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	Olfactory Sensing and Navigation in Turbulent Environments. Annual Review of Condensed Matter Physics, 2022, 13, 191-213.	5.2	35
2	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
3	Waves in Embryonic Development. Annual Review of Biophysics, 2022, 51, 327-353.	4.5	19
4	Cullin-5 mutants reveal collective sensing of the nucleocytoplasmic ratio in Drosophila embryogenesis. Current Biology, 2022, 32, 2084-2092.e4.	1.8	10
5	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
6	Odorant Receptor Inhibition Is Fundamental to Odor Encoding. Current Biology, 2020, 30, 2574-2587.e6.	1.8	110
7	Antagonistic odor interactions in olfactory sensory neurons are widespread in freely breathing mice. Nature Communications, 2020, 11, 3350.	5.8	51
8	A mechanism for hunchback promoters to readout morphogenetic positional information in less than a minute. ELife, 2020, 9, .	2.8	21
9	Decision-making at a T-junction by gradient-sensing microscopic agents. Physical Review Fluids, 2020, 5, .	1.0	3
10	Chemotaxis as a navigation strategy to boost range expansion. Nature, 2019, 575, 658-663.	13.7	108
11	Self-Organized Nuclear Positioning Synchronizes the Cell Cycle in Drosophila Embryos. Cell, 2019, 177, 925-941.e17.	13.5	99
12	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
13	Somatosensory neurons integrate the geometry of skin deformation and mechanotransduction channels to shape touch sensing. ELife, 2019, 8, .	2.8	14
14	Exploring the function of bacterial chemotaxis. Current Opinion in Microbiology, 2018, 45, 16-21.	2.3	40
15	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
16	Glider soaring via reinforcement learning in the field. Nature, 2018, 562, 236-239.	13.7	104
17	Antagonism in olfactory receptor neurons and its implications for the perception of odor mixtures. ELife, 2018, 7, .	2.8	72
18	The Role of Adaptation in Bacterial Speed Races. PLoS Computational Biology, 2016, 12, e1004974.	1.5	24

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19	Infomax Strategies for an Optimal Balance Between Exploration and Exploitation. Journal of Statistical Physics, 2016, 163, 1454-1476.	0.5	9
20	Waves of Cdk1 Activity in S Phase Synchronize the Cell Cycle in Drosophila Embryos. Developmental Cell, 2016, 38, 399-412.	3.1	124
21	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
22	Theory of feedback controlled brain stimulations for Parkinsonâ€™s disease. Physica A: Statistical Mechanics and Its Applications, 2016, 441, 121-130.	1.2	1
23	The Impact of Environmental Fluctuations on Evolutionary Fitness Functions. Scientific Reports, 2015, 5, 15211.	1.6	73
24	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
25	T Cells Integrate Local and Global Cues to Discriminate between Structurally Similar Antigens. Cell Reports, 2015, 11, 1208-1219.	2.9	62
26	Cell-Size Control and Homeostasis in Bacteria. Current Biology, 2015, 25, 385-391.	1.8	632
27	Odor Landscapes in Turbulent Environments. Physical Review X, 2014, 4, .	2.8	93
28	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
29	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
30	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
31	Nonlinearity, Fluctuations, and Response in Sensory Systems. Physical Review Letters, 2012, 108, 258102.	2.9	10
32	Statistical Distribution of Quantum Entanglement forÂaÂRandom Bipartite State. Journal of Statistical Physics, 2011, 142, 403-438.	0.5	87
33	Molecular and Functional Aspects of Bacterial Chemotaxis. Journal of Statistical Physics, 2011, 144, 219-240.	0.5	24
34	Phase Transitions in the Distribution of Bipartite Entanglement of a Random Pure State. Physical Review Letters, 2010, 104, 110501.	2.9	82
35	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
36	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

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37	The Listeria transcriptional landscape from saprophytism to virulence. Nature, 2009, 459, 950-956.	13.7	841
38	Repulsion and Metabolic Switches in the Collective Behavior of Bacterial Colonies. Biophysical Journal, 2009, 97, 688-698.	0.2	13
39	Chasing information to search in random environments. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 434009.	0.7	53
40	Large Deviations of the Maximum Eigenvalue for Wishart and Gaussian Random Matrices. Physical Review Letters, 2009, 102, 060601.	2.9	100
41	Message-passing algorithms for the prediction of protein domain interactions from proteinâ€“protein interaction data. Bioinformatics, 2008, 24, 2064-2070.	1.8	13
42	Identification of new noncoding RNAs in Listeria monocytogenes and prediction of mRNA targets. Nucleic Acids Research, 2007, 35, 962-974.	6.5	220
43	Causes for the intriguing presence of tRNAs in phages. Genome Research, 2007, 17, 1486-1495.	2.4	312
44	Transcription factor concentrations versus binding site affinities in the yeast S. cerevisiae. Physical Biology, 2007, 4, 134-143.	0.8	6
45	Nonlinear dynamics of the viscoelastic Kolmogorov flow. Journal of Fluid Mechanics, 2007, 590, 61-80.	1.4	29
46	â€˜Infotaxisâ€™ as a strategy for searching without gradients. Nature, 2007, 445, 406-409.	13.7	653
47	Highly Variable Rates of Genome Rearrangements between Hemiascomycetous Yeast Lineages. PLoS Genetics, 2006, 2, e32.	1.5	94
48	Codon Usage Domains over Bacterial Chromosomes. PLoS Computational Biology, 2006, 2, e37.	1.5	38
49	VirR, a response regulator critical forListeria monocytogenesvirulence. Molecular Microbiology, 2005, 57, 1367-1380.	1.2	184
50	Cooperative evolution in protein complexes of yeast from comparative analyses of its interaction network. Proteomics, 2005, 5, 3116-3119.	1.3	8
51	Shear effects on passive scalar spectra. Journal of Fluid Mechanics, 2005, 523, 99-108.	1.4	34
52	The viscoelastic Kolmogorov flow: eddy viscosity and linear stability. Journal of Fluid Mechanics, 2005, 523, 161-170.	1.4	34
53	An evolutionary and functional assessment of regulatory network motifs. Genome Biology, 2005, 6, R35.	13.9	112
54	DNA Macroarray for Identification and Typing of Staphylococcus aureus Isolates. Journal of Clinical Microbiology, 2004, 42, 2054-2064.	1.8	41

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55	Active and passive fields face to face. New Journal of Physics, 2004, 6, 72-72.	1.2	64
56	CovS/CovR of group B streptococcus: a two-component global regulatory system involved in virulence. Molecular Microbiology, 2004, 54, 1250-1268.	1.2	185
57	Lagrangian Dispersion in Gaussian Self-Similar Velocity Ensembles. Journal of Statistical Physics, 2003, 113, 643-692.	0.5	51
58	Active versus Passive Scalar Turbulence. Physical Review Letters, 2002, 89, 234502.	2.9	25
59	Scaling and Universality in Turbulent Convection. Physical Review Letters, 2002, 88, 054503.	2.9	48
60	Computational detection of genomic cis-regulatory modules applied to body patterning in the early Drosophila embryo. BMC Bioinformatics, 2002, 3, 30.	1.2	194
61	Particles and fields in fluid turbulence. Reviews of Modern Physics, 2001, 73, 913-975.	16.4	1,079
62	Isotropy vs anisotropy in small-scale turbulence. Physics of Fluids, 2001, 13, 2139-2141.	1.6	53
63	Statistical Conservation Laws in Turbulent Transport. Physical Review Letters, 2001, 87, 164502.	2.9	42
64	Universal Decay of Scalar Turbulence. Physical Review Letters, 2001, 86, 2305-2308.	2.9	22
65	Statistical Geometry in Scalar Turbulence. Physical Review Letters, 2001, 86, 424-427.	2.9	74
66	Phase transition in the passive scalar advection. Physica D: Nonlinear Phenomena, 2000, 138, 63-90.	1.3	117
67	Universality and Saturation of Intermittency in Passive Scalar Turbulence. Physical Review Letters, 2000, 84, 2385-2388.	2.9	103
68	Inverse energy cascade in two-dimensional turbulence: Deviations from Gaussian behavior. Physical Review E, 2000, 61, R29-R32.	0.8	191
69	Large-scale dynamo produced by negative magnetic eddy diffusivities. Geophysical and Astrophysical Fluid Dynamics, 1999, 91, 131-146.	0.4	35
70	Partial Screening in Dense Lattice-Configuration Suspensions. Physical Review Letters, 1999, 83, 3414-3417.	2.9	5
71	Small-Scale Turbulent Dynamo. Physical Review Letters, 1999, 83, 4065-4068.	2.9	83
72	Inverse versus Direct Cascades in Turbulent Advection. Physical Review Letters, 1998, 80, 512-515.	2.9	49

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73	Intermittency in Passive Scalar Advection. Physical Review Letters, 1998, 80, 5532-5535.	2.9	110
74	Interference between turbulent and molecular diffusion. Europhysics Letters, 1997, 37, 535-540.	0.7	21
75	Structures and Intermittency in a Passive Scalar Model. Physical Review Letters, 1997, 79, 1849-1852.	2.9	30
76	Inverse cascade and intermittency of passive scalar in one-dimensional smooth flow. Physical Review E, 1997, 56, 5483-5499.	0.8	41
77	Escape rates in hamiltonian systems. Journal of Statistical Physics, 1997, 89, 549-560.	0.5	8
78	Scalar transport in compressible flow. Physica D: Nonlinear Phenomena, 1997, 106, 148-166.	1.3	49
79	Anomalous scaling for passively advected magnetic fields. Physical Review E, 1996, 53, R3021-R3024.	0.8	97
80	Vorticity selection in large-scale two-dimensional flow. Europhysics Letters, 1996, 36, 367-372.	0.7	2
81	Large-Scale Dynamics in Burgers Equation. Journal De Physique II, 1996, 6, 1841-1849.	0.9	1
82	Stieltjes integral representation of effective diffusivities in time-dependent flows. Physical Review E, 1995, 52, 3249-3251.	0.8	34
83	Slow-down of nonlinearity in 2-D Navier-Stokes flow. Physica D: Nonlinear Phenomena, 1994, 76, 291-296.	1.3	4
84	A fast Legendre transform algorithm and applications to the adhesion model. Journal of Scientific Computing, 1994, 9, 259-281.	1.1	42
85	Negative eddy viscosity in isotropically forced two-dimensional flow: linear and nonlinear dynamics. Journal of Fluid Mechanics, 1994, 260, 95-126.	1.4	91
86	A random process for the construction of multiaffine fields. Physica D: Nonlinear Phenomena, 1993, 65, 352-358.	1.3	105
87	Chiral Non-Linearities in Forced 2D Navier-Stokes Flows. Europhysics Letters, 1993, 24, 41-45.	0.7	7
88	Further results on multifractality in shell models. Physics of Fluids A, Fluid Dynamics, 1993, 5, 2533-2538.	1.6	103
89	On the multifractal properties of the energy dissipation derived from turbulence data. Journal of Fluid Mechanics, 1992, 238, 467-486.	1.4	76
90	Multiscaling transformation in dynamical systems and turbulence. Physica A: Statistical Mechanics and Its Applications, 1992, 185, 174-180.	1.2	3

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91	The lattice Boltzmann equation: theory and applications. Physics Reports, 1992, 222, 145-197.	10.3	1,789
92	Lattice Boltzmann scheme for two-dimensional magnetohydrodynamics. Physical Review A, 1991, 43, 4521-4524.	1.0	47
93	Non-conservative character of the intersection of self-similar cascades. Physica A: Statistical Mechanics and Its Applications, 1991, 174, 425-437.	1.2	1
94	Wavelet transforms of self-similar processes. Physica D: Nonlinear Phenomena, 1991, 54, 58-64.	1.3	47
95	Optimal wavelet analysis and its application to two-dimensional turbulence. Fluid Dynamics Research, 1991, 8, 117-126.	0.6	20
96	Multifractality in the statistics of the velocity gradients in turbulence. Physical Review Letters, 1991, 67, 2299-2302.	2.9	128
97	The lattice Boltzmann equation for turbulence. Nuclear Physics, Section B, Proceedings Supplements, 1990, 17, 708-711.	0.5	1
98	On the Hydrodynamic Behaviour of the Lattice Boltzmann Equation. Europhysics Letters, 1990, 13, 411-416.	0.7	27
99	Turbulence Modelling by Nonhydrodynamic Variables. Europhysics Letters, 1990, 13, 727-732.	0.7	25
100	Odorant Receptor Inhibition is Fundamental to Odor Encoding. SSRN Electronic Journal, 0, , .	0.4	3