Katherine Steele

List of Publications by Year
in descending order

65 papers	2,542 citations	218381 26 h-index	214527 47 g-index
77 all docs	77 docs citations	77 times ranked	1947 citing authors

#	Article	IF	Citations
1	Compressive tibiofemoral force during crouch gait. Gait and Posture, 2012, 35, 556-560.	0.6	297
2	Muscle synergies and complexity of neuromuscular control during gait in cerebral palsy. Developmental Medicine and Child Neurology, 2015, 57, 1176-1182.	1.1	258
3	The number and choice of muscles impact the results of muscle synergy analyses. Frontiers in Computational Neuroscience, 2013, 7, 105.	1.2	188
4	Muscle contributions to support and progression during single-limb stance in crouch gait. Journal of Biomechanics, 2010, 43, 2099-2105.	0.9	170
5	How much muscle strength is required to walk in a crouch gait?. Journal of Biomechanics, 2012, 45, 2564-2569.	0.9	118
6	Can Strength Training Predictably Improve Gait Kinematics? A Pilot Study on the Effects of Hip and Knee Extensor Strengthening on Lower-Extremity Alignment in Cerebral Palsy. Physical Therapy, 2010, 90, 269-279.	1.1	112
7	Dynamic motor control is associated with treatment outcomes for children with cerebral palsy. Developmental Medicine and Child Neurology, 2016, 58, 1139-1145.	1.1	105
8	Use of shear wave ultrasound elastography to quantify muscle properties in cerebral palsy. Clinical Biomechanics, 2016, 31, 20-28.	0.5	98
9	Electromyography Data Processing Impacts Muscle Synergies during Gait for Unimpaired Children and Children with Cerebral Palsy. Frontiers in Computational Neuroscience, 2017, 11, 50.	1.2	87
10	Muscle synergies demonstrate only minimal changes after treatment in cerebral palsy. Journal of NeuroEngineering and Rehabilitation, 2019, 16, 46.	2.4	77
11	Consequences of biomechanically constrained tasks in the design and interpretation of synergy analyses. Journal of Neurophysiology, 2015, 113, 2102-2113.	0.9	75
12	Repeatability of muscle synergies within and between days for typically developing children and children with cerebral palsy. Gait and Posture, 2016, 45, 127-132.	0.6	60
13	Muscle contributions to vertical and fore-aft accelerations are altered in subjects with crouch gait. Gait and Posture, 2013, 38, 86-91.	0.6	58
14	Muscle recruitment and coordination with an ankle exoskeleton. Journal of Biomechanics, 2017, 59, 50-58.	0.9	53
15	Design of a 3D-printed, open-source wrist-driven orthosis for individuals with spinal cord injury. PLoS ONE, 2018, 13, e0193106.	1.1	41
16	Can altered muscle synergies control unimpaired gait?. Journal of Biomechanics, 2019, 90, 84-91.	0.9	41
17	Motor modules during adaptation to walking in a powered ankle exoskeleton. Journal of NeuroEngineering and Rehabilitation, 2018, 15, 2.	2.4	39
18	Repeatability of electromyography recordings and muscle synergies during gait among children with cerebral palsy. Gait and Posture, 2019, 67, 290-295.	0.6	39

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19	Characteristics associated with improved knee extension after strength training for individuals with cerebral palsy and crouch gait. Journal of Pediatric Rehabilitation Medicine, 2012, 5, 99-106.	0.3	35
20	Associations Between Muscle Synergies and Treatment Outcomes in Cerebral Palsy Are Robust Across Clinical Centers. Archives of Physical Medicine and Rehabilitation, 2018, 99, 2175-2182.	0.5	35
21	Crouch severity is a poor predictor of elevated oxygen consumption in cerebral palsy. Journal of Biomechanics, 2017, 60, 170-174.	0.9	34
22	Assessment of Dry Epidermal Electrodes for Long-Term Electromyography Measurements. Sensors, 2018, 18, 1269.	2.1	34
23	Non-neural Muscle Weakness Has Limited Influence on Complexity of Motor Control during Gait. Frontiers in Human Neuroscience, 2018, 12, 5.	1.0	33
24	â€œLook, Your Muscles Are Firing!â€ A Qualitative Study of Clinician Perspectives on the Use of Surface Electromyography in Neurorehabilitation. Archives of Physical Medicine and Rehabilitation, 2019, 100, 663-675.	0.5	32
25	An Intimate Laboratory?. , 2016, , .		31
26	Muscle synergies are similar when typically developing children walk on a treadmill at different speeds and slopes. Journal of Biomechanics, 2017, 64, 112-119.	0.9	31
27	A rolling constraint reproduces ground reaction forces and moments in dynamic simulations of walking, running, and crouch gait. Journal of Biomechanics, 2013, 46, 1772-1776.	0.9	27
28	Contributions of individual muscles to the sagittal- and frontal-plane angular accelerations of the trunk in walking. Journal of Biomechanics, 2014, 47, 2263-2268.	0.9	27
29	Impact of ankle foot orthosis stiffness on Achilles tendon and gastrocnemius function during unimpaired gait. Journal of Biomechanics, 2017, 64, 145-152.	0.9	24
30	Simulated impacts of ankle foot orthoses on muscle demand and recruitment in typically-developing children and children with cerebral palsy and crouch gait. PLoS ONE, 2017, 12, e0180219.	1.1	22
31	Accessible Making: Designing Makerspaces for Accessibility. International Journal of Designs for Learning, 2018, 9, 114-121.	0.1	19
32	Multisite Transcutaneous Spinal Stimulation for Walking and Autonomic Recovery in Motor-Incomplete Tetraplegia: A Single-Subject Design. Physical Therapy, 2022, 102, .	1.1	19
33	Energy consumption does not change after selective dorsal rhizotomy in children with spastic cerebral palsy. Developmental Medicine and Child Neurology, 2020, 62, 1047-1053.	1.1	13
34	Accelerometer Measurements Indicate That Arm Movements of Children With Cerebral Palsy Do Not Increase After Constraint-Induced Movement Therapy (CIMT). American Journal of Occupational Therapy, 2020, 74, 7405205100p1-7405205100p9.	0.1	13
35	Muscle synergy structure and gait patterns in children with spastic cerebral palsy. Developmental Medicine and Child Neurology, 2022, 64, 462-468.	1.1	13
36	Muscle recruitment and coordination during upper-extremity functional tests. Journal of Electromyography and Kinesiology, 2018, 38, 143-150.	0.7	12

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37	Golf Swing Rotational Velocity: The Essential Follow-Through. Annals of Rehabilitation Medicine, 2018, 42, 713-721.	0.6	12
38	Muscle weakness has a limited effect on motor control of gait in Duchenne muscular dystrophy. PLoS ONE, 2020, 15, e0238445.	1.1	12
39	Muscle Activity After Stroke: Perspectives on Deploying Surface Electromyography in Acute Care. Frontiers in Neurology, 2020, 11, 576757.	1.1	11
40	Using musculoskeletal modeling to evaluate the effect of ankle foot orthosis tuning on musculotendon dynamics: a case study. Disability and Rehabilitation: Assistive Technology, 2016, 11, 613-618.	1.3	10
41	â€œIt's All Sort of Cool and Interestingâ€¦but What Do I Do With It?â€•A Qualitative Study of Stroke Survivors' Perceptions of Surface Electromyography. Frontiers in Neurology, 2020, 11, 1037.	1.1	10
42	Predicting walking response to ankle exoskeletons using data-driven models. Journal of the Royal Society Interface, 2020, 17, 20200487.	1.5	10
43	Synergies are minimally affected during emulation of cerebral palsy gait patterns. Journal of Biomechanics, 2022, 133, 110953.	0.9	10
44	Gastrocnemius operating length with ankle foot orthoses in cerebral palsy. Prosthetics and Orthotics International, 2017, 41, 274-285.	0.5	9
45	Muscle Synergy Constraints Do Not Improve Estimates of Muscle Activity From Static Optimization During Gait for Unimpaired Children or Children With Cerebral Palsy. Frontiers in Neurorobotics, 2019, 13, 102.	1.6	9
46	Perceptions of ability among adults with upper limb absence: impacts of learning, identity, and community. Disability and Rehabilitation, 2020, 42, 3306-3315.	0.9	9
47	Feasibility of using acceleration-derived jerk to quantify bimanual arm use. Journal of NeuroEngineering and Rehabilitation, 2020, 17, 44.	2.4	8
48	Design and Development of a Quasi-Passive Transtibial Biarticular Prosthesis to Replicate Gastrocnemius Function in Walking. Journal of Medical Devices, Transactions of the ASME, 2020, 14, 0250011-250016.	0.4	8
49	Decoding Intent With Control Theory: Comparing Muscle Versus Manual Interface Performance. , 2020, 2020, .		7
50	Clinical motion analyses over eight consecutive years in a child with crouch gait: a case report. Journal of Medical Case Reports, 2016, 10, 157.	0.4	6
51	Causal Effects of Motor Control on Gait Kinematics After Orthopedic Surgery in Cerebral Palsy: A Machine-Learning Approach. Frontiers in Human Neuroscience, 2022, 16, .	1.0	6
52	Muscle synergy complexity is related to selective motor control in cerebral palsy. Gait and Posture, 2014, 39, S40.	0.6	4
53	Evaluation of Infants with Spinal Muscular Atrophy Type-I Using Convolutional Neural Networks. Lecture Notes in Computer Science, 2016, , 495-507.	1.0	4
54	Accuracy and repeatability of smartphone sensors for measuring shank-to-vertical angle. Prosthetics and Orthotics International, 2020, 44, 172-179.	0.5	4

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55	Electromyography Recordings Detect Muscle Activity Before Observable Contractions in Acute Stroke Care. Archives of Rehabilitation Research and Clinical Translation, 2021, 3, 100136.	0.5	4
56	Evaluation of a quasi-passive biarticular prosthesis to replicate gastrocnemius function in transtibial amputee gait. Journal of Biomechanics, 2021, 129, 110749.	0.9	4
57	Clinical Use of Surface Electromyography to Track Acute Upper Extremity Muscle Recovery after Stroke: A Descriptive Case Study of a Single Patient. Applied System Innovation, 2021, 4, 32.	2.7	3
58	Full body musculoskeletal model for simulations of gait in persons with transtibial amputation. Computer Methods in Biomechanics and Biomedical Engineering, 2023, 26, 412-423.	0.9	3
59	Multistep model for predicting upper-limb 3D isometric force application from pre-movement electrocorticographic features. , 2016, 2016, 1564-1567.		2
60	Electrocorticographic Dynamics Predict Sustained Grasping and Upper-Limb Kinetic Output. , 2018, , .		1
61	Number of synergies impacts sensitivity of gait to weakness and contracture. Journal of Biomechanics, 2022, 134, 111012.	0.9	1
62	Crouch Gait Represents a Simplified Muscular Support Strategy During Single-Limb Stance Compared to Unimpaired Gait. , 2009, , .		0
63	P 148 â€“ Synergy complexity during maximal voluntary isometric contractions. Gait and Posture, 2018, 65, 480-481.	0.6	0
64	Evaluation of a passive pediatric leg exoskeleton during gait. Prosthetics and Orthotics International, 2021, 45, 153-160.	0.5	0
65	Soleus H-reflex modulation in cerebral palsy and its relationship with neural control complexity: a pilot study. Experimental Brain Research, 0, , .	0.7	0