Marc Barthelemy

List of Publications by Year
in descending order

83 papers	14,356 citations	76196 40 h-index	82410 72 g-index
98 all docs	98 docs citations	98 times ranked	10527 citing authors

#	Article	IF	Citations
1	Resolution limit in community detection. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 36-41.	3.3	2,263
2	Spatial networks. Physics Reports, 2011, 499, 1-101.	10.3	1,859
3	The role of the airline transportation network in the prediction and predictability of global epidemics. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 2015-2020.	3.3	897
4	Modeling the Worldwide Spread of Pandemic Influenza: Baseline Case and Containment Interventions. PLoS Medicine, 2007, 4, e13.	3.9	572
5	Velocity and Hierarchical Spread of Epidemic Outbreaks in Scale-Free Networks. Physical Review Letters, 2004, 92, 178701.	2.9	560
6	Betweenness centrality in large complex networks. European Physical Journal B, 2004, 38, 163-168.	0.6	551
7	Human mobility: Models and applications. Physics Reports, 2018, 734, 1-74.	10.3	522
8	Weighted Evolving Networks: Coupling Topology and Weight Dynamics. Physical Review Letters, 2004, 92, 228701.	2.9	507
9	Dynamical patterns of epidemic outbreaks in complex heterogeneous networks. Journal of Theoretical Biology, 2005, 235, 275-288.	0.8	390
10	Structure of Urban Movements: Polycentric Activity and Entangled Hierarchical Flows. PLoS ONE, 2011, 6, e15923.	1.1	297
11	From mobile phone data to the spatial structure of cities. Scientific Reports, 2014, 4, 5276.	1.6	285
12	Characterization and modeling of weighted networks. Physica A: Statistical Mechanics and Its Applications, 2005, 346, 34-43.	1.2	271
13	Small-World Networks: Evidence for a Crossover Picture. Physical Review Letters, 1999, 82, 3180-3183.	2.9	254
14	Elementary processes governing the evolution of road networks. Scientific Reports, 2012, 2, 296.	1.6	230
15	The Structure of Interurban Traffic: A Weighted Network Analysis. Environment and Planning B: Planning and Design, 2007, 34, 905-924.	1.7	198
16	Modeling Urban Street Patterns. Physical Review Letters, 2008, 100, 138702.	2.9	192
17	Predictability and epidemic pathways in global outbreaks of infectious diseases: the SARS case study. BMC Medicine, 2007, 5, 34.	2.3	154
18	How congestion shapes cities: from mobility patterns to scaling. Scientific Reports, 2014, 4, 5561.	1.6	138

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19	Uncovering the spatial structure of mobility networks. Nature Communications, 2015, 6, 6007.	5.8	132
20	A typology of street patterns. Journal of the Royal Society Interface, 2014, 11, 20140924.	1.5	118
21	Self-organization versus top-down planning in the evolution of a city. Scientific Reports, 2013, 3, 2153.	1.6	116
22	A long-time limit for world subway networks. Journal of the Royal Society Interface, 2012, 9, 2540-2550.	1.5	108
23	Cross-Checking Different Sources of Mobility Information. PLoS ONE, 2014, 9, e105184.	1.1	106
24	From the betweenness centrality in street networks to structural invariants in random planar graphs. Nature Communications, 2018, 9, 2501.	5.8	106
25	The multilayer temporal network of public transport in Great Britain. Scientific Data, 2015, 2, 140056.	2.4	99
26	Modeling the Polycentric Transition of Cities. Physical Review Letters, 2013, 111, 198702.	2.9	92
27	Global disease spread: Statistics and estimation of arrival times. Journal of Theoretical Biology, 2008, 251, 509-522.	0.8	89
28	Anatomy and efficiency of urban multimodal mobility. Scientific Reports, 2014, 4, 6911.	1.6	89
29	From global scaling to the dynamics of individual cities. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 2317-2322.	3.3	84
30	Morphogenesis of Spatial Networks. Lecture Notes in Morphogenesis, 2018, , .	0.2	79
31	A stochastic model of randomly accelerated walkers for human mobility. Nature Communications, 2016, 7, 12600.	5.8	75
32	The statistical physics of cities. Nature Reviews Physics, 2019, 1, 406-415.	11.9	73
33	Scaling: Lost in the Smog. Environment and Planning B: Planning and Design, 2014, 41, 767-769.	1.7	70
34	Multiplex networks in metropolitan areas: generic features and local effects. Journal of the Royal Society Interface, 2015, 12, 20150651.	1.5	70
35	Optimal traffic networks. Journal of Statistical Mechanics: Theory and Experiment, 2006, 2006, L07002-L07002.	0.9	65
36	Comparing and modelling land use organization in cities. Royal Society Open Science, 2015, 2, 150449.	1.1	63

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37	Emergence of hierarchy in cost-driven growth of spatial networks. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 8824-8829.	3.3	60
38	Scaling in Transportation Networks. PLoS ONE, 2014, 9, e102007.	1.1	58
39	Epidemic modeling in complex realities. Comptes Rendus - Biologies, 2007, 330, 364-374.	0.1	57
40	Multilayer Networks. SSRN Electronic Journal, 0, , .	0.4	50
41	Lost in transportation: Information measures and cognitive limits in multilayer navigation. Science Advances, 2016, 2, e1500445.	4.7	48
42	Patterns of Residential Segregation. PLoS ONE, 2016, 11, e0157476.	1.1	41
43	The simplicity of planar networks. Scientific Reports, 2013, 3, 3495.	1.6	40
44	The growth equation of cities. Nature, 2020, 587, 397-401.	13.7	40
45	From paths to blocks: New measures for street patterns. Environment and Planning B: Urban Analytics and City Science, 2017, 44, 256-271.	1.0	29
46	Critical factors for mitigating car traffic in cities. PLoS ONE, 2019, 14, e0219559.	1.1	29
47	Modelling the relation between income and commuting distance. Journal of the Royal Society Interface, 2016, 13, 20160306.	1.5	27
48	Roads and cities of 18th century France. Scientific Data, 2015, 2, 150048.	2.4	25
49	Interdependent networks: the fragility of control. Scientific Reports, 2013, 3, 2764.	1.6	23
50	Fluctuation effects in metapopulation models: Percolation and pandemic threshold. Journal of Theoretical Biology, 2010, 267, 554-564.	0.8	20
51	Spatial Correlations in Attribute Communities. PLoS ONE, 2012, 7, e37507.	1.1	14
52	Optimal geometry of transportation networks. Physical Review E, 2019, 99, 052303.	0.8	14
53	Local impacts on road networks and access to critical locations during extreme floods. Scientific Reports, 2022, 12, 1552.	1.6	14
54	Tracking random walks. Journal of the Royal Society Interface, 2018, 15, 20170776.	1.5	13

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55	A global take on congestion in urban areas. Environment and Planning B: Planning and Design, 2016, 43, 800-804.	1.7	12
56	Central loops in random planar graphs. Physical Review E, 2017, 95, 042310.	0.8	11
57	Shape of shortest paths in random spatial networks. Physical Review E, 2019, 100, 032315.	0.8	11
58	Modeling cities. Comptes Rendus Physique, 2019, 20, 293-307.	0.3	11
59	From one-way streets to percolation on random mixed graphs. Physical Review E, 2021, 103, 042313.	0.8	10
60	Spatial Networks. , 2022, , .		10
61	Access to mass rapid transit in OECD urban areas. Scientific Data, 2020, 7, 301.	2.4	8
62	Spatial Networks. , 2014, , 1967-1976.		8
63	Discussion: Social and spatial networks. Les Nouvelles De L'archÃ©ologie, 2014, , 51-61.	0.0	8
64	Disentangling collective trends from local dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 7629-7634.	3.3	7
65	Transitions in spatial networks. Comptes Rendus Physique, 2018, 19, 205-232.	0.3	7
66	Emerging dynamics from high-resolution spatial numerical epidemics. ELife, 2021, 10, .	2.8	7
67	Efficiency and shrinking in evolving networks. Journal of the Royal Society Interface, 2019, 16, 20190101.	1.5	6
68	Betweenness centrality in dense spatial networks. Physical Review E, 2022, 105, .	0.8	6
69	Empirical evidence for a jamming transition in urban traffic. Journal of the Royal Society Interface, 2021, 18, 20210391.	1.5	4
70	Revisiting Urban Economics for Understanding Urban Data. Lecture Notes in Morphogenesis, 2020, , 121-131.	0.2	4
71	Spatial Effects: Transport on Interdependent Networks. Understanding Complex Systems, 2014, , 145-161.	0.3	4
72	Towards a classification of planar maps. Physical Review E, 2018, 98, .	0.8	2

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73	Tomography of scaling. Journal of the Royal Society Interface, 2019, 16, 20190602.	1.5	2
74	Revisiting the coupling between accessibility and population growth. Journal of Physics Complexity, 2020, 1, 025002.	0.9	2
75	Coalescing colony model: Mean-field, scaling, and geometry. Physical Review E, 2017, 96, 062316.	0.8	1
76	Spatial Networks. , 2017, , 1-11.		1
77	Betweenness Centrality. , 2022, , 65-108.		1
78	Growing Spatial Networks. , 2022, , 253-276.		1
79	From Complex to Spatial Networks. , 2022, , 3-8.		1
80	Big data: a new perspective on cities. , 0, , 247-277.		0
81	Spatial Networks. , 2018, , 2872-2882.		0
82	La croissance des villes vue par la physique statistique. , 2020, , 16-20.	0.1	0
83	La modÃ©lisation des systÃ¨mes urbainsÂ: une approche par la physique statistique. Regards CroisÃ©sÂ©s Sur L'Ã©Â©conomie, 2022, nÂ° 28, 55-63.	0.0	0