

# Francis Scott Gayzik

## List of Publications by Year in descending order

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Version: 2024-02-01

68  
papers

910  
citations

471061

17  
h-index

552369

26  
g-index

69  
all docs

69  
docs citations

69  
times ranked

553  
citing authors

#	ARTICLE	IF	CITATIONS
1	Lateral Impact Validation of a Geometrically Accurate Full Body Finite Element Model for Blunt Injury Prediction. <i>Annals of Biomedical Engineering</i> , 2013, 41, 497-512.	1.3	80
2	Development of a Computationally Efficient Full Human Body Finite Element Model. <i>Traffic Injury Prevention</i> , 2015, 16, S49-S56.	0.6	70
3	Quantitative Validation of a Human Body Finite Element Model Using Rigid Body Impacts. <i>Annals of Biomedical Engineering</i> , 2015, 43, 2163-2174.	1.3	52
4	The Pathogenesis of Pulmonary Contusion: An Open Chest Model in the Rat. <i>Journal of Trauma</i> , 2006, 61, 32-45.	2.3	44
5	Deriving injury risk curves using survival analysis from biomechanical experiments. <i>Journal of Biomechanics</i> , 2016, 49, 3260-3267.	0.9	36
6	An Evaluation of Objective Rating Methods for Full-Body Finite Element Model Comparison to PMHS Tests. <i>Traffic Injury Prevention</i> , 2013, 14, S87-S94.	0.6	34
7	Finite element-based injury metrics for pulmonary contusion via concurrent model optimization. <i>Biomechanics and Modeling in Mechanobiology</i> , 2011, 10, 505-520.	1.4	31
8	A finite element model of a six-year-old child for simulating pedestrian accidents. <i>Accident Analysis and Prevention</i> , 2017, 98, 206-213.	3.0	31
9	Validation of Simulated Chestband Data in Frontal and Lateral Loading Using a Human Body Finite Element Model. <i>Traffic Injury Prevention</i> , 2014, 15, 181-186.	0.6	30
10	Validation of a simplified human body model in relaxed and braced conditions in low-speed frontal sled tests. <i>Traffic Injury Prevention</i> , 2019, 20, 832-837.	0.6	27
11	Development and Multi-Scale Validation of a Finite Element Football Helmet Model. <i>Annals of Biomedical Engineering</i> , 2020, 48, 258-270.	1.3	27
12	Characterization of Crash-Induced Thoracic Loading Resulting in Pulmonary Contusion. <i>Journal of Trauma</i> , 2009, 66, 840-849.	2.3	25
13	Development and Full Body Validation of a 5th Percentile Female Finite Element Model. <i>Stapp Car Crash Journal</i> , 2016, 60, 509-544.	1.1	25
14	A finite element-based injury metric for pulmonary contusion: investigation of candidate metrics through correlation with computed tomography. <i>Stapp Car Crash Journal</i> , 2007, 51, 189-209.	1.1	24
15	Application of Radial Basis Function Methods in the Development of a 95th Percentile Male Seated FEA Model. <i>Stapp Car Crash Journal</i> , 2014, 58, 361-84.	1.1	22
16	Development of a finite element-based injury metric for pulmonary contusion part I: model development and validation. <i>Stapp Car Crash Journal</i> , 2005, 49, 271-89.	1.1	21
17	Comparison of Organ Location, Morphology, and Rib Coverage of a Midsized Male in the Supine and Seated Positions. <i>Computational and Mathematical Methods in Medicine</i> , 2013, 2013, 1-12.	0.7	20
18	Finite element comparison of human and Hybrid III responses in a frontal impact. <i>Accident Analysis and Prevention</i> , 2015, 85, 125-156.	3.0	19

#	ARTICLE	IF	CITATIONS
19	Cross-sectional neck response of a total human body FE model during simulated frontal and side automobile impacts. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2015, 18, 293-315.	0.9	19
20	Modeling Human Volunteers in Multidirectional, Uni-axial Sled Tests Using a Finite Element Human Body Model. <i>Annals of Biomedical Engineering</i> , 2019, 47, 487-511.	1.3	18
21	Modular use of human body models of varying levels of complexity: Validation of head kinematics. <i>Traffic Injury Prevention</i> , 2017, 18, S155-S160.	0.6	15
22	Objective Evaluation of Whole Body Kinematics in a Simulated, Restrained Frontal Impact. <i>Annals of Biomedical Engineering</i> , 2019, 47, 512-523.	1.3	15
23	Investigation of the Mass Distribution of a Detailed Seated Male Finite Element Model. <i>Journal of Applied Biomechanics</i> , 2014, 30, 471-476.	0.3	14
24	Experimental Validation of an Inverse Heat Transfer Algorithm for Optimizing Hyperthermia Treatments. <i>Journal of Biomechanical Engineering</i> , 2006, 128, 505-515.	0.6	13
25	Traumatic pulmonary pathology measured with computed tomography and a semiautomated analytic method. <i>Clinical Imaging</i> , 2008, 32, 346-354.	0.8	13
26	A Multi-Modality Image Data Collection Protocol for Full Body Finite Element Model Development. , 0, , .		13
27	Application of Radial Basis Function Methods in the Development of a 95th Percentile Male Seated FEA Model. , 0, , .		12
28	Head and Neck Response of a Finite Element Anthropomorphic Test Device and Human Body Model During a Simulated Rotary-Wing Aircraft Impact. <i>Journal of Biomechanical Engineering</i> , 2014, 136, .	0.6	11
29	Applying dynamic contrast enhanced MSOT imaging to intratumoral pharmacokinetic modeling. <i>Photoacoustics</i> , 2018, 11, 28-35.	4.4	11
30	Evaluation of finite element human body models for use in a standardized protocol for pedestrian safety assessment. <i>Traffic Injury Prevention</i> , 2019, 20, S32-S36.	0.6	11
31	Development and validation of a finite element model of a small female pedestrian. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2020, 23, 1336-1346.	0.9	10
32	Validated thoracic vertebrae and costovertebral joints increase biofidelity of a human body model in hub impacts. <i>Traffic Injury Prevention</i> , 2019, 20, S1-S6.	0.6	9
33	A detailed finite element model of a mid-sized male for the investigation of traffic pedestrian accidents. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2021, 235, 300-313.	1.0	8
34	Thoracoabdominal Organ Volumes for Small Women. <i>Traffic Injury Prevention</i> , 2015, 16, 611-617.	0.6	7
35	Lumbar Spine Response of Computational Finite Element Models in Multidirectional Spaceflight Landing Conditions. <i>Journal of Biomechanical Engineering</i> , 2020, 142, .	0.6	7
36	Injury risk curves in far-side lateral motor vehicle crashes by AIS level, body region and injury code. <i>Traffic Injury Prevention</i> , 2020, 21, S112-S117.	0.6	7

#	ARTICLE	IF	CITATIONS
37	Head injury metric response in finite element ATDs and a human body model in multidirectional loading regimes. <i>Traffic Injury Prevention</i> , 2019, 20, S96-S102.	0.6	6
38	Simulation-based assessment of injury risk for an average male motorsport driver. <i>Traffic Injury Prevention</i> , 2020, 21, S72-S77.	0.6	6
39	Design, Development, and Analysis of a Surrogate for Pulmonary Injury Prediction. <i>Annals of Biomedical Engineering</i> , 2011, 39, 2560-2567.	1.3	5
40	Effects of cervical arthrodesis and arthroplasty on neck response during a simulated frontal automobile collision. <i>Spine Journal</i> , 2014, 14, 2195-2207.	0.6	5
41	Bilateral carotid artery injury response in side impact using a vessel model integrated with a human body model. <i>Annals of Advances in Automotive Medicine</i> , 2009, 53, 271-9.	0.6	5
42	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. <i>Annals of Advances in Automotive Medicine</i> , 2013, 57, 111-22.	0.6	5
43	A finite element study of age-based size and shape variation of the human rib cage. <i>Biomedical Sciences Instrumentation</i> , 2006, 42, 19-24.	0.2	5
44	A technique for developing CAD geometry of long bones using clinical CT data. <i>Medical Engineering and Physics</i> , 2015, 37, 1116-1123.	0.8	4
45	An Objective Evaluation of Mass Scaling Techniques Utilizing Computational Human Body Finite Element Models. <i>Journal of Biomechanical Engineering</i> , 2016, 138, .	0.6	4
46	An Improved Method for Developing Injury Risk Curves Using the Brier Metric Score. <i>Annals of Biomedical Engineering</i> , 2021, 49, 3091-3098.	1.3	4
47	Simulated Astronaut Kinematics and Injury Risk for Piloted Lunar Landings and Launches While Standing. <i>Annals of Biomedical Engineering</i> , 2022, 50, 1857-1871.	1.3	4
48	Effects of cervical arthroplasty on neck response during a simulated rotary-wing aircraft impact. <i>International Journal of Crashworthiness</i> , 2016, 21, 323-337.	1.1	3
49	Automating Regional Rib Fracture Evaluation in the GHBMC Detailed Average Seated Male Occupant Model. , 0, , .		3
50	Quantitative histology of contused lung tissue with comparison to computed tomography. <i>Biomedical Sciences Instrumentation</i> , 2008, 44, 225-30.	0.2	3
51	Optimal Control of Thermal Damage to Targetted Regions in a Biological Material. , 2004, , 733.		2
52	Effect of body size and enhanced helmet systems on risk for motorsport drivers. <i>Traffic Injury Prevention</i> , 2021, 22, S49-S55.	0.6	2
53	Mesh development for a finite element model of the carotid artery. <i>Biomedical Sciences Instrumentation</i> , 2006, 42, 187-92.	0.2	2
54	A comparative study of optimization techniques for tuning a finite element model of the lung to biomechanical data. <i>Biomedical Sciences Instrumentation</i> , 2007, 43, 212-7.	0.2	2

#	ARTICLE	IF	CITATIONS
55	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
56	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
57	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
58	Comparison of Neck Injury Criteria Values Across Human Body Models of Varying Complexity. Frontiers in Bioengineering and Biotechnology, 2020, 8, 985.	2.0	1
59	An experimental and computational study of blunt carotid artery injury. Annual Proceedings, 2006, 50, 13-32.	0.2	1
60	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
61	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
62	The Effect of Impactor Location on the Validation of a Full Body Finite Element Model in Two Loading Cases. , 2012, , .		0
63	A Multi-Modality Dataset for the Development of a Small Female Full Body Finite Element Model. , 2013, , .		0
64	Application of a Standard Quantitative Comparison Method to Assess a Full Body Finite Element Model in Frontal Impact. , 2013, , .		0
65	Development and Validation of a Brain Phantom for Therapeutic Cooling Devices. Journal of Biomechanical Engineering, 2017, 139, .	0.6	0
66	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
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