Arthur D Kuo

List of Publications by Citations

87 papers	10,354 citations	51 h-index	100 g-index
100 ext. papers	12,096 ext. citations	3.9 avg, IF	6.74 L-index

#	Paper	IF	Citations
87	Active control of lateral balance in human walking. *Journal of Biomechanics*, **2000**, 33, 1433-40	2.9	596
86	Biomechanical energy harvesting: generating electricity during walking with minimal user effort. *Science*, **2008**, 319, 807-10	33.3	521
85	Energetics of actively powered locomotion using the simplest walking model. *Journal of Biomechanical Engineering*, **2002**, 124, 113-20	2.1	465
84	Energetic consequences of walking like an inverted pendulum: step-to-step transitions. *Exercise and Sport Sciences Reviews*, **2005**, 33, 88-97	6.7	445
83	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	3	431
82	Mechanical and metabolic determinants of the preferred step width in human walking. *Proceedings of the Royal Society B: Biological Sciences*, **2001**, 268, 1985-92	4.4	379
81	An optimal control model for analyzing human postural balance. *IEEE Transactions on Biomedical Engineering*, **1995**, 42, 87-101	5	370
80	Simultaneous positive and negative external mechanical work in human walking. *Journal of Biomechanics*, **2002**, 35, 117-24	2.9	353
79	The six determinants of gait and the inverted pendulum analogy: A dynamic walking perspective. *Human Movement Science*, **2007**, 26, 617-56	2.4	336
78	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	3	314
77	Mechanical and metabolic requirements for active lateral stabilization in human walking. *Journal of Biomechanics*, **2004**, 37, 827-35	2.9	300
76	A simple model of bipedal walking predicts the preferred speed-step length relationship. *Journal of Biomechanical Engineering*, **2001**, 123, 264-9	2.1	288
75	Direction-dependent control of balance during walking and standing. *Journal of Neurophysiology*, **2009**, 102, 1411-9	3.2	234
74	Dynamic principles of gait and their clinical implications. *Physical Therapy*, **2010**, 90, 157-74	3.3	230
73	Dynamic arm swinging in human walking. *Proceedings of the Royal Society B: Biological Sciences*, **2009**, 276, 3679-88	4.4	226
72	Postural feedback responses scale with biomechanical constraints in human standing. *Experimental Brain Research*, **2004**, 154, 417-27	2.3	222
71	The advantages of a rolling foot in human walking. *Journal of Experimental Biology*, **2006**, 209, 3953-63	3	185

70	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	2.4	174
69	The relative roles of feedforward and feedback in the control of rhythmic movements. *Motor Control*, **2002**, 6, 129-45	1.3	172
68	Mechanics and energetics of swinging the human leg. *Journal of Experimental Biology*, **2005**, 208, 439-453		171
67	An optimal state estimation model of sensory integration in human postural balance. *Journal of Neural Engineering*, **2005**, 2, S235-49	5	166
66	Human standing posture: multi-joint movement strategies based on biomechanical constraints. *Progress in Brain Research*, **1993**, 97, 349-58	2.9	159
65	The effect of lateral stabilization on walking in young and old adults. *IEEE Transactions on Biomedical Engineering*, **2007**, 54, 1919-26	5	151
64	Recycling energy to restore impaired ankle function during human walking. *PLoS ONE*, **2010**, 5, e9307	3.7	124
63	Metabolic and mechanical energy costs of reducing vertical center of mass movement during gait. *Archives of Physical Medicine and Rehabilitation*, **2009**, 90, 136-44	2.8	123
62	Human walking isn¥ all hard work: evidence of soft tissue contributions to energy dissipation and return. *Journal of Experimental Biology*, **2010**, 213, 4257-64	3	122
61	A least-squares estimation approach to improving the precision of inverse dynamics computations. *Journal of Biomechanical Engineering*, **1998**, 120, 148-59	2.1	122
60	A biomechanical analysis of muscle strength as a limiting factor in standing posture. *Journal of Biomechanics*, **1993**, 26 Suppl 1, 137-50	2.9	120
59	Effect of altered sensory conditions on multivariate descriptors of human postural sway. *Experimental Brain Research*, **1998**, 122, 185-95	2.3	115
58	Biomechanics and energetics of walking on uneven terrain. *Journal of Experimental Biology*, **2013**, 216, 3963-70	3	114
57	Biophysics. Harvesting energy by improving the economy of human walking. *Science*, **2005**, 309, 1686-7	33.3	111
56	Choosing Your Steps Carefully. *IEEE Robotics and Automation Magazine*, **2007**, 14, 18-29	3.4	110
55	Measurement of foot placement and its variability with inertial sensors. *Gait and Posture*, **2013**, 38, 974-80	2.6	108
54	Endpoint force fluctuations reveal flexible rather than synergistic patterns of muscle cooperation. *Journal of Neurophysiology*, **2008**, 100, 2455-71	3.2	105
53	The effect of prosthetic foot push-off on mechanical loading associated with knee osteoarthritis in lower extremity amputees. *Gait and Posture*, **2011**, 34, 502-7	2.6	103

52	Contributions of altered sensation and feedback responses to changes in coordination of postural control due to aging. *Gait and Posture*, **2002**, 16, 20-30	2.6	101
51	Redirection of center-of-mass velocity during the step-to-step transition of human walking. *Journal of Experimental Biology*, **2009**, 212, 2668-78	3	97
50	Energetic cost of walking with increased step variability. *Gait and Posture*, **2012**, 36, 102-7	2.6	92
49	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, 411-9	4.8	86
48	Mechanics and energetics of load carriage during human walking. *Journal of Experimental Biology*, **2014**, 217, 605-13	3	82
47	Distinct fast and slow processes contribute to the selection of preferred step frequency during human walking. *Journal of Applied Physiology*, **2011**, 110, 1682-90	3.7	73
46	The role of series ankle elasticity in bipedal walking. *Journal of Theoretical Biology*, **2014**, 346, 75-85	2.3	72
45	A simple method for calibrating force plates and force treadmills using an instrumented pole. *Gait and Posture*, **2009**, 29, 59-64	2.6	72
44	Energetic cost of producing cyclic muscle force, rather than work, to swing the human leg. *Journal of Experimental Biology*, **2007**, 210, 2390-8	3	68
43	Two independent contributions to step variability during over-ground human walking. *PLoS ONE*, **2013**, 8, e73597	3.7	64
42	Mechanisms of Gait Asymmetry Due to Push-Off Deficiency in Unilateral Amputees. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2015**, 23, 776-85	4.8	63
41	Mechanical and energetic consequences of reduced ankle plantar-flexion in human walking. *Journal of Experimental Biology*, **2015**, 218, 3541-50	3	57
40	The effects of a controlled energy storage and return prototype prosthetic foot on transtibial amputee ambulation. *Human Movement Science*, **2012**, 31, 918-31	2.4	53
39	Elastic coupling of limb joints enables faster bipedal walking. *Journal of the Royal Society Interface*, **2009**, 6, 561-73	4.1	52
38	Visual and haptic feedback contribute to tuning and online control during object manipulation. *Journal of Motor Behavior*, **2007**, 39, 179-93	1.4	51
37	Optimization-based differential kinematic modeling exhibits a velocity-control strategy for dynamic posture determination in seated reaching movements. *Journal of Biomechanics*, **1998**, 31, 1035-42	2.9	49
36	Mechanical work as an indirect measure of subjective costs influencing human movement. *PLoS ONE*, **2012**, 7, e31143	3.7	44
35	Mechanical and energetic consequences of rolling foot shape in human walking. *Journal of Experimental Biology*, **2013**, 216, 2722-31	3	39

34	Ankle fixation need not increase the energetic cost of human walking. *Gait and Posture*, **2008**, 28, 427-33	2.6	39
33	Energetic costs of producing muscle work and force in a cyclical human bouncing task. *Journal of Applied Physiology*, **2011**, 110, 873-80	3.7	38
32	Multivariate changes in coordination of postural control following spaceflight. *Journal of Biomechanics*, **1998**, 31, 883-9	2.9	32
31	Age-related changes in maximal hip strength and movement speed. *Journals of Gerontology - Series A Biological Sciences and Medical Sciences*, **2004**, 59, 286-92	6.4	28
30	The high cost of swing leg circumduction during human walking. *Gait and Posture*, **2017**, 54, 265-270	2.6	27
29	Influence of contextual task constraints on preferred stride parameters and their variabilities during human walking. *Medical Engineering and Physics*, **2015**, 37, 929-36	2.4	26
28	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	2.4	26
27	The cost of leg forces in bipedal locomotion: a simple optimization study. *PLoS ONE*, **2015**, 10, e0117384	3.7	24
26	The stabilizing properties of foot yaw in human walking. *Journal of Biomechanics*, **2017**, 53, 1-8	2.9	23
25	Computational methods for analyzing the structure of cancellous bone in planar sections. *Journal of Orthopaedic Research*, **1991**, 9, 918-31	3.8	23
24	Biomechanical energy harvesting: Apparatus and method **2008**,		22
23	Extraction of individual muscle mechanical action from endpoint force. *Journal of Neurophysiology*, **2010**, 103, 3535-46	3.2	18
22	Determinants of preferred ground clearance during swing phase of human walking. *Journal of Experimental Biology*, **2016**, 219, 3106-3113	3	16
21	Soft Tissue Deformations Contribute to the Mechanics of Walking in Obese Adults. *Medicine and Science in Sports and Exercise*, **2015**, 47, 1435-43	1.2	14
20	Human adaptation to interaction forces in visuo-motor coordination. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, **2006**, 14, 390-7	4.8	14
19	Mobile platform for motion capture of locomotion over long distances. *Journal of Biomechanics*, **2013**, 46, 2316-9	2.9	11
18	Comment on "Contributions of the individual ankle plantar flexors to support, forward progression and swing initiation during walking" ((Neptune et al., 2001) and "Muscle mechanical work requirements during normal walking: the energetic cost of raising the body's center-of-mass is significant" (Neptune et al., 2004). *Journal of Biomechanics*, **2009**, 42, 1783-5; author reply 1786-9	2.9	8
17	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	2.5	8

16	Subjective valuation of cushioning in a human drop landing task as quantified by trade-offs in mechanical work. *Journal of Biomechanics*, **2015**, 48, 1887-92	2.9	7
15	Human walking in the real world: Interactions between terrain type, gait parameters, and energy expenditure. *PLoS ONE*, **2021**, 16, e0228682	3.7	7
14	The high energetic cost of rapid force development in muscle. *Journal of Experimental Biology*, **2021**, 224,	3	5
13	Optimal regulation of bipedal walking speed despite an unexpected bump in the road. *PLoS ONE*, **2018**, 13, e0204205	3.7	5
12	The energetic basis for smooth human arm movements.. *ELife*, **2021**, 10,	8.9	4
11	Anticipatory Control of Momentum for Bipedal Walking on Uneven Terrain. *Scientific Reports*, **2020**, 10, 540	4.9	3
10	Human walking in the real world: Interactions between terrain type, gait parameters, and energy expenditure		3
9	Humans optimally anticipate and compensate for an uneven step during walking.. *ELife*, **2022**, 11,	8.9	2
8	The high energetic cost of rapid force development in cyclic muscle contraction		2
7	The energetic basis for smooth human arm movements		2
6	TimTrack: A drift-free algorithm for estimating geometric muscle features from ultrasound images.. *PLoS ONE*, **2022**, 17, e0265752	3.7	2
5	TimTrack: A drift-free algorithm for estimating geometric muscle features from ultrasound images		1
4	An optimality principle for locomotor central pattern generators. *Scientific Reports*, **2021**, 11, 13140	4.9	1
3	An Optimal Estimator Model of Multi-Sensory Processing in Human Postural Control. *Key Engineering Materials*, **2005**, 277-279, 148-154	0.4	0
2	Elastic energy savings and active energy cost in a simple model of running. *PLoS Computational Biology*, **2021**, 17, e1009608	5	0
1	Effect of Initial Lean on Scaling of Postural Feedback Responses. *Key Engineering Materials*, **2005**, 277-279, 142-147	0.4	