

# Mahdi Navidbakhsh

## List of Publications by Year in descending order

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103  
papers

2,416  
citations

172457

29  
h-index

243625

44  
g-index

104  
all docs

104  
docs citations

104  
times ranked

1920  
citing authors

#	ARTICLE	IF	CITATIONS
1	Measurement of the uniaxial mechanical properties of healthy and atherosclerotic human coronary arteries. <i>Materials Science and Engineering C</i> , 2013, 33, 2550-2554.	7.3	197
2	Four E analysis and multi-objective optimization of an ice storage system incorporating PCM as the partial cold storage for air-conditioning applications. <i>Applied Thermal Engineering</i> , 2013, 58, 30-41.	6.0	84
3	A finite element investigation on plaque vulnerability in realistic healthy and atherosclerotic human coronary arteries. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2013, 227, 148-161.	1.8	79
4	Clarification of pomegranate juice by microfiltration with PVDF membranes. <i>Desalination</i> , 2010, 264, 243-248.	8.2	78
5	Estimating Young's modulus of zona pellucida by micropipette aspiration in combination with theoretical models of ovum. <i>Journal of the Royal Society Interface</i> , 2010, 7, 687-694.	3.4	77
6	A computational fluid-structure interaction model for plaque vulnerability assessment in atherosclerotic human coronary arteries. <i>Journal of Applied Physics</i> , 2014, 115, .	2.5	69
7	A visco-hyperelastic constitutive approach for modeling polyvinyl alcohol sponge. <i>Tissue and Cell</i> , 2014, 46, 97-102.	2.2	67
8	STUDY OF PLAQUE VULNERABILITY IN CORONARY ARTERY USING MOONEYâ€“RIVLIN MODEL: A COMBINATION OF FINITE ELEMENT AND EXPERIMENTAL METHOD. <i>Biomedical Engineering - Applications, Basis and Communications</i> , 2014, 26, 1450013.	0.6	61
9	Highly stretchable and sensitive strain sensors based on carbon nanotubeâ€“elastomer nanocomposites: the effect of environmental factors on strain sensing performance. <i>Journal of Materials Chemistry C</i> , 2020, 8, 6185-6195.	5.5	60
10	A comparative study on the mechanical properties of the umbilical vein and umbilical artery under uniaxial loading. <i>Artery Research</i> , 2013, 8, 51.	0.6	59
11	A nonlinear finite element simulation of balloon expandable stent for assessment of plaque vulnerability inside a stenotic artery. <i>Medical and Biological Engineering and Computing</i> , 2014, 52, 589-599.	2.8	53
12	Measurement of the uniaxial mechanical properties of rat brains infected by <i>Plasmodium berghei</i> ANKA. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2013, 227, 609-614.	1.8	48
13	A finite element study of balloon expandable stent for plaque and arterial wall vulnerability assessment. <i>Journal of Applied Physics</i> , 2014, 116, 044701.	2.5	46
14	An experimental-finite element analysis on the kinetic energy absorption capacity of polyvinyl alcohol sponge. <i>Materials Science and Engineering C</i> , 2014, 39, 253-258.	7.3	44
15	Comparison between mechanical properties of human saphenous vein and umbilical vein. <i>BioMedical Engineering OnLine</i> , 2012, 11, 59.	2.7	42
16	Plaque and arterial vulnerability investigation in a three-layer atherosclerotic human coronary artery using computational fluid-structure interaction method. <i>Journal of Applied Physics</i> , 2014, 116, .	2.5	42
17	Material properties in unconfined compression of gelatin hydrogel for skin tissue engineering applications. <i>Biomedizinische Technik</i> , 2014, 59, 479-86.	0.8	41
18	Mechanical properties of polyvinyl alcohol sponge under different strain rates. <i>International Journal of Materials Research</i> , 2014, 105, 404-408.	0.3	41

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19	Experimental verification of the healthy and atherosclerotic coronary arteries incompressibility via Digital Image Correlation. <i>Artery Research</i> , 2016, 16, 1.	0.6	41
20	A combination of histological analyses and uniaxial tensile tests to determine the material coefficients of the healthy and atherosclerotic human coronary arteries. <i>Tissue and Cell</i> , 2015, 47, 152-158.	2.2	40
21	Computing the stresses and deformations of the human eye components due to a high explosive detonation using fluid-structure interaction model. <i>Injury</i> , 2016, 47, 1042-1050.	1.7	39
22	Dynamic simulation and finite element analysis of the human mandible injury protected by polyvinyl alcohol sponge. <i>Materials Science and Engineering C</i> , 2014, 42, 608-614.	7.3	38
23	Measurement of the circumferential mechanical properties of the umbilical vein: experimental and numerical analyses. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2015, 18, 1418-1426.	1.6	38
24	A NONLINEAR HYPERELASTIC BEHAVIOR TO IDENTIFY THE MECHANICAL PROPERTIES OF RAT SKIN UNDER UNIAXIAL LOADING. <i>Journal of Mechanics in Medicine and Biology</i> , 2014, 14, 1450075.	0.7	37
25	An experimental study on the mechanical properties of rat brain tissue using different stress-strain definitions. <i>Journal of Materials Science: Materials in Medicine</i> , 2014, 25, 1623-1630.	3.6	37
26	Measurement of the Mechanical Failure of Polyvinyl Alcohol Sponge Using Biaxial Puncture Test. <i>Journal of Biomaterials and Tissue Engineering</i> , 2014, 4, 46-50.	0.1	33
27	Changes in blocking mechanisms during membrane processing of pomegranate juice. <i>International Journal of Food Science and Technology</i> , 2009, 44, 2135-2141.	2.7	31
28	Mechanical characterization of the rat and mice skin tissues using histostructural and uniaxial data. <i>Bioengineered</i> , 2015, 6, 153-160.	3.2	30
29	A lumped parameter mathematical model to analyze the effects of tachycardia and bradycardia on the cardiovascular system. <i>International Journal of Numerical Modelling: Electronic Networks, Devices and Fields</i> , 2015, 28, 346-357.	1.9	30
30	A comparative study on the uniaxial mechanical properties of the umbilical vein and umbilical artery using different stress-strain definitions. <i>Australasian Physical and Engineering Sciences in Medicine</i> , 2014, 37, 645-654.	1.3	29
31	Mathematical Modelling and Electrical Analog Equivalent of the Human Cardiovascular System. <i>Cardiovascular Engineering (Dordrecht, Netherlands)</i> , 2010, 10, 45-51.	1.0	28
32	COMPARISON BETWEEN ULTRAFILTRATION AND MICROFILTRATION IN THE CLARIFICATION OF POMEGRANATE JUICE. <i>Journal of Food Process Engineering</i> , 2012, 35, 424-436.	2.9	28
33	Measurement of the uniaxial mechanical properties of rat skin using different stress-strain definitions. <i>Skin Research and Technology</i> , 2015, 21, 149-157.	1.6	27
34	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. <i>Bioengineered</i> , 2017, 8, 154-170.	3.2	27
35	Measurement of the nonlinear mechanical properties of a poly(vinyl alcohol) sponge under longitudinal and circumferential loading. <i>Journal of Applied Polymer Science</i> , 2014, 131, .	2.6	26
36	A comparative study on the elastic modulus of polyvinyl alcohol sponge using different stress-strain definitions. <i>Biomedizinische Technik</i> , 2014, 59, 439-46.	0.8	25

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37	Determination of the axial and circumferential mechanical properties of the skin tissue using experimental testing and constitutive modeling. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2015, 18, 1768-1774.	1.6	25
38	Numerical Evaluation of Stenosis Location Effects on Hemodynamics and Shear Stress Through Curved Artery. <i>Journal of Biomaterials and Tissue Engineering</i> , 2014, 4, 358-366.	0.1	25
39	An Experimental Study on the Structural and Mechanical Properties of Polyvinyl Alcohol Sponge Using Different Stress-Strain Definitions. <i>Advances in Polymer Technology</i> , 2014, 33, .	1.7	24
40	Mechanical Characterization of Peritoneum/Fascia Under Uniaxial Loading. <i>Journal of Biomaterials and Tissue Engineering</i> , 2014, 4, 189-193.	0.1	24
41	Influence of Poly(acrylic acid) on the Mechanical Properties of Composite Hydrogels. <i>Advances in Polymer Technology</i> , 2015, 34, .	1.7	22
42	Cylindrical agar gel with fluid flow subjected to an alternating magnetic field during hyperthermia. <i>International Journal of Hyperthermia</i> , 2015, 31, 33-39.	2.5	22
43	Hemodynamic investigation of intraluminal thrombus effect on the wall stress in a stented three-layered aortic aneurysm model under pulsatile flow. <i>Artery Research</i> , 2015, 10, 11.	0.6	21
44	A Combination of Constitutive Damage Model and Artificial Neural Networks to Characterize the Mechanical Properties of the Healthy and Atherosclerotic Human Coronary Arteries. <i>Artificial Organs</i> , 2017, 41, E103-E117.	1.9	21
45	Wall stress in media layer of stented three-layered aortic aneurysm at different intraluminal thrombus locations with pulsatile heart cycle. <i>Journal of Medical Engineering and Technology</i> , 2015, 39, 239-245.	1.4	20
46	Quantifying the injury of the human eye components due to tennis ball impact using a computational fluid-structure interaction model. <i>Sports Engineering</i> , 2016, 19, 105-115.	1.1	20
47	Alteration in the Mechanical Properties of Human Ovum Zona Pellucida Following Fertilization: Experimental and Analytical Studies. <i>Experimental Mechanics</i> , 2011, 51, 175-182.	2.0	19
48	Effect of exercise on blood flow through the aortic valve: a combined clinical and numerical study. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2014, 17, 1821-1834.	1.6	16
49	A computational fluid-structure interaction model of the blood flow in the healthy and varicose saphenous vein. <i>Vascular</i> , 2016, 24, 254-263.	0.9	16
50	Integrated microfluidic system for efficient DNA extraction using on-disk magnetic stirrer micromixer. <i>Sensors and Actuators B: Chemical</i> , 2022, 351, 130919.	7.8	16
51	Computing the influences of different Intraocular Pressures on the human eye components using computational fluid-structure interaction model. <i>Technology and Health Care</i> , 2017, 25, 285-297.	1.2	15
52	Finite element simulation of an artificial intervertebral disk using fiber reinforced laminated composite model. <i>Tissue and Cell</i> , 2014, 46, 299-303.	2.2	14
53	A NUMERICAL STUDY ON THE HEMODYNAMIC AND SHEAR STRESS OF DOUBLE ANEURYSM THROUGH S-SHAPED VESSEL. <i>Biomedical Engineering - Applications, Basis and Communications</i> , 2015, 27, 1550033.	0.6	14
54	Mechanical Properties of the Human Sclera Under Various Strain Rates: Elastic, Hyperelastic, and Viscoelastic Models. <i>Journal of Biomaterials and Tissue Engineering</i> , 2017, 7, 686-695.	0.1	14

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55	Dynamic finite element simulation of the gunshot injury to the human forehead protected by polyvinyl alcohol sponge. <i>Journal of Materials Science: Materials in Medicine</i> , 2016, 27, 74.	3.6	13
56	Cardiac cell differentiation of muscle satellite cells on aligned composite electrospun polyurethane with reduced graphene oxide. <i>Journal of Polymer Research</i> , 2019, 26, 1.	2.4	13
57	Heat and mass transfer in the hyperthermia cancer treatment by magnetic nanoparticles. <i>Heat and Mass Transfer</i> , 2022, 58, 1029-1039.	2.1	12
58	Frequency dependent multiphase flows on centrifugal microfluidics. <i>Lab on A Chip</i> , 2020, 20, 514-524.	6.0	11
59	A COMBINATION OF EXPERIMENTAL AND NUMERICAL ANALYSES TO MEASURE THE COMPRESSIVE MECHANICAL PROPERTIES OF TENNIS BALL. <i>Biomedical Engineering - Applications, Basis and Communications</i> , 2015, 27, 1550039.	0.6	10
60	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. <i>Biomedizinische Technik</i> , 2015, 60, 593-602.	0.8	10
61	Measurement of the viscoelastic mechanical properties of the skin tissue under uniaxial loading. <i>Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications</i> , 2016, 230, 418-425.	1.1	10
62	A multi-channel acoustics monitor for perioperative respiratory monitoring: preliminary data. <i>Journal of Clinical Monitoring and Computing</i> , 2016, 30, 107-118.	1.6	10
63	Mathematical modelling of mass transfer in the concentration polarisation layer of flat-sheet membranes during clarification of pomegranate juice. <i>International Journal of Food Science and Technology</i> , 2010, 45, 2096-2100.	2.7	9
64	Localized air-mediated heating method for isothermal and rapid thermal processing on lab-on-a-disk platforms. <i>Sensors and Actuators B: Chemical</i> , 2019, 294, 270-282.	7.8	9
65	Measurement of the mechanical properties of the handball, volleyball, and basketball using DIC method: a combination of experimental, constitutive, and viscoelastic models. <i>Sport Sciences for Health</i> , 2015, 11, 295-303.	1.3	8
66	A comparative study on the mechanical properties of the healthy and varicose human saphenous vein under uniaxial loading. <i>Journal of Medical Engineering and Technology</i> , 2015, 39, 490-497.	1.4	8
67	Mathematical modelling of intra-aortic balloon pump. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2010, 13, 567-576.	1.6	7
68	Measurement of the axial and circumferential mechanical properties of rat skin tissue at different anatomical locations. <i>Biomedizinische Technik</i> , 2015, 60, 115-22.	0.8	7
69	A comparative finite element analysis of two types of axial and radial functionally graded dental implants with titanium one around implant-bone interface. <i>Science and Engineering of Composite Materials</i> , 2017, 24, 747-754.	1.4	7
70	Haemodynamic of blood flow through stenotic aortic valve. <i>Journal of Medical Engineering and Technology</i> , 2017, 41, 108-114.	1.4	7
71	Modelling the membrane clarification of pomegranate juice with computational fluid dynamics. <i>European Food Research and Technology</i> , 2011, 232, 671-677.	3.3	6
72	MAGNETIC FLUID HYPERTHERMIA IN A CYLINDRICAL GEL CONTAINS WATER FLOW. <i>Journal of Mechanics in Medicine and Biology</i> , 2015, 15, 1550088.	0.7	6

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73	Investigation of a new prototype of multi-balloons LVAD using FSI. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2018, 40, 1.	1.6	6
74	Enhancement of dropwise condensation heat transfer on hydrophilic-hydrophobic hybrid surface using microparticles. Experimental Heat Transfer, 2022, 35, 533-552.	3.2	6
75	A 3D Finite Element Study for Stress Analysis in Bone Tissue Around Single Implants with Different Materials and Various Bone Qualities. Journal of Biomaterials and Tissue Engineering, 2014, 4, 632-637.	0.1	6
76	Modeling of Balloon Part of a New Cardiac Assist Device Known as AVICENA. Journal of Biomaterials and Tissue Engineering, 2014, 4, 772-777.	0.1	6
77	Modeling the Circle of Willis Using Electrical Analogy Method under both Normal and Pathological Circumstances. Journal of Biomedical Physics and Engineering, 2013, 3, 45-56.	0.9	6
78	MODELING OF CORONARY ARTERY BALLOON-ANGIOPLASTY USING EQUIVALENT ELECTRICAL CIRCUIT. Biomedical Engineering - Applications, Basis and Communications, 2014, 26, 1450039.	0.6	5
79	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
80	Measurement of the mechanical properties of soccer balls using digital image correlation method. Sport Sciences for Health, 2016, 12, 69-76.	1.3	5
81	Demonstration of an efficient, compact and precise pumping method by centrifugal inertia for lab on disk platforms. Journal of Micromechanics and Microengineering, 2019, 29, 075001.	2.6	5
82	A Three-Dimensional Finite Element Study to Characterize the Influence of Load Direction on Stress Distribution in Bone Around Dental Implant. Journal of Biomaterials and Tissue Engineering, 2014, 4, 693-699.	0.1	5
83	Three-dimensional modeling of Marfan syndrome with elastic and hyperelastic materials assumptions using fluid-structure interaction. Bio-Medical Materials and Engineering, 2019, 30, 255-266.	0.6	4
84	New insights into the role of Al <sub>2</sub> O <sub>3</sub> nano-supplements in mechanical performance of PMMA and PMMA/HA bone cements using nanoindentation and nanoscratch measurements. Materials Technology, 2021, 36, 212-220.	3.0	4
85	Centrifugal isolation of SARS-CoV-2: numerical simulation for purification of hospitals' air. Biomechanics and Modeling in Mechanobiology, 2021, 20, 1809-1817.	2.8	4
86	Modeling and simulation of magnetic nanoparticles' trajectories through a tumorous and healthy microvasculature. Journal of Magnetism and Magnetic Materials, 2021, 537, 168178.	2.3	4
87	Investigating the performance of four specific types of material grafts and their effects on hemodynamic patterns as well as on von Mises stresses in a grafted three-layer aortic model using fluid-structure interaction analysis. Journal of Medical Engineering and Technology, 2017, 41, 630-643.	1.4	3
88	Numerical modeling of a prototype cardiac assist device by implementing fluid-structure interaction. Artery Research, 2018, 22, 24.	0.6	3
89	To study the effects of nano-additives and nano-indentation variables on viscoplastic behaviour of a polymeric orthopaedic bone cement. Materials Research Express, 2019, 6, 125422.	1.6	3
90	Biomechanical, Structural and Performance Analysis of a Specific Type of Cardiac Assist Device Used in Left Ventricular Failures. Iranian Journal of Science and Technology - Transactions of Mechanical Engineering, 2020, 44, 1053-1064.	1.3	3

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91	A Numerical Modeling of A Vascular Implantable Cardiac Endovascular Assistant (AVICENA). Journal of Multiscale Modeling, 2015, 06, 1550004.	1.1	2
92	A Comparative Investigation on the Performance of Different Micro Mixers: Toward Cerebral Microvascular Analysis. Journal of Multiscale Modeling, 2017, 08, 1650008.	1.1	2
93	Effects of temperature distribution in the tissue around the tumor on the quality of hyperthermia. , 2018, , .		2
94	Performance and biomechanical analysis of an intra-aortic cardiac assist device in different boundary conditions. Journal of Mechanical Science and Technology, 2018, 32, 3995-4002.	1.5	2
95	HEMODYNAMIC INVESTIGATION OF SUBCLAVIAN-CORONARY STEAL SYNDROME IN DIALYSIS PATIENTS WITH CORONARY ARTERY OCCLUSION AND DIFFERENT STENOSIS PERCENTAGES IN SUBCLAVIAN ARTERY. Journal of Mechanics in Medicine and Biology, 2019, 19, 1950052.	0.7	2
96	Inertial cell sorting of microparticle-laden flows: An innovative OpenFOAM-based arbitrary Lagrangian-Eulerian numerical approach. Biomicrofluidics, 2021, 15, 014111.	2.4	2
97	Coupling Contraction-expansion Arrays with Spiral Microchannels to Enhance Microfluidic-Based Particle/Cell Separation. International Journal of Computational Fluid Dynamics, 2022, 36, 63-90.	1.2	2
98	A morphology-based method for the diagnosis of red blood cells parasitized by Plasmodium malariae and Plasmodium ovale. Scandinavian Journal of Infectious Diseases, 2014, 46, 368-375.	1.5	1
99	A New Mechanism for the Plasma Separation from Whole Blood on the Lab-on-a-Disk Systems Based on Moment of Inertia Method. , 2017, , .		1
100	Collateral flow at circle of Willis in healthy condition. Perfusion (United Kingdom), 2021, , 026765912098755.	1.0	1
101	Simultaneous Modeling of Young's Modulus, Yield Stress, and Rupture Strain of Gelatin/Cellulose Acetate Microfibrous/Nanofibrous Scaffolds Using RSM. Frontiers in Bioengineering and Biotechnology, 2021, 9, 718718.	4.1	1
102	Numerical study of centrifuge-trapping technique for generating gas-liquid flows in microchannels. Physics of Fluids, 0, , .	4.0	1
103	THE EFFECTS OF IMPLANTING DIFFERENT STENTS ON THE BLOOD HEMODYNAMIC IN CORONARY ARTERIES. Biomedical Engineering - Applications, Basis and Communications, 2013, 25, 1350056.	0.6	0