Massimo Vergassola

List of Publications by Year
in descending order

100	10,734	46918 47	32761 100
papers	citations	h-index	g-index

111	111	111	8904
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The lattice Boltzmann equation: theory and applications. Physics Reports, 1992, 222, 145-197.	10.3	1,789
2	Particles and fields in fluid turbulence. Reviews of Modern Physics, 2001, 73, 913-975.	16.4	1,079
3	The Listeria transcriptional landscape from saprophytism to virulence. Nature, 2009, 459, 950-956.	13.7	841
4	â€˜Infotaxisâ€™ as a strategy for searching without gradients. Nature, 2007, 445, 406-409.	13.7	653
5	Cell-Size Control and Homeostasis in Bacteria. Current Biology, 2015, 25, 385-391.	1.8	632
6	Causes for the intriguing presence of tRNAs in phages. Genome Research, 2007, 17, 1486-1495.	2.4	312
7	Identification of new noncoding RNAs in Listeria monocytogenes and prediction of mRNA targets. Nucleic Acids Research, 2007, 35, 962-974.	6.5	220
8	Computational detection of genomic cis-regulatory modules applied to body patterning in the early Drosophila embryo. BMC Bioinformatics, 2002, 3, 30.	1.2	194
9	Inverse energy cascade in two-dimensional turbulence: Deviations from Gaussian behavior. Physical Review E, 2000, 61, R29-R32.	0.8	191
10	CovS/CovR of group B streptococcus: a two-component global regulatory system involved in virulence. Molecular Microbiology, 2004, 54, 1250-1268.	1.2	185
11	VirR, a response regulator critical forListeria monocytogenesvirulence. Molecular Microbiology, 2005, 57, 1367-1380.	1.2	184
12	Bacterial strategies for chemotaxis response. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 1391-1396.	3.3	170
13	Multifractality in the statistics of the velocity gradients in turbulence. Physical Review Letters, 1991, 67, 2299-2302.	2.9	128
14	Waves of Cdk1 Activity in S Phase Synchronize the Cell Cycle in Drosophila Embryos. Developmental Cell, 2016, 38, 399-412.	3.1	124
15	Phase transition in the passive scalar advection. Physica D: Nonlinear Phenomena, 2000, 138, 63-90.	1.3	117
16	An evolutionary and functional assessment of regulatory network motifs. Genome Biology, 2005, 6, R35.	13.9	112
17	Intermittency in Passive Scalar Advection. Physical Review Letters, 1998, 80, 5532-5535.	2.9	110
18	Learning to soar in turbulent environments. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E4877-84.	3.3	110

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19	Odorant Receptor Inhibition Is Fundamental to Odor Encoding. Current Biology, 2020, 30, 2574-2587.e6.	1.8	110
20	Chemotaxis as a navigation strategy to boost range expansion. Nature, 2019, 575, 658-663.	13.7	108
21	A random process for the construction of multiaffine fields. Physica D: Nonlinear Phenomena, 1993, 65, 352-358.	1.3	105
22	Glider soaring via reinforcement learning in the field. Nature, 2018, 562, 236-239.	13.7	104
23	Further results on multifractality in shell models. Physics of Fluids A, Fluid Dynamics, 1993, 5, 2533-2538.	1.6	103
24	Universality and Saturation of Intermittency in Passive Scalar Turbulence. Physical Review Letters, 2000, 84, 2385-2388.	2.9	103
25	Phenotypic model for early T-cell activation displaying sensitivity, specificity, and antagonism. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E888-97.	3.3	101
26	Large Deviations of the Maximum Eigenvalue for Wishart and Gaussian Random Matrices. Physical Review Letters, 2009, 102, 060601.	2.9	100
27	Self-Organized Nuclear Positioning Synchronizes the Cell Cycle in Drosophila Embryos. Cell, 2019, 177, 925-941.e17.	13.5	99
28	Anomalous scaling for passively advected magnetic fields. Physical Review E, 1996, 53, R3021-R3024.	0.8	97
29	Highly Variable Rates of Genome Rearrangements between Hemiascomycetous Yeast Lineages. PLoS Genetics, 2006, 2, e32.	1.5	94
30	Odor Landscapes in Turbulent Environments. Physical Review X, 2014, 4, .	2.8	93
31	Negative eddy viscosity in isotropically forced two-dimensional flow: linear and nonlinear dynamics. Journal of Fluid Mechanics, 1994, 260, 95-126.	1.4	91
32	Statistical Distribution of Quantum Entanglement forÂaÂRandom Bipartite State. Journal of Statistical Physics, 2011, 142, 403-438.	0.5	87
33	Small-Scale Turbulent Dynamo. Physical Review Letters, 1999, 83, 4065-4068.	2.9	83
34	Phase Transitions in the Distribution of Bipartite Entanglement of a Random Pure State. Physical Review Letters, 2010, 104, 110501.	2.9	82
35	On the multifractal properties of the energy dissipation derived from turbulence data. Journal of Fluid Mechanics, 1992, 238, 467-486.	1.4	76
36	Statistical Geometry in Scalar Turbulence. Physical Review Letters, 2001, 86, 424-427.	2.9	74

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37	The Impact of Environmental Fluctuations on Evolutionary Fitness Functions. Scientific Reports, 2015, 5, 15211.	1.6	73
38	Noninvasive inference of the molecular chemotactic response using bacterial trajectories. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 1802-1807.	3.3	72
39	Antagonism in olfactory receptor neurons and its implications for the perception of odor mixtures. ELife, 2018, 7, .	2.8	72
40	Active and passive fields face to face. New Journal of Physics, 2004, 6, 72-72.	1.2	64
41	T Cells Integrate Local and Global Cues to Discriminate between Structurally Similar Antigens. Cell Reports, 2015, 11, 1208-1219.	2.9	62
42	Decisions on the fly in cellular sensory systems. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E3704-12.	3.3	57
43	Tissue mechanics govern the rapidly adapting and symmetrical response to touch. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E6955-63.	3.3	57
44	Isotropy vs anisotropy in small-scale turbulence. Physics of Fluids, 2001, 13, 2139-2141.	1.6	53
45	Chasing information to search in random environments. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 434009.	0.7	53
46	Mitotic waves in the early embryogenesis of Drosophila : Bistability traded for speed. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E2165-E2174.	3.3	53
47	Lagrangian Dispersion in Gaussian Self-Similar Velocity Ensembles. Journal of Statistical Physics, 2003, 113, 643-692.	0.5	51
48	Antagonistic odor interactions in olfactory sensory neurons are widespread in freely breathing mice. Nature Communications, 2020, 11, 3350.	5.8	51
49	Scalar transport in compressible flow. Physica D: Nonlinear Phenomena, 1997, 106, 148-166.	1.3	49
50	Inverse versus Direct Cascades in Turbulent Advection. Physical Review Letters, 1998, 80, 512-515.	2.9	49
51	Scaling and Universality in Turbulent Convection. Physical Review Letters, 2002, 88, 054503.	2.9	48
52	Lattice Boltzmann scheme for two-dimensional magnetohydrodynamics. Physical Review A, 1991, 43, 4521-4524.	1.0	47
53	Wavelet transforms of self-similar processes. Physica D: Nonlinear Phenomena, 1991, 54, 58-64.	1.3	47
54	A fast Legendre transform algorithm and applications to the adhesion model. Journal of Scientific Computing, 1994, 9, 259-281.	1.1	42

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55	Statistical Conservation Laws in Turbulent Transport. Physical Review Letters, 2001, 87, 164502.	2.9	42
56	Inverse cascade and intermittency of passive scalar in one-dimensional smooth flow. Physical Review E, 1997, 56, 5483-5499.	0.8	41
57	DNA Macroarray for Identification and Typing of Staphylococcus aureus Isolates. Journal of Clinical Microbiology, 2004, 42, 2054-2064.	1.8	41
58	Inference in particle tracking experiments by passing messages between images. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 7663-7668.	3.3	40
59	Exploring the function of bacterial chemotaxis. Current Opinion in Microbiology, 2018, 45, 16-21.	2.3	40
60	Codon Usage Domains over Bacterial Chromosomes. PLoS Computational Biology, 2006, 2, e37.	1.5	38
61	Large-scale dynamo produced by negative magnetic eddy diffusivities. Geophysical and Astrophysical Fluid Dynamics, 1999, 91, 131-146.	0.4	35
62	Olfactory Sensing and Navigation in Turbulent Environments. Annual Review of Condensed Matter Physics, 2022, 13, 191-213.	5.2	35
63	Stieltjes integral representation of effective diffusivities in time-dependent flows. Physical Review E, 1995, 52, 3249-3251.	0.8	34
64	Shear effects on passive scalar spectra. Journal of Fluid Mechanics, 2005, 523, 99-108.	1.4	34
65	The viscoelastic Kolmogorov flow: eddy viscosity and linear stability. Journal of Fluid Mechanics, 2005, 523, 161-170.	1.4	34
66	Structures and Intermittency in a Passive Scalar Model. Physical Review Letters, 1997, 79, 1849-1852.	2.9	30
67	Nonlinear dynamics of the viscoelastic Kolmogorov flow. Journal of Fluid Mechanics, 2007, 590, 61-80.	1.4	29
68	On the Hydrodynamic Behaviour of the Lattice Boltzmann Equation. Europhysics Letters, 1990, 13, 411-416.	0.7	27
69	Turbulence Modelling by Nonhydrodynamic Variables. Europhysics Letters, 1990, 13, 727-732.	0.7	25
70	Active versus Passive Scalar Turbulence. Physical Review Letters, 2002, 89, 234502.	2.9	25
71	Molecular and Functional Aspects of Bacterial Chemotaxis. Journal of Statistical Physics, 2011, 144, 219-240.	0.5	24
72	The Role of Adaptation in Bacterial Speed Races. PLoS Computational Biology, 2016, 12, e1004974.	1.5	24

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73	Universal Decay of Scalar Turbulence. Physical Review Letters, 2001, 86, 2305-2308.	2.9	22
74	Interference between turbulent and molecular diffusion. Europhysics Letters, 1997, 37, 535-540.	0.7	21
75	A mechanism for hunchback promoters to readout morphogenetic positional information in less than a minute. ELife, 2020, 9, .	2.8	21
76	Optimal wavelet analysis and its application to two-dimensional turbulence. Fluid Dynamics Research, 1991, 8, 117-126.	0.6	20
77	Waves in Embryonic Development. Annual Review of Biophysics, 2022, 51, 327-353.	4.5	19
78	Somatosensory neurons integrate the geometry of skin deformation and mechanotransduction channels to shape touch sensing. ELife, 2019, 8, .	2.8	14
79	Message-passing algorithms for the prediction of protein domain interactions from proteinâ€“protein interaction data. Bioinformatics, 2008, 24, 2064-2070.	1.8	13
80	Repulsion and Metabolic Switches in the Collective Behavior of Bacterial Colonies. Biophysical Journal, 2009, 97, 688-698.	0.2	13
81	Sector search strategies for odor trail tracking. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	11
82	Nonlinearity, Fluctuations, and Response in Sensory Systems. Physical Review Letters, 2012, 108, 258102.	2.9	10
83	Cullin-5 mutants reveal collective sensing of the nucleocytoplasmic ratio in Drosophila embryogenesis. Current Biology, 2022, 32, 2084-2092.e4.	1.8	10
84	Infomax Strategies for an Optimal Balance Between Exploration and Exploitation. Journal of Statistical Physics, 2016, 163, 1454-1476.	0.5	9
85	Progressive recruitment of distal MEC-4 channels determines touch response strength in C. elegans. Journal of General Physiology, 2019, 151, 1213-1230.	0.9	9
86	Escape rates in hamiltonian systems. Journal of Statistical Physics, 1997, 89, 549-560.	0.5	8
87	Cooperative evolution in protein complexes of yeast from comparative analyses of its interaction network. Proteomics, 2005, 5, 3116-3119.	1.3	8
88	Chiral Non-Linearities in Forced 2D Navier-Stokes Flows. Europhysics Letters, 1993, 24, 41-45.	0.7	7
89	Transcription factor concentrations versus binding site affinities in the yeast S. cerevisiae. Physical Biology, 2007, 4, 134-143.	0.8	6
90	A suite of neurophotonic tools to underpin the contribution of internal brain states in fMRI. Current Opinion in Biomedical Engineering, 2021, 18, 100273.	1.8	6

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91	Partial Screening in Dense Lattice-Configuration Suspensions. Physical Review Letters, 1999, 83, 3414-3417.	2.9	5
92	Slow-down of nonlinearity in 2-D Navier-Stokes flow. Physica D: Nonlinear Phenomena, 1994, 76, 291-296.	1.3	4
93	Multiscaling transformation in dynamical systems and turbulence. Physica A: Statistical Mechanics and Its Applications, 1992, 185, 174-180.	1.2	3
94	Odorant Receptor Inhibition is Fundamental to Odor Encoding. SSRN Electronic Journal, 0, , .	0.4	3
95	Decision-making at a T-junction by gradient-sensing microscopic agents. Physical Review Fluids, 2020, 5, .	1.0	3
96	Vorticity selection in large-scale two-dimensional flow. Europhysics Letters, 1996, 36, 367-372.	0.7	2
97	The lattice Boltzmann equation for turbulence. Nuclear Physics, Section B, Proceedings Supplements, 1990, 17, 708-711.	0.5	1
98	Non-conservative character of the intersection of self-similar cascades. Physica A: Statistical Mechanics and Its Applications, 1991, 174, 425-437.	1.2	1
99	Theory of feedback controlled brain stimulations for Parkinsonâ€™s disease. Physica A: Statistical Mechanics and Its Applications, 2016, 441, 121-130.	1.2	1
100	Large-Scale Dynamics in Burgers Equation. Journal De Physique II, 1996, 6, 1841-1849.	0.9	1