M Ãngeles Serrano

List of Publications by Year
in descending order

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66 papers	4,957 citations	147726 31 h-index	106281 65 g-index
67 all docs	67 docs citations	67 times ranked	4029 citing authors

#	Article	IF	Citations
1	Detecting rich-club ordering in complex networks. Nature Physics, 2006, 2, 110-115.	6.5	763
2	Extracting the multiscale backbone of complex weighted networks. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 6483-6488.	3.3	576
3	Topology of the world trade web. Physical Review E, 2003, 68, 015101.	0.8	483
4	Popularity versus similarity in growing networks. Nature, 2012, 489, 537-540.	13.7	432
5	Epidemic spreading on interconnected networks. Physical Review E, 2012, 86, 026106.	0.8	270
6	Self-Similarity of Complex Networks and Hidden Metric Spaces. Physical Review Letters, 2008, 100, 078701.	2.9	205
7	Percolation and Epidemic Thresholds in Clustered Networks. Physical Review Letters, 2006, 97, 088701.	2.9	155
8	Patterns of dominant flows in the world trade web. Journal of Economic Interaction and Coordination, 2007, 2, 111-124.	0.4	151
9	A measure of individual role in collective dynamics. Scientific Reports, 2012, 2, 292.	1.6	136
10	Generalized percolation in random directed networks. Physical Review E, 2005, 72, 016106.	0.8	102
11	Clustering in complex networks. I. General formalism. Physical Review E, 2006, 74, 056114.	0.8	94
12	Network geometry. Nature Reviews Physics, 2021, 3, 114-135.	11.9	93
13	Tuning clustering in random networks with arbitrary degree distributions. Physical Review E, 2005, 72, 036133.	0.8	90
14	Hidden geometric correlations in real multiplexÂnetworks. Nature Physics, 2016, 12, 1076-1081.	6.5	90
15	Uncovering the hidden geometry behind metabolic networks. Molecular BioSystems, 2012, 8, 843.	2.9	84
16	Simulating non-Markovian stochastic processes. Physical Review E, 2014, 90, 042108.	0.8	79
17	Modeling Statistical Properties of Written Text. PLoS ONE, 2009, 4, e5372.	1.1	77
18	Clustering in complex networks. II. Percolation properties. Physical Review E, 2006, 74, 056115.	0.8	73

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19	The geometric nature of weights in real complex networks. Nature Communications, 2017, 8, 14103.	5.8	65
20	Correlations in weighted networks. Physical Review E, 2006, 74, 055101.	0.8	61
21	The hidden hyperbolic geometry of international trade: World Trade Atlas 1870â€“2013. Scientific Reports, 2016, 6, 33441.	1.6	60
22	Multiscale unfolding of real networks by geometric renormalization. Nature Physics, 2018, 14, 583-589.	6.5	55
23	Decoding the structure of the WWW. ACM Transactions on the Web, 2007, 1, 10.	2.0	54
24	Deciphering the global organization of clustering in real complex networks. Scientific Reports, 2013, 3, 2517.	1.6	52
25	Mercator: uncovering faithful hyperbolic embeddings of complex networks. New Journal of Physics, 2019, 21, 123033.	1.2	47
26	Geometric renormalization unravels self-similarity of the multiscale human connectome. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 20244-20253.	3.3	43
27	Essential Plasticity and Redundancy of Metabolism Unveiled by Synthetic Lethality Analysis. PLoS Computational Biology, 2014, 10, e1003637.	1.5	39
28	Geometric Correlations Mitigate the Extreme Vulnerability of Multiplex Networks against Targeted Attacks. Physical Review Letters, 2017, 118, 218301.	2.9	39
29	Rich-club vs rich-multipolarization phenomena in weighted networks. Physical Review E, 2008, 78, 026101.	0.8	37
30	Percolation in Self-Similar Networks. Physical Review Letters, 2011, 106, 048701.	2.9	36
31	Navigable maps of structural brain networks across species. PLoS Computational Biology, 2020, 16, e1007584.	1.5	34
32	Weighted Configuration Model. AIP Conference Proceedings, 2005, , .	0.3	32
33	Competition and Adaptation in an Internet Evolution Model. Physical Review Letters, 2005, 94, 038701.	2.9	28
34	The multiple-resonator problem in a spherical GW antenna: its general solution and new interesting layouts. Europhysics Letters, 1996, 35, 253-258.	0.7	24
35	Conservation laws for voter-like models on random directed networks. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P10024.	0.9	22
36	Scaling up real networks by geometric branching growth. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	22

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37	Soft Communities in Similarity Space. Journal of Statistical Physics, 2018, 173, 775-782.	0.5	22
38	Small worlds and clustering in spatial networks. Physical Review Research, 2020, 2, .	1.3	20
39	Interfaces and the edge percolation map of random directed networks. Physical Review E, 2007, 76, 056121.	0.8	17
40	Rescue of endemic states in interconnected networks with adaptive coupling. Scientific Reports, 2016, 6, 29342.	1.6	17
41	Precision as a measure of predictability of missing links in real networks. Physical Review E, 2020, 101, 052318.	0.8	16
42	Navigability of temporal networks in hyperbolic space. Scientific Reports, 2017, 7, 15054.	1.6	14
43	The interconnected wealth of nations: Shock propagation on global trade-investment multiplex networks. Scientific Reports, 2019, 9, 13079.	1.6	14
44	Modeling the Internet. European Physical Journal B, 2006, 50, 249-254.	0.6	13
45	Predicting effects of structural stress in a genome-reduced model bacterial metabolism. Scientific Reports, 2012, 2, 621.	1.6	13
46	Correlations in Complex Networks. Complex Systems and Interdisciplinary Science, 2007, , 35-65.	0.2	11
47	Escaping the avalanche collapse in self-similar multiplexes. New Journal of Physics, 2015, 17, 053033.	1.2	10
48	Phase transition in the globalization of trade. Journal of Statistical Mechanics: Theory and Experiment, 2007, 2007, L01002-L01002.	0.9	9
49	Complex architecture of primes and natural numbers. Physical Review E, 2014, 90, 022806.	0.8	8
50	Regulation of burstiness by network-driven activation. Scientific Reports, 2015, 5, 9714.	1.6	8
51	Errors on the inverse problem solution for a noisy spherical gravitational wave antenna. Classical and Quantum Gravity, 1999, 16, 3035-3046.	1.5	7
52	Network-based scoring system for genome-scale metabolic reconstructions. BMC Systems Biology, 2011, 5, 76.	3.0	6
53	Structural Efficiency of Percolated Landscapes in Flow Networks. PLoS ONE, 2008, 3, e3654.	1.1	6
54	Negative feedback self-regulation contributes to robust and high-fidelity transmembrane signal transduction. Journal of the Royal Society Interface, 2013, 10, 20130581.	1.5	4

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55	Mapping high-growth phenotypes in the flux space of microbial metabolism. Journal of the Royal Society Interface, 2015, 12, 20150543.	1.5	4
56	Perturbation of the Normalized Laplacian Matrix for the Prediction of Missing Links in Real Networks. IEEE Transactions on Network Science and Engineering, 2022, 9, 863-874.	4.1	4
57	On cycles in AS relationships. Computer Communication Review, 2008, 38, 102-104.	1.5	3
58	Reply to Slater: Extracting the backbone of multiscale networks. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, E67-E67.	3.3	3
59	Detecting the Significant Flux Backbone of EscherichiaÂcoli metabolism. FEBS Letters, 2017, 591, 1437-1451.	1.3	3
60	Geometric randomization of real networks with prescribed degree sequence. New Journal of Physics, 2019, 21, 053039.	1.2	3
61	Metabolic plasticity in synthetic lethal mutants: Viability at higher cost. PLoS Computational Biology, 2018, 14, e1005949.	1.5	2
62	Geometric detection of hierarchical backbones in real networks. Physical Review Research, 2020, 2, .	1.3	2
63	The resonator problem in a spherical GW detector. Classical and Quantum Gravity, 1997, 14, 1495-1498.	1.5	1
64	Assessing the Significance and Predicting the Effects of Knockout Cascades in Metabolic Networks. Trends in Mathematics, 2014, , 39-44.	0.1	1
65	New ideas for a transducer layout in a spherical GW antenna. Nuclear Physics, Section B, Proceedings Supplements, 1996, 48, 116-118.	0.5	0
66	Noise-induced polarization switching in complex networks. Physical Review E, 2017, 95, 042305.	0.8	0