Ahmet ErdemÄ°r

List of Publications by Year
in descending order

64 papers	2,602 citations	279701 23 h-index	197736 49 g-index
65 all docs	65 docs citations	65 times ranked	2614 citing authors

#	Article	IF	Citations
1	Model-based estimation of muscle forces exerted during movements. Clinical Biomechanics, 2007, 22, 131-154.	0.5	710
2	Dynamic Loading of the Plantar Aponeurosis in Walking. Journal of Bone and Joint Surgery - Series A, 2004, 86, 546-552.	1.4	212
3	Considerations for reporting finite element analysis studies in biomechanics. Journal of Biomechanics, 2012, 45, 625-633.	0.9	161
4	Assessment of the functional method of hip joint center location subject to reduced range of hip motion. Journal of Biomechanics, 2004, 37, 349-356.	0.9	151
5	An inverse finite-element model of heel-pad indentation. Journal of Biomechanics, 2006, 39, 1279-1286.	0.9	137
6	Comparison of hexahedral and tetrahedral elements in finite element analysis of the foot and footwear. Journal of Biomechanics, 2011, 44, 2337-2343.	0.9	132
7	Local plantar pressure relief in therapeutic footwear: design guidelines from finite element models. Journal of Biomechanics, 2005, 38, 1798-1806.	0.9	88
8	Peak Plantar Pressure and Shear Locations. Diabetes Care, 2007, 30, 2643-2645.	4.3	80
9	Concurrent musculoskeletal dynamics and finite element analysis predicts altered gait patterns to reduce foot tissue loading. Journal of Biomechanics, 2010, 43, 2810-2815.	0.9	65
10	Open Knee: Open Source Modeling and Simulation in Knee Biomechanics. Journal of Knee Surgery, 2016, 29, 107-116.	0.9	56
11	Credible practice of modeling and simulation in healthcare: ten rules from a multidisciplinary perspective. Journal of Translational Medicine, 2020, 18, 369.	1.8	56
12	Adaptive Surrogate Modeling for Efficient Coupling of Musculoskeletal Control and Tissue Deformation Models. Journal of Biomechanical Engineering, 2009, 131, 011014.	0.6	48
13	Finite Element Modeling of the First Ray of the Foot: A Tool for the Design of Interventions. Journal of Biomechanical Engineering, 2007, 129, 750-756.	0.6	42
14	A general framework for application of prestrain to computational models of biological materials. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 61, 499-510.	1.5	40
15	Chondrocyte Deformations as a Function of Tibiofemoral Joint Loading Predicted by a Generalized High-Throughput Pipeline of Multi-Scale Simulations. PLoS ONE, 2012, 7, e37538.	1.1	37
16	Credibility, Replicability, and Reproducibility in Simulation for Biomedicine and Clinical Applications in Neuroscience. Frontiers in Neuroinformatics, 2018, 12, 18.	1.3	36
17	Deciphering the â€œArtâ€•in Modeling and Simulation of the Knee Joint: Overall Strategy. Journal of Biomechanical Engineering, 2019, 141, .	0.6	34
18	What Has Finite Element Analysis Taught Us about Diabetic Foot Disease and Its Management? A Systematic Review. PLoS ONE, 2014, 9, e109994.	1.1	30

#	Article	IF	Citations
19	An MRI-compatible foot-loading device for assessment of internal tissue deformation. Journal of Biomechanics, 2008, 41, 470-474.	0.9	29
20	Multiscale modeling in computational biomechanics. IEEE Engineering in Medicine and Biology Magazine, 2009, 28, 41-49.	1.1	27
21	Changes in Foot Loading Following Plantar Fasciotomy: A Computer Modeling Study. Journal of Biomechanical Engineering, 2004, 126, 237-243.	0.6	25
22	Multiscale cartilage biomechanics: technical challenges in realizing a high-throughput modelling and simulation workflow. Interface Focus, 2015, 5, 20140081.	1.5	24
23	Simple finite element models for use in the design of therapeutic footwear. Journal of Biomechanics, 2014, 47, 2948-2955.	0.9	23
24	Clinically relevant mechanical testing of hernia graft constructs. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 41, 177-188.	1.5	23
25	Patient specific characterization of artery and plaque material properties in peripheral artery disease. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 101, 103453.	1.5	23
26	A Three-Dimensional Inverse Finite Element Analysis of the Heel Pad. Journal of Biomechanical Engineering, 2012, 134, 031002.	0.6	22
27	An Elaborate Data Set Characterizing the Mechanical Response of the Foot. Journal of Biomechanical Engineering, 2009, 131, 094502.	0.6	21
28	The Spectrum of Mechanism-Oriented Models and Methods for Explanations of Biological Phenomena. Processes, 2018, 6, 56.	1.3	19
29	Instrumentation of off-the-shelf ultrasound system for measurement of probe forces during freehand imaging. Journal of Biomechanics, 2019, 83, 117-124.	0.9	17
30	Perspectives on Sharing Models and Related Resources in Computational Biomechanics Research. Journal of Biomechanical Engineering, 2018, 140, .	0.6	16
31	A Comprehensive Specimen-Specific Multiscale Data Set for Anatomical and Mechanical Characterization of the Tibiofemoral Joint. PLoS ONE, 2015, 10, e0138226.	1.1	15
32	Adaptive Surrogate Modeling for Expedited Estimation of Nonlinear Tissue Properties Through Inverse Finite Element Analysis. Annals of Biomedical Engineering, 2011, 39, 2388-2397.	1.3	13
33	Commentary on the Integration of Model Sharing and Reproducibility Analysis to Scholarly Publishing Workflow in Computational Biomechanics. IEEE Transactions on Biomedical Engineering, 2016, 63, 2080-2085.	2.5	13
34	Simplified versus geometrically accurate models of forefoot anatomy to predict plantar pressures: A finite element study. Journal of Biomechanics, 2016, 49, 289-294.	0.9	13
35	A multiscale framework for evaluating three-dimensional cell mechanics in fibril-reinforced poroelastic tissues with anatomical cell distribution â€“ Analysis of chondrocyte deformation behavior in mechanically loaded articular cartilage. Journal of Biomechanics, 2020, 101, 109648.	0.9	13
36	Open Knee: A Pathway to Community Driven Modeling and Simulation in Joint Biomechanics. Journal of Medical Devices, Transactions of the ASME, 2013, 7, 0409101-409101.	0.4	12

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37	Development of dynamic models of the Mauch prosthetic knee for prospective gait simulation. Journal of Biomechanics, 2014, 47, 3178-3184.	0.9	12
38	Finite element analysis for transverse carpal ligament tensile strain and carpal arch area. Journal of Biomechanics, 2018, 73, 210-216.	0.9	12
39	Deciphering the â€œArtâ€• in Modeling and Simulation of the Knee Joint: Variations in Model Development. Journal of Biomechanical Engineering, 2021, 143, .	0.6	9
40	Evaluation of a post-processing approach for multiscale analysis of biphasic mechanics of chondrocytes. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 1112-1126.	0.9	8
41	Regional variations of in vivo surface stiffness of soft tissue layers of musculoskeletal extremities. Journal of Biomechanics, 2019, 95, 109307.	0.9	8
42	A comprehensive testing protocol for macro-scale mechanical characterization of knee articular cartilage with documented experimental repeatability. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 112, 104025.	1.5	8
43	Subject-specific finite element analysis of the carpal tunnel cross-sectional to examine tunnel area changes in response to carpal arch loading. Clinical Biomechanics, 2017, 42, 25-30.	0.5	7
44	Automated generation of tissue-specific three-dimensional finite element meshes containing ellipsoidal cellular inclusions. Computer Methods in Biomechanics and Biomedical Engineering, 2015, 18, 1293-1304.	0.9	6
45	Specimen specific imaging and joint mechanical testing data for next generation virtual knees. Data in Brief, 2021, 35, 106824.	0.5	6
46	Reference data on thickness and mechanics of tissue layers and anthropometry of musculoskeletal extremities. Scientific Data, 2018, 5, 180193.	2.4	6
47	Multiscale modelling in biomechanics. Interface Focus, 2015, 5, 20150003.	1.5	5
48	A pragmatic approach to understand peripheral artery lumen surface stiffness due to plaque heterogeneity. Computer Methods in Biomechanics and Biomedical Engineering, 2019, 22, 396-408.	0.9	5
49	Prediction of patellofemoral joint kinematics and contact through co-simulation of rigid body dynamics and nonlinear finite element analysis. Computer Methods in Biomechanics and Biomedical Engineering, 2020, 23, 718-733.	0.9	5
50	Evaluation of the role of peripheral artery plaque geometry and composition on stent performance. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 116, 104346.	1.5	5
51	A Method to Compare Heterogeneous Types of Bone and Cartilage Meshes. Journal of Biomechanical Engineering, 2021, 143, .	0.6	5
52	A comprehensive dataset of histopathology images, grades and patient demographics for human Osteoarthritis Cartilage. Data in Brief, 2021, 37, 107129.	0.5	5
53	Assessment of reporting practices and reproducibility potential of a cohort of published studies in computational knee biomechanics. Journal of Orthopaedic Research, 2023, 41, 325-334.	1.2	5
54	Reference tool kinematics-kinetics and tissue surface strain data during fundamental surgical acts. Scientific Data, 2020, 7, 21.	2.4	4

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55	Committee on Credible Practice of Modeling and Simulation in Healthcare. , 2013, , .		3
56	A novel radiopaque tissue marker for soft tissue localization and in vivo length and area measurements. PLoS ONE, 2019, 14, e0224244.	1.1	3
57	Finite element analysis in clinical patients with atherosclerosis. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 125, 104927.	1.5	3
58	Ex vivo evaluation of IVUS-VH imaging and the role of plaque structure on peripheral artery disease. Medicine in Novel Technology and Devices, 2020, 8, 100042.	0.9	2
59	Reference data on in vitro anatomy and indentation response of tissue layers of musculoskeletal extremities. Scientific Data, 2020, 7, 20.	2.4	2
60	Surface Stiffness of Patient-Specific Arterial Segments With Varying Plaque Compositions. , 2013, , .		1
61	The potential for intercellular mechanical interaction: simulations of single chondrocyte versus anatomically based distribution. Biomechanics and Modeling in Mechanobiology, 2018, 17, 159-168.	1.4	1
62	Variability of glenohumeral positioning and bone-to-tendon marker length measurements in repaired rotator cuffs from longitudinal computed tomographic imaging. JSES International, 2020, 4, 838-847.	0.7	1
63	A generalized framework for determination of functional musculoskeletal joint coordinate systems. Journal of Biomechanics, 2021, 127, 110664.	0.9	1
64	Journal of Biomechanical Engineering: Legacy Paper 2019. Journal of Biomechanical Engineering, 2020, 142, .	0.6	0