

# Dante R Chialvo

## List of Publications by Year in descending order

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125  
papers

13,570  
citations

50244

46  
h-index

23514

111  
g-index

132  
all docs

132  
docs citations

132  
times ranked

11540  
citing authors

#	ARTICLE	IF	CITATIONS
1	Organization, development and function of complex brain networks. Trends in Cognitive Sciences, 2004, 8, 418-425.	4.0	1,864
2	Scale-Free Brain Functional Networks. Physical Review Letters, 2005, 94, 018102.	2.9	1,239
3	Emergent complex neural dynamics. Nature Physics, 2010, 6, 744-750.	6.5	902
4	Beyond Feeling: Chronic Pain Hurts the Brain, Disrupting the Default-Mode Network Dynamics. Journal of Neuroscience, 2008, 28, 1398-1403.	1.7	708
5	The entropic brain: a theory of conscious states informed by neuroimaging research with psychedelic drugs. Frontiers in Human Neuroscience, 2014, 8, 20.	1.0	673
6	Chronic Pain and the Emotional Brain: Specific Brain Activity Associated with Spontaneous Fluctuations of Intensity of Chronic Back Pain. Journal of Neuroscience, 2006, 26, 12165-12173.	1.7	630
7	Criticality in Large-Scale Brain fMRI Dynamics Unveiled by a Novel Point Process Analysis. Frontiers in Physiology, 2012, 3, 15.	1.3	577
8	Spontaneous cortical activity in awake monkeys composed of neuronal avalanches. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 15921-15926.	3.3	469
9	Chronic pain patients are impaired on an emotional decision-making task. Pain, 2004, 108, 129-136.	2.0	441
10	Brain Organization into Resting State Networks Emerges at Criticality on a Model of the Human Connectome. Physical Review Letters, 2013, 110, 178101.	2.9	358
11	Enhanced repertoire of brain dynamical states during the psychedelic experience. Human Brain Mapping, 2014, 35, 5442-5456.	1.9	298
12	Low dimensional chaos in cardiac tissue. Nature, 1990, 343, 653-657.	13.7	225
13	Critical brain networks. Physica A: Statistical Mechanics and Its Applications, 2004, 340, 756-765.	1.2	215
14	Ising-like dynamics in large-scale functional brain networks. Physical Review E, 2009, 79, 061922.	0.8	167
15	Spike Avalanches Exhibit Universal Dynamics across the Sleep-Wake Cycle. PLoS ONE, 2010, 5, e14129.	1.1	166
16	Disrupted Functional Connectivity of the Pain Network in Fibromyalgia. Psychosomatic Medicine, 2012, 74, 55-62.	1.3	166
17	Non-linear dynamics of cardiac excitation and impulse propagation. Nature, 1987, 330, 749-752.	13.7	163
18	Brain resting state is disrupted in chronic back pain patients. Neuroscience Letters, 2010, 485, 26-31.	1.0	163

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19	Brain activity for spontaneous pain of postherpetic neuralgia and its modulation by lidocaine patch therapy. <i>Pain</i> , 2007, 128, 88-100.	2.0	161
20	Supernormal excitability as a mechanism of chaotic dynamics of activation in cardiac Purkinje fibers.. <i>Circulation Research</i> , 1990, 66, 525-545.	2.0	157
21	Stochastic resonance in models of neuronal ensembles. <i>Physical Review E</i> , 1997, 55, 1798-1808.	0.8	150
22	Large-scale signatures of unconsciousness are consistent with a departure from critical dynamics. <i>Journal of the Royal Society Interface</i> , 2016, 13, 20151027.	1.5	148
23	Sustained vortex-like waves in normal isolated ventricular muscle.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1990, 87, 8785-8789.	3.3	141
24	Learning from mistakes. <i>Neuroscience</i> , 1999, 90, 1137-1148.	1.1	136
25	Asymmetric unbiased fluctuations are sufficient for the operation of a correlation ratchet. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1995, 209, 26-30.	0.9	131
26	Self-similar correlation function in brain resting-state functional magnetic resonance imaging. <i>Journal of the Royal Society Interface</i> , 2011, 8, 472-479.	1.5	130
27	Stochastic and Deterministic Resonances for Excitable Systems. <i>Physical Review Letters</i> , 1998, 81, 4012-4015.	2.9	119
28	Pattern formation and functionality in swarm models. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1995, 207, 185-193.	0.9	106
29	Dynamics of Pain: Fractal Dimension of Temporal Variability of Spontaneous Pain Differentiates Between Pain States. <i>Journal of Neurophysiology</i> , 2006, 95, 730-736.	0.9	105
30	What kind of noise is brain noise: anomalous scaling behavior of the resting brain activity fluctuations. <i>Frontiers in Physiology</i> , 2012, 3, 307.	1.3	95
31	How Do You Feel when You Can't Feel Your Body? Interoception, Functional Connectivity and Emotional Processing in Depersonalization-Derealization Disorder. <i>PLoS ONE</i> , 2014, 9, e98769.	1.1	95
32	Generic excitable dynamics on a two-dimensional map. <i>Chaos, Solitons and Fractals</i> , 1995, 5, 461-479.	2.5	93
33	Expression of IL-1 $\beta$ in supraspinal brain regions in rats with neuropathic pain. <i>Neuroscience Letters</i> , 2006, 407, 176-181.	1.0	93
34	Altered associative learning and emotional decision making in fibromyalgia. <i>Journal of Psychosomatic Research</i> , 2011, 70, 294-301.	1.2	89
35	Modulated noisy biological dynamics: Three examples. <i>Journal of Statistical Physics</i> , 1993, 70, 375-391.	0.5	86
36	Noise in neurons is message dependent. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2000, 97, 5557-5561.	3.3	81

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37	Brain Network Organization and Social Executive Performance in Frontotemporal Dementia. Journal of the International Neuropsychological Society, 2016, 22, 250-262.	1.2	71
38	Spontaneous BOLD event triggered averages for estimating functional connectivity at resting state. Neuroscience Letters, 2011, 488, 158-163.	1.0	65
39	Mitochondrial network complexity emerges from fission/fusion dynamics. Scientific Reports, 2018, 8, 363.	1.6	65
40	How Swarms Build Cognitive Maps. , 1995, , 439-450.		65
41	Adaptive learning by extremal dynamics and negative feedback. Physical Review E, 2001, 63, 031912.	0.8	62
42	Electrical Restitution, Critical Mass, and the Riddle of Fibrillation. Journal of Cardiovascular Electrophysiology, 1999, 10, 1087-1089.	0.8	59
43	Subharmonic stochastic synchronization and resonance in neuronal systems. Physical Review E, 2002, 65, 050902.	0.8	59
44	Are our senses critical?. Nature Physics, 2006, 2, 301-302.	6.5	58
45	The Voxel-Wise Functional Connectome Can Be Efficiently Derived from Co-activations in a Sparse Spatio-Temporal Point-Process. Frontiers in Neuroscience, 2016, 10, 381.	1.4	56
46	How we hear what is not there: A neural mechanism for the missing fundamental illusion. Chaos, 2003, 13, 1226-1230.	1.0	52
47	Critical Fluctuations in the Native State of Proteins. Physical Review Letters, 2017, 118, 088102.	2.9	52
48	Modular Organization of Brain Resting State Networks in Chronic Back Pain Patients. Frontiers in Neuroinformatics, 2010, 4, 116.	1.3	48
49	Tackling variability: A multicenter study to provide a gold standard network approach for frontotemporal dementia. Human Brain Mapping, 2017, 38, 3804-3822.	1.9	48
50	Disruption of transfer entropy and inter-hemispheric brain functional connectivity in patients with disorder of consciousness. Frontiers in Neuroinformatics, 2013, 7, 24.	1.3	46
51	Noise-Induced Tuning Curve Changes in Mechanoreceptors. Journal of Neurophysiology, 1998, 79, 1879-1890.	0.9	45
52	Spared Nerve Injury Rats Exhibit Thermal Hyperalgesia on an Automated Operant Dynamic Thermal Escape Task. Molecular Pain, 2005, 1, 1744-8069-1-18.	1.0	45
53	Nrf2 stabilization prevents critical oxidative damage in Down syndrome cells. Aging Cell, 2018, 17, e12812.	3.0	45
54	Age-of-onset of menopause is associated with enhanced painful and non-painful sensitivity in fibromyalgia. Clinical Rheumatology, 2013, 32, 975-981.	1.0	41

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55	Evaluating the reliability of neurocognitive biomarkers of neurodegenerative diseases across countries: A machine learning approach. <i>NeuroImage</i> , 2020, 208, 116456.	2.1	40
56	Unraveling the fluctuations of animal motor activity. <i>Chaos</i> , 2009, 19, 033123.	1.0	39
57	Identifying directed links in large scale functional networks: application to brain fMRI. <i>BMC Cell Biology</i> , 2007, 8, S5.	3.0	35
58	Nonequilibrium fluctuation-induced phenomena in Josephson junctions. <i>Physical Review E</i> , 1996, 53, 2239-2242.	0.8	34
59	Emergent Self-Organized Complex Network Topology out of Stability Constraints. <i>Physical Review Letters</i> , 2009, 103, 108701.	2.9	34
60	GHOST STOCHASTIC RESONANCE IN AN ELECTRONIC CIRCUIT. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2006, 16, 731-735.	0.7	33
61	Ghost resonance in a semiconductor laser with optical feedback. <i>Europhysics Letters</i> , 2003, 64, 178-184.	0.7	32
62	Anticipated synchronization: A metaphorical linear view. <i>Chaos</i> , 2004, 14, 7-13.	1.0	32
63	Unhealthy surprises. <i>Nature</i> , 2002, 419, 263-263.	13.7	31
64	Control of Voltage-Dependent Biomolecules via Nonequilibrium Kinetic Focusing. <i>Physical Review Letters</i> , 1996, 76, 550-553.	2.9	30
65	Single Subject Pharmacological-MRI (phMRI) Study: Modulation of Brain Activity of Psoriatic Arthritis Pain by Cyclooxygenase-2 Inhibitor. <i>Molecular Pain</i> , 2005, 1, 1744-8069-1-32.	1.0	30
66	Fibronectin rescues estrogen receptor $\beta$ from lysosomal degradation in breast cancer cells. <i>Journal of Cell Biology</i> , 2018, 217, 2777-2798.	2.3	30
67	Ghost stochastic resonance with distributed inputs in pulse-coupled electronic neurons. <i>Physical Review E</i> , 2006, 73, 021101.	0.8	28
68	Poissonian bursts in e-mail correspondence. <i>European Physical Journal B</i> , 2010, 75, 389-394.	0.6	27
69	Inflammatory and Neuropathic Pain Animals Exhibit Distinct Responses to Innocuous Thermal and Motoric Challenges. <i>Molecular Pain</i> , 2006, 2, 1744-8069-2-1.	1.0	25
70	Solar forced Dansgaard-Oeschger events and their phase relation with solar proxies. <i>Geophysical Research Letters</i> , 2008, 35, .	1.5	25
71	The ghost of stochastic resonance: an introductory review. <i>Contemporary Physics</i> , 2012, 53, 17-38.	0.8	25
72	Neurologic dysfunction and genotoxicity induced by low levels of chlorpyrifos. <i>NeuroToxicology</i> , 2014, 45, 22-30.	1.4	23

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73	Controlling a complex system near its critical point via temporal correlations. <i>Scientific Reports</i> , 2020, 10, 12145.	1.6	23
74	Emergent complexity: What uphill analysis or downhill invention cannot do. <i>New Ideas in Psychology</i> , 2008, 26, 158-173.	1.2	21
75	DEMONSTRATION OF $1/f$ FLUCTUATIONS AND WHITE NOISE IN THE HUMAN HEART RATE BY THE VARIANCE-TIME-CURVE: IMPLICATIONS FOR SELF-SIMILARITY. <i>Fractals</i> , 1993, 01, 312-320.	1.8	20
76	General relation between variance-time curve and power spectral density for point processes exhibiting $1/f^2$ -fluctuations, with special reference to heart rate variability. <i>Biological Cybernetics</i> , 1995, 73, 255-263.	0.6	20
77	Noise-induced memory in extended excitable systems. <i>Physical Review E</i> , 2000, 61, 5654-5657.	0.8	20
78	The Brain: What is Critical About It?. <i>AIP Conference Proceedings</i> , 2008, , .	0.3	20
79	Extreme brain events: Higher-order statistics of brain resting activity and its relation with structural connectivity. <i>Europhysics Letters</i> , 2015, 111, 68007.	0.7	20
80	Further results on why a point process is effective for estimating correlation between brain regions. <i>Papers in Physics</i> , 0, 12, 120003.	0.2	19
81	Heart rate dynamics in monoamine oxidase-A- and -B-deficient mice. <i>American Journal of Physiology - Heart and Circulatory Physiology</i> , 2002, 282, H1751-H1759.	1.5	16
82	Fluctuation-Induced Transport in a Periodic Potential: Noise versus Chaos. <i>Physical Review Letters</i> , 1997, 78, 1605-1605.	2.9	15
83	Brain complexity born out of criticality. <i>AIP Conference Proceedings</i> , 2013, , .	0.3	14
84	Universal and nonuniversal neural dynamics on small world connectomes: A finite-size scaling analysis. <i>Physical Review E</i> , 2019, 100, 052138.	0.8	14
85	Scale-Free Fluctuations in Behavioral Performance: Delineating Changes in Spontaneous Behavior of Humans with Induced Sleep Deficiency. <i>PLoS ONE</i> , 2014, 9, e107542.	1.1	14
86	Life at the Edge: Complexity and Criticality in Biological Function. <i>Acta Physica Polonica B</i> , 2018, 49, 1955.	0.3	13
87	Observing changes in human functioning during induced sleep deficiency and recovery periods. <i>PLoS ONE</i> , 2021, 16, e0255771.	1.1	12
88	Scale-Free Dynamics in Animal Groups and Brain Networks. <i>Frontiers in Systems Neuroscience</i> , 2020, 14, 591210.	1.2	12
89	How we move is universal: Scaling in the average shape of human activity. <i>Papers in Physics</i> , 0, 7, 070017.	0.2	12
90	Irregular Dynamics of Excitation in Biologic and Mathematical Models of Cardiac Cells. <i>Annals of the New York Academy of Sciences</i> , 1990, 601, 281-298.	1.8	11

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91	Box scaling as a proxy of finite size correlations. Scientific Reports, 2021, 11, 15937.	1.6	11
92	Dynamics of Synchronization in the Sinoatrial Node. Annals of the New York Academy of Sciences, 1990, 591, 154-165.	1.8	10
93	The environmental pollutant endosulfan disrupts cerebral cortical function at low doses. NeuroToxicology, 2011, 32, 31-37.	1.4	10
94	Toward Very Simple Generic Models of Excitable Cells. Order and Chaos in Cardiac Tissues. Facts and Conjectures. Annals of the New York Academy of Sciences, 1990, 591, 351-366.	1.8	9
95	LARGE SCALE-INVARIANT FLUCTUATIONS IN NORMAL BLOOD CELL COUNTS: A SIGN OF CRITICALITY?. Fractals, 2000, 08, 279-283.	1.8	9
96	Low-dose cholinesterase inhibitors do not induce delayed effects on cerebral blood flow and metabolism. Pharmacology Biochemistry and Behavior, 2005, 80, 529-540.	1.3	9
97	The shadows of pain. Pain, 2006, 123, 221-222.	2.0	9
98	The brain near the edge. AIP Conference Proceedings, 2007, , .	0.3	8
99	Strobing brain thunders: Functional correlation of extreme activity events. Chaos, Solitons and Fractals, 2013, 55, 102-108.	2.5	8
100	THE COLLECTIVE BRAIN. , 2011, , .		8
101	Similar local neuronal dynamics may lead to different collective behavior. Physical Review E, 2021, 104, 064309.	0.8	8
102	Flattened cortical maps of cerebral function in the rat: A region-of-interest approach to data sampling, analysis and display. Neuroscience Letters, 2008, 434, 179-184.	1.0	7
103	How ants move: individual and collective scaling properties. Journal of the Royal Society Interface, 2018, 15, 20180223.	1.5	7
104	DENDRITIC COMPLEXITY AND THE EVOLUTION OF CEREBELLAR PURKINJE CELLS. Fractals, 1994, 02, 95-102.	1.8	6
105	Seeking a fingerprint: analysis of point processes in actigraphy recording. Journal of Statistical Mechanics: Theory and Experiment, 2016, 2016, 054034.	0.9	6
106	On the pros and cons of using temporal derivatives to assess brain functional connectivity. NeuroImage, 2019, 184, 577-585.	2.1	6
107	$1/f \pm$ Power spectral density of the cardiac QRS complex is not associated with a fractal Purkinje system. Biophysical Journal, 1991, 60, 1303-1305.	0.2	5
108	Disruption of transfer entropy and inter-hemispheric brain functional connectivity in patients with disorder of consciousness. BMC Neuroscience, 2013, 14, P83.	0.8	5

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109	On the Problem of Anisotropic Propagation in Ventricular Muscle. <i>Developments in Cardiovascular Medicine</i> , 1989, , 181-197.	0.1	5
110	Morphology and microchemistry of the otoliths of the inner ear of Anuran larvae. <i>Hearing Research</i> , 2016, 335, 47-52.	0.9	4
111	Invited review: Fluctuation-induced transport. From the very small to the very large scales. <i>Papers in Physics</i> , 0, 8, 080004.	0.2	4
112	Circadian rhythms of heart rate and locomotion after treatment with low-dose acetylcholinesterase inhibitors. <i>Journal of Applied Toxicology</i> , 2006, 26, 410-418.	1.4	3
113	A simple conceptual model to interpret the 100 000 years dynamics of paleo-climate records. <i>Nonlinear Processes in Geophysics</i> , 2010, 17, 585-592.	0.6	3
114	Revisiting Nonlinear Functional Brain Co-activations: Directed, Dynamic, and Delayed. <i>Frontiers in Neuroscience</i> , 2021, 15, 700171.	1.4	3
115	Noise sampled signal transmission in an array of Schmitt Triggers. <i>AIP Conference Proceedings</i> , 1993, , .	0.3	2
116	<title>One more reason why neurons need to be noisy</title>. , 1993, , .		2
117	<title>Low-dimensional dynamics in cardiac tissues: experiments and theory</title>. , 1993, , .		2
118	Non-linear Functional Brain Co-activations in Short-Term Memory Distortion Tasks. <i>Frontiers in Neuroscience</i> , 2021, 15, 778242.	1.4	2
119	Learning by mistakes in memristor networks. <i>Physical Review E</i> , 2022, 105, .	0.8	2
120	Bifurcations in a simple hydraulic oscillator: the 'Tantalus' cup'. <i>European Journal of Physics</i> , 1991, 12, 297-302.	0.3	1
121	External noise in semiconductor lasers. , 2004, , .		1
122	Ghost resonance in a semiconductor laser operating in an excitable regime. , 2003, 5111, 118.		0
123	Ghost resonance in coupled lasers. <i>AIP Conference Proceedings</i> , 2004, , .	0.3	0
124	Nonlinear Dynamics and Ionic Mechanisms of Excitation Patterns in Models of the Cardiac Myocyte. <i>NATO ASI Series Series B: Physics</i> , 1991, , 295-312.	0.2	0
125	Low Dimensional Chaos and the Transition from Rhythmic to Arrhythmic Behavior in Cardiac Tissue. <i>Developments in Cardiovascular Medicine</i> , 1991, , 115-123.	0.1	0