Yang Jiao

List of Publications by Year in descending order

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104	3,235	147566	174990
papers	citations	31 h-index	52 g-index

107	107	107	2800
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Hyperuniformity of expected equilibrium density distributions of Brownian particles via designer external potentials. Physica A: Statistical Mechanics and Its Applications, 2022, 585, 126435.	1.2	6
2	Robust Bicontinuous Elastomerâ€“Metal Foam Composites with Highly Tunable Stiffness. Advanced Engineering Materials, 2022, 24, .	1.6	8
3	Quantifying microstructural evolution via time-dependent reduced-dimension metrics based on hierarchical <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math> -point polytope functions. Physical Review E, 2022, 105, 025306.	0.8	9
4	Correlation-function-based microstructure design of alloy-polymer composites for dynamic dry adhesion tuning in soft gripping. Journal of Applied Physics, 2022, 131, .	1.1	6
5	Data-driven learning of 3-point correlation functions as microstructure representations. Acta Materialia, 2022, 229, 117800.	3.8	8
6	Ultraefficient reconstruction of effectively hyperuniform disordered biphase materials via non-Gaussian random fields. Physical Review E, 2022, 105, 045305.	0.8	4
7	Efficient high-dimensional material reliability analysis with explicit voxel-level stochastic microstructure representation. Applied Mathematical Modelling, 2021, 91, 1117-1140.	2.2	7
8	Ultra-efficient reconstruction of 3D microstructure and distribution of properties of random heterogeneous materials containing multiple phases. Acta Materialia, 2021, 204, 116526.	3.8	26
9	Robust Threeâ€Component Elastomerâ€“Particleâ€“Fiber Composites with Tunable Properties for Soft Robotics. Advanced Intelligent Systems, 2021, 3, 2000166.	3.3	19
10	Wall to particle bed contact conduction heat transfer in a rotary drum using DEM. Computational Particle Mechanics, 2021, 8, 589-599.	1.5	13
11	Doubleâ€Layered Supramolecular Prisms Selfâ€Assembled by Geometrically Nonâ€equivalent Tetratopic Subunits. Angewandte Chemie, 2021, 133, 1318-1325.	1.6	8
12	Doubleâ€Layered Supramolecular Prisms Selfâ€Assembled by Geometrically Nonâ€equivalent Tetratopic Subunits. Angewandte Chemie - International Edition, 2021, 60, 1298-1305.	7.2	31
13	Biological gel-based microchamber array for tumor cell proliferation and migration studies in well-controlled biochemical gradients. Lab on A Chip, 2021, 21, 3004-3018.	3.1	4
14	Dynamically Reâ€Organized Collagen Fiber Bundles Transmit Mechanical Signals and Induce Strongly Correlated Cell Migration and Selfâ€Organization. Angewandte Chemie - International Edition, 2021, 60, 11858-11867.	7.2	25
15	Dynamically Reâ€Organized Collagen Fiber Bundles Transmit Mechanical Signals and Induce Strongly Correlated Cell Migration and Selfâ€Organization. Angewandte Chemie, 2021, 133, 11965-11974.	1.6	0
16	Hierarchical Self-Assembly of Nanowires on the Surface by Metallo-Supramolecular Truncated Cuboctahedra. Journal of the American Chemical Society, 2021, 143, 5826-5835.	6.6	53
17	Deriving time-varying cellular motility parameters via wavelet analysis. Physical Biology, 2021, 18, 046007.	0.8	2
18	Frontispiz: Dynamically Reâ€Organized Collagen Fiber Bundles Transmit Mechanical Signals and Induce Strongly Correlated Cell Migration and Selfâ€Organization. Angewandte Chemie, 2021, 133, .	1.6	0

#	ARTICLE	IF	CITATIONS
19	Frontispiece: Dynamically Reâ€Organized Collagen Fiber Bundles Transmit Mechanical Signals and Induce Strongly Correlated Cell Migration and Selfâ€Organization. Angewandte Chemie - International Edition, 2021, 60, .	7.2	1
20	Phase-field modeling and n-point polytope characterization of nanostructured protuberances formed during vapor-deposition of phase-separating alloy films. Journal of Applied Physics, 2021, 129, 245301.	1.1	4
21	Shannon entropy for time-varying persistence of cell migration. Biophysical Journal, 2021, 120, 2552-2565.	0.2	10
22	Topological transformations in hyperuniform pentagonal two-dimensional materials induced by Stone-Wales defects. Physical Review B, 2021, 103, .	1.1	7
23	Nearly hyperuniform, nonhyperuniform, and antihyperuniform density fluctuations in two-dimensional transition metal dichalcogenides with defects. Physical Review B, 2021, 103, .	1.1	12
24	Universality of jammed frictional packing. Physical Review Research, 2021, 3, .	1.3	4
25	Nonlinear dynamics of cell migration in anisotropic microenvironment*. Chinese Physics B, 2021, 30, 090505.	0.7	3
26	Stoneâ€“Wales defects preserve hyperuniformity in amorphous two-dimensional networks. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	28
27	Topological defects, inherent structures, and hyperuniformity. Physical Review B, 2021, 104, .	1.1	4
28	Abnormal Aggregation of Invasive Cancer Cells Induced by Collective Polarization and ECM-Mediated Mechanical Coupling in Coculture Systems. Research, 2021, 2021, 9893131.	2.8	2
29	Morphological quantification of proliferation-to-invasion transition in tumor spheroids. Biochimica Et Biophysica Acta - General Subjects, 2020, 1864, 129460.	1.1	5
30	Predicting maximally random jammed packing density of non-spherical hard particles via analytical continuation of fluid equation of state. Physical Chemistry Chemical Physics, 2020, 22, 22635-22644.	1.3	3
31	Modeling multicellular dynamics regulated by extracellular-matrix-mediated mechanical communication via active particles with polarized effective attraction. Physical Review E, 2020, 102, 052409.	0.8	8
32	Probing information content of hierarchical <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>n</mml:mi></mml:math> -point polytope functions for quantifying and reconstructing disordered systems. Physical Review E, 2020, 102, 013305.	0.8	11
33	Geometric Dependence of 3D Collective Cancer Invasion. Biophysical Journal, 2020, 118, 1177-1182.	0.2	27
34	Enhancing fatigue performance of damaged metallic structures by bonded CFRP patches considering temperature effects. Materials and Design, 2020, 192, 108731.	3.3	12
35	Disordered hyperuniformity in two-dimensional amorphous silica. Science Advances, 2020, 6, eaba0826.	4.7	35
36	Chord-length distributions cannot generally be obtained from small-angle scattering. Journal of Applied Crystallography, 2020, 53, 127-132.	1.9	7

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37	Absorbingâ€“active transition in a multi-cellular system regulated by a dynamic force network. Soft Matter, 2019, 15, 6938-6945.	1.2	12
38	Hierarchical n-point polytope functions for quantitative representation of complex heterogeneous materials and microstructural evolution. Acta Materialia, 2019, 179, 317-327.	3.8	20
39	Modeling cell migration regulated by cell extracellular-matrix micromechanical coupling. Physical Review E, 2019, 100, 043303.	0.8	33
40	Microstructural characterization and mechanical property prediction of a polymer matrix composite by X-ray synchrotron tomography and spatial correlation functions. SN Applied Sciences, 2019, 1, 1.	1.5	3
41	Enhanced comprehensive performance of bonding interface between CFRP and steel by a novel film adhesive. Composite Structures, 2019, 229, 111393.	3.1	29
42	Diversity of collective migration patterns of invasive breast cancer cells emerging during microtrack invasion. Physical Review E, 2019, 99, 062403.	0.8	7
43	Continuum percolation of congruent overlapping polyhedral particles: Finite-size-scaling analysis and renormalization-group method. Physical Review E, 2019, 99, 032107.	0.8	14
44	Novel inverse finite-element formulation for reconstruction of relative local stiffness in heterogeneous extra-cellular matrix and traction forces on active cells. Physical Biology, 2019, 16, 036002.	0.8	9
45	Effects of mechanical properties of adhesive and CFRP on the bond behavior in CFRP-strengthened steel structures. Composite Structures, 2019, 211, 163-174.	3.1	79
46	Multiple-inclusion model for the transport properties of porous composites considering coupled effects of pores and interphase around spheroidal particles. International Journal of Mechanical Sciences, 2019, 150, 610-616.	3.6	42
47	Theoretical framework for percolation threshold, tortuosity and transport properties of porous materials containing 3D non-spherical pores. International Journal of Engineering Science, 2019, 134, 31-46.	2.7	76
48	A hybrid finite-element and cellular-automaton framework for modeling 3D microstructure of Tiâ€“6Alâ€“4V alloy during solidâ€“solid phase transformation in additive manufacturing. Modelling and Simulation in Materials Science and Engineering, 2018, 26, 045011.	0.8	13
49	Direct extraction of spatial correlation functions from limited x-ray tomography data for microstructural quantification. Materials Characterization, 2018, 140, 265-274.	1.9	27
50	Realizations of highly heterogeneous collagen networks via stochastic reconstruction for micromechanical analysis of tumor cell invasion. Physical Review E, 2018, 97, 033311.	0.8	23
51	Accurate Reconstruction of Porous Materials via Stochastic Fusion of Limited Bimodal Microstructural Data. Transport in Porous Media, 2018, 125, 5-22.	1.2	17
52	Modeling three-dimensional invasive solid tumor growth in heterogeneous microenvironment under chemotherapy. PLoS ONE, 2018, 13, e0206292.	1.1	16
53	Hyperuniform flow fields resulting from hyperuniform configurations of circular disks. Physical Review E, 2018, 98, .	0.8	7
54	Higher-order correlation functions in disordered media: Computational algorithms and application to two-phase heterogeneous materials. Physical Review E, 2018, 98, .	0.8	22

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55	Improving direct physical properties prediction of heterogeneous materials from imaging data via convolutional neural network and a morphology-aware generative model. Computational Materials Science, 2018, 150, 212-221.	1.4	125
56	Classification of particle height in a hopper bin from limited discharge data using convolutional neural network models. Powder Technology, 2018, 339, 615-624.	2.1	8
57	Enhancing the physical modeling capability of open-source MFIX-DEM software for handling particle size polydispersity: Implementation and validation. Powder Technology, 2017, 317, 117-125.	2.1	12
58	Dense crystalline packings of ellipsoids. Physical Review E, 2017, 95, 033003.	0.8	16
59	Maximally dense random packings of cubes and cuboids via a novel inverse packing method. Soft Matter, 2017, 13, 748-757.	1.2	31
60	Microstructure and mechanical properties of hyperuniform heterogeneous materials. Physical Review E, 2017, 96, 043301.	0.8	36
61	A novel 3-D bio-microfluidic system mimicking in vivo heterogeneous tumour microstructures reveals complex tumourâ€“stroma interactions. Lab on A Chip, 2017, 17, 2852-2860.	3.1	26
62	Probing cooperative force generation in collective cancer invasion. Physical Biology, 2017, 14, 045005.	0.8	10
63	Microstructure Representation and Reconstruction of Heterogeneous Materials Via Deep Belief Network for Computational Material Design. Journal of Mechanical Design, Transactions of the ASME, 2017, 139, .	1.7	123
64	The effects of size, shape, and surface composition on the diffusive behaviors of nanoparticles at/across waterâ€“oil interfaces via molecular dynamics simulations. Journal of Nanoparticle Research, 2016, 18, 1.	0.8	6
65	Maximally dense random packings of spherocylinders. Powder Technology, 2016, 292, 176-185.	2.1	64
66	Stochastic Multi-Scale Reconstruction of 3D Microstructure Consisting of Polycrystalline Grains and Second-Phase Particles from 2D Micrographs. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 1440-1450.	1.1	30
67	Continuum percolation of congruent overlapping spherocylinders. Physical Review E, 2016, 94, 032122.	0.8	49
68	Oriented collagen fibers direct tumor cell intravasation. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 11208-11213.	3.3	279
69	Microstructural Quantification and Property Prediction Using Limited X-ray Tomography Data. Jom, 2016, 68, 2288-2295.	0.9	6
70	Accurate stochastic reconstruction of heterogeneous microstructures by limited xâ€ray tomographic projections. Journal of Microscopy, 2016, 264, 339-350.	0.8	17
71	Heterogeneous force network in 3D cellularized collagen networks. Physical Biology, 2016, 13, 066001.	0.8	49
72	Modeling morphology evolution and densification during solid-state sintering via kinetic Monte Carlo simulation. Modelling and Simulation in Materials Science and Engineering, 2016, 24, 085003.	0.8	13

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73	A novel discrete computational tool for microstructure-sensitive mechanical analysis of composite materials. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 659, 234-241.	2.6	21
74	Numerical investigation of microstructure effect on mechanical properties of bi-continuous and particulate reinforced composite materials. Computational Materials Science, 2016, 122, 288-294.	1.4	28
75	A nonlocal lattice particle model for fracture simulation of anisotropic materials. Composites Part B: Engineering, 2016, 90, 141-151.	5.9	38
76	Modeling solid-state sintering with externally applied pressure: a geometric force approach. AIMS Materials Science, 2016, 4, 75-88.	0.7	6
77	A Geometric-Structure Theory for Maximally Random Jammed Packings. Scientific Reports, 2015, 5, 16722.	1.6	17
78	Dynamic reconstruction of heterogeneous materials and microstructure evolution. Physical Review E, 2015, 92, 023301.	0.8	42
79	Enhanced Invasion of Metastatic Cancer Cells via Extracellular Matrix Interface. PLoS ONE, 2015, 10, e0118058.	1.1	44
80	Investigating the microstructural effect on elastic and fracture behavior of polycrystals using a nonlocal lattice particle model. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 631, 173-180.	2.6	31
81	The spatial-temporal characteristics of type I collagen-based extracellular matrix. Soft Matter, 2014, 10, 8855-8863.	1.2	42
82	Dense periodic packings of tori. Physical Review E, 2014, 89, 022133.	0.8	11
83	Avian photoreceptor patterns represent a disordered hyperuniform solution to a multiscale packing problem. Physical Review E, 2014, 89, 022721.	0.8	154
84	Modeling and characterizing anisotropic inclusion orientation in heterogeneous material via directional cluster functions and stochastic microstructure reconstruction. Journal of Applied Physics, 2014, 115, .	1.1	64
85	Accurate modeling and reconstruction of three-dimensional percolating filamentary microstructures from two-dimensional micrographs via dilation-erosion method. Materials Characterization, 2014, 89, 33-42.	1.9	63
86	A generalized 2D non-local lattice spring model for fracture simulation. Computational Mechanics, 2014, 54, 1541-1558.	2.2	81
87	Equilibrium Phase Behavior and Maximally Random Jammed State of Truncated Tetrahedra. Journal of Physical Chemistry B, 2014, 118, 7981-7992.	1.2	48
88	Reconstruction of heterogeneous materials via stochastic optimization of limited-angle X-ray tomographic projections. Scripta Materialia, 2014, 86, 48-51.	2.6	20
89	Three dimensional modeling of complex heterogeneous materials via statistical microstructural descriptors. Integrating Materials and Manufacturing Innovation, 2014, 3, 25-43.	1.2	14
90	A Cellular Automaton Model for Tumor Dormancy: Emergence of a Proliferative Switch. PLoS ONE, 2014, 9, e109934.	1.1	17

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91	Modeling and predicting microstructure evolution in lead/tin alloy via correlation functions and stochastic material reconstruction. Acta Materialia, 2013, 61, 3370-3377.	3.8	51
92	Evolution and morphology of microenvironment-enhanced malignancy of three-dimensional invasive solid tumors. Physical Review E, 2013, 87, 052707.	0.8	17
93	Maximally dense packings of two-dimensional convex and concave noncircular particles. Physical Review E, 2012, 86, 031302.	0.8	39
94	Quantitative characterization of the microstructure and transport properties of biopolymer networks. Physical Biology, 2012, 9, 036009.	0.8	40
95	Modeling Anisotropic Multiphase Heterogeneous Materials via Directional Correlation Functions: Simulations and Experimental Verification. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 4470-4474.	1.1	15
96	Diversity of dynamics and morphologies of invasive solid tumors. AIP Advances, 2012, 2, 11003.	0.6	20
97	Hyperuniformity, quasi-long-range correlations, and void-space constraints in maximally random jammed particle packings. II. Anisotropy in particle shape. Physical Review E, 2011, 83, 051309.	0.8	33
98	Hyperuniformity, quasi-long-range correlations, and void-space constraints in maximally random jammed particle packings. I. Polydisperse spheres. Physical Review E, 2011, 83, 051308.	0.8	51
99	Nonuniversality of density and disorder in jammed sphere packings. Journal of Applied Physics, 2011, 109, .	1.1	46
100	Hyperuniform Long-Range Correlations are a Signature of Disordered Jammed Hard-Particle Packings. Physical Review Letters, 2011, 106, 178001.	2.9	121
101	Spatial Organization and Correlations of Cell Nuclei in Brain Tumors. PLoS ONE, 2011, 6, e27323.	1.1	29
102	Maximally random jammed packings of Platonic solids: Hyperuniform long-range correlations and isostaticity. Physical Review E, 2011, 84, 041309.	0.8	136
103	Emergent Behaviors from a Cellular Automaton Model for Invasive Tumor Growth in Heterogeneous Microenvironments. PLoS Computational Biology, 2011, 7, e1002314.	1.5	94
104	Geometrical ambiguity of pair statistics. II. Heterogeneous media. Physical Review E, 2010, 82, 011106.	0.8	39