Steven A Kautz

List of Publications by Year
in descending order

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132 papers	10,645 citations	34493 54 h-index	38517 99 g-index
140 all docs	140 docs citations	140 times ranked	7544 citing authors

#	Article	IF	Citations
1	Transcranial Direct Current Stimulation Electrode Montages May Differentially Impact Variables of Walking Performance in Individuals Poststroke: A Preliminary Study. Journal of Clinical Neurophysiology, 2023, 40, 71-78.	0.9	4
2	The <scp>ENIGMA</scp> Stroke Recovery Working Group: Big data neuroimaging to study brainâ€“behavior relationships after stroke. Human Brain Mapping, 2022, 43, 129-148.	1.9	54
3	Association of Modified Rankin Scale With Recovery Phenotypes in Patients With Upper Extremity Weakness After Stroke. Neurology, 2022, 98, .	1.5	13
4	Muscle contributions to pre-swing biomechanical tasks influence swing leg mechanics in individuals post-stroke during walking. Journal of NeuroEngineering and Rehabilitation, 2022, 19, .	2.4	2
5	A large, curated, open-source stroke neuroimaging dataset to improve lesion segmentation algorithms. Scientific Data, 2022, 9, .	2.4	33
6	Revisiting the Concept of Minimal Detectable Change for Patient-Reported Outcome Measures. Physical Therapy, 2022, 102, .	1.1	8
7	Hypermobile <scp>Ehlersâ€Danlos</scp> syndromes: Complex phenotypes, challenging diagnoses, and poorly understood causes. Developmental Dynamics, 2021, 250, 318-344.	0.8	53
8	Assessment of turning performance and muscle coordination in individuals post-stroke. Journal of Biomechanics, 2021, 114, 110113.	0.9	5
9	Measurement Precision and Efficiency of Computerized Adaptive Testing for the Activities-specific Balance Confidence Scale in People With Stroke. Physical Therapy, 2021, 101, .	1.1	1
10	Vagus nerve stimulation paired with rehabilitation for upper limb motor function after ischaemic stroke (VNS-REHAB): a randomised, blinded, pivotal, device trial. Lancet, The, 2021, 397, 1545-1553.	6.3	181
11	Paired inhibitory stimulation and gait training modulates supplemental motor area connectivity in freezing of gait. Parkinsonism and Related Disorders, 2021, 88, 28-33.	1.1	11
12	Smaller spared subcortical nuclei are associated with worse post-stroke sensorimotor outcomes in 28 cohorts worldwide. Brain Communications, 2021, 3, fcab254.	1.5	7
13	Altered post-stroke propulsion is related to paretic swing phase kinematics. Clinical Biomechanics, 2020, 72, 24-30.	0.5	13
14	Update on the Use of Transcranial Electrical Brain Stimulation to Manage Acute and Chronic COVID-19 Symptoms. Frontiers in Human Neuroscience, 2020, 14, 595567.	1.0	18
15	The effect of time since stroke, gender, age, and lesion size on thalamus volume in chronic stroke: a pilot study. Scientific Reports, 2020, 10, 20488.	1.6	5
16	Individualized Responses to Ipsilesional High-Frequency and Contralesional Low-Frequency rTMS in Chronic Stroke: A Pilot Study to Support the Individualization of Neuromodulation for Rehabilitation. Frontiers in Human Neuroscience, 2020, 14, 578127.	1.0	7
17	Gait asymmetry pattern following stroke determines acute response to locomotor task. Gait and Posture, 2020, 77, 300-307.	0.6	21
18	Muscle contributions to mediolateral and anteroposterior foot placement during walking. Journal of Biomechanics, 2019, 95, 109310.	0.9	12

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19	TheraBracelet Stimulation During Task-Practice Therapy to Improve Upper Extremity Function After Stroke: A Pilot Randomized Controlled Study. Physical Therapy, 2019, 99, 319-328.	1.1	20
20	Single Sessions of High-Definition Transcranial Direct Current Stimulation Do Not Alter Lower Extremity Biomechanical or Corticomotor Response Variables Post-stroke. Frontiers in Neuroscience, 2019, 13, 286.	1.4	20
21	Altered muscle activation patterns (AMAP): an analytical tool to compare muscle activity patterns of hemiparetic gait with a normative profile. Journal of NeuroEngineering and Rehabilitation, 2019, 16, 21.	2.4	9
22	The influence of locomotor training on dynamic balance during steady-state walking post-stroke. Journal of Biomechanics, 2019, 89, 21-27.	0.9	6
23	Rasch Analysis of the Activities-Specific Balance Confidence Scale in Individuals Poststroke. Archives of Rehabilitation Research and Clinical Translation, 2019, 1, 100028.	0.5	5
24	Merged plantarflexor muscle activity is predictive of poor walking performance in post-stroke hemiparetic subjects. Journal of Biomechanics, 2019, 82, 361-367.	0.9	19
25	Paretic propulsion as a measure of walking performance and functional motor recovery post-stroke: A review. Gait and Posture, 2019, 68, 6-14.	0.6	90
26	Evidence of transcranial direct current stimulation-generated electric fields at subthalamic level in human brain inÂvivo. Brain Stimulation, 2018, 11, 727-733.	0.7	86
27	Transcranial Direct Current Stimulation for Poststroke Motor Recovery: Challenges and Opportunities. PM and R, 2018, 10, S157-S164.	0.9	25
28	Using a Module-Based Analysis Framework for Investigating Muscle Coordination during Walking in Individuals Poststroke: A Literature Review and Synthesis. Applied Bionics and Biomechanics, 2018, 2018, 1-16.	0.5	6
29	Safety and tolerability of transcranial direct current stimulation to stroke patients â€“ A phase I current escalation study. Brain Stimulation, 2017, 10, 553-559.	0.7	87
30	Effects of hip abduction and adduction accuracy on post-stroke gait. Clinical Biomechanics, 2017, 44, 14-20.	0.5	18
31	EMG synchrony to assess impaired corticomotor control of locomotion after stroke. Journal of Electromyography and Kinesiology, 2017, 37, 35-40.	0.7	12
32	Diffusional Kurtosis Imaging and Motor Outcome in Acute Ischemic Stroke. American Journal of Neuroradiology, 2017, 38, 1328-1334.	1.2	24
33	Charge density, not current density, is a more comprehensive safety measure of transcranial direct current stimulation. Brain, Behavior, and Immunity, 2017, 66, 414-415.	2.0	11
34	Poster 470: Safety and Tolerability of Transcranial Direct Current Stimulation to Stroke Patients â€“ A Phase I Current Escalation Study. PM and R, 2017, 9, S282.	0.9	1
35	Quantitative reassessment of safety limits of tDCS for two animal studies. Brain Stimulation, 2017, 10, 1011-1012.	0.7	6
36	Changes in muscle coordination patterns induced by exposure to a viscous force field. Journal of NeuroEngineering and Rehabilitation, 2016, 13, 58.	2.4	11

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37	Dimensionality and Item-Difficulty Hierarchy of the Lower Extremity Fugl-Meyer Assessment in Individuals With Subacute and Chronic Stroke. Archives of Physical Medicine and Rehabilitation, 2016, 97, 582-589.e2.	0.5	23
38	Correlations between measures of dynamic balance in individuals with post-stroke hemiparesis. Journal of Biomechanics, 2016, 49, 396-400.	0.9	80
39	Locomotor Adaptability Task Promotes Intense and Task-Appropriate Output From the Paretic Leg During Walking. Archives of Physical Medicine and Rehabilitation, 2016, 97, 493-496.	0.5	15
40	Transcranial Direct Current Stimulation Post-Stroke Upper Extremity Motor Recovery Studies Exhibit a Doseâ€“Response Relationship. Brain Stimulation, 2016, 9, 16-26.	0.7	103
41	Pilot study of atomoxetine in patients with Parkinsonâ€™s disease and dopa-unresponsive Freezing of Gait. Translational Neurodegeneration, 2015, 4, 24.	3.6	13
42	Corticospinal tract lesion load: An imaging biomarker for stroke motor outcomes. Annals of Neurology, 2015, 78, 860-870.	2.8	264
43	Foot placement control and gait instability among people with stroke. Journal of Rehabilitation Research and Development, 2015, 52, 577-590.	1.6	72
44	Long-Term Follow-up to a Randomized Controlled Trial Comparing Peroneal Nerve Functional Electrical Stimulation to an Ankle Foot Orthosis for Patients With Chronic Stroke. Neurorehabilitation and Neural Repair, 2015, 29, 911-922.	1.4	62
45	Modular organization across changing task demands in healthy and poststroke gait. Physiological Reports, 2014, 2, e12055.	0.7	56
46	Persistent Racial Disparity in Stroke Hospitalization and Economic Impact in Young Adults in the Buckle of Stroke Belt. Stroke, 2014, 45, 1932-1938.	1.0	38
47	Poststroke Outcomes. Stroke Research and Treatment, 2014, 2014, 1-2.	0.5	5
48	The influence of solid ankle-foot-orthoses on forward propulsion and dynamic balance in healthy adults during walking. Clinical Biomechanics, 2014, 29, 583-589.	0.5	44
49	Stem Cells as an Emerging Paradigm in Stroke 3. Stroke, 2014, 45, 634-639.	1.0	141
50	Relationships between frontal-plane angular momentum and clinical balance measures during post-stroke hemiparetic walking. Gait and Posture, 2014, 39, 129-134.	0.6	84
51	The Effects of Peroneal Nerve Functional Electrical Stimulation Versus Ankle-Foot Orthosis in Patients With Chronic Stroke. Neurorehabilitation and Neural Repair, 2014, 28, 688-697.	1.4	92
52	Forward propulsion asymmetry is indicative of changes in plantarflexor coordination during walking in individuals with post-stroke hemiparesis. Clinical Biomechanics, 2014, 29, 780-786.	0.5	46
53	Synchronous EMG Activity in the Piper Frequency Band Reveals the Corticospinal Demand of Walking Tasks. Annals of Biomedical Engineering, 2013, 41, 1778-1786.	1.3	31
54	Locomotor Rehabilitation of Individuals With Chronic Stroke: Difference Between Responders and Nonresponders. Archives of Physical Medicine and Rehabilitation, 2013, 94, 856-862.	0.5	84

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55	The influence of merged muscle excitation modules on post-stroke hemiparetic walking performance. Clinical Biomechanics, 2013, 28, 697-704.	0.5	91
56	The influence of locomotor rehabilitation on module quality and post-stroke hemiparetic walking performance. Gait and Posture, 2013, 38, 511-517.	0.6	135
57	Review of Transcranial Direct Current Stimulation in Poststroke Recovery. Topics in Stroke Rehabilitation, 2013, 20, 68-77.	1.0	40
58	Modular control of varied locomotor tasks in children with incomplete spinal cord injuries. Journal of Neurophysiology, 2013, 110, 1415-1425.	0.9	51
59	Rehabilitating Walking Speed Poststroke With Treadmill-Based Interventions. Neurorehabilitation and Neural Repair, 2013, 27, 709-721.	1.4	22
60	Quantifiable patterns of limb loading and unloading during hemiparetic gait: Relation to kinetic and kinematic parameters. Journal of Rehabilitation Research and Development, 2012, 49, 1293.	1.6	27
61	Advancing Measurement of Locomotor Rehabilitation Outcomes to Optimize Interventions and Differentiate Between Recovery Versus Compensation. Journal of Neurologic Physical Therapy, 2012, 36, 38-44.	0.7	32
62	Foot placement variability as a walking balance mechanism post-spinal cord injury. Clinical Biomechanics, 2012, 27, 145-150.	0.5	42
63	Biomechanical variables related to walking performance 6-months following post-stroke rehabilitation. Clinical Biomechanics, 2012, 27, 1017-1022.	0.5	30
64	Coordination of the non-paretic leg during hemiparetic gait: Expected and novel compensatory patterns. Clinical Biomechanics, 2012, 27, 1023-1030.	0.5	47
65	Relationships between muscle contributions to walking subtasks and functional walking status in persons with post-stroke hemiparesis. Clinical Biomechanics, 2011, 26, 509-515.	0.5	79
66	Muscle work is increased in pre-swing during hemiparetic walking. Clinical Biomechanics, 2011, 26, 859-866.	0.5	14
67	Step length asymmetry is representative of compensatory mechanisms used in post-stroke hemiparetic walking. Gait and Posture, 2011, 33, 538-543.	0.6	158
68	Braking and propulsive impulses increase with speed during accelerated and decelerated walking. Gait and Posture, 2011, 33, 562-567.	0.6	69
69	Comparison of Motor Control Deficits During Treadmill and Overground Walking Poststroke. Neurorehabilitation and Neural Repair, 2011, 25, 756-765.	1.4	69
70	An fMRI Study of the Differences in Brain Activity During Active Ankle Dorsiflexion and Plantarflexion. Brain Imaging and Behavior, 2010, 4, 121-131.	1.1	43
71	A Split-Crank Bicycle Ergometer Uses Servomotors to Provide Programmable Pedal Forces for Studies in Human Biomechanics. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2010, 18, 445-452.	2.7	10
72	Modular control of human walking: Adaptations to altered mechanical demands. Journal of Biomechanics, 2010, 43, 412-419.	0.9	134

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73	Pre-swing deficits in forward propulsion, swing initiation and power generation by individual muscles during hemiparetic walking. Journal of Biomechanics, 2010, 43, 2348-2355.	0.9	90
74	All joint moments significantly contribute to trunk angular acceleration. Journal of Biomechanics, 2010, 43, 2648-2652.	0.9	30
75	Evaluation of Abnormal Synergy Patterns Poststroke: Relationship of the Fugl-Meyer Assessment to Hemiparetic Locomotion. Neurorehabilitation and Neural Repair, 2010, 24, 328-337.	1.4	119
76	Merging of Healthy Motor Modules Predicts Reduced Locomotor Performance and Muscle Coordination Complexity Post-Stroke. Journal of Neurophysiology, 2010, 103, 844-857.	0.9	676
77	Differences in self-selected and fastest-comfortable walking in post-stroke hemiparetic persons. Gait and Posture, 2010, 31, 311-316.	0.6	52
78	Leg extension is an important predictor of paretic leg propulsion in hemiparetic walking. Gait and Posture, 2010, 32, 451-456.	0.6	91
79	Foot placement in a body reference frame during walking and its relationship to hemiparetic walking performance. Clinical Biomechanics, 2010, 25, 483-490.	0.5	50
80	Stepping with an ankle foot orthosis re-examined: A mechanical perspective for clinical decision making. Clinical Biomechanics, 2010, 25, 618-622.	0.5	20
81	Forward Dynamics Simulations Provide Insight Into Muscle Mechanical Work During Human Locomotion. Exercise and Sport Sciences Reviews, 2009, 37, 203-210.	1.6	35
82	The relationships between muscle, external, internal and joint mechanical work during normal walking. Journal of Experimental Biology, 2009, 212, 738-744.	0.8	75
83	Modular Control of Human Walking: A Modeling and Simulation Study. , 2009, , .		0
84	Invited Commentary on â€œAllowing Intralimb Kinematic Variability During Locomotor Training Poststroke Improves Kinematic Consistency: A Subgroup Analysis From a Randomized Clinical Trialâ€• Physical Therapy, 2009, 89, e7-e8.	1.1	1
85	Author's response to comment on â€œContributions of the individual ankle plantar flexors to support, forward progression and swing initiation during walkingâ€•(Neptune et al., 2001) and â€œMuscle mechanical work requirements during normal walking: The energetic cost of raising the body's center-of-mass is significantâ€•(Neptune et al., 2004). Journal of Biomechanics, 2009, 42, 1786-1789.	0.9	7
86	Modular control of human walking: A simulation study. Journal of Biomechanics, 2009, 42, 1282-1287.	0.9	343
87	Variability in spatiotemporal step characteristics and its relationship to walking performance post-stroke. Gait and Posture, 2009, 29, 408-414.	0.6	196
88	Effects of Trunk Restraint Combined With Intensive Task Practice on Poststroke Upper Extremity Reach and Function: A Pilot Study. Neurorehabilitation and Neural Repair, 2009, 23, 78-91.	1.4	74
89	Can treadmill walking be used to assess propulsion generation?. Journal of Biomechanics, 2008, 41, 1805-1808.	0.9	42
90	The effect of walking speed on muscle function and mechanical energetics. Gait and Posture, 2008, 28, 135-143.	0.6	324

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91	Validation of a Speed-Based Classification System Using Quantitative Measures of Walking Performance Poststroke. Neurorehabilitation and Neural Repair, 2008, 22, 672-675.	1.4	223
92	Relationship Between Step Length Asymmetry and Walking Performance in Subjects With Chronic Hemiparesis. Archives of Physical Medicine and Rehabilitation, 2007, 88, 43-49.	0.5	379
93	Relationships Between Muscle Activity and Anteroposterior Ground Reaction Forces in Hemiparetic Walking. Archives of Physical Medicine and Rehabilitation, 2007, 88, 1127-1135.	0.5	133
94	Effects of Stroke Severity and Training Duration on Locomotor Recovery After Stroke: A Pilot Study. Neurorehabilitation and Neural Repair, 2007, 21, 137-151.	1.4	132
95	Resistance training and locomotor recovery after incomplete spinal cord injury: a case series. Spinal Cord, 2007, 45, 522-530.	0.9	55
96	Muscle Mechanical Work Adaptations With Increasing Walking Speed. , 2007, , .		0
97	Anterior-Posterior Ground Reaction Forces as a Measure of Paretic Leg Contribution in Hemiparetic Walking. Stroke, 2006, 37, 872-876.	1.0	283
98	Effect of equinus foot placement and intrinsic muscle response on knee extension during stance. Gait and Posture, 2006, 23, 32-36.	0.6	32
99	Does Unilateral Pedaling Activate a Rhythmic Locomotor Pattern in the Nonpedaling Leg in Post-Stroke Hemiparesis?. Journal of Neurophysiology, 2006, 95, 3154-3163.	0.9	59
100	Muscle contributions to support during gait in an individual with post-stroke hemiparesis. Journal of Biomechanics, 2006, 39, 1769-1777.	0.9	133
101	Interlimb Influences on Paretic Leg Function in Poststroke Hemiparesis. Journal of Neurophysiology, 2005, 93, 2460-2473.	0.9	77
102	Key characteristics of walking correlate with bone density in individuals with chronic stroke. Journal of Rehabilitation Research and Development, 2005, 42, 761.	1.6	48
103	Coordination of Hemiparetic Locomotion after Stroke Rehabilitation. Neurorehabilitation and Neural Repair, 2005, 19, 250-258.	1.4	65
104	Muscle mechanical work requirements during normal walking: the energetic cost of raising the body's center-of-mass is significant. Journal of Biomechanics, 2004, 37, 817-825.	0.9	140
105	Muscle force redistributes segmental power for body progression during walking. Gait and Posture, 2004, 19, 194-205.	0.6	308
106	Biomechanics and muscle coordination of human walking. Gait and Posture, 2003, 17, 1-17.	0.6	357
107	Biomechanical Determinants of Pedaling Energetics: Internal and External Work Are Not Independent. Exercise and Sport Sciences Reviews, 2002, 30, 159-165.	1.6	63
108	Biomechanics and muscle coordination of human walking. Gait and Posture, 2002, 16, 215-232.	0.6	495

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109	Simulation analysis of muscle activity changes with altered body orientations during pedaling. Journal of Biomechanics, 2001, 34, 749-756.	0.9	10
110	Contributions of the individual ankle plantar flexors to support, forward progression and swing initiation during walking. Journal of Biomechanics, 2001, 34, 1387-1398.	0.9	959
111	Comments on â€œPropulsive adaptation to changing gait speedâ€• Journal of Biomechanics, 2001, 34, 1667-1668.	0.9	4
112	Erratum to â€œSimulation analysis of muscle activity changes with altered body orientations during pedalingâ€•[Journal of Biomechanics 34 (2001) 749â€“756]. Journal of Biomechanics, 2001, 34, 1513.	0.9	0
113	Muscle Activation and Deactivation Dynamics: The Governing Properties in Fast Cyclical Human Movement Performance?. Exercise and Sport Sciences Reviews, 2001, 29, 76-81.	1.6	9
114	General Coordination Principles Elucidated by Forward Dynamics: Minimum Fatigue Does Not Explain Muscle Excitation in Dynamic Tasks. Motor Control, 2000, 4, 75-80.	0.3	15
115	Muscle contributions to specific biomechanical functions do not change in forward versus backward pedaling. Journal of Biomechanics, 2000, 33, 155-164.	0.9	82
116	Contralateral Movement and Extensor Force Generation Alter Flexion Phase Muscle Coordination in Pedaling. Journal of Neurophysiology, 2000, 83, 3351-3365.	0.9	79
117	Knee joint loading in forward versus backward pedaling: implications for rehabilitation strategies. Clinical Biomechanics, 2000, 15, 528-535.	0.5	81
118	Phase Reversal of Biomechanical Functions and Muscle Activity in Backward Pedaling. Journal of Neurophysiology, 1999, 81, 544-551.	0.9	90
119	Speed-Dependent Reductions of Force Output in People With Poststroke Hemiparesis. Physical Therapy, 1999, 79, 919-930.	1.1	39
120	Bilateral Integration of Sensorimotor Signals during Pedalinga. Annals of the New York Academy of Sciences, 1998, 860, 513-516.	1.8	15
121	Relationships between timing of muscle excitation and impaired motor performance during cyclical lower extremity movement in post-stroke hemiplegia. Brain, 1998, 121, 515-526.	3.7	121
122	Sensorimotor State of the Contralateral Leg Affects Ipsilateral Muscle Coordination of Pedaling. Journal of Neurophysiology, 1998, 80, 1341-1351.	0.9	85
123	Muscle activity adapts to anti-gravity posture during pedalling in persons with post-stroke hemiplegia. Brain, 1997, 120, 825-837.	3.7	63
124	The effect of pedaling rate on coordination in cycling. Journal of Biomechanics, 1997, 30, 1051-1058.	0.9	200
125	Muscle activity patterns altered during pedaling at different body orientations. Journal of Biomechanics, 1996, 29, 1349-1356.	0.9	71
126	Dynamic optimization analysis for equipment setup problems in endurance cycling. Journal of Biomechanics, 1995, 28, 1391-1401.	0.9	32

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127	A comparison of muscular mechanical energy expenditure and internal work in cycling. Journal of Biomechanics, 1994, 27, 1459-1467.	0.9	33
128	A theoretical basis for interpreting the force applied to the pedal in cycling. Journal of Biomechanics, 1993, 26, 155-165.	0.9	92
129	The Pedaling Technique of Elite Endurance Cyclists: Changes with Increasing Workload at Constant Cadence. International Journal of Sport Biomechanics, 1991, 7, 29-53.	2.0	51
130	An angular velocity profile in cycling derived from mechanical energy analysis. Journal of Biomechanics, 1991, 24, 577-586.	0.9	13
131	Internal deformation in clay models of extension by block faulting. Tectonics, 1988, 7, 823-832.	1.3	33
132	Walking Recovery and Rehabilitation After Stroke. , 0, , .		0