

# Majid Baniassadi

## List of Publications by Year in descending order

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116  
papers

1,995  
citations

257101

24  
h-index

329751

37  
g-index

119  
all docs

119  
docs citations

119  
times ranked

1491  
citing authors

#	ARTICLE	IF	CITATIONS
1	Modeling of two-phase random composite materials by finite element, Mori-Tanaka and strong contrast methods. <i>Composites Part B: Engineering</i> , 2013, 45, 1117-1125.	5.9	140
2	Three-phase solid oxide fuel cell anode microstructure realization using two-point correlation functions. <i>Acta Materialia</i> , 2011, 59, 30-43.	3.8	82
3	3-D microstructure reconstruction of polymer nano-composite using FIB-SEM and statistical correlation function. <i>Composites Science and Technology</i> , 2013, 80, 47-54.	3.8	71
4	3D microstructural reconstruction of heterogeneous materials from 2D cross sections: A modified phase-recovery algorithm. <i>Computational Materials Science</i> , 2016, 111, 107-115.	1.4	58
5	An interfacial debonding-induced damage model for graphite nanoplatelet polymer composites. <i>Computational Materials Science</i> , 2015, 96, 191-199.	1.4	46
6	Modeling and homogenization of shape memory polymer nanocomposites. <i>Composites Part B: Engineering</i> , 2016, 91, 36-43.	5.9	46
7	Assessment of controllable shape transformation, potential applications, and tensile shape memory properties of 3D printed PETG. <i>Journal of Materials Research and Technology</i> , 2022, 18, 4201-4215.	2.6	42
8	Mechanical and thermal behavior of nanoclay based polymer nanocomposites using statistical homogenization approach. <i>Composites Science and Technology</i> , 2011, 71, 1930-1935.	3.8	41
9	Three-dimensional reconstruction and homogenization of heterogeneous materials using statistical correlation functions and FEM. <i>Computational Materials Science</i> , 2012, 51, 372-379.	1.4	41
10	Surface modification of severe plastically deformed ultrafine grained pure titanium by plasma electrolytic oxidation. <i>Surface and Coatings Technology</i> , 2017, 316, 113-121.	2.2	40
11	Heat-treatment effects on dimensional stability and mechanical properties of 3D printed continuous carbon fiber-reinforced composites. <i>Composites Part A: Applied Science and Manufacturing</i> , 2021, 147, 106460.	3.8	39
12	On the directional elastic modulus of the TPMS structures and a novel hybridization method to control anisotropy. <i>Materials and Design</i> , 2021, 210, 110074.	3.3	39
13	Shape memory performance of PETG 4D printed parts under compression in cold, warm, and hot programming. <i>Smart Materials and Structures</i> , 2022, 31, 085002.	1.8	39
14	New approximate solution for N-point correlation functions for heterogeneous materials. <i>Journal of the Mechanics and Physics of Solids</i> , 2012, 60, 104-119.	2.3	37
15	Impedance analysis for condition monitoring of single lap CNT-epoxy adhesive joint. <i>International Journal of Adhesion and Adhesives</i> , 2019, 88, 59-65.	1.4	37
16	3D Reconstruction of Carbon Nanotube Composite Microstructure Using Correlation Functions. <i>Journal of Computational and Theoretical Nanoscience</i> , 2010, 7, 1462-1468.	0.4	36
17	Microstructure reconstruction and homogenization of porous Ni-YSZ composites for temperature dependent properties. <i>Journal of Power Sources</i> , 2013, 235, 74-80.	4.0	36
18	Numerical homogenization of coiled carbon nanotube reinforced shape memory polymer nanocomposites. <i>Smart Materials and Structures</i> , 2019, 28, 035026.	1.8	35

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19	Effective thermal and mechanical properties of short carbon fiber/natural rubber composites as a function of mechanical loading. <i>Applied Thermal Engineering</i> , 2017, 117, 8-16.	3.0	33
20	Insights into interphase thickness characterization for graphene/epoxy nanocomposites: a molecular dynamics simulation. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 19890-19903.	1.3	33
21	Microstructure Reconstruction and Characterization of the Porous GDLs for PEMFC Based on Fibers Orientation Distribution. <i>Fuel Cells</i> , 2018, 18, 160-172.	1.5	30
22	Contact angle hysteresis and motion behaviors of a water nano-droplet on suspended graphene under temperature gradient. <i>Physics of Fluids</i> , 2018, 30, .	1.6	30
23	Semi-inverse Monte Carlo reconstruction of two-phase heterogeneous material using two-point functions. <i>International Journal of Theoretical and Applied Multiscale Mechanics</i> , 2009, 1, 134.	0.5	27
24	Effect of nanofiller geometry on the energy absorption capability of coiled carbon nanotube composite material. <i>Composites Science and Technology</i> , 2017, 153, 222-231.	3.8	27
25	Computational analysis of vincristine loaded silk fibroin hydrogel for sustained drug delivery applications: Multiphysics modeling and experiments. <i>International Journal of Pharmaceutics</i> , 2021, 609, 121184.	2.6	27
26	Application of full set of two point correlation functions from a pair of 2D cut sections for 3D porous media reconstruction. <i>Journal of Petroleum Science and Engineering</i> , 2017, 149, 789-800.	2.1	26
27	Influence of bone microstructure distribution on developed mechanical energy for bone remodeling using a statistical reconstruction method. <i>Mathematics and Mechanics of Solids</i> , 2019, 24, 3027-3041.	1.5	26
28	Statistical continuum theory for the effective conductivity of carbon nanotubes filled polymer composites. <i>Thermochimica Acta</i> , 2011, 520, 33-37.	1.2	25
29	A modified strong-contrast expansion for estimating the effective thermal conductivity of multiphase heterogeneous materials. <i>Journal of Applied Physics</i> , 2012, 112, .	1.1	25
30	Microstructure, property and processing relation in gradient porous cathode of solid oxide fuel cells using statistical continuum mechanics. <i>Journal of Power Sources</i> , 2011, 196, 6325-6331.	4.0	22
31	Insight into Geometry-Controlled Mechanical Properties of Spiral Carbon-Based Nanostructures. <i>Journal of Physical Chemistry C</i> , 2019, 123, 3226-3238.	1.5	22
32	Numerical investigation of smart auxetic three-dimensional meta-structures based on shape memory polymers via topology optimization. <i>Journal of Intelligent Material Systems and Structures</i> , 2020, 31, 1838-1852.	1.4	22
33	Optimization of solid oxide fuel cell cathodes using two-point correlation functions. <i>Computational Materials Science</i> , 2016, 123, 268-276.	1.4	21
34	Efficient three-phase reconstruction of heterogeneous material from 2D cross-sections via phase-recovery algorithm. <i>Journal of Microscopy</i> , 2016, 264, 384-393.	0.8	20
35	AC and DC electrical behavior of MWCNT/epoxy nanocomposite near percolation threshold: Equivalent circuits and percolation limits. <i>Journal of Applied Physics</i> , 2018, 123, .	1.1	20
36	The effectiveness of different thresholding techniques in segmenting micro CT images of porous carbonates to estimate porosity. <i>Journal of Petroleum Science and Engineering</i> , 2019, 177, 518-527.	2.1	20

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37	Using SAXS approach to estimate thermal conductivity of polystyrene/zirconia nanocomposite by exploiting strong contrast technique. <i>Acta Materialia</i> , 2011, 59, 2742-2748.	3.8	19
38	Improving flame-retardant, thermal, and mechanical properties of an epoxy using halogen-free fillers. <i>Science and Engineering of Composite Materials</i> , 2018, 25, 939-946.	0.6	19
39	On finite bending of visco-hyperelastic materials: a novel analytical solution and FEM. <i>Acta Mechanica</i> , 2020, 231, 3435-3450.	1.1	19
40	A comparison of viscoplastic intermediate approaches for deformation texture evolution in face-centered cubic polycrystals. <i>Acta Materialia</i> , 2009, 57, 2496-2508.	3.8	18
41	Incorporation of electron tunnelling phenomenon into 3D Monte Carlo simulation of electrical percolation in graphite nanoplatelet composites. <i>Journal Physics D: Applied Physics</i> , 2011, 44, 455306.	1.3	18
42	3D reconstruction of carbon nanotube networks from neutron scattering experiments. <i>Nanotechnology</i> , 2015, 26, 385704.	1.3	17
43	Hydrogenation-controlled mechanical properties in graphene helicoids: exceptional distribution-dependent behavior. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 12423-12433.	1.3	17
44	Composition of two-point correlation functions of subcomposites in heterogeneous materials. <i>Mechanics of Materials</i> , 2012, 51, 88-96.	1.7	16
45	An optimum approximation of n-point correlation functions of random heterogeneous material systems. <i>Journal of Chemical Physics</i> , 2014, 140, 074905.	1.2	16
46	Three-dimensional Reconstruction and Microstructure Modeling of Porosity-Graded Cathode Using Focused Ion Beam and Homogenization Techniques. <i>Fuel Cells</i> , 2014, 14, 91-95.	1.5	16
47	Monitoring the effect of sonoporation on the cells using electrochemical approach. <i>Ultrasonics Sonochemistry</i> , 2018, 41, 619-625.	3.8	16
48	Role of Chemical Doping in Large Deformation Behavior of Spiral Carbon-Based Nanostructures: Unraveling Geometry-Dependent Chemical Doping Effects. <i>Journal of Physical Chemistry C</i> , 2019, 123, 19208-19219.	1.5	16
49	Developing a finite element beam theory for nanocomposite shape memory polymers with application to sustained release of drugs. <i>Scientia Iranica</i> , 2017, 24, 249-259.	0.3	16
50	Designing an optimal 3D microstructure for three-phase solid oxide fuel cell anodes with maximal active triple phase boundary length (TPBL). <i>International Journal of Hydrogen Energy</i> , 2015, 40, 15585-15596.	3.8	15
51	Homogenization of heterogeneous brain tissue under quasi-static loading: a visco-hyperelastic model of a 3D RVE. <i>Biomechanics and Modeling in Mechanobiology</i> , 2019, 18, 969-981.	1.4	14
52	Evaluating the Effect of Mechanical Loading on the Electrical Percolation Threshold of Carbon Nanotube Reinforced Polymers: A 3D Monte-Carlo Study. <i>Journal of Computational and Theoretical Nanoscience</i> , 2011, 8, 2087-2099.	0.4	13
53	A novel numerical model for the prediction of patient-dependent bone density loss in microgravity based on micro-CT images. <i>Continuum Mechanics and Thermodynamics</i> , 2020, 32, 927-943.	1.4	13
54	A novel machine learning based computational framework for homogenization of heterogeneous soft materials: application to liver tissue. <i>Biomechanics and Modeling in Mechanobiology</i> , 2020, 19, 1131-1142.	1.4	12

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55	Atomistic simulation of interfacial properties and damage mechanism in graphene nanoplatelet/epoxy composites. <i>Computational Materials Science</i> , 2020, 184, 109888.	1.4	12
56	Determinative factors in inhibition of aquaporin by different pharmaceuticals: Atomic scale overview by molecular dynamics simulation. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2018, 1862, 2815-2823.	1.1	11
57	Numerical study of the conductive liquid metal elastomeric composites. <i>Materials Today Communications</i> , 2020, 23, 100878.	0.9	11
58	An Investigation on Thermomechanical Flexural Response of Shape-Memory-Polymer Beams. <i>International Journal of Applied Mechanics</i> , 2016, 08, 1650063.	1.3	10
59	Ultrasound assisted electrochemical distinction of normal and cancerous cells. <i>Sensors and Actuators B: Chemical</i> , 2018, 255, 1-7.	4.0	10
60	How to characterize interfacial load transfer in spiral carbon-based nanostructure-reinforced nanocomposites: is this a geometry-dependent process?. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 23880-23892.	1.3	10
61	Thermomechanical behavior of shape memory polymer beams reinforced by corrugated polymeric sections. <i>Meccanica</i> , 2017, 52, 1947-1962.	1.2	9
62	Effect of 2D Image Resolution on 3D Stochastic Reconstruction and Developing Petrophysical Trend. <i>Transport in Porous Media</i> , 2018, 125, 41-58.	1.2	9
63	Investigation on thermal stresses in FGM hyperelastic thick-walled cylinders. <i>Journal of Thermal Stresses</i> , 2018, 41, 204-221.	1.1	9
64	Optimization of Taylor spatial frame half-pins diameter for bone deformity correction: Application to femur. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2018, 232, 673-681.	1.0	9
65	A computational approach to evaluate the nonlinear and noisy DC electrical response in carbon nanotube/polymer nanocomposites near the percolation threshold. <i>Computational Materials Science</i> , 2020, 173, 109439.	1.4	9
66	A framework for optimal microstructural design of random heterogeneous materials. <i>Computational Mechanics</i> , 2020, 66, 123-139.	2.2	9
67	Mechanical properties improvement of shape memory polymers by designing the microstructure of multi-phase heterogeneous materials. <i>Computational Materials Science</i> , 2021, 196, 110523.	1.4	9
68	Effects of functional group type and coverage on the interfacial strength and load transfer of graphene-polyethylene nanocomposites: a molecular dynamics simulation. <i>Applied Physics A: Materials Science and Processing</i> , 2022, 128, 1.	1.1	9
69	Investigation of the geometric property hull for infiltrated solid oxide fuel cell electrodes. <i>International Journal of Energy Research</i> , 2017, 41, 2318-2331.	2.2	8
70	Formation of homogenous copper film on MWCNTs by an efficient electroless deposition process. <i>Science and Engineering of Composite Materials</i> , 2017, 24, 345-352.	0.6	7
71	Temperature and stress distribution in hollow annular disk of uniform thickness with quadratic temperature-dependent thermal conductivity. <i>Journal of Thermal Stresses</i> , 2017, 40, 828-845.	1.1	7
72	3D-Printable Unit Cell Design for Cubic and Orthotropic Porous Microstructures Using Topology Optimization Based on Optimality Criteria Algorithm. <i>International Journal of Applied Mechanics</i> , 2018, 10, 1850060.	1.3	7

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73	Exceptional behavior of anatase TiO <sub>2</sub> nanotubes in axial loading: A molecular dynamics study of the effect of surface wrinkles. <i>Computational Materials Science</i> , 2019, 158, 307-314.	1.4	7
74	Hydrostatic Tube Cyclic Extrusion Compression as a Novel Severe Plastic Deformation Method for Fabricating Long Nanostructured Tubes. <i>Metals and Materials International</i> , 2022, 28, 1725-1740.	1.8	7
75	A novel semi-inverse solution method for elastoplastic torsion of heat treated rods. <i>Meccanica</i> , 2010, 45, 375-392.	1.2	6
76	Evaluating the Effect of Mechanical Loading on the Effective Thermal Conductivity of CNT/Polymer Nanocomposites. <i>Journal of Computational and Theoretical Nanoscience</i> , 2014, 11, 1738-1744.	0.4	6
77	Electrical Percolation in Nanocomposites with Impenetrable Ellipsoidal Inclusion (Comprehensive) Tj ETQq1 1 0.784314 rgBT /Overloc Nanoscience, 2015, 12, 1010-1016.	0.4	6
78	Synergistic effect of carbon nanotubes and copper particles in an epoxy-based nanocomposite using electroless copper deposited carbon nanotubes: Part I " Mechanical properties. <i>Journal of Composite Materials</i> , 2016, 50, 1909-1920.	1.2	6
79	Application of Elastic-Damage-Heal Model for Self-Healing Concrete Thick-Walled Cylinders Through Thermodynamics of Irreversible Processes. <i>International Journal of Applied Mechanics</i> , 2017, 09, 1750082.	1.3	6
80	Investigation of the property hull for solid oxide fuel cell microstructures. <i>Computational Materials Science</i> , 2017, 127, 1-7.	1.4	6
81	Influence of the liver vascular distribution on its overall mechanical behavior: A first approach to multiscale fluid-structure homogenization. <i>Journal of Cellular Immunotherapy</i> , 2018, 4, 35-37.	0.6	6
82	Developing a beam formulation for semi-crystalline two-way shape memory polymers. <i>Journal of Intelligent Material Systems and Structures</i> , 2020, 31, 1465-1476.	1.4	6
83	Geometric Modeling of Infiltrated Solid Oxide Fuel Cell Electrodes for Performance Optimization. , 2015, 11, 428-433.		5
84	Large deformation and stability analysis of functionally graded pressure vessels: An analytical and numerical study. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2018, 232, 3300-3314.	1.1	5
85	Design and Manufacture of a Smart Macro-Structure with Changeable Effective Stiffness. <i>International Journal of Applied Mechanics</i> , 2020, 12, 2050001.	1.3	5
86	A New Statistical Descriptor for the Physical Characterization and 3D Reconstruction of Heterogeneous Materials. <i>Transport in Porous Media</i> , 2022, 142, 23-40.	1.2	5
87	A modified simulated annealing algorithm for hybrid statistical reconstruction of heterogeneous microstructures. <i>Computational Materials Science</i> , 2021, 197, 110636.	1.4	5
88	Free Vibration Analysis of Rotating Functionally Graded Annular Disc of Variable Thickness Using Generalized Differential Quadrature Method. <i>Scientia Iranica</i> , 2017, .	0.3	5
89	Optimal combining of microstructures using statistical correlation functions. <i>International Journal of Solids and Structures</i> , 2019, 160, 177-186.	1.3	4
90	Development and implementation of a geometrically nonlinear beam theory model for SMA composite beams with asymmetric behavior. <i>Composite Structures</i> , 2021, 259, 113417.	3.1	4

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91	Simulating favorable adsorption in lithium-ion batteries using a novel cellular-automaton-based method. <i>Physica Scripta</i> , 2021, 96, 125841.	1.2	4
92	Computational Elucidation of Elastic Percolation Threshold in Isotropic and Anisotropic Microstructures with Voronoi Tessellation. <i>International Journal of Applied Mechanics</i> , 2019, 11, 1950029.	1.3	3
93	Numerical Investigation of Axonal Damage for Regular and Irregular Axonal Distributions. <i>Frontiers in Mechanical Engineering</i> , 2021, 7, .	0.8	3
94	Conical coiled carbon nanotubes with highly controllable mechanical properties. <i>Materials Today Communications</i> , 2021, 29, 102927.	0.9	3
95	Insights into thermal characteristics of spiral carbon-based nanomaterials: From heat transport mechanisms to tunable thermal diode behavior. <i>International Journal of Heat and Mass Transfer</i> , 2022, 189, 122719.	2.5	3
96	Qualitative Equivalence Between Electrical Percolation Threshold and Effective Thermal Conductivity in Polymer/Carbon Nanocomposites. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2012, 134, .	0.8	2
97	Elastic Percolation in Nanocomposites with Impenetrable Ellipsoidal Inclusion (Comprehensive Study) <i>Tj ETQq1 1 0.784314 rgBT /Ove</i>	1.3	2
98	Geometric Modeling of Infiltrated Solid Oxide Fuel Cell Electrodes with Directional Backbones. <i>Fuel Cells</i> , 2017, 17, 67-74.	1.5	2
99	Elastic percolation of composite structures with regular tessellations of microstructure. <i>Composite Structures</i> , 2017, 161, 513-521.	3.1	2
100	Micromechanical Modeling of the Effective Mechanical Behavior of Cerebral Cortex Tissue. <i>Iranian Journal of Science and Technology - Transactions of Mechanical Engineering</i> , 2020, 44, 273-285.	0.8	2
101	Design and Shape Optimization of a Biodegradable Polymeric Stent for Curved Arteries Using FEM. <i>Frontiers in Mechanical Engineering</i> , 2021, 7, .	0.8	2
102	A Microfabrication Method of PCL Scaffolds for Tissue Engineering by Simultaneous Two PDMS Molds Replication. <i>ACS Biomaterials Science and Engineering</i> , 2021, 7, 4763-4778.	2.6	2
103	Anatase TiO <sub>2</sub> nanotubes as Li-ion battery anodes: A molecular dynamics study of Li-ion adsorption on anatase nanotubes. <i>Sustainable Energy Technologies and Assessments</i> , 2021, 47, 101438.	1.7	2
104	Refining anticipation of degraded bone microstructures during osteoporosis based on statistical homogenized reconstruction method via quality of connection function. <i>International Journal of Computational Materials Science and Engineering</i> , 2020, 09, 2050023.	0.5	2
105	Prediction of bone microstructures degradation during osteoporosis with fuzzy cellular automata algorithm. <i>Mathematics and Mechanics of Solids</i> , 0, , 108128652210885.	1.5	2
106	Statistical prediction of bone microstructure degradation to study patient dependency in osteoporosis. <i>Mathematics and Mechanics of Solids</i> , 0, , 108128652210987.	1.5	2
107	Decisive structural elements in water and ion permeation through mechanosensitive channels of large conductance: insights from molecular dynamics simulation. <i>RSC Advances</i> , 2022, 12, 17803-17816.	1.7	2
108	Transient swelling of cylindrical hydrogels under coupled extension-torsion: Analytical and 3D FEM solutions. <i>Journal of Intelligent Material Systems and Structures</i> , 2023, 34, 415-424.	1.4	2

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109	Modeling of Biologically Inspired Adhesive Pads Using Monte Carlo Analysis. <i>Journal of Adhesion Science and Technology</i> , 2010, 24, 1207-1220.	1.4	1
110	Developing a Coupled Statistical and Monte Carlo Approach for Geometric Modeling and Optimizing of Infiltrated Solid Oxide Fuel Cell Electrode. <i>Fuel Cells</i> , 2019, 19, 112-124.	1.5	1
111	Computational modeling of degradation process on the mechanical performance of Poly-lactic acid /Magnesium composite. <i>Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications</i> , 2021, 235, 3-18.	0.7	1
112	Analytical Solution of Governing Equations of Triple Coupled Physics of Structural Mechanics, Diffusion, and Heat Transfer. <i>Scientia Iranica</i> , 2018, .	0.3	1
113	Mechanical properties of an epoxy-based coating reinforced with silica aerogel and ammonium polyphosphate additives. <i>Polymers and Polymer Composites</i> , 2022, 30, 096739112110690.	1.0	1
114	Effect of Mechanical Deformation on Electrical Percolation of CNT Polymer Composites. , 2009, , .		0
115	Microstructural design of tunable elastoplastic two-phase random heterogeneous materials. <i>Materials Today Communications</i> , 2021, 27, 102300.	0.9	0
116	Numerical Simulation of Synthetic Microstructured Fibrillar Adhesive Pads. , 2009, , .		0