

# Elizabeth T Hsiao-Wecksler

## List of Publications by Year in descending order

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Version: 2024-02-01

106  
papers

2,424  
citations

218592

26  
h-index

223716

46  
g-index

107  
all docs

107  
docs citations

107  
times ranked

2393  
citing authors

#	ARTICLE	IF	CITATIONS
1	Common protective movements govern unexpected falls from standing height. <i>Journal of Biomechanics</i> , 1997, 31, 1-9.	0.9	194
2	Generalizability of center of pressure measures of quiet standing. <i>Gait and Posture</i> , 2007, 25, 166-171.	0.6	152
3	A portable powered ankle-foot orthosis for rehabilitation. <i>Journal of Rehabilitation Research and Development</i> , 2011, 48, 459.	1.6	136
4	Uncertainties in inverse dynamics solutions: A comprehensive analysis and an application to gait. <i>Gait and Posture</i> , 2008, 27, 578-588.	0.6	107
5	The effect of step length on young and elderly women's ability to recover balance. <i>Clinical Biomechanics</i> , 2007, 22, 574-580.	0.5	91
6	Balance (perceived and actual) and preferred stance width during pregnancy. <i>Clinical Biomechanics</i> , 2008, 23, 468-476.	0.5	89
7	Biomechanical influences on balance recovery by stepping. <i>Journal of Biomechanics</i> , 1999, 32, 1099-1106.	0.9	82
8	Technologies for Powered Ankle-Foot Orthotic Systems: Possibilities and Challenges. <i>IEEE/ASME Transactions on Mechatronics</i> , 2013, 18, 337-347.	3.7	78
9	A new approach to detecting asymmetries in gait. <i>Clinical Biomechanics</i> , 2008, 23, 459-467.	0.5	67
10	A pneumatic power harvesting ankle-foot orthosis to prevent foot-drop. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2009, 6, 19.	2.4	66
11	Methods to temporally align gait cycle data. <i>Journal of Biomechanics</i> , 2011, 44, 561-566.	0.9	65
12	Biomechanical and age-related differences in balance recovery using the tether-release method. <i>Journal of Electromyography and Kinesiology</i> , 2008, 18, 179-187.	0.7	64
13	Effect of load carriage on gait due to firefighting air bottle configuration. <i>Ergonomics</i> , 2010, 53, 882-891.	1.1	62
14	Assessing gait changes in firefighters due to fatigue and protective clothing. <i>Safety Science</i> , 2011, 49, 719-726.	2.6	61
15	Inverse Dynamics Analysis of the Pelvic Limbs in Labrador Retrievers With and Without Cranial Cruciate Ligament Disease. <i>Veterinary Surgery</i> , 2010, 39, 513-522.	0.5	52
16	Gait mode recognition and control for a portable-powered ankle-foot orthosis. , 2013, 2013, 6650373.		52
17	Predicting the dynamic postural control response from quiet-stance behavior in elderly adults. <i>Journal of Biomechanics</i> , 2003, 36, 1327-1333.	0.9	51
18	Physiological responses to simulated firefighter exercise protocols in varying environments. <i>Ergonomics</i> , 2015, 58, 1012-1021.	1.1	42

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19	Variability of peak shoulder force during wheelchair propulsion in manual wheelchair users with and without shoulder pain. <i>Clinical Biomechanics</i> , 2013, 28, 967-972.	0.5	35
20	Effect of Tai Chi on gait and obstacle crossing behaviors in middle-aged adults. <i>Gait and Posture</i> , 2007, 26, 248-255.	0.6	34
21	Generalizability of Stabilogram Diffusion Analysis of center of pressure measures. <i>Gait and Posture</i> , 2008, 27, 223-230.	0.6	33
22	Measuring Robustness of the Postural Control System to a Mild Impulsive Perturbation. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2010, 18, 461-467.	2.7	32
23	Footfall Placement Variability and Falls in Multiple Sclerosis. <i>Annals of Biomedical Engineering</i> , 2013, 41, 1740-1747.	1.3	32
24	Estimating System State During Human Walking With a Powered Ankle-Foot Orthosis. <i>IEEE/ASME Transactions on Mechatronics</i> , 2011, 16, 835-844.	3.7	30
25	A Review of New Analytic Techniques for Quantifying Symmetry in Locomotion. <i>Symmetry</i> , 2010, 2, 1135-1155.	1.1	28
26	Relationship Between Shoulder Pain and Kinetic and Temporal-Spatial Variability in Wheelchair Users. <i>Archives of Physical Medicine and Rehabilitation</i> , 2014, 95, 699-704.	0.5	28
27	Quantifying Dynamic Changes in Plantar Pressure Gradient in Diabetics with Peripheral Neuropathy. <i>Frontiers in Bioengineering and Biotechnology</i> , 2016, 4, 54.	2.0	28
28	Effect of combined Taiji and Qigong training on balance mechanisms: a randomized controlled trial of older adults. <i>Medical Science Monitor</i> , 2007, 13, CR339-48.	0.5	25
29	Detection of Gait Modes Using an Artificial Neural Network during Walking with a Powered Ankle-Foot Orthosis. <i>Journal of Biophysics</i> , 2016, 2016, 1-9.	0.8	24
30	Effects of aging and Parkinson's disease on joint coupling, symmetry, complexity and variability of lower limb movements during gait. <i>Clinical Biomechanics</i> , 2016, 33, 92-97.	0.5	24
31	Quantifying complexity and variability in phase portraits of gait. <i>Clinical Biomechanics</i> , 2010, 25, 552-556.	0.5	22
32	Analysis of foot clearance in firefighters during ascent and descent of stairs. <i>Applied Ergonomics</i> , 2016, 52, 18-23.	1.7	22
33	Postural and eye-blink indices of the defensive startle reflex. <i>International Journal of Psychophysiology</i> , 2005, 55, 45-49.	0.5	21
34	Characterization of spatiotemporally complex gait patterns using cross-correlation signatures. <i>Gait and Posture</i> , 2012, 36, 120-126.	0.6	21
35	Effects of air bottle design on postural control of firefighters. <i>Applied Ergonomics</i> , 2015, 48, 49-55.	1.7	20
36	Physiological response to firefighting activities of various work cycles using extended duration and prototype SCBA. <i>Ergonomics</i> , 2018, 61, 390-403.	1.1	19

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37	Filtering with rhythms: Application to estimation of gait cycle. , 2012, , .		18
38	Smoothing spline analysis of variance models: A new tool for the analysis of cyclic biomechanical data. <i>Journal of Biomechanics</i> , 2016, 49, 3216-3222.	0.9	18
39	Assessing gait changes in firefighters after firefighting activities and while carrying asymmetric loads. <i>Applied Ergonomics</i> , 2018, 70, 44-50.	1.7	18
40	Six-Minute Walk Test Performance in Persons With Multiple Sclerosis While Using Passive or Powered Ankle-Foot Orthoses. <i>Archives of Physical Medicine and Rehabilitation</i> , 2018, 99, 484-490.	0.5	18
41	Inaccuracy of Affordance Judgments for Firefighters Wearing Personal Protective Equipment. <i>Ecological Psychology</i> , 2016, 28, 108-126.	0.7	17
42	Design and analysis of coiled fiber reinforced soft pneumatic actuator. <i>Bioinspiration and Biomimetics</i> , 2018, 13, 036010.	1.5	17
43	Improving Net Joint Torque Calculations Through a Two-Step Optimization Method for Estimating Body Segment Parameters. <i>Journal of Biomechanical Engineering</i> , 2009, 131, 011007.	0.6	16
44	Kinetic and kinematic analysis of the right hind limb during trotting on a treadmill in Labrador Retrievers presumed predisposed or not predisposed to cranial cruciate ligament disease. <i>American Journal of Veterinary Research</i> , 2012, 73, 1171-1177.	0.3	16
45	Variability in Wheelchair Propulsion: A New Window into an Old Problem. <i>Frontiers in Bioengineering and Biotechnology</i> , 2015, 3, 105.	2.0	16
46	Noninvasive determination of body segment parameters of the hind limb in Labrador Retrievers with and without cranial cruciate ligament disease. <i>American Journal of Veterinary Research</i> , 2008, 69, 1188-1196.	0.3	15
47	Impact of SCBA size and firefighting work cycle on firefighter functional balance. <i>Applied Ergonomics</i> , 2018, 69, 112-119.	1.7	15
48	Improving joint torque calculations: Optimization-based inverse dynamics to reduce the effect of motion errors. <i>Journal of Biomechanics</i> , 2008, 41, 1503-1509.	0.9	14
49	Design and optimization of a biomechanical energy harvesting device. <i>Power Electronics Specialist Conference (PESC), IEEE</i> , 2008, , .	0.0	14
50	Experimental evaluation of a portable powered ankle-foot orthosis. , 2011, 2011, 624-7.		14
51	Fighting Fires Without Falling: Effects of Equipment Design and Fatigue on Firefighter's Balance and Gait. <i>Ecological Psychology</i> , 2014, 26, 167-175.	0.7	13
52	Invariant Density Analysis: Modeling and Analysis of the Postural Control System Using Markov Chains. <i>IEEE Transactions on Biomedical Engineering</i> , 2012, 59, 1094-1100.	2.5	12
53	Shoulder Pain and Cycle to Cycle Kinematic Spatial Variability during Recovery Phase in Manual Wheelchair Users: A Pilot Investigation. <i>PLoS ONE</i> , 2014, 9, e89794.	1.1	12
54	Tiny hydraulics for powered orthotics. , 2011, 2011, 5975473.		10

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55	Pelvic Limb Kinetic and Kinematic Analysis in Labrador Retrievers Predisposed or at a Low Risk for Cranial Cruciate Ligament Disease. <i>Veterinary Surgery</i> , 2012, 41, 973-982.	0.5	10
56	Modulation of anticipatory postural adjustments of gait using a portable powered ankle-foot orthosis. , 2013, 2013, 6650450.		8
57	Effects of simulated firefighting and asymmetric load carriage on firefighter obstacle crossing performance. <i>Applied Ergonomics</i> , 2018, 70, 59-67.	1.7	8
58	Impact of SCBA size and fatigue from different firefighting work cycles on firefighter gait. <i>Ergonomics</i> , 2018, 61, 1208-1215.	1.1	8
59	Modulation of anticipatory postural adjustments using a powered ankle orthosis in people with Parkinson's disease and freezing of gait. <i>Gait and Posture</i> , 2019, 72, 188-194.	0.6	8
60	A Neuromechanical Model of Reduced Dorsiflexor Torque During the Anticipatory Postural Adjustments of Gait Initiation. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2018, 26, 2210-2216.	2.7	7
61	Modeling, control, and analysis of a robotic assist device. <i>Mechatronics</i> , 2012, 22, 1067-1077.	2.0	6
62	Fuel efficiency of a Portable Powered Ankle-Foot Orthosis. , 2013, , .		6
63	Augmented Joint Stiffness and Actuation Using Architectures of Soft Pneumatic Actuators. , 2018, , .		6
64	Design and Clinical Validation of a Robotic Ankle-Foot Simulator With Series Elastic Actuator for Ankle Clonus Assessment Training. <i>IEEE Robotics and Automation Letters</i> , 2021, 6, 3793-3800.	3.3	6
65	Gait Mode Recognition Using an Inertial Measurement Unit to Control an Ankle-Foot Orthosis During Stair Ascent and Descent. , 2012, , .		5
66	A modified SCBA facepiece for accurate metabolic data collection from firefighters. <i>Ergonomics</i> , 2015, 58, 148-159.	1.1	5
67	Design and Analysis of Soft Pneumatic Sleeve for Arm Orthosis. , 2016, , .		5
68	Design of a Portable Position, Velocity, and Resistance Meter (PVRM) for Convenient Clinical Evaluation of Spasticity or Rigidity. , 2017, , .		5
69	Scaling of linear anthropometric dimensions in living humans. <i>American Journal of Physical Anthropology</i> , 2021, 176, 134-143.	2.1	5
70	Passive Hydraulic Training Simulator for Upper Arm Spasticity. <i>Journal of Mechanisms and Robotics</i> , 2020, 12, .	1.5	5
71	Improving Regions of Deviation Gait Symmetry Analysis With Pointwise t Tests. <i>Journal of Applied Biomechanics</i> , 2012, 28, 210-214.	0.3	4
72	Validation of a Wearable Position, Velocity, and Resistance Meter for Assessing Spasticity and Rigidity. , 2018, , .		4

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73	A comparison of glenohumeral joint kinematics and muscle activation during standard and geared manual wheelchair mobility. <i>Medical Engineering and Physics</i> , 2019, 70, 1-8.	0.8	4
74	Design and Biomechanical Evaluation Methodology of Pneumatic Ergonomic Crutch. , 2017, , .		4
75	Biomechanics of aggressive inline skating: Landing and balancing on a grind rail. <i>Journal of Sports Sciences</i> , 2007, 25, 1411-1422.	1.0	3
76	Gait State Estimation for a Powered Ankle Orthosis Using Modified Fractional Timing and Artificial Neural Network1. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2016, 10, .	0.4	3
77	Egress Efficacy of Persons with Multiple Sclerosis During Simulated Evacuations. <i>Fire Technology</i> , 2017, 53, 2007-2021.	1.5	3
78	Glenohumeral joint dynamics and shoulder muscle activity during geared manual wheelchair propulsion on carpeted floor in individuals with spinal cord injury. <i>Journal of Electromyography and Kinesiology</i> , 2019, 62, 102318.	0.7	3
79	Can People with Parkinsonâ€™s Disease Self-Trigger Gait Initiation? A Comparison of Cueing Strategies. <i>Journal of Parkinson's Disease</i> , 2021, , 1-13.	1.5	3
80	Portable Pneumatically-Powered Ankle-Foot Orthosis. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2012, 6, .	0.4	2
81	Fluid-Power Harvesting by Under-Foot Bellows During Human Gait. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2012, 134, .	0.8	2
82	Developing a Classification Algorithm for Plantarflexor Actuation Timing of a Powered Ankleâ€™Foot Orthosis1. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2016, 10, .	0.4	2
83	Design of a Compact High-Torque Actuation System for Portable Powered Ankleâ€™Foot Orthosis1. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2016, 10, .	0.4	2
84	Design of a Universal Instrumented Wheelchair Hand Rim1. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2016, 10, .	0.4	2
85	Design and Modeling of a Passive Hydraulic Device for Muscle Spasticity Simulation1. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2016, 10, .	0.4	2
86	Pneumatic Sleeve Orthosis for Lofstrand Crutches: Application of Soft Pneumatic FREE Actuator1. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2016, 10, .	0.4	2
87	Design Framework and Clinical Evaluation of a Passive Hydraulic Patient Simulator for Biceps Spasticity Assessment Training. <i>Journal of Mechanisms and Robotics</i> , 2021, 13, .	1.5	2
88	A Soft Robotic Simulator for Transseptal Puncture Training. , 2021, , .		2
89	Fluid-Power Harvesting by Pneumatic Bellow During Human Gait. , 2008, , .		1
90	Portable Pneumatic Power-Harvesting Ankle-Foot-Orthosis. , 2008, , .		1

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91	Simulation and Experimental Analysis of a Portable Powered Ankle-Foot Orthosis Control. , 2011, , .		1
92	An Evaluation of an Automatic Gear-shifting System for Manual Wheelchairs. Journal of Medical Devices, Transactions of the ASME, 2012, 6, .	0.4	1
93	Evaluation of a wrist orthosis on lofstrand crutch-assisted gait. , 2016, 2016, 5042-5045.		1
94	Development of a Series Elastic Elbow Neurological Exam Training Simulator for Lead-pipe Rigidity. , 2021, , .		1
95	Validation of an Instrumented Wheelchair Hand Rim. , 2017, , .		1
96	Revised Design of a Passive Hydraulic Training Simulator of Biceps Spasticity. , 2018, , .		1
97	Clinical Validation Testing Of An Upper Limb Robotic Medical Education Training Simulator For Rigidity Assessment. , 2022, , .		1
98	Examining Quiet Standing Center of Pressure Data Using Invariant Density Analysis. , 2009, , .		0
99	Actuation Timing Strategies for a Portable Powered Ankle Foot Orthosis. , 2011, , .		0
100	Tai Chi Affects Gait and Obstacle Crossing Behaviors. Medicine and Science in Sports and Exercise, 2004, 36, S46.	0.2	0
101	Tai Chi Affects Gait and Obstacle Crossing Behaviors. Medicine and Science in Sports and Exercise, 2004, 36, S46.	0.2	0
102	Quantifying Complexity and Variability of Gait Phase Portraits. , 2009, , .		0
103	Modeling Control Adaptations During Recovery From Anterior Cruciate Ligament Reconstruction. , 2013, , .		0
104	Design and Evaluation of the PosturSense Cushion. , 2018, , .		0
105	User Centered Approach to the Supra-Functional Needs of People Living with Amyotrophic Lateral Sclerosis (ALS). , 2021, , .		0
106	Control Design and Preliminary Evaluation of a Medical Education Simulator for Ankle Tendon Reflex Assessment Training. , 2022, , .		0