

Jackie D Zehr

List of Publications by Year in descending order

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68
papers

2,528
citations

236925

25
h-index

197818

49
g-index

68
all docs

68
docs citations

68
times ranked

1586
citing authors

#	ARTICLE	IF	CITATIONS
1	Intervertebral disc herniation: studies on a porcine model exposed to highly repetitive flexion/extension motion with compressive force. <i>Clinical Biomechanics</i> , 2001, 16, 28-37.	1.2	317
2	Elimination of electrocardiogram contamination from electromyogram signals: An evaluation of currently used removal techniques. <i>Journal of Electromyography and Kinesiology</i> , 2006, 16, 175-187.	1.7	313
3	Examination of the flexion relaxation phenomenon in erector spinae muscles during short duration slumped sitting. <i>Clinical Biomechanics</i> , 2002, 17, 353-360.	1.2	148
4	The Porcine Cervical Spine as a Model of the Human Lumbar Spine. <i>Journal of Spinal Disorders</i> , 1999, 12, 415-423.	1.1	125
5	Spinal posture and prior loading history modulate compressive strength and type of failure in the spine: a biomechanical study using a porcine cervical spine model. <i>Clinical Biomechanics</i> , 2001, 16, 471-480.	1.2	105
6	Lumbar Spine and Pelvic Posture Between Standing and Sitting: A Radiologic Investigation Including Reliability and Repeatability of the Lumbar Lordosis Measure. <i>Journal of Manipulative and Physiological Therapeutics</i> , 2010, 33, 48-55.	0.9	98
7	The influence of static axial torque in combined loading on intervertebral joint failure mechanics using a porcine model. <i>Clinical Biomechanics</i> , 2005, 20, 1038-1045.	1.2	89
8	Progressive Disc Herniation. <i>Spine</i> , 2007, 32, 2869-2874.	2.0	85
9	Lumbar spine movement patterns during prolonged sitting differentiate low back pain developers from matched asymptomatic controls. <i>Work</i> , 2010, 35, 3-14.	1.1	84
10	Dynamic loading affects the mechanical properties and failure site of porcine spines. <i>Clinical Biomechanics</i> , 1997, 12, 301-305.	1.2	77
11	Muscular contribution to low-back loading and stiffness during standard and suspended push-ups. <i>Human Movement Science</i> , 2008, 27, 457-472.	1.4	56
12	Frozen storage increases the ultimate compressive load of porcine vertebrae. <i>Journal of Orthopaedic Research</i> , 1995, 13, 809-812.	2.3	54
13	The role of dynamic flexion in spine injury is altered by increasing dynamic load magnitude. <i>Clinical Biomechanics</i> , 2009, 24, 148-154.	1.2	54
14	Estimating the Compressive Strength of the Porcine Cervical Spine. <i>Spine</i> , 2005, 30, E492-E498.	2.0	47
15	The Effect of an Active Lumbar System on the Seating Comfort of Officers in Police Fleet Vehicles. <i>International Journal of Occupational Safety and Ergonomics</i> , 2009, 15, 295-307.	1.9	43
16	Passive stiffness changes in the lumbar spine and effect of gender during prolonged simulated driving. <i>International Journal of Industrial Ergonomics</i> , 2011, 41, 617-624.	2.6	43
17	Influence of automobile seat lumbar support prominence on spine and pelvic postures: A radiological investigation. <i>Applied Ergonomics</i> , 2012, 43, 876-882.	3.1	43
18	Physical fitness improvements and occupational low-back loading "an exercise intervention study with firefighters. <i>Ergonomics</i> , 2014, 57, 744-763.	2.1	43

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19	Neck loads and posture exposure of helicopter pilots during simulated day and night flights. <i>International Journal of Industrial Ergonomics</i> , 2011, 41, 128-135.	2.6	40
20	Upper body kinematic and low-back kinetic responses to precision placement challenges and cognitive distractions during repetitive lifting. <i>International Journal of Industrial Ergonomics</i> , 2006, 36, 637-650.	2.6	37
21	Quantifying low back peak and cumulative loads in open and senior sheep shearers in New Zealand: Examining the effects of a trunk harness. <i>Ergonomics</i> , 2006, 49, 968-981.	2.1	34
22	The role of load magnitude as a modifier of the cumulative load tolerance of porcine cervical spinal units: progress towards a force weighting approach. <i>Theoretical Issues in Ergonomics Science</i> , 2007, 8, 171-184.	1.8	33
23	Exercise-Based Performance Enhancement and Injury Prevention for Firefighters. <i>Journal of Strength and Conditioning Research</i> , 2015, 29, 2441-2459.	2.1	33
24	The Influence of Posture and Loading on Interfacet Spacing. <i>Spine</i> , 2008, 33, E728-E734.	2.0	31
25	The rule of 1s for padding kinematic data prior to digital filtering: Influence of sampling and filter cutoff frequencies. <i>Journal of Electromyography and Kinesiology</i> , 2009, 19, 875-881.	1.7	29
26	Does Vibration Influence the Initiation of Intervertebral Disc Herniation?. <i>Spine</i> , 2011, 36, E225-E231.	2.0	27
27	Compressive force magnitude and intervertebral joint flexion/extension angle influence shear failure force magnitude in the porcine cervical spine. <i>Journal of Biomechanics</i> , 2012, 45, 484-490.	2.1	26
28	Biomechanical investigation of prolonged driving in an ergonomically designed truck seat prototype. <i>Ergonomics</i> , 2018, 61, 367-380.	2.1	26
29	The Impact of Posture and Prolonged Cyclic Compressive Loading on Vertebral Joint Mechanics. <i>Spine</i> , 2012, 37, E1023-E1029.	2.0	25
30	Using sitting as a component of job rotation strategies: Are lifting/lowering kinetics and kinematics altered following prolonged sitting. <i>Applied Ergonomics</i> , 2009, 40, 433-439.	3.1	24
31	Gender- and time-varying postural and discomfort responses during prolonged driving. <i>Occupational Ergonomics</i> , 2010, 9, 41-53.	0.3	24
32	Spine Posture and Discomfort During Prolonged Simulated Driving With Self-Selected Lumbar Support Prominence. <i>Human Factors</i> , 2015, 57, 976-987.	3.5	23
33	Characterizing the combined effects of force, repetition and posture on injury pathways and micro-structural damage in isolated functional spinal units from sub-acute-failure magnitudes of cyclic compressive loading. <i>Clinical Biomechanics</i> , 2015, 30, 953-959.	1.2	23
34	Lumbar postures, seat interface pressures and discomfort responses to a novel thoracic support for police officers during prolonged simulated driving exposures. <i>Applied Ergonomics</i> , 2016, 52, 160-168.	3.1	23
35	Using relative phase analyses and vector coding to quantify Pelvis-Thorax coordination during lifting – A methodological investigation. <i>Journal of Electromyography and Kinesiology</i> , 2018, 39, 104-113.	1.7	21
36	Identifying interactive effects of task demands in lifting on estimates of in vivo low back joint loads. <i>Applied Ergonomics</i> , 2018, 67, 203-210.	3.1	20

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37	Unilateral ankle immobilization alters the kinematics and kinetics of lifting. <i>Work</i> , 2014, 47, 221-234.	1.1	19
38	An examination of the mechanical properties of the annulus fibrosus: The effect of vibration on the intra-lamellar matrix strength. <i>Medical Engineering and Physics</i> , 2012, 34, 472-477.	1.7	18
39	Exploring interactions between force, repetition and posture on intervertebral disc height loss and bulging in isolated porcine cervical functional spinal units from sub-acute-failure magnitudes of cyclic compressive loading. <i>Journal of Biomechanics</i> , 2015, 48, 3701-3708.	2.1	18
40	Quantification of the relationship between load magnitude, rest duration and cumulative compressive tolerance of the spine: development of a weighting system for adjustment to a common injury exposure level. <i>Theoretical Issues in Ergonomics Science</i> , 2008, 9, 255-268.	1.8	14
41	Evaluating Abdominal and Lower-Back Muscle Activity While Performing Core Exercises on a Stability Ball and a Dynamic Office Chair. <i>Human Factors</i> , 2015, 57, 1149-1161.	3.5	13
42	Incorporating loading variability into in vitro injury analyses and its effect on cumulative compression tolerance in porcine cervical spine units. <i>Journal of Biomechanics</i> , 2019, 88, 48-54.	2.1	11
43	Effects of Anterior Shear Displacement Rate on the Structural Properties of the Porcine Cervical Spine. <i>Journal of Biomechanical Engineering</i> , 2010, 132, 091004.	1.3	10
44	Spine loading during laboratory-simulated fireground operations – inter-individual variation and method of load quantification. <i>Ergonomics</i> , 2019, 62, 1426-1438.	2.1	10
45	Joint fatigue-failure: A demonstration of viscoelastic responses to rate and frequency loading parameters using the porcine cervical spine. <i>Journal of Biomechanics</i> , 2020, 113, 110081.	2.1	10
46	Examining endplate fatigue failure during cyclic compression loading with variable and consistent peak magnitudes using a force weighting adjustment approach: an <i>in vitro</i> study. <i>Ergonomics</i> , 2019, 62, 1339-1348.	2.1	8
47	A comparative analysis of lumbar spine mechanics during barbell- and crate-lifting: implications for occupational lifting task assessments. <i>International Journal of Occupational Safety and Ergonomics</i> , 2020, 26, 1-8.	1.9	8
48	The influence of precision requirements and cognitive challenges on upper extremity joint reaction forces, moments and muscle force estimates during prolonged repetitive lifting. <i>Ergonomics</i> , 2014, 57, 236-246.	2.1	7
49	An Electromyographically Driven Cervical Spine Model in OpenSim. <i>Journal of Applied Biomechanics</i> , 2021, 37, 481-493.	0.8	7
50	The Impact of Posture on the Mechanical Properties of a Functional Spinal Unit During Cyclic Compressive Loading. <i>Journal of Biomechanical Engineering</i> , 2016, 138, .	1.3	6
51	Dynamic factors and force-weighting corrections influence estimates of cumulative vertebral joint compression. <i>Theoretical Issues in Ergonomics Science</i> , 2010, 11, 474-488.	1.8	5
52	Reaction Forces and Flexion/Extension Moments Imposed on Functional Spinal Units With Constrained and Unconstrained In Vitro Testing Systems. <i>Journal of Biomechanical Engineering</i> , 2022, 144, .	1.3	5
53	Strain of the facet joint capsule during rotation and translation range-of-motion tests: an in vitro porcine model as a human surrogate. <i>Spine Journal</i> , 2020, 20, 475-487.	1.3	4
54	The effect of age, prolonged seated work and sex on posture and perceived effort during a lifting task. <i>Applied Ergonomics</i> , 2020, 89, 103198.	3.1	4

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55	Partitioning the total seatback reaction force amongst the lumbar spine motion segments during simulated rear-impact collisions. <i>International Journal of Occupational Safety and Ergonomics</i> , 2021, 27, 613-619.	1.9	4
56	Reconstructing an accelerometer-based pelvis segment for three-dimensional kinematic analyses during laboratory simulated tasks with obstructed line-of-sight. <i>Journal of Biomechanics</i> , 2021, 123, 110512.	2.1	4
57	Wrist Posture Estimation Differences and Reliability Between Video Analysis and Electrogoniometer Methods. <i>Human Factors</i> , 2021, 63, 1284-1294.	3.5	4
58	Night Vision Goggle and Counterweight Use Affect Neck Muscle Activity During Reciprocal Scanning. <i>Aerospace Medicine and Human Performance</i> , 2021, 92, 172-181.	0.4	3
59	The impact of shear force magnitude on cumulative injury load tolerance: a force weighting approach for low-back shear loads. <i>Theoretical Issues in Ergonomics Science</i> , 2013, 14, 402-416.	1.8	2
60	The effect of axial twist angle on <i>in vitro</i> cumulative injury load tolerance: a magnitude-weighting approach for axial twist exposures. <i>Theoretical Issues in Ergonomics Science</i> , 2020, 21, 463-477.	1.8	2
61	Exposure to Sustained Flexion Impacts Lumbar Extensor Spinae Muscle Fiber Orientation. <i>Journal of Applied Biomechanics</i> , 2021, 37, 248-253.	0.8	2
62	Moving Toward Individual-Specific Automotive Seat Design: How Individual Characteristics and Time Alter the Selected Lumbar Support Prominence. <i>Human Factors</i> , 2021, , 001872082110427.	3.5	2
63	Cervical Spine Motion Requirements From Night Vision Goggles May Play a Greater Role in Chronic Neck Pain than Helmet Mass Properties. <i>Human Factors</i> , 2024, 66, 363-376.	3.5	2
64	Exploring the influence of impact severity and posture on vertebral joint mechanics in an in-vitro porcine model. <i>Journal of Biomechanics</i> , 2021, 122, 110479.	2.1	1
65	Strain Response in the Facet Joint Capsule During Physiological Joint Rotation and Translation Following a Simulated Impact Exposure: An In Vitro Porcine Model. <i>Journal of Biomechanical Engineering</i> , 2022, 144, .	1.3	1
66	Characterizing Lumbar Spine Kinematics and Kinetics During Simulated Low-Speed Rear Impact Collisions. <i>Journal of Applied Biomechanics</i> , 2022, 38, 155-163.	0.8	1
67	Considering Temporal Movement Factors In Lumbar Spine Load Management Plans. <i>Medicine and Science in Sports and Exercise</i> , 2021, 53, 157-157.	0.4	0
68	Quantifying parameters of the seat-occupant interface during simulated low speed rear-impact collisions. <i>International Journal of Vehicle Design</i> , 2021, 85, 32.	0.3	0