Albert-Lszl Barabsi

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

187 papers	102,619 citations	99 h-index	198 g-index
198 ext. papers	120,362 ext. citations	16.4 avg, IF	8.81 L-index

#	Paper	IF	Citations
187	Emergence of scaling in random networks. *Science*, **1999**, 286, 509-12	33.3	22075
186	Statistical mechanics of complex networks. *Reviews of Modern Physics*, **2002**, 74, 47-97	40.5	13246
185	Error and attack tolerance of complex networks. *Nature*, **2000**, 406, 378-82	50.4	5753
184	Network biology: understanding the cell's functional organization. *Nature Reviews Genetics*, **2004**, 5, 101-13	30.1	5439
183	Understanding individual human mobility patterns. *Nature*, **2008**, 453, 779-82	50.4	3903
182	Network medicine: a network-based approach to human disease. *Nature Reviews Genetics*, **2011**, 12, 56-68	30.1	2899
181	Diameter of the World-Wide Web. *Nature*, **1999**, 401, 130-131	50.4	2869
180	The human disease network. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 8685-90	11.5	2380
179	Limits of predictability in human mobility. *Science*, **2010**, 327, 1018-21	33.3	2015
178	Controllability of complex networks. *Nature*, **2011**, 473, 167-73	50.4	2001
177	Social science. Computational social science. *Science*, **2009**, 323, 721-3	33.3	1961
176	The origin of bursts and heavy tails in human dynamics. *Nature*, **2005**, 435, 207-11	50.4	1527
175	Mean-field theory for scale-free random networks. *Physica A: Statistical Mechanics and Its Applications*, **1999**, 272, 173-187	3.3	1501
174	Drug-target network. *Nature Biotechnology*, **2007**, 25, 1119-26	44.5	1328
173	Hierarchical organization in complex networks. *Physical Review E*, **2003**, 67, 026112	2.4	1273
172	Scale-free networks: a decade and beyond. *Science*, **2009**, 325, 412-3	33.3	1243
171	Interactome networks and human disease. *Cell*, **2011**, 144, 986-98	56.2	1187

170	Quantifying social group evolution. *Nature*, **2007**, 446, 664-7	50.4	1117
169	High-quality binary protein interaction map of the yeast interactome network. *Science*, **2008**, 322, 104-10	33.3	1100
168	A proteome-scale map of the human interactome network. *Cell*, **2014**, 159, 1212-1226	56.2	898
167	Topology of evolving networks: local events and universality. *Physical Review Letters*, **2000**, 85, 5234-7	7.4	842
166	Scale-free characteristics of random networks: the topology of the world-wide web. *Physica A: Statistical Mechanics and Its Applications*, **2000**, 281, 69-77	3.3	819
165	Disease networks. Uncovering disease-disease relationships through the incomplete interactome. *Science*, **2015**, 347, 1257601	33.3	767
164	A universal model for mobility and migration patterns. *Nature*, **2012**, 484, 96-100	50.4	760
163	Modelling the scaling properties of human mobility. *Nature Physics*, **2010**, 6, 818-823	16.2	729
162	Evidence for network evolution in an Arabidopsis interactome map. *Science*, **2011**, 333, 601-7	33.3	689
161	An empirical framework for binary interactome mapping. *Nature Methods*, **2009**, 6, 83-90	21.6	674
160	A protein-protein interaction network for human inherited ataxias and disorders of Purkinje cell degeneration. *Cell*, **2006**, 125, 801-14	56.2	637
159	Universal resilience patterns in complex networks. *Nature*, **2016**, 530, 307-12	50.4	520
158	Functional and topological characterization of protein interaction networks. *Proteomics*, **2004**, 4, 928-42	4.8	468
157	Bose-Einstein condensation in complex networks. *Physical Review Letters*, **2001**, 86, 5632-5	7.4	445
156	Modeling the InternetЂs large-scale topology. *Proceedings of the National Academy of Sciences of the United States of America*, **2002**, 99, 13382-6	11.5	440
155	Quantifying long-term scientific impact. *Science*, **2013**, 342, 127-32	33.3	439
154	Dynamic scaling of ion-sputtered surfaces. *Physical Review Letters*, **1995**, 74, 4746-4749	7.4	432
153	Modeling bursts and heavy tails in human dynamics. *Physical Review E*, **2006**, 73, 036127	2.4	412

152	Morphology of ion-sputtered surfaces. *Nuclear Instruments & Methods in Physics Research B*, **2002**, 197, 185-227	1.2	412
151	A dynamic network approach for the study of human phenotypes. *PLoS Computational Biology*, **2009**, 5, e1000353	5	400
150	Human disease classification in the postgenomic era: a complex systems approach to human pathobiology. *Molecular Systems Biology*, **2007**, 3, 124	12.2	397
149	Network medicine--from obesity to the "diseasome". *New England Journal of Medicine*, **2007**, 357, 404-7	59.2	391
148	Science of science. *Science*, **2018**, 359,	33.3	373
147	Uncovering individual and collective human dynamics from mobile phone records. *Journal of Physics A: Mathematical and Theoretical*, **2008**, 41, 224015	2	373
146	Systems biology. Life's complexity pyramid. *Science*, **2002**, 298, 763-4	33.3	370
145	Halting viruses in scale-free networks. *Physical Review E*, **2002**, 65, 055103	2.4	366
144	Human mobility, social ties, and link prediction **2011**,		363
143	Understanding the spreading patterns of mobile phone viruses. *Science*, **2009**, 324, 1071-6	33.3	353
142	Widespread macromolecular interaction perturbations in human genetic disorders. *Cell*, **2015**, 161, 647-660	56.2	343
141	Human symptoms-disease network. *Nature Communications*, **2014**, 5, 4212	17.4	340
140	Deterministic scale-free networks. *Physica A: Statistical Mechanics and Its Applications*, **2001**, 299, 559-564	3.3	308
139	Observability of complex systems. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 2460-5	11.5	307
138	Spectra of "real-world" graphs: beyond the semicircle law. *Physical Review E*, **2001**, 64, 026704	2.4	305
137	Dislocation-Free Island Formation in Heteroepitaxial Growth: A Study at Equilibrium. *Physical Review Letters*, **1997**, 79, 3708-3711	7.4	303
136	Interpreting cancer genomes using systematic host network perturbations by tumour virus proteins. *Nature*, **2012**, 487, 491-5	50.4	294
135	Control principles of complex systems. *Reviews of Modern Physics*, **2016**, 88,	40.5	292

134	Multifractality of self-affine fractals. *Physical Review A*, **1991**, 44, 2730-2733	2.6	282
133	Quantifying the evolution of individual scientific impact. *Science*, **2016**, 354,	33.3	258
132	Human dynamics: Darwin and Einstein correspondence patterns. *Nature*, **2005**, 437, 1251	50.4	258
131	Analysis of a large-scale weighted network of one-to-one human communication. *New Journal of Physics*, **2007**, 9, 179-179	2.9	249
130	Two degrees of separation in complex food webs. *Proceedings of the National Academy of Sciences of the United States of America*, **2002**, 99, 12913-6	11.5	244
129	Impact of non-Poissonian activity patterns on spreading processes. *Physical Review Letters*, **2007**, 98, 158702	7.4	242
128	Network-based in silico drug efficacy screening. *Nature Communications*, **2016**, 7, 10331	17.4	240
127	Self-assembled island formation in heteroepitaxial growth. *Applied Physics Letters*, **1997**, 70, 2565-2567	3.4	237
126	Avalanches and power-law behaviour in lung inflation. *Nature*, **1994**, 368, 615-8	50.4	237
125	Target control of complex networks. *Nature Communications*, **2014**, 5, 5415	17.4	232
124	The exposome and health: Where chemistry meets biology. *Science*, **2020**, 367, 392-396	33.3	231
123	Flavor network and the principles of food pairing. *Scientific Reports*, **2011**, 1, 196	4.9	231
122	Network-based prediction of drug combinations. *Nature Communications*, **2019**, 10, 1197	17.4	216
121	Ion-induced effective surface diffusion in ion sputtering. *Applied Physics Letters*, **1997**, 71, 2800-2802	3.4	211
120	Network-based approach to prediction and population-based validation of in silico drug repurposing. *Nature Communications*, **2018**, 9, 2691	17.4	208
119	MicroRNA-21 integrates pathogenic signaling to control pulmonary hypertension: results of a network bioinformatics approach. *Circulation*, **2012**, 125, 1520-32	16.7	207
118	Universal features of correlated bursty behaviour. *Scientific Reports*, **2012**, 2, 397	4.9	205
117	Returners and explorers dichotomy in human mobility. *Nature Communications*, **2015**, 6, 8166	17.4	200

116	Geographic constraints on social network groups. *PLoS ONE*, **2011**, 6, e16939	3.7	199
115	Collective response of human populations to large-scale emergencies. *PLoS ONE*, **2011**, 6, e17680	3.7	193
114	Control centrality and hierarchical structure in complex networks. *PLoS ONE*, **2012**, 7, e44459	3.7	192
113	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	5	189
112	Network science. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2013**, 371, 20120375	3	185
111	Universality in network dynamics. *Nature Physics*, **2013**, 9,	16.2	183
110	Network link prediction by global silencing of indirect correlations. *Nature Biotechnology*, **2013**, 31, 720-5	14.5	178
109	Dynamics of complex systems: scaling laws for the period of boolean networks. *Physical Review Letters*, **2000**, 84, 5660-3	7.4	176
108	The impact of cellular networks on disease comorbidity. *Molecular Systems Biology*, **2009**, 5, 262	12.2	175
107	Spectrum of controlling and observing complex networks. *Nature Physics*, **2015**, 11, 779-786	16.2	173
106	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	11.5	165
105	Network-based prediction of protein interactions. *Nature Communications*, **2019**, 10, 1240	17.4	156
104	Emergence of bimodality in controlling complex networks. *Nature Communications*, **2013**, 4, 2002	17.4	156
103	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, 4976-81	11.5	155
102	Aggregation of topological motifs in the Escherichia coli transcriptional regulatory network. *BMC Bioinformatics*, **2004**, 5, 10	3.6	151
101	Effect of correlations on network controllability. *Scientific Reports*, **2013**, 3, 1067	4.9	131
100	Modules, networks and systems medicine for understanding disease and aiding diagnosis. *Genome Medicine*, **2014**, 6, 82	14.4	126
99	PARP9 and PARP14 cross-regulate macrophage activation via STAT1 ADP-ribosylation. *Nature Communications*, **2016**, 7, 12849	17.4	120

98	Ranking stability and super-stable nodes in complex networks. *Nature Communications*, **2011**, 2, 394	17.4	118
97	Collective credit allocation in science. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 12325-30	11.5	113
96	A disease module in the interactome explains disease heterogeneity, drug response and captures novel pathways and genes in asthma. *Human Molecular Genetics*, **2015**, 24, 3005-20	5.6	108
95	Predicting synthetic rescues in metabolic networks. *Molecular Systems Biology*, **2008**, 4, 168	12.2	107
94	The Architecture of Complexity. *IEEE Control Systems*, **2007**, 27, 33-42	2.9	102
93	Sociology. Network theory--the emergence of the creative enterprise. *Science*, **2005**, 308, 639-41	33.3	102
92	Quantitative social science. A network framework of cultural history. *Science*, **2014**, 345, 558-62	33.3	101
91	The unmapped chemical complexity of our diet. *Nature Food*, **2020**, 1, 33-37	14.4	99
90	Control capacity and a random sampling method in exploring controllability of complex networks. *Scientific Reports*, **2013**, 3, 2354	4.9	93
89	Career on the move: geography, stratification, and scientific impact. *Scientific Reports*, **2014**, 4, 4770	4.9	92
88	A century of physics. *Nature Physics*, **2015**, 11, 791-796	16.2	91
87	Viral perturbations of host networks reflect disease etiology. *PLoS Computational Biology*, **2012**, 8, e1002531	5	90
86	Time to CARE: a collaborative engine for practical disease prediction. *Data Mining and Knowledge Discovery*, **2010**, 20, 388-415	5.6	90
85	Bioinformatics analysis of experimentally determined protein complexes in the yeast Saccharomyces cerevisiae. *Genome Research*, **2003**, 13, 2450-4	9.7	89
84	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	11.5	88
83	Impact of the solvent capacity constraint on E. coli metabolism. *BMC Systems Biology*, **2008**, 2, 7	3.5	87
82	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	9.9	85
81	Distribution of node characteristics in complex networks. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 17916-20	11.5	85

80	Transcription factor modularity in a gene-centered C. elegans core neuronal protein-DNA interaction network. *Genome Research*, **2007**, 17, 1061-71	9.7	80
79	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,	11.5	77
78	Sex differences in intimate relationships. *Scientific Reports*, **2012**, 2, 370	4.9	67
77	Equilibrium phase diagrams for dislocation free self-assembled quantum dots. *Applied Physics Letters*, **1998**, 72, 2102-2104	3.4	63
76	Tissue Specificity of Human Disease Module. *Scientific Reports*, **2016**, 6, 35241	4.9	62
75	Multifractality of growing surfaces. *Physical Review A*, **1992**, 45, R6951-R6954	2.6	60
74	Scaling identity connects human mobility and social interactions. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 7047-52	11.5	58
73	Information spreading in context **2011**,		56
72	Endophenotype Network Models: Common Core of Complex Diseases. *Scientific Reports*, **2016**, 6, 27414	4.9	55
71	Predicting individual disease risk based on medical history **2008**,		55
70	The physics of the Web. *Physics World*, **2001**, 14, 33-38	0.5	51
69	Constructing minimal models for complex system dynamics. *Nature Communications*, **2015**, 6, 7186	17.4	50
68	The universal decay of collective memory and attention. *Nature Human Behaviour*, **2019**, 3, 82-91	12.8	49
67	Avalanches in the lung: A statistical mechanical model. *Physical Review Letters*, **1996**, 76, 2192-2195	7.4	46
66	Controlling nanostructures. *Nature*, **1994**, 368, 22-22	50.4	44
65	The chaperone effect in scientific publishing. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 12603-12607	11.5	44
64	Stable evolutionary signal in a yeast protein interaction network. *BMC Evolutionary Biology*, **2006**, 6, 8	3	43
63	From data to models. *Nature Physics*, **2007**, 3, 224-225	16.2	41

62	Comparison of an expanded ataxia interactome with patient medical records reveals a relationship between macular degeneration and ataxia. *Human Molecular Genetics*, **2011**, 20, 510-27	5.6	40
61	Spatial ordering of islands grown on patterned surfaces. *Applied Physics Letters*, **1998**, 73, 2651-2653	3.4	40
60	Dynamics of ranking processes in complex systems. *Physical Review Letters*, **2012**, 109, 128701	7.4	38
59	Controllability of multiplex, multi-time-scale networks. *Physical Review E*, **2016**, 94, 032316	2.4	37
58	Fundamental limitations of network reconstruction from temporal data. *Journal of the Royal Society Interface*, **2017**, 14,	4.1	36
57	Quantifying information flow during emergencies. *Scientific Reports*, **2014**, 4, 3997	4.9	36
56	Integrating personalized gene expression profiles into predictive disease-associated gene pools. *Npj Systems Biology and Applications*, **2017**, 3, 10	5	34
55	Uncovering the role of elementary processes in network evolution. *Scientific Reports*, **2013**, 3, 2920	4.9	32
54	Social Group Dynamics in Networks. *Understanding Complex Systems*, **2009**, 11-38	0.4	32
53	An inter-species protein-protein interaction network across vast evolutionary distance. *Molecular Systems Biology*, **2016**, 12, 865	12.2	31
52	Network science: Destruction perfected. *Nature*, **2015**, 524, 38-9	50.4	29
51	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	1.2	26
50	Network-based analysis of genome wide association data provides novel candidate genes for lipid and lipoprotein traits. *Molecular and Cellular Proteomics*, **2013**, 12, 3398-408	7.6	24
49	Identifying and modeling the structural discontinuities of human interactions. *Scientific Reports*, **2017**, 7, 46677	4.9	22
48	A structural transition in physical networks. *Nature*, **2018**, 563, 676-680	50.4	22
47	Publishing: Handful of papers dominates citation. *Nature*, **2012**, 491, 40	50.4	21
46	Inhomogeneous evolution of subgraphs and cycles in complex networks. *Physical Review E*, **2005**, 71, 025103	2.4	21
45	Secondary ion yield changes on rippled interfaces. *Applied Physics Letters*, **1998**, 72, 906-908	3.4	21

44	Systems Medicine: from molecular features and models to the clinic in COPD. *Journal of Translational Medicine*, **2014**, 12 Suppl 2, S4	8.5	20
43	A Genetic Model of the Connectome. *Neuron*, **2020**, 105, 435-445.e5	13.9	20
42	A diVIsive Shuffling Approach (VIStA) for gene expression analysis to identify subtypes in Chronic Obstructive Pulmonary Disease. *BMC Systems Biology*, **2014**, 8 Suppl 2, S8	3.5	19
41	A wealth of discovery built on the Human Genome Project - by the numbers. *Nature*, **2021**, 590, 212-215	50.4	19
40	Trade-offs between driving nodes and time-to-control in complex networks. *Scientific Reports*, **2017** , 7, 39978	4.9	18
39	Success in books: a big data approach to bestsellers. *EPJ Data Science*, **2018**, 7,	3.4	18
38	The Architecture of Biological Networks **2006**, 165-181		18
37	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	3.1	18
36	WIPER: The Integrated Wireless Phone Based Emergency Response System. *Lecture Notes in Computer Science*, **2006**, 417-424	0.9	16
35	From comorbidities of chronic obstructive pulmonary disease to identification of shared molecular mechanisms by data integration. *BMC Bioinformatics*, **2016**, 17, 441	3.6	16
34	and the network control framework-FAQs. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2018**, 373,	5.8	16
33	Network medicine framework shows that proximity of polyphenol targets and disease proteins predicts therapeutic effects of polyphenols. *Nature Food*, **2021**, 2, 143-155	14.4	14
32	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	5	14
31	Discovering the genes mediating the interactions between chronic respiratory diseases in the human interactome. *Nature Communications*, **2020**, 11, 811	17.4	13
30	Understanding the spread of malicious mobile-phone programs and their damage potential. *International Journal of Information Security*, **2013**, 12, 383-392	2.8	12
29	Liu et al. reply. *Nature*, **2011**, 478, E4-E5	50.4	12
28	A genetic epidemiology approach to cyber-security. *Scientific Reports*, **2014**, 4, 5659	4.9	11
27	Roughening of growing surfaces: Kinetic models and continuum theories. *Computational Materials Science*, **1996**, 6, 127-134	3.2	11

26	COMMUNITY DYNAMICS IN SOCIAL NETWORKS. *Fluctuation and Noise Letters*, **2007**, 07, L273-L287	1.2	8
25	Uncovering the genetic blueprint of the nervous system. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 33570-33577	11.5	7
24	Emergence of scaling in complex networks **2004**, 69-84		7
23	Network-based prediction of protein interactions		7
22	Power Laws in Biological Networks **2006**, 1-11		6
21	A global network for network medicine. *Npj Systems Biology and Applications*, **2020**, 6, 29	5	6
20	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	5
19	Community dynamics in social networks **2007**,		5
18	Characteristics of Biological Networks. *Lecture Notes in Physics*, **2004**, 443-457	0.8	4
17	Isotopy and energy of physical networks. *Nature Physics*, **2021**, 17, 216-222	16.2	4
16	Network Medicine Framework for Identifying Drug Repurposing Opportunities for COVID-19 **2020**,		4
15	Quantifying NFT-driven networks in crypto art.. *Scientific Reports*, **2022**, 12, 2769	4.9	4
14	Graph Theory Properties of Cellular Networks **2013**, 177-193		3
13	Science communication. Response to Comment on "Quantifying long-term scientific impact". *Science*, **2014**, 345, 149	33.3	3
12	Predicting perturbation patterns from the topology of biological networks		3
11	Dynamics of ranking.. *Nature Communications*, **2022**, 13, 1646	17.4	3
10	Computational Models of Mobility: A Perspective from Mobile Phone Data **2014**, 110-124		2
9	SCALE-FREE NETWORKS IN BIOLOGY. *Complex Systems and Interdisciplinary Science*, **2007**, 1-19		2

8	SURFACTANT-MEDIATED SURFACE GROWTH: NONEQUILIBRIUM THEORY. *Fractals*, **1993**, 01, 846-859	3.2	2
7	Uncovering the genetic blueprint of theC. elegansnervous system		2
6	Reverse engineering of linking preferences from network restructuring. *Physical Review E*, **2004**, 70, 046115	2.4	1
5	Controllability in an islet specific regulatory network identifies the transcriptional factor NFATC4, which regulates Type 2 Diabetes associated genes		1
4	Recovery coupling in multilayer networks.. *Nature Communications*, **2022**, 13, 955	17.4	1
3	THE ARCHITECTURE OF COMPLEXITY: FROM WWW TO CELLULAR METABOLISM **2006**, 107-125		0
2	Metabolic Networks **2005**, 243-264		
1	SURFACTANT-MEDIATED SURFACE GROWTH: NONEQUILIBRIUM THEORY **1994**, 472-485		