E Paul Zehr

List of Publications by Year
in descending order

120 papers	4,496 citations	87888 38 h-index	114465 63 g-index
121 all docs	121 docs citations	121 times ranked	2213 citing authors

#	Article	IF	Citations
1	Considerations for use of the Hoffmann reflex in exercise studies. European Journal of Applied Physiology, 2002, 86, 455-468.	2.5	476
2	Regulation of Arm and Leg Movement during Human Locomotion. Neuroscientist, 2004, 10, 347-361.	3.5	350
3	Effect of Rhythmic Arm Movement on Reflexes in the Legs: Modulation of Soleus H-Reflexes and Somatosensory Conditioning. Journal of Neurophysiology, 2004, 91, 1516-1523.	1.8	127
4	High-intensity unilateral dorsiflexor resistance training results in bilateral neuromuscular plasticity after stroke. Experimental Brain Research, 2013, 225, 93-104.	1.5	122
5	Coordinated Interlimb Compensatory Responses to Electrical Stimulation of Cutaneous Nerves in the Hand and Foot During Walking. Journal of Neurophysiology, 2003, 90, 2850-2861.	1.8	120
6	Neural regulation of rhythmic arm and leg movement is conserved across human locomotor tasks. Journal of Physiology, 2007, 582, 209-227.	2.9	114
7	Increased spinal reflex excitability is not associated with neural plasticity underlying the cross-education effect. Journal of Applied Physiology, 2006, 100, 83-90.	2.5	112
8	Modulation of cutaneous reflexes in arm muscles during walking: further evidence of similar control mechanisms for rhythmic human arm and leg movements. Experimental Brain Research, 2003, 149, 260-266.	1.5	111
9	Possible contributions of CPG activity to the control of rhythmic human arm movement. Canadian Journal of Physiology and Pharmacology, 2004, 82, 556-568.	1.4	109
10	Neural Coupling Between the Arms and Legs During Rhythmic Locomotor-Like Cycling Movement. Journal of Neurophysiology, 2007, 97, 1809-1818.	1.8	105
11	The Quadrupedal Nature of Human Bipedal Locomotion. Exercise and Sport Sciences Reviews, 2009, 37, 102-108.	3.0	98
12	Neural control of rhythmic human movement: the common core hypothesis. Exercise and Sport Sciences Reviews, 2005, 33, 54-60.	3.0	98
13	A sigmoid function is the best fit for the ascending limb of the Hoffmann reflex recruitment curve. Experimental Brain Research, 2008, 186, 93-105.	1.5	94
14	Neuromechanical interactions between the limbs during human locomotion: an evolutionary perspective with translation to rehabilitation. Experimental Brain Research, 2016, 234, 3059-3081.	1.5	83
15	Absence of nerve specificity in human cutaneous reflexes during standing. Experimental Brain Research, 2000, 133, 267-272.	1.5	80
16	Bilateral neuromuscular plasticity from unilateral training of the ankle dorsiflexors. Experimental Brain Research, 2011, 208, 217-227.	1.5	75
17	Neural Control of Rhythmic Human Arm Movement: Phase Dependence and Task Modulation of Hoffmann Reflexes in Forearm Muscles. Journal of Neurophysiology, 2003, 89, 12-21.	1.8	72
18	Modulation of human cutaneous reflexes during rhythmic cyclical arm movement. Experimental Brain Research, 2000, 135, 241-250.	1.5	71

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19	Training-induced adaptive plasticity in human somatosensory reflex pathways. Journal of Applied Physiology, 2006, 101, 1783-1794.	2.5	71
20	Ankle position and voluntary contraction alter maximal M waves in soleus and tibialis anterior. Muscle and Nerve, 2007, 35, 756-766.	2.2	69
21	Restoring Symmetry. Exercise and Sport Sciences Reviews, 2014, 42, 70-75.	3.0	67
22	Cutaneous stimulation of discrete regions of the sole during locomotion produces â€œsensory steeringâ€•of the foot. BMC Sports Science, Medicine and Rehabilitation, 2014, 6, 33.	1.7	64
23	Differential Regulation of Cutaneous and H-Reflexes During Leg Cycling in Humans. Journal of Neurophysiology, 2001, 85, 1178-1184.	1.8	60
24	Rhythmic arm cycling training improves walking and neurophysiological integrity in chronic stroke: the arms can give legs a helping hand in rehabilitation. Journal of Neurophysiology, 2018, 119, 1095-1112.	1.8	57
25	Postural uncertainty leads to dynamic control of cutaneous reflexes from the foot during human walking. Brain Research, 2005, 1062, 48-62.	2.2	55
26	Rhythmic leg cycling modulates forearm muscle H-reflex amplitude and corticospinal tract excitability. Neuroscience Letters, 2007, 419, 10-14.	2.1	54
27	Task-specific modulation of cutaneous reflexes expressed at functionally relevant gait cycle phases during level and incline walking and stair climbing. Experimental Brain Research, 2006, 173, 185-192.	1.5	53
28	Persistence of locomotor-related interlimb reflex networks during walking after stroke. Clinical Neurophysiology, 2012, 123, 796-807.	1.5	51
29	Corticospinal Excitability Is Lower During Rhythmic Arm Movement Than During Tonic Contraction. Journal of Neurophysiology, 2006, 95, 914-921.	1.8	50
30	Unilateral wrist extension training after stroke improves strength and neural plasticity in both arms. Experimental Brain Research, 2018, 236, 2009-2021.	1.5	48
31	Diurnal changes in the amplitude of the Hoffmann reflex in the human soleus but not in the flexor carpi radialis muscle. Experimental Brain Research, 2006, 170, 1-6.	1.5	47
32	Rhythmic arm cycling suppresses hyperactive soleus H-reflex amplitude after stroke. Clinical Neurophysiology, 2008, 119, 1443-1452.	1.5	47
33	Rhythmic arm cycling produces a non-specific signal that suppresses Soleus H-reflex amplitude in stationary legs. Experimental Brain Research, 2007, 179, 199-208.	1.5	45
34	Sherlock Holmes and the curious case of the human locomotor central pattern generator. Journal of Neurophysiology, 2018, 120, 53-77.	1.8	45
35	Enhancement of Arm and Leg Locomotor Coupling With Augmented Cutaneous Feedback From the Hand. Journal of Neurophysiology, 2007, 98, 1810-1814.	1.8	44
36	Suppression of soleus H-reflex amplitude is graded with frequency of rhythmic arm cycling. Experimental Brain Research, 2009, 193, 297-306.	1.5	42

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37	Facilitation of soleus H-reflex amplitude evoked by cutaneous nerve stimulation at the wrist is not suppressed by rhythmic arm movement. Experimental Brain Research, 2004, 159, 382-388.	1.5	41
38	Neural control of rhythmic arm cycling after stroke. Journal of Neurophysiology, 2012, 108, 891-905.	1.8	40
39	Earth-Referenced Handrail Contact Facilitates Interlimb Cutaneous Reflexes During Locomotion. Journal of Neurophysiology, 2007, 98, 433-442.	1.8	36
40	Interlimb coupling from the arms to legs is differentially specified for populations of motor units comprising the compound H-reflex during â€œreducedâ€• human locomotion. Experimental Brain Research, 2011, 208, 157-168.	1.5	36
41	Modulation of cutaneous reflexes in human upper limb muscles during arm cycling is independent of activity in the contralateral arm. Experimental Brain Research, 2005, 161, 133-144.	1.5	34
42	Forward and Backward Arm Cycling Are Regulated by Equivalent Neural Mechanisms. Journal of Neurophysiology, 2005, 93, 633-640.	1.8	32
43	Context-Dependent Modulation of Interlimb Cutaneous Reflexes in Arm Muscles as a Function of Stability Threat During Walking. Journal of Neurophysiology, 2006, 96, 3096-3103.	1.8	32
44	Evidence-based risk assessment and recommendations for physical activity clearance: stroke and spinal cord injury¹This paper is one of a selection of papers published in this Special Issue, entitled Evidence-based risk assessment and recommendations for physical activity clearance, and has undergone the Journalâ€™s usual peer review process.. Applied Physiology, Nutrition and Metabolism, 2011, 36, S214-S231.	1.9	32
45	Exploiting Interlimb Arm and Leg Connections for Walking Rehabilitation: A Training Intervention in Stroke. Neural Plasticity, 2016, 2016, 1-19.	2.2	31
46	We Are Upright-Walking Cats: Human Limbs as Sensory Antennae During Locomotion. Physiology, 2019, 34, 354-364.	3.1	31
47	Neural Mechanisms Influencing Interlimb Coordination during Locomotion in Humans: Presynaptic Modulation of Forearm H-Reflexes during Leg Cycling. PLoS ONE, 2013, 8, e76313.	2.5	28
48	Training-Induced Neural Plasticity and Strength Are Amplified After Stroke. Exercise and Sport Sciences Reviews, 2019, 47, 223-229.	3.0	26
49	Phase-dependent modulation of soleus H-reflex amplitude induced by rhythmic arm cycling. Neuroscience Letters, 2010, 475, 7-11.	2.1	25
50	Head Trauma Exposure in Mixed Martial Arts Varies According to Sex and Weight Class. Sports Health, 2019, 11, 280-285.	2.7	25
51	Long-Term Plasticity in Reflex Excitability Induced by Five Weeks of Arm and Leg Cycling Training after Stroke. Brain Sciences, 2016, 6, 54.	2.3	24
52	Understanding concussion knowledge and behavior among mixed martial arts, boxing, kickboxing, and Muay Thai athletes and coaches. Physician and Sportsmedicine, 2020, 48, 417-423.	2.1	24
53	Neuromechanical considerations for incorporating rhythmic arm movement in the rehabilitation of walking. Chaos, 2009, 19, 026102.	2.5	22
54	Rhythmic arm cycling modulates Hoffmann reflex excitability differentially in the ankle flexor and extensor muscles. Neuroscience Letters, 2009, 450, 235-238.	2.1	22

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55	Effects of a compression garment on sensory feedback transmission in the human upper limb. Journal of Neurophysiology, 2018, 120, 186-195.	1.8	22
56	Effects of Leg Pedaling on Early Latency Cutaneous Reflexes in Upper Limb Muscles. Journal of Neurophysiology, 2010, 104, 210-217.	1.8	21
57	Amplification of interlimb reflexes evoked by stimulating the hand simultaneously with conditioning from the foot during locomotion. BMC Neuroscience, 2013, 14, 28.	1.9	21
58	Avengers Assemble! Using pop-culture icons to communicate science. American Journal of Physiology - Advances in Physiology Education, 2014, 38, 118-123.	1.6	21
59	Recumbent stepping has similar but simpler neural control compared to walking. Experimental Brain Research, 2007, 178, 427-438.	1.5	20
60	Multi-frequency arm cycling reveals bilateral locomotor coupling to increase movement symmetry. Experimental Brain Research, 2011, 211, 299-312.	1.5	20
61	Effect of afferent feedback and central motor commands on soleus H-reflex suppression during arm cycling. Journal of Neurophysiology, 2012, 108, 3049-3058.	1.8	20
62	Robotic-assisted stepping modulates monosynaptic reflexes in forearm muscles in the human. Journal of Neurophysiology, 2011, 106, 1679-1687.	1.8	19
63	From Claude Bernard to the Batcave and beyond: using Batman as a hook for physiology education. American Journal of Physiology - Advances in Physiology Education, 2011, 35, 1-4.	1.6	18
64	Time course of interlimb strength transfer after unilateral handgrip training. Journal of Applied Physiology, 2018, 125, 1594-1608.	2.5	18
65	Convergence in Reflex Pathways from Multiple Cutaneous Nerves Innervating the Foot Depends upon the Number of Rhythmically Active Limbs during Locomotion. PLoS ONE, 2014, 9, e104910.	2.5	16
66	Cutaneous reflexes during rhythmic arm cycling are insensitive to asymmetrical changes in crank length. Experimental Brain Research, 2006, 168, 165-177.	1.5	15
67	Muscle activation and cutaneous reflex modulation during rhythmic and discrete arm tasks in orthopaedic shoulder instability. Experimental Brain Research, 2007, 179, 339-351.	1.5	15
68	Short-Term Plasticity of Spinal Reflex Excitability Induced by Rhythmic Arm Movement. Journal of Neurophysiology, 2008, 99, 2000-2005.	1.8	15
69	Preservation of common rhythmic locomotor control despite weakened supraspinal regulation after stroke. Frontiers in Integrative Neuroscience, 2014, 8, 95.	2.1	14
70	Limits to Fast-Conducting Somatosensory Feedback in Movement Control. Exercise and Sport Sciences Reviews, 2006, 34, 22-28.	3.0	13
71	Rhythmic arm cycling differentially modulates stretch and H-reflex amplitudes in soleus muscle. Experimental Brain Research, 2011, 214, 529-537.	1.5	13
72	The Potential Transformation of Our Species by Neural Enhancement. Journal of Motor Behavior, 2015, 47, 73-78.	0.9	13

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73	Spinal Cord Excitability and Sprint Performance Are Enhanced by Sensory Stimulation During Cycling. Frontiers in Human Neuroscience, 2017, 11, 612.	2.0	12
74	Cross-education of strength and skill: an old idea with applications in the aging nervous system. Yale Journal of Biology and Medicine, 2016, 89, 81-6.	0.2	12
75	Soleus H-Reflex Modulation During Stance Phase of Walking With Altered Arm Swing Patterns. Motor Control, 2010, 14, 116-125.	0.6	11
76	The lingering effects of a busted myth â€" false time limits in stroke rehabilitation. Applied Physiology, Nutrition and Metabolism, 2015, 40, 858-861.	1.9	11
77	Robot controlled, continuous passive movement of the ankle reduces spinal cord excitability in participants with spasticity: a pilot study. Experimental Brain Research, 2019, 237, 3207-3220.	1.5	10
78	Repeated and patterned stimulation of cutaneous reflex pathways amplifies spinal cord excitability. Journal of Neurophysiology, 2020, 124, 342-351.	1.8	10
79	Physical activity after stroke and spinal cord injury: evidence-based recommendations on clearance for physical activity and exercise. Canadian Family Physician, 2012, 58, 1236-9.	0.4	10
80	Biomechanical outcomes and neural correlates of cutaneous reflexes evoked during rhythmic arm cycling. Journal of Biomechanics, 2011, 44, 802-809.	2.1	9
81	A common neural element receiving rhythmic arm and leg activity as assessed by reflex modulation in arm muscles. Journal of Neurophysiology, 2016, 115, 2065-2075.	1.8	9
82	Context-Dependent Modulation of Cutaneous Reflex Amplitudes during Forward and Backward Leg Cycling. Motor Control, 2009, 13, 368-386.	0.6	8
83	Regionally distinct cutaneous afferent populations contribute to reflex modulation evoked by stimulation of the tibial nerve during walking. Journal of Neurophysiology, 2016, 116, 183-190.	1.8	8
84	Beyond the Bottom of the Foot. Medicine and Science in Sports and Exercise, 2017, 49, 2439-2450.	0.4	8
85	Exploiting cervicolumbar connections enhances short-term spinal cord plasticity induced by rhythmic movement. Experimental Brain Research, 2019, 237, 2319-2329.	1.5	8
86	Effects of chronic ankle instability on cutaneous reflex modulation during walking. Experimental Brain Research, 2019, 237, 1959-1971.	1.5	7
87	The Effect of Tai Chi Chuan Training on Stereotypic Behavior of Children with Autism Spectrum Disorder. Journal of Autism and Developmental Disorders, 2022, 52, 2180-2186.	2.7	7
88	Differential modulation of reciprocal inhibition in ankle muscles during rhythmic arm cycling. Neuroscience Letters, 2013, 534, 269-273.	2.1	6
89	Future think: cautiously optimistic about brain augmentation using tissue engineering and machine interface. Frontiers in Systems Neuroscience, 2015, 9, 72.	2.5	6
90	Short-Term Plasticity in a Monosynaptic Reflex Pathway to Forearm Muscles after Continuous Robot-Assisted Passive Stepping. Frontiers in Human Neuroscience, 2016, 10, 368.	2.0	6

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91	Reliability of Multiple Baseline Measures for Locomotor Retraining after Stroke. Biosystems and Biorobotics, 2014, , 479-486.	0.3	6
92	Reflex control of human locomotion: Existence, features and functions of common interneuronal system induced by multiple sensory inputs in humans. The Journal of Physical Fitness and Sports Medicine, 2015, 4, 197-211.	0.3	5
93	Bilateral Reflex Fluctuations during Rhythmic Movement of Remote Limb Pairs. Frontiers in Human Neuroscience, 2017, 11, 355.	2.0	5
94	Sensory enhancement amplifies interlimb cutaneous reflexes in wrist extensor muscles. Journal of Neurophysiology, 2019, 122, 2085-2094.	1.8	5
95	Harnessing the Power of a Novel Program for Dynamic Balance Perturbation with Supported Body Weight. Journal of Motor Behavior, 2020, 52, 643-655.	0.9	5
96	Plantarflexion force is amplified with sensory stimulation during ramping submaximal isometric contractions. Journal of Neurophysiology, 2020, 123, 1427-1438.	1.8	5
97	Exposure to impacts across a competitive rugby season impairs balance and neuromuscular function in female rugby athletes. BMJ Open Sport and Exercise Medicine, 2020, 6, e000740.	2.9	5
98	Effects of enhanced cutaneous sensory input on interlimb strength transfer of the wrist extensors. Physiological Reports, 2020, 8, e14406.	1.7	5
99	With Great Power Comes Great Responsibilityâ€"A Personal Philosophy for Communicating Science in Society. ENeuro, 2016, 3, ENEURO.0200-16.2016.	1.9	5
100	Five weeks of Yuishinkai karate training improves balance and neuromuscular function in older adults: a preliminary study. BMC Sports Science, Medicine and Rehabilitation, 2022, 14, 65.	1.7	5
101	Soleus Hoffmann reflex amplitudes are specifically modulated by cutaneous inputs from the arms and opposite leg during walking but not standing. Experimental Brain Research, 2016, 234, 2293-2304.	1.5	4
102	Modulation of cutaneous reflexes during sidestepping in adult humans. Experimental Brain Research, 2020, 238, 2229-2243.	1.5	4
103	What lies beneath the brain: Neural circuits involved in human locomotion. , 2020, , 385-418.		4
104	Changing coupling between the arms and legs with slow walking speeds alters regulation of somatosensory feedback. Experimental Brain Research, 2020, 238, 1335-1349.	1.5	4
105	1894 revisited: Cross-education of skilled muscular control in women and the importance of representation. PLoS ONE, 2022, 17, e0264686.	2.5	4
106	Modulation of the Hoffmann reflex in the tibialis anterior with a change in posture. Physiological Reports, 2019, 7, e14179.	1.7	3
107	Fight, flight or finished: forced fitness behaviours in Game of Thrones. British Journal of Sports Medicine, 2019, 53, 576-580.	6.7	3
108	Sensory enhancement of warm-up amplifies subsequent grip strength and cycling performance. European Journal of Applied Physiology, 2022, 122, 1695-1707.	2.5	3

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109	Can concussion constrain the Caped Crusader?. British Journal of Sports Medicine, 2016, 50, 1481-1484.	6.7	2
110	Effects of wrist position on reciprocal inhibition and cutaneous reflex amplitudes in forearm muscles. Neuroscience Letters, 2018, 677, 37-43.	2.1	2
111	Long-lasting changes in muscle activation and step cycle variables induced by repetitive sensory stimulation to discrete areas of the foot sole during walking. Journal of Neurophysiology, 2021, 125, 331-343.	1.8	2
112	Compression socks enhance sensory feedback to improve standing balance reactions and reflex control of walking. BMC Sports Science, Medicine and Rehabilitation, 2021, 13, 61.	1.7	2
113	Itâ€™s a no brainer: combat sports should be ground zero for research on concussion. British Journal of Sports Medicine, 2021, 55, 1434-1435.	6.7	2
114	Prior experience does not alter modulation of cutaneous reflexes during manual wheeling and symmetrical arm cycling. Journal of Neurophysiology, 2013, 109, 2345-2353.	1.8	1
115	Use of the wii balance board to assess changes in postural balance across athletic season. British Journal of Sports Medicine, 2017, 51, A1.2-A1.	6.7	1
116	Enhanced somatosensory feedback modulates cutaneous reflexes in arm muscles during self-triggered or prolonged stimulation. Experimental Brain Research, 2020, 238, 295-304.	1.5	1
117	Scientific Insight that Will Guide Future Study of Visual Regulation of Human Locomotion - A Testament to the Contribution of Dr. Aftab Patla. Exercise and Sport Sciences Reviews, 2008, 36, 107-108.	3.0	0
118	Neuromechanical Interlimb Interactions and Rehabilitation of Walking after Stroke. Biosystems and Biorobotics, 2014, , 219-225.	0.3	0
119	Effects of chronic exposure to head impacts on the balance function of combat sports athletes. Translational Sports Medicine, 2021, 4, 798.	1.1	0
120	How the Arms Help the Legs Get Better at Walking After Stroke. Frontiers for Young Minds, 0, 7, .	0.8	0