Francis Scott Gayzik

List of Publications by Year
in descending order

68	910	471061 17	552369 26
papers	citations	h-index	g-index

69	69	69	553
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Development and implementation of a time- and computationally-efficient methodology for reconstructing real-world crashes using finite element modeling to improve crash injury research investigations. Computer Methods in Biomechanics and Biomedical Engineering, 2022, 25, 1332-1349.	0.9	1
2	Simulated Astronaut Kinematics and Injury Risk for Piloted Lunar Landings and Launches While Standing. Annals of Biomedical Engineering, 2022, 50, 1857-1871.	1.3	4
3	An Improved Method for Developing Injury Risk Curves Using the Brier Metric Score. Annals of Biomedical Engineering, 2021, 49, 3091-3098.	1.3	4
4	Effect of body size and enhanced helmet systems on risk for motorsport drivers. Traffic Injury Prevention, 2021, 22, S49-S55.	0.6	2
5	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.	1.0	8
6	Development and Multi-Scale Validation of a Finite Element Football Helmet Model. Annals of Biomedical Engineering, 2020, 48, 258-270.	1.3	27
7	Comparison of Neck Injury Criteria Values Across Human Body Models of Varying Complexity. Frontiers in Bioengineering and Biotechnology, 2020, 8, 985.	2.0	1
8	Development and validation of a finite element model of a small female pedestrian. Computer Methods in Biomechanics and Biomedical Engineering, 2020, 23, 1336-1346.	0.9	10
9	Simulation-based assessment of injury risk for an average male motorsport driver. Traffic Injury Prevention, 2020, 21, S72-S77.	0.6	6
10	Lumbar Spine Response of Computational Finite Element Models in Multidirectional Spaceflight Landing Conditions. Journal of Biomechanical Engineering, 2020, 142, .	0.6	7
11	Injury risk curves in far-side lateral motor vehicle crashes by AIS level, body region and injury code. Traffic Injury Prevention, 2020, 21, S112-S117.	0.6	7
12	Evaluation of finite element human body models for use in a standardized protocol for pedestrian safety assessment. Traffic Injury Prevention, 2019, 20, S32-S36.	0.6	11
13	Validated thoracic vertebrae and costovertebral joints increase biofidelity of a human body model in hub impacts. Traffic Injury Prevention, 2019, 20, S1-S6.	0.6	9
14	Validation of a simplified human body model in relaxed and braced conditions in low-speed frontal sled tests. Traffic Injury Prevention, 2019, 20, 832-837.	0.6	27
15	Head injury metric response in finite element ATDs and a human body model in multidirectional loading regimes. Traffic Injury Prevention, 2019, 20, S96-S102.	0.6	6
16	Objective Evaluation of Whole Body Kinematics in a Simulated, Restrained Frontal Impact. Annals of Biomedical Engineering, 2019, 47, 512-523.	1.3	15
17	Modeling Human Volunteers in Multidirectional, Uni-axial Sled Tests Using a Finite Element Human Body Model. Annals of Biomedical Engineering, 2019, 47, 487-511.	1.3	18
18	Similitude assessment method for comparing PMHS response data from impact loading across multiple test devices. Journal of Biomechanics, 2018, 72, 258-261.	0.9	0

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19	Feature Specific Assessment of Time History Signals by Objective Evaluation and Subject Matter Expert Opinion. Journal of Verification, Validation and Uncertainty Quantification, 2018, 3, .	0.3	1
20	Applying dynamic contrast enhanced MSOT imaging to intratumoral pharmacokinetic modeling. Photoacoustics, 2018, 11, 28-35.	4.4	11
21	Response to Letter to the Editor on "Deriving injury risk curves using survival analysis from biomechanical experiments", Journal of Biomechanics (in press). Journal of Biomechanics, 2017, 52, 189-190.	0.9	1
22	Modular use of human body models of varying levels of complexity: Validation of head kinematics. Traffic Injury Prevention, 2017, 18, S155-S160.	0.6	15
23	Development and Validation of a Brain Phantom for Therapeutic Cooling Devices. Journal of Biomechanical Engineering, 2017, 139, .	0.6	0
24	A finite element model of a six-year-old child for simulating pedestrian accidents. Accident Analysis and Prevention, 2017, 98, 206-213.	3.0	31
25	An Objective Evaluation of Mass Scaling Techniques Utilizing Computational Human Body Finite Element Models. Journal of Biomechanical Engineering, 2016, 138, .	0.6	4
26	Deriving injury risk curves using survival analysis from biomechanical experiments. Journal of Biomechanics, 2016, 49, 3260-3267.	0.9	36
27	Effects of cervical arthroplasty on neck response during a simulated rotary-wing aircraft impact. International Journal of Crashworthiness, 2016, 21, 323-337.	1.1	3
28	Development and Full Body Validation of a 5th Percentile Female Finite Element Model. Stapp Car Crash Journal, 2016, 60, 509-544.	1.1	25
29	Thoracoabdominal Organ Volumes for Small Women. Traffic Injury Prevention, 2015, 16, 611-617.	0.6	7
30	Quantitative Validation of a Human Body Finite Element Model Using Rigid Body Impacts. Annals of Biomedical Engineering, 2015, 43, 2163-2174.	1.3	52
31	Finite element comparison of human and Hybrid III responses in a frontal impact. Accident Analysis and Prevention, 2015, 85, 125-156.	3.0	19
32	A technique for developing CAD geometry of long bones using clinical CT data. Medical Engineering and Physics, 2015, 37, 1116-1123.	0.8	4
33	Development of a Computationally Efficient Full Human Body Finite Element Model. Traffic Injury Prevention, 2015, 16, S49-S56.	0.6	70
34	Cross-sectional neck response of a total human body FE model during simulated frontal and side automobile impacts. Computer Methods in Biomechanics and Biomedical Engineering, 2015, 18, 293-315.	0.9	19
35	Head and Neck Response of a Finite Element Anthropomorphic Test Device and Human Body Model During a Simulated Rotary-Wing Aircraft Impact. Journal of Biomechanical Engineering, 2014, 136, .	0.6	11
36	Effects of cervical arthrodesis and arthroplasty on neck response during a simulated frontal automobile collision. Spine Journal, 2014, 14, 2195-2207.	0.6	5

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37	Validation of Simulated Chestband Data in Frontal and Lateral Loading Using a Human Body Finite Element Model. Traffic Injury Prevention, 2014, 15, 181-186.	0.6	30
38	Investigation of the Mass Distribution of a Detailed Seated Male Finite Element Model. Journal of Applied Biomechanics, 2014, 30, 471-476.	0.3	14
39	Application of Radial Basis Function Methods in the Development of a 95th Percentile Male Seated FEA Model. Stapp Car Crash Journal, 2014, 58, 361-84.	1.1	22
40	Lateral Impact Validation of a Geometrically Accurate Full Body Finite Element Model for Blunt Injury Prediction. Annals of Biomedical Engineering, 2013, 41, 497-512.	1.3	80
41	An Evaluation of Objective Rating Methods for Full-Body Finite Element Model Comparison to PMHS Tests. Traffic Injury Prevention, 2013, 14, S87-S94.	0.6	34
42	A Multi-Modality Dataset for the Development of a Small Female Full Body Finite Element Model. , 2013, , .		0
43	Application of a Standard Quantitative Comparison Method to Assess a Full Body Finite Element Model in Frontal Impact. , 2013, , .		0
44	Comparison of Organ Location, Morphology, and Rib Coverage of a Midsized Male in the Supine and Seated Positions. Computational and Mathematical Methods in Medicine, 2013, 2013, 1-12.	0.7	20
45	Abdominal Organ Location, Morphology, and Rib Coverage for the 5(th), 50(th), and 95(th) Percentile Males and Females in the Supine and Seated Posture using Multi-Modality Imaging. Annals of Advances in Automotive Medicine, 2013, 57, 111-22.	0.6	5
46	The Effect of Impactor Location on the Validation of a Full Body Finite Element Model in Two Loading Cases. , 2012, , .		0
47	Finite elementâ€“based injury metrics for pulmonary contusion via concurrent model optimization. Biomechanics and Modeling in Mechanobiology, 2011, 10, 505-520.	1.4	31
48	Design, Development, and Analysis of a Surrogate for Pulmonary Injury Prediction. Annals of Biomedical Engineering, 2011, 39, 2560-2567.	1.3	5
49	Methods for validation of the mass distribution of a full body finite element model - biomed 2011. Biomedical Sciences Instrumentation, 2011, 47, 100-5.	0.2	1
50	Characterization of Crash-Induced Thoracic Loading Resulting in Pulmonary Contusion. Journal of Trauma, 2009, 66, 840-849.	2.3	25
51	Bilateral carotid artery injury response in side impact using a vessel model integrated with a human body model. Annals of Advances in Automotive Medicine, 2009, 53, 271-9.	0.6	5
52	Traumatic pulmonary pathology measured with computed tomography and a semiautomated analytic method. Clinical Imaging, 2008, 32, 346-354.	0.8	13
53	Quantitative histology of contused lung tissue with comparison to computed tomography. Biomedical Sciences Instrumentation, 2008, 44, 225-30.	0.2	3
54	A comparative study of optimization techniques for tuning a finite element model of the lung to biomechanical data. Biomedical Sciences Instrumentation, 2007, 43, 212-7.	0.2	2

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55	A finite element-based injury metric for pulmonary contusion: investigation of candidate metrics through correlation with computed tomography. Stapp Car Crash Journal, 2007, 51, 189-209.	1.1	24
56	Experimental Validation of an Inverse Heat Transfer Algorithm for Optimizing Hyperthermia Treatments. Journal of Biomechanical Engineering, 2006, 128, 505-515.	0.6	13
57	The Pathogenesis of Pulmonary Contusion: An Open Chest Model in the Rat. Journal of Trauma, 2006, 61, 32-45.	2.3	44
58	An experimental and computational study of blunt carotid artery injury. Annual Proceedings, 2006, 50, 13-32.	0.2	1
59	A finite element study of age-based size and shape variation of the human rib cage. Biomedical Sciences Instrumentation, 2006, 42, 19-24.	0.2	5
60	Mesh development for a finite element model of the carotid artery. Biomedical Sciences Instrumentation, 2006, 42, 187-92.	0.2	2
61	Development of a finite element-based injury metric for pulmonary contusion part I: model development and validation. Stapp Car Crash Journal, 2005, 49, 271-89.	1.1	21
62	Optimal Control of Thermal Damage to Targetted Regions in a Biological Material. , 2004, , 733.		2
63	A Multi-Modality Image Data Collection Protocol for Full Body Finite Element Model Development. , 0, , .		13
64	Automating Regional Rib Fracture Evaluation in the GHBMC Detailed Average Seated Male Occupant Model. , 0, , .		3
65	Development of Component Level Transfer Equations of Simplified Human and ATD Occupant Models. SAE International Journal of Transportation Safety, 0, 6, 55-68.	0.4	1
66	Application of Radial Basis Function Methods in the Development of a 95th Percentile Male Seated FEA Model. , 0, , .		12
67	Quantifying Cardiothoracic Variation with Posture and Respiration to Inform Cardiac Device Design. Cardiovascular Engineering and Technology, 0, , .	0.7	0
68	Accidental Injury Analysis and Protection for Automated Vehicles. , 0, , .		0