Albert-LÃ¡szlÃ³ BarabÃ¡si

List of Publications by Year
in descending order

187 papers	131,951 citations	1793 106 h-index	4414 178 g-index
198 all docs	198 docs citations	198 times ranked	80438 citing authors

#	Article	IF	Citations
1	Emergence of Scaling in Random Networks. Science, 1999, 286, 509-512.	6.0	28,383
2	Statistical mechanics of complex networks. Reviews of Modern Physics, 2002, 74, 47-97.	16.4	16,492
3	Error and attack tolerance of complex networks. Nature, 2000, 406, 378-382.	13.7	7,006
4	Network biology: understanding the cell's functional organization. Nature Reviews Genetics, 2004, 5, 101-113.	7.7	6,726
5	Understanding individual human mobility patterns. Nature, 2008, 453, 779-782.	13.7	4,884
6	Network medicine: a network-based approach to human disease. Nature Reviews Genetics, 2011, 12, 56-68.	7.7	3,987
7	Diameter of the World-Wide Web. Nature, 1999, 401, 130-131.	13.7	3,527
8	The human disease network. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 8685-8690.	3.3	2,924
9	Controllability of complex networks. Nature, 2011, 473, 167-173.	13.7	2,633
10	Limits of Predictability in Human Mobility. Science, 2010, 327, 1018-1021.	6.0	2,561
11	Computational Social Science. Science, 2009, 323, 721-723.	6.0	2,516
12	The origin of bursts and heavy tails in human dynamics. Nature, 2005, 435, 207-211.	13.7	1,896
13	Mean-field theory for scale-free random networks. Physica A: Statistical Mechanics and Its Applications, 1999, 272, 173-187.	1.2	1,861
14	Scale-Free Networks: A Decade and Beyond. Science, 2009, 325, 412-413.	6.0	1,644
15	Hierarchical organization in complex networks. Physical Review E, 2003, 67, 026112.	0.8	1,604
16	Drugâ€"target network. Nature Biotechnology, 2007, 25, 1119-1126.	9.4	1,584
17	Interactome Networks and Human Disease. Cell, 2011, 144, 986-998.	13.5	1,543
18	Quantifying social group evolution. Nature, 2007, 446, 664-667.	13.7	1,405

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19	High-Quality Binary Protein Interaction Map of the Yeast Interactome Network. Science, 2008, 322, 104-110.	6.0	1,297
20	Uncovering disease-disease relationships through the incomplete interactome. Science, 2015, 347, 1257601.	6.0	1,219
21	A Proteome-Scale Map of the Human Interactome Network. Cell, 2014, 159, 1212-1226.	13.5	1,199
22	Scale-free characteristics of random networks: the topology of the world-wide web. Physica A: Statistical Mechanics and Its Applications, 2000, 281, 69-77.	1.2	1,062
23	Topology of Evolving Networks: Local Events and Universality. Physical Review Letters, 2000, 85, 5234-5237.	2.9	1,054
24	A universal model for mobility and migration patterns. Nature, 2012, 484, 96-100.	13.7	1,027
25	Modelling the scaling properties of human mobility. Nature Physics, 2010, 6, 818-823.	6.5	931
26	Evidence for Network Evolution in an <i>Arabidopsis</i> Interactome Map. Science, 2011, 333, 601-607.	6.0	838
27	An empirical framework for binary interactome mapping. Nature Methods, 2009, 6, 83-90.	9.0	800
28	Universal resilience patterns in complex networks. Nature, 2016, 530, 307-312.	13.7	754
29	A Proteinâ€"Protein Interaction Network for Human Inherited Ataxias and Disorders of Purkinje Cell Degeneration. Cell, 2006, 125, 801-814.	13.5	714
30	Science of science. Science, 2018, 359, .	6.0	701
31	Quantifying Long-Term Scientific Impact. Science, 2013, 342, 127-132.	6.0	604
32	Bose-Einstein Condensation in Complex Networks. Physical Review Letters, 2001, 86, 5632-5635.	2.9	593
33	Functional and topological characterization of protein interaction networks. Proteomics, 2004, 4, 928-942.	1.3	563
34	Human symptomsâ€"disease network. Nature Communications, 2014, 5, 4212.	5.8	557
35	A Dynamic Network Approach for the Study of Human Phenotypes. PLoS Computational Biology, 2009, 5, e1000353.	1.5	527
36	Modeling the Internet's large-scale topology. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 13382-13386.	3.3	520

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37	Modeling bursts and heavy tails in human dynamics. Physical Review E, 2006, 73, 036127.	0.8	502
38	The exposome and health: Where chemistry meets biology. Science, 2020, 367, 392-396.	6.0	499
39	Human disease classification in the postgenomic era: A complex systems approach to human pathobiology. Molecular Systems Biology, 2007, 3, 124.	3.2	489
40	Widespread Macromolecular Interaction Perturbations in Human Genetic Disorders. Cell, 2015, 161, 647-660.	13.5	482
41	Halting viruses in scale-free networks. Physical Review E, 2002, 65, 055103.	0.8	479
42	Dynamic Scaling of Ion-Sputtered Surfaces. Physical Review Letters, 1995, 74, 4746-4749.	2.9	476
43	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.	3.3	474
44	Network Medicine â€" From Obesity to the â€œDiseasomeâ€. New England Journal of Medicine, 2007, 357, 404-407.	13.9	463
45	Human mobility, social ties, and link prediction. , 2011, , .		452
46	Control principles of complex systems. Reviews of Modern Physics, 2016, 88, .	16.4	452
47	Uncovering individual and collective human dynamics from mobile phone records. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 224015.	0.7	447
48	Morphology of ion-sputtered surfaces. Nuclear Instruments & Methods in Physics Research B, 2002, 197, 185-227.	0.6	446
49	SYSTEMS BIOLOGY: Life's Complexity Pyramid. Science, 2002, 298, 763-764.	6.0	444
50	Network-based prediction of drug combinations. Nature Communications, 2019, 10, 1197.	5.8	437
51	The network takeover. Nature Physics, 2012, 8, 14-16.	6.5	412
52	Understanding the Spreading Patterns of Mobile Phone Viruses. Science, 2009, 324, 1071-1076.	6.0	407
53	Observability of complex systems. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 2460-2465.	3.3	407
54	Network-based in silico drug efficacy screening. Nature Communications, 2016, 7, 10331.	5.8	394

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55	Quantifying the evolution of individual scientific impact. Science, 2016, 354, .	6.0	390
56	Deterministic scale-free networks. Physica A: Statistical Mechanics and Its Applications, 2001, 299, 559-564.	1.2	381
57	Spectra of â€œreal-worldâ€•graphs: Beyond the semicircle law. Physical Review E, 2001, 64, 026704.	0.8	354
58	Network-based approach to prediction and population-based validation of in silico drug repurposing. Nature Communications, 2018, 9, 2691.	5.8	351
59	Interpreting cancer genomes using systematic host network perturbations by tumour virus proteins. Nature, 2012, 487, 491-495.	13.7	349
60	Multifractality of self-affine fractals. Physical Review A, 1991, 44, 2730-2733.	1.0	333
61	Network science. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20120375.	1.6	332
62	Dislocation-Free Island Formation in Heteroepitaxial Growth: A Study at Equilibrium. Physical Review Letters, 1997, 79, 3708-3711.	2.9	325
63	Two degrees of separation in complex food webs. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 12913-12916.	3.3	324
64	Target control of complex networks. Nature Communications, 2014, 5, 5415.	5.8	311
65	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.	1.5	310
66	Darwin and Einstein correspondence patterns. Nature, 2005, 437, 1251-1251.	13.7	307
67	Flavor network and the principles of food pairing. Scientific Reports, 2011, 1, 196.	1.6	300
68	Returners and explorers dichotomy in human mobility. Nature Communications, 2015, 6, 8166.	5.8	300
69	Analysis of a large-scale weighted network of one-to-one human communication. New Journal of Physics, 2007, 9, 179-179.	1.2	297
70	Network-based prediction of protein interactions. Nature Communications, 2019, 10, 1240.	5.8	293
71	Impact of Non-Poissonian Activity Patterns on Spreading Processes. Physical Review Letters, 2007, 98, 158702.	2.9	284
72	Avalanches and power-law behaviour in lung inflation. Nature, 1994, 368, 615-618.	13.7	267

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73	Universality in network dynamics. Nature Physics, 2013, 9, 673-681.	6.5	253
74	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.	3.3	249
75	MicroRNA-21 Integrates Pathogenic Signaling to Control Pulmonary Hypertension. Circulation, 2012, 125, 1520-1532.	1.6	246
76	Geographic Constraints on Social Network Groups. PLoS ONE, 2011, 6, e16939.	1.1	245
77	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, .	3.3	245
78	Self-assembled island formation in heteroepitaxial growth. Applied Physics Letters, 1997, 70, 2565-2567.	1.5	244
79	Control Centrality and Hierarchical Structure in Complex Networks. PLoS ONE, 2012, 7, e44459.	1.1	242
80	Systems biology and the future of medicine. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2011, 3, 619-627.	6.6	239
81	Universal features of correlated bursty behaviour. Scientific Reports, 2012, 2, 397.	1.6	237
82	Collective Response of Human Populations to Large-Scale Emergencies. PLoS ONE, 2011, 6, e17680.	1.1	233
83	Ion-induced effective surface diffusion in ion sputtering. Applied Physics Letters, 1997, 71, 2800-2802.	1.5	228
84	Network link prediction by global silencing of indirect correlations. Nature Biotechnology, 2013, 31, 720-725.	9.4	224
85	The impact of cellular networks on disease comorbidity. Molecular Systems Biology, 2009, 5, 262.	3.2	220
86	Dynamics of Complex Systems: Scaling Laws for the Period of Boolean Networks. Physical Review Letters, 2000, 84, 5660-5663.	2.9	217
87	PARP9 and PARP14 cross-regulate macrophage activation via STAT1 ADP-ribosylation. Nature Communications, 2016, 7, 12849.	5.8	214
88	Spectrum of controlling and observing complexÂnetworks. Nature Physics, 2015, 11, 779-786.	6.5	212
89	Aggregation of topological motifs in the Escherichia coli transcriptional regulatory network. BMC Bioinformatics, 2004, 5, 10.	1.2	206
90	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.	3.3	198

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91	Emergence of bimodality in controlling complex networks. Nature Communications, 2013, 4, 2002.	5.8	187
92	The unmapped chemical complexity of our diet. Nature Food, 2020, 1, 33-37.	6.2	177
93	Modules, networks and systems medicine for understanding disease and aiding diagnosis. Genome Medicine, 2014, 6, 82.	3.6	169
94	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.	1.4	162
95	Effect of correlations on network controllability. Scientific Reports, 2013, 3, 1067.	1.6	155
96	Collective credit allocation in science. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12325-12330.	3.3	155
97	Ranking stability and super-stable nodes in complex networks. Nature Communications, 2011, 2, 394.	5.8	151
98	A network framework of cultural history. Science, 2014, 345, 558-562.	6.0	151
99	The Architecture of Complexity. IEEE Control Systems, 2007, 27, 33-42.	1.0	135
100	Career on the Move: Geography, Stratification and Scientific Impact. Scientific Reports, 2014, 4, 4770.	1.6	128
101	Predicting synthetic rescues in metabolic networks. Molecular Systems Biology, 2008, 4, 168.	3.2	123
102	SOCIOLOGY: Network Theory-the Emergence of the Creative Enterprise. Science, 2005, 308, 639-641.	6.0	121
103	Control Capacity and A Random Sampling Method in Exploring Controllability of Complex Networks. Scientific Reports, 2013, 3, 2354.	1.6	118
104	A century of physics. Nature Physics, 2015, 11, 791-796.	6.5	117
105	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.	1.8	114
106	Bioinformatics Analysis of Experimentally Determined Protein Complexes in the Yeast Saccharomyces cerevisiae. Genome Research, 2003, 13, 2450-2454.	2.4	113
107	Time to CARE: a collaborative engine for practical disease prediction. Data Mining and Knowledge Discovery, 2010, 20, 388-415.	2.4	113
108	Distribution of node characteristics in complex networks. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 17916-17920.	3.3	111

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109	Impact of the solvent capacity constraint on E. coli metabolism. BMC Systems Biology, 2008, 2, 7.	3.0	106
110	Viral Perturbations of Host Networks Reflect Disease Etiology. PLoS Computational Biology, 2012, 8, e1002531.	1.5	102
111	Tissue Specificity of Human Disease Module. Scientific Reports, 2016, 6, 35241.	1.6	99
112	Luck or reason. Nature, 2012, 489, 507-508.	13.7	98
113	Transcription factor modularity in a gene-centered C. elegans core neuronal protein-DNA interaction network. Genome Research, 2007, 17, 1061-1071.	2.4	87
114	The universal decay of collective memory and attention. Nature Human Behaviour, 2019, 3, 82-91.	6.2	86
115	The chaperone effect in scientific publishing. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 12603-12607.	3.3	84
116	Sex differences in intimate relationships. Scientific Reports, 2012, 2, 370.	1.6	80
117	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.	3.3	75
118	Predicting individual disease risk based on medical history. , 2008, , .		72
119	Information spreading in context. , 2011, , .		72
120	Endophenotype Network Models: Common Core of Complex Diseases. Scientific Reports, 2016, 6, 27414.	1.6	72
121	The physics of the Web. Physics World, 2001, 14, 33-38.	0.0	71
122	Constructing minimal models for complex system dynamics. Nature Communications, 2015, 6, 7186.	5.8	69
123	Taming complexity. Nature Physics, 2005, 1, 68-70.	6.5	68
124	Equilibrium phase diagrams for dislocation free self-assembled quantum dots. Applied Physics Letters, 1998, 72, 2102-2104.	1.5	63
125	Multifractality of growing surfaces. Physical Review A, 1992, 45, R6951-R6954.	1.0	62
126	A wealth of discovery built on the Human Genome Project â€” by the numbers. Nature, 2021, 590, 212-215.	13.7	60

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127	Stable evolutionary signal in a yeast protein interaction network. BMC Evolutionary Biology, 2006, 6, 8.	3.2	59
128	Network medicine framework shows that proximity of polyphenol targets and disease proteins predicts therapeutic effects of polyphenols. Nature Food, 2021, 2, 143-155.	6.2	57
129	Dynamics of Ranking Processes in Complex Systems. Physical Review Letters, 2012, 109, 128701.	2.9	54
130	Integrating personalized gene expression profiles into predictive disease-associated gene pools. Npj Systems Biology and Applications, 2017, 3, 10.	1.4	54
131	Quantifying NFT-driven networks in crypto art. Scientific Reports, 2022, 12, 2769.	1.6	54
132	Controllability of multiplex, multi-time-scale networks. Physical Review E, 2016, 94, 032316.	0.8	53
133	Avalanches in the Lung: A Statistical Mechanical Model. Physical Review Letters, 1996, 76, 2192-2195.	2.9	52
134	Fundamental limitations of network reconstruction from temporal data. Journal of the Royal Society Interface, 2017, 14, 20160966.	1.5	51
135	Controlling nanostructures. Nature, 1994, 368, 22-22.	13.7	49
136	From data to models. Nature Physics, 2007, 3, 224-225.	6.5	48
137	Uncovering the role of elementary processes in network evolution. Scientific Reports, 2013, 3, 2920.	1.6	48
138	Quantifying Information Flow During Emergencies. Scientific Reports, 2015, 4, 3997.	1.6	46
139	Comparison of an expanded ataxia interactome with patient medical records reveals a relationship between macular degeneration and ataxia. Human Molecular Genetics, 2011, 20, 510-527.	1.4	45
140	Spatial ordering of islands grown on patterned surfaces. Applied Physics Letters, 1998, 73, 2651-2653.	1.5	44
141	The Architecture of Biological Networks. , 2006, , 165-181.		43
142	An interâ€species proteinâ€"protein interaction network across vast evolutionary distance. Molecular Systems Biology, 2016, 12, 865.	3.2	42
143	Social Group Dynamics in Networks. Understanding Complex Systems, 2009, , 11-38.	0.3	39
144	Identifying and modeling the structural discontinuities of human interactions. Scientific Reports, 2017, 7, 46677.	1.6	38

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145	A structural transition in physical networks. Nature, 2018, 563, 676-680.	13.7	37
146	Destruction perfected. Nature, 2015, 524, 38-39.	13.7	36
147	A Genetic Model of the Connectome. Neuron, 2020, 105, 435-445.e5.	3.8	35
148	Handful of papers dominates citation. Nature, 2012, 491, 40-40.	13.7	33
149	Recovery coupling in multilayer networks. Nature Communications, 2022, 13, 955.	5.8	30
150	Dynamics of ranking. Nature Communications, 2022, 13, 1646.	5.8	29
151	Effect of surface morphology on the sputtering yields. II. Ion sputtering from rippled surfaces. Nuclear Instruments & Methods in Physics Research B, 2004, 222, 335-354.	0.6	28
152	Network-based Analysis of Genome Wide Association Data Provides Novel Candidate Genes for Lipid and Lipoprotein Traits. Molecular and Cellular Proteomics, 2013, 12, 3398-3408.	2.5	28
153	Success in books: a big data approach to bestsellers. EPJ Data Science, 2018, 7, .	1.5	27
154	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.	1.4	25
155	Discovering the genes mediating the interactions between chronic respiratory diseases in the human interactome. Nature Communications, 2020, 11, 811.	5.8	25
156	A diVIsive Shuffling Approach (VIStA) for gene expression analysis to identify subtypes in Chronic Obstructive Pulmonary Disease. BMC Systems Biology, 2014, 8, S8.	3.0	24
157	Systems Medicine: from molecular features and models to the clinic in COPD. Journal of Translational Medicine, 2014, 12, S4.	1.8	23
158	<i>Caenorhabditis elegans</i> and the network control frameworkâ€"FAQs. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170372.	1.8	23
159	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.	3.3	23
160	Secondary ion yield changes on rippled interfaces. Applied Physics Letters, 1998, 72, 906-908.	1.5	21
161	Inhomogeneous evolution of subgraphs and cycles in complex networks. Physical Review E, 2005, 71, 025103.	0.8	21
162	From comorbidities of chronic obstructive pulmonary disease to identification of shared molecular mechanisms by data integration. BMC Bioinformatics, 2016, 17, 441.	1.2	20

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163	Trade-offs between driving nodes and time-to-control in complex networks. Scientific Reports, 2017, 7, 39978.	1.6	20
164	Emergence of scaling in complex networks. , 2004, , 69-84.		19
165	A global network for network medicine. Npj Systems Biology and Applications, 2020, 6, 29.	1.4	19
166	Thermodynamic and kinetic mechanisms in self-assembled quantum dot formation. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1999, 67, 23-30.	1.7	18
167	Understanding the spread of malicious mobile-phone programs and their damage potential. International Journal of Information Security, 2013, 12, 383-392.	2.3	18
168	A genetic epidemiology approach to cyber-security. Scientific Reports, 2014, 4, 5659.	1.6	18
169	Liu et al. reply. Nature, 2011, 478, E4-E5.	13.7	17
170	Power Laws in Biological Networks. , 2006, , 1-11.		15
171	Roughening of growing surfaces: Kinetic models and continuum theories. Computational Materials Science, 1996, 6, 127-134.	1.4	13
172	Isotopy and energy of physical networks. Nature Physics, 2021, 17, 216-222.	6.5	13
173	COMMUNITY DYNAMICS IN SOCIAL NETWORKS. Fluctuation and Noise Letters, 2007, 07, L273-L287.	1.0	11
174	Characteristics of Biological Networks. Lecture Notes in Physics, 0, , 443-457.	0.3	6
175	SCALE-FREE NETWORKS IN BIOLOGY. Complex Systems and Interdisciplinary Science, 2007, , 1-19.	0.2	6
176	Response to Comment on â€œQuantifying long-term scientific impactâ€• Science, 2014, 345, 149-149.	6.0	6
177	Viva Europa, a Land of Excellence in Research and Innovation for Health and Wellbeing. Progress in Preventive Medicine (New York, N Y), 2017, 2, e006.	0.7	6
178	Community dynamics in social networks. , 2007, , .		5
179	Network-medicine framework for studying disease trajectories in U.S. veterans. Scientific Reports, 2022, 12, .	1.6	5
180	Network Medicine Framework for Identifying Drug Repurposing Opportunities for COVID-19. ArXiv Org, 2020, , .	1.2	4

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181	Graph Theory Properties of Cellular Networks. , 2013, , 177-193.		3
182	SURFACTANT-MEDIATED SURFACE GROWTH: NONEQUILIBRIUM THEORY. Fractals, 1993, 01, 846-859.	1.8	2
183	Computational Models of Mobility: A Perspective from Mobile Phone Data. , 2014, , 110-124.		2
184	THE ARCHITECTURE OF COMPLEXITY: FROM WWW TO CELLULAR METABOLISM. , 2006, , 107-125.		2
185	Reverse engineering of linking preferences from network restructuring. Physical Review E, 2004, 70, 046115.	0.8	1
186	Metabolic Networks. , 2005, , 243-264.		0
187	SURFACTANT-MEDIATED SURFACE GROWTH: NONEQUILIBRIUM THEORY. , 1994, , 472-485.		0