Alain Barrat

List of Publications by Year
in descending order

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81 papers	13,896 citations	76326 40 h-index	69250 77 g-index
97 all docs	97 docs citations	97 times ranked	9305 citing authors

#	Article	IF	Citations
1	The architecture of complex weighted networks. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 3747-3752.	7.1	3,160
2	What's in a crowd? Analysis of face-to-face behavioral networks. Journal of Theoretical Biology, 2011, 271, 166-180.	1.7	626
3	Dynamics of Person-to-Person Interactions from Distributed RFID Sensor Networks. PLoS ONE, 2010, 5, e11596.	2.5	605
4	Modeling the Worldwide Spread of Pandemic Influenza: Baseline Case and Containment Interventions. PLoS Medicine, 2007, 4, e13.	8.4	572
5	Velocity and Hierarchical Spread of Epidemic Outbreaks in Scale-Free Networks. Physical Review Letters, 2004, 92, 178701.	7.8	560
6	High-Resolution Measurements of Face-to-Face Contact Patterns in a Primary School. PLoS ONE, 2011, 6, e23176.	2.5	552
7	Weighted Evolving Networks: Coupling Topology and Weight Dynamics. Physical Review Letters, 2004, 92, 228701.	7.8	507
8	Dynamical patterns of epidemic outbreaks in complex heterogeneous networks. Journal of Theoretical Biology, 2005, 235, 275-288.	1.7	390
9	Simplicial models of social contagion. Nature Communications, 2019, 10, 2485.	12.8	367
10	Contact Patterns in a High School: A Comparison between Data Collected Using Wearable Sensors, Contact Diaries and Friendship Surveys. PLoS ONE, 2015, 10, e0136497.	2.5	337
11	Simulation of an SEIR infectious disease model on the dynamic contact network of conference attendees. BMC Medicine, 2011, 9, 87.	5.5	296
12	The physics of higher-order interactions in complex systems. Nature Physics, 2021, 17, 1093-1098.	16.7	287
13	Estimating Potential Infection Transmission Routes in Hospital Wards Using Wearable Proximity Sensors. PLoS ONE, 2013, 8, e73970.	2.5	266
14	Contact Patterns among High School Students. PLoS ONE, 2014, 9, e107878.	2.5	209
15	Close Encounters in a Pediatric Ward: Measuring Face-to-Face Proximity and Mixing Patterns with Wearable Sensors. PLoS ONE, 2011, 6, e17144.	2.5	193
16	Dynamical Patterns of Cattle Trade Movements. PLoS ONE, 2011, 6, e19869.	2.5	173
17	Random walks on temporal networks. Physical Review E, 2012, 85, 056115.	2.1	173
18	K-core decomposition of Internet graphs: hierarchies, self-similarity and measurement biases. Networks and Heterogeneous Media, 2008, 3, 371-393.	1.1	169

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19	Nonequilibrium dynamics of language games on complex networks. Physical Review E, 2006, 74, 036105.	2.1	159
20	Data on face-to-face contacts in an office building suggest a low-cost vaccination strategy based on community linkers. Network Science, 2015, 3, 326-347.	1.0	157
21	Mitigation of infectious disease at school: targeted class closure vs school closure. BMC Infectious Diseases, 2014, 14, 695.	2.9	150
22	Can co-location be used as a proxy for face-to-face contacts?. EPJ Data Science, 2018, 7, .	2.8	146
23	Optimizing surveillance for livestock disease spreading through animal movements. Journal of the Royal Society Interface, 2012, 9, 2814-2825.	3.4	117
24	Simplicial Activity Driven Model. Physical Review Letters, 2018, 121, 228301.	7.8	100
25	Social network dynamics of face-to-face interactions. Physical Review E, 2011, 83, 056109.	2.1	93
26	An infectious disease model on empirical networks of human contact: bridging the gap between dynamic network data and contact matrices. BMC Infectious Diseases, 2013, 13, 185.	2.9	90
27	Vulnerability of weighted networks. Journal of Statistical Mechanics: Theory and Experiment, 2006, 2006, P04006-P04006.	2.3	84
28	Gender homophily from spatial behavior in a primary school: A sociometric study. Social Networks, 2013, 35, 604-613.	2.1	83
29	Combining High-Resolution Contact Data with Virological Data to Investigate Influenza Transmission in a Tertiary Care Hospital. Infection Control and Hospital Epidemiology, 2015, 36, 254-260.	1.8	83
30	Measuring contact patterns with wearable sensors: methods, data characteristics and applications to data-driven simulations of infectious diseases. Clinical Microbiology and Infection, 2014, 20, 10-16.	6.0	76
31	Nonequilibrium phase transition in negotiation dynamics. Physical Review E, 2007, 76, 051102.	2.1	71
32	Immunization strategies for epidemic processes in time-varying contact networks. Journal of Theoretical Biology, 2013, 337, 89-100.	1.7	71
33	Digital proximity tracing on empirical contact networks for pandemic control. Nature Communications, 2021, 12, 1655.	12.8	70
34	Effect of manual and digital contact tracing on COVID-19 outbreaks: a study on empirical contact data. Journal of the Royal Society Interface, 2021, 18, 20201000.	3.4	56
35	Compensating for population sampling in simulations of epidemic spread on temporal contact networks. Nature Communications, 2015, 6, 8860.	12.8	54
36	Anatomy of digital contact tracing: Role of age, transmission setting, adoption, and case detection. Science Advances, 2021, 7, .	10.3	53

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37	Quantifying social contacts in a household setting of rural Kenya using wearable proximity sensors. EPJ Data Science, 2016, 5, 21.	2.8	51
38	Contact diaries versus wearable proximity sensors in measuring contact patterns at a conference: method comparison and participantsâ€™ attitudes. BMC Infectious Diseases, 2016, 16, 341.	2.9	50
39	Activity clocks: spreading dynamics on temporal networks of human contact. Scientific Reports, 2013, 3, 3099.	3.3	49
40	Live Social Semantics. Lecture Notes in Computer Science, 2009, , 698-714.	1.3	42
41	On the dynamics of human proximity for data diffusion in ad-hoc networks. Ad Hoc Networks, 2012, 10, 1532-1543.	5.5	41
42	Empirical temporal networks of face-to-face human interactions. European Physical Journal: Special Topics, 2013, 222, 1295-1309.	2.6	40
43	Link Creation and Profile Alignment in the aNobii Social Network. , 2010, , .		37
44	The structured backbone of temporal social ties. Nature Communications, 2019, 10, 220.	12.8	37
45	Mining (maximal) Span-cores from Temporal Networks. , 2018, , .		34
46	Social Dynamics in Conferences: Analyses of Data from the Live Social Semantics Application. Lecture Notes in Computer Science, 2010, , 17-33.	1.3	29
47	Modeling Temporal Networks Using Random Itineraries. Physical Review Letters, 2013, 110, 158702.	7.8	29
48	Measuring social networks in primates: wearable sensors versus direct observations. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20190737.	2.1	28
49	Influential groups for seeding and sustaining nonlinear contagion in heterogeneous hypergraphs. Communications Physics, 2022, 5, .	5.3	25
50	Detecting social (in)stability in primates from their temporal co-presence network. Animal Behaviour, 2019, 157, 239-254.	1.9	24
51	Statistical theory of Internet exploration. Physical Review E, 2005, 71, 036135.	2.1	22
52	Temporal Networks of Face-to-Face Human Interactions. Understanding Complex Systems, 2013, , 191-216.	0.6	22
53	The Making of Sixty-Nine Days of Close Encounters at the Science Gallery. Leonardo, 2012, 45, 285-285.	0.3	20
54	On the Challenges and Potential of Using Barometric Sensors to Track Human Activity. Sensors, 2020, 20, 6786.	3.8	20

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55	Group interactions modulate critical mass dynamics in social convention. Communications Physics, 2022, 5, .	5.3	19
56	Relevance of temporal cores for epidemic spread in temporal networks. Scientific Reports, 2020, 10, 12529.	3.3	18
57	Dynamic core-periphery structure of information sharing networks in entorhinal cortex and hippocampus. Network Neuroscience, 2020, 4, 946-975.	2.6	17
58	Transition from simple to complex contagion in collective decision-making. Nature Communications, 2022, 13, 1442.	12.8	17
59	The Live Social Semantics application: a platform for integrating face-to-face presence with on-line social networking. , 2010, , .		15
60	Robust Modeling of Human Contact Networks Across Different Scales and Proximity-Sensing Techniques. Lecture Notes in Computer Science, 2017, , 536-551.	1.3	15
61	Enhancing the evaluation of pathogen transmission risk in a hospital by merging hand-hygiene compliance and contact data: a proof-of-concept study. BMC Research Notes, 2015, 8, 426.	1.4	14
62	Generalized voterlike model on activity-driven networks with attractiveness. Physical Review E, 2018, 98, 022303.	2.1	14
63	Is Web Content a Good Proxy for Real-Life Interaction?. , 2015, , .		13
64	From temporal network data to the dynamics of social relationships. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20211164.	2.6	13
65	Estimating the epidemic risk using non-uniformly sampled contact data. Scientific Reports, 2017, 7, 9975.	3.3	12
66	Are the different layers of a social network conveying the same information?. EPJ Data Science, 2018, 7, .	2.8	12
67	How to Estimate Epidemic Risk from Incomplete Contact Diaries Data?. PLoS Computational Biology, 2016, 12, e1005002.	3.2	12
68	Impact of spatially constrained sampling of temporal contact networks on the evaluation of the epidemic risk. European Journal of Applied Mathematics, 2016, 27, 941-957.	2.9	11
69	Face-to-Face Interactions. , 2015, , 37-57.		11
70	Epidemic risk from friendship network data: an equivalence with a non-uniform sampling of contact networks. Scientific Reports, 2016, 6, 24593.	3.3	10
71	Estimating the outcome of spreading processes on networks with incomplete information: A dimensionality reduction approach. Physical Review E, 2018, 98, 012317.	2.1	10
72	The temporal rich club phenomenon. Nature Physics, 2022, 18, 931-938.	16.7	10

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73	Recalibrating disease parameters for increasing realism in modeling epidemics in closed settings. BMC Infectious Diseases, 2016, 16, 676.	2.9	9
74	Building surrogate temporal network data from observed backbones. Physical Review E, 2021, 103, 052304.	2.1	9
75	Fingerprinting temporal networks of close-range human proximity. , 2013, , .		5
76	Predicting partially observed processes on temporal networks by Dynamics-Aware Node Embeddings (DyANE). EPJ Data Science, 2021, 10, .	2.8	4
77	Initiating scientific collaborations across career levels and disciplines â€“ a network analysis on behavioral data. International Journal of Computer-Supported Collaborative Learning, 2021, 16, 151.	3.0	4
78	Modelling COVID-19 in school settings to evaluate prevention and control protocols. Anaesthesia, Critical Care & Pain Medicine, 2022, 41, 101047.	1.4	4
79	Impact of contact data resolution on the evaluation of interventions in mathematical models of infectious diseases. Journal of the Royal Society Interface, 2022, 19, .	3.4	4
80	Bootstrapping under constraint for the assessment of group behavior in human contact networks. Physical Review E, 2013, 88, 052812.	2.1	3
81	A Framework for the Identification of Human Vertical Displacement Activity Based on Multi-Sensor Data. IEEE Sensors Journal, 2022, 22, 8011-8029.	4.7	3