Alireza Karimi

List of Publications by Year
in descending order

82 papers	2,197 citations	186265 28 h-index	254184 43 g-index
83 all docs	83 docs citations	83 times ranked	1755 citing authors

#	Article	IF	Citations
1	Measurement of the uniaxial mechanical properties of healthy and atherosclerotic human coronary arteries. Materials Science and Engineering C, 2013, 33, 2550-2554.	7.3	197
2	Graphene oxide/poly(acrylic acid)/gelatin nanocomposite hydrogel: Experimental and numerical validation of hyperelastic model. Materials Science and Engineering C, 2014, 38, 299-305.	7.3	106
3	A finite element investigation on plaque vulnerability in realistic healthy and atherosclerotic human coronary arteries. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2013, 227, 148-161.	1.8	79
4	Fabrication and mechanical characterization of graphene oxide-reinforced poly (acrylic acid)/gelatin composite hydrogels. Journal of Applied Physics, 2014, 115, .	2.5	73
5	A computational fluid-structure interaction model for plaque vulnerability assessment in atherosclerotic human coronary arteries. Journal of Applied Physics, 2014, 115, .	2.5	69
6	A visco-hyperelastic constitutive approach for modeling polyvinyl alcohol sponge. Tissue and Cell, 2014, 46, 97-102.	2.2	67
7	STUDY OF PLAQUE VULNERABILITY IN CORONARY ARTERY USING MOONEYâ€“RIVLIN MODEL: A COMBINATION OF FINITE ELEMENT AND EXPERIMENTAL METHOD. Biomedical Engineering - Applications, Basis and Communications, 2014, 26, 1450013.	0.6	61
8	A comparative study on the mechanical properties of the umbilical vein and umbilical artery under uniaxial loading. Artery Research, 2013, 8, 51.	0.6	59
9	A nonlinear finite element simulation of balloon expandable stent for assessment of plaque vulnerability inside a stenotic artery. Medical and Biological Engineering and Computing, 2014, 52, 589-599.	2.8	53
10	Mechanical properties of the human spinal cord under the compressive loading. Journal of Chemical Neuroanatomy, 2017, 86, 15-18.	2.1	50
11	Measurement of the uniaxial mechanical properties of rat brains infected by Plasmodium berghei ANKA. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2013, 227, 609-614.	1.8	48
12	A finite element study of balloon expandable stent for plaque and arterial wall vulnerability assessment. Journal of Applied Physics, 2014, 116, 044701.	2.5	46
13	An experimental-finite element analysis on the kinetic energy absorption capacity of polyvinyl alcohol sponge. Materials Science and Engineering C, 2014, 39, 253-258.	7.3	44
14	Plaque and arterial vulnerability investigation in a three-layer atherosclerotic human coronary artery using computational fluid-structure interaction method. Journal of Applied Physics, 2014, 116, .	2.5	42
15	Material properties in unconfined compression of gelatin hydrogel for skin tissue engineering applications. Biomedizinische Technik, 2014, 59, 479-86.	0.8	41
16	Mechanical properties of polyvinyl alcohol sponge under different strain rates. International Journal of Materials Research, 2014, 105, 404-408.	0.3	41
17	Experimental verification of the healthy and atherosclerotic coronary arteries incompressibility via Digital Image Correlation. Artery Research, 2016, 16, 1.	0.6	41
18	A combination of histological analyses and uniaxial tensile tests to determine the material coefficients of the healthy and atherosclerotic human coronary arteries. Tissue and Cell, 2015, 47, 152-158.	2.2	40

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19	Computing the stresses and deformations of the human eye components due to a high explosive detonation using fluidâ€“structure interaction model. Injury, 2016, 47, 1042-1050.	1.7	39
20	Dynamic simulation and finite element analysis of the human mandible injury protected by polyvinyl alcohol sponge. Materials Science and Engineering C, 2014, 42, 608-614.	7.3	38
21	Measurement of the circumferential mechanical properties of the umbilical vein: experimental and numerical analyses. Computer Methods in Biomechanics and Biomedical Engineering, 2015, 18, 1418-1426.	1.6	38
22	A NONLINEAR HYPERELASTIC BEHAVIOR TO IDENTIFY THE MECHANICAL PROPERTIES OF RAT SKIN UNDER UNIAXIAL LOADING. Journal of Mechanics in Medicine and Biology, 2014, 14, 1450075.	0.7	37
23	An experimental study on the mechanical properties of rat brain tissue using different stressâ€“strain definitions. Journal of Materials Science: Materials in Medicine, 2014, 25, 1623-1630.	3.6	37
24	Measurement of the Mechanical Failure of Polyvinyl Alcohol Sponge Using Biaxial Puncture Test. Journal of Biomaterials and Tissue Engineering, 2014, 4, 46-50.	0.1	33
25	Mechanical characterization of the rat and mice skin tissues using histostructural and uniaxial data. Bioengineered, 2015, 6, 153-160.	3.2	30
26	A lumped parameter mathematical model to analyze the effects of tachycardia and bradycardia on the cardiovascular system. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2015, 28, 346-357.	1.9	30
27	Risk of rupture of the cerebral aneurysm in relation to traumatic brain injury using a patient-specific fluid-structure interaction model. Computer Methods and Programs in Biomedicine, 2019, 176, 9-16.	4.7	30
28	A comparative study on the uniaxial mechanical properties of the umbilical vein and umbilical artery using different stressâ€“strain definitions. Australasian Physical and Engineering Sciences in Medicine, 2014, 37, 645-654.	1.3	29
29	A combination of experimental and numerical methods to investigate the role of strain rate on the mechanical properties and collagen fiber orientations of the healthy and atherosclerotic human coronary arteries. Bioengineered, 2017, 8, 154-170.	3.2	27
30	Measurement of the nonlinear mechanical properties of a poly(vinyl alcohol) sponge under longitudinal and circumferential loading. Journal of Applied Polymer Science, 2014, 131, .	2.6	26
31	A comparative study on the elastic modulus of polyvinyl alcohol sponge using different stress-strain definitions. Biomedizinische Technik, 2014, 59, 439-46.	0.8	25
32	Determination of the axial and circumferential mechanical properties of the skin tissue using experimental testing and constitutive modeling. Computer Methods in Biomechanics and Biomedical Engineering, 2015, 18, 1768-1774.	1.6	25
33	Numerical Evaluation of Stenosis Location Effects on Hemodynamics and Shear Stress Through Curved Artery. Journal of Biomaterials and Tissue Engineering, 2014, 4, 358-366.	0.1	25
34	An Experimental Study on the Structural and Mechanical Properties of Polyvinyl Alcohol Sponge Using Different Stressâ€“Strain Definitions. Advances in Polymer Technology, 2014, 33, .	1.7	24
35	Mechanical Characterization of Peritoneum/Fascia Under Uniaxial Loading. Journal of Biomaterials and Tissue Engineering, 2014, 4, 189-193.	0.1	24
36	An Experimental Study to Measure the Mechanical Properties of the Human Liver. Digestive Diseases, 2018, 36, 150-155.	1.9	23

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37	Influence of Poly(acrylic acid) on the Mechanical Properties of Composite Hydrogels. Advances in Polymer Technology, 2015, 34, .	1.7	22
38	Cylindrical agar gel with fluid flow subjected to an alternating magnetic field during hyperthermia. International Journal of Hyperthermia, 2015, 31, 33-39.	2.5	22
39	Hemodynamic investigation of intraluminal thrombus effect on the wall stress in a stented three-layered aortic aneurysm model under pulsatile flow. Artery Research, 2015, 10, 11.	0.6	21
40	A Combination of Constitutive Damage Model and Artificial Neural Networks to Characterize the Mechanical Properties of the Healthy and Atherosclerotic Human Coronary Arteries. Artificial Organs, 2017, 41, E103-E117.	1.9	21
41	Wall stress in media layer of stented three-layered aortic aneurysm at different intraluminal thrombus locations with pulsatile heart cycle. Journal of Medical Engineering and Technology, 2015, 39, 239-245.	1.4	20
42	Quantifying the injury of the human eye components due to tennis ball impact using a computational fluidâ€“structure interaction model. Sports Engineering, 2016, 19, 105-115.	1.1	20
43	A numerical study on the application of the functionally graded materials in the stent design. Materials Science and Engineering C, 2017, 73, 182-188.	7.3	20
44	Viscoelastic mechanical measurement of the healthy and atherosclerotic human coronary arteries using DIC technique. Artery Research, 2017, 18, 14.	0.6	17
45	A combination of experimental and finite element analyses of needleâ€“tissue interaction to compute the stresses and deformations during injection at different angles. Journal of Clinical Monitoring and Computing, 2016, 30, 965-975.	1.6	16
46	A computational fluidâ€“structure interaction model of the blood flow in the healthy and varicose saphenous vein. Vascular, 2016, 24, 254-263.	0.9	16
47	Computing the influences of different Intraocular Pressures on the human eye components using computational fluid-structure interaction model. Technology and Health Care, 2017, 25, 285-297.	1.2	15
48	Measurement of the mechanical properties of the human gallbladder. Journal of Medical Engineering and Technology, 2017, 41, 541-545.	1.4	15
49	A combination of the finite element analysis and experimental indentation via the cornea. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 90, 146-154.	3.1	15
50	Finite element simulation of an artificial intervertebral disk using fiber reinforced laminated composite model. Tissue and Cell, 2014, 46, 299-303.	2.2	14
51	Dynamic finite element simulation of the gunshot injury to the human forehead protected by polyvinyl alcohol sponge. Journal of Materials Science: Materials in Medicine, 2016, 27, 74.	3.6	13
52	Finite element modeling of the complex anisotropic mechanical behavior of the human sclera and pia mater. Computer Methods and Programs in Biomedicine, 2022, 215, 106618.	4.7	12
53	A combination of experimental measurement, constitutive damage model, and diffusion tensor imaging to characterize the mechanical properties of the human brain. Computer Methods in Biomechanics and Biomedical Engineering, 2017, 20, 1350-1363.	1.6	11
54	A comparative study to determine the optimal intravitreal injection angle to the eye: A computational fluid-structure interaction model. Technology and Health Care, 2018, 26, 483-498.	1.2	11

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55	An experimental-nonlinear finite element study of a balloon expandable stent inside a realistic stenotic human coronary artery to investigate plaque and arterial wall injury. Biomedizinische Technik, 2015, 60, 593-602.	0.8	10
56	Measurement of the viscoelastic mechanical properties of the skin tissue under uniaxial loading. Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications, 2016, 230, 418-425.	1.1	10
57	Dynamic finite element simulation of dental prostheses during chewing using muscle equivalent force and trajectory approaches. Journal of Medical Engineering and Technology, 2017, 41, 314-324.	1.4	10
58	A comparative study on the mechanical performance of the protective headgear materials to minimize the injury to the boxers' head. International Journal of Industrial Ergonomics, 2018, 66, 169-176.	2.6	10
59	Finite element modeling of the eyeglass-related traumatic ocular injuries due to high explosive detonation. Engineering Failure Analysis, 2020, 117, 104835.	4.0	10
60	Measurement of the mechanical properties of the handball, volleyball, and basketball using DIC method: a combination of experimental, constitutive, and viscoelastic models. Sport Sciences for Health, 2015, 11, 295-303.	1.3	8
61	A comparative study on the mechanical properties of the healthy and varicose human saphenous vein under uniaxial loading. Journal of Medical Engineering and Technology, 2015, 39, 490-497.	1.4	8
62	Optimizing through computational modeling to reduce dogboning of functionally graded coronary stent material. Journal of Materials Science: Materials in Medicine, 2017, 28, 142.	3.6	8
63	A computational dynamic finite element simulation of the thoracic vertebrae under blunt loading: spinal cord injury. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2019, 41, 1.	1.6	8
64	Measurement of the axial and circumferential mechanical properties of rat skin tissue at different anatomical locations. Biomedizinische Technik, 2015, 60, 115-22.	0.8	7
65	Interaction of the blood components and plaque in a stenotic coronary artery. Artery Research, 2018, 24, 47.	0.6	7
66	A patient-specific numerical modeling of the spontaneous coronary artery dissection in relation to atherosclerosis. Computer Methods and Programs in Biomedicine, 2019, 182, 105060.	4.7	7
67	Inverse dynamic finite element-optimization modeling of the brain tumor mass-effect using a variable pressure boundary. Computer Methods and Programs in Biomedicine, 2021, 212, 106476.	4.7	7
68	Modeling the biomechanics of the conventional aqueous outflow pathway microstructure in the human eye. Computer Methods and Programs in Biomedicine, 2022, 221, 106922.	4.7	7
69	MAGNETIC FLUID HYPERTHERMIA IN A CYLINDRICAL GEL CONTAINS WATER FLOW. Journal of Mechanics in Medicine and Biology, 2015, 15, 1550088.	0.7	6
70	Viscoelastic properties of the autologous bypass grafts: A comparative study among the small saphenous vein and internal thoracic artery. Artery Research, 2017, 19, 65.	0.6	6
71	A numerical study on the application of the functionally graded bioabsorbable materials in the stent design. Artery Research, 2018, 24, 1.	0.6	6
72	Response to the Letter to the Editor: Measurement of the uniaxial mechanical properties of healthy and atherosclerotic human coronary arteries. Materials Science and Engineering C, 2014, 42, 421.	7.3	5

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73	Measurement of the mechanical properties of soccer balls using digital image correlation method. Sport Sciences for Health, 2016, 12, 69-76.	1.3	5
74	A 3-dimensional finite element model of a newly designed adjustable high-heeled shoe. International Journal of Industrial Ergonomics, 2018, 68, 304-310.	2.6	5
75	Mechanical measurement of the human cerebellum under compressive loading. Journal of Medical Engineering and Technology, 2019, 43, 55-58.	1.4	5
76	A computational fluidâ€“structure interaction model to predict the biomechanical properties of the artificial functionally graded aorta. Bioscience Reports, 2016, 36, .	2.4	4
77	A patient-specific fluidâ€“structure interaction model of the cerebrovascular damage in relation to traumatic brain injury. Trauma, 2021, 23, 33-43.	0.5	4
78	Model for analyzing the mechanical behavior of articular cartilage under creep indentation test. Journal of Applied Physics, 2014, 116, 184702.	2.5	3
79	A Numerical Modeling of A Vascular Implantable Cardiac Endovascular Assistant (AVICENA). Journal of Multiscale Modeling, 2015, 06, 1550004.	1.1	2
80	Numerical Modeling of the Red Blood Cell Motion/Deformation in the Capillary. IFMBE Proceedings, 2016, , 624-633.	0.3	0
81	A numerical analysis on different-generation prototypes of ventricular assist device. International Journal of Modeling, Simulation, and Scientific Computing, 2019, 10, 1950029.	1.4	0
82	A numerical analysis on the right and left ventricles with circular and elliptical patches. Cor Et Vasa, 2019, 61, e427-e430.	0.1	0