Marc Barthelemy

List of Publications by Year
in descending order

83 papers	14,356 citations	76294 40 h-index	82499 72 g-index
98 all docs	98 docs citations	98 times ranked	10527 citing authors

#	Article	IF	Citations
1	La modÃ©lisation des systÃ¨mes urbainsÂ: une approche par la physique statistique. Regards Croisâ`šÂ©s Sur L'â`šÂ©conomie, 2022, nÂ° 28, 55-63.	0.0	0
2	Local impacts on road networks and access to critical locations during extreme floods. Scientific Reports, 2022, 12, 1552.	1.6	14
3	Betweenness Centrality. , 2022, , 65-108.		1
4	Spatial Networks. , 2022, , .		10
5	Growing Spatial Networks. , 2022, , 253-276.		1
6	From Complex to Spatial Networks. , 2022, , 3-8.		1
7	Betweenness centrality in dense spatial networks. Physical Review E, 2022, 105, .	0.8	6
8	From one-way streets to percolation on random mixed graphs. Physical Review E, 2021, 103, 042313.	0.8	10
9	Empirical evidence for a jamming transition in urban traffic. Journal of the Royal Society Interface, 2021, 18, 20210391.	1.5	4
10	Emerging dynamics from high-resolution spatial numerical epidemics. ELife, 2021, 10, .	2.8	7
11	The growth equation of cities. Nature, 2020, 587, 397-401.	13.7	40
12	Access to mass rapid transit in OECD urban areas. Scientific Data, 2020, 7, 301.	2.4	8
13	Revisiting Urban Economics for Understanding Urban Data. Lecture Notes in Morphogenesis, 2020, , 121-131.	0.2	4
14	Revisiting the coupling between accessibility and population growth. Journal of Physics Complexity, 2020, 1, 025002.	0.9	2
15	La croissance des villes vue par la physique statistique. , 2020, , 16-20.	0.1	0
16	Critical factors for mitigating car traffic in cities. PLoS ONE, 2019, 14, e0219559.	1.1	29
17	Shape of shortest paths in random spatial networks. Physical Review E, 2019, 100, 032315.	0.8	11
18	Modeling cities. Comptes Rendus Physique, 2019, 20, 293-307.	0.3	11

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19	Optimal geometry of transportation networks. Physical Review E, 2019, 99, 052303.	0.8	14
20	The statistical physics of cities. Nature Reviews Physics, 2019, 1, 406-415.	11.9	73
21	Efficiency and shrinking in evolving networks. Journal of the Royal Society Interface, 2019, 16, 20190101.	1.5	6
22	Tomography of scaling. Journal of the Royal Society Interface, 2019, 16, 20190602.	1.5	2
23	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
24	Human mobility: Models and applications. Physics Reports, 2018, 734, 1-74.	10.3	522
25	Tracking random walks. Journal of the Royal Society Interface, 2018, 15, 20170776.	1.5	13
26	Towards a classification of planar maps. Physical Review E, 2018, 98, .	0.8	2
27	Transitions in spatial networks. Comptes Rendus Physique, 2018, 19, 205-232.	0.3	7
28	From the betweenness centrality in street networks to structural invariants in random planar graphs. Nature Communications, 2018, 9, 2501.	5.8	106
29	Morphogenesis of Spatial Networks. Lecture Notes in Morphogenesis, 2018, , .	0.2	79
30	Spatial Networks. , 2018, , 2872-2882.		0
31	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
32	Central loops in random planar graphs. Physical Review E, 2017, 95, 042310.	0.8	11
33	Coalescing colony model: Mean-field, scaling, and geometry. Physical Review E, 2017, 96, 062316.	0.8	1
34	Spatial Networks. , 2017, , 1-11.		1
35	Patterns of Residential Segregation. PLoS ONE, 2016, 11, e0157476.	1.1	41
36	Modelling the relation between income and commuting distance. Journal of the Royal Society Interface, 2016, 13, 20160306.	1.5	27

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37	A stochastic model of randomly accelerated walkers for human mobility. Nature Communications, 2016, 7, 12600.	5.8	75
38	A global take on congestion in urban areas. Environment and Planning B: Planning and Design, 2016, 43, 800-804.	1.7	12
39	Lost in transportation: Information measures and cognitive limits in multilayer navigation. Science Advances, 2016, 2, e1500445.	4.7	48
40	The multilayer temporal network of public transport in Great Britain. Scientific Data, 2015, 2, 140056.	2.4	99
41	Roads and cities of 18th century France. Scientific Data, 2015, 2, 150048.	2.4	25
42	Comparing and modelling land use organization in cities. Royal Society Open Science, 2015, 2, 150449.	1.1	63
43	Uncovering the spatial structure of mobility networks. Nature Communications, 2015, 6, 6007.	5.8	132
44	Multiplex networks in metropolitan areas: generic features and local effects. Journal of the Royal Society Interface, 2015, 12, 20150651.	1.5	70
45	Scaling in Transportation Networks. PLoS ONE, 2014, 9, e102007.	1.1	58
46	Cross-Checking Different Sources of Mobility Information. PLoS ONE, 2014, 9, e105184.	1.1	106
47	Scaling: Lost in the Smog. Environment and Planning B: Planning and Design, 2014, 41, 767-769.	1.7	70
48	A typology of street patterns. Journal of the Royal Society Interface, 2014, 11, 20140924.	1.5	118
49	From mobile phone data to the spatial structure of cities. Scientific Reports, 2014, 4, 5276.	1.6	285
50	Anatomy and efficiency of urban multimodal mobility. Scientific Reports, 2014, 4, 6911.	1.6	89
51	How congestion shapes cities: from mobility patterns to scaling. Scientific Reports, 2014, 4, 5561.	1.6	138
52	Spatial Networks. , 2014, , 1967-1976.		8
53	Spatial Effects: Transport on Interdependent Networks. Understanding Complex Systems, 2014, , 145-161.	0.3	4
54	Discussion: Social and spatial networks. Les Nouvelles De L'archÃ©ologie, 2014, , 51-61.	0.0	8

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55	Modeling the Polycentric Transition of Cities. Physical Review Letters, 2013, 111, 198702.	2.9	92
56	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
57	Self-organization versus top-down planning in the evolution of a city. Scientific Reports, 2013, 3, 2153.	1.6	116
58	The simplicity of planar networks. Scientific Reports, 2013, 3, 3495.	1.6	40
59	Interdependent networks: the fragility of control. Scientific Reports, 2013, 3, 2764.	1.6	23
60	A long-time limit for world subway networks. Journal of the Royal Society Interface, 2012, 9, 2540-2550.	1.5	108
61	Elementary processes governing the evolution of road networks. Scientific Reports, 2012, 2, 296.	1.6	230
62	Spatial Correlations in Attribute Communities. PLoS ONE, 2012, 7, e37507.	1.1	14
63	Structure of Urban Movements: Polycentric Activity and Entangled Hierarchical Flows. PLoS ONE, 2011, 6, e15923.	1.1	297
64	Spatial networks. Physics Reports, 2011, 499, 1-101.	10.3	1,859
65	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
66	Fluctuation effects in metapopulation models: Percolation and pandemic threshold. Journal of Theoretical Biology, 2010, 267, 554-564.	0.8	20
67	Global disease spread: Statistics and estimation of arrival times. Journal of Theoretical Biology, 2008, 251, 509-522.	0.8	89
68	Modeling Urban Street Patterns. Physical Review Letters, 2008, 100, 138702.	2.9	192
69	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
70	Modeling the Worldwide Spread of Pandemic Influenza: Baseline Case and Containment Interventions. PLoS Medicine, 2007, 4, e13.	3.9	572
71	The Structure of Interurban Traffic: A Weighted Network Analysis. Environment and Planning B: Planning and Design, 2007, 34, 905-924.	1.7	198
72	Epidemic modeling in complex realities. Comptes Rendus - Biologies, 2007, 330, 364-374.	0.1	57

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73	Predictability and epidemic pathways in global outbreaks of infectious diseases: the SARS case study. BMC Medicine, 2007, 5, 34.	2.3	154
74	Optimal traffic networks. Journal of Statistical Mechanics: Theory and Experiment, 2006, 2006, L07002-L07002.	0.9	65
75	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
76	Dynamical patterns of epidemic outbreaks in complex heterogeneous networks. Journal of Theoretical Biology, 2005, 235, 275-288.	0.8	390
77	Characterization and modeling of weighted networks. Physica A: Statistical Mechanics and Its Applications, 2005, 346, 34-43.	1.2	271
78	Velocity and Hierarchical Spread of Epidemic Outbreaks in Scale-Free Networks. Physical Review Letters, 2004, 92, 178701.	2.9	560
79	Betweenness centrality in large complex networks. European Physical Journal B, 2004, 38, 163-168.	0.6	551
80	Weighted Evolving Networks: Coupling Topology and Weight Dynamics. Physical Review Letters, 2004, 92, 228701.	2.9	507
81	Small-World Networks: Evidence for a Crossover Picture. Physical Review Letters, 1999, 82, 3180-3183.	2.9	254
82	Multilayer Networks. SSRN Electronic Journal, 0, , .	0.4	50
83	Big data: a new perspective on cities. , 0, , 247-277.		0