

Massimo Vergassola

List of Publications by Citations

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95
papers

8,479
citations

44
h-index

92
g-index

111
ext. papers

9,802
ext. citations

8.8
avg, IF

6
L-index

#	Paper	IF	Citations
95	The lattice Boltzmann equation: theory and applications. <i>Physics Reports</i> , 1992 , 222, 145-197	27.7	1603
94	Particles and fields in fluid turbulence. <i>Reviews of Modern Physics</i> , 2001 , 73, 913-975	40.5	930
93	The Listeria transcriptional landscape from saprophytism to virulence. <i>Nature</i> , 2009 , 459, 950-6	50.4	701
92	'Infotaxis' as a strategy for searching without gradients. <i>Nature</i> , 2007 , 445, 406-9	50.4	479
91	Cell-size control and homeostasis in bacteria. <i>Current Biology</i> , 2015 , 25, 385-391	6.3	405
90	Causes for the intriguing presence of tRNAs in phages. <i>Genome Research</i> , 2007 , 17, 1486-95	9.7	201
89	Identification of new noncoding RNAs in <i>Listeria monocytogenes</i> and prediction of mRNA targets. <i>Nucleic Acids Research</i> , 2007 , 35, 962-74	20.1	194
88	Computational detection of genomic cis-regulatory modules applied to body patterning in the early <i>Drosophila</i> embryo. <i>BMC Bioinformatics</i> , 2002 , 3, 30	3.6	168
87	Inverse energy cascade in two-dimensional turbulence: deviations from gaussian behavior. <i>Physical Review E</i> , 2000 , 61, R29-32	2.4	153
86	VirR, a response regulator critical for <i>Listeria monocytogenes</i> virulence. <i>Molecular Microbiology</i> , 2005 , 57, 1367-80	4.1	150
85	CovS/CovR of group B streptococcus: a two-component global regulatory system involved in virulence. <i>Molecular Microbiology</i> , 2004 , 54, 1250-68	4.1	148
84	Bacterial strategies for chemotaxis response. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 1391-6	11.5	136
83	Multifractality in the statistics of the velocity gradients in turbulence. <i>Physical Review Letters</i> , 1991 , 67, 2299-2302	7.4	116
82	Intermittency in Passive Scalar Advection. <i>Physical Review Letters</i> , 1998 , 80, 5532-5535	7.4	99
81	Phase transition in the passive scalar advection. <i>Physica D: Nonlinear Phenomena</i> , 2000 , 138, 63-90	3.3	98
80	Further results on multifractality in shell models. <i>Physics of Fluids A, Fluid Dynamics</i> , 1993 , 5, 2533-2538		96
79	Universality and saturation of intermittency in passive scalar turbulence. <i>Physical Review Letters</i> , 2000 , 84, 2385-8	7.4	95

78	Anomalous scaling for passively advected magnetic fields. <i>Physical Review E</i> , 1996 , 53, R3021-R3024	2.4	91
77	A random process for the construction of multiaffine fields. <i>Physica D: Nonlinear Phenomena</i> , 1993 , 65, 352-358	3.3	91
76	Large deviations of the maximum eigenvalue for wishart and Gaussian random matrices. <i>Physical Review Letters</i> , 2009 , 102, 060601	7.4	85
75	Highly variable rates of genome rearrangements between hemiascomycetous yeast lineages. <i>PLoS Genetics</i> , 2006 , 2, e32	6	83
74	An evolutionary and functional assessment of regulatory network motifs. <i>Genome Biology</i> , 2005 , 6, R35	18.3	77
73	Negative eddy viscosity in isotropically forced two-dimensional flow: linear and nonlinear dynamics. <i>Journal of Fluid Mechanics</i> , 1994 , 260, 95-126	3.7	77
72	Small-Scale Turbulent Dynamo. <i>Physical Review Letters</i> , 1999 , 83, 4065-4068	7.4	75
71	Phenotypic model for early T-cell activation displaying sensitivity, specificity, and antagonism. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, E888-97	11.5	73
70	Learning to soar in turbulent environments. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, E4877-84	11.5	72
69	Waves of Cdk1 Activity in S Phase Synchronize the Cell Cycle in Drosophila Embryos. <i>Developmental Cell</i> , 2016 , 38, 399-412	10.2	71
68	Statistical Distribution of Quantum Entanglement for a Random Bipartite State. <i>Journal of Statistical Physics</i> , 2011 , 142, 403-438	1.5	68
67	Phase transitions in the distribution of bipartite entanglement of a random pure state. <i>Physical Review Letters</i> , 2010 , 104, 110501	7.4	68
66	Statistical geometry in scalar turbulence. <i>Physical Review Letters</i> , 2001 , 86, 424-7	7.4	67
65	On the multifractal properties of the energy dissipation derived from turbulence data. <i>Journal of Fluid Mechanics</i> , 1992 , 238, 467-486	3.7	63
64	Noninvasive inference of the molecular chemotactic response using bacterial trajectories. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 1802-7	11.5	60
63	Active and passive fields face to face. <i>New Journal of Physics</i> , 2004 , 6, 72-72	2.9	57
62	Odor Landscapes in Turbulent Environments. <i>Physical Review X</i> , 2014 , 4,	9.1	52
61	Glider soaring via reinforcement learning in the field. <i>Nature</i> , 2018 , 562, 236-239	50.4	52

60	The Impact of Environmental Fluctuations on Evolutionary Fitness Functions. <i>Scientific Reports</i> , 2015 , 5, 15211	4.9	51
59	Chemotaxis as a navigation strategy to boost range expansion. <i>Nature</i> , 2019 , 575, 658-663	50.4	50
58	Scalar transport in compressible flow. <i>Physica D: Nonlinear Phenomena</i> , 1997 , 106, 148-166	3.3	47
57	Isotropy vs anisotropy in small-scale turbulence. <i>Physics of Fluids</i> , 2001 , 13, 2139-2141	4.4	46
56	T Cells Integrate Local and Global Cues to Discriminate between Structurally Similar Antigens. <i>Cell Reports</i> , 2015 , 11, 1208-19	10.6	45
55	Scaling and universality in turbulent convection. <i>Physical Review Letters</i> , 2002 , 88, 054503	7.4	45
54	Inverse versus Direct Cascades in Turbulent Advection. <i>Physical Review Letters</i> , 1998 , 80, 512-515	7.4	45
53	Lattice Boltzmann scheme for two-dimensional magnetohydrodynamics. <i>Physical Review A</i> , 1991 , 43, 4521-4524	2.6	45
52	Self-Organized Nuclear Positioning Synchronizes the Cell Cycle in Drosophila Embryos. <i>Cell</i> , 2019 , 177, 925-941.e17	56.2	44
51	Tissue mechanics govern the rapidly adapting and symmetrical response to touch. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, E6955-63	11.5	44
50	Wavelet transforms of self-similar processes. <i>Physica D: Nonlinear Phenomena</i> , 1991 , 54, 58-64	3.3	43
49	Lagrangian Dispersion in Gaussian Self-Similar Velocity Ensembles. <i>Journal of Statistical Physics</i> , 2003 , 113, 643-692	1.5	42
48	A fast Legendre transform algorithm and applications to the adhesion model. <i>Journal of Scientific Computing</i> , 1994 , 9, 259-281	2.3	40
47	Antagonism in olfactory receptor neurons and its implications for the perception of odor mixtures. <i>ELife</i> , 2018 , 7,	8.9	39
46	Decisions on the fly in cellular sensory systems. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, E3704-12	11.5	38
45	Chasing information to search in random environments. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2009 , 42, 434009	2	38
44	Statistical conservation laws in turbulent transport. <i>Physical Review Letters</i> , 2001 , 87, 164502	7.4	38
43	Odorant Receptor Inhibition Is Fundamental to Odor Encoding. <i>Current Biology</i> , 2020 , 30, 2574-2587.e6	6.3	38

42	Inverse cascade and intermittency of passive scalar in one-dimensional smooth flow. <i>Physical Review E</i> , 1997 , 56, 5483-5499	2.4	37
41	Codon usage domains over bacterial chromosomes. <i>PLoS Computational Biology</i> , 2006 , 2, e37	5	36
40	DNA macroarray for identification and typing of Staphylococcus aureus isolates. <i>Journal of Clinical Microbiology</i> , 2004 , 42, 2054-64	9.7	35
39	Stieltjes integral representation of effective diffusivities in time-dependent flows. <i>Physical Review E</i> , 1995 , 52, 3249-3251	2.4	30
38	Structures and Intermittency in a Passive Scalar Model. <i>Physical Review Letters</i> , 1997 , 79, 1849-1852	7.4	29
37	Large-scale dynamo produced by negative magnetic eddy diffusivities. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1999 , 91, 131-146	1.4	29
36	Mitotic waves in the early embryogenesis of : Bistability traded for speed. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, E2165-E2174	11.5	28
35	Inference in particle tracking experiments by passing messages between images. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 7663-8	11.5	28
34	Exploring the function of bacterial chemotaxis. <i>Current Opinion in Microbiology</i> , 2018 , 45, 16-21	7.9	27
33	The viscoelastic Kolmogorov flow: eddy viscosity and linear stability. <i>Journal of Fluid Mechanics</i> , 2005 , 523, 161-170	3.7	27
32	On the Hydrodynamic Behaviour of the Lattice Boltzmann Equation. <i>Europhysics Letters</i> , 1990 , 13, 411-416	1.6	26
31	Shear effects on passive scalar spectra. <i>Journal of Fluid Mechanics</i> , 2005 , 523, 99-108	3.7	25
30	Active versus passive scalar turbulence. <i>Physical Review Letters</i> , 2002 , 89, 234502	7.4	24
29	Turbulence Modelling by Nonhydrodynamic Variables. <i>Europhysics Letters</i> , 1990 , 13, 727-732	1.6	22
28	Antagonistic odor interactions in olfactory sensory neurons are widespread in freely breathing mice. <i>Nature Communications</i> , 2020 , 11, 3350	17.4	22
27	Molecular and Functional Aspects of Bacterial Chemotaxis. <i>Journal of Statistical Physics</i> , 2011 , 144, 219-249	1.6	20
26	Nonlinear dynamics of the viscoelastic Kolmogorov flow. <i>Journal of Fluid Mechanics</i> , 2007 , 590, 61-80	3.7	20
25	The Role of Adaptation in Bacterial Speed Races. <i>PLoS Computational Biology</i> , 2016 , 12, e1004974	5	20

24	Universal decay of scalar turbulence. <i>Physical Review Letters</i> , 2001 , 86, 2305-8	7.4	19
23	Interference between turbulent and molecular diffusion. <i>Europhysics Letters</i> , 1997 , 37, 535-540	1.6	18
22	Optimal wavelet analysis and its application to two-dimensional turbulence. <i>Fluid Dynamics Research</i> , 1991 , 8, 117-126	1.2	15
21	Message-passing algorithms for the prediction of protein domain interactions from protein-protein interaction data. <i>Bioinformatics</i> , 2008 , 24, 2064-70	7.2	13
20	Repulsion and metabolic switches in the collective behavior of bacterial colonies. <i>Biophysical Journal</i> , 2009 , 97, 688-98	2.9	11
19	Nonlinearity, fluctuations, and response in sensory systems. <i>Physical Review Letters</i> , 2012 , 108, 258102	7.4	10
18	Somatosensory neurons integrate the geometry of skin deformation and mechanotransduction channels to shape touch sensing. <i>ELife</i> , 2019 , 8,	8.9	8
17	Escape rates in hamiltonian systems. <i>Journal of Statistical Physics</i> , 1997 , 89, 549-560	1.5	7
16	Cooperative evolution in protein complexes of yeast from comparative analyses of its interaction network. <i>Proteomics</i> , 2005 , 5, 3116-9	4.8	6
15	Chiral Non-Linearities in Forced 2D Navier-Stokes Flows. <i>Europhysics Letters</i> , 1993 , 24, 41-45	1.6	6
14	Infomax Strategies for an Optimal Balance Between Exploration and Exploitation. <i>Journal of Statistical Physics</i> , 2016 , 163, 1454-1476	1.5	6
13	Partial Screening in Dense Lattice-Configuration Suspensions. <i>Physical Review Letters</i> , 1999 , 83, 3414-3417	7.4	5
12	A mechanism for promoters to readout morphogenetic positional information in less than a minute. <i>ELife</i> , 2020 , 9,	8.9	5
11	Progressive recruitment of distal MEC-4 channels determines touch response strength in. <i>Journal of General Physiology</i> , 2019 , 151, 1213-1230	3.4	5
10	Transcription factor concentrations versus binding site affinities in the yeast <i>S. cerevisiae</i> . <i>Physical Biology</i> , 2007 , 4, 134-43	3	4
9	Slow-down of nonlinearity in 2-D Navier-Stokes flow. <i>Physica D: Nonlinear Phenomena</i> , 1994 , 76, 291-296	3.3	4
8	Multiscaling transformation in dynamical systems and turbulence. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1992 , 185, 174-180	3.3	3
7	Vorticity selection in large-scale two-dimensional flow. <i>Europhysics Letters</i> , 1996 , 36, 367-372	1.6	2

6	Antagonism in olfactory receptor neurons and its implications for the perception of odor mixtures		2
5	Theory of feedback controlled brain stimulations for Parkinson's disease. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016 , 441, 121-130	3.3	1
4	Non-conservative character of the intersection of self-similar cascades. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1991 , 174, 425-437	3.3	1
3	The lattice Boltzmann equation for turbulence. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 1990 , 17, 708-711		1
2	Sector search strategies for odor trail tracking.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022 , 119,	11.5	1
1	A Suite of Neurophotonic Tools to Underpin the Contribution of Internal Brain States in fMRI. <i>Current Opinion in Biomedical Engineering</i> , 2021 , 18, 100273-100273	4.4	0