Guido Caldarelli

List of Publications by Citations

189 papers	10,394 citations	53 h-index	98 g-index
202 ext. papers	12,514 ext. citations	4.3 avg, IF	6.57 L-index

#	Paper	IF	Citations
189	The spreading of misinformation online. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 554-9	11.5	813
188	Scale-Free Networks **2007**,		568
187	Scale-free networks from varying vertex intrinsic fitness. *Physical Review Letters*, **2002**, 89, 258702	7.4	514
186	DebtRank: too central to fail? Financial networks, the FED and systemic risk. *Scientific Reports*, **2012** , 2, 541	4.9	393
185	A network analysis of the Italian overnight money market. *Journal of Economic Dynamics and Control*, **2008**, 32, 259-278	1.3	304
184	Topology of correlation-based minimal spanning trees in real and model markets. *Physical Review E*, **2003**, 68, 046130	2.4	288
183	Science vs conspiracy: collective narratives in the age of misinformation. *PLoS ONE*, **2015**, 10, e0118093	3.7	246
182	Networks of equities in financial markets. *European Physical Journal B*, **2004**, 38, 363-371	1.2	236
181	A new metrics for countriesUfitness and productsUcomplexity. *Scientific Reports*, **2012**, 2, 723	4.9	218
180	Universal scaling relations in food webs. *Nature*, **2003**, 423, 165-8	50.4	211
179	Quenched disorder, memory, and self-organization. *Physical Review E*, **1996**, 53, R13-R16	2.4	186
178	Detecting communities in large networks. *Physica A: Statistical Mechanics and Its Applications*, **2005**, 352, 669-676	3.3	182
177	Echo Chambers: Emotional Contagion and Group Polarization on Facebook. *Scientific Reports*, **2016**, 6, 37825	4.9	178
176	Preferential attachment in the growth of social networks: the internet encyclopedia Wikipedia. *Physical Review E*, **2006**, 74, 036116	2.4	176
175	Modelling Coevolution in Multispecies Communities. *Journal of Theoretical Biology*, **1998**, 193, 345-358	2.3	167
174	The Effects of Twitter Sentiment on Stock Price Returns. *PLoS ONE*, **2015**, 10, e0138441	3.7	156
173	Measuring the intangibles: a metrics for the economic complexity of countries and products. *PLoS ONE*, **2013**, 8, e70726	3.7	136

172	The fractal properties of Internet. *Europhysics Letters*, **2000**, 52, 386-391	1.6	127
171	Web search queries can predict stock market volumes. *PLoS ONE*, **2012**, 7, e40014	3.7	124
170	Random hypergraphs and their applications. *Physical Review E*, **2009**, 79, 066118	2.4	124
169	The scale-free topology of market investments. *Physica A: Statistical Mechanics and Its Applications*, **2005**, 350, 491-499	3.3	122
168	Debunking in a world of tribes. *PLoS ONE*, **2017**, 12, e0181821	3.7	121
167	A prototype model of stock exchange. *Europhysics Letters*, **1997**, 40, 479-484	1.6	116
166	Fitness model for the Italian interbank money market. *Physical Review E*, **2006**, 74, 066112	2.4	116
165	The statistical physics of real-world networks. *Nature Reviews Physics*, **2019**, 1, 58-71	23.6	114
164	A network analysis of countriesUexport flows: firm grounds for the building blocks of the economy. *PLoS ONE*, **2012**, 7, e47278	3.7	112
163	Anatomy of news consumption on Facebook. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 3035-3039	11.5	110
162	Pathways towards instability in financial networks. *Nature Communications*, **2017**, 8, 14416	17.4	109
161	Large Scale Structure and Dynamics of Complex Networks. *Complex Systems and Interdisciplinary Science*, **2007**,		102
160	The price of complexity in financial networks. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 10031-6	11.5	99
159	Mapping social dynamics on Facebook: The Brexit debate. *Social Networks*, **2017**, 50, 6-16	3.9	98
158	Quantifying randomness in real networks. *Nature Communications*, **2015**, 6, 8627	17.4	98
157	Opinion dynamics on interacting networks: media competition and social influence. *Scientific Reports*, **2014**, 4, 4938	4.9	97
156	Emotional Dynamics in the Age of Misinformation. *PLoS ONE*, **2015**, 10, e0138740	3.7	95
155	Default cascades in complex networks: topology and systemic risk. *Scientific Reports*, **2013**, 3, 2759	4.9	95

154	Users Polarization on Facebook and Youtube. *PLoS ONE*, **2016**, 11, e0159641	3.7	89
153	Scaling in currency exchange. *Physica A: Statistical Mechanics and Its Applications*, **1997**, 245, 423-436	3.3	84
152	Interplay between topology and dynamics in the World Trade Web. *European Physical Journal B*, **2007**, 57, 159-164	1.2	84
151	Vertex intrinsic fitness: how to produce arbitrary scale-free networks. *Physical Review E*, **2004**, 70, 056126	2.4	84
150	Modeling confirmation bias and polarization. *Scientific Reports*, **2017**, 7, 40391	4.9	83
149	Economic complexity: Conceptual grounding of a new metrics for global competitiveness. *Journal of Economic Dynamics and Control*, **2013**, 37, 1683-1691	1.3	81
148	Self-organized network evolution coupled to extremal dynamics. *Nature Physics*, **2007**, 3, 813-817	16.2	75
147	Assortative model for social networks. *Physical Review E*, **2004**, 70, 037101	2.4	74
146	The network of plants volatile organic compounds. *Scientific Reports*, **2017**, 7, 11050	4.9	66
145	Bootstrapping Topological Properties and Systemic Risk of Complex Networks Using the Fitness Model. *Journal of Statistical Physics*, **2013**, 151, 720-734	1.5	66
144	Self-Organization and Annealed Disorder in Fracturing Process. *Physical Review Letters*, **1996**, 77, 2503-2506	7.4	64
143	Hypergraph topological quantities for tagged social networks. *Physical Review E*, **2009**, 80, 036118	2.4	62
142	DebtRank: A Microscopic Foundation for Shock Propagation. *PLoS ONE*, **2015**, 10, e0130406	3.7	62
141	Putting proteins back into water. *Physical Review E*, **2000**, 62, 8449-52	2.4	60
140	Self-healing networks: redundancy and structure. *PLoS ONE*, **2014**, 9, e87986	3.7	57
139	Robustness and assortativity for diffusion-like processes in scale-free networks. *Europhysics Letters*, **2012**, 97, 68006	1.6	57
138	Structure of cycles and local ordering in complex networks. *European Physical Journal B*, **2004**, 38, 183-186	1.2	56
137	Trend of Narratives in the Age of Misinformation. *PLoS ONE*, **2015**, 10, e0134641	3.7	53

136	Evolution of controllability in interbank networks. *Scientific Reports*, **2013**, 3, 1626	4.9	51
135	Homophily and polarization in the age of misinformation. *European Physical Journal: Special Topics*, **2016**, 225, 2047-2059	2.3	49
134	A multi-level geographical study of Italian political elections from Twitter data. *PLoS ONE*, **2014**, 9, e95809	3.7	46
133	Inferring monopartite projections of bipartite networks: an entropy-based approach. *New Journal of Physics*, **2017**, 19, 053022	2.9	45
132	On the rich-club effect in dense and weighted networks. *European Physical Journal B*, **2009**, 67, 271-275	1.2	40
131	Leveraging the network: A stress-test framework based on DebtRank. *Statistics and Risk Modeling*, **2016**, 33, 117-138	0.2	39
130	Percolation in real wildfires. *Europhysics Letters*, **2001**, 56, 510-516	1.6	38
129	Topologically biased random walk and community finding in networks. *Physical Review E*, **2010**, 82, 066109	2.4	37
128	Ensemble approach to the analysis of weighted networks. *Physical Review E*, **2007**, 76, 016101	2.4	37
127	Cold and warm denaturation of proteins. *Journal of Biological Physics*, **2001**, 27, 229-41	1.6	37
126	Social network growth with assortative mixing. *Physica A: Statistical Mechanics and Its Applications*, **2004**, 338, 119-124	3.3	36
125	Viral Misinformation **2015**,		35
124	Reconstruction methods for networks: The case of economic and financial systems. *Physics Reports*, **2018**, 757, 1-47	27.7	35
123	Invasion percolation and critical transient in the Barabâ i model of human dynamics. *Physical Review Letters*, **2007**, 98, 208701	7.4	35
122	Virtual Round Table on ten leading questions for network research. *European Physical Journal B*, **2004**, 38, 143-145	1.2	35
121	Distress Propagation in Complex Networks: The Case of Non-Linear DebtRank. *PLoS ONE*, **2016**, 11, e0163825	3.7	35
120	Trading strategies in the Italian interbank market. *Physica A: Statistical Mechanics and Its Applications*, **2007**, 376, 467-479	3.3	34
119	The corporate boards networks. *Physica A: Statistical Mechanics and Its Applications*, **2004**, 338, 98-106	3.3	34

118	Dynamic fracture model for acoustic emission. *European Physical Journal B*, **2003**, 36, 203-207	1.2	33
117	Cold and warm swelling of hydrophobic polymers. *Physical Review E*, **2001**, 63, 031802	2.4	32
116	Loops structure of the Internet at the autonomous system level. *Physical Review E*, **2005**, 71, 066116	2.4	30
115	Uncovering the topology of configuration space networks. *Physical Review E*, **2007**, 76, 026113	2.4	29
114	Emergence of Complexity in Financial Networks. *Lecture Notes in Physics*, **2004**, 399-423	0.8	29
113	Beauty and distance in the stable marriage problem. *Physica A: Statistical Mechanics and Its Applications*, **2001**, 300, 325-331	3.3	29
112	Network Valuation in Financial Systems. *SSRN Electronic Journal*, **2016**,	1	28
111	Islanding the power grid on the transmission level: less connections for more security. *Scientific Reports*, **2016**, 6, 34797	4.9	27
110	Randomly pinned landscape evolution. *Physical Review E*, **1997**, 55, R4865-R4868	2.4	27
109	The rise of China in the International Trade Network: a community core detection approach. *PLoS ONE*, **2014**, 9, e105496	3.7	26
108	Credit Default Swaps networks and systemic risk. *Scientific Reports*, **2014**, 4, 6822	4.9	25
107	The role of bot squads in the political propaganda on Twitter. *Communications Physics*, **2020**, 3,	5.4	25
106	The Structure of Financial Networks **2010**, 131-163		24
105	SPECTRAL METHODS CLUSTER WORDS OF THE SAME CLASS IN A SYNTACTIC DEPENDENCY NETWORK. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2007**, 17, 2453-2463	2	24
104	River landscapes and optimal channel networks. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 6548-6553	11.5	23
103	Criticality in models for fracture in disordered media. *Physica A: Statistical Mechanics and Its Applications*, **1999**, 270, 15-20	3.3	22
102	Social Determinants of Content Selection in the Age of (Mis)Information. *Lecture Notes in Computer Science*, **2014**, 259-268	0.9	22
101	Network valuation in financial systems. *Mathematical Finance*, **2020**, 30, 1181-1204	2.3	21

100	Green Power Grids: How Energy from Renewable Sources Affects Networks and Markets. *PLoS ONE* , **2015**, 10, e0135312	3.7	21
99	Coupling News Sentiment with Web Browsing Data Improves Prediction of Intra-Day Price Dynamics. *PLoS ONE*, **2016**, 11, e0146576	3.7	21
98	Fractal and topological properties of directed fractures. *Physical Review E*, **1994**, 49, 2673-2679	2.4	20
97	Systemic risk from investment similarities. *PLoS ONE*, **2019**, 14, e0217141	3.7	19
96	Communities Detection in Large Networks. *Lecture Notes in Computer Science*, **2004**, 181-187	0.9	19
95	Twitter-Based Analysis of the Dynamics of Collective Attention to Political Parties. *PLoS ONE*, **2015**, 10, e0131184	3.7	19
94	SARS-COV-2 comorbidity network and outcome in hospitalized patients in Crema, Italy		19
93	Cascades in interdependent flow networks. *Physica D: Nonlinear Phenomena*, **2016**, 323-324, 35-39	3.3	19
92	Grand canonical validation of the bipartite international trade network. *Physical Review E*, **2017**, 96, 022306	2.4	18
91	Roughness of fracture surfaces. *Europhysics Letters*, **2000**, 52, 304-310	1.6	18
90	SARS-COV-2 comorbidity network and outcome in hospitalized patients in Crema, Italy. *PLoS ONE*, **2021**, 16, e0248498	3.7	18
89	A Complex Network Approach for the Estimation of the Energy Demand of Electric Mobility. *Scientific Reports*, **2018**, 8, 268	4.9	17
88	Stationary self-organized fractal structures in an open, dissipative electrical system. *Journal of Physics A*, **1998**, 31, L337-L343		17
87	An economic and financial exploratory. *European Physical Journal: Special Topics*, **2012**, 214, 361-400	2.3	16
86	PageRank equation and localization in the WWW. *Europhysics Letters*, **2009**, 88, 48002	1.6	16
85	Folksonomies and clustering in the collaborative systemCiteULike. *Journal of Physics A: Mathematical and Theoretical*, **2008**, 41, 224016	2	16
84	Invasion percolation with temperature and the nature of self-organized criticality in real systems. *Physical Review E*, **2000**, 62, 7638-41	2.4	16
83	Self-organized critical scaling at surfaces. *Physical Review E*, **1995**, 52, 72-75	2.4	16

82	Extracting significant signal of news consumption from social networks: the case of Twitter in Italian political elections. *Palgrave Communications*, **2019**, 5,	5.3	16
81	Grand canonical ensemble of weighted networks. *Physical Review E*, **2019**, 99, 030301	2.4	15
80	Bayesian Networks Analysis of Malocclusion Data. *Scientific Reports*, **2017**, 7, 15236	4.9	15
79	Hyperbolicity measures democracy in real-world networks. *Physical Review E*, **2015**, 92, 032812	2.4	15
78	Hierarchical mutual information for the comparison of hierarchical community structures in complex networks. *Physical Review E*, **2015**, 92, 062825	2.4	15
77	Widespread occurrence of the inverse square distribution in social sciences and taxonomy. *Physical Review E*, **2004**, 69, 035101	2.4	14
76	Network Analysis of Gut Microbiome and Metabolome to Discover Microbiota-Linked Biomarkers in Patients Affected by Non-Small Cell Lung Cancer. *International Journal of Molecular Sciences*, **2020**, 21,	6.3	14
75	Flow of online misinformation during the peak of the COVID-19 pandemic in Italy. *EPJ Data Science*, **2021**, 10, 34	3.4	14
74	Cellular models for river networks. *Physical Review E*, **2001**, 63, 021118	2.4	13
73	Self-affine properties of fractures in brittle materials. *Physica A: Statistical Mechanics and Its Applications*, **2000**, 280, 161-165	3.3	13
72	Dynamics of fractures in quenched disordered media. *Physical Review E*, **1998**, 57, 3878-3885	2.4	13
71	True scale-free networks hidden by finite size effects. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	13
70	Enhanced capital-asset pricing model for the reconstruction of bipartite financial networks. *Physical Review E*, **2017**, 96, 032315	2.4	12
69	The multilayer structure of corporate networks. *New Journal of Physics*, **2019**, 21, 025002	2.9	12
68	Hot sandpiles. *Europhysics Letters*, **1996**, 35, 481-486	1.6	12
67	Perturbative approach to the Bak-Sneppen model. *Physical Review Letters*, **2001**, 86, 1896-9	7.4	12
66	Growing dynamics of Internet providers. *Physical Review E*, **2001**, 64, 035105	2.4	12
65	The physics of financial networks. *Nature Reviews Physics*, **2021**, 3, 490-507	23.6	12

64	Physics of humans, physics for society. *Nature Physics*, **2018**, 14, 870-870	16.2	12
63	Leveraging the Network: A Stress-Test Framework Based on DebtRank. *SSRN Electronic Journal*, **2015**,	1	11
62	Using networks to understand medical data: the case of Class III malocclusions. *PLoS ONE*, **2012**, 7, e44521	3.7	11
61	Statistical features of drainage basins in mars channel networks. *European Physical Journal B*, **2004**, 38, 387-391	1.2	11
60	Quantitative description and modeling of real networks. *Physical Review E*, **2003**, 68, 047101	2.4	11
59	Sex-oriented stable matchings of the marriage problem with correlated and incomplete information. *Physica A: Statistical Mechanics and Its Applications*, **2001**, 299, 268-272	3.3	11
58	(So) Big Data and the transformation of the city. *International Journal of Data Science and Analytics*, **2021**, 11, 311-340	2	11
57	Concurrent enhancement of percolation and synchronization in adaptive networks. *Scientific Reports*, **2016**, 6, 27111	4.9	10
56	Organization and hierarchy of the human functional brain network lead to a chain-like core. *Scientific Reports*, **2017**, 7, 4888	4.9	10
55	Discretized diffusion processes. *Physical Review Letters*, **2000**, 85, 4848-51	7.4	10
54	Structural changes in the interbank market across the financial crisis from multiple core-periphery analysis. *Journal of Network Theory in Finance*, **2018**, 4, 33-51	1.5	10
53	A perspective on complexity and networks science. *Journal of Physics Complexity*, **2020**, 1, 021001	1.8	9
52	Weighted networks as randomly reinforced urn processes. *Physical Review E*, **2013**, 87, 020106	2.4	9
51	Mean field theory for ordinary and hot sandpiles. *Physica A: Statistical Mechanics and Its Applications* , **1998**, 252, 295-307	3.3	9
50	A self-organized model for network evolution. *European Physical Journal B*, **2008**, 64, 585-591	1.2	9
49	Preferential exchange: strengthening connections in complex networks. *Physical Review E*, **2004**, 70, 027102	2.4	9
48	Understanding interactions among cephalometrics variables during growth in untreated Class III subjects. *European Journal of Orthodontics*, **2017**, 39, 395-401	3.3	8
47	Reconstructing Mesoscale Network Structures. *Complexity*, **2019**, 2019, 1-13	1.6	8

46	Low-Temperature Behaviour of Social and Economic Networks. *Entropy*, **2013**, 15, 3148-3169	2.8	8
45	Statistical properties of fractures in damaged materials. *Europhysics Letters*, **1999**, 45, 13-19	1.6	8
44	Branching Processes and Evolution at the Ends of a Food Chain. *Physical Review Letters*, **1996**, 76, 4983-4986	7.4	8
43	Quantifying the taxonomic diversity in real species communities. *Journal of Physics A: Mathematical and Theoretical*, **2008**, 41, 224012	2	7
42	The Financial System as a Nexus of Interconnected Networks. *Understanding Complex Systems*, **2016**, 195-229	0.4	7
41	The ambiguity of nestedness under soft and hard constraints. *Scientific Reports*, **2020**, 10, 19903	4.9	7
40	Optimal positioning of storage systems in microgrids based on complex networks centrality measures. *Scientific Reports*, **2018**, 8, 16658	4.9	7
39	The Price of Complexity in Financial Networks. *SSRN Electronic Journal*, **2015**,	1	6
38	Surface effects in invasion percolation. *Physical Review E*, **1997**, 56, R1291-R1294	2.4	6
37	Firms' challenges and social responsibilities during Covid-19: A Twitter analysis. *PLoS ONE*, **2021**, 16, e0254748	3.7	6
36	Entropy-based randomization of rating networks. *Physical Review E*, **2019**, 99, 022306	2.4	6
35	From Ecology to Finance (and Back?): A Review on Entropy-Based Null Models for the Analysis of Bipartite Networks. *Journal of Statistical Physics*, **2018**, 173, 1252-1285	1.5	5
34	Networks of plants: how to measure similarity in vegetable species. *Scientific Reports*, **2016**, 6, 27077	4.9	5
33	Invasion percolation on a tree and queueing models. *Physical Review E*, **2009**, 79, 041133	2.4	5
32	Invasion percolation and the time scaling behavior of a queuing model of human dynamics. *Journal of Statistical Mechanics: Theory and Experiment*, **2009**, 2009, P02046	1.9	5
31	Optimal path and directed percolation. *Physical Review E*, **1996**, 53, R2029-R2032	2.4	5
30	Critical field-exponents for secure message-passing in modular networks. *New Journal of Physics*, **2018**, 20, 053001	2.9	5
29	Bond and site color-avoiding percolation in scale-free networks. *Physical Review E*, **2018**, 98,	2.4	5

28	Italian Twitter semantic network during the Covid-19 epidemic. *EPJ Data Science*, **2021**, 10, 47	3.4	5
27	Theory of boundary effects in invasion percolation. *Journal of Physics A*, **1998**, 31, 7429-7446		4
26	Probabilistic approach to the Bak-Sneppen model. *Physical Review E*, **2002**, 65, 046101	2.4	4
25	Damage and cracking in thin mud layers. *Journal of Physics A*, **2000**, 33, 8013-8028		4
24	Reconstructing Topological Properties of Complex Networks Using the Fitness Model. *Lecture Notes in Computer Science*, **2015**, 323-333	0.9	4
23	Distributed Generation and Resilience in Power Grids. *Lecture Notes in Computer Science*, **2013**, 71-79	0.9	4
22	Mitigating cascades in sandpile models: an immunization strategy for systemic risk?. *European Physical Journal: Special Topics*, **2016**, 225, 2017-2023	2.3	3
21	Universal scaling in food-web structure? (reply). *Nature*, **2005**, 435, E4-E4	50.4	3
20	Complexity Science for Sustainable Smart Water Grids. *Communications in Computer and Information Science*, **2017**, 26-41	0.3	2
19	Exploiting the interplay between cross-sectional and longitudinal data in Class III malocclusion patients. *Scientific Reports*, **2019**, 9, 6189	4.9	2
18	POPULATION DYNAMICS ON COMPLEX FOOD WEBS. *International Journal of Modeling, Simulation, and Scientific Computing*, **2011**, 14, 635-647	0.8	2
17	Applying weighted network measures to microarray distance matrices. *Journal of Physics A: Mathematical and Theoretical*, **2008**, 41, 224011	2	2
16	Self-Organization and Complex Networks. *Understanding Complex Systems*, **2009**, 107-135	0.4	2
15	Power Grids, Smart Grids and Complex Networks. *NATO Science for Peace and Security Series C: Environmental Security*, **2014**, 97-110	0.3	2
14	The skeleton of the Shareholders Networks **2006**, 297-301		2
13	Fixed scale transformation for fracture growth processes governed by vectorial fields. *Physica A: Statistical Mechanics and Its Applications*, **1995**, 215, 223-232	3.3	1
12	Why polls fail to predict elections. *Journal of Big Data*, **2021**, 8,	11.7	1
11	Financial Networks. *Understanding Complex Systems*, **2014**, 311-321	0.4	1

10	Structural Patterns of the Occupy Movement on Facebook. *Studies in Computational Intelligence*, **2017**, 595-606	0.8	1
9	Portfolio diversification, differentiation and the robustness of holdings networks. *Applied Network Science*, **2020**, 5,	2.9	1
8	The unbalanced reorganization of weaker functional connections induces the altered brain network topology in schizophrenia. *Scientific Reports*, **2021**, 11, 15400	4.9	1
7	Systemic liquidity contagion in the European interbank market. *Journal of Economic Interaction and Coordination*,1	1.1	1
6	Optimal Scales in Weighted Networks. *Lecture Notes in Computer Science*, **2013**, 346-359	0.9	0
5	Controlling systemic risk: Network structures that minimize it and node properties to calculate it. *Physical Review E*, **2021**, 103, 042304	2.4	0
4	The Topology of Shareholding Networks. *Lecture Notes in Economics and Mathematical Systems*, **2005**, 189-199	0.4	
3	Fractal growth from local instabilities. *Europhysics Letters*, **2001**, 54, 187-193	1.6	
2	Local rigidity in sandpile models. *Physical Review E*, **2002**, 66, 016133	2.4	
1	FIXED SCALE TRANSFORMATION APPROACH FOR BORN MODEL OF FRACTURES. *Fractals*, **1995**, 03, 829-837	3.2	