

# Massimiliano Zanin

## List of Publications by Year in descending order

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120  
papers

6,352  
citations

201385

27  
h-index

69108

77  
g-index

127  
all docs

127  
docs citations

127  
times ranked

5298  
citing authors

#	ARTICLE	IF	CITATIONS
1	The structure and dynamics of multilayer networks. <i>Physics Reports</i> , 2014, 544, 1-122.	10.3	2,469
2	Permutation Entropy and Its Main Biomedical and Econophysics Applications: A Review. <i>Entropy</i> , 2012, 14, 1553-1577.	1.1	505
3	Emergence of network features from multiplexity. <i>Scientific Reports</i> , 2013, 3, 1344.	1.6	396
4	Modeling the multi-layer nature of the European Air Transport Network: Resilience and passengers re-scheduling under random failures. <i>European Physical Journal: Special Topics</i> , 2013, 215, 23-33.	1.2	226
5	Modelling the air transport with complex networks: A short review. <i>European Physical Journal: Special Topics</i> , 2013, 215, 5-21.	1.2	205
6	Forbidden patterns, permutation entropy and stock market inefficiency. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2009, 388, 2854-2864.	1.2	197
7	Complexity-entropy causality plane: A useful approach to quantify the stock market inefficiency. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2010, 389, 1891-1901.	1.2	175
8	Image encryption with chaotically coupled chaotic maps. <i>Physica D: Nonlinear Phenomena</i> , 2008, 237, 2638-2648.	1.3	145
9	Combining complex networks and data mining: Why and how. <i>Physics Reports</i> , 2016, 635, 1-44.	10.3	139
10	Explosive transitions to synchronization in networks of phase oscillators. <i>Scientific Reports</i> , 2013, 3, 1281.	1.6	95
11	A comparative analysis of approaches to network-dismantling. <i>Scientific Reports</i> , 2018, 8, 13513.	1.6	90
12	Applying complexity science to air traffic management. <i>Journal of Air Transport Management</i> , 2015, 42, 149-158.	2.4	87
13	Optimizing Functional Network Representation of Multivariate Time Series. <i>Scientific Reports</i> , 2012, 2, 630.	1.6	79
14	Commodity predictability analysis with a permutation information theory approach. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2011, 390, 876-890.	1.2	71
15	Forbidden patterns in financial time series. <i>Chaos</i> , 2008, 18, 013119.	1.0	65
16	Functional brain networks: great expectations, hard times and the big leap forward. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2014, 369, 20130525.	1.8	65
17	Can we neglect the multi-layer structure of functional networks?. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2015, 430, 184-192.	1.2	53
18	Beware of the Small-World Neuroscientist!. <i>Frontiers in Human Neuroscience</i> , 2016, 10, 96.	1.0	53

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19	Jamming transition in air transportation networks. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2009, 388, 3948-3954.	1.2	51
20	Network analysis of Chinese air transport delay propagation. <i>Chinese Journal of Aeronautics</i> , 2017, 30, 491-499.	2.8	45
21	Studying the Topology of Transportation Systems through Complex Networks: Handle with Care. <i>Journal of Advanced Transportation</i> , 2018, 2018, 1-17.	0.9	44
22	Targeting the dynamics of complex networks. <i>Scientific Reports</i> , 2012, 2, 396.	1.6	38
23	Credit Card Fraud Detection through Parenclitic Network Analysis. <i>Complexity</i> , 2018, 2018, 1-9.	0.9	38
24	Gray code permutation algorithm for high-dimensional data encryption. <i>Information Sciences</i> , 2014, 270, 288-297.	4.0	34
25	Ordinal patterns-based methodologies for distinguishing chaos from noise in discrete time series. <i>Communications Physics</i> , 2021, 4, .	2.0	34
26	Principles and open questions in functional brain network reconstruction. <i>Human Brain Mapping</i> , 2021, 42, 3680-3711.	1.9	33
27	Assessing Time Series Reversibility through Permutation Patterns. <i>Entropy</i> , 2018, 20, 665.	1.1	33
28	Topological Measure Locating the Effective Crossover between Segregation and Integration in a Modular Network. <i>Physical Review Letters</i> , 2012, 108, 228701.	2.9	29
29	DISNET: a framework for extracting phenotypic disease information from public sources. <i>PeerJ</i> , 2020, 8, e8580.	0.9	29
30	Generation and recovery of airborne delays in air transport. <i>Transportation Research Part C: Emerging Technologies</i> , 2016, 69, 436-450.	3.9	28
31	Disease networks and their contribution to disease understanding: A review of their evolution, techniques and data sources. <i>Journal of Biomedical Informatics</i> , 2019, 94, 103206.	2.5	26
32	Network analysis reveals patterns behind air safety events. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2014, 401, 201-206.	1.2	25
33	QRE: Quick Robustness Estimation for large complex networks. <i>Future Generation Computer Systems</i> , 2018, 83, 413-424.	4.9	25
34	Time Irreversibility of Resting-State Activity in the Healthy Brain and Pathology. <i>Frontiers in Physiology</i> , 2019, 10, 1619.	1.3	25
35	Reconstructing functional brain networks: have we got the basics right?. <i>Frontiers in Human Neuroscience</i> , 2014, 8, 107.	1.0	22
36	Deep learning in systems medicine. <i>Briefings in Bioinformatics</i> , 2021, 22, 1543-1559.	3.2	22

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37	On the multi-dimensionality and sampling of air transport networks. <i>Transportation Research, Part E: Logistics and Transportation Review</i> , 2016, 94, 95-109.	3.7	21
38	Indoor Temperature Prediction in an IoT Scenario. <i>Sensors</i> , 2018, 18, 3610.	2.1	21
39	Characterizing Normal and Pathological Gait through Permutation Entropy. <i>Entropy</i> , 2018, 20, 77.	1.1	21
40	Information content: Assessing meso-scale structures in complex networks. <i>Europhysics Letters</i> , 2014, 106, 30001.	0.7	20
41	Environmental benefits of air-rail intermodality: The example of Madrid Barajas. <i>Transportation Research, Part E: Logistics and Transportation Review</i> , 2012, 48, 1056-1063.	3.7	19
42	Parentic networks: uncovering new functions in biological data. <i>Scientific Reports</i> , 2014, 4, 5112.	1.6	19
43	Contrasting chaotic with stochastic dynamics via ordinal transition networks. <i>Chaos</i> , 2020, 30, 063101.	1.0	19
44	From random failures to targeted attacks in network dismantling. <i>Reliability Engineering and System Safety</i> , 2022, 218, 108146.	5.1	19
45	Algorithmic Approaches for Assessing Irreversibility in Time Series: Review and Comparison. <i>Entropy</i> , 2021, 23, 1474.	1.1	19
46	Towards superior air transport performance metrics – imperatives and methods. <i>Journal of Aerospace Operations</i> , 2013, 2, 3-19.	0.1	18
47	20 years of ordinal patterns: Perspectives and challenges. <i>Europhysics Letters</i> , 0, , .	0.7	18
48	Profiling Lung Cancer Patients Using Electronic Health Records. <i>Journal of Medical Systems</i> , 2018, 42, 126.	2.2	17
49	ATM performance measurement in Europe, the US and China. <i>Chinese Journal of Aeronautics</i> , 2017, 30, 479-490.	2.8	16
50	Dynamics in scheduled networks. <i>Chaos</i> , 2009, 19, 023111.	1.0	15
51	Computation Emerges from Adaptive Synchronization of Networking Neurons. <i>PLoS ONE</i> , 2011, 6, e26467.	1.1	15
52	Permutation Entropy and Irreversibility in Gait Kinematic Time Series from Patients with Mild Cognitive Decline and Early Alzheimer’s Dementia. <i>Entropy</i> , 2019, 21, 868.	1.1	15
53	Complex networks analysis of obstructive nephropathy data. <i>Chaos</i> , 2011, 21, 033103.	1.0	14
54	Towards a secure trading of aviation CO2 allowance. <i>Journal of Air Transport Management</i> , 2016, 56, 3-11.	2.4	14

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55	Reconstructing the patient's natural history from electronic health records. <i>Artificial Intelligence in Medicine</i> , 2020, 105, 101860.	3.8	14
56	Detecting switching and intermittent causalities in time series. <i>Chaos</i> , 2017, 27, 047403.	1.0	13
57	Worldwide air transportation networks: a matter of scale and fractality?. <i>Transportmetrica A: Transport Science</i> , 2017, 13, 607-630.	1.3	12
58	On the use of random graphs as null model of large connected networks. <i>Chaos, Solitons and Fractals</i> , 2019, 119, 318-325.	2.5	12
59	Characterization and Prediction of Air Transport Delays in China. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 6165.	1.3	12
60	Mechanistic Modeling and Multiscale Applications for Precision Medicine: Theory and Practice. <i>Network and Systems Medicine</i> , 2020, 3, 36-56.	2.7	11
61	Disorder and decision cost in spatial networks. <i>Chaos</i> , 2008, 18, 023103.	1.0	10
62	Characterization and exploitation of community structure in cover song networks. <i>Pattern Recognition Letters</i> , 2012, 33, 1032-1041.	2.6	10
63	Understanding diseases as increased heterogeneity: a complex network computational framework. <i>Journal of the Royal Society Interface</i> , 2018, 15, 20180405.	1.5	10
64	Recognition of Time Expressions in Spanish Electronic Health Records. , 2019, , .		10
65	Fostering interpretability of data mining models through data perturbation. <i>Expert Systems With Applications</i> , 2019, 137, 191-201.	4.4	10
66	Feature Selection in the Reconstruction of Complex Network Representations of Spectral Data. <i>PLoS ONE</i> , 2013, 8, e72045.	1.1	9
67	Beyond Linear Delay Multipliers in Air Transport. <i>Journal of Advanced Transportation</i> , 2017, 2017, 1-11.	0.9	9
68	Assessing functional propagation patterns in COVID-19. <i>Chaos, Solitons and Fractals</i> , 2020, 138, 109993.	2.5	9
69	An Early Stage Researcher's Primer on Systems Medicine Terminology. <i>Network and Systems Medicine</i> , 2021, 4, 2-50.	2.7	9
70	Knowledge Discovery in Spectral Data by Means of Complex Networks. <i>Metabolites</i> , 2013, 3, 155-167.	1.3	8
71	The topology of card transaction money flows. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016, 462, 134-140.	1.2	8
72	Topological structures are consistently overestimated in functional complex networks. <i>Scientific Reports</i> , 2018, 8, 11980.	1.6	8

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73	Simplifying functional network representation and interpretation through causality clustering. Scientific Reports, 2021, 11, 15378.	1.6	8
74	Evaluating Wikipedia as a Source of Information for Disease Understanding. , 2018, , .		7
75	Mitochondria interaction networks show altered topological patterns in Parkinsonâ€™s disease. Npj Systems Biology and Applications, 2020, 6, 38.	1.4	7
76	A minimal model of hospital patientsâ€™ dynamics in COVID-19. Chaos, Solitons and Fractals, 2020, 140, 110157.	2.5	7
77	Trends in Incidence and Transmission Patterns of COVID-19 in Valencia, Spain. JAMA Network Open, 2021, 4, e2113818.	2.8	7
78	Preprocessing and analyzing genetic data with complex networks: An application to Obstructive Nephropathy. Networks and Heterogeneous Media, 2012, 7, 473-481.	0.5	7
79	Assessing time series irreversibility through micro-scale trends. Chaos, 2021, 31, 103118.	1.0	7
80	NETWORKS OF SPRINGS: A PRACTICAL APPROACH. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2010, 20, 937-942.	0.7	6
81	Computation as an emergent feature of adaptive synchronization. Physical Review E, 2011, 84, 060102.	0.8	6
82	From the Difference of Structures to the Structure of the Difference. Complexity, 2018, 2018, 1-12.	0.9	5
83	Characterising obstructive sleep apnea patients through complex networks. Chaos, Solitons and Fractals, 2019, 119, 196-202.	2.5	5
84	Travel restrictions during pandemics: A useful strategy?. Chaos, 2020, 30, 111103.	1.0	5
85	Statistical and Machine Learning Link Selection Methods for Brain Functional Networks: Review and Comparison. Brain Sciences, 2021, 11, 735.	1.1	5
86	DisMaNET: A network-based tool to cross map disease vocabularies. Computer Methods and Programs in Biomedicine, 2021, 207, 106233.	2.6	5
87	Anomalous consistency in Mild Cognitive Impairment: A complex networks approach. Chaos, Solitons and Fractals, 2015, 70, 144-155.	2.5	4
88	From phenotype to genotype in complex brain networks. Scientific Reports, 2016, 6, 19790.	1.6	4
89	Normal tissue content impact on the GBM molecular classification. Briefings in Bioinformatics, 2021, 22, .	3.2	4
90	On causality of extreme events. PeerJ, 2016, 4, e2111.	0.9	4

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91	Assessing Identifiability in Airport Delay Propagation Roles Through Deep Learning Classification. IEEE Access, 2022, 10, 28520-28534.	2.6	4
92	Can Deep Learning distinguish chaos from noise? Numerical experiments and general considerations. Communications in Nonlinear Science and Numerical Simulation, 2022, 114, 106708.	1.7	4
93	Reply to: "Comment on: "Image encryption with chaotically coupled chaotic maps" [Physica D 2010]" Physica D: Nonlinear Phenomena, 2010, 239, 1001.	1.3	3
94	MODELING THE EVOLUTION OF ITEM RATING NETWORKS USING TIME-DOMAIN PREFERENTIAL ATTACHMENT. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1250180.	0.7	3
95	Assessing Airport Landing Efficiency Through Large-Scale Flight Data Analysis. IEEE Access, 2020, 8, 170519-170528.	2.6	3
96	Assessing Granger Causality on Irregular Missing and Extreme Data. IEEE Access, 2021, 9, 75362-75374.	2.6	3
97	A Fast Transform for Brain Connectivity Difference Evaluation. Neuroinformatics, 2022, 20, 285-299.	1.5	3
98	Gait analysis under the lens of statistical physics. Computational and Structural Biotechnology Journal, 2022, 20, 3257-3267.	1.9	3
99	PREFERENTIAL ATTACHMENT, AGING AND WEIGHTS IN RECOMMENDATION SYSTEMS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2009, 19, 755-763.	0.7	2
100	Uncertainty in Functional Network Representations of Brain Activity of Alcoholic Patients. Brain Topography, 2021, 34, 6-18.	0.8	2
101	Analysis of Complex Data by Means of Complex Networks. IFIP Advances in Information and Communication Technology, 2014, , 39-46.	0.5	2
102	Using complex networks for refining survival prognosis in prostate cancer patient. F1000Research, 2016, 5, 2675.	0.8	2
103	Air delay propagation patterns in Europe from 2015 to 2018: an information processing perspective. Journal of Physics Complexity, 2022, 3, 015001.	0.9	2
104	Spatially embedded socio-technical complex networks. European Physical Journal: Special Topics, 2013, 215, 1-4.	1.2	1
105	Computing with complex-valued networks of phase oscillators. Europhysics Letters, 2013, 102, 40007.	0.7	1
106	Efficient neural codes can lead to spurious synchronization. Frontiers in Computational Neuroscience, 2013, 7, 125.	1.2	1
107	Characterizing Motif Dynamics of Electric Brain Activity Using Symbolic Analysis. Entropy, 2014, 16, 5654-5667.	1.1	1
108	Studying Attacks to Information Systems Using Functional Networks. Frontiers in ICT, 2015, 2, .	3.6	1

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109	Design and Implementation of a Secure Auction System for Air Transport Slots. , 2015, , .		1
110	A Meta-Path-Based Prediction Method for Disease Comorbidities. , 2021, , .		1
111	Probabilistic Constraint Programming for Parameters Optimisation of Generative Models. Lecture Notes in Computer Science, 2015, , 376-387.	1.0	1
112	Analyzing international events through the lens of statistical physics: The case of Ukraine. Chaos, 2022, 32, 051103.	1.0	1
113	NONLOCAL ANALYSIS OF MODULAR ROLES. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2012, 22, 1250167.	0.7	0
114	The ACE Brain. Frontiers in Computational Neuroscience, 2016, 10, 122.	1.2	0
115	On the applicability of the Lead/Lag Ratio in causality assessment. Physica A: Statistical Mechanics and Its Applications, 2018, 506, 186-196.	1.2	0
116	Developing a Data Analytics Toolbox to Support CPS-based Services. , 2020, , .		0
117	Identity Assurance through EEG Recordings. Advances in Human and Social Aspects of Technology Book Series, 2016, , 545-555.	0.3	0
118	An Analytics Toolbox for Cyber-Physical Systems Data Analysis: Requirements and Challenges. , 2020, , .		0
119	Optimal Cost-Based Strengthening of Complex Networks. IEEE Transactions on Network Science and Engineering, 2022, 9, 1117-1127.	4.1	0
120	Telling functional networks apart using ranked network features stability. Scientific Reports, 2022, 12, 2562.	1.6	0