Raj K Prabhu

List of Publications by Year
in descending order

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65	616	687220	752573
papers	citations	13 h-index	20 g-index

66	66	66	628
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A macroscale mechano-physiological internal state variable (MPISV) model for neuronal membrane damage with subscale microstructural effects. , 2022, , 119-138.		0
2	Density functional theory and bridging to classical interatomic force fields. , 2022, , 39-52.		1
3	Microscale mechanical modeling of brain neuron(s) and axon(s). , 2022, , 77-84.		0
4	Mesoscale finite element modeling of brain structural heterogeneities and geometrical complexities. , 2022, , 85-102.		0
5	Introduction to multiscale modeling of the human brain. , 2022, , 27-38.		0
6	Robust concept exploration of driverâ€™s side vehicular impacts for human-centric crashworthiness. , 2022, , 153-176.		1
7	Modeling nanoscale cellular structures using molecular dynamics. , 2022, , 53-76.		0
8	A Computational Framework for Human-Centric Vehicular Crashworthiness Design and Decision-Making Under Uncertainty. ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering, 2022, 8, .	0.7	1
9	A mesoscale finite element modeling approach for understanding brain morphology and material heterogeneity effects in chronic traumatic encephalopathy. Computer Methods in Biomechanics and Biomedical Engineering, 2021, 24, 1169-1183.	0.9	4
10	Shear-deformation based continuum-damage constitutive modeling of brain tissue. Journal of Biomechanics, 2021, 117, 110260.	0.9	5
11	Deleterious effects of wholeâ€body vibration on the spine: A review of in vivo, ex vivo, and in vitro models. Animal Models and Experimental Medicine, 2021, 4, 77-86.	1.3	11
12	A finite elementâ€“guided mathematical surrogate modeling approach for assessing occupant injury trends across variations in simplified vehicular impact conditions. Medical and Biological Engineering and Computing, 2021, 59, 1065-1079.	1.6	9
13	Biomechanical properties of acellular scar ECM during the acute to chronic stages of myocardial infarction. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 116, 104342.	1.5	10
14	Molecular dynamics simulations of phospholipid bilayer mechanoporation under different strain statesâ€”a comparison between GROMACS and LAMMPS. Modelling and Simulation in Materials Science and Engineering, 2021, 29, 055015.	0.8	4
15	In Silico Finite Element Analysis of the Foot Ankle Complex Biomechanics: A Literature Review. Journal of Biomechanical Engineering, 2021, 143, .	0.6	5
16	Phase-field-lattice Boltzmann method for dendritic growth with melt flow and thermosolutal convectionâ€“diffusion. Computer Methods in Applied Mechanics and Engineering, 2021, 385, 114026.	3.4	13
17	Material response characterization of three poly jet printed materials used in a high fidelity human infant skull. Materials Today: Proceedings, 2020, 20, 408-413.	0.9	13
18	Closing the Wearable Gap-Part VII: A Retrospective of Stretch Sensor Tool Kit Development for Benchmark Testing. Electronics (Switzerland), 2020, 9, 1457.	1.8	8

#	Article	IF	Citations
19	Closing the Wearable Gapâ€"Part VI: Human Gait Recognition Using Deep Learning Methodologies. Electronics (Switzerland), 2020, 9, 796.	1.8	19
20	Wearable Stretch Sensors for Human Movement Monitoring and Fall Detection in Ergonomics. International Journal of Environmental Research and Public Health, 2020, 17, 3554.	1.2	56
21	Closing the Wearable Gapâ€"Part V: Development of a Pressure-Sensitive Sock Utilizing Soft Sensors. Sensors, 2020, 20, 208.	2.1	17
22	Closing the Wearable Gapâ€"Part II: Sensor Orientation and Placement for Foot and Ankle Joint Kinematic Measurements. Sensors, 2019, 19, 3509.	2.1	22
23	Data mining the effects of testing conditions and specimen properties on brain biomechanics. International Biomechanics, 2019, 6, 34-46.	0.9	3
24	A Mechanical Brain Damage Framework Used to Model Abnormal Brain Tau Protein Accumulations of National Football League Players. Annals of Biomedical Engineering, 2019, 47, 1873-1888.	1.3	21
25	Closing the Wearable Gapâ€"Part III: Use of Stretch Sensors in Detecting Ankle Joint Kinematics During Unexpected and Expected Slip and Trip Perturbations. Electronics (Switzerland), 2019, 8, 1083.	1.8	18
26	State-of-the-Art Modeling and Simulation of the Brainâ€™s Response to Mechanical Loads. Annals of Biomedical Engineering, 2019, 47, 1829-1831.	1.3	16
27	A Comparative Study of the Kinematic Response and Injury Metrics Associated with Adults and Children Impacted by an Auto Rickshaw. Advances in Intelligent Systems and Computing, 2019, , 424-443.	0.5	2
28	Mechanical Response of Porcine Liver Tissue under High Strain Rate Compression. Bioengineering, 2019, 6, 49.	1.6	9
29	A coupled physical-computational methodology for the investigation of short fall related infant head impact injury. Forensic Science International, 2019, 300, 170-186.	1.3	6
30	Damage biomechanics for neuronal membrane mechanoporation. Modelling and Simulation in Materials Science and Engineering, 2019, 27, 065004.	0.8	8
31	Compressive Mechanical Properties of Porcine Brain: Experimentation and Modeling of the Tissue Hydration Effects. Bioengineering, 2019, 6, 40.	1.6	11
32	Multiscale Modeling of the Damage Biomechanics of Traumatic Brain Injury. Biophysical Journal, 2019, 116, 322a.	0.2	6
33	Closing the Wearable Gapâ€"Part IV: 3D Motion Capture Cameras Versus Soft Robotic Sensors Comparison of Gait Movement Assessment. Electronics (Switzerland), 2019, 8, 1382.	1.8	12
34	Molecular dynamics simulations showing 1-palmitoyl-2-oleoyl-phosphatidylcholine (POPC) membrane mechanoporation damage under different strain paths. Journal of Biomolecular Structure and Dynamics, 2019, 37, 1346-1359.	2.0	8
35	AN ANATOMICALLY-RELEVANT COMPUTATIONAL MODEL FOR PRIMARY BLAST EFFECTS ON THE HUMAN LOWER EXTREMITY. Journal of Mechanics in Medicine and Biology, 2018, 18, 1850057.	0.3	2
36	Quantitative Analysis of Tissue Damage Evolution in Porcine Liver With Interrupted Mechanical Testing Under Tension, Compression, and Shear. Journal of Biomechanical Engineering, 2018, 140, .	0.6	10

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37	Biomechanical properties and microstructure of neonatal porcine ventricles. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 88, 18-28.	1.5	20
38	Region-Specific Microstructure in the Neonatal Ventricles of a Porcine Model. Annals of Biomedical Engineering, 2018, 46, 2162-2176.	1.3	9
39	Comparison of shell-facemask responses in American football helmets during NOCSAE drop tests. Sports Engineering, 2017, 20, 199-211.	0.5	7
40	Modified Drop Tower Impact Tests for American Football Helmets. Journal of Visualized Experiments, 2017, , .	0.2	2
41	Constitutive behaviour of paddlefish (Polyodon spathula) cartilage. Bioinspired, Biomimetic and Nanobiomaterials, 2017, 6, 236-243.	0.7	3
42	The geometric effects of a woodpeckerâ€™s hyoid apparatus for stress wave mitigation. Bioinspiration and Biomimetics, 2016, 11, 066004.	1.5	12
43	Nanomechanics of phospholipid bilayer failure under strip biaxial stretching using molecular dynamics. Modelling and Simulation in Materials Science and Engineering, 2016, 24, 055008.	0.8	28
44	Constrained topological optimization of a football helmet facemask based on brain response. Materials and Design, 2016, 111, 108-118.	3.3	24
45	EXPERIMENTAL OBSERVATION OF HIGH STRAIN RATE RESPONSES OF PORCINE BRAIN, LIVER, AND TENDON. Journal of Mechanics in Medicine and Biology, 2016, 16, 1650032.	0.3	6
46	Prospective Preliminary In Vitro Investigation of a Magnetic Iron Oxide Nanoparticle Conjugated with Ligand CD80 and VEGF Antibody As a Targeted Drug Delivery System for the Induction of Cell Death in Rodent Osteosarcoma Cells. BioResearch Open Access, 2016, 5, 299-307.	2.6	13
47	Direct synthesis of carbon-based microtubes by hydrothermal carbonization of microorganism cells. Chemical Engineering Journal, 2015, 276, 322-330.	6.6	11
48	Experimental Evidence of Mechanical Isotropy in Porcine Lung Parenchyma. Materials, 2015, 8, 2454-2466.	1.3	11
49	Uncertainty analysis of an irrigation scheduling model for water management in crop production. Agricultural Water Management, 2015, 155, 100-112.	2.4	10
50	On the Bending Properties of Porcine Mitral, Tricuspid, Aortic, and Pulmonary Valve Leaflets. Journal of Long-Term Effects of Medical Implants, 2015, 25, 41-53.	0.2	15
51	3D Printingâ€“Assisted Rapid Prototyping and Optimization: Development of a Novel Small Intestinal Cannula for Equine Research. 3D Printing and Additive Manufacturing, 2014, 1, 104-106.	1.4	4
52	FINITE ELEMENT ANALYSIS OF THE HUMAN HEAD UNDER SIDE CAR CRASH IMPACTS AT DIFFERENT SPEEDS. Journal of Mechanics in Medicine and Biology, 2014, 14, 1440002.	0.3	9
53	Geometric Effects on Stress Wave Propagation. Journal of Biomechanical Engineering, 2014, 136, 021023.	0.6	11
54	Quantitative analysis of brain microstructure following mild blunt and blast trauma. Journal of Biomechanics, 2014, 47, 3704-3711.	0.9	11

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55	Examination of Geometric Effects on Stress Wave Propagation and Applications in Football Helmet Design. , 2013, , .		0
56	Simulation Based Development and Analysis of Helmet-to-Helmet Collision. , 2013, , .		0
57	Effect of Thermosensitive Hydrogel Injection on Mechanical Behavior of Porcine Myocardium. , 2013, , .		0
58	Validation of Finite Element Lower Extremity Model Using Drop Tower Testing. , 2013, , .		0
59	Stress State and Strain Rate Dependence of the Human Placenta. Annals of Biomedical Engineering, 2012, 40, 2255-2265.	1.3	14
60	Coupled experiment/finite element analysis on the mechanical response of porcine brain under high strain rates. Journal of the Mechanical Behavior of Biomedical Materials, 2011, 4, 1067-1080.	1.5	36
61	Traumatic Brain Injury: Coupled Experiment/Finite Element Simulation on High Rate Mechanical Response of Porcine Brain. , 2010, , .		0
62	The Influence of Strain Rate Dependency on the Structureâ€“Property Relations of Porcine Brain. Annals of Biomedical Engineering, 2010, 38, 3043-3057.	1.3	27
63	Traumatic Injury: Mechanical Response of Porcine Liver Tissue Under High Strain Rate Compression Testing. , 2009, , .		0
64	Traumatic Brain Injury: Mechanical Response of Porcine Brain Under High Strain Rate Tests. , 2009, , .		1
65	Evaluation of occupant neck injury response to varied impact conditions using a finite element-mathematical surrogate modeling approach. International Journal of Crashworthiness, 0, , 1-17.	1.1	1