

Costin D Untaroiu

List of Publications by Year in descending order

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91
papers

1,751
citations

279798

23
h-index

345221

36
g-index

91
all docs

91
docs citations

91
times ranked

920
citing authors

#	ARTICLE	IF	CITATIONS
1	Rib fractures under anterior-posterior dynamic loads: Experimental and finite-element study. <i>Journal of Biomechanics</i> , 2010, 43, 228-234.	2.1	116
2	Crash reconstruction of pedestrian accidents using optimization techniques. <i>International Journal of Impact Engineering</i> , 2009, 36, 210-219.	5.0	90
3	A Finite Element Model of the Foot and Ankle for Automotive Impact Applications. <i>Annals of Biomedical Engineering</i> , 2012, 40, 2519-2531.	2.5	89
4	Influence of pre-collision occupant parameters on injury outcome in a frontal collision. <i>Accident Analysis and Prevention</i> , 2010, 42, 1398-1407.	5.7	68
5	Human surrogates for injury biomechanics research. <i>Clinical Anatomy</i> , 2011, 24, 362-371.	2.7	66
6	A Finite Element Model of the Lower Limb for Simulating Automotive Impacts. <i>Annals of Biomedical Engineering</i> , 2013, 41, 513-526.	2.5	66
7	A transfer matrix method for free vibration analysis of Euler-Bernoulli beams with variable cross section. <i>JVC/Journal of Vibration and Control</i> , 2016, 22, 2591-2602.	2.6	59
8	Analysis of running child pedestrians impacted by a vehicle using rigid-body models and optimization techniques. <i>Safety Science</i> , 2010, 48, 259-267.	4.9	44
9	Statistical shape analysis of clavicular cortical bone with applications to the development of mean and boundary shape models. <i>Computer Methods and Programs in Biomedicine</i> , 2013, 111, 613-628.	4.7	42
10	A design optimization approach of vehicle hood for pedestrian protection. <i>International Journal of Crashworthiness</i> , 2007, 12, 581-589.	1.9	40
11	Identification of occupant posture using a Bayesian classification methodology to reduce the risk of injury in a collision. <i>Transportation Research Part C: Emerging Technologies</i> , 2011, 19, 1078-1094.	7.6	38
12	Material characterization of liver parenchyma using specimen-specific finite element models. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2013, 26, 11-22.	3.1	37
13	Numerical Modeling of Fluid-Induced Rotordynamic Forces in Seals With Large Aspect Ratios. <i>Journal of Engineering for Gas Turbines and Power</i> , 2013, 135, .	1.1	37
14	A finite element model of the lower limb for simulating pedestrian impacts. <i>Stapp Car Crash Journal</i> , 2005, 49, 157-81.	1.1	37
15	Balancing of Flexible Rotors Using Convex Optimization Techniques: Optimum Min-Max LMI Influence Coefficient Balancing. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2008, 130, .	1.6	36
16	Injury Tolerance and Moment Response of the Knee Joint to Combined Valgus Bending and Shear Loading. <i>Journal of Biomechanical Engineering</i> , 2008, 130, 031008.	1.3	35
17	A study of the pedestrian impact kinematics using finite element dummy models: the corridors and dimensional analysis scaling of upper-body trajectories. <i>International Journal of Crashworthiness</i> , 2008, 13, 469-478.	1.9	35
18	A finite element model of a six-year-old child for simulating pedestrian accidents. <i>Accident Analysis and Prevention</i> , 2017, 98, 206-213.	5.7	31

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19	Constrained Design Optimization of Rotor-Tilting Pad Bearing Systems. Journal of Engineering for Gas Turbines and Power, 2010, 132, .	1.1	29
20	On the Dynamic Properties of Pump Liquid Seals. Journal of Fluids Engineering, Transactions of the ASME, 2013, 135, .	1.5	29
21	Potential of Pedestrian Protection Systems – A Parameter Study Using Finite Element Models of Pedestrian Dummy and Generic Passenger Vehicles. Traffic Injury Prevention, 2011, 12, 398-411.	1.4	28
22	A Numerical Investigation on the Variation in Hip Injury Tolerance With Occupant Posture During Frontal Collisions. Traffic Injury Prevention, 2014, 15, 513-522.	1.4	28
23	A numerical investigation of mid-femoral injury tolerance in axial compression and bending loading. International Journal of Crashworthiness, 2010, 15, 83-92.	1.9	26
24	A Finite Element Model of the Lower Limb for Simulating Pedestrian Impacts. , 0, .		25
25	Biomechanical and Injury Response of Human Foot and Ankle Under Complex Loading. Journal of Biomechanical Engineering, 2013, 135, 101008.	1.3	24
26	Effect of storage on tensile material properties of bovine liver. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 29, 339-349.	3.1	24
27	A Finite Element Model of a Midsize Male for Simulating Pedestrian Accidents. Journal of Biomechanical Engineering, 2018, 140, .	1.3	24
28	Effect of seat belt pretensioners on human abdomen and thorax. Journal of Trauma, 2012, 72, 1304-1315.	2.3	22
29	Assessment of a dummy model in crash simulations using rating methods. International Journal of Automotive Technology, 2013, 14, 395-405.	1.4	22
30	Performance-Based Classification of Occupant Posture to Reduce the Risk of Injury in a Collision. IEEE Transactions on Intelligent Transportation Systems, 2013, 14, 565-573.	8.0	22
31	Modeling the biomechanical and injury response of human liver parenchyma under tensile loading. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 41, 280-291.	3.1	21
32	Statistical shape analysis of the human spleen geometry for probabilistic occupant models. Journal of Biomechanics, 2016, 49, 1540-1546.	2.1	21
33	Development and validation of pedestrian sedan bucks using finite-element simulations: a numerical investigation of the influence of vehicle automatic braking on the kinematics of the pedestrian involved in vehicle collisions. International Journal of Crashworthiness, 2010, 15, 491-503.	1.9	20
34	A New Approach to Multibody Model Development: Pedestrian Lower Extremity. Traffic Injury Prevention, 2009, 10, 386-397.	1.4	18
35	Hole-Pattern Seals Performance Evaluation Using Computational Fluid Dynamics and Design of Experiment Techniques. Journal of Engineering for Gas Turbines and Power, 2014, 136, .	1.1	18
36	Development, Calibration, and Validation of a Head-Neck Complex of THOR Mod Kit Finite Element Model. Traffic Injury Prevention, 2014, 15, 844-854.	1.4	18

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37	A statistical geometrical description of the human liver for probabilistic occupant models. Journal of Biomechanics, 2014, 47, 3681-3688.	2.1	17
38	Effect of storage methods on indentation-based material properties of abdominal organs. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2013, 227, 293-301.	1.8	16
39	Development and evaluation of a finite element model of the THOR for occupant protection of spaceflight crewmembers. Accident Analysis and Prevention, 2015, 82, 244-256.	5.7	16
40	Finite Element Model of a High-Stature Male Pedestrian for Simulating Car-to-Pedestrian Collisions. International Journal of Automotive Technology, 2019, 20, 445-453.	1.4	15
41	The tolerance of the femoral shaft in combined axial compression and bending loading. Stapp Car Crash Journal, 2009, 53, 251-90.	1.1	15
42	Development and Validation of an Occupant Lower Limb Finite Element Model. , 0, , .		14
43	Validation of a booted finite element model of the WIAMan ATD lower limb in component and whole-body vertical loading impacts with an assessment of the boot influence model on response. Traffic Injury Prevention, 2018, 19, 549-554.	1.4	14
44	Finite element modeling of the human kidney for probabilistic occupant models: Statistical shape analysis and mesh morphing. Journal of Biomechanics, 2018, 74, 50-56.	2.1	13
45	Statistical modeling of human liver incorporating the variations in shape, size, and material properties. Stapp Car Crash Journal, 2013, 57, 285-311.	1.1	13
46	Review of compressed snow mechanics: Testing methods. Journal of Terramechanics, 2022, 100, 25-37.	3.1	12
47	Pedestrian Lower Extremity Response and Injury: A Small Sedan vs. A Large Sport Utility Vehicle. SAE International Journal of Passenger Cars - Mechanical Systems, 2008, 1, 985-1002.	0.4	11
48	Mechanical characterization and finite element implementation of the soft materials used in a novel anthropometric test device for simulating underbody blast loading. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 74, 358-364.	3.1	11
49	A finite element model of an anthropomorphic test device lower limb to assess risk of injuries during vertical accelerative loading. Journal of Biomechanics, 2018, 81, 104-112.	2.1	11
50	Evaluation of finite element human body models for use in a standardized protocol for pedestrian safety assessment. Traffic Injury Prevention, 2019, 20, S32-S36.	1.4	11
51	Development and validation of a finite element model of a small female pedestrian. Computer Methods in Biomechanics and Biomedical Engineering, 2020, 23, 1336-1346.	1.6	10
52	Numerical investigation of occupant injury risks in car-to-end terminal crashes using dummy-based injury criteria and vehicle-based crash severity metrics. Accident Analysis and Prevention, 2020, 145, 105700.	5.7	9
53	Correlation of strain and loads measured in the long bones with observed kinematics of the lower limb during vehicle-pedestrian impacts. Stapp Car Crash Journal, 2007, 51, 433-66.	1.1	9
54	Development and Validation of a Finite Element Model of the Lower Limb. , 2004, , 53.		8

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55	Development and Preliminary Validation of a 50th Percentile Pedestrian Finite Element Model. , 2015, , .		8
56	A detailed finite element model of a mid-sized male for the investigation of traffic pedestrian accidents. Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 2021, 235, 300-313.	1.8	8
57	Dynamic Stability Analysis of Periodically Time-Varying Rotor System with a Transverse Crack. Engineering, 2011, 03, 719-725.	0.8	8
58	Material Identification using Successive Response Surface Methodology, with Application to a Human Femur Subjected to Three-Point Bending Loading. , 0, , .		7
59	Computational Modeling and Experimental Investigation of Static Straight-Through Labyrinth Seals. , 2008, , .		7
60	Minimization of Analytical Injury Metrics for Head Impact Injuries. Traffic Injury Prevention, 2012, 13, 278-285.	1.4	7
61	Finite Element Model of the THOR-NT Dummy under Vertical Impact Loading for Aerospace Injury Prediction: Model Evaluation and Sensitivity Analysis. Journal of the American Helicopter Society, 2015, 60, 1-10.	0.8	7
62	A Review of Pediatric Lower Extremity Data for Pedestrian Numerical Modeling: Injury Epidemiology, Anatomy, Anthropometry, Structural, and Mechanical Properties. Applied Bionics and Biomechanics, 2018, 2018, 1-19.	1.1	7
63	Investigating Pedestrian Kinematics with the Polar-II Finite Element Model. , 2007, , .		6
64	Subject-specific rib finite element models with material data derived from coupon tests under bending loading. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 116, 104358.	3.1	6
65	The Influence of Gait Stance and Vehicle Type on Pedestrian Kinematics and Injury Risk. Journal of Biomechanical Engineering, 2021, 143, .	1.3	6
66	Correlation of Strain and Loads Measured in the Long Bones With Observed Kinematics of the Lower Limb During Vehicle-Pedestrian Impacts. , 0, , .		6
67	An examination of the performance of damaged energy-absorbing end terminals. Accident Analysis and Prevention, 2020, 147, 105789.	5.7	5
68	Experimental and computational investigation of human clavicle response in anterior-posterior bending loading - biomed 2009. Biomedical Sciences Instrumentation, 2009, 45, 6-11.	0.2	5
69	Thoracic Response to Shoulder Belt Loading: Investigation of Chest Stiffness and Longitudinal Strain Pattern of Ribs. , 2009, , .		4
70	The Influence of the Specimen Shape and Loading Conditions on the Parameter Identification of a Viscoelastic Brain Model. Computational and Mathematical Methods in Medicine, 2013, 2013, 1-7.	1.3	4
71	Short Communications From AAAM's 60th Annual Scientific Conference. Traffic Injury Prevention, 2016, 17, 175-218.	1.4	4
72	The Tolerance of the Femoral Shaft in Combined Axial Compression and Bending Loading. , 0, , .		4

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73	Statistical Modeling of Human Liver Incorporating the Variations in Shape, Size, and Material Properties. , 0, , .		4
74	Biomechanical injury response of leg subjected to combined axial compressive and bending loading. Biomedical Sciences Instrumentation, 2008, 44, 141-6.	0.2	4
75	Fluid-Induced Forces in Pump Liquid Seals With Large Aspect Ratio. , 2011, , .		3
76	A Finite Element Model of the Occupant Lower Extremity for Automotive Impact Applications. , 2012, , .		3
77	Freezing and decay effects on material properties of porcine kidney and liver. Biomedical Sciences Instrumentation, 2012, 48, 275-81.	0.2	3
78	A Generalized Minmax Influence Coefficient Method for Flexible Rotor Balancing. , 2005, , 1073.		2
79	A Simulation-Based Calibration and Sensitivity Analysis of a Finite Element Model of THOR Head-Neck Complex. , 0, , .		2
80	Numerical Modeling of Fluid-Induced Rotordynamic Forces in Seals With Large Aspect Ratio. , 2012, , .		2
81	A bootstrap approach for lower injury levels of the risk curves. Computer Methods and Programs in Biomedicine, 2012, 106, 274-286.	4.7	2
82	Hole-Pattern Seals Performance Optimization Using Computational Fluid Dynamics and Design of Experiment Techniques. , 2013, , .		2
83	Preliminary Calibration and Validation of a Finite Element Model of THOR Mod Kit Dummy. , 2014, , .		2
84	Development and Validation of a Göttingen Miniature Pig Brain Finite Element Model. , 2016, , .		1
85	The Strain Distribution and Force Transmission Path Through Pubic Rami During Lateral Pelvic Impacts. , 2008, , .		1
86	Investigation of traffic accidents involving seated pedestrians using a finite element simulation-based approach. Computer Methods in Biomechanics and Biomedical Engineering, 2023, 26, 484-497.	1.6	1
87	Automatic Design Optimization of Rotors Supported on Tilting Pad Bearings. , 2009, , .		0
88	Transmitted Power in a Structure Using the Effective Mass Parameters. , 2010, , .		0
89	Finite Element Simulation of Pelvic Fractures in a UAB-CIREN Crash Case of an Automotive Side Impact. , 2013, , .		0
90	Identification of Material Properties of Human Brain under Large Shear Deformation: Analytical versus Finite Element Approach. IFMBE Proceedings, 2010, , 448-451.	0.3	0

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91	Kinematic analyses of instrumentation cubes in vehicle impact experiments. Biomedical Sciences Instrumentation, 2008, 44, 76-81.	0.2	0