

Jesus Gomez-Gardenes

List of Publications by Year in descending order

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Version: 2024-02-01

134
papers

12,471
citations

31902

53
h-index

24915

109
g-index

142
all docs

142
docs citations

142
times ranked

7007
citing authors

#	ARTICLE	IF	CITATIONS
1	Behavioural response to heterogeneous severity of COVID-19 explains temporal variation of cases among different age groups. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2022, 380, 20210119.	1.6	10
2	Dynamical robustness of collective neuronal activity upon targeted damage in interdependent networks. <i>European Physical Journal: Special Topics</i> , 2022, 231, 195-201.	1.2	3
3	Modeling Communicable Diseases, Human Mobility, and Epidemics: A Review. <i>Annalen Der Physik</i> , 2022, 534, .	0.9	9
4	Contagionâ€“diffusion processes with recurrent mobility patterns of distinguishable agents. <i>Chaos</i> , 2022, 32, 043102.	1.0	3
5	The interconnection between independent reactive control policies drives the stringency of local containment. <i>Chaos, Solitons and Fractals</i> , 2022, 158, 112012.	2.5	1
6	A metapopulation approach to identify targets for <i>Wolbachia</i>-based dengue control. <i>Chaos</i> , 2022, 32, 041105.	1.0	2
7	Mean-field nature of synchronization stability in networks with multiple interaction layers. <i>Communications Physics</i> , 2022, 5, .	2.0	3
8	Emergence of protective behaviour under different risk perceptions to disease spreading. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2022, 380, .	1.6	4
9	Virus spread versus contact tracing: Two competing contagion processes. <i>Physical Review Research</i> , 2021, 3, .	1.3	23
10	Noise-driven amplification mechanisms governing the emergence of coherent extreme events in excitable systems. <i>Physical Review Research</i> , 2021, 3, .	1.3	5
11	Infectious disease dynamics in metapopulations with heterogeneous transmission and recurrent mobility. <i>New Journal of Physics</i> , 2021, 23, 073019.	1.2	16
12	Interplay between population density and mobility in determining the spread of epidemics in cities. <i>Communications Physics</i> , 2021, 4, .	2.0	30
13	Modeling the Spatiotemporal Epidemic Spreading of COVID-19 and the Impact of Mobility and Social Distancing Interventions. <i>Physical Review X</i> , 2020, 10, .	2.8	85
14	Fear induced explosive transitions in the dynamics of corruption. <i>Chaos</i> , 2020, 30, 063107.	1.0	8
15	Expertsâ€™ request to the Spanish Government: move Spain towards complete lockdown. <i>Lancet</i> , The, 2020, 395, 1193-1194.	6.3	63
16	Analyzing the potential impact of BREXIT on the European research collaboration network. <i>Chaos</i> , 2020, 30, 063145.	1.0	4
17	Hunter-gatherer multilevel sociality accelerates cumulative cultural evolution. <i>Science Advances</i> , 2020, 6, eaax5913.	4.7	66
18	Impact of temporal scales and recurrent mobility patterns on the unfolding of epidemics. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2020, 2020, 024006.	0.9	22

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19	Norm violation versus punishment risk in a social model of corruption. <i>Physical Review E</i> , 2020, 101, 022306.	0.8	6
20	Vector-borne epidemics driven by human mobility. <i>Physical Review Research</i> , 2020, 2, .	1.3	31
21	Pulsating campaigns of human prophylaxis driven by risk perception palliate oscillations of direct contact transmitted diseases. <i>Physical Review Research</i> , 2020, 2, .	1.3	17
22	Epidemic spreading: Tailored models for COVID-19. <i>Europhysics News</i> , 2020, 51, 38-40.	0.1	0
23	Explosive phenomena in complex networks. <i>Advances in Physics</i> , 2019, 68, 123-223.	35.9	125
24	Impact of targeted attack on the spontaneous activity in spatial and biologically-inspired neuronal networks. <i>Chaos</i> , 2019, 29, 083126.	1.0	15
25	Explosive transitions induced by interdependent contagion-consensus dynamics in multiplex networks. <i>Physical Review E</i> , 2019, 99, 062311.	0.8	20
26	Markovian approach to tackle the interaction of simultaneous diseases. <i>Physical Review E</i> , 2019, 100, 062308.	0.8	20
27	The structure of plant spatial association networks is linked to plant diversity in global drylands. <i>Journal of Ecology</i> , 2018, 106, 1443-1453.	1.9	29
28	Critical regimes driven by recurrent mobility patterns of reaction-diffusion processes in networks. <i>Nature Physics</i> , 2018, 14, 391-395.	6.5	106
29	Interplay between cost and benefits triggers nontrivial vaccination uptake. <i>Physical Review E</i> , 2018, 97, 032308.	0.8	17
30	Emerging Applications of Complex Networks. <i>Complexity</i> , 2018, 2018, 1-2.	0.9	1
31	Graph analysis of cell clusters forming vascular networks. <i>Royal Society Open Science</i> , 2018, 5, 171592.	1.1	7
32	Resource heterogeneity leads to unjust effort distribution in climate change mitigation. <i>PLoS ONE</i> , 2018, 13, e0204369.	1.1	23
33	Impact of human-human contagions in the spread of vector-borne diseases. <i>European Physical Journal: Special Topics</i> , 2018, 227, 661-672.	1.2	2
34	Multiplex Decomposition of Non-Markovian Dynamics and the Hidden Layer Reconstruction Problem. <i>Physical Review X</i> , 2018, 8, .	2.8	16
35	Epidemics on plants: Modeling long-range dispersal on spatially embedded networks. <i>Journal of Theoretical Biology</i> , 2018, 453, 1-13.	0.8	15
36	Spreading Processes in Multiplex Metapopulations Containing Different Mobility Networks. <i>Physical Review X</i> , 2018, 8, .	2.8	40

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37	Evidence of structural balance in spatial ecological networks. <i>Ecography</i> , 2017, 40, 733-741.	2.1	37
38	Characterization of hunter-gatherer networks and implications for cumulative culture. <i>Nature Human Behaviour</i> , 2017, 1, .	6.2	91
39	Optimizing diffusion in multiplexes by maximizing layer dissimilarity. <i>Physical Review E</i> , 2017, 95, 052312.	0.8	11
40	Explosive Contagion in Networks. <i>Scientific Reports</i> , 2016, 6, 19767.	1.6	62
41	Amplitude dynamics favors synchronization in complex networks. <i>Scientific Reports</i> , 2016, 6, 24915.	1.6	22
42	Synchronization unveils the organization of ecological networks with positive and negative interactions. <i>Chaos</i> , 2016, 26, 065302.	1.0	15
43	Network bipartivity and the transportation efficiency of European passenger airlines. <i>Physica D: Nonlinear Phenomena</i> , 2016, 323-324, 57-63.	1.3	19
44	Synchronization in networks with multiple interaction layers. <i>Science Advances</i> , 2016, 2, e1601679.	4.7	93
45	Humans display a reduced set of consistent behavioral phenotypes in dyadic games. <i>Science Advances</i> , 2016, 2, e1600451.	4.7	67
46	Rich do not rise early: spatio-temporal patterns in the mobility networks of different socio-economic classes. <i>Royal Society Open Science</i> , 2016, 3, 150654.	1.1	38
47	Several Multiplexes in the Same City: The Role of Socioeconomic Differences in Urban Mobility. <i>Understanding Complex Systems</i> , 2016, , 149-164.	0.3	12
48	Enhancing the stability of the synchronization of multivariable coupled oscillators. <i>Physical Review E</i> , 2015, 92, 032804.	0.8	20
49	Intra-layer synchronization in multiplex networks. <i>Europhysics Letters</i> , 2015, 110, 20010.	0.7	105
50	Layer-layer competition in multiplex complex networks. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2015, 373, 20150117.	1.6	19
51	Abrupt transitions from reinfections in social contagions. <i>Europhysics Letters</i> , 2015, 110, 58006.	0.7	16
52	An Integrative Approach for Modeling and Simulation of Heterocyst Pattern Formation in Cyanobacteria Filaments. <i>PLoS Computational Biology</i> , 2015, 11, e1004129.	1.5	15
53	Reciprocity Mechanisms meet together. A previous step to bridge the gap with experiments?. <i>Physics of Life Reviews</i> , 2015, 14, 54-55.	1.5	2
54	Several Multiplexes in the Same City: The Role of Socioeconomic Differences in Urban Mobility. <i>SSRN Electronic Journal</i> , 2014, , .	0.4	5

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55	$\langle \text{mml:math} \text{xmlns:mml}=\text{"http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mi} \rangle k \langle \text{mml:mi} \rangle \langle \text{mml:mtext} \rangle \hat{\sim} \langle \text{mml:mtext} \rangle \langle \text{mml:mi} \rangle \text{co}$ on multiplex networks. Physical Review E, 2014, 90, 032816.	0.8	19
56	Communicability reveals a transition to coordinated behavior in multiplex networks. Physical Review E, 2014, 89, 042819.	0.8	53
57	Evolutionary dynamics of time-resolved social interactions. Physical Review E, 2014, 90, 052825.	0.8	38
58	Analytical estimation of the correlation dimension of integer lattices. Chaos, 2014, 24, 043101.	1.0	8
59	Synchronization in a semiclassical Kuramoto model. Physical Review E, 2014, 90, 052904.	0.8	31
60	Intergroup information exchange drives cooperation in the public goods game. Physical Review E, 2014, 90, 042808.	0.8	19
61	The structure and dynamics of multilayer networks. Physics Reports, 2014, 544, 1-122.	10.3	2,469
62	Analysis of remote synchronization in complex networks. Chaos, 2013, 23, 043103.	1.0	73
63	Diffusion Dynamics on Multiplex Networks. Physical Review Letters, 2013, 110, 028701.	2.9	738
64	Cooperation in changing environments: Irreversibility in the transition to cooperation in complex networks. Chaos, Solitons and Fractals, 2013, 56, 188-193.	2.5	11
65	Modeling the multi-layer nature of the European Air Transport Network: Resilience and passengers re-scheduling under random failures. European Physical Journal: Special Topics, 2013, 215, 23-33.	1.2	226
66	Correlation Dimension of Complex Networks. Physical Review Letters, 2013, 110, 168703.	2.9	70
67	Evolutionary dynamics of group interactions on structured populations: a review. Journal of the Royal Society Interface, 2013, 10, 20120997.	1.5	1,023
68	Motion-induced synchronization in metapopulations of mobile agents. Physical Review E, 2013, 87, .	0.8	15
69	Information sharing in quantum complex networks. Physical Review A, 2013, 87, .	1.0	12
70	Emergence of network features from multiplexity. Scientific Reports, 2013, 3, 1344.	1.6	396
71	Evolutionary vaccination dilemma in complex networks. Physical Review E, 2013, 88, 032803.	0.8	76
72	Quantum Navigation and Ranking in Complex Networks. Scientific Reports, 2012, 2, 605.	1.6	83

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73	Velocity-enhanced cooperation of moving agents playing public goods games. <i>Physical Review E</i> , 2012, 85, 067101.	0.8	53
74	Explosive First-Order Transition to Synchrony in Networked Chaotic Oscillators. <i>Physical Review Letters</i> , 2012, 108, 168702.	2.9	154
75	Reciprocal interactions out of congestion-free adaptive networks. <i>Physical Review E</i> , 2012, 85, 026112.	0.8	3
76	ADAPTIVE GROWING NETWORKS COEVOLVING WITH THE SPREAD OF DISEASES. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2012, 22, 1250168.	0.7	4
77	EFFECTS OF TRAFFIC PROPERTIES AND DEGREE HETEROGENEITY IN FLOW FLUCTUATIONS ON COMPLEX NETWORKS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2012, 22, 1250170.	0.7	2
78	Synchronization in cortical networks: Role and Emergence of Modularity. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , 2012, 45, 63-65.	0.4	1
79	A mathematical model for networks with structures in the mesoscale. <i>International Journal of Computer Mathematics</i> , 2012, 89, 291-309.	1.0	47
80	Evolution of Cooperation in Multiplex Networks. <i>Scientific Reports</i> , 2012, 2, 620.	1.6	355
81	Evolutionary dynamics on interdependent populations. <i>Physical Review E</i> , 2012, 86, 056113.	0.8	104
82	Growing Networks Driven by the Evolutionary Prisoner's Dilemma Game. <i>Springer Optimization and Its Applications</i> , 2012, , 115-136.	0.6	3
83	Emergence of structural patterns out of synchronization in networks with competitive interactions. <i>Scientific Reports</i> , 2011, 1, 99.	1.6	73
84	Emerging Meso- and Macroscales from Synchronization of Adaptive Networks. <i>Physical Review Letters</i> , 2011, 107, 234103.	2.9	73
85	Nonperturbative heterogeneous mean-field approach to epidemic spreading in complex networks. <i>Physical Review E</i> , 2011, 84, 036105.	0.8	81
86	Evolutionary games defined at the network mesoscale: The Public Goods game. <i>Chaos</i> , 2011, 21, 016113.	1.0	105
87	Maximal-entropy random walks in complex networks with limited information. <i>Physical Review E</i> , 2011, 83, 030103.	0.8	94
88	Disentangling social and group heterogeneities: Public Goods games on complex networks. <i>Europhysics Letters</i> , 2011, 95, 68003.	0.7	56
89	Random topologies and the emergence of cooperation: the role of short-cuts. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2011, 2011, P04019.	0.9	7
90	Cooperation in scale-free networks with limited associative capacities. <i>Physical Review E</i> , 2011, 83, 057101.	0.8	53

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91	Explosive Synchronization Transitions in Scale-Free Networks. <i>Physical Review Letters</i> , 2011, 106, 128701.	2.9	459
92	Evolution of microscopic and mesoscopic synchronized patterns in complex networks. <i>Chaos</i> , 2011, 21, 016105.	1.0	10
93	Traffic optimization in transport networks based on local routing. <i>European Physical Journal B</i> , 2010, 73, 303-308.	0.6	66
94	From Modular to Centralized Organization of Synchronization in Functional Areas of the Cat Cerebral Cortex. <i>PLoS ONE</i> , 2010, 5, e12313.	1.1	75
95	Dynamical organization towards consensus in the Axelrod model on complex networks. <i>Physical Review E</i> , 2010, 81, 056105.	0.8	28
96	COOPERATION IN THE PRISONER'S DILEMMA GAME IN RANDOM SCALE-FREE GRAPHS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2010, 20, 849-857.	0.7	18
97	Co-evolution of strategies and update rules in the prisoner's dilemma game on complex networks. <i>New Journal of Physics</i> , 2010, 12, 103034.	1.2	54
98	Annealed and mean-field formulations of disease dynamics on static and adaptive networks. <i>Physical Review E</i> , 2010, 82, 035101.	0.8	51
99	Local empathy provides global minimization of congestion in communication networks. <i>Physical Review E</i> , 2010, 82, 056105.	0.8	35
100	Effects of mobility in a population of prisoner's dilemma players. <i>Physical Review E</i> , 2009, 79, 067101.	0.8	226
101	SYNCHRONIZATION IN RANDOM GEOMETRIC GRAPHS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2009, 19, 687-693.	0.7	25
102	The Ultimatum Game in complex networks. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2009, 2009, P09012.	0.9	61
103	Evolutionary game dynamics in a growing structured population. <i>New Journal of Physics</i> , 2009, 11, 083031.	1.2	130
104	Cooperative scale-free networks despite the presence of defector hubs. <i>Europhysics Letters</i> , 2009, 88, 38003.	0.7	59
105	Social network reciprocity as a phase transition in evolutionary cooperation. <i>Physical Review E</i> , 2009, 79, 026106.	0.8	71
106	Exploring the Free Energy Landscape: From Dynamics to Networks and Back. <i>PLoS Computational Biology</i> , 2009, 5, e1000415.	1.5	114
107	Natural selection of cooperation and degree hierarchy in heterogeneous populations. <i>Journal of Theoretical Biology</i> , 2008, 253, 296-301.	0.8	53
108	Complex Cooperative Networks from Evolutionary Preferential Attachment. <i>PLoS ONE</i> , 2008, 3, e2449.	1.1	166

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109	Entropy rate of diffusion processes on complex networks. <i>Physical Review E</i> , 2008, 78, 065102.	0.8	150
110	Spreading of sexually transmitted diseases in heterosexual populations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 1399-1404.	3.3	94
111	Enhancement of cooperation in highly clustered scale-free networks. <i>Physical Review E</i> , 2008, 78, 017101.	0.8	189
112	Scaling Breakdown in Flow Fluctuations on Complex Networks. <i>Physical Review Letters</i> , 2008, 100, 208701.	2.9	97
113	SYNCHRONIZATION OF NETWORKS WITH VARIABLE LOCAL PROPERTIES. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2007, 17, 2501-2507.	0.7	13
114	Robustness of cooperation in the evolutionary prisoner's dilemma on complex networks. <i>New Journal of Physics</i> , 2007, 9, 184-184.	1.2	149
115	Dynamical Organization of Cooperation in Complex Topologies. <i>Physical Review Letters</i> , 2007, 98, 108103.	2.9	462
116	Synchronizability determined by coupling strengths and topology on complex networks. <i>Physical Review E</i> , 2007, 75, 066106.	0.8	86
117	Paths to Synchronization on Complex Networks. <i>Physical Review Letters</i> , 2007, 98, 034101.	2.9	312
118	Immunization of real complex communication networks. <i>European Physical Journal B</i> , 2006, 49, 259-264.	0.6	72
119	Discrete breathers in two-dimensional anisotropic nonlinear Schrödinger lattices. <i>Physica D: Nonlinear Phenomena</i> , 2006, 216, 31-43.	1.3	17
120	Current trends in the modeling of biological networks. <i>AIP Conference Proceedings</i> , 2006, , .	0.3	0
121	From scale-free to Erdos-Rényi networks. <i>Physical Review E</i> , 2006, 73, 056124.	0.8	106
122	Solitons in the Salerno model with competing nonlinearities. <i>Physical Review E</i> , 2006, 73, 036608.	0.8	37
123	Discrete solitons and vortices in the two-dimensional Salerno model with competing nonlinearities. <i>Physical Review E</i> , 2006, 74, 036607.	0.8	19
124	Scale-free topologies and activatory-inhibitory interactions. <i>Chaos</i> , 2006, 16, 015114.	1.0	7
125	Michaelis-Menten dynamics in complex heterogeneous networks. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2005, 352, 265-281.	1.2	5
126	On the robustness of complex heterogeneous gene expression networks. <i>Biophysical Chemistry</i> , 2005, 115, 225-228.	1.5	15

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127	Dynamics of jamming transitions in complex networks. <i>Europhysics Letters</i> , 2005, 71, 325-331.	0.7	213
128	Distance-dcovering problems in scale-free networks with degree correlations. <i>Physical Review E</i> , 2005, 71, 035102.	0.8	45
129	Local versus global knowledge in the Barabási-Albert scale-free network model. <i>Physical Review E</i> , 2004, 69, 037103.	0.8	33
130	Improved routing strategies for Internet traffic delivery. <i>Physical Review E</i> , 2004, 70, 056105.	0.8	244
131	Nonintegrable Schrödinger discrete breathers. <i>Chaos</i> , 2004, 14, 1130-1147.	1.0	33
132	Mobile localization in nonlinear Schrödinger lattices. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2004, 332, 213-219.	0.9	33
133	Structural and dynamical properties of cellular and regulatory networks. , 0, , 155-176.		0
134	Evolutionary Dynamics of Time-Resolved Social Interactions. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0