Modular control of human walking: a simulation study

#	Paper	IF	Citations
327	The case for and against muscle synergies. **2009**, 19, 601-7		366
326	Physics-based modeling and simulation of human walking: a review of optimization-based and other approaches. **2010**, 42, 1-23		80
325	Modular control of human walking: Adaptations to altered mechanical demands. *Journal of Biomechanics*, **2010**, 43, 412-9	2.9	111
324	Myoelectric control in neurorehabilitation. **2010**, 38, 381-91		30
323	Merging of healthy motor modules predicts reduced locomotor performance and muscle coordination complexity post-stroke. **2010**, 103, 844-57		497
322	Is interindividual variability of EMG patterns in trained cyclists related to different muscle synergies?. **2010**, 108, 1727-36		124
321	Subject-specific muscle synergies in human balance control are consistent across different biomechanical contexts. **2010**, 103, 3084-98		189
320	Muscle contributions to whole-body sagittal plane angular momentum during walking. *Journal of Biomechanics*, **2011**, 44, 6-12	2.9	80
319	Optimization-based prediction of asymmetric human gait. *Journal of Biomechanics*, **2011**, 44, 683-93	2.9	57
318	Consistency of muscle synergies during pedaling across different mechanical constraints. **2011**, 106, 91-103		117
317	Optimization of muscle activity for task-level goals predicts complex changes in limb forces across biomechanical contexts. **2012**, 8, e1002465		45
316	Force encoding in stick insect legs delineates a reference frame for motor control. **2012**, 108, 1453-72		50
315	Extracting synergies in gait: using EMG variability to evaluate control strategies. **2012**, 108, 1537-44		30
314	The mechanics and energetics of human walking and running: a joint level perspective. **2012**, 9, 110-8		246
313	Muscle synergies are consistent when pedaling under different biomechanical demands. **2012**, 2012, 3308-11		12
312	A bio-inspired neuromuscular model to simulate the neuro-sensorimotor basis for postural-reflex-response in humans. **2012**,		2
311	From Animals to Animats 12. **2012**,		

292	Inter-individual variability of forces and modular muscle coordination in cycling: a study on untrained subjects. **2013**, 32, 1480-94	38
291	Evolutionary and developmental modules. **2013**, 7, 61	38
290	Customized Modeling and Simulations for the Control of FES-Assisted Walking of Individuals with Hemiplegia. **2013**, 401-420	0
289	Similarity of muscle synergies in human walking and cycling: preliminary results. **2013**, 2013, 6933-6	8
288	Modular control of varied locomotor tasks in children with incomplete spinal cord injuries. **2013**, 110, 1415-25	44
287	Plasticity and modular control of locomotor patterns in neurological disorders with motor deficits. **2013**, 7, 123	30
286	Muscle Synergy Analysis of Human Standing-Up Motion with Different Chair Heights and Different Motion Speeds. **2013**,	5
285	An Informational Algorithm as the Basis for Perception-Action Control of the Instantaneous Axes of the Knee. **2013**, 3, 127	5
284	Quantitative evaluation of muscle synergy models: a single-trial task decoding approach. **2013**, 7, 8	47
283	The flexion synergy, mother of all synergies and father of new models of gait. **2013**, 7, 14	64
282	Are muscle synergies useful for neural control?. **2013**, 7, 19	70
281	Feedback of mechanical effectiveness induces adaptations in motor modules during cycling. **2013**, 7, 35	38
280	Muscle synergies in neuroscience and robotics: from input-space to task-space perspectives. **2013**, 7, 43	83
279	Common muscle synergies for balance and walking. **2013**, 7, 48	155
278	A musculoskeletal model of human locomotion driven by a low dimensional set of impulsive excitation primitives. **2013**, 7, 79	82
277	The number and choice of muscles impact the results of muscle synergy analyses. **2013**, 7, 105	136
276	Learned parametrized dynamic movement primitives with shared synergies for controlling robotic and musculoskeletal systems. **2013**, 7, 138	39
275	Translational Methods for Non-Invasive Electrical Stimulation to Facilitate Gait Rehabilitation Following Stroke - The Future Directions. **2013**, 1, 22-33	6

256	Neuromuscular constraints on muscle coordination during overground walking in persons with chronic incomplete spinal cord injury. **2014**, 125, 2024-35		62
255	A model of muscle-tendon function in human walking at self-selected speed. **2014**, 22, 352-62		18
254	Function dictates the phase dependence of vision during human locomotion. **2014**, 112, 165-80		34
253	Shared muscle synergies in human walking and cycling. **2014**, 112, 1984-98		73
252	Neuromuscular complexity during gait is not responsive to medication in persons with Parkinson's disease. **2014**, 42, 1901-12		16
251	Statistical method for prediction of gait kinematics with Gaussian process regression. *Journal of Biomechanics*, **2014**, 47, 186-92	2.9	61
250	How gravity and muscle action control mediolateral center of mass excursion during slow walking: a simulation study. **2014**, 39, 91-7		24
249	Muscle activation patterns are bilaterally linked during split-belt treadmill walking in humans. **2014**, 111, 1541-52		45
248	Neuro-mechanics of muscle coordination during recumbent pedaling in post-acute stroke patients. **2015**, 2015, 246-9		2
247	Effects of spinal cord injury-induced changes in muscle activation on foot drag in a computational rat ankle model. **2015**, 113, 2666-75		3
246	An Adaptive Low-Dimensional Control for a Hybrid Neuroprosthesis. **2015**, 48, 303-308		3
245	CEINMS: A toolbox to investigate the influence of different neural control solutions on the prediction of muscle excitation and joint moments during dynamic motor tasks. *Journal of Biomechanics*, **2015**, 48, 3929-36	2.9	128
244	Muscle synergies and spinal maps are sensitive to the asymmetry induced by a unilateral stroke. **2015**, 12, 39		28
243	Action Direction of Muscle Synergies in Three-Dimensional Force Space. **2015**, 3, 187		5
242	A predictive model of muscle excitations based on muscle modularity for a large repertoire of human locomotion conditions. **2015**, 9, 114		35
241	A model-based approach to predict muscle synergies using optimization: application to feedback control. **2015**, 9, 121		15
240	Are movement disorders and sensorimotor injuries pathologic synergies? When normal multi-joint movement synergies become pathologic. *Frontiers in Human Neuroscience*, **2014**, 8, 1050	3.3	44
239	Task-discriminative space-by-time factorization of muscle activity. *Frontiers in Human Neuroscience*, **2015**, 9, 399	3.3	17

238   Planar Covariation of Hindlimb and Forelimb Elevation Angles during Terrestrial and Aquatic Locomotion of Dogs. **2015**, 10, e0133936   23

237   Predictive simulation generates human adaptations during loaded and inclined walking. **2015**, 10, e0121407   58

236   A probabilistic approach to quantify the impact of uncertainty propagation in musculoskeletal simulations. **2015**, 43, 1098-111   58

235   Neuromuscular adjustments of gait associated with unstable conditions. **2015**, 114, 2867-82   87

234   Long-term training modifies the modular structure and organization of walking balance control. **2015**, 114, 3359-73   68

233   Passive-dynamic ankle-foot orthoses substitute for ankle strength while causing adaptive gait strategies: a feasibility study. **2015**, 43, 442-50   14

232   Dynamic Optimization of Human Running With Analytical Gradients. **2015**, 10,   4

231   Neuromechanical principles underlying movement modularity and their implications for rehabilitation. **2015**, 86, 38-54   216

230   Gait post-stroke: Pathophysiology and rehabilitation strategies. **2015**, 45, 335-55   126

229   More than at the neuromuscular synapse: actions of botulinum neurotoxin A in the central nervous system. **2015**, 21, 44-61   58

228   Effect of acute noxious stimulation to the leg or back on muscle synergies during walking. **2015**, 113, 244-54   39

227   Robotic Assist-As-Needed as an Alternative to Therapist-Assisted Gait Rehabilitation. **2016**, 4,   21

226   Merging and Fractionation of Muscle Synergy Indicate the Recovery Process in Patients with Hemiplegia: The First Study of Patients after Subacute Stroke. **2016**, 2016, 5282957   31

225   Suboptimal Muscle Synergy Activation Patterns Generalize their Motor Function across Postures. **2016**, 10, 7   11

224   A Personalized Multi-Channel FES Controller Based on Muscle Synergies to Support Gait Rehabilitation after Stroke. **2016**, 10, 425   46

223   Changes in muscle coordination patterns induced by exposure to a viscous force field. **2016**, 13, 58   6

222   FDG-PET detects nonuniform muscle activity in the lower body during human gait. **2016**, 54, 959-966   2

221   Age-related differences in muscle control of the lower extremity for support and propulsion during walking. **2016**, 28, 794-801   2

202	Spectral properties of multiple myoelectric signals: New insights into the neural origin of muscle synergies. **2017**, 355, 22-35		11
201	Three-dimensional data-tracking dynamic optimization simulations of human locomotion generated by direct collocation. *Journal of Biomechanics*, **2017**, 59, 1-8	2.9	30
200	Muscle recruitment and coordination with an ankle exoskeleton. *Journal of Biomechanics*, **2017**, 59, 50-58	2.9	29
199	Modular organization of muscle activity patterns in the leading and trailing limbs during obstacle clearance in healthy adults. **2017**, 235, 2011-2026		8
198	Muscle synergy analysis in dart throwing. **2017**, 2017, 2534-2537		3
197	Towards performance indices for neuromuscular synergy in patients with intellectual disability. **2017**, 57, 25-26		2
196	Modular motor control of the contralateral limb in trans-femoral amputees gait. **2017**, 57, 24-25		
195	Muscle, Biomechanics, and Implications for Neural Control. **2017**, 365-416		10
194	Evaluation of muscle synergies stability in human locomotion: A comparison between normal and fast walking speed. **2017**,		3
193	How innate is locomotion in precocial animals? A study on the early development of spatio-temporal gait variables and gait symmetry in piglets. **2017**, 220, 2706-2716		15
192	Changes in synergy of transtibial amputee during gait: A pilot study. **2017**,		0
191	An adaptive low-dimensional control to compensate for actuator redundancy and FES-induced muscle fatigue in a hybrid neuroprosthesis. **2017**, 59, 204-219		33
190	Motor module activation sequence and topography in the spinal cord during air-stepping in human: Insights into the traveling wave in spinal locomotor circuits. **2017**, 5, e13504		2
189	Caractérisation des organisations locomotrices par la quantification des synergies musculaires chez le sujet asymptomatique et cérébrolésé une revue de littérature narrative. **2017**, 13-30		
188	Electromyography Data Processing Impacts Muscle Synergies during Gait for Unimpaired Children and Children with Cerebral Palsy. **2017**, 11, 50		55
187	Shared and Task-Specific Muscle Synergies during Normal Walking and Slipping. *Frontiers in Human Neuroscience*, **2017**, 11, 40	3.3	34
186	Association between Slip Severity and Muscle Synergies of Slipping. *Frontiers in Human Neuroscience*, **2017**, 11, 536	3.3	7
185	A Review of Computational Musculoskeletal Analysis of Human Lower Extremities. **2017**, 37-73		8

184	A Study on the Improvement of Walking Characteristics of the Elderly with Vibration Stimuli Applied to the Tibialis Anterior Tendon. **2017**, 2017, 5342485		3
183	The impact of hip implant alignment on muscle and joint loading during dynamic activities. **2018**, 53, 93-100		16
182	Age-induced changes in the lower limb muscle activities during uphill walking at steep grades. **2018**, 62, 490-496		7
181	Associations Between Muscle Synergies and Treatment Outcomes in Cerebral Palsy Are Robust Across Clinical Centers. **2018**, 99, 2175-2182		19
180	Neuromuscular synergies in motor control in normal and poststroke individuals. **2018**, 29, 593-612		9
179	Electromyogram refinement using muscle synergy based regulation of uncertain information. *Journal of Biomechanics*, **2018**, 72, 125-133	2.9	
178	Hip abductor muscle activity during walking in individuals with gluteal tendinopathy. **2018**, 28, 686-695		19
177	Can Measured Synergy Excitations Accurately Construct Unmeasured Muscle Excitations?. **2018**, 140,		9
176	Similarity of muscle synergies extracted from the lower limb including the deep muscles between level and uphill treadmill walking. **2018**, 59, 134-139		25
175	Adaptive hindlimb split-belt treadmill walking in rats by controlling basic muscle activation patterns via phase resetting. *Scientific Reports*, **2018**, 8, 17341	4.9	10
174	Lower Local Dynamic Stability and Invariable Orbital Stability in the Activation of Muscle Synergies in Response to Accelerated Walking Speeds. *Frontiers in Human Neuroscience*, **2018**, 12, 485	3.3	4
173	The Effects of Selective Muscle Weakness on Muscle Coordination in the Human Arm. **2018**, 2018, 5637568		3
172	The Presence of a Paretic Propulsion Reserve During Gait in Individuals Following Stroke. **2018**, 32, 1011-1019		10
171	On the Reliability and Repeatability of Surface Electromyography Factorization by Muscle Synergies in Daily Life Activities. **2018**, 2018, 5852307		14
170	Biomechanical effects of augmented ankle power output during human walking. **2018**, 221,		14
169	You are better off running than walking revisited: Does an acute vestibular imbalance affect muscle synergies?. **2018**, 62, 150-160		5
168	Coordinated activities of trunk and upper extremity muscles during walker-assisted paraplegic gait: A synergy study. **2018**, 62, 184-193		9
167	The Functional Utilization of Propulsive Capacity During Human Walking. **2018**, 1-31		9

166 Comparison of Initialization Techniques for the Accurate Extraction of Muscle Synergies from Myoelectric Signals via Nonnegative Matrix Factorization. **2018**, 2018, 3629347 — 10

165 Neuromuscular determinants of slip-induced falls and recoveries in older adults. **2018**, 120, 1534-1546 — 2

164 Using a Module-Based Analysis Framework for Investigating Muscle Coordination during Walking in Individuals Poststroke: A Literature Review and Synthesis. **2018**, 2018, 3795754 — 5

163 Space-by-Time Modular Decomposition Effectively Describes Whole-Body Muscle Activity During Upright Reaching in Various Directions. **2018**, 12, 20 — 8

162 Speed-Dependent Modulation of Muscle Activity Based on Muscle Synergies during Treadmill Walking. *Frontiers in Human Neuroscience*, **2018**, 12, 4 — 3.3 — 26

161 A Control Scheme That Uses Dynamic Postural Synergies to Coordinate a Hybrid Walking Neuroprosthesis: Theory and Experiments. **2018**, 12, 159 — 21

160 Post-stroke Hemiplegic Gait: New Perspective and Insights. **2018**, 9, 1021 — 59

159 The motor repertoire of older adult fallers may constrain their response to balance perturbations. **2018**, 120, 2368-2378 — 10

158 Muscle contributions to mediolateral and anteroposterior foot placement during walking. *Journal of Biomechanics*, **2019**, 95, 109310 — 2.9 — 6

157 Exoskeleton for Gait Rehabilitation: Effects of Assistance, Mechanical Structure, and Walking Aids on Muscle Activations. **2019**, 9, 2868 — 12

156 Muscle synergies for predicting non-isometric complex hand function for commanding FES neuroprosthetic hand systems. **2019**, 16, 056018 — 2

155 Modular motor control of the sound limb in gait of people with trans-femoral amputation. **2019**, 16, 132 — 6

154 Neuromusculoskeletal model that walks and runs across a speed range with a few motor control parameter changes based on the muscle synergy hypothesis. *Scientific Reports*, **2019**, 9, 369 — 4.9 — 28

153 An Efficient Inverse Dynamics Optimization Formulation for Musculoskeletal Motion Prediction. **2019**, — 5

152 Can altered muscle synergies control unimpaired gait?. *Journal of Biomechanics*, **2019**, 90, 84-91 — 2.9 — 15

151 Adaptation to Coriolis force perturbations of postural sway requires an asymmetric two-leg model. **2019**, 121, 2042-2060 — 6

150 Contribution of Lower Limb Joint Movement in Adapting to Re-establish Step Length Symmetry During Split-Belt Treadmill Walking. **2019**, 39, 693-701 — 5

149 Gait synergetic neuromuscular control in children with cerebral palsy at different gross motor function classification system levels. **2019**, 121, 1680-1691 — 13

148	Wearable Sensors System for an Improved Analysis of Freezing of Gait in Parkinson's Disease Using Electromyography and Inertial Signals. **2019**, 19,		28
147	Altered muscle activation patterns (AMAP): an analytical tool to compare muscle activity patterns of hemiparetic gait with a normative profile. **2019**, 16, 21		6
146	A Phase-Invariant Linear Torque-Angle-Velocity Relation Hidden in Human Walking Data. **2019**, 27, 702-711		4
145	Neuromuscular control during gait in people with haemophilic arthropathy. **2019**, 25, e69-e77		7
144	Muscle Synergy Constraints Do Not Improve Estimates of Muscle Activity From Static Optimization During Gait for Unimpaired Children or Children With Cerebral Palsy. **2019**, 13, 102		6
143	A Pathological Condition Affects Motor Modules in a Bipedal Locomotion Model. **2019**, 13, 79		1
142	Variant and Invariant Spatiotemporal Structures in Kinematic Coordination to Regulate Speed During Walking and Running. **2019**, 13, 63		2
141	Do Walking Muscle Synergies Influence Propensity of Severe Slipping?. *Frontiers in Human Neuroscience*, **2019**, 13, 383	3.3	2
140	Estimating Biomechanical Time-Series with Wearable Sensors: A Systematic Review of Machine Learning Techniques. **2019**, 19,		16
139	Is the Neuromuscular Organization of Throwing Unchanged in Virtual Reality? Implications for Upper Limb Rehabilitation. **2019**, 8, 1495		2
138	Merged plantarflexor muscle activity is predictive of poor walking performance in post-stroke hemiparetic subjects. *Journal of Biomechanics*, **2019**, 82, 361-367	2.9	9
137	Ankle Rotation and Muscle Loading Effects on the Calcaneal Tendon Moment Arm: An In Vivo Imaging and Modeling Study. **2019**, 47, 590-600		4
136	Local dynamic stability in temporal pattern of intersegmental coordination during various stride time and stride length combinations. **2019**, 237, 257-271		4
135	A synergy-based motor control framework for the fast feedback control of musculoskeletal systems. **2018**,		4
134	Movement goals encoded within the cortex and muscle synergies to reduce redundancy pre and post-stroke. The relevance for gait rehabilitation and the prescription of walking-aids. A literature review and scholarly discussion. **2019**, 35, 1-14		8
133	Triceps surae muscle-subtendon interaction differs between young and older adults. **2020**, 61, 104-113		8
132	Lower limb muscle synergies during walking after stroke: a systematic review. **2020**, 42, 2836-2845		15
131	Personalized design of ankle-foot prosthesis based on computer modeling of amputee locomotion. **2020**, 32, 100-108		1

130 Multiphase and Multivariable Linear Controllers That Account for the Joint Torques in Normal Human Walking. **2020**, 67, 1573-1584

129 Differences in muscle synergies between healthy subjects and transfemoral amputees during normal transient-state walking speed. **2020**, 76, 98-103 — 6

128 Can shank acceleration provide a clinically feasible surrogate for individual limb propulsion during walking?. *Journal of Biomechanics*, **2020**, 98, 109449 — 2.9 — 4

127 Muscle activities in similar arms performing identical tasks reveal the neural basis of muscle synergies. **2020**, 238, 121-138 — 7

126 Modularity underlying the performance of unusual locomotor tasks inspired by developmental milestones. **2020**, 123, 496-510 — 2

125 A Gaussian Process Model of Muscle Synergy Functions for Estimating Unmeasured Muscle Excitations Using a Measured Subset. **2020**, 28, 2478-2487 — 1

124 Modeling Muscle Synergies as a Gaussian Process: Estimating Unmeasured Muscle Excitations using a Measured Subset. **2020**, 2020, 3110-3113 — 1

123 Evaluation of Motor Primitive-Based Adaptive Control for Lower Limb Exoskeletons. **2020**, 7, 575217 — 3

122 Older adults reduce the complexity and efficiency of neuromuscular control to preserve walking balance. **2020**, 140, 111050 — 8

121 Muscle Synergies and Coherence Networks Reflect Different Modes of Coordination During Walking. **2020**, 11, 751 — 14

120 Effect of Parkinson's disease and two therapeutic interventions on muscle activity during walking: a systematic review. **2020**, 6, 22 — 10

119 Adaptive Automatic Controller for Swing Assist by Pneumatic Artificial Muscle. **2020**, — 1

118 Development of a Canine Rigid Body Musculoskeletal Computer Model to Evaluate Gait. **2020**, 8, 150 — 7

117 Neural control in prostheses and exoskeletons. **2020**, 153-178 — 4

116 Do Muscle Synergies Improve Optimization Prediction of Muscle Activations During Gait?. **2020**, 14, 54 — 3

115 Intra-limb and muscular coordination during walking on slopes. **2020**, 120, 1841-1854 — 9

114 Shorter gastrocnemius fascicle lengths in older adults associate with worse capacity to enhance push-off intensity in walking. **2020**, 77, 89-94 — 5

113 Automatic versus manual tuning of robot-assisted gait training in people with neurological disorders. **2020**, 17, 9 — 9

112	Muscle synergy for upper limb damping behavior during object transport while walking in healthy young individuals. **2020**, 238, 1203-1218		0
111	Robot-Driven Locomotor Perturbations Reveal Synergy-Mediated, Context-Dependent Feedforward and Feedback Mechanisms of Adaptation. *Scientific Reports*, **2020**, 10, 5104	4.9	10
110	When 90% of the variance is not enough: residual EMG from muscle synergy extraction influences task performance. **2020**, 123, 2180-2190		5
109	Phase dependent modulation of cortical activity during action observation and motor imagery of walking: An EEG study. **2021**, 225, 117486		7
108	Optimal 3D arm strategies for maximizing twist rotation during somersault of a rigid-body model. **2021**, 52, 193-209		3
107	Assessment of turning performance and muscle coordination in individuals post-stroke. *Journal of Biomechanics*, **2021**, 114, 110113	2.9	2
106	Functional muscle synergies to support the knee against moment specific loads while weight bearing. **2021**, 56, 102506		2
105	Usefulness of Muscle Synergy Analysis in Individuals With Knee Osteoarthritis During Gait. **2021**, 29, 239-248		2
104	Current Perspectives on the Biomechanical Modelling of the Human Lower Limb: A Systematic Review. **2021**, 28, 601-636		3
103	Learning to use Muscles. **2021**, 76, 9-33		3
102	Basic Viewpoint and Procedure of Gait Analysis. **2021**, 58, 114-120		
101	A Conceptual Blueprint for Making Neuromusculoskeletal Models Clinically Useful. **2021**, 11, 2037		4
100	Forward dynamic simulation of Japanese macaque bipedal locomotion demonstrates better energetic economy in a virtualised plantigrade posture. **2021**, 4, 308		0
99	Simulated muscle activity in locomotion: implications of co-occurrence between effort minimisation and gait modularity for robot-assisted rehabilitation therapy. **2021**, 24, 1380-1392		
98	Effects of Varying Overground Walking Speeds on Lower-Extremity Muscle Synergies in Healthy Individuals. **2021**, 25, 234-251		2
97	Simultaneous Recording of Motor Evoked Potentials in Hand, Wrist and Arm Muscles to Assess Corticospinal Divergence. **2021**, 34, 415-429		1
96	Quantification of muscle coordination underlying basic shoulder movements using muscle synergy extraction. *Journal of Biomechanics*, **2021**, 120, 110358	2.9	1
95	Young Adults Recruit Similar Motor Modules Across Walking, Turning, and Chair Transfers.		

94   A New Definition of Poststroke Spasticity and the Interference of Spasticity With Motor Recovery From Acute to Chronic Stages. **2021**, 35, 601-610   5

93   Muscle Synergy of Lower Limb Motion in Subjects with and without Knee Pathology. **2021**, 11,   1

92   Biomechanical Characteristics of Walking and Running during Unloading of the Musculoskeletal System by Vertical Hanging. **2021**, 47, 419-428   1

91   Effects of body weight support and guidance force settings on muscle synergy during Lokomat walking. **2021**, 121, 2967-2980   5

90   Reduced Achilles Tendon Stiffness Disrupts Calf Muscle Neuromechanics in Elderly Gait. **2021**, 1-11   3

89   Neural decoding of gait phases during motor imagery and improvement of the decoding accuracy by concurrent action observation. **2021**, 18,   1

88   Muscle synergy differences between voluntary and reactive backward stepping. *Scientific Reports*, **2021**, 11, 15462   4.9   0

87   Compensatory Strategies Due to Knee Flexion Constraint during Gait of Non-Disabled Adults. **2021**, 1-10

86   Forward and backward walking share the same motor modules and locomotor adaptation strategies. **2021**, 7, e07864   1

85   Modular reorganization of gait in chronic but not in artificial knee joint constraint. **2021**, 126, 516-531   1

84   Correlation between cardiopulmonary metabolic energy cost and lower-limb muscle activity during inclined treadmill gait in older adults. **2021**, 21, 469   3

83   Common motor patterns of asymmetrical and symmetrical bipedal gaits. **2021**, 9, e11970   0

82   The future of in-field sports biomechanics: wearables plus modelling compute real-time tissue loading to prevent and repair musculoskeletal injuries. **2021**, 1-29   7

81   A Perspective on Muscle Synergies and Different Theories Related to Their Adaptation. **2021**, 1, 253-263   0

80   A Neuromuscular Model of Human Locomotion Combines Spinal Reflex Circuits with Voluntary Movements.   0

79   Basic locomotor muscle synergies used in land walking are finely tuned during underwater walking. *Scientific Reports*, **2021**, 11, 18480   4.9   1

78   Primitive muscle synergies reflect different modes of coordination in upper limb motions. **2021**, 59, 2153-2163

77   Young adults recruit similar motor modules across walking, turning, and chair transfers. **2021**, 9, e15050

58   Biomechanics of Human Iliopsoas and Functionally Related Muscles. **2017**, 69-126

57   Does the Aura Around Allopathic Modern Medicines´Eclipse Over Medical Potentials of Traditional Medicines´Against Mycobacterium Tuberculosis (MTB) and TB?. **2017**, 20, 109-118

56   Cortical control of locomotor muscle activity through muscle synergies in humans: a neural decoding study.   0

55   Control of Upper Limb Motions by Combinations of Basic Muscle Synergies. **2019**,

54   [Modern aspects of the pathophysiology of walking disorders and their rehabilitation in post-stroke patients]. **2019**, 119, 43-50   2

53   Is cardio-fitness multi-planar exercise really useful to train?. **2019**, 178,

52   Do Walking Muscle Synergies Influence Propensity of Severe Slipping?.

51   Muscle synergies are associated with intermuscular coherence in an isometric upper limb task.

50   Do Muscle Synergies Improve Optimization Prediction of Muscle Activations During Gait?.

49   Effects of Age and Knee Osteoarthritis on the Modular Control of Walking: A Pilot Study.   0

48   Neural decoding of gait phase information during motor imagery and improvement of the decoding accuracy by concurrent action observation.   1

47   Training muscle activation patterns of the lower paretic extremity using directional exertion improves mobility in persons with hemiparesis: a pilot study. **2021**, 3, 12

46   Modular Control of Kinematics in Prosthetic Gait: Low-Dimensional Description Based on the Planar Covariation Law. **2021**, 833-839   0

45   Aerobic Exercise After Left-Sided Stroke Improves Gait Speed and Endurance: A Prospective Cohort Study. **2021**, 100, 576-583   2

44   The mechanical energetics of walking across the adult lifespan. **2021**, 16, e0259817   0

43   An Objective, Information-Based Approach for Selecting the Number of Muscle Synergies to be Extracted via Non-Negative Matrix Factorization. **2021**, PP,   1

42   Shaping Individualized Impedance Landscapes for Gait Training via Reinforcement Learning. **2021**, 1-1   2

41   Simulation of Spinal Muscle Control in Human Gait using OpenSim. **2022**, 1-1

40	A musculoskeletal model driven by muscle synergy-derived excitations for hand and wrist movements.. **2022**,		2
39	Quantifying template signatures of center-of-mass motion during walking with ankle exoskeletons.		0
38	The association between motor modules and movement primitives of gait: A muscle and kinematic synergy study.. *Journal of Biomechanics*, **2022**, 134, 110997	2.9	0
37	Merged swing-muscle synergies and their relation to walking characteristics in subacute post-stroke patients: An observational study.. **2022**, 17, e0263613		1
36	Association Between Temporal Asymmetry and Muscle Synergy During Walking With Rhythmic Auditory Cueing in Survivors of Stroke Living With Impairments. **2022**, 100187		
35	Clarify Sit-to-Stand Muscle Synergy and Tension Changes in Subacute Stroke Rehabilitation by Musculoskeletal Modeling.. **2022**, 16, 785143		1
34	How to Decide the Number of Gait Cycles in Different Low-Pass Filters to Extract Motor Modules by Non-negative Matrix Factorization During Walking in Chronic Post-stroke Patients.. *Frontiers in Human Neuroscience*, **2022**, 16, 803542	3.3	1
33	Muscle synergies are modified with improved task performance in skill learning.. **2022**, 83, 102946		1
32	Effects of age and knee osteoarthritis on the modular control of walking: A pilot study.. **2021**, 16, e0261862		1
31	Image1.PDF. **2018**,		
30	Data_Sheet_1.docx. **2018**,		
29	DataSheet1.pdf. **2018**,		
28	Video1.mp4. **2018**,		
27	Data_Sheet_1.pdf. **2019**,		
26	Data_Sheet_1.pdf. **2020**,		
25	Video_1.mp4. **2020**,		
24	Generating variability from motor primitives during infant locomotor development.		0
23	Estimation of Time-Frequency Muscle Synergy in Wrist Movements. *Entropy*, **2022**, 24, 707	2.8	1

22	A neuromuscular model of human locomotion combines spinal reflex circuits with voluntary movements.. *Scientific Reports*, **2022**, 12, 8189	4.9	0
21	Motor pattern generation is robust to neural network anatomical imbalance favoring inhibition but not excitation.		0
20	Medial Gastrocnemius Muscle-Tendon Unit Ratios of Young Females and Males. *SSRN Electronic Journal*,	1	
19	Modulation of Muscle Synergies in Lower-Limb Muscles Associated With Split-Belt Locomotor Adaptation. *Frontiers in Human Neuroscience*, 16,	3.3	
18	Estimating Spatial Gait Parameters from the Planar Covariation of Lower Limb Elevation Angles: a Pilot Study. **2022**,		0
17	Evaluation of Spatiotemporal Patterns of the Spinal Muscle Coordination Output during Walking in the Exoskeleton. **2022**, 22, 5708		
16	Human Muscle Synergy Recruitment and Variability Assessment for Walking Speed Prediction Module Design. 1-19		
15	Medial gastrocnemius muscle-tendon unit ratios of young females and males. **2022**, 142, 111261		
14	Age-Related Modifications of Muscle Synergies and Their Temporal Activations for Overground Walking. **2022**, 30, 2700-2709		0
13	Extracting Stable Control Information from EMG Signals to Drive a Musculoskeletal Model - A Preliminary Study. **2022**, 735-746		0
12	Kinetic Interjoint Coordination in Lower Limbs during Gait in Patients with Hemiparesis. **2022**, 2, 466-477		0
11	EMG-driven musculoskeletal model calibration with estimation of unmeasured muscle excitations via synergy extrapolation. 10,		0
10	Unilateral symptomatic Achilles tendinopathy has limited effects on bilateral lower limb ground reaction force asymmetries and muscular synergy attributes when walking at natural and fast speeds. **2022**, 15,		0
9	The relationship between motor pathway damage and flexion-extension patterns of muscle co-excitation during walking. 13,		1
8	Optimization of modularity during development to simplify walking control across strides.		0
7	Neuromuscular mechanisms of motor adaptation to repeated gait-slip perturbations in older adults. **2022**, 12,		0
6	Muscle coordination and recruitment during squat assistance using a robotic ankle-foot exoskeleton. **2023**, 13,		0
5	Merging Analysis of Muscle Synergies for Cerebral Palsy Gait. **2022**,		0

4	Effects of orthoses on muscle activity and synergy during gait. **2023**, 18, e0281541	0
3	Optimization of human gait using singular-value decomposition-based design variables.	1
2	Analysis of cerebral palsy gait based on movement primitives. **2023**, 104, 105947	0
1	Characterization of prosthetic knees through a low-dimensional description of gait kinematics. **2023**, 20,	0