Daniel P Ferris

List of Publications by Year
in descending order

136 papers	11,306 citations	26630 56 h-index	32842 100 g-index
142 all docs	142 docs citations	142 times ranked	7264 citing authors

#	Article	IF	Citations
1	State of the Art and Future Directions for Lower Limb Robotic Exoskeletons. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 171-182.	4.9	611
2	Removal of Movement Artifact From High-Density EEG Recorded During Walking and Running. Journal of Neurophysiology, 2010, 103, 3526-3534.	1.8	541
3	Running in the real world: adjusting leg stiffness for different surfaces. Proceedings of the Royal Society B: Biological Sciences, 1998, 265, 989-994.	2.6	453
4	Electrocortical activity is coupled to gait cycle phase during treadmill walking. NeuroImage, 2011, 54, 1289-1296.	4.2	403
5	An Ankle-Foot Orthosis Powered by Artificial Pneumatic Muscles. Journal of Applied Biomechanics, 2005, 21, 189-197.	0.8	337
6	Runners adjust leg stiffness for their first step on a new running surface. Journal of Biomechanics, 1999, 32, 787-794.	2.1	333
7	An improved powered ankleâ€"foot orthosis using proportional myoelectric control. Gait and Posture, 2006, 23, 425-428.	1.4	329
8	Interaction of leg stiffness and surface stiffness during human hopping. Journal of Applied Physiology, 1997, 82, 15-22.	2.5	312
9	Learning to walk with a robotic ankle exoskeleton. Journal of Biomechanics, 2007, 40, 2636-2644.	2.1	254
10	Mechanics and energetics of level walking with powered ankle exoskeletons. Journal of Experimental Biology, 2008, 211, 1402-1413.	1.7	232
11	Cognition in action: imaging brain/body dynamics in mobile humans. Reviews in the Neurosciences, 2011, 22, 593-608.	2.9	217
12	A pneumatically powered knee-ankle-foot orthosis (KAFO) with myoelectric activation and inhibition. Journal of NeuroEngineering and Rehabilitation, 2009, 6, 23.	4.6	191
13	Mechanical performance of artificial pneumatic muscles to power an ankleâ€"foot orthosis. Journal of Biomechanics, 2006, 39, 1832-1841.	2.1	188
14	Loss of balance during balance beam walking elicits a multifocal theta band electrocortical response. Journal of Neurophysiology, 2013, 110, 2050-2060.	1.8	186
15	It Pays to Have a Spring in Your Step. Exercise and Sport Sciences Reviews, 2009, 37, 130-138.	3.0	184
16	Visual Evoked Responses During Standing and Walking. Frontiers in Human Neuroscience, 2010, 4, 202.	2.0	173
17	Powered Lower Limb Orthoses for Gait Rehabilitation. Topics in Spinal Cord Injury Rehabilitation, 2005, 11, 34-49.	1.8	170
18	Biomechanics and energetics of walking on uneven terrain. Journal of Experimental Biology, 2013, 216, 3963-70.	1.7	170

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19	Imaging natural cognition in action. International Journal of Psychophysiology, 2014, 91, 22-29.	1.0	170
20	Isolating gait-related movement artifacts in electroencephalography during human walking. Journal of Neural Engineering, 2015, 12, 046022.	3.5	161
21	A PHYSIOLOGIST'S PERSPECTIVE ON ROBOTIC EXOSKELETONS FOR HUMAN LOCOMOTION. International Journal of Humanoid Robotics, 2007, 04, 507-528.	1.1	149
22	Walking with increased ankle pushoff decreases hip muscle moments. Journal of Biomechanics, 2008, 41, 2082-2089.	2.1	147
23	Powered ankle exoskeletons reveal the metabolic cost of plantar flexor mechanical work during walking with longer steps at constant step frequency. Journal of Experimental Biology, 2009, 212, 21-31.	1.7	145
24	Metabolic and Mechanical Energy Costs of Reducing Vertical Center of Mass Movement During Gait. Archives of Physical Medicine and Rehabilitation, 2009, 90, 136-144.	0.9	141
25	Invariant ankle moment patterns when walking with and without a robotic ankle exoskeleton. Journal of Biomechanics, 2010, 43, 203-209.	2.1	141
26	Invariant hip moment pattern while walking with a robotic hip exoskeleton. Journal of Biomechanics, 2011, 44, 789-793.	2.1	124
27	Learning to walk with an adaptive gain proportional myoelectric controller for a robotic ankle exoskeleton. Journal of NeuroEngineering and Rehabilitation, 2015, 12, 97.	4.6	124
28	Moving the Arms to Activate the Legs. Exercise and Sport Sciences Reviews, 2006, 34, 113-120.	3.0	123
29	Beta- and gamma-range human lower limb corticomuscular coherence. Frontiers in Human Neuroscience, 2012, 6, 258.	2.0	121
30	Neural regulation of rhythmic arm and leg movement is conserved across human locomotor tasks. Journal of Physiology, 2007, 582, 209-227.	2.9	114
31	Independent Component Analysis of Gait-Related Movement Artifact Recorded using EEG Electrodes during Treadmill Walking. Frontiers in Human Neuroscience, 2015, 9, 639.	2.0	105
32	Differentiation in Theta and Beta Electrocortical Activity between Visual and Physical Perturbations to Walking and Standing Balance. ENeuro, 2018, 5, ENEURO.0207-18.2018.	1.9	103
33	Soleus Hâ€reflex gain in humans walking and running under simulated reduced gravity. Journal of Physiology, 2001, 530, 167-180.	2.9	102
34	Locomotor adaptation to a powered ankle-foot orthosis depends on control method. Journal of NeuroEngineering and Rehabilitation, 2007, 4, 48.	4.6	98
35	Neural coupling between upper and lower limbs during recumbent stepping. Journal of Applied Physiology, 2004, 97, 1299-1308.	2.5	95
36	Slacking by the human motor system: Computational models and implications for robotic orthoses. , 2009, 2009, 2129-32.		95

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37	Induction and separation of motion artifacts in EEG data using a mobile phantom head device. Journal of Neural Engineering, 2016, 13, 036014.	3.5	94
38	Human electrocortical dynamics while stepping over obstacles. Scientific Reports, 2019, 9, 4693.	3.3	92
39	A simple method for calibrating force plates and force treadmills using an instrumented pole. Gait and Posture, 2009, 29, 59-64.	1.4	86
40	Powered Lower Limb Orthoses: Applications in Motor Adaptation and Rehabilitation. , 0, , .		84
41	Proposing Metrics for Benchmarking Novel EEG Technologies Towards Real-World Measurements. Frontiers in Human Neuroscience, 2016, 10, 188.	2.0	82
42	Estimation of ground reaction forces and ankle moment with multiple, low-cost sensors. Journal of NeuroEngineering and Rehabilitation, 2015, 12, 90.	4.6	81
43	Electrocortical activity distinguishes between uphill and level walking in humans. Journal of Neurophysiology, 2016, 115, 958-966.	1.8	81
44	Influence of Power Delivery Timing on the Energetics and Biomechanics of Humans Wearing a Hip Exoskeleton. Frontiers in Bioengineering and Biotechnology, 2017, 5, 4.	4.1	80
45	Biomechanics and energetics of running on uneven terrain. Journal of Experimental Biology, 2015, 218, 711-719.	1.7	79
46	Effects of Cable Sway, Electrode Surface Area, and Electrode Mass on Electroencephalography Signal Quality during Motion. Sensors, 2018, 18, 1073.	3.8	79
47	Robotic lower limb exoskeletons using proportional myoelectric control. , 2009, 2009, 2119-24.		78
48	Systems, Subjects, Sessions: To What Extent Do These Factors Influence EEG Data?. Frontiers in Human Neuroscience, 2017, 11, 150.	2.0	76
49	Effects of virtual reality high heights exposure during beam-walking on physiological stress and cognitive loading. PLoS ONE, 2018, 13, e0200306.	2.5	76
50	Myoelectric control of robotic lower limb prostheses: a review of electromyography interfaces, control paradigms, challenges and future directions. Journal of Neural Engineering, 2021, 18, 041004.	3.5	75
51	Muscle activation during unilateral stepping occurs in the nonstepping limb of humans with clinically complete spinal cord injury. Spinal Cord, 2004, 42, 14-23.	1.9	74
52	Neuromechanical adaptation to hopping with an elastic ankle-foot orthosis. Journal of Applied Physiology, 2006, 100, 163-170.	2.5	73
53	Mechanics and energetics of incline walking with robotic ankle exoskeletons. Journal of Experimental Biology, 2009, 212, 32-41.	1.7	70
54	Weighted phase lag index stability as an artifact resistant measure to detect cognitive EEG activity during locomotion. Journal of NeuroEngineering and Rehabilitation, 2012, 9, 47.	4.6	69

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55	Dual-electrode motion artifact cancellation for mobile electroencephalography. Journal of Neural Engineering, 2018, 15, 056024.	3.5	69
56	An EEG-based study of discrete isometric and isotonic human lower limb muscle contractions. Journal of NeuroEngineering and Rehabilitation, 2012, 9, 35.	4.6	65
57	Muscle activation patterns during walking from transtibial amputees recorded within the residual limb-prosthetic interface. Journal of NeuroEngineering and Rehabilitation, 2012, 9, 55.	4.6	65
58	How Many Electrodes Are Really Needed for EEG-Based Mobile Brain Imaging?. Journal of Behavioral and Brain Science, 2012, 02, 387-393.	0.5	64
59	The effects of powered ankle-foot orthoses on joint kinematics and muscle activation during walking in individuals with incomplete spinal cord injury. Journal of NeuroEngineering and Rehabilitation, 2006, 3, 3.	4.6	62
60	Pupil Sizes Scale with Attentional Load and Task Experience in a Multiple Object Tracking Task. PLoS ONE, 2016, 11, e0168087.	2.5	62
61	Faster Gait Speeds Reduce Alpha and Beta EEG Spectral Power From Human Sensorimotor Cortex. IEEE Transactions on Biomedical Engineering, 2020, 67, 842-853.	4.2	62
62	Motor adaptation during dorsiflexion-assisted walking with a powered orthosis. Gait and Posture, 2009, 29, 230-236.	1.4	61
63	Toward a new cognitive neuroscience: modeling natural brain dynamics. Frontiers in Human Neuroscience, 2014, 8, 444.	2.0	61
64	Locomotor Adaptation by Transtibial Amputees Walking With an Experimental Powered Prosthesis Under Continuous Myoelectric Control. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2016, 24, 573-581.	4.9	61
65	'Body-in-the-Loop' Optimization of Assistive Robotic Devices: A Validation Study. , 0, , .		60
66	The exoskeletons are here. Journal of NeuroEngineering and Rehabilitation, 2009, 6, 17.	4.6	58
67	Walking reduces sensorimotor network connectivity compared to standing. Journal of NeuroEngineering and Rehabilitation, 2014, 11, 14.	4.6	58
68	Medial Gastrocnemius Myoelectric Control of a Robotic Ankle Exoskeleton. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2009, 17, 31-37.	4.9	57
69	Group-level cortical and muscular connectivity during perturbations to walking and standing balance. NeuroImage, 2019, 198, 93-103.	4.2	57
70	Upper and Lower Limb Muscle Activation Is Bidirectionally and Ipsilaterally Coupled. Medicine and Science in Sports and Exercise, 2009, 41, 1778-1789.	0.4	54
71	Restricted vision increases sensorimotor cortex involvement in human walking. Journal of Neurophysiology, 2017, 118, 1943-1951.	1.8	54
72	Your brain on speed: cognitive performance of a spatial working memory task is not affected by walking speed. Frontiers in Human Neuroscience, 2014, 8, 288.	2.0	51

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73	A Biomechanical Comparison of Proportional Electromyography Control to Biological Torque Control Using a Powered Hip Exoskeleton. Frontiers in Bioengineering and Biotechnology, 2017, 5, 37.	4.1	51
74	Energetics of Walking With a Robotic Knee Exoskeleton. Journal of Applied Biomechanics, 2019, 35, 320-326.	0.8	51
75	Effects of physical guidance on short-term learning of walking on a narrow beam. Gait and Posture, 2009, 30, 464-468.	1.4	50
76	Lower limb force production and bilateral force asymmetries are based on sense of effort. Experimental Brain Research, 2008, 187, 129-138.	1.5	47
77	An Experimental Powered Lower Limb Prosthesis Using Proportional Myoelectric Control. Journal of Medical Devices, Transactions of the ASME, 2014, 8, .	0.7	46
78	Locomotor adaptation to a soleus EMG-controlled antagonistic exoskeleton. Journal of Neurophysiology, 2013, 109, 1804-1814.	1.8	44
79	Running With an Elastic Lower Limb Exoskeleton. Journal of Applied Biomechanics, 2016, 32, 269-277.	0.8	43
80	Biomechanics and energetics of walking in powered ankle exoskeletons using myoelectric control versus mechanically intrinsic control. Journal of NeuroEngineering and Rehabilitation, 2018, 15, 42.	4.6	42
81	A Channel Rejection Method for Attenuating Motion-Related Artifacts in EEG Recordings during Walking. Frontiers in Neuroscience, 2017, 11, 225.	2.8	41
82	Motor modules during adaptation to walking in a powered ankle exoskeleton. Journal of NeuroEngineering and Rehabilitation, 2018, 15, 2.	4.6	39
83	The Effect of Movement Frequency on Interlimb Coupling during Recumbent Stepping. Motor Control, 2005, 9, 144-163.	0.6	38
84	EEG correlates of sensorimotor processing: independent components involved in sensory and motor processing. Scientific Reports, 2017, 7, 4461.	3.3	38
85	Symmetry-based resistance as a novel means of lower limb rehabilitation. Journal of Biomechanics, 2007, 40, 1286-1292.	2.1	37
86	The effects of error augmentation on learning to walk on a narrow balance beam. Experimental Brain Research, 2010, 206, 359-370.	1.5	34
87	Transient visual perturbations boost short-term balance learning in virtual reality by modulating electrocortical activity. Journal of Neurophysiology, 2018, 120, 1998-2010.	1.8	34
88	Motor control and learning with lower-limb myoelectric control in amputees. Journal of Rehabilitation Research and Development, 2013, 50, 687.	1.6	33
89	Sense of Effort Determines Lower Limb Force Production During Dynamic Movement in Individuals With Poststroke Hemiparesis. Neurorehabilitation and Neural Repair, 2009, 23, 811-818.	2.9	31
90	Proportional myoelectric control of a virtual object to investigate human efferent control. Experimental Brain Research, 2004, 159, 478-486.	1.5	29

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91	Motion and Muscle Artifact Removal Validation Using an Electrical Head Phantom, Robotic Motion Platform, and Dual Layer Mobile EEG. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1825-1835.	4.9	26
92	Effect of locomotor demands on cognitive processing. Scientific Reports, 2019, 9, 9234.	3.3	25
93	Evaluating physiological signal salience for estimating metabolic energy cost from wearable sensors. Journal of Applied Physiology, 2019, 126, 717-729.	2.5	24
94	Neuromechanical considerations for incorporating rhythmic arm movement in the rehabilitation of walking. Chaos, 2009, 19, 026102.	2.5	22
95	Joint kinetic response during unexpectedly reduced plantar flexor torque provided by a robotic ankle exoskeleton during walking. Journal of Biomechanics, 2010, 43, 1401-1407.	2.1	22
96	Comparing neural control and mechanically intrinsic control of powered ankle exoskeletons. , 2017, 2017, 294-299.		22
97	An Elastic Exoskeleton for Assisting Human Running. , 2009, , .		21
98	Short-term locomotor adaptation to a robotic ankle exoskeleton does not alter soleus Hoffmann reflex amplitude. Journal of NeuroEngineering and Rehabilitation, 2010, 7, 33.	4.6	21
99	Recumbent stepping has similar but simpler neural control compared to walking. Experimental Brain Research, 2007, 178, 427-438.	1.5	20
100	Multimodal Imaging of Brain Activity to Investigate Walking and Mobility Decline in Older Adults (Mind in Motion Study): Hypothesis, Theory, and Methods. Frontiers in Aging Neuroscience, 2019, 11, 358.	3.4	20
101	Resonant hopping of a robot controlled by an artificial neural oscillator. Bioinspiration and Biomimetics, 2008, 3, 026001.	2.9	19
102	The Relationship Between Physical and Physiological Variables and Volleyball Spiking Velocity. Journal of Strength and Conditioning Research, 1995, 9, 32.	2.1	19
103	Cortical Spectral Activity and Connectivity during Active and Viewed Arm and Leg Movement. Frontiers in Neuroscience, 2016, 10, 91.	2.8	18
104	Robotic Devices to Enhance Human Movement Performance. Kinesiology Review, 2017, 6, 70-77.	0.6	17
105	Confidence in the curve: Establishing instantaneous cost mapping techniques using bilateral ankle exoskeletons. Journal of Applied Physiology, 2017, 122, 242-252.	2.5	15
106	Independent Component Analysis and Source Localization on Mobile EEG Data Can Identify Increased Levels of Acute Stress. Frontiers in Human Neuroscience, 2017, 11, 310.	2.0	15
107	Kinematics and muscle activity of individuals with incomplete spinal cord injury during treadmill stepping with and without manual assistance. Journal of NeuroEngineering and Rehabilitation, 2007, 4, 32.	4.6	14
108	Human muscle activity and lower limb biomechanics of overground walking at varying levels of simulated reduced gravity and gait speeds. PLoS ONE, 2021, 16, e0253467.	2.5	14

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109	Upper limb effort does not increase maximal voluntary muscle activation in individuals with incomplete spinal cord injury. Clinical Neurophysiology, 2009, 120, 1741-1749.	1.5	13
110	High-density EEG and independent component analysis mixture models distinguish knee contractions from ankle contractions. , 2011, 2011, 4195-8.		13
111	Adding neck muscle activity to a head phantom device to validate mobile EEG muscle and motion artifact removal. , 2019, , .		13
112	Comparison of Signal Processing Methods for Reducing Motion Artifacts in High-Density Electromyography DuringÂHuman Locomotion. IEEE Open Journal of Engineering in Medicine and Biology, 2020, 1, 156-165.	2.3	12
113	Time to move: Brain dynamics underlying natural action and cognition. European Journal of Neuroscience, 2021, 54, 8075-8080.	2.6	12
114	Combined head phantom and neural mass model validation of effective connectivity measures. Journal of Neural Engineering, 2019, 16, 026010.	3.5	11
115	Design and Validation of an Instrumented Uneven Terrain Treadmill. Journal of Applied Biomechanics, 2018, 34, 236-239.	0.8	8
116	Usability of EEG Systems. , 2016, , .		7
117	Human myoelectric spatial patterns differ among lower limb muscles and locomotion speeds. Physiological Reports, 2020, 8, e14652.	1.7	7
118	A Lower Limb Phantom for Simulation and Assessment of Electromyography Technology. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 2378-2385.	4.9	6
119	Intermittent Visual Occlusions Increase Balance Training Effectiveness. Frontiers in Human Neuroscience, 2022, 16, 748930.	2.0	6
120	Computer simulations of neural mechanisms explaining upper and lower limb excitatory neural coupling. Journal of NeuroEngineering and Rehabilitation, 2010, 7, 59.	4.6	5
121	Evaluation of a Low-Cost Pneumatic Plantar Pressure Insole for Predicting Ground Contact Kinetics. Journal of Applied Biomechanics, 2016, 32, 215-220.	0.8	5
122	Using wearable physiological sensors to predict energy expenditure. , 2017, 2017, 340-345.		5
123	Kinematic analysis of speed transitions within walking in younger and older adults. Journal of Biomechanics, 2022, 138, 111130.	2.1	5
124	Using portable physiological sensors to estimate energy cost for â€˜body-in-the-loopâ€™ optimization of assistive robotic devices. , 2017, , .		4
125	Robotics: Exoskeletons. , 2019, , 645-651.		4
126	Fatigue induces altered spatial myoelectric activation patterns in the medial gastrocnemius during locomotion. Journal of Neurophysiology, 2021, 125, 2013-2023.	1.8	4

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127	Design and Validation of a Low-Cost Bodyweight Support System for Overground Walking. Journal of Medical Devices, Transactions of the ASME, 2020, 14, 045001.	0.7	4
128	Preliminary trial of symmetry-based resistance in individuals with post-stroke hemiparesis. , 2009, 2009, 5294-9.		3
129	A Dual Input Device for Self-Assisted Control of a Virtual Pendulum. , 0, , .		2
130	Cortical connectivity during uneven terrain walking. , 2013, , .		2
131	Editorial: Neural Prostheses for Locomotion. Frontiers in Neuroscience, 2021, 15, 788021.	2.8	2
132	Human electrocortical, electromyographical, ocular, and kinematic data during perturbed walking and standing. Data in Brief, 2021, 39, 107635.	1.0	2
133	Guest Editorial Special Issue on Neural Systems Engineering and Mathematical Modeling of Brain Dynamics Using ECoG/EEG/MEG Oscillations and Machine Learning Methods. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 335-336.	4.9	1
134	Faster gait speeds suppress human auditory electrocortical responses. , 2019, , .		1
135	Special Issue on Wearable Robotics and Assistive Technology. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1888-1889.	4.9	1
136	TNSRE Is Flipping to Full Open Access. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1510-1510.	4.9	0