Mohammad J Mirzaali

List of Publications by Year
in descending order

49 papers	1,839 citations	279778 23 h-index	276858 41 g-index
51 all docs	51 docs citations	51 times ranked	1734 citing authors

#	Article	IF	Citations
1	Biomimetic Approaches for the Design and Fabrication of Bone-to-Soft Tissue Interfaces. ACS Biomaterials Science and Engineering, 2023, 9, 3810-3831.	5.2	21
2	Magnetoâ€/ electroâ€responsive polymers toward manufacturing, characterization, and biomedical/ soft robotic applications. Applied Materials Today, 2022, 26, 101306.	4.3	70
3	Merging strut-based and minimal surface meta-biomaterials: Decoupling surface area from mechanical properties. Additive Manufacturing, 2022, 52, 102684.	3.0	6
4	Deep learning for the rare-event rational design of 3D printed multi-material mechanical metamaterials. Communications Materials, 2022, 3, .	6.9	21
5	Analyzing the mechano-bactericidal effect of nano-patterned surfaces on different bacteria species. Surface and Coatings Technology, 2021, 408, 126782.	4.8	31
6	Mechanical characterization of nanopillars by atomic force microscopy. Additive Manufacturing, 2021, 39, 101858.	3.0	6
7	Fatigue performance of auxetic meta-biomaterials. Acta Biomaterialia, 2021, 126, 511-523.	8.3	44
8	Dynamic characterization of 3D printed mechanical metamaterials with tunable elastic properties. Applied Physics Letters, 2021, 118, .	3.3	5
9	Elasticity Approach to Predict Shape Transformation of Functionally Graded Mechanical Metamaterial under Tension. Materials, 2021, 14, 3452.	2.9	6
10	Curvature Induced by Deflection in Thick Metaâ€Plates. Advanced Materials, 2021, 33, e2008082.	21.0	22
11	3D-Printed Submicron Patterns Reveal the Interrelation between Cell Adhesion, Cell Mechanics, and Osteogenesis. ACS Applied Materials & Interfaces, 2021, 13, 33767-33781.	8.0	27
12	Comparison in clinical performance of surgical guides for mandibular surgery and temporomandibular joint implants fabricated by additive manufacturing techniques. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 119, 104512.	3.1	12
13	Bioprinting of a Zonal-Specific Cell Density Scaffold: A Biomimetic Approach for Cartilage Tissue Engineering. Applied Sciences (Switzerland), 2021, 11, 7821.	2.5	12
14	Lattice structures made by laser powder bed fusion. , 2021, , 423-465.		5
15	3D printed submicron patterns orchestrate the response of macrophages. Nanoscale, 2021, 13, 14304-14315.	5.6	15
16	Mechanics of bioinspired functionally graded soft-hard composites made by multi-material 3D printing. Composite Structures, 2020, 237, 111867.	5.8	73
17	Fatigue-caused damage in trabecular bone from clinical, morphological and mechanical perspectives. International Journal of Fatigue, 2020, 133, 105451.	5.7	12
18	3D Printing of Large Areas of Highly Ordered Submicron Patterns for Modulating Cell Behavior. ACS Applied Materials & Interfaces, 2020, 12, 200-208.	8.0	24

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19	Non-affinity in multi-material mechanical metamaterials. Scientific Reports, 2020, 10, 11488.	3.3	27
20	Multiâ€Material 3D Printing of Functionally Graded Hierarchical Softâ€“Hard Composites. Advanced Engineering Materials, 2020, 22, 2070031.	3.5	5
21	Spiral Honeycomb Microstructured Bacterial Cellulose for Increased Strength and Toughness. ACS Applied Materials & Interfaces, 2020, 12, 50748-50755.	8.0	13
22	Quantitative mechanics of 3D printed nanopillars interacting with bacterial cells. Nanoscale, 2020, 12, 21988-22001.	5.6	14
23	Magnetorheological elastomer composites: Modeling and dynamic finite element analysis. Composite Structures, 2020, 254, 112881.	5.8	49
24	Multiâ€Material 3D Printing of Functionally Graded Hierarchical Softâ€“Hard Composites. Advanced Engineering Materials, 2020, 22, 1901142.	3.5	15
25	Multi-material additive manufacturing technologies for Ti-, Mg-, and Fe-based biomaterials for bone substitution. Acta Biomaterialia, 2020, 109, 1-20.	8.3	125
26	Auxeticity and stiffness of random networks: Lessons for the rational design of 3D printed mechanical metamaterials. Applied Physics Letters, 2019, 115, .	3.3	30
27	Fracture Behavior of Bio-Inspired Functionally Graded Softâ€“Hard Composites Made by Multi-Material 3D Printing: The Case of Colinear Cracks. Materials, 2019, 12, 2735.	2.9	27
28	Ultra-programmable buckling-driven soft cellular mechanisms. Materials Horizons, 2019, 6, 1138-1147.	12.2	77
29	Additive manufacturing of Tiâ€“6Alâ€“4V parts through laser metal deposition (LMD): Process, microstructure, and mechanical properties. Journal of Alloys and Compounds, 2019, 804, 163-191.	5.5	214
30	Shape-matching soft mechanical metamaterials. Scientific Reports, 2018, 8, 965.	3.3	95
31	Action-at-a-distance metamaterials: Distributed local actuation through far-field global forces. APL Materials, 2018, 6, .	5.1	37
32	Multi-material 3D printed mechanical metamaterials: Rational design of elastic properties through spatial distribution of hard and soft phases. Applied Physics Letters, 2018, 113, .	3.3	89
33	Determinants of bone damage: An ex-vivo study on porcine vertebrae. PLoS ONE, 2018, 13, e0202210.	2.5	26
34	In-silico quest for bactericidal but non-cytotoxic nanopatterns. Nanotechnology, 2018, 29, 43LT02.	2.6	35
35	Length-scale dependency of biomimetic hard-soft composites. Scientific Reports, 2018, 8, 12052.	3.3	28
36	Mimicking the loading adaptation of bone microstructure with aluminum foams. Materials and Design, 2017, 126, 207-218.	7.0	23

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37	Crumpling-based soft metamaterials: the effects of sheet pore size and porosity. Scientific Reports, 2017, 7, 13028.	3.3	21
38	Rational design of soft mechanical metamaterials: Independent tailoring of elastic properties with randomness. Applied Physics Letters, 2017, 111, .	3.3	73
39	Response to the commentary on mechanical properties of cortical bone and their relationships with age, gender, composition and microindentation properties in the elderly. Bone, 2017, 105, 312-314.	2.9	5
40	Mechanical properties of cortical bone and their relationships with age, gender, composition and microindentation properties in the elderly. Bone, 2016, 93, 196-211.	2.9	207
41	Investigation of the Effect of Internal Pores Distribution on the Elastic Properties of Closed-Cell Aluminum Foam: A Comparison with Cancellous Bone. Procedia Structural Integrity, 2016, 2, 1285-1294.	0.8	8
42	Characterizing microcrack orientation distribution functions in osteonal bone samples. Journal of Microscopy, 2016, 264, 268-281.	1.8	26
43	Thermoelastic analysis of non-uniform pressurized functionally graded cylinder with variable thickness using first order shear deformation theory(FSDT) and perturbation method. Chinese Journal of Mechanical Engineering (English Edition), 2015, 28, 1149-1156.	3.7	11
44	Continuum damage interactions between tension and compression in osteonal bone. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 49, 355-369.	3.1	36
45	Experimental and numerical investigation of an adaptive simulated annealing technique in optimization of warm tube hydroforming. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 2012, 226, 1869-1879.	2.4	12
46	The effect of tube dimensions on optimized pressure and force loading paths in tube hydroforming process. Journal of Mechanical Science and Technology, 2012, 26, 1817-1822.	1.5	16
47	Application of simulated annealing method to pressure and force loading optimization in tube hydroforming process. International Journal of Mechanical Sciences, 2012, 55, 78-84.	6.7	53
48	Optimization of Tube Hydroforming Process Using Simulated Annealing Algorithm. Procedia Engineering, 2011, 10, 3012-3019.	1.2	26
49	Finite Element Analysis of Full Penetration and Fillet Welds in Cantilever Beams. , 2010, , .		0