HernÃ¡n A Makse

List of Publications by Year
in descending order

131 papers	15,125 citations	34076 52 h-index	18115 120 g-index
135 all docs	135 docs citations	135 times ranked	10067 citing authors

#	Article	IF	Citations
1	Radiologist-Level Performance by Using Deep Learning for Segmentation of Breast Cancers on MRI Scans. Radiology: Artificial Intelligence, 2022, 4, e200231.	3.0	16
2	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>K</mml:mi></mml:math> -core analysis of shear-thickening suspensions. Physical Review Fluids, 2022, 7, .	1.0	6
3	Fast algorithm to identify minimal patterns of synchrony through fibration symmetries in large directed networks. Chaos, 2022, 32, 033120.	1.0	2
4	Matryoshka and disjoint cluster synchronization of networks. Chaos, 2022, 32, 041101.	1.0	8
5	Digital contact tracing and network theory to stop the spread of COVID-19 using big-data on human mobility geolocalization. PLoS Computational Biology, 2022, 18, e1009865.	1.5	16
6	Symmetry-driven network reconstruction through pseudobalanced coloring optimization. Journal of Statistical Mechanics: Theory and Experiment, 2022, 2022, 073403.	0.9	2
7	Monolingual and bilingual language networks in healthy subjects using functional MRI and graph theory. Scientific Reports, 2021, 11, 10568.	1.6	6
8	Predicting synchronized gene coexpression patterns from fibration symmetries in gene regulatory networks in bacteria. BMC Bioinformatics, 2021, 22, 363.	1.2	4
9	Why polls fail to predict elections. Journal of Big Data, 2021, 8, .	6.9	8
10	Eye-tracking as a proxy for coherence and complexity of texts. PLoS ONE, 2021, 16, e0260236.	1.1	5
11	Influencer identification in dynamical complex systems. Journal of Complex Networks, 2020, 8, cnz029.	1.1	27
12	Predicting dengue outbreaks at neighbourhood level using human mobility in urban areas. Journal of the Royal Society Interface, 2020, 17, 20200691.	1.5	34
13	Circuits with broken fibration symmetries perform core logic computations in biological networks. PLoS Computational Biology, 2020, 16, e1007776.	1.5	6
14	K-core robustness in ecological and financial networks. Scientific Reports, 2020, 10, 3357.	1.6	17
15	Diversity increases the stability of ecosystems. PLoS ONE, 2020, 15, e0228692.	1.1	18
16	Fibration symmetries uncover the building blocks of biological networks. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 8306-8314.	3.3	18
17	Core language brain network for fMRI language task used in clinical applications. Network Neuroscience, 2020, 4, 134-154.	1.4	21
18	Functional Translocation of Broca's Area in a Low-Grade Left Frontal Glioma: Graph Theory Reveals the Novel, Adaptive Network Connectivity. Frontiers in Neurology, 2019, 10, 702.	1.1	37

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19	Symmetry group factorization reveals the structure-function relation in the neural connectome of Caenorhabditis elegans. Nature Communications, 2019, 10, 4961.	5.8	20
20	How the Brain Transitions from Conscious to Subliminal Perception. Neuroscience, 2019, 411, 280-290.	1.1	19
21	Influence of fake news in Twitter during the 2016 US presidential election. Nature Communications, 2019, 10, 7.	5.8	494
22	The jamming transition is a k-core percolation transition. Physica A: Statistical Mechanics and Its Applications, 2019, 516, 172-177.	1.2	19
23	The k-core as a predictor of structural collapse in mutualistic ecosystems. Nature Physics, 2019, 15, 95-102.	6.5	100
24	Edwards statistical mechanics for jammed granular matter. Reviews of Modern Physics, 2018, 90, .	16.4	135
25	High-resolution of particle contacts via fluorophore exclusion in deep-imaging of jammed colloidal packings. Physica A: Statistical Mechanics and Its Applications, 2018, 490, 1387-1395.	1.2	6
26	The price of a vote: Diseconomy in proportional elections. PLoS ONE, 2018, 13, e0201654.	1.1	10
27	Validation of Twitter opinion trends with national polling aggregates: Hillary Clinton vs Donald Trump. Scientific Reports, 2018, 8, 8673.	1.6	61
28	Maintaining trust when agents can engage in self-deception. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 8728-8733.	3.3	6
29	A worldwide model for boundaries of urban settlements. Royal Society Open Science, 2018, 5, 180468.	1.1	13
30	Finding influential nodes for integration in brain networks using optimal percolation theory. Nature Communications, 2018, 9, 2274.	5.8	77
31	Inference and control of the nosocomial transmission of methicillin-resistant Staphylococcus aureus. ELife, 2018, 7, .	2.8	36
32	Inferring personal economic status from social network location. Nature Communications, 2017, 8, 15227.	5.8	54
33	Equation of state for random sphere packings with arbitrary adhesion and friction. Soft Matter, 2017, 13, 421-427.	1.2	34
34	Efficient collective influence maximization in cascading processes with first-order transitions. Scientific Reports, 2017, 7, 45240.	1.6	50
35	Model of brain activation predicts the neural collective influence map of the brain. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 3849-3854.	3.3	53
36	Emergence of robustness in networks of networks. Physical Review E, 2017, 95, 062308.	0.8	7

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37	Collective Behaviour in Video Viewing: A Thermodynamic Analysis of Gaze Position. PLoS ONE, 2017, 12, e0168995.	1.1	8
38	Collective Influence Algorithm to find influencers via optimal percolation in massively large social media. Scientific Reports, 2016, 6, 30062.	1.6	141
39	Collective Influence of Multiple Spreaders Evaluated by Tracing Real Information Flow in Large-Scale Social Networks. Scientific Reports, 2016, 6, 36043.	1.6	45
40	Effect of long-range repulsive Coulomb interactions on packing structure of adhesive particles. Soft Matter, 2016, 12, 1836-1846.	1.2	40
41	Density of states in granular media in the presence of damping. Physical Review E, 2015, 91, 062208.	0.8	4
42	How does public opinion become extreme?. Scientific Reports, 2015, 5, 10032.	1.6	70
43	Exploring the Complex Pattern of Information Spreading in Online Blog Communities. PLoS ONE, 2015, 10, e0126894.	1.1	45
44	Finding Influential Spreaders from Human Activity beyond Network Location. PLoS ONE, 2015, 10, e0136831.	1.1	14
45	Adhesive loose packings of small dry particles. Soft Matter, 2015, 11, 6492-6498.	1.2	55
46	Influence maximization in complex networks through optimal percolation. Nature, 2015, 524, 65-68.	13.7	822
47	Large cities are less green. Scientific Reports, 2014, 4, 4235.	1.6	108
48	Conditions for Viral Influence Spreading through Multiplex Correlated Social Networks. Physical Review X, 2014, 4, .	2.8	38
49	Statistical Signs of Social Influence on Suicides. Scientific Reports, 2014, 4, 6239.	1.6	24
50	Cavity method for force transmission in jammed disordered packings of hard particles. Soft Matter, 2014, 10, 7379.	1.2	13
51	Structural Properties of Dense Hard Sphere Packings. Journal of Physical Chemistry B, 2014, 118, 10761-10766.	1.2	33
52	Avoiding catastrophic failure in correlated networks of networks. Nature Physics, 2014, 10, 762-767.	6.5	219
53	Statistical theory of correlations in random packings of hard particles. Physical Review E, 2014, 89, 052207.	0.8	11
54	Fundamental challenges in packing problems: from spherical to non-spherical particles. Soft Matter, 2014, 10, 4423.	1.2	115

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55	Stress-dependent normal-mode frequencies from the effective mass of granular matter. Physical Review E, 2014, 89, 062202.	0.8	4
56	Frequency-dependent attenuation and elasticity in unconsolidated earth materials: Effect of damping. Geophysics, 2014, 79, L41-L49.	1.4	6
57	Searching for superspreaders of information in real-world social media. Scientific Reports, 2014, 4, 5547.	1.6	290
58	Mean-field theory of random close packings of axisymmetric particles. Nature Communications, 2013, 4, 2194.	5.8	129
59	Spreading dynamics in complex networks. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P12002.	0.9	182
60	Calculation of the Voronoi boundary for lens-shaped particles and spherocylinders. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P11009.	0.9	3
61	The Evolutionary Dynamics of Protein-Protein Interaction Networks Inferred from the Reconstruction of Ancient Networks. PLoS ONE, 2013, 8, e58134.	1.1	47
62	IMDB Network Revisited: Unveiling Fractal and Modular Properties from a Typical Small-World Network. PLoS ONE, 2013, 8, e66443.	1.1	22
63	The Conundrum of Functional Brain Networks: Small-World Efficiency or Fractal Modularity. Frontiers in Physiology, 2012, 3, 123.	1.3	83
64	Edwards thermodynamics of the jamming transition for frictionless packings: Ergodicity test and role of angoricity and compactivity. Physical Review E, 2012, 86, 011305.	0.8	26
65	A small world of weak ties provides optimal global integration of self-similar modules in functional brain networks. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 2825-2830.	3.3	331
66	Collective behavior in the spatial spreading of obesity. Scientific Reports, 2012, 2, 454.	1.6	50
67	How People Interact in Evolving Online Affiliation Networks. Physical Review X, 2012, 2, .	2.8	33
68	The Area and Population of Cities: New Insights from a Different Perspective on Cities. American Economic Review, 2011, 101, 2205-2225.	4.0	287
69	Jamming II: Edwardsâ€™ statistical mechanics of random packings of hard spheres. Physica A: Statistical Mechanics and Its Applications, 2011, 390, 427-455.	1.2	29
70	Distribution of volumes and coordination numbers in jammed matter: mesoscopic ensemble. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P12005.	0.9	10
71	Small-World to Fractal Transition in Complex Networks: A Renormalization Group Approach. Physical Review Letters, 2010, 104, 025701.	2.9	121
72	Jamming in two-dimensional packings. Physica A: Statistical Mechanics and Its Applications, 2010, 389, 5137-5144.	1.2	37

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73	From force distribution to average coordination number in frictional granular matter. Physica A: Statistical Mechanics and Its Applications, 2010, 389, 3972-3977.	1.2	12
74	Jamming III: Characterizing randomness via the entropy of jammed matter. Physica A: Statistical Mechanics and Its Applications, 2010, 389, 3978-3999.	1.2	14
75	Jamming I: A volume function for jammed matter. Physica A: Statistical Mechanics and Its Applications, 2010, 389, 4497-4509.	1.2	15
76	A first-order phase transition defines the random close packing of hard spheres. Physica A: Statistical Mechanics and Its Applications, 2010, 389, 5362-5379.	1.2	86
77	Modularity map of the network of human cell differentiation. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 5750-5755.	3.3	40
78	Theory of random packings. , 2010, , .		3
79	Identification of influential spreaders in complex networks. Nature Physics, 2010, 6, 888-893.	6.5	2,386
80	Angoricity and compactivity describe the jamming transition in soft particulate matter. Europhysics Letters, 2010, 91, 68001.	0.7	15
81	Energy-landscape network approach to the glass transition. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 105101.	0.7	17
82	Fractality and the percolation transition in complex networks. Chemical Engineering Science, 2009, 64, 4572-4575.	1.9	12
83	Scaling laws of human interaction activity. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 12640-12645.	3.3	207
84	A phase diagram for jammed matter. Nature, 2008, 453, 629-632.	13.7	787
85	Laws of population growth. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 18702-18707.	3.3	299
86	Entropy of Jammed Matter. Physical Review Letters, 2008, 101, 188001.	2.9	52
87	Scaling of Degree Correlations and Its Influence on Diffusion in Scale-Free Networks. Physical Review Letters, 2008, 100, 248701.	2.9	70
88	Particle dynamics and effective temperature of jammed granular matter in a slowly sheared three-dimensional Couette cell. Physical Review E, 2008, 77, 061309.	0.8	36
89	Scaling theory of transport in complex biological networks. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 7746-7751.	3.3	170
90	How to calculate the fractal dimension of a complex network: the box covering algorithm. Journal of Statistical Mechanics: Theory and Experiment, 2007, 2007, P03006-P03006.	0.9	252

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91	Measuring the Coordination Number and Entropy of a 3D Jammed Emulsion Packing by Confocal Microscopy. Physical Review Letters, 2007, 98, 248001.	2.9	73
92	A review of fractality and self-similarity in complex networks. Physica A: Statistical Mechanics and Its Applications, 2007, 386, 686-691.	1.2	138
93	Origins of fractality in the growth of complex networks. Nature Physics, 2006, 2, 275-281.	6.5	512
94	Dynamic particle tracking reveals the ageing temperature of a colloidal glass. Nature Physics, 2006, 2, 526-531.	6.5	61
95	Self-similarity of complex networks. Nature, 2005, 433, 392-395.	13.7	1,196
96	Experimental measurement of an effective temperature for jammed granular materials. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 2299-2304.	3.3	89
97	Experimental and computational studies of jamming. Journal of Physics Condensed Matter, 2005, 17, S2755-S2770.	0.7	2
98	Granular Dynamics in Compaction and Stress Relaxation. Physical Review Letters, 2005, 95, 128001.	2.9	62
99	Surface shape of two-dimensional granular piles. Journal of Statistical Mechanics: Theory and Experiment, 2004, 2004, P003-P003.	0.9	0
100	Granular packings: Nonlinear elasticity, sound propagation, and collective relaxation dynamics. Physical Review E, 2004, 70, 061302.	0.8	241
101	A thermodynamic approach to slowly sheared granular matter. Physica A: Statistical Mechanics and Its Applications, 2003, 330, 83-90.	1.2	8
102	Measuring the distribution of interdroplet forces in a compressed emulsion system. Physica A: Statistical Mechanics and Its Applications, 2003, 327, 201-212.	1.2	99
103	3D bulk measurements of the force distribution in a compressed emulsion system. Faraday Discussions, 2003, 123, 207-220.	1.6	114
104	Nonlinear Elasticity and Thermodynamics of Granular Materials. , 2003, , 203-213.		0
105	Testing the thermodynamic approach to granular matter with a numerical model of a decisive experiment. Nature, 2002, 415, 614-617.	13.7	284
106	NONLINEAR ELASTICITY AND THERMODYNAMICS OF GRANULAR MATERIALS. International Journal of Modeling, Simulation, and Scientific Computing, 2001, 04, 491-501.	0.9	1
107	Nonlinear elasticity of granular media. Physica B: Condensed Matter, 2000, 279, 134-138.	1.3	21
108	Tracer dispersion in a percolation network with spatial correlations. Physical Review E, 2000, 61, 583-586.	0.8	61

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109	Packing of Compressible Granular Materials. Physical Review Letters, 2000, 84, 4160-4163.	2.9	352
110	Mechanisms of granular spontaneous stratification and segregation in two-dimensional silos. Physical Review E, 1999, 59, 4408-4421.	0.8	54
111	Continuous Avalanche Segregation of Granular Mixtures in Thin Rotating Drums. Physical Review Letters, 1999, 83, 3186-3189.	2.9	56
112	Percolation phenomena: a broad-brush introduction with some recent applications to porous media, liquid water, and city growth. Physica A: Statistical Mechanics and Its Applications, 1999, 266, 5-16.	1.2	52
113	Why Effective Medium Theory Fails in Granular Materials. Physical Review Letters, 1999, 83, 5070-5073.	2.9	254
114	Modeling stratification in two-dimensional sandpiles. Physica A: Statistical Mechanics and Its Applications, 1998, 249, 391-396.	1.2	8
115	Comment on â€œKinetic Roughening in Slow Combustion of Paperâ€• Physical Review Letters, 1998, 80, 5706-5706.	2.9	9
116	Modeling urban growth patterns with correlated percolation. Physical Review E, 1998, 58, 7054-7062.	0.8	205
117	Dynamics of granular stratification. Physical Review E, 1998, 58, 3357-3367.	0.8	74
118	Stratification instability in granular flows. Physical Review E, 1997, 56, 7008-7016.	0.8	43
119	Possible Stratification Mechanism in Granular Mixtures. Physical Review Letters, 1997, 78, 3298-3301.	2.9	100
120	Spontaneous stratification in granular mixtures. Nature, 1997, 386, 379-382.	13.7	335
121	Power laws for cities. Physics World, 1997, 10, 22-23.	0.0	2
122	Pattern formation in sedimentary rocks: Connectivity, permeability, and spatial correlations. Physica A: Statistical Mechanics and Its Applications, 1996, 233, 587-605.	1.2	25
123	Noisy Kuramoto-Sivashinsky equation for an erosion model. Physical Review E, 1996, 54, 3577-3580.	0.8	71
124	Long-range correlations in permeability fluctuations in porous rock. Physical Review E, 1996, 54, 3129-3134.	0.8	32
125	Method for generating long-range correlations for large systems. Physical Review E, 1996, 53, 5445-5449.	0.8	355
126	Elastic string in a random medium. Physical Review E, 1996, 53, 6573-6576.	0.8	1

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127	Modelling urban growth patterns. Nature, 1995, 377, 608-612.	13.7	392
128	Novel method for generating long-range correlations. Chaos, Solitons and Fractals, 1995, 6, 295-303.	2.5	21
129	Scaling properties of driven interfaces in disordered media. Physical Review E, 1995, 52, 4087-4104.	0.8	82
130	Singularities and avalanches in interface growth with quenched disorder. Physical Review E, 1995, 52, 4080-4086.	0.8	6
131	Stochastic Model for Surface Erosion via Ion Sputtering: Dynamical Evolution from Ripple Morphology to Rough Morphology. Physical Review Letters, 1995, 75, 4464-4467.	2.9	179