Eric J Perreault

List of Publications by Year
in descending order

125 papers	4,351 citations	126858 33 h-index	123376 61 g-index
139 all docs	139 docs citations	139 times ranked	3175 citing authors

#	Article	IF	Citations
1	Experimentally quantifying the feasible torque space of the human shoulder. Journal of Electromyography and Kinesiology, 2022, 62, 102313.	0.7	9
2	Cancer survivors post-chemotherapy exhibit unique proprioceptive deficits in proximal limbs. Journal of NeuroEngineering and Rehabilitation, 2022, 19, 32.	2.4	2
3	Influence of task complexity on movement planning and release after stroke: insights from startReact. Experimental Brain Research, 2022, 240, 1765-1774.	0.7	2
4	Leveraging Joint Mechanics Simplifies the Neural Control of Movement. Frontiers in Integrative Neuroscience, 2022, 16, 802608.	1.0	10
5	No Strength Differences Despite Greater Posterior Rotator Cuff Intramuscular Fat in Patients With Eccentric Glenohumeral Osteoarthritis. Clinical Orthopaedics and Related Research, 2022, 480, 2217-2228.	0.7	2
6	A review of movement disorders in chemotherapy-induced neurotoxicity. Journal of NeuroEngineering and Rehabilitation, 2021, 18, 16.	2.4	14
7	Muscle Contraction Has a Reduced Effect on Increasing Glenohumeral Stability in the Apprehension Position. Medicine and Science in Sports and Exercise, 2021, 53, 2354-2362.	0.2	5
8	Frontal plane ankle stiffness increases with weight-bearing. Journal of Biomechanics, 2021, 124, 110565.	0.9	3
9	Consensus for experimental design in electromyography (CEDE) project: Terminology matrix. Journal of Electromyography and Kinesiology, 2021, 59, 102565.	0.7	29
10	Interprofessional Inconsistencies in the Diagnosis of Shoulder Instability: Survey Results of Physicians and Rehabilitation Providers. International Journal of Sports Physical Therapy, 2021, 16, 1115-1125.	0.5	3
11	A Framework for Dyadic Physical Interaction Studies During Ankle Motor Tasks. IEEE Robotics and Automation Letters, 2021, 6, 6876-6883.	3.3	5
12	Estimating the dimensionality of the manifold underlying multi-electrode neural recordings. PLoS Computational Biology, 2021, 17, e1008591.	1.5	32
13	Translations of the Humeral Head Elicit Reflexes in Rotator Cuff Muscles That Are Larger Than Those in the Primary Shoulder Movers. Frontiers in Integrative Neuroscience, 2021, 15, 796472.	1.0	1
14	Shear wave velocity is sensitive to changes in muscle stiffness that occur independently from changes in force. Journal of Applied Physiology, 2020, 128, 8-16.	1.2	49
15	Simultaneous in vivo Estimation of Muscle, Tendon, and Ankle Impedance. , 2020, 2020, 4819-4822.		2
16	Efficiency of skeletal muscle decellularization methods and their effects on the extracellular matrix. Journal of Biomechanics, 2020, 110, 109961.	0.9	21
17	Contributions of joint mechanics and neural control to the generation of torque during movement. , 2020, 2020, 3807-3810.		1
18	Consensus for experimental design in electromyography (CEDE) project: Amplitude normalization matrix. Journal of Electromyography and Kinesiology, 2020, 53, 102438.	0.7	170

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19	Quantifying the Multidimensional Impedance of the Shoulder During Volitional Contractions. Annals of Biomedical Engineering, 2020, 48, 2354-2369.	1.3	12
20	Quantitative assessment of proprioceptive dysfunction in cancer survivors post oxaliplatin-containing chemotherapy.. Journal of Clinical Oncology, 2020, 38, e24071-e24071.	0.8	1
21	Cancer's role in chemotherapy-induced neuropathy.. Journal of Clinical Oncology, 2020, 38, e24064-e24064.	0.8	0
22	Uncertainty in when a perturbation will arrive influences the preparation and release of triggered responses. Experimental Brain Research, 2019, 237, 2353-2365.	0.7	4
23	Consensus for experimental design in electromyography (CEDE) project: Electrode selection matrix. Journal of Electromyography and Kinesiology, 2019, 48, 128-144.	0.7	95
24	Changes in shear wave propagation within skeletal muscle during active and passive force generation. Journal of Biomechanics, 2019, 94, 115-122.	0.9	19
25	Stabilizing stretch reflexes are modulated independently from the rapid release of perturbation-triggered motor plans. Scientific Reports, 2019, 9, 13926.	1.6	8
26	Announcing the Fourth Biomedical Engineering Education Summit Meeting. Cellular and Molecular Bioengineering, 2019, 12, 135-138.	1.0	1
27	Altered Neural Control Reduces Shear Forces and Ankle Impedance on a Slippery Surface. IEEE Transactions on Biomedical Engineering, 2019, 66, 2381-2389.	2.5	5
28	A muscle-activity-dependent gain between motor cortex and EMG. Journal of Neurophysiology, 2019, 121, 61-73.	0.9	37
29	Chemotherapy-induced neuronal dysfunction in the absence of axon degeneration.. Journal of Clinical Oncology, 2019, 37, e15091-e15091.	0.8	0
30	Online adaptive neural control of a robotic lower limb prosthesis. Journal of Neural Engineering, 2018, 15, 016015.	1.8	92
31	Evidence for startle as a measurable behavioral indicator of motor learning. PLoS ONE, 2018, 13, e0195689.	1.1	18
32	Posture-Dependent Corticomotor Excitability Differs Between the Transferred Biceps in Individuals With Tetraplegia and the Biceps of Nonimpaired Individuals. Neurorehabilitation and Neural Repair, 2017, 31, 354-363.	1.4	2
33	Using Feedback Control to Reduce Limb Impedance during Forceful Contractions. Scientific Reports, 2017, 7, 9317.	1.6	5
34	Mechanisms contributing to reduced knee stiffness during movement. Experimental Brain Research, 2017, 235, 2959-2970.	0.7	26
35	Stretch Reflexes in Shoulder Muscles Are Described Best by Heteronymous Pathways. Biosystems and Biorobotics, 2017, , 141-145.	0.2	4
36	Voluntary activation of biceps-to-triceps and deltoid-to-triceps transfers in quadriplegia. PLoS ONE, 2017, 12, e0171141.	1.1	9

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37	Preliminary results for an adaptive pattern recognition system for novel users using a powered lower limb prosthesis. , 2016, 2016, 5083-5086.		8
38	Brain-state classification and a dual-state decoder dramatically improve the control of cursor movement through a brain-machine interface. Journal of Neural Engineering, 2016, 13, 016009.	1.8	21
39	Gait Characteristics When Walking on Different Slippery Walkways. IEEE Transactions on Biomedical Engineering, 2016, 63, 228-239.	2.5	13
40	Semiparametric Identification of Human Arm Dynamics for Flexible Control of a Functional Electrical Stimulation Neuroprosthesis. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2016, 24, 1405-1415.	2.7	19
41	Detection of and Compensation for EMG Disturbances for Powered Lower Limb Prosthesis Control. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2016, 24, 226-234.	2.7	80
42	System Identification of Multidimensional Shoulder Impedance During Volitional Contractions. IFAC-PapersOnLine, 2015, 48, 1369-1374.	0.5	5
43	Evaluation of a semi-parametric model for high-dimensional FES control. , 2015, , .		5
44	Lower-limb muscle activity when walking on different slippery surfaces. , 2015, , .		2
45	Arm dominance affects feedforward strategy more than feedback sensitivity during a postural task. Experimental Brain Research, 2015, 233, 2001-2011.	0.7	20
46	Consequences of biomechanically constrained tasks in the design and interpretation of synergy analyses. Journal of Neurophysiology, 2015, 113, 2102-2113.	0.9	75
47	The coordinate system for force control. Experimental Brain Research, 2015, 233, 899-908.	0.7	2
48	Startling acoustic stimuli can evoke fast hand extension movements in stroke survivors. Clinical Neurophysiology, 2015, 126, 160-164.	0.7	48
49	Dealing with Target Uncertainty in a Reaching Control Interface. PLoS ONE, 2014, 9, e86811.	1.1	3
50	Multimodal decoding and congruent sensory information enhance reaching performance in subjects with cervical spinal cord injury. Frontiers in Neuroscience, 2014, 8, 123.	1.4	8
51	Task-relevant adaptation of musculoskeletal impedance during posture and movement. , 2014, , .		15
52	The dynamic effect of muscle activation on knee stiffness. , 2014, 2014, 1599-602.		3
53	Multi-muscle FES control of the human arm for interaction tasks—Stabilizing with muscle co-contraction and postural adjustment: A simulation study. , 2014, , .		3
54	Posture-dependent changes in corticomotor excitability of the biceps after spinal cord injury and tendon transfer. , 2014, 2014, 4302-5.		2

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55	Withdrawal reflexes in the upper limb adapt to arm posture and stimulus location. Muscle and Nerve, 2014, 49, 716-723.	1.0	7
56	Startle evoked movement is delayed in older adults: implications for brainstem processing in the elderly. Physiological Reports, 2014, 2, e12025.	0.7	21
57	Effect of arm dominance on long-latency stabilizing reflex gain during posture. , 2014, 2014, 4075-8.		0
58	A strategy for labeling data for the neural adaptation of a powered lower limb prosthesis. , 2014, 2014, 3090-3.		9
59	Deficits in startle-evoked arm movements increase with impairment following stroke. Clinical Neurophysiology, 2014, 125, 1682-1688.	0.7	21
60	Corticomotor excitability of arm muscles modulates according to static position and orientation of the upper limb. Clinical Neurophysiology, 2014, 125, 2046-2054.	0.7	32
61	Multi-Muscle FES Force Control of the Human Arm for Arbitrary Goals. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014, 22, 654-663.	2.7	32
62	Estimation of Human Ankle Impedance During the Stance Phase of Walking. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014, 22, 870-878.	2.7	223
63	Identifying inverse human arm dynamics using a robotic testbed. , 2014, , .		3
64	Considering Limb Impedance in the Design and Control of Prosthetic Devices. Trends in Augmentation of Human Performance, 2014, , 59-83.	0.4	17
65	Instruction-dependent modulation of the long-latency stretch reflex is associated with indicators of startle. Experimental Brain Research, 2013, 230, 59-69.	0.7	41
66	Alterations in upper limb muscle synergy structure in chronic stroke survivors. Journal of Neurophysiology, 2013, 109, 768-781.	0.9	249
67	Bilateral impairments in task-dependent modulation of the long-latency stretch reflex following stroke. Clinical Neurophysiology, 2013, 124, 1373-1380.	0.7	27
68	Real-Time Evaluation of a Noninvasive Neuroprosthetic Interface for Control of Reach. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2013, 21, 674-683.	2.7	29
69	Development of a Mechatronic Platform and Validation of Methods for Estimating Ankle Stiffness During the Stance Phase of Walking. Journal of Biomechanical Engineering, 2013, 135, 81009.	0.6	45
70	Modeling open-loop stability of a human arm driven by a functional electrical stimulation neuroprosthesis. , 2013, 2013, 3598-601.		4
71	Acceleration dependence and task-specific modulation of short- and medium-latency reflexes in the ankle extensors. Physiological Reports, 2013, 1, e00051.	0.7	26
72	Feedback compensation of intrinsic muscle properties during torque regulation tasks. , 2013, 2013, 5646-9.		1

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73	EMG control of robotic reaching by people with tetraplegia improved through proprioceptive and force feedback. , 2013, , .		3
74	Grand Challenges in Interfacing Engineering With Life Sciences and Medicine. IEEE Transactions on Biomedical Engineering, 2013, 60, 589-598.	2.5	42
75	Learning impedance controller parameters for lower-limb prostheses. , 2013, , .		36
76	Evidence for reticulospinal contributions to coordinated finger movements in humans. Journal of Neurophysiology, 2013, 110, 1476-1483.	0.9	106
77	Influence of environmental stability on the regulation of end-point impedance during the maintenance of arm posture. Journal of Neurophysiology, 2013, 109, 1045-1054.	0.9	27
78	The number and choice of muscles impact the results of muscle synergy analyses. Frontiers in Computational Neuroscience, 2013, 7, 105.	1.2	188
79	Vibration Selectively Modulates Corticomotor Excitability in Hand Muscles Following Stroke. Journal of Neuroscience and Neuroengineering, 2013, 2, 407-413.	0.2	0
80	System identification for 3D force control of a human arm neuroprosthesis using functional electrical stimulation. , 2012, , .		5
81	Interpretation of non-parametric estimates of time-varying systems. , 2012, , .		2
82	Optimal sampling of recruitment curves for functional electrical stimulation control. , 2012, 2012, 329-32.		7
83	Decoding with limited neural data: a mixture of time-warped trajectory models for directional reaches. Journal of Neural Engineering, 2012, 9, 036002.	1.8	22
84	Time-Varying System Identification for Understanding the Control of Human Knee Impedance. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 1306-1310.	0.4	2
85	Biomechanical constraints on the feedforward regulation of endpoint stiffness. Journal of Neurophysiology, 2012, 108, 2083-2091.	0.9	24
86	Model-Based Estimation of Knee Stiffness. IEEE Transactions on Biomedical Engineering, 2012, 59, 2604-2612.	2.5	108
87	Estimates of Acausal Joint Impedance Models. IEEE Transactions on Biomedical Engineering, 2012, 59, 2913-2921.	2.5	9
88	System Identification of Physiological Systems Using Short Data Segments. IEEE Transactions on Biomedical Engineering, 2012, 59, 3541-3549.	2.5	35
89	Estimation of human ankle impedance during walking using the perturberator robot. , 2012, , .		28
90	Contributions of feed-forward and feedback strategies at the human ankle during control of unstable loads. Experimental Brain Research, 2012, 217, 53-66.	0.7	45

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91	Closed-Loop Identification: Application to the Estimation of Limb Impedance in a Compliant Environment. IEEE Transactions on Biomedical Engineering, 2011, 58, 521-530.	2.5	22
92	Muscle short-range stiffness can be used to estimate the endpoint stiffness of the human arm. Journal of Neurophysiology, 2011, 105, 1633-1641.	0.9	85
93	Efficient estimation of time-varying intrinsic and reflex stiffness. , 2011, 2011, 4124-7.		2
94	Continuous movement decoding using a target-dependent model with EMG inputs. , 2011, 2011, 5432-5.		3
95	Dealing with noisy gaze information for a target-dependent neural decoder. , 2011, 2011, 5428-31.		4
96	Comparison of electromyography and force as interfaces for prosthetic control. Journal of Rehabilitation Research and Development, 2011, 48, 629.	1.6	39
97	Interactions Between Limb and Environmental Mechanics Influence Stretch Reflex Sensitivity in the Human Arm. Journal of Neurophysiology, 2010, 103, 429-440.	0.9	87
98	Frequency domain identification of a parallel-cascade joint stiffness model. , 2010, , .		0
99	Contributions of Altered Stretch Reflex Coordination to Arm Impairments Following Stroke. Journal of Neurophysiology, 2010, 104, 3612-3624.	0.9	63
100	Prediction of Muscle Activity from Cortical Signals to Restore Hand Grasp in Subjects with Spinal Cord Injury. , 2010, , 369-406.		10
101	Stretch sensitive reflexes as an adaptive mechanism for maintaining limb stability. Clinical Neurophysiology, 2010, 121, 1680-1689.	0.7	99
102	Use of Self-Selected Postures to Regulate Multi-Joint Stiffness During Unconstrained Tasks. PLoS ONE, 2009, 4, e5411.	1.1	75
103	Mechanical perturbations applied during impending movement evoke startle-like responses. , 2009, 2009, 2947-50.		4
104	The Differential Role of Motor Cortex in Stretch Reflex Modulation Induced by Changes in Environmental Mechanics and Verbal Instruction. Journal of Neuroscience, 2009, 29, 13255-13263.	1.7	110
105	Toward the Restoration of Hand Use to a Paralyzed Monkey: Brain-Controlled Functional Electrical Stimulation of Forearm Muscles. PLoS ONE, 2009, 4, e5924.	1.1	123
106	Modeling short-range stiffness of feline lower hindlimb muscles. Journal of Biomechanics, 2008, 41, 1945-1952.	0.9	92
107	Interactions With Compliant Loads Alter Stretch Reflex Gains But Not Intermuscular Coordination. Journal of Neurophysiology, 2008, 99, 2101-2113.	0.9	102
108	Real-Time Control of the Hand by Intracortically Controlled Functional Neuromuscular Stimulation. , 2007, , .		9

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109	Use of Intracortical Recordings to Control a Hand Neuroprosthesis. , 2007, , .		3
110	Prediction of upper limb muscle activity from motor cortical discharge during reaching. Journal of Neural Engineering, 2007, 4, 369-379.	1.8	102
111	Motor Cortical Measures of Use-Dependent Plasticity Are Graded From Distal to Proximal in the Human Upper Limb. Journal of Neurophysiology, 2007, 98, 3230-3241.	0.9	27
112	Motor unit composition has little effect on the short-range stiffness of feline medial gastrocnemius muscle. Journal of Applied Physiology, 2007, 103, 796-802.	1.2	27
113	Educational Methods and Best Practices in BME Laboratories1. Annals of Biomedical Engineering, 2006, 34, 209-216.	1.3	25
114	Regulation of Multijoint Stretch Reflexes During Interactions with Stiff and Compliant Environments. , 2006, 2006, 300-2.		3
115	Identification of Multiple-Input Systems with Highly Coupled Inputs: Application to EMG Prediction from Multiple Intracortical Electrodes. Neural Computation, 2006, 18, 329-355.	1.3	60
116	Regulation of Multijoint Stretch Reflexes During Interactions with Stiff and Compliant Environments. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
117	Unbiased Identification of Finite Impulse Response Linear Systems Operating in Closed-Loop. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
118	The influence of perturbation duration and velocity on the long-latency response to stretch in the biceps muscle. Experimental Brain Research, 2005, 163, 361-369.	0.7	61
119	Multijoint dynamics and postural stability of the human arm. Experimental Brain Research, 2004, 157, 507-17.	0.7	122
120	Hill muscle model errors during movement are greatest within the physiologically relevant range of motor unit firing rates. Journal of Biomechanics, 2003, 36, 211-218.	0.9	91
121	Summation of Forces From Multiple Motor Units in the Cat Soleus Muscle. Journal of Neurophysiology, 2003, 89, 738-744.	0.9	31
122	Voluntary Control of Static Endpoint Stiffness During Force Regulation Tasks. Journal of Neurophysiology, 2002, 87, 2808-2816.	0.9	106
123	Effects of voluntary force generation on the elastic components of endpoint stiffness. Experimental Brain Research, 2001, 141, 312-323.	0.7	135
124	Multiple-input, multiple-output system identification for characterization of limb stiffness dynamics. Biological Cybernetics, 1999, 80, 327-337.	0.6	113
125	Relationship between Shear Wave Velocity and Muscle Activation is Inconsistent Across Different Muscle Types. SSRN Electronic Journal, 0, , .	0.4	0