Duccio Fanelli

List of Publications by Year
in descending order

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73 papers	2,810 citations	304743 22 h-index	197818 49 g-index
77 all docs	77 docs citations	77 times ranked	2294 citing authors

#	Article	IF	Citations
1	Analysis and forecast of COVID-19 spreading in China, Italy and France. Chaos, Solitons and Fractals, 2020, 134, 109761.	5.1	754
2	Deep learning and alignment of spatially resolved single-cell transcriptomes with Tangram. Nature Methods, 2021, 18, 1352-1362.	19.0	276
3	Stochastic Turing patterns in the Brusselator model. Physical Review E, 2010, 81, 046215.	2.1	122
4	Maximum entropy principle explains quasistationary states in systems with long-range interactions: The example of the Hamiltonian mean-field model. Physical Review E, 2007, 75, 011112.	2.1	119
5	The theory of pattern formation on directed networks. Nature Communications, 2014, 5, 4517.	12.8	112
6	Nonequilibrium Tricritical Point in a System with Long-Range Interactions. Physical Review Letters, 2007, 99, 040601.	7.8	111
7	Statistical theory of high-gain free-electron laser saturation. Physical Review E, 2004, 69, 045501.	2.1	103
8	Random walks on hypergraphs. Physical Review E, 2020, 101, 022308.	2.1	99
9	Exploring the Thermodynamic Limit of Hamiltonian Models: Convergence to the Vlasov Equation. Physical Review Letters, 2007, 98, 150602.	7.8	92
10	Turing patterns in multiplex networks. Physical Review E, 2014, 90, 042814.	2.1	82
11	Theory of Turing Patterns on Time Varying Networks. Physical Review Letters, 2017, 119, 148301.	7.8	50
12	Diffusion in a crowded environment. Physical Review E, 2010, 82, 021113.	2.1	45
13	Patterns of non-normality in networked systems. Journal of Theoretical Biology, 2019, 480, 81-91.	1.7	42
14	Dynamical systems on hypergraphs. Journal of Physics Complexity, 2020, 1, 035006.	2.2	41
15	Enhanced stochastic oscillations in autocatalytic reactions. Physical Review E, 2009, 79, 036112.	2.1	39
16	Stochastic Turing patterns on a network. Physical Review E, 2012, 86, 046105.	2.1	35
17	Statistical theory of quasistationary states beyond the single water-bag case study. Physical Review E, 2012, 85, 021148.	2.1	35
18	COVID-19: The unreasonable effectiveness of simple models. Chaos, Solitons and Fractals: X, 2020, 5, 100034.	2.1	35

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19	Turing instabilities in reaction-diffusion systems with cross diffusion. European Physical Journal B, 2013, 86, 1.	1.5	33
20	Theory of diffusion-influenced reactions in complex geometries. Physical Chemistry Chemical Physics, 2016, 18, 15950-15954.	2.8	31
21	Robust stochastic Turing patterns in the development of a one-dimensional cyanobacterial organism. PLoS Biology, 2018, 16, e2004877.	5.6	30
22	Random walks and community detection in hypergraphs. Journal of Physics Complexity, 2021, 2, 015011.	2.2	29
23	The linear noise approximation for reaction-diffusion systems on networks. European Physical Journal B, 2013, 86, 1.	1.5	27
24	Tune the topology to create or destroy patterns. European Physical Journal B, 2016, 89, 1.	1.5	24
25	Turing instabilities on Cartesian product networks. Scientific Reports, 2015, 5, 12927.	3.3	20
26	Hopping in the Crowd to Unveil Network Topology. Physical Review Letters, 2018, 120, 158301.	7.8	20
27	Spatial model of autocatalytic reactions. Physical Review E, 2010, 81, 056110.	2.1	19
28	Beamâ€“plasma instability and fast particles: the Lynden-Bell approach. Plasma Physics and Controlled Fusion, 2014, 56, 035013.	2.1	17
29	Desynchronization induced by time-varying network. Europhysics Letters, 2018, 121, 50008.	2.0	16
30	Fast whole-brain imaging of seizures in zebrafish larvae by two-photon light-sheet microscopy. Biomedical Optics Express, 2022, 13, 1516.	2.9	16
31	Existence of quasi-stationary states at the long range threshold. Communications in Nonlinear Science and Numerical Simulation, 2011, 16, 4718-4724.	3.3	15
32	Benjaminâ€“Feir instabilities on directed networks. Chaos, Solitons and Fractals, 2017, 96, 8-16.	5.1	15
33	Nonautonomous driving induces stability in network of identical oscillators. Physical Review E, 2019, 99, 012309.	2.1	15
34	Diffusion of tagged particles in a crowded medium. Europhysics Letters, 2014, 107, 20006.	2.0	14
35	Multiple-scale theory of topology-driven patterns on directed networks. Physical Review E, 2016, 93, 032317.	2.1	14
36	Topological stabilization for synchronized dynamics on networks. European Physical Journal B, 2017, 90, 1.	1.5	14

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37	Machine learning in spectral domain. Nature Communications, 2021, 12, 1330.	12.8	14
38	Robust, coherent, and synchronized circadian clock-controlled oscillations along Anabaena filaments. ELife, 2021, 10, .	6.0	14
39	Reactive random walkers on complex networks. Physical Review E, 2018, 98, .	2.1	13
40	Stochastic amplification of spatial modes in a system with one diffusing species. Journal of Mathematical Biology, 2014, 69, 1585-1608.	1.9	10
41	Noise-driven neuromorphic tuned amplifier. Physical Review E, 2017, 96, 062313.	2.1	10
42	Nonlinear walkers and efficient exploration of congested networks. Physical Review Research, 2020, 2, .	3.6	10
43	Intrinsic noise and discrete-time processes. Physical Review E, 2013, 88, 040102.	2.1	9
44	Linear noise approximation for stochastic oscillations of intracellular calcium. Journal of Theoretical Biology, 2014, 349, 92-99.	1.7	8
45	Pattern invariance for reaction-diffusion systems on complex networks. Scientific Reports, 2018, 8, 16226.	3.3	8
46	Resilience for stochastic systems interacting via a quasi-degenerate network. Chaos, 2019, 29, 083123.	2.5	8
47	Generalized patterns from local and non local reactions. Chaos, Solitons and Fractals, 2020, 134, 109707.	5.1	8
48	Intrinsic noise and two-dimensional maps: Quasicycles, quasiperiodicity, and chaos. Physical Review E, 2014, 90, 032135.	2.1	7
49	The Theory of Individual Based Discrete-Time Processes. Journal of Statistical Physics, 2014, 156, 131-155.	1.2	7
50	Pattern formation for reactive species undergoing anisotropic diffusion. European Physical Journal B, 2015, 88, 1.	1.5	7
51	Non-normal amplification of stochastic quasicycles. Physical Review E, 2018, 98, .	2.1	7
52	Reconstruction scheme for excitatory and inhibitory dynamics with quenched disorder: application to zebrafish imaging. Journal of Computational Neuroscience, 2021, 49, 159-174.	1.0	7
53	Ensemble inequivalence in systems with wave-particle interaction. Physical Review E, 2014, 89, 050101.	2.1	6
54	Diffusion approximation of the stochastic Wilsonâ€“Cowan model. Chaos, Solitons and Fractals, 2017, 103, 504-512.	5.1	6

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55	Desynchronization and pattern formation in a noisy feed-forward oscillator network. Physical Review E, 2019, 99, 012303.	2.1	6
56	Macroscopic Transport Equations in Many-Body Systems from Microscopic Exclusion Processes in Disordered Media: A Review. Frontiers in Physics, 2016, 4, .	2.1	5
57	Noiseâ€“Seeded Developmental Pattern Formation in Filamentous Cyanobacteria. Life, 2018, 8, 58.	2.4	5
58	Reactive explorers to unravel network topology. European Physical Journal B, 2019, 92, 1.	1.5	5
59	Inferring network structure and local dynamics from neuronal patterns with quenched disorder. Chaos, Solitons and Fractals, 2020, 140, 110235.	5.1	5
60	Stabilizing Stuart-Landau oscillators via time-varying networks. Chaos, Solitons and Fractals, 2020, 133, 109587.	5.1	5
61	Cortical propagation tracks functional recovery after stroke. PLoS Computational Biology, 2021, 17, e1008963.	3.2	5
62	Generalized maximum entropy approach to quasistationary states in long-range systems. Physical Review E, 2016, 93, 022107.	2.1	4
63	Intertangled stochastic motifs in networks of excitatory-inhibitory units. Physical Review E, 2017, 96, 022308.	2.1	4
64	Training of sparse and dense deep neural networks: Fewer parameters, same performance. Physical Review E, 2021, 104, 054312.	2.1	4
65	Spectral pruning of fully connected layers. Scientific Reports, 2022, 12, .	3.3	4
66	Pattern Formation on Hypergraphs. Understanding Complex Systems, 2022, , 163-180.	0.6	2
67	Adhesion-Mediated Signalling in Cancer: Recent Advances and Mathematical Modelling. Biophysical Reviews and Letters, 2014, 09, 285-300.	0.8	1
68	Emergence of a collective crystal in a classical system with long-range interactions. Europhysics Letters, 2015, 111, 30011.	2.0	1
69	Spectral control for ecological stability. European Physical Journal B, 2018, 91, 1.	1.5	1
70	Suppressing escape events in maps of the unit interval with demographic noise. Physical Review E, 2016, 94, 052133.	2.1	0
71	Network equilibrium stabilization via single-node insertion. , 2019, , .		0
72	How to fairly share a watermelon. Physics Education, 2021, 56, 015010.	0.5	0

#	Article	IF	Citations
73	Generating directed networks with prescribed Laplacian spectra. Journal of Physics Complexity, 2021, 2, 015004.	2.2	0