standard clustering in a large class of biochemical data. Bioinformatics, 2014, 30, 2486-2493.	4.1	13
26	Mammalian pitch sensation shaped by the cochlear fluid. Nature Physics, 2014, 10, 530-536.	16.7	13
27	From The Cover: Essential auditory contrast-sharpening is preneuronal. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 9179-9181.	7.1	11
28	Neuronal Entropy Depends on the Level of Alertness in the Parkinsonian Globus Pallidus in vivo. Frontiers in Neurology, 2014, 5, 96.	2.4	11
29	Financial marketsâ€™ deterministic aspects modeled by a low-dimensional equation. Scientific Reports, 2022, 12, 1693.	3.3	11
30	COMPLEX PATTERN IN A RING OF VAN DER POL OSCILLATORS COUPLED BY TIME-VARYING RESISTORS. Journal of Circuits, Systems and Computers, 2010, 19, 819-834.	1.5	10
31	Macroscopic bursting in physiological networks: node or network property?. New Journal of Physics, 2015, 17, 055024.	2.9	10
32	Clustering: how much bias do we need?. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160293.	3.4	10
33	Complex Response to Periodic Inhibition in Simple and Detailed Neuronal Models. Neural Computation, 1999, 11, 67-74.	2.2	9
34	Generic origins of irregular spiking in neocortical networks. Biological Cybernetics, 2000, 83, 481-489.	1.3	9
35	Frequency sensitivity in mammalian hearing from a fundamental nonlinear physics model of the inner ear. Scientific Reports, 2017, 7, 9931.	3.3	9
36	Fingerprints of a second order critical line in developing neural networks. Communications Physics, 2020, 3, .	5.3	9

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37	How the Ear Tunes In to Sounds: A Physics Approach. Physical Review Applied, 2014, 1, .	3.8	8
38	Big data naturally rescaled. Chaos, Solitons and Fractals, 2016, 90, 81-90.	5.1	8
39	Mammalian cochlea as a physics guided evolution-optimized hearing sensor. Scientific Reports, 2015, 5, 12492.	3.3	7
40	Noise-driven neocortical interaction: a simple generation mechanism for complex neuron spiking. Acta Biotheoretica, 2000, 48, 149-171.	1.5	6
41	Odour encoding in olfactory neuronal networks beyond synchronization. NeuroReport, 2006, 17, 1499-1502.	1.2	6
42	Biophysical Parameters Modification Could Overcome Essential Hearing Gaps. PLoS Computational Biology, 2008, 4, e1000161.	3.2	6
43	Periodic orbit analysis demonstrates genetic constraints, variability, and switching in Drosophila courtship behavior. Chaos, 2008, 18, 023123.	2.5	6
44	Limit cycles, noise, and chaos in hearing. Microscopy Research and Technique, 2004, 63, 400-412.	2.2	5
45	Principles and Typical Computational Limitations of Sparse Speaker Separation Based on Deterministic Speech Features. Neural Computation, 2011, 23, 2358-2389.	2.2	5
46	HOW TWO COMPETING CHARACTERISTIC EXPONENTS GENERATE DIFFERENT CLASSES OF FRACTAL BOUNDARIES. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1991, 01, 599-604.	1.7	4
47	Collective Bursting in Populations of Intrinsically Nonbursting Neurons. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1999, 54, 617-627.	1.5	4
48	At Grammatical Faculty of Language, Flies Outsmart Men. PLoS ONE, 2013, 8, e70284.	2.5	4
49	Second-order phase transition in phytoplankton trait dynamics. Chaos, 2020, 30, 053109.	2.5	4
50	Local Correlation's Potential for Noise Reduction and Symbolic Partitions. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1999, 54, 404-410.	1.5	3
51	DISCRETE WAVELETS AND FILTERING CHAOTIC SIGNALS. International Journal of Modern Physics C, 2002, 13, 771-776.	1.7	3
52	Universality in the firing of minicolumnar-type neural networks. Chaos, 2019, 29, 093109.	2.5	3
53	Excess Entropies Suggest the Physiology of Neurons to Be Primed for Higher-Level Computation. Physical Review Letters, 2021, 127, 148101.	7.8	3
54	Analysis of the â€œSonar Hopfâ€•Cochlea. Sensors, 2011, 11, 5808-5818.	3.8	2

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55	Natural data structure extracted from neighborhood-similarity graphs. Chaos, Solitons and Fractals, 2019, 119, 326-331.	5.1	2
56	An Expressive Body Language Underlies Drosophila Courtship Behavior. Understanding Complex Systems, 2009, , 215-227.	0.6	2
57	Exact approaches to extended irregular systems. Work on thermodynamic aspects of complex chaotic systems, Lavin (Engadin), Switzerland, 6â€“10 October 1995. Physics Reports, 1997, 290, 1-2.	25.6	1
58	Entanglement, Disentanglement and Wigner Functions. Physica Scripta, 2004, 69, 166-169.	2.5	1
59	Bell-CHSH Inequality and Genetic Algorithms. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2005, 60, 865-866.	1.5	1
60	GENETIC ALGORITHMS, FLOATING POINT NUMBERS AND APPLICATIONS. International Journal of Modern Physics C, 2005, 16, 1811-1816.	1.7	1
61	Comment on the Shinerâ€“Davisonâ€“Landsberg Measure. Nonlinear Dynamics, 2006, 44, 213-218.	5.2	1
62	Quantitative Assessment of the Log-Log-Step Method for Pattern Detection in Noise-Prone Environments. PLoS ONE, 2011, 6, e28107.	2.5	1
63	Hebbian Learning Clustering with Rulkov Neurons. Springer Proceedings in Physics, 2017, , 127-141.	0.2	1
64	Bifurcations. Dynamic Modeling and Econometrics in Economics and Finance, 2021, , 51-72.	0.5	1
65	The Analysis of Mammalian Hearing Systems Supports the Hypothesis That Criticality Favors Neuronal Information Representation but Not Computation. Entropy, 2022, 24, 540.	2.2	1
66	Evidence for parallel iteration in a semiconductor experiment: The 2D model. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 217, 151-156.	2.1	0
67	Fingerprints of Superpositions of Multifractals and Second Order Phase Transitions. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1997, 52, 393-397.	1.5	0
68	Energy Eigenvalue Level Motion with Two Parameters. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2001, 56, 565-567.	1.5	0
69	Bessel Functions, Recursion and a Nonlinear Field Equation. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2001, 56, 710-712.	1.5	0
70	Fully Entangled Quantum States in CN2and Bell Measurement. International Journal of Theoretical Physics, 2003, 42, 2847-2853.	1.2	0
71	Parameter properties of electronic and biological circuits and systems. , 2013, , .		0
72	Analog circuits for modeling and controlling synchrony in arrays of coupled oscillators. , 2013, , .		0

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73	Deviation from Criticality in Functional Biological Networks. Communications in Computer and Information Science, 2014, , 309-316.	0.5	0
74	Note on the Reliability of Biological vs. Artificial Neural Networks. Frontiers in Physiology, 2021, 12, 637389.	2.8	0
75	Why Hearing Aids Fail and How to Solve This. Frontiers in Network Physiology, 2022, 2, .	1.8	0