N Rahbar

List of Publications by Year
in descending order

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Version: 2024-02-01

81 papers	2,537 citations	172386 29 h-index	206029 48 g-index
82 all docs	82 docs citations	82 times ranked	2838 citing authors

#	Article	IF	Citations
1	Mechanical properties of functionally graded hierarchical bamboo structures. Acta Biomaterialia, 2011, 7, 3796-3803.	4.1	260
2	Molecular Origin of Strength and Stiffness in Bamboo Fibrils. Scientific Reports, 2015, 5, 11116.	1.6	185
3	Strong fiber-reinforced hydrogel. Acta Biomaterialia, 2013, 9, 5313-5318.	4.1	150
4	Toughening mechanisms in bioinspired multilayered materials. Journal of the Royal Society Interface, 2015, 12, 20140855.	1.5	119
5	Nano-second UV laser processed micro-grooves on Ti6Al4V for biomedical applications. Materials Science and Engineering C, 2009, 29, 5-13.	3.8	94
6	Performance of a pavement solar energy collector: Model development and validation. Applied Energy, 2016, 163, 180-189.	5.1	77
7	Bio-inspired design of dental multilayers: Experiments and model. Journal of the Mechanical Behavior of Biomedical Materials, 2009, 2, 596-602.	1.5	73
8	Effects of humidity on shear behavior of bamboo. Theoretical and Applied Mechanics Letters, 2015, 5, 236-243.	1.3	63
9	A fatigue driving stress approach to damage and life prediction under variable amplitude loading. International Journal of Damage Mechanics, 2013, 22, 393-404.	2.4	62
10	Effects of tablet waviness on the mechanical response of architected multilayered materials: Modeling and experiment. Composite Structures, 2018, 195, 118-125.	3.1	62
11	Mechanics of bioinspired lamellar structured ceramic/polymer composites: Experiments and models. International Journal of Plasticity, 2018, 107, 122-149.	4.1	57
12	Bio-inspired dental multilayers: Effects of layer architecture on the contact-induced deformation. Acta Biomaterialia, 2013, 9, 5273-5279.	4.1	55
13	Contact Behavior of Soft Spherical Tactile Sensors. IEEE Sensors Journal, 2014, 14, 1435-1442.	2.4	55
14	Nanostructural Characteristics and Interfacial Properties of Polymer Fibers in Cement Matrix. ACS Applied Materials & Interfaces, 2015, 7, 17278-17286.	4.0	55
15	Bioinspired design of architected cement-polymer composites. Cement and Concrete Composites, 2019, 96, 252-265.	4.6	51
16	Adhesively bonded single lap joints with non-flat interfaces. International Journal of Adhesion and Adhesives, 2012, 32, 46-52.	1.4	49
17	Investigation of adhesive interactions in the specific targeting of Triptorelin-conjugated PEG-coated magnetite nanoparticles to breast cancer cells. Acta Biomaterialia, 2018, 71, 363-378.	4.1	48
18	A model for contaminant mass flux in capped sediment under consolidation. Journal of Contaminant Hydrology, 2005, 78, 147-165.	1.6	44

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19	Design of functionally graded dental multilayers. Fatigue and Fracture of Engineering Materials and Structures, 2011, 34, 887-897.	1.7	44
20	Fracture and mixed-mode resistance curve behavior of bamboo. Mechanics Research Communications, 2016, 78, 79-85.	1.0	41
21	Bioinspired design of dental multilayers. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 464, 315-320.	2.6	40
22	Not Just Lumberâ€"Using Wood in the Sustainable Future of Materials, Chemicals, and Fuels. Jom, 2016, 68, 2395-2404.	0.9	40
23	Variation of Nanostructures, Molecular Interactions, and Anisotropic Elastic Moduli of Lignocellulosic Cell Walls with Moisture. Scientific Reports, 2017, 7, 2054.	1.6	38
24	Mixed mode fracture of marble/adhesive interfaces. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 4939-4946.	2.6	37
25	Mechanical behavior of a notched oxide/oxide ceramic matrix composite in combustion environment: Experiments and simulations. Composite Structures, 2015, 127, 77-86.	3.1	37
26	An investigation of adhesion in drugâ€eluting stent layers. Journal of Biomedical Materials Research - Part A, 2008, 87A, 272-281.	2.1	35
27	Parametric Study of One-Dimensional Solute Transport in Deformable Porous Media. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2006, 132, 1001-1010.	1.5	33
28	Nano-scale fracture toughness and behavior of graphene/epoxy interface. Journal of Applied Physics, 2012, 112, .	1.1	32
29	Fibronectin adsorption on functionalized electrospun polycaprolactone scaffolds: Experimental and molecular dynamics studies. Journal of Biomedical Materials Research - Part A, 2014, 102, 1697-1706.	2.1	32
30	Reverse pneumatic artificial muscles (rPAMs): Modeling, integration, and control. PLoS ONE, 2018, 13, e0204637.	1.1	30
31	Toughening mechanisms in polypropylene fiber-reinforced asphalt mastic at low temperature. Construction and Building Materials, 2020, 248, 118690.	3.2	29
32	Adhesion and interfacial fracture toughness between hard and soft materials. Journal of Applied Physics, 2008, 104, 103533.	1.1	27
33	An equivalent driving force model for crack growth prediction under different stress ratios. International Journal of Fatigue, 2011, 33, 1199-1204.	2.8	26
34	Variation of thermal conductivity of DPPC lipid bilayer membranes around the phase transition temperature. Journal of the Royal Society Interface, 2017, 14, 20170127.	1.5	25
35	Mechanical characterization and modeling of graded porous stainless steel specimens for possible bone implant applications. International Journal of Engineering Science, 2012, 53, 67-73.	2.7	23
36	Effects of surface treatment on bond strength between dental resin agent and zirconia ceramic. Materials Science and Engineering C, 2014, 34, 311-317.	3.8	21

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37	Multi-scale mechanical and transport properties of a hydrogel. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 37, 299-306.	1.5	21
38	Implantable magnetic nanocomposites for the localized treatment of breast cancer. Journal of Applied Physics, 2014, 116, .	1.1	20
39	Volume Change Effects on Solute Transport in Clay Under Consolidation. , 2004, , 105.		18
40	Mixed mode fracture of dental interfaces. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 488, 381-388.	2.6	17
41	Sub-critical crack growth in adhesive/marble interfaces. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 3697-3704.	2.6	17
42	Nano-scale adhesion in multilayered drug eluting stents. Journal of the Mechanical Behavior of Biomedical Materials, 2013, 18, 1-11.	1.5	17
43	Model Prediction of Long-Term Reactive Core Mat Efficacy for Capping Contaminated Aquatic Sediments. Journal of Environmental Engineering, ASCE, 2013, 139, 564-575.	0.7	17
44	Fracture toughness of the sidewall fluorinated carbon nanotube-epoxy interface. Journal of Applied Physics, 2014, 115, .	1.1	17
45	Effects of Cementâ€“Polymer Interface Properties on Mechanical Response of Fiber-Reinforced Cement Composites. Journal of Nanomechanics & Micromechanics, 2017, 7, .	1.4	17
46	Adhesion and interfacial fracture in drug-eluting stents. Journal of Materials Research, 2010, 25, 641-647.	1.2	16
47	Nano- and microscale adhesion energy measurement for Auâ€“Au contacts in microswitch structures. Journal of Applied Physics, 2006, 100, 104313.	1.1	15
48	Effects of silane on the interfacial fracture of a parylene film over a stainless steel substrate. Materials Science and Engineering C, 2012, 32, 550-557.	3.8	14
49	Effects of loading rate on the of mechanical behavior of the femur in falling condition. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 96, 269-278.	1.5	14
50	Concentration-Dependent, Membrane-Selective Activity of Human LL37 Peptides Modified with Collagen Binding Domain Sequences. Biomacromolecules, 2018, 19, 4513-4523.	2.6	13
51	Role of interphase layers in mechanical properties of nacreous structures. Composites Part B: Engineering, 2021, 225, 109255.	5.9	13
52	Thermal conductivity and rectification in asymmetric archaeal lipid membranes. Journal of Chemical Physics, 2018, 148, 174901.	1.2	12
53	Mechanical behavior of a glass fiber-reinforced polymer sandwich panel with through-thickness fiber insertions. Construction and Building Materials, 2014, 64, 473-479.	3.2	10
54	Novel magnetic heating probe for multimodal cancer treatment. Medical Physics, 2015, 42, 2203-2211.	1.6	10

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55	Mechanical and hyperthermic properties of magnetic nanocomposites for biomedical applications. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 49, 118-128.	1.5	10
56	An enzymatic self-healing cementitious material. Applied Materials Today, 2021, 23, 101035.	2.3	10
57	Nonâ€linear feedback optimal control law for minimumâ€time injection problem using fuzzy system. Aircraft Engineering and Aerospace Technology, 2005, 77, 376-383.	0.8	9
58	A multimodal study of pinning selection for restoration of a historic statue. Materials and Design, 2016, 98, 294-304.	3.3	9
59	Integrin Î±5Î²1-mediated attachment of NIH/3T3 fibroblasts to fibronectin adsorbed onto electrospun polymer scaffolds. Polymer Engineering and Science, 2014, 54, 2587-2594.	1.5	8
60	Heterogeneity Profoundly Alters Emergent Stress Fields in Constrained Multicellular Systems. Biophysical Journal, 2020, 118, 15-25.	0.2	8
61	Thermal Shock Resistance of a Kyanite-Based (Aluminosilicate) Ceramic. Experimental Mechanics, 2011, 51, 133-141.	1.1	6
62	An Investigation of Thermal Shock in Porous Clay Ceramics. ISRN Mechanical Engineering, 2011, 2011, 1-9.	0.9	6
63	Extending the Life of Self-Healing Structural Materials. Matter, 2020, 2, 289-291.	5.0	6
64	Polymeric composite devices for localized treatment of early-stage breast cancer. PLoS ONE, 2017, 12, e0172542.	1.1	6
65	Interfacial fracture of dentin adhesively bonded to quartz-fiber reinforced composite. Materials Science and Engineering C, 2011, 31, 770-774.	3.8	5
66	Mode Mixity Dependence of Interfacial Fracture Toughness in Organic Electronic Structures. IEEE Transactions on Device and Materials Reliability, 2014, 14, 291-299.	1.5	5
67	Elasticity of bamboo fiber variants from Brillouin spectroscopy. Materialia, 2019, 5, 100240.	1.3	5
68	Compressive deformation of Bambusa Vulgaris-Schrad in the transverse and longitudinal orientations. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 108, 103750.	1.5	5
69	Experimental and numerical measurements of adhesion energies between PHEMA and PGLYMA with hydroxyapatite crystal. Bioinspiration and Biomimetics, 2015, 10, 046011.	1.5	3
70	Implantable polymer/metal thin film structures for the localized treatment of cancer by Joule heating. Journal of Applied Physics, 2015, 117, 165301.	1.1	3
71	Strong fiber reinforced hydrogels for biomedical applications. , 2011, , .		2
72	Nano- and Micro-Scale Adhesion in Drug-eluting Stents. Materials Research Society Symposia Proceedings, 2009, 1239, 1.	0.1	1

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73	Nanostructure of Cement/Polymer Fiber Interfaces. , 2015, , .		1
74	Anisotropy profoundly alters stress fields within contractile cells and cell aggregates. Biomechanics and Modeling in Mechanobiology, 2022, 21, 1357-1370.	1.4	1
75	Closure to â€œParametric Study of One-Dimensional Solute Transport in Deformable Porous Mediaâ€•by Akram N. Alshawabkeh and Nima Rahbar. Journal of Geotechnical and Geoenvironmental Engineering - ASCE, 2008, 134, 416-416.	1.5	0
76	Quantitative Studies of Fibronectin Adsorption on Submicron Scaffolds. , 2012, , .		0
77	Editorial on the special issueâ€”7th TMS Symposium on Biological Materials Science. Journal of the Mechanical Behavior of Biomedical Materials, 2012, 7, 1-2.	1.5	0
78	Special Section on Mechanics of Nanocomposites and Nanostructures. Journal of Nanomechanics & Micromechanics, 2013, 3, 36-36.	1.4	0
79	Nanoscale Structure and Mechanical Properties of Cross-Linked Hydrogels. Journal of Nanomechanics & Micromechanics, 2015, 5, .	1.4	0
80	Advanced Conservation Methods for Historical Monuments. , 2018, , 27-55.		0
81	The Ultimate Utility Teeth of the Urchin. Matter, 2019, 1, 1108-1109.	5.0	0