Albert Barabasi

List of Publications by Year
in descending order

146 papers	111,990 citations	7096 78 h-index	9103 144 g-index
158 all docs	158 docs citations	158 times ranked	62431 citing authors

#	Article	IF	Citations
1	Emergence of Scaling in Random Networks. Science, 1999, 286, 509-512.	12.6	28,383
2	Statistical mechanics of complex networks. Reviews of Modern Physics, 2002, 74, 47-97.	45.6	16,492
3	Error and attack tolerance of complex networks. Nature, 2000, 406, 378-382.	27.8	7,006
4	Network biology: understanding the cell's functional organization. Nature Reviews Genetics, 2004, 5, 101-113.	16.3	6,726
5	Lethality and centrality in protein networks. Nature, 2001, 411, 41-42.	27.8	4,579
6	The large-scale organization of metabolic networks. Nature, 2000, 407, 651-654.	27.8	4,262
7	Network medicine: a network-based approach to human disease. Nature Reviews Genetics, 2011, 12, 56-68.	16.3	3,987
8	Diameter of the World-Wide Web. Nature, 1999, 401, 130-131.	27.8	3,527
9	The human disease network. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 8685-8690.	7.1	2,924
10	Controllability of complex networks. Nature, 2011, 473, 167-173.	27.8	2,633
11	Limits of Predictability in Human Mobility. Science, 2010, 327, 1018-1021.	12.6	2,561
12	The origin of bursts and heavy tails in human dynamics. Nature, 2005, 435, 207-211.	27.8	1,896
13	Scale-Free Networks: A Decade and Beyond. Science, 2009, 325, 412-413.	12.6	1,644
14	Interactome Networks and Human Disease. Cell, 2011, 144, 986-998.	28.9	1,543
15	Quantifying social group evolution. Nature, 2007, 446, 664-667.	27.8	1,405
16	Uncovering disease-disease relationships through the incomplete interactome. Science, 2015, 347, 1257601.	12.6	1,219
17	A Proteome-Scale Map of the Human Interactome Network. Cell, 2014, 159, 1212-1226.	28.9	1,199
18	Modelling the scaling properties of human mobility. Nature Physics, 2010, 6, 818-823.	16.7	931

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19	An empirical framework for binary interactome mapping. Nature Methods, 2009, 6, 83-90.	19.0	800
20	Universal resilience patterns in complex networks. Nature, 2016, 530, 307-312.	27.8	754
21	Science of science. Science, 2018, 359, .	12.6	701
22	Global organization of metabolic fluxes in the bacterium Escherichia coli. Nature, 2004, 427, 839-843.	27.8	607
23	Quantifying Long-Term Scientific Impact. Science, 2013, 342, 127-132.	12.6	604
24	The sound of many hands clapping. Nature, 2000, 403, 849-850.	27.8	596
25	Bose-Einstein Condensation in Complex Networks. Physical Review Letters, 2001, 86, 5632-5635.	7.8	593
26	Human symptomsâ€"disease network. Nature Communications, 2014, 5, 4212.	12.8	557
27	The exposome and health: Where chemistry meets biology. Science, 2020, 367, 392-396.	12.6	499
28	Widespread Macromolecular Interaction Perturbations in Human Genetic Disorders. Cell, 2015, 161, 647-660.	28.9	482
29	Historical comparison of gender inequality in scientific careers across countries and disciplines. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 4609-4616.	7.1	474
30	Control principles of complex systems. Reviews of Modern Physics, 2016, 88, .	45.6	452
31	Network-based prediction of drug combinations. Nature Communications, 2019, 10, 1197.	12.8	437
32	Observability of complex systems. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 2460-2465.	7.1	407
33	Network-based in silico drug efficacy screening. Nature Communications, 2016, 7, 10331.	12.8	394
34	Quantifying the evolution of individual scientific impact. Science, 2016, 354, .	12.6	390
35	Network-based approach to prediction and population-based validation of in silico drug repurposing. Nature Communications, 2018, 9, 2691.	12.8	351
36	Network science. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20120375.	3.4	332

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37	Target control of complex networks. Nature Communications, 2014, 5, 5415.	12.8	311
38	A DIseAse MOdule Detection (DIAMOnD) Algorithm Derived from a Systematic Analysis of Connectivity Patterns of Disease Proteins in the Human Interactome. PLoS Computational Biology, 2015, 11, e1004120.	3.2	310
39	Flavor network and the principles of food pairing. Scientific Reports, 2011, 1, 196.	3.3	300
40	Network-based prediction of protein interactions. Nature Communications, 2019, 10, 1240.	12.8	293
41	The fundamental advantages of temporal networks. Science, 2017, 358, 1042-1046.	12.6	287
42	Network control principles predict neuron function in the Caenorhabditis elegans connectome. Nature, 2017, 550, 519-523.	27.8	279
43	What keeps sandcastles standing?. Nature, 1997, 387, 765-765.	27.8	273
44	Universality in network dynamics. Nature Physics, 2013, 9, 673-681.	16.7	253
45	Controllability analysis of the directed human protein interaction network identifies disease genes and drug targets. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 4976-4981.	7.1	249
46	Reducing vortex density in superconductors using the â€˜ratchet effectâ€™. Nature, 1999, 400, 337-340.	27.8	246
47	Network medicine framework for identifying drug-repurposing opportunities for COVID-19. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	245
48	Self-assembled island formation in heteroepitaxial growth. Applied Physics Letters, 1997, 70, 2565-2567.	3.3	244
49	Control Centrality and Hierarchical Structure in Complex Networks. PLoS ONE, 2012, 7, e44459.	2.5	242
50	Ion-induced effective surface diffusion in ion sputtering. Applied Physics Letters, 1997, 71, 2800-2802.	3.3	228
51	Collective Motion of Self-Propelled Particles: Kinetic Phase Transition in One Dimension. Physical Review Letters, 1999, 82, 209-212.	7.8	220
52	PARP9 and PARP14 cross-regulate macrophage activation via STAT1 ADP-ribosylation. Nature Communications, 2016, 7, 12849.	12.8	214
53	Spectrum of controlling and observing complexÂnetworks. Nature Physics, 2015, 11, 779-786.	16.7	212
54	Predicting perturbation patterns from the topology of biological networks. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E6375-E6383.	7.1	198

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55	Shape Transition in Growth of Strained Islands. Physical Review Letters, 1999, 82, 2753-2756.	7.8	195
56	Dynamics of Ripple Formation in Sputter Erosion: Nonlinear Phenomena. Physical Review Letters, 1999, 83, 3486-3489.	7.8	184
57	The unmapped chemical complexity of our diet. Nature Food, 2020, 1, 33-37.	14.0	177
58	Modules, networks and systems medicine for understanding disease and aiding diagnosis. Genome Medicine, 2014, 6, 82.	8.2	169
59	A disease module in the interactome explains disease heterogeneity, drug response and captures novel pathways and genes in asthma. Human Molecular Genetics, 2015, 24, 3005-3020.	2.9	162
60	Collective credit allocation in science. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12325-12330.	7.1	155
61	A network framework of cultural history. Science, 2014, 345, 558-562.	12.6	151
62	Jamming and Fluctuations in Granular Drag. Physical Review Letters, 2000, 84, 5122-5125.	7.8	139
63	Granular drag on a discrete object: Shape effects on jamming. Physical Review E, 2001, 64, 061303.	2.1	130
64	Career on the Move: Geography, Stratification and Scientific Impact. Scientific Reports, 2014, 4, 4770.	3.3	128
65	Uremic Toxin Indoxyl Sulfate Promotes Proinflammatory Macrophage Activation Via the Interplay of OATP2B1 and Dll4-Notch Signaling. Circulation, 2019, 139, 78-96.	1.6	126
66	Quantum dot and hole formation in sputter erosion. Applied Physics Letters, 2001, 78, 805-807.	3.3	124
67	The Activity Reaction Core and Plasticity of Metabolic Networks. PLoS Computational Biology, 2005, 1, e68.	3.2	121
68	SOCIOLOGY: Network Theory-the Emergence of the Creative Enterprise. Science, 2005, 308, 639-641.	12.6	121
69	A century of physics. Nature Physics, 2015, 11, 791-796.	16.7	117
70	Epigenomic and transcriptomic approaches in the post-genomic era: path to novel targets for diagnosis and therapy of the ischaemic heart? Position Paper of the European Society of Cardiology Working Group on Cellular Biology of the Heart. Cardiovascular Research, 2017, 113, 725-736.	3.8	114
71	Time to CARE: a collaborative engine for practical disease prediction. Data Mining and Knowledge Discovery, 2010, 20, 388-415.	3.7	113
72	Impact of the solvent capacity constraint on E. coli metabolism. BMC Systems Biology, 2008, 2, 7.	3.0	106

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73	Quantifying reputation and success in art. Science, 2018, 362, 825-829.	12.6	106
74	Viral Perturbations of Host Networks Reflect Disease Etiology. PLoS Computational Biology, 2012, 8, e1002531.	3.2	102
75	Tissue Specificity of Human Disease Module. Scientific Reports, 2016, 6, 35241.	3.3	99
76	Ratchet Effect in Surface Electromigration: Smoothing Surfaces by an ac Field. Physical Review Letters, 1998, 80, 1473-1476.	7.8	93
77	Dynamics of Ripening of Self-Assembled II-VI Semiconductor Quantum Dots. Physical Review Letters, 1998, 81, 3479-3482.	7.8	87
78	The universal decay of collective memory and attention. Nature Human Behaviour, 2019, 3, 82-91.	12.0	86
79	The chaperone effect in scientific publishing. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 12603-12607.	7.1	84
80	Scaling identity connects human mobility and social interactions. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 7047-7052.	7.1	75
81	Endophenotype Network Models: Common Core of Complex Diseases. Scientific Reports, 2016, 6, 27414.	3.3	72
82	Constructing minimal models for complex system dynamics. Nature Communications, 2015, 6, 7186.	12.8	69
83	Taming complexity. Nature Physics, 2005, 1, 68-70.	16.7	68
84	Equilibrium phase diagrams for dislocation free self-assembled quantum dots. Applied Physics Letters, 1998, 72, 2102-2104.	3.3	63
85	Liquid-induced transitions in granular media. Physical Review E, 1999, 60, 5823-5826.	2.1	58
86	Network medicine framework shows that proximity of polyphenol targets and disease proteins predicts therapeutic effects of polyphenols. Nature Food, 2021, 2, 143-155.	14.0	57
87	Parasitic computing. Nature, 2001, 412, 894-897.	27.8	56
88	Network Medicine. , 2017, , .		55
89	Integrating personalized gene expression profiles into predictive disease-associated gene pools. Npj Systems Biology and Applications, 2017, 3, 10.	3.0	54
90	Quantifying NFT-driven networks in crypto art. Scientific Reports, 2022, 12, 2769.	3.3	54

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91	Controllability of multiplex, multi-time-scale networks. Physical Review E, 2016, 94, 032316.	2.1	53
92	Quantifying Information Flow During Emergencies. Scientific Reports, 2015, 4, 3997.	3.3	46
93	Natureâ€™s reach: narrow work has broad impact. Nature, 2019, 575, 32-34.	27.8	46
94	Spatial ordering of islands grown on patterned surfaces. Applied Physics Letters, 1998, 73, 2651-2653.	3.3	44
95	Taking census of physics. Nature Reviews Physics, 2019, 1, 89-97.	26.6	44
96	An interâ€species proteinâ€“protein interaction network across vast evolutionary distance. Molecular Systems Biology, 2016, 12, 865.	7.2	42
97	Control of fluxes in metabolic networks. Genome Research, 2016, 26, 956-968.	5.5	40
98	A structural transition in physical networks. Nature, 2018, 563, 676-680.	27.8	37
99	A systematic comprehensive longitudinal evaluation of dietary factors associated with acute myocardial infarction and fatal coronary heart disease. Nature Communications, 2020, 11, 6074.	12.8	37
100	Destruction perfected. Nature, 2015, 524, 38-39.	27.8	36
101	A Genetic Model of the Connectome. Neuron, 2020, 105, 435-445.e5.	8.1	35
102	Dynamics of ranking. Nature Communications, 2022, 13, 1646.	12.8	29
103	Spatial ordering of stacked quantum dots. Applied Physics Letters, 2001, 78, 984-986.	3.3	27
104	Success in books: a big data approach to bestsellers. EPJ Data Science, 2018, 7, .	2.8	27
105	Controllability in an islet specific regulatory network identifies the transcriptional factor NFATC4, which regulates Type 2 Diabetes associated genes. Npj Systems Biology and Applications, 2018, 4, 25.	3.0	25
106	Discovering the genes mediating the interactions between chronic respiratory diseases in the human interactome. Nature Communications, 2020, 11, 811.	12.8	25
107	Self-organized superlattice formation in IIâ€“IV and IIIâ€“V semiconductors. Applied Physics Letters, 1997, 70, 764-766.	3.3	24
108	<i>Caenorhabditis elegans</i> and the network control frameworkâ€"FAQs. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170372.	4.0	23

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109	Uncovering the genetic blueprint of the <i>C. elegans</i> nervous system. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 33570-33577.	7.1	23
110	Secondary ion yield changes on rippled interfaces. Applied Physics Letters, 1998, 72, 906-908.	3.3	21
111	Hot spots and universality in network dynamics. European Physical Journal B, 2004, 38, 169-175.	1.5	21
112	From comorbidities of chronic obstructive pulmonary disease to identification of shared molecular mechanisms by data integration. BMC Bioinformatics, 2016, 17, 441.	2.6	20
113	Trade-offs between driving nodes and time-to-control in complex networks. Scientific Reports, 2017, 7, 39978.	3.3	20
114	Emergence of scaling in complex networks. , 2004, , 69-84.		19
115	A global network for network medicine. Npj Systems Biology and Applications, 2020, 6, 29.	3.0	19
116	Understanding the spread of malicious mobile-phone programs and their damage potential. International Journal of Information Security, 2013, 12, 383-392.	3.4	18
117	A genetic epidemiology approach to cyber-security. Scientific Reports, 2014, 4, 5659.	3.3	18
118	Exploring food contents in scientific literature with FoodMine. Scientific Reports, 2020, 10, 16191.	3.3	18
119	Liu et al. reply. Nature, 2011, 478, E4-E5.	27.8	17
120	Functional structures of US state governments. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 11748-11753.	7.1	16
121	Nanoscale wire formation on sputter-eroded surfaces. Applied Physics Letters, 2002, 81, 3654-3656.	3.3	14
122	Recordings of Caenorhabditis elegans locomotor behaviour following targeted ablation of single motorneurons. Scientific Data, 2017, 4, 170156.	5.3	14
123	Isotopy and energy of physical networks. Nature Physics, 2021, 17, 216-222.	16.7	13
124	Nutrient concentrations in food display universal behaviour. Nature Food, 2022, 3, 375-382.	14.0	12
125	A FRACTAL MODEL FOR THE FIRST STAGES OF THIN FILM GROWTH. Fractals, 1996, 04, 321-329.	3.7	11
126	Effect of surface roughness on the secondary ion yield in ion sputtering. Applied Physics Letters, 1998, 73, 1445-1447.	3.3	11

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127	Modeling relaxation and jamming in granular media. Physical Review E, 2001, 64, 051303.	2.1	11
128	COMMUNITY DYNAMICS IN SOCIAL NETWORKS. Fluctuation and Noise Letters, 2007, 07, L273-L287.	1.5	11
129	The Network Medicine Imperative and the Need for an International Network Medicine Consortium. American Journal of Medicine, 2020, 133, e451-e454.	1.5	11
130	Success in books: predicting book sales before publication. EPJ Data Science, 2019, 8, .	2.8	8
131	SCALE-FREE NETWORKS IN BIOLOGY. Complex Systems and Interdisciplinary Science, 2007, , 1-19.	0.2	6
132	Response to Comment on â€œQuantifying long-term scientific impactâ€. Science, 2014, 345, 149-149.	12.6	6
133	The elegant law that governs us all Scale <i>Geoffrey West</i> Penguin Press, 2017. 490 pp.. Science, 2017, 357, 138-138.	12.6	6
134	Synthetic ablations in the C. elegans nervous system. Network Neuroscience, 2020, 4, 200-216.	2.6	5
135	Network Medicine Framework for Identifying Drug Repurposing Opportunities for COVID-19. ArXiv Org, 2020, , .	1.2	4
136	Effect of surface roughness on the secondary ion yield in ion sputtering. Applied Physics Letters, 1998, 73, 2209-2211.	3.3	3
137	Why are computer simulations of growth useful?. Materials Research Society Symposia Proceedings, 1995, 407, 391.	0.1	2
138	Mechanisms and models of human dynamics (Reply). Nature, 2006, 441, E5-E6.	27.8	2
139	Response to Letter of Correspondence â€" Bastiaens et al.. Nature Biotechnology, 2015, 33, 339-342.	17.5	2
140	Academia under fire in Hungary. Science, 2017, 356, 563-563.	12.6	2
141	Low Temperature Ripple Formation: Ion-Induced Effective Surface Diffusion in Ion Sputtering. Materials Research Society Symposia Proceedings, 1998, 540, 249.	0.1	1
142	Science of science. Bibliosfera, 2021, , 25-42.	0.3	1
143	Fractal and Non-Fractal Surfaces in Ion Sputtering. Materials Research Society Symposia Proceedings, 1995, 407, 259.	0.1	0
144	Nonlinear Ripple Formation in Sputter Erosion. Materials Research Society Symposia Proceedings, 1999, 585, 297.	0.1	0

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145	Across the boundaries. Nature, 2000, 407, 297-297.	27.8	0
146	An Experimental Study of the Fluctuations in Granular Drag. Materials Research Society Symposia Proceedings, 2000, 627, 1.	0.1	0