Arthur D Kuo

List of Publications by Year
in descending order

86 papers	13,298 citations	34016 52 h-index	56606 83 g-index
100 all docs	100 docs citations	100 times ranked	6799 citing authors

#	Article	IF	Citations
1	Active control of lateral balance in human walking. Journal of Biomechanics, 2000, 33, 1433-1440.	0.9	757
2	Biomechanical Energy Harvesting: Generating Electricity During Walking with Minimal User Effort. Science, 2008, 319, 807-810.	6.0	633
3	Energetics of Actively Powered Locomotion Using the Simplest Walking Model. Journal of Biomechanical Engineering, 2002, 124, 113-120.	0.6	587
4	Energetic Consequences of Walking Like an Inverted Pendulum: Step-to-Step Transitions. Exercise and Sport Sciences Reviews, 2005, 33, 88-97.	1.6	568
5	Mechanical work for step-to-step transitions is a major determinant of the metabolic cost of human walking. Journal of Experimental Biology, 2002, 205, 3717-3727.	0.8	547
6	Mechanical and metabolic determinants of the preferred step width in human walking. Proceedings of the Royal Society B: Biological Sciences, 2001, 268, 1985-1992.	1.2	489
7	An optimal control model for analyzing human postural balance. IEEE Transactions on Biomedical Engineering, 1995, 42, 87-101.	2.5	453
8	The six determinants of gait and the inverted pendulum analogy: A dynamic walking perspective. Human Movement Science, 2007, 26, 617-656.	0.6	449
9	Simultaneous positive and negative external mechanical work in human walking. Journal of Biomechanics, 2002, 35, 117-124.	0.9	427
10	Mechanical and metabolic requirements for active lateral stabilization in human walking. Journal of Biomechanics, 2004, 37, 827-835.	0.9	378
11	Mechanical work for step-to-step transitions is a major determinant of the metabolic cost of human walking. Journal of Experimental Biology, 2002, 205, 3717-27.	0.8	360
12	A Simple Model of Bipedal Walking Predicts the Preferred Speedâ€"Step Length Relationship. Journal of Biomechanical Engineering, 2001, 123, 264-269.	0.6	354
13	Dynamic Principles of Gait and Their Clinical Implications. Physical Therapy, 2010, 90, 157-174.	1.1	336
14	Direction-Dependent Control of Balance During Walking and Standing. Journal of Neurophysiology, 2009, 102, 1411-1419.	0.9	299
15	Dynamic arm swinging in human walking. Proceedings of the Royal Society B: Biological Sciences, 2009, 276, 3679-3688.	1.2	295
16	Postural feedback responses scale with biomechanical constraints in human standing. Experimental Brain Research, 2004, 154, 417-427.	0.7	258
17	Comparison of kinematic and kinetic methods for computing the vertical motion of the body center of mass during walking. Human Movement Science, 2004, 22, 597-610.	0.6	247
18	The advantages of a rolling foot in human walking. Journal of Experimental Biology, 2006, 209, 3953-3963.	0.8	227

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19	The Relative Roles of Feedforward and Feedback in the Control of Rhythmic Movements. Motor Control, 2002, 6, 129-145.	0.3	225
20	Mechanics and energetics of swinging the human leg. Journal of Experimental Biology, 2005, 208, 439-445.	0.8	223
21	Chapter 31 Human standing posture: multi-joint movement strategies based on biomechanical constraints. Progress in Brain Research, 1993, 97, 349-358.	0.9	199
22	An optimal state estimation model of sensory integration in human postural balance. Journal of Neural Engineering, 2005, 2, S235-S249.	1.8	199
23	The Effect of Lateral Stabilization on Walking in Young and Old Adults. IEEE Transactions on Biomedical Engineering, 2007, 54, 1919-1926.	2.5	188
24	Biomechanics and energetics of walking on uneven terrain. Journal of Experimental Biology, 2013, 216, 3963-70.	0.8	170
25	Human walking isn't all hard work: evidence of soft tissue contributions to energy dissipation and return. Journal of Experimental Biology, 2010, 213, 4257-4264.	0.8	166
26	Recycling Energy to Restore Impaired Ankle Function during Human Walking. PLoS ONE, 2010, 5, e9307.	1.1	163
27	Measurement of foot placement and its variability with inertial sensors. Gait and Posture, 2013, 38, 974-980.	0.6	150
28	A biomechanical analysis of muscle strength as a limiting factor in standing posture. Journal of Biomechanics, 1993, 26, 137-150.	0.9	144
29	A Least-Squares Estimation Approach to Improving the Precision of Inverse Dynamics Computations. Journal of Biomechanical Engineering, 1998, 120, 148-159.	0.6	144
30	Choosing Your Steps Carefully. IEEE Robotics and Automation Magazine, 2007, 14, 18-29.	2.2	141
31	Metabolic and Mechanical Energy Costs of Reducing Vertical Center of Mass Movement During Gait. Archives of Physical Medicine and Rehabilitation, 2009, 90, 136-144.	0.5	141
32	The effect of prosthetic foot push-off on mechanical loading associated with knee osteoarthritis in lower extremity amputees. Gait and Posture, 2011, 34, 502-507.	0.6	137
33	Redirection of center-of-mass velocity during the step-to-step transition of human walking. Journal of Experimental Biology, 2009, 212, 2668-2678.	0.8	133
34	Contributions of altered sensation and feedback responses to changes in coordination of postural control due to aging. Gait and Posture, 2002, 16, 20-30.	0.6	132
35	Effect of altered sensory conditions on multivariate descriptors of human postural sway. Experimental Brain Research, 1998, 122, 185-195.	0.7	130
36	BIOPHYSICS: Harvesting Energy by Improving the Economy of Human Walking. Science, 2005, 309, 1686-1687.	6.0	128

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37	Endpoint Force Fluctuations Reveal Flexible Rather Than Synergistic Patterns of Muscle Cooperation. Journal of Neurophysiology, 2008, 100, 2455-2471.	0.9	121
38	Systematic Variation of Prosthetic Foot Spring Affects Center-of-Mass Mechanics and Metabolic Cost During Walking. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2011, 19, 411-419.	2.7	115
39	Energetic cost of walking with increased step variability. Gait and Posture, 2012, 36, 102-107.	0.6	114
40	Mechanics and energetics of load carriage during human walking. Journal of Experimental Biology, 2014, 217, 605-13.	0.8	110
41	The role of series ankle elasticity in bipedal walking. Journal of Theoretical Biology, 2014, 346, 75-85.	0.8	107
42	Two Independent Contributions to Step Variability during Over-Ground Human Walking. PLoS ONE, 2013, 8, e73597.	1.1	101
43	Mechanisms of Gait Asymmetry Due to Push-Off Deficiency in Unilateral Amputees. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2015, 23, 776-785.	2.7	98
44	Distinct fast and slow processes contribute to the selection of preferred step frequency during human walking. Journal of Applied Physiology, 2011, 110, 1682-1690.	1.2	97
45	A simple method for calibrating force plates and force treadmills using an instrumented pole. Gait and Posture, 2009, 29, 59-64.	0.6	86
46	Energetic cost of producing cyclic muscle force, rather than work, to swing the human leg. Journal of Experimental Biology, 2007, 210, 2390-2398.	0.8	84
47	The effects of a controlled energy storage and return prototype prosthetic foot on transtibial amputee ambulation. Human Movement Science, 2012, 31, 918-931.	0.6	80
48	Mechanical and energetic consequences of reduced ankle plantarflexion in human walking. Journal of Experimental Biology, 2015, 218, 3541-50.	0.8	80
49	Elastic coupling of limb joints enables faster bipedal walking. Journal of the Royal Society Interface, 2009, 6, 561-573.	1.5	60
50	Visual and Haptic Feedback Contribute to Tuning and Online Control During Object Manipulation. Journal of Motor Behavior, 2007, 39, 179-193.	0.5	57
51	Optimization-based differential kinematic modeling exhibits a velocity-control strategy for dynamic posture determination in seated reaching movements. Journal of Biomechanics, 1998, 31, 1035-1042.	0.9	56
52	Mechanical Work as an Indirect Measure of Subjective Costs Influencing Human Movement. PLoS ONE, 2012, 7, e31143.	1.1	56
53	Mechanical and energetic consequences of rolling foot shape in human walking. Journal of Experimental Biology, 2013, 216, 2722-31.	0.8	48
54	Energetic costs of producing muscle work and force in a cyclical human bouncing task. Journal of Applied Physiology, 2011, 110, 873-880.	1.2	47

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55	Age-Related Changes in Maximal Hip Strength and Movement Speed. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2004, 59, M286-M292.	1.7	42
56	Ankle fixation need not increase the energetic cost of human walking. Gait and Posture, 2008, 28, 427-433.	0.6	41
57	Multivariate changes in coordination of postural control following spaceflight. Journal of Biomechanics, 1998, 31, 883-889.	0.9	39
58	The stabilizing properties of foot yaw in human walking. Journal of Biomechanics, 2017, 53, 1-8.	0.9	39
59	The high cost of swing leg circumduction during human walking. Gait and Posture, 2017, 54, 265-270.	0.6	38
60	Human walking in the real world: Interactions between terrain type, gait parameters, and energy expenditure. PLoS ONE, 2021, 16, e0228682.	1.1	38
61	Biomechanical energy harvesting: Apparatus and method. , 2008, , .		37
62	Influence of contextual task constraints on preferred stride parameters and their variabilities during human walking. Medical Engineering and Physics, 2015, 37, 929-936.	0.8	36
63	The Cost of Leg Forces in Bipedal Locomotion: A Simple Optimization Study. PLoS ONE, 2015, 10, e0117384.	1.1	33
64	A mechanical analysis of force distribution between redundant, multiple degree-of-freedom actuators in the human: Implications for the central nervous system. Human Movement Science, 1994, 13, 635-663.	0.6	31
65	Determinants of preferred ground clearance during swing phase of human walking. Journal of Experimental Biology, 2016, 219, 3106-3113.	0.8	28
66	Computational methods for analyzing the structure of cancellous bone in planar sections. Journal of Orthopaedic Research, 1991, 9, 918-931.	1.2	24
67	Human Adaptation to Interaction Forces in Visuo-Motor Coordination. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2006, 14, 390-397.	2.7	21
68	Soft Tissue Deformations Contribute to the Mechanics of Walking in Obese Adults. Medicine and Science in Sports and Exercise, 2015, 47, 1435-1443.	0.2	21
69	Extraction of Individual Muscle Mechanical Action From Endpoint Force. Journal of Neurophysiology, 2010, 103, 3535-3546.	0.9	18
70	The energetic basis for smooth human arm movements. ELife, 2021, 10, .	2.8	18
71	An optimality principle for locomotor central pattern generators. Scientific Reports, 2021, 11, 13140.	1.6	17
72	The high energetic cost of rapid force development in muscle. Journal of Experimental Biology, 2021, 224, .	0.8	15

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73	EquiTest modification with shank and hip angle measurements: differences with age among normal subjects. Journal of Vestibular Research: Equilibrium and Orientation, 1999, 9, 435-444.	0.8	15
74	Humans optimally anticipate and compensate for an uneven step during walking. ELife, 2022, 11, .	2.8	14
75	Mobile platform for motion capture of locomotion over long distances. Journal of Biomechanics, 2013, 46, 2316-2319.	0.9	12
76	Anticipatory Control of Momentum for Bipedal Walking on Uneven Terrain. Scientific Reports, 2020, 10, 540.	1.6	12
77	Optimal regulation of bipedal walking speed despite an unexpected bump in the road. PLoS ONE, 2018, 13, e0204205.	1.1	11
78	Subjective valuation of cushioning in a human drop landing task as quantified by trade-offs in mechanical work. Journal of Biomechanics, 2015, 48, 1887-1892.	0.9	10
79	Comment on â€œContributions of the individual ankle plantar flexors to support, forward progression and swing initiation during walkingâ€•( ) and â€œMuscle mechanical work requirements during normal walking: The energetic cost of raising the body's center-of-mass is significantâ€•( ). Journal of Biomechanics, 2009, 42, 1783-1785.	0.9	8
80	TimTrack: A drift-free algorithm for estimating geometric muscle features from ultrasound images. PLoS ONE, 2022, 17, e0265752.	1.1	6
81	Soft tissue deformations explain most of the mechanical work variations of human walking. Journal of Experimental Biology, 2021, 224, .	0.8	3
82	Mechanics and energetics of swinging the human leg. Journal of Experimental Biology, 2007, 210, 2399-2399.	0.8	2
83	Elastic energy savings and active energy cost in a simple model of running. PLoS Computational Biology, 2021, 17, e1009608.	1.5	2
84	An Optimal Estimator Model of Multi-Sensory Processing in Human Postural Control. Key Engineering Materials, 2005, 277-279, 148-154.	0.4	1
85	Effect of Initial Lean on Scaling of Postural Feedback Responses. Key Engineering Materials, 2005, 277-279, 142-147.	0.4	0
86	Analysis of the effects of firing rate and synchronization on spike-triggered averaging of neuronal output. , 2006, , .		0