Daniel H Rothman

List of Publications by Year
in descending order

67 papers	7,759 citations	101384 36 h-index	95083 68 g-index
70 all docs	70 docs citations	70 times ranked	6059 citing authors

#	Article	IF	Citations
1	The Balance of Nature: A Global Marine Perspective. Annual Review of Marine Science, 2022, 14, 49-73.	5.1	4
2	Oxidative metabolisms catalyzed Earthâ€™s oxygenation. Nature Communications, 2022, 13, 1328.	5.8	17
3	Rate-induced collapse in evolutionary systems. Journal of the Royal Society Interface, 2022, 19, .	1.5	2
4	Asymmetry of extreme Cenozoic climateâ€"carbon cycle events. Science Advances, 2021, 7, .	4.7	5
5	Routes to global glaciation. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20200303.	1.0	12
6	Characteristic disruptions of an excitable carbon cycle. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 14813-14822.	3.3	27
7	Mineral protection regulates long-term global preservation of natural organic carbon. Nature, 2019, 570, 228-231.	13.7	354
8	Shapes of river networks. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20180081.	1.0	17
9	Climate's watermark in the geometry of stream networks. Geophysical Research Letters, 2017, 44, 2272-2280.	1.5	79
10	Thresholds of catastrophe in the Earth system. Science Advances, 2017, 3, e1700906.	4.7	68
11	Symmetric rearrangement of groundwater-fed streams. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2017, 473, 20170539.	1.0	4
12	Technical note: An inverse method to relate organic carbon reactivity to isotope composition from serial oxidation. Biogeosciences, 2017, 14, 5099-5114.	1.3	36
13	Path selection in the growth of rivers. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14132-14137.	3.3	49
14	Earthâ€™s carbon cycle: A mathematical perspective. Bulletin of the American Mathematical Society, 2014, 52, 47-64.	0.8	21
15	Hidden cycle of dissolved organic carbon in the deep ocean. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 16706-16711.	3.3	136
16	Methanogenic burst in the end-Permian carbon cycle. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 5462-5467.	3.3	126
17	Carbon transit through degradation networks. Ecological Monographs, 2014, 84, 109-129.	2.4	4
18	Age dependence of mineral dissolution and precipitation rates. Global Biogeochemical Cycles, 2013, 27, 906-919.	1.9	26

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19	Bifurcation dynamics of natural drainage networks. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20120365.	1.6	56
20	Common structure in the heterogeneity of plant-matter decay. Journal of the Royal Society Interface, 2012, 9, 2255-2267.	1.5	37
21	Ramification of stream networks. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 20832-20836.	3.3	104
22	Calibrating the End-Permian Mass Extinction. Science, 2011, 334, 1367-1372.	6.0	648
23	Reactionâ€"diffusion model of nutrient uptake in a biofilm: Theory and experiment. Journal of Theoretical Biology, 2011, 289, 90-95.	0.8	32
24	Random channel kinetics for reactionâ€"diffusion systems. Physica D: Nonlinear Phenomena, 2010, 239, 739-745.	1.3	4
25	Biophysical basis for the geometry of conical stromatolites. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 9956-9961.	3.3	76
26	Clay mineralogy, organic carbon burial, and redox evolution in Proterozoic oceans. Geochimica Et Cosmochimica Acta, 2010, 74, 1579-1592.	1.6	94
27	Growth laws for channel networks incised byÂgroundwater flow. Nature Geoscience, 2009, 2, 193-196.	5.4	88
28	Erosion of a granular bed driven by laminar fluid flow. Journal of Fluid Mechanics, 2008, 605, 47-58.	1.4	58
29	Physical Model for the Decay and Preservation of Marine Organic Carbon. Science, 2007, 316, 1325-1328.	6.0	114
30	Scaling of Dynamic Contact Angles in a Lattice-Boltzmann Model. Physical Review Letters, 2007, 98, 254503.	2.9	49
31	Spontaneous channelization in permeable ground: theory, experiment, and observation. Journal of Fluid Mechanics, 2004, 503, 357-374.	1.4	94
32	Scale-dependence of resource-biodiversity relationships. Journal of Theoretical Biology, 2003, 225, 205-214.	0.8	9
33	Dynamics of the Neoproterozoic carbon cycle. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 8124-8129.	3.3	493
34	Drainage basins and channel incision on Mars. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 1780-1783.	3.3	96
35	Atmospheric carbon dioxide levels for the last 500 million years. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 4167-4171.	3.3	111
36	Scaling, Universality, and Geomorphology. Annual Review of Earth and Planetary Sciences, 2000, 28, 571-610.	4.6	252

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37	Unified view of scaling laws for river networks. Physical Review E, 1999, 59, 4865-4877.	0.8	104
38	Critical behavior in flow through a rough-walled channel. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 255, 31-36.	0.9	19
39	Scaling of a Slope: The Erosion of Tilted Landscapes. Journal of Statistical Physics, 1998, 93, 477-500.	0.5	25
40	Oscillons, spiral waves, and stripes in a model of vibrated sand. Physical Review E, 1998, 57, R1239-R1242.	0.8	40
41	Stochastic Equation for the Erosion of Inclined Topography. Physical Review Letters, 1998, 80, 4349-4352.	2.9	28
42	Transport properties and diagenesis in sedimentary rocks: The role of micro-scale geometry. Geology, 1997, 25, 547.	2.0	18
43	Two-fluid flow in sedimentary rock: simulation, transport and complexity. Journal of Fluid Mechanics, 1997, 341, 343-370.	1.4	51
44	An abiotic model for stromatolite morphogenesis. Nature, 1996, 383, 423-425.	13.7	385
45	Fluctuating hydrodynamic interfaces: Theory and simulation. Physical Review E, 1996, 53, 1622-1643.	0.8	26
46	MACROSCOPIC MANIFESTATIONS OF MICROSCOPIC FLOWS THROUGH POROUS MEDIA: Phenomenology from Simulation. Annual Review of Earth and Planetary Sciences, 1996, 24, 63-87.	4.6	46
47	Simulating three-dimensional hydrodynamics on a cellular automata machine. Journal of Statistical Physics, 1995, 81, 105-128.	0.5	20
48	Phase separation in a three-dimensional, two-phase, hydrodynamic lattice gas. Journal of Statistical Physics, 1995, 81, 181-197.	0.5	31
49	Three-dimensional immiscible lattice gas: Application to sheared phase separation. Journal of Statistical Physics, 1995, 81, 199-222.	0.5	24
50	Fluctuating Fluid Interfaces. Physical Review Letters, 1995, 75, 260-263.	2.9	36
51	Lattice-gas models of phase separation: interfaces, phase transitions, and multiphase flow. Reviews of Modern Physics, 1994, 66, 1417-1479.	16.4	272
52	Surface tension and interface fluctuations in immiscible lattice gases. Journal De Physique, I, 1994, 4, 29-46.	1.2	21
53	Nonâ€Newtonian flow (through porous media): A latticeâ€Boltzmann method. Geophysical Research Letters, 1993, 20, 679-682.	1.5	125
54	Lattice-gas and lattice-Boltzmann models of miscible fluids. Journal of Statistical Physics, 1992, 68, 409-429.	0.5	39

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55	Lattice Boltzmann model of immiscible fluids. Physical Review A, 1991, 43, 4320-4327.	1.0	1,293
56	A lattice-gas model for three immiscible fluids. Physica D: Nonlinear Phenomena, 1991, 47, 47-52.	1.3	32
57	A liquid-gas model on a lattice. Physica D: Nonlinear Phenomena, 1991, 47, 85-96.	1.3	30
58	A Galilean-invariant immiscible lattice gas. Physica D: Nonlinear Phenomena, 1991, 47, 53-63.	1.3	36
59	Deformation, growth, and order in sheared spinodal decomposition. Physical Review Letters, 1990, 65, 3305-3308.	2.9	34
60	The permeability of a random medium: Comparison of simulation with theory. Physics of Fluids A, Fluid Dynamics, 1990, 2, 2085-2088.	1.6	168
61	Negative-viscosity lattice gases. Journal of Statistical Physics, 1989, 56, 517-524.	0.5	21
62	Immiscible cellular-automaton fluids. Journal of Statistical Physics, 1988, 52, 1119-1127.	0.5	554
63	Cellularâ€automaton fluids: A model for flow in porous media. Geophysics, 1988, 53, 509-518.	1.4	273
64	Modeling seismic <i>P</i>â€Waves with cellular automata. Geophysical Research Letters, 1987, 14, 17-20.	1.5	30
65	Automatic estimation of large residual statics corrections. Geophysics, 1986, 51, 332-346.	1.4	248
66	Residual migration: Applications and limitations. Geophysics, 1985, 50, 110-126.	1.4	75
67	Nonlinear inversion, statistical mechanics, and residual statics estimation. Geophysics, 1985, 50, 2784-2796.	1.4	248