

# Gregory Falkovich

## List of Publications by Year in descending order

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149  
papers

8,607  
citations

61984

43  
h-index

45317

90  
g-index

159  
all docs

159  
docs citations

159  
times ranked

3826  
citing authors

#	ARTICLE	IF	CITATIONS
1	Emerging scale invariance in a model of turbulence of vortices and waves. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2022, 380, 20210080.	3.4	2
2	Direct observation of vortices in an electron fluid. Nature, 2022, 607, 74-80.	27.8	33
3	Entropic characterization of the coil-stretch transition of polymers in random flows. Physical Review E, 2021, 103, 033107.	2.1	1
4	Turbulence of Capillary Waves on Shallow Water. Fluids, 2021, 6, 185.	1.7	1
5	Fibonacci Turbulence. Physical Review X, 2021, 11, .	8.9	9
6	Second-harmonic generation as a minimal model of turbulence. Physical Review E, 2021, 104, 014129.	2.1	4
7	Singular Measures and Information Capacity of Turbulent Cascades. Physical Review Letters, 2020, 125, 104501.	7.8	15
8	Light transport and vortex-supported wave-guiding in micro-structured optical fibres. Scientific Reports, 2020, 10, 2507.	3.3	33
9	Freely Flowing Currents and Electric Field Expulsion in Viscous Electronics. Physical Review Letters, 2019, 123, 026801.	7.8	23
10	Confinement of surface spinners in liquid metamaterials. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 25424-25429.	7.1	6
11	Alternating currents and shear waves in viscous electronics. Physical Review B, 2018, 97, .	3.2	16
12	Particle Collisions and Negative Nonlocal Response of Ballistic Electrons. Physical Review Letters, 2018, 121, 176805.	7.8	33
13	Turbulence Appearance and Nonappearance in Thin Fluid Layers. Physical Review Letters, 2018, 121, 164501.	7.8	12
14	Fluidity onset in graphene. Nature Communications, 2018, 9, 4533.	12.8	136
15	Precise measurements of torque in von Karman swirling flow driven by a bladed disk. Journal of Turbulence, 2018, 19, 647-663.	1.4	2
16	Higher-than-ballistic conduction of viscous electron flows. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 3068-3073.	7.1	165
17	Superballistic flow of viscous electron fluid through graphene constrictions. Nature Physics, 2017, 13, 1182-1185.	16.7	288
18	Linking Spatial Distributions of Potential and Current in Viscous Electronics. Physical Review Letters, 2017, 119, 066601.	7.8	53

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19	Introduction to Focus Issue: Two-Dimensional Turbulence. <i>Physics of Fluids</i> , 2017, 29, .	4.0	17
20	Jets or vortices—What flows are generated by an inverse turbulent cascade?. <i>Physical Review Fluids</i> , 2017, 2, .	2.5	37
21	How vortices and shocks provide for a flux loop in two-dimensional compressible turbulence. <i>Physical Review Fluids</i> , 2017, 2, .	2.5	14
22	Interaction between mean flow and turbulence in two dimensions. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2016, 472, 20160287.	2.1	16
23	Inelastic collapse and near-wall localization of randomly accelerated particles. <i>Physical Review E</i> , 2016, 93, 052206.	2.1	3
24	Particle Dispersion in the Neutral Atmospheric Surface Layer. <i>Boundary-Layer Meteorology</i> , 2016, 159, 23-40.	2.3	7
25	Electron viscosity, current vortices and negative nonlocal resistance in graphene. <i>Nature Physics</i> , 2016, 12, 672-676.	16.7	270
26	Phase transitions in the distribution of inelastically colliding inertial particles. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2016, 49, 035102.	2.1	2
27	Operator product expansion and multi-point correlations in turbulent energy cascades. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2015, 48, 18FT02.	2.1	6
28	Wave kinetics of random fibre lasers. <i>Nature Communications</i> , 2015, 6, 6214.	12.8	112
29	Conservation law of turbulent dispersion. <i>Journal of Plasma Physics</i> , 2015, 81, .	2.1	1
30	Cascades in nonlocal turbulence. <i>Physical Review E</i> , 2015, 91, 041201.	2.1	12
31	Time irreversibility of the statistics of a single particle in compressible turbulence. <i>Physical Review E</i> , 2015, 91, 043022.	2.1	11
32	Universal Profile of the Vortex Condensate in Two-Dimensional Turbulence. <i>Physical Review Letters</i> , 2014, 113, 254503.	7.8	61
33	Redistribution of Kinetic Energy in Turbulent Flows. <i>Physical Review X</i> , 2014, 4, .	8.9	14
34	Flight—crash events in turbulence. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 7558-7563.	7.1	72
35	Generation and reversal of surface flows by propagating waves. <i>Nature Physics</i> , 2014, 10, 658-663.	16.7	44
36	Turbulence on Hyperbolic Plane: The Fate of Inverse Cascade. <i>Journal of Statistical Physics</i> , 2014, 156, 10-54.	1.2	11

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37	New Type of Anomaly in Turbulence. <i>Physical Review Letters</i> , 2014, 113, 024501.	7.8	7
38	Localization-Delocalization Transitions in Turbophoresis of Inertial Particles. <i>Physical Review Letters</i> , 2014, 112, 234502.	7.8	22
39	Single Flow Snapshot Reveals the Future and the Past of Pairs of Particles in Turbulence. <i>Physical Review Letters</i> , 2013, 110, 214502.	7.8	21
40	The laminar-turbulent transition in a fibre laser. <i>Nature Photonics</i> , 2013, 7, 783-786.	31.4	177
41	Oscillations in a turbulence-condensate system. <i>Physical Review E</i> , 2013, 87, 065202.	2.1	8
42	Optical turbulence and spectral condensate in long fibre lasers. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2012, 468, 2496-2508.	2.1	25
43	On Lagrangian single-particle statistics. <i>Physics of Fluids</i> , 2012, 24, 055102.	4.0	46
44	Flux correlations in supersonic isothermal turbulence. <i>Journal of Fluid Mechanics</i> , 2012, 713, 482-490.	3.4	28
45	Phase transitions in wave turbulence. <i>Physical Review E</i> , 2012, 85, 010101.	2.1	18
46	Fractal Iso-Contours of Passive Scalar in Two-Dimensional Smooth Random Flows. <i>Journal of Statistical Physics</i> , 2012, 147, 424-435.	1.2	2
47	Vorticity statistics in the direct cascade of two-dimensional turbulence. <i>Physical Review E</i> , 2011, 83, 045301.	2.1	20
48	Upscale energy transfer in thick turbulent fluid layers. <i>Nature Physics</i> , 2011, 7, 321-324.	16.7	139
49	Optical turbulence and spectral condensate in fibre lasers. , 2011, , .		1
50	Turbulence in fluid layers. <i>Journal of Physics: Conference Series</i> , 2011, 318, 012001.	0.4	2
51	New relations for correlation functions in Navier-Stokes turbulence. <i>Journal of Fluid Mechanics</i> , 2010, 644, 465-472.	3.4	55
52	Xia et al. Reply. <i>Physical Review Letters</i> , 2009, 102, .	7.8	5
53	Optical turbulence and spectral condensate in long-fiber lasers. <i>Physical Review A</i> , 2009, 80, .	2.5	50
54	Symmetries of the turbulent state. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2009, 42, 123001.	2.1	39

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55	Spectrally condensed turbulence in thin layers. <i>Physics of Fluids</i> , 2009, 21, .	4.0	99
56	Could waves mix the ocean?. <i>Journal of Fluid Mechanics</i> , 2009, 638, 1-4.	3.4	20
57	Evolution of non-uniformly seeded warm clouds in idealized turbulent conditions. <i>New Journal of Physics</i> , 2008, 10, 075019.	2.9	8
58	Fluctuation relations in simple examples of non-equilibrium steady states. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2008, 2008, P08005.	2.3	83
59	Turbulence-Condensate Interaction in Two Dimensions. <i>Physical Review Letters</i> , 2008, 101, 194504.	7.8	69
60	Gregory Falkovich. Introduction to turbulence theory. , 2008, , 1-43.		3
61	Krzysztof Gawłdzki. Soluble models of turbulent transport. , 2008, , 44-107.		5
62	Non-equilibrium Statistical Mechanics and Turbulence. , 2008, , .		61
63	Cascade and scaling. <i>Scholarpedia Journal</i> , 2008, 3, 6088.	0.3	3
64	Focus on Cloud Physics. <i>New Journal of Physics</i> , 2008, 10, 075012.	2.9	0
65	Sling Effect in Collisions of Water Droplets in Turbulent Clouds. <i>Journals of the Atmospheric Sciences</i> , 2007, 64, 4497-4505.	1.7	128
66	Suppression of Turbulence by Self-Generated and Imposed Mean Flows. <i>Physical Review Letters</i> , 2007, 99, 164502.	7.8	54
67	Clustering of matter in waves and currents. <i>Physical Review E</i> , 2007, 75, 065301.	2.1	15
68	Inverse Turbulent Cascades and Conformally Invariant Curves. <i>Physical Review Letters</i> , 2007, 98, 024501.	7.8	80
69	Lagrangian and Eulerian descriptions of inertial particles in random flows. <i>Journal of Turbulence</i> , 2007, 8, N16.	1.4	28
70	Conformal invariance in hydrodynamic turbulence. <i>Russian Mathematical Surveys</i> , 2007, 62, 497-510.	0.6	14
71	Fluid-particle separation in a random flow described by the telegraph model. <i>Physical Review E</i> , 2007, 76, 026312.	2.1	3
72	Inertial particles driven by a telegraph noise. <i>Physical Review E</i> , 2007, 76, 026313.	2.1	15

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73	Nodal patterns of floaters in surface waves. <i>European Physical Journal: Special Topics</i> , 2007, 145, 125-136.	2.6	13
74	Nodal lines in turbulence. <i>European Physical Journal: Special Topics</i> , 2007, 145, 211-216.	2.6	1
75	Conformal invariance in two-dimensional turbulence. , 2007, , 164-166.		0
76	Lagrangian Dispersion (Passive Scalar). , 2006, , 255-260.		0
77	Rain Initiation Time in Turbulent Warm Clouds. <i>Journal of Applied Meteorology and Climatology</i> , 2006, 45, 591-599.	1.5	14
78	Lessons from hydrodynamic turbulence. <i>Physics Today</i> , 2006, 59, 43-49.	0.3	170
79	Averaging operators in turbulence. <i>Physics Today</i> , 2006, 59, 17-17.	0.3	1
80	Conformal invariance in two-dimensional turbulence. <i>Nature Physics</i> , 2006, 2, 124-128.	16.7	154
81	Clustering of Floating Particles by Surface Waves. <i>Journal of Low Temperature Physics</i> , 2006, 145, 297-310.	1.4	2
82	How Waves Affect the Distribution of Particles that Float on a Liquid Surface. <i>Physical Review Letters</i> , 2006, 97, 244501.	7.8	30
83	Introduction to Developed Turbulence. <i>World Scientific Lecture Notes in Complex Systems</i> , 2006, , 1-20.	0.1	5
84	Droplet condensation in turbulent flows. <i>Europhysics Letters</i> , 2005, 70, 775-781.	2.0	50
85	Floater clustering in a standing wave. <i>Nature</i> , 2005, 435, 1045-1046.	27.8	69
86	Anomalous Scaling of a Passive Scalar in Turbulence and in Equilibrium. <i>Physical Review Letters</i> , 2005, 94, 214502.	7.8	23
87	Evolution of a passive scalar spectrum in the flow of random waves. <i>Physical Review E</i> , 2005, 71, 067304.	2.1	1
88	Growth of Density Inhomogeneities in a Flow of Wave Turbulence. <i>Physical Review Letters</i> , 2004, 92, 244504.	7.8	19
89	Intermittent distribution of heavy particles in a turbulent flow. <i>Physics of Fluids</i> , 2004, 16, L47-L50.	4.0	116
90	Non-Gaussian error probability in optical soliton transmission. <i>Physica D: Nonlinear Phenomena</i> , 2004, 195, 1-28.	2.8	21

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91	Entropy production and extraction in dynamical systems and turbulence. <i>New Journal of Physics</i> , 2004, 6, 50-50.	2.9	36
92	Statistics of Turbulence-Induced Fluctuations of Particle Concentration. , 2003, , 155-158.		7
93	Stationary spectrum of vorticity cascade in two-dimensional turbulence. <i>Physical Review E</i> , 2002, 65, 056305.	2.1	37
94	Role of interaction in causing errors in optical soliton transmission. <i>Optics Letters</i> , 2002, 27, 13.	3.3	12
95	Acceleration of rain initiation by cloud turbulence. <i>Nature</i> , 2002, 419, 151-154.	27.8	533
96	Particles and fields in fluid turbulence. <i>Reviews of Modern Physics</i> , 2001, 73, 913-975.	45.6	1,079
97	Statistics of soliton-bearing systems with additive noise. <i>Physical Review E</i> , 2001, 63, 025601.	2.1	63
98	Statistics of interacting optical solitons. <i>Physical Review E</i> , 2001, 64, 067602.	2.1	12
99	Intermittent Distribution of Inertial Particles in Turbulent Flows. <i>Physical Review Letters</i> , 2001, 86, 2790-2793.	7.8	300
100	Lagrangian Description of Turbulence. , 2001, , 505-554.		0
101	Feedback of a small-scale magnetic dynamo. <i>Physical Review E</i> , 2000, 63, 016408.	2.1	2
102	Small-Scale Turbulent Dynamo. <i>Physical Review Letters</i> , 1999, 83, 4065-4068.	7.8	83
103	Large-scale properties of passive scalar advection. <i>Physics of Fluids</i> , 1999, 11, 2269-2279.	4.0	14
104	Universal and nonuniversal properties of the passive scalar statistics. , 1999, , 419-426.		1
105	Particle dispersion in a multidimensional random flow with arbitrary temporal correlations. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1998, 249, 36-46.	2.6	8
106	Two complementary descriptions of intermittency. <i>Physical Review E</i> , 1998, 57, R1231-R1234.	2.1	13
107	Intermittent Dissipation of a Passive Scalar in Turbulence. <i>Physical Review Letters</i> , 1998, 80, 2121-2124.	7.8	60
108	Three-point correlation function of a scalar mixed by an almost smooth random velocity field. <i>Physical Review E</i> , 1997, 55, R4881-R4884.	2.1	17

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109	Single-Point Velocity Distribution in Turbulence. <i>Physical Review Letters</i> , 1997, 79, 4159-4161.	7.8	35
110	Viscous Instanton for Burgers' Turbulence. <i>International Journal of Modern Physics B</i> , 1997, 11, 3223-3245.	2.0	8
111	Intermittency of Burgers' Turbulence. <i>Physical Review Letters</i> , 1997, 78, 1452-1455.	7.8	108
112	Instantons and intermittency. <i>Physical Review E</i> , 1996, 54, 4896-4907.	2.1	142
113	Anomalous Scaling Exponents of a White-Advection Passive Scalar. <i>Physical Review Letters</i> , 1996, 76, 2706-2709.	7.8	128
114	Two-dimensional acoustic turbulence. <i>Physical Review E</i> , 1996, 54, 4431-4434.	2.1	13
115	Nonuniversality of the Scaling Exponents of a Passive Scalar Convected by a Random Flow. <i>Physical Review Letters</i> , 1996, 76, 3707-3710.	7.8	47
116	Condensate turbulence in two dimensions. <i>Physical Review E</i> , 1996, 54, 5095-5099.	2.1	28
117	Comment on "Exact Results on Scaling Exponents in the 2D Enstrophy Cascade". <i>Physical Review Letters</i> , 1996, 76, 1974-1974.	7.8	3
118	THEORY OF RANDOM ADVECTION IN TWO DIMENSIONS. <i>International Journal of Modern Physics B</i> , 1996, 10, 2273-2309.	2.0	4
119	Anomalous Scaling Exponents of a Passive Scalar Advection by Turbulence. <i>Fluid Mechanics and Its Applications</i> , 1996, , 577-580.	0.2	0
120	Universal direct cascade in two-dimensional turbulence. <i>World Scientific Series in 20th Century Physics</i> , 1996, , 516-532.	0.0	0
121	Joint behavior of inertio-gravity and Rossby waves. <i>Physica D: Nonlinear Phenomena</i> , 1995, 87, 285-289.	2.8	3
122	Isotropic and anisotropic turbulence in Clebsch variables. <i>Chaos, Solitons and Fractals</i> , 1995, 5, 1855-1869.	5.1	10
123	Two stages of decay turbulence of capillary waves. <i>International Journal of Non-Linear Mechanics</i> , 1995, 30, 609-616.	2.6	0
124	Normal and anomalous scaling of the fourth-order correlation function of a randomly advected passive scalar. <i>Physical Review E</i> , 1995, 52, 4924-4941.	2.1	249
125	Large-scale properties of wave turbulence. <i>Physical Review E</i> , 1995, 52, 4537-4540.	2.1	14
126	Statistics of a passive scalar advected by a large-scale two-dimensional velocity field: Analytic solution. <i>Physical Review E</i> , 1995, 51, 5609-5627.	2.1	132



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127	Decay Turbulence of Capillary Waves. Europhysics Letters, 1995, 29, 1-6.	2.0	11
128	Nonlinear interaction between long inertio-gravity and rossby waves. Nonlinear Processes in Geophysics, 1994, 1, 168-171.	1.3	14
129	Turbulence with an infinite number of conservation laws. Physical Review E, 1994, 49, 2468-2471.	2.1	9
130	Nonlocal vorticity cascade in two dimensions. Physical Review E, 1994, 49, R1800-R1803.	2.1	53
131	Universal direct cascade in two-dimensional turbulence. Physical Review E, 1994, 50, 3883-3899.	2.1	56
132	Structural instability of two-dimensional turbulence. Physica D: Nonlinear Phenomena, 1994, 78, 11-29.	2.8	0
133	Bottleneck phenomenon in developed turbulence. Physics of Fluids, 1994, 6, 1411-1414.	4.0	261
134	Is 2D turbulence a conformal turbulence?. Physical Review Letters, 1993, 71, 3454-3457.	7.8	10
135	Collective modes in open systems of nonlinear random waves. Physical Review B, 1993, 48, 9855-9857.	3.2	3
136	Kolmogorov-like Spectrum for Turbulence of Inertial-Gravity Waves. Europhysics Letters, 1992, 19, 279-284.	2.0	25
137	Counterbalanced interaction locality of developed hydrodynamic turbulence. Physical Review A, 1992, 46, 4762-4772.	2.5	22
138	Inverse cascade and wave condensate in mesoscale atmospheric turbulence. Physical Review Letters, 1992, 69, 3173-3176.	7.8	32
139	Kolmogorov spectra of Langmuir and optical turbulence. Physics of Fluids B, 1992, 4, 594-598.	1.7	6
140	Nonlocal angular instability of a Kolmogorov-like wave turbulence spectrum. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 168, 127-132.	2.1	1
141	Conservation laws and two-flux spectra of hydrodynamic convective turbulence. Physica D: Nonlinear Phenomena, 1992, 57, 85-95.	2.8	63
142	Kolmogorov Spectra of Turbulence I. Springer Series in Nonlinear Dynamics, 1992, , .	0.2	927
143	Nonstationary wave turbulence. Journal of Nonlinear Science, 1991, 1, 457-480.	2.1	42
144	On the stability of Kolmogorov spectra of a weak turbulence. Physica D: Nonlinear Phenomena, 1987, 27, 399-411.	2.8	4

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145	On the stability of nonlinear waves in integrable models. Physica D: Nonlinear Phenomena, 1984, 10, 379-386.	2.8	47
146	Destruction of stationary solutions and collapse in the nonlinear string equation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1983, 99, 271-274.	2.1	33
147	On the stability of a self-similar solution in the burgers equation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1981, 86, 203-204.	2.1	13
148	The Russian school. , 0, , 209-237.		6
149	Clustering and Mixing of Floating Particles by Surface Waves. , 0, , 257-267.		0