AleÅ¡ Holobar

List of Publications by Year
in descending order

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78 papers	4,629 citations	218677 26 h-index	110387 64 g-index
80 all docs	80 docs citations	80 times ranked	2626 citing authors

#	Article	IF	Citations
1	The Extraction of Neural Information from the Surface EMG for the Control of Upper-Limb Prostheses: Emerging Avenues and Challenges. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014, 22, 797-809.	4.9	725
2	Multichannel Blind Source Separation Using Convolution Kernel Compensation. IEEE Transactions on Signal Processing, 2007, 55, 4487-4496.	5.3	421
3	Multi-channel intramuscular and surface EMG decomposition by convolutive blind source separation. Journal of Neural Engineering, 2016, 13, 026027.	3.5	391
4	Decoding the neural drive to muscles from the surface electromyogram. Clinical Neurophysiology, 2010, 121, 1616-1623.	1.5	279
5	Analysis of motor units with high-density surface electromyography. Journal of Electromyography and Kinesiology, 2008, 18, 879-890.	1.7	246
6	Fluctuations in isometric muscle force can be described by one linear projection of lowâ€frequency components of motor unit discharge rates. Journal of Physiology, 2009, 587, 5925-5938.	2.9	236
7	Estimating motor unit discharge patterns from high-density surface electromyogram. Clinical Neurophysiology, 2009, 120, 551-562.	1.5	234
8	You are as fast as your motor neurons: speed of recruitment and maximal discharge of motor neurons determine the maximal rate of force development in humans. Journal of Physiology, 2019, 597, 2445-2456.	2.9	205
9	Experimental Analysis of Accuracy in the Identification of Motor Unit Spike Trains From High-Density Surface EMG. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2010, 18, 221-229.	4.9	183
10	Consensus for experimental design in electromyography (CEDE) project: Amplitude normalization matrix. Journal of Electromyography and Kinesiology, 2020, 53, 102438.	1.7	170
11	Characterization of Human Motor Units From Surface EMG Decomposition. Proceedings of the IEEE, 2016, 104, 353-373.	21.3	143
12	Real-Time Motor Unit Identification From High-Density Surface EMG. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2013, 21, 949-958.	4.9	106
13	Consensus for experimental design in electromyography (CEDE) project: Electrode selection matrix. Journal of Electromyography and Kinesiology, 2019, 48, 128-144.	1.7	95
14	Examination of Poststroke Alteration in Motor Unit Firing Behavior Using High-Density Surface EMG Decomposition. IEEE Transactions on Biomedical Engineering, 2015, 62, 1242-1252.	4.2	81
15	Age-related changes in motor unit firing pattern of vastus lateralis muscle during low-moderate contraction. Age, 2016, 38, 48.	3.0	79
16	Analysis of motor unit spike trains estimated from high-density surface electromyography is highly reliable across operators. Journal of Electromyography and Kinesiology, 2021, 58, 102548.	1.7	61
17	Gradient Convolution Kernel Compensation Applied to Surface Electromyograms. , 2007, , 617-624.		61
18	Motor Unit Identification From High-Density Surface Electromyograms in Repeated Dynamic Muscle Contractions. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 66-75.	4.9	59

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19	Influence of common synaptic input to motor neurons on the neural drive to muscle in essential tremor. Journal of Neurophysiology, 2015, 113, 182-191.	1.8	58
20	The Phase Difference Between Neural Drives to Antagonist Muscles in Essential Tremor Is Associated with the Relative Strength of Supraspinal and Afferent Input. Journal of Neuroscience, 2015, 35, 8925-8937.	3.6	56
21	Deep Learning for Robust Decomposition of High-Density Surface EMG Signals. IEEE Transactions on Biomedical Engineering, 2021, 68, 526-534.	4.2	52
22	Human?Machine Interfacing by Decoding the Surface Electromyogram [Life Sciences]. IEEE Signal Processing Magazine, 2015, 32, 115-120.	5.6	47
23	Estimating reflex responses in large populations of motor units by decomposition of the highâ€density surface electromyogram. Journal of Physiology, 2015, 593, 4305-4318.	2.9	46
24	Motor Unit Characteristics after Targeted Muscle Reinnervation. PLoS ONE, 2016, 11, e0149772.	2.5	43
25	Decrease in force steadiness with aging is associated with increased power of the common but not independent input to motor neurons. Journal of Neurophysiology, 2018, 120, 1616-1624.	1.8	40
26	Noninvasive Neural Interfacing With Wearable Muscle Sensors: Combining Convolutive Blind Source Separation Methods and Deep Learning Techniques for Neural Decoding. IEEE Signal Processing Magazine, 2021, 38, 103-118.	5.6	37
27	Control of Spinal Motoneurons by Feedback From a Non-Invasive Real-Time Interface. IEEE Transactions on Biomedical Engineering, 2021, 68, 926-935.	4.2	30
28	Consensus for experimental design in electromyography (CEDE) project: Terminology matrix. Journal of Electromyography and Kinesiology, 2021, 59, 102565.	1.7	29
29	On the Reuse of Motor Unit Filters in High Density Surface Electromyograms Recorded at Different Contraction Levels. IEEE Access, 2021, 9, 115227-115236.	4.2	29
30	Less common synaptic input between muscles from the same group allows for more flexible coordination strategies during a fatiguing task. Journal of Neurophysiology, 2022, 127, 421-433.	1.8	27
31	Progressive FastICA Peel-Off and Convolution Kernel Compensation Demonstrate High Agreement for High Density Surface EMG Decomposition. Neural Plasticity, 2016, 2016, 1-5.	2.2	26
32	Effects of reciprocal inhibition and wholeâ€body relaxation on persistent inward currents estimated by two different methods. Journal of Physiology, 2022, 600, 2765-2787.	2.9	25
33	Consensus for experimental design in electromyography (CEDE) project: High-density surface electromyography matrix. Journal of Electromyography and Kinesiology, 2022, 64, 102656.	1.7	22
34	Effect of Resistance Training and Fish Protein Intake on Motor Unit Firing Pattern and Motor Function of Elderly. Frontiers in Physiology, 2018, 9, 1733.	2.8	21
35	Voluntary and tremorogenic inputs to motor neuron pools of agonist/antagonist muscles in essential tremor patients. Journal of Neurophysiology, 2019, 122, 2043-2053.	1.8	19
36	Non-invasive Decoding of the Motoneurons: A Guided Source Separation Method Based on Convolution Kernel Compensation With Clustered Initial Points. Frontiers in Computational Neuroscience, 2019, 13, 14.	2.1	17

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37	Modulation of Neural and Muscular Adaptation Processes During Resistance Training by Fish Protein Ingestions in Older Adults. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2020, 75, 867-874.	3.6	13
38	Tremor severity in Parkinson's disease and cortical changes of areas controlling movement sequencing: A preliminary study. Journal of Neuroscience Research, 2018, 96, 1341-1352.	2.9	12
39	Effect of milk fat globule membrane supplementation on motor unit adaptation following resistance training in older adults. Physiological Reports, 2020, 8, e14491.	1.7	12
40	Estimation of Muscle Co-Activations in Wrist Rehabilitation After Stroke is Sensitive to Motor Unit Distribution and Action Potential Shapes. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 1208-1215.	4.9	12
41	Comparison of Convolutive Kernel Compensation and Non-Negative Matrix Factorization of Surface Electromyograms. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 1935-1944.	4.9	11
42	Classification of motor unit activity following targeted muscle reinnervation. , 2015, , .		10
43	High-density surface electromyography to assess motor unit firing rate in Charcot-Marie-Tooth disease type 1A patients. Clinical Neurophysiology, 2021, 132, 812-818.	1.5	10
44	Preferential distribution of nociceptive input to motoneurons with muscle units in the cranial portion of the upper trapezius muscle. Journal of Neurophysiology, 2016, 116, 611-618.	1.8	9
45	Public database for validation of follicle detection algorithms on 3D ultrasound images of ovaries. Computer Methods and Programs in Biomedicine, 2020, 196, 105621.	4.7	9
46	On the Prediction of Motor Unit Filter Changes in Blind Source Separation of High-Density Surface Electromyograms During Dynamic Muscle Contractions. IEEE Access, 2021, 9, 103533-103540.	4.2	9
47	Quercetin ingestion modifies human motor unit firing patterns and muscle contractile properties. Experimental Brain Research, 2021, 239, 1567-1579.	1.5	9
48	The length of tibialis anterior does not influence force steadiness during submaximal isometric contractions with the dorsiflexors. European Journal of Sport Science, 2022, 22, 539-548.	2.7	9
49	Leg Dominance Does Not Influence Maximal Force, Force Steadiness, or Motor Unit Discharge Characteristics. Medicine and Science in Sports and Exercise, 2022, 54, 1278-1287.	0.4	8
50	Startling stimuli increase maximal motor unit discharge rate and rate of force development in humans. Journal of Neurophysiology, 2022, 128, 455-469.	1.8	8
51	Motor Unit-Driven Identification of Pathological Tremor in Electroencephalograms. Frontiers in Neurology, 2018, 9, 879.	2.4	7
52	Identification of the laterality of motor unit behavior in female patients with parkinson's disease using highâ€density surface electromyography. European Journal of Neuroscience, 2021, 53, 1938-1949.	2.6	7
53	Online Tracking of the Phase Difference Between Neural Drives to Antagonist Muscle Pairs in Essential Tremor Patients. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2022, 30, 709-718.	4.9	7
54	Association between effective neural drive to the triceps surae and fluctuations in plantarâ€flexion torque during submaximal isometric contractions. Experimental Physiology, 2022, 107, 489-507.	2.0	7

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55	Surface EMG pre-processing techniques for the detection of common input to motor neuron populations. , 2013, , .		6
56	Improved Assessment of Muscle Excitation From Surface Electromyograms in Isometric Muscle Contractions. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2019, 27, 1483-1491.	4.9	6
57	Three-dimensional amplitude characteristics of masseter motor units and representativeness of extracted motor unit samples. Clinical Neurophysiology, 2019, 130, 388-395.	1.5	6
58	Neuromuscular characteristics of front and back legs in junior fencers. Experimental Brain Research, 2022, 240, 2085-2096.	1.5	6
59	Quest for effective use of computer technology in education: From natural sciences to medicine. Computer Applications in Engineering Education, 2003, 11, 116-131.	3.4	4
60	A Novel High-Density Electromyography Probe for Evaluating Anorectal Neurophysiology: Design, Human Feasibility Study, and Validation with Trans-Sacral Magnetic Stimulation. Annals of Biomedical Engineering, 2021, 49, 502-514.	2.5	4
61	A new optical flow model for motor unit conduction velocity estimation in multichannel surface EMG. Computers in Biology and Medicine, 2017, 83, 59-68.	7.0	3
62	On the Selection of Neural Network Architecture for Supervised Motor Unit Identification from High-Density Surface EMG. , 2020, 2020, 736-739.		3
63	Automatic Identification of Individual Motor Unit Firing Accuracy From High-Density Surface Electromyograms. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 419-426.	4.9	3
64	Non-Negative Matrix Factorization of Simulated High Density Surface Electromyograms Reflects Both Muscle Excitation and Muscle Shortening. IEEE Access, 2021, 9, 70548-70555.	4.2	3
65	Fish Protein Ingestion Induces Neural, but Not Muscular Adaptations, Following Resistance Training in Young Adults. Frontiers in Nutrition, 2021, 8, 645747.	3.7	3
66	The Effects of Spinal Manipulation on Motor Unit Behavior. Brain Sciences, 2021, 11, 105.	2.3	3
67	Motor unit firing patterns on increasing force during force and position tasks. Journal of Neurophysiology, 2021, 126, 1653-1659.	1.8	3
68	High-density electromyographic data during isometric contractions of the ankle joint in children with cerebral palsy pre and post BoNT-A treatment. Data in Brief, 2019, 24, 103840.	1.0	2
69	Decomposition of surface electromyograms reveals changes in motor control after 14-day bed rest. , 2016, , .		1
70	Novel Method for Accuracy Assessment of Individual Motor Unit Firing Identification from High-Density Surface Electromyograms. , 2018, , .		1
71	Association between the Degree of Pre-Synaptic Dopaminergic Pathway Degeneration and Motor Unit Firing Behavior in Parkinsonâ€™s Disease Patients. Sensors, 2021, 21, 6615.	3.8	1
72	High-density electromyography biofeedback during robotic wrist exercises for reducing co-activation of antagonist muscles: a case report. International Journal of Rehabilitation Research, 2021, 44, 92-97.	1.3	1

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73	Inter-Person Differences in Isometric Coactivations of Triceps Surae and Tibialis Anterior Decrease in Young, but Not in Older Adults After 14 Days of Bed Rest. Frontiers in Physiology, 2021, 12, 809243.	2.8	1
74	Anomalies of motor unit amplitude and territory after botulinum toxin injection. Journal of Neural Engineering, 2022, 19, 036041.	3.5	1
75	On detection of pathological tremor in electroencephalograms. , 2011, , .		0
76	Surface EMG Analysis of Age-related Changes in Motor Unit Firing Rates of Triceps Surae During Isometric Plantar Flexion. , 2018, , .		0
77	Direct translation of findings in isolated animal preparations to in vivo human motoneuron behaviour is challenging. Journal of Physiology, 2020, 598, 1111-1112.	2.9	0
78	Multi-run Differential Evolution Improves the Decomposition of Compound Muscle Action Potential in High-Density Surface Electromyograms. IFMBE Proceedings, 2021, , 848-856.	0.3	0