Charles J Heckman

List of Publications by Year in descending order

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167 papers 8,621 citations

43973 48 h-index 82 g-index

174 all docs

174 docs citations

times ranked

174

4284 citing authors

| # | Article | IF | Citations |
|----|---|-----|-----------|
| 1 | A computational approach for generating continuous estimates of motor unit discharge rates and visualizing population discharge characteristics. Journal of Neural Engineering, 2022, 19, 016007. | 1.8 | 13 |
| 2 | Analyzing Modeled Torque Profiles to Understand Scale-Dependent Active Muscle Responses in the Hip Joint. Biomimetics, 2022, 7, 17. | 1.5 | 4 |
| 3 | Motor Unit Discharge Patterns in Response to Focal Tendon Vibration of the Lower Limb in Cats and Humans. Frontiers in Integrative Neuroscience, 2022, 16, 836757. | 1.0 | 2 |
| 4 | Computational Models of Motor Pools. , 2022, , 911-912. | | 0 |
| 5 | Slowly activating outward membrane currents generate input-output sub-harmonic cross frequency coupling in neurons. Journal of Theoretical Biology, 2021, 509, 110509. | 0.8 | 3 |
| 6 | Time Course of Alterations in Adult Spinal Motoneuron Properties in the SOD1(G93A) Mouse Model of ALS. ENeuro, 2021, 8, ENEURO.0378-20.2021. | 0.9 | 18 |
| 7 | The Involvement of CaV1.3 Channels in Prolonged Root Reflexes and Its Potential as a Therapeutic Target in Spinal Cord Injury. Frontiers in Neural Circuits, 2021, 15, 642111. | 1.4 | 8 |
| 8 | Estimates of persistent inward currents in tibialis anterior motor units during standing ramped contraction tasks in humans. Journal of Neurophysiology, 2021, 126, 264-274. | 0.9 | 12 |
| 9 | Estimates of persistent inward currents are reduced in upper limb motor units of older adults. Journal of Physiology, 2021, 599, 4865-4882. | 1.3 | 38 |
| 10 | Impact of parameter selection on estimates of motoneuron excitability using paired motor unit analysis. Journal of Neural Engineering, 2020, 17, 016063. | 1.8 | 44 |
| 11 | Nonlinear Input-Output Functions of Motoneurons. Physiology, 2020, 35, 31-39. | 1.6 | 87 |
| 12 | It takes a circuit to develop a mature motoneuron. Journal of Physiology, 2020, 598, 5301-5302. | 1.3 | 0 |
| 13 | Differences in estimated persistent inward currents between ankle flexors and extensors in humans. Journal of Neurophysiology, 2020, 124, 525-535. | 0.9 | 23 |
| 14 | Inability to increase the neural drive to muscle is associated with task failure during submaximal contractions. Journal of Neurophysiology, 2020, 124, 1110-1121. | 0.9 | 24 |
| 15 | Serotonin affects our perception of fatigue when performing submaximal efforts – but is it all in our heads?. Journal of Physiology, 2020, 598, 2533-2534. | 1.3 | 0 |
| 16 | Excessive Homeostatic Gain in Spinal Motoneurons in a Mouse Model of Amyotrophic Lateral Sclerosis. Scientific Reports, 2020, 10, 9049. | 1.6 | 10 |
| 17 | Motor Unit Discharge Variability Is Increased in Mild-To-Moderate Parkinson's Disease. Frontiers in Neurology, 2020, 11, 477. | 1.1 | 10 |
| 18 | Bursting interneurons in the deep dorsal horn develop increased excitability and sensitivity to serotonin after chronic spinal injury. Journal of Neurophysiology, 2020, 123, 1657-1670. | 0.9 | 8 |

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| 19 | Reply from Jacob Graves McPherson, Albert Chen, Michael D. Ellis, Jun Yao, C. J. Heckman and Julius P. A. Dewald. Journal of Physiology, 2019, 597, 4413-4414. | 1.3 | O |
| 20 | Hyperexcitability precedes motoneuron loss in the <i>Smn^{2B/â^'}</i> mouse model of spinal muscular atrophy. Journal of Neurophysiology, 2019, 122, 1297-1311. | 0.9 | 13 |
| 21 | Exogenous neuromodulation of spinal neurons induces beta-band coherence during self-sustained discharge of hind limb motor unit populations. Journal of Applied Physiology, 2019, 127, 1034-1041. | 1.2 | 6 |
| 22 | Experimentally Modifiable Parameters and Their Relation to the Tonic Vibration Reflex in Chronic Hemiparetic Stroke., 2019, 2019, 2302-2306. | | 0 |
| 23 | Changes in motor unit discharge patterns following strength training. Journal of Physiology, 2019, 597, 3509-3510. | 1.3 | 5 |
| 24 | Properties of Motor Units of Elbow and Ankle Muscles Decomposed Using High-Density Surface EMG. , 2019, 3874-3878. | | 14 |
| 25 | Scaling of Motor Output, From Mouse to Humans. Physiology, 2019, 34, 5-13. | 1.6 | 25 |
| 26 | Locomotor-related V3 interneurons initiate and coordinate muscles spasms after spinal cord injury. Journal of Neurophysiology, 2019, 121, 1352-1367. | 0.9 | 41 |
| 27 | 5-HT _{1D} receptors inhibit the monosynaptic stretch reflex by modulating C-fiber activity. Journal of Neurophysiology, 2019, 121, 1591-1608. | 0.9 | 19 |
| 28 | Cross-Frequency Coupling in Descending Motor Pathways: Theory and Simulation. Frontiers in Systems Neuroscience, 2019, 13, 86. | 1.2 | 15 |
| 29 | Progressive recruitment of contralesional corticoâ€reticulospinal pathways drives motor impairment post stroke. Journal of Physiology, 2018, 596, 1211-1225. | 1.3 | 135 |
| 30 | Robust and accurate decoding of motoneuron behaviour and prediction of the resulting force output. Journal of Physiology, 2018, 596, 2643-2659. | 1.3 | 98 |
| 31 | Dissecting the Functional Consequences of De Novo DNA Methylation Dynamics in Human Motor Neuron Differentiation and Physiology. Cell Stem Cell, 2018, 22, 559-574.e9. | 5.2 | 53 |
| 32 | Hypoexcitability precedes denervation in the large fast-contracting motor units in two unrelated mouse models of ALS. ELife, 2018, 7, . | 2.8 | 111 |
| 33 | Botulinum Toxin Conditioning Enhances Motor Axon Regeneration in Mouse and Human Preclinical Models. Neurorehabilitation and Neural Repair, 2018, 32, 735-745. | 1.4 | 12 |
| 34 | Neuromodulatory Inputs to Motoneurons Contribute to the Loss of Independent Joint Control in Chronic Moderate to Severe Hemiparetic Stroke. Frontiers in Neurology, 2018, 9, 470. | 1.1 | 28 |
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| 36 | Acyloxyacyl hydrolase modulates pelvic pain severity. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2018, 314, R353-R365. | 0.9 | 13 |

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| 37 | Resistance training with instability is more effective than resistance training in improving spinal inhibitory mechanisms in Parkinson's disease. Journal of Applied Physiology, 2017, 122, 1-10. | 1.2 | 23 |
| 38 | Synaptic control of the shape of the motoneuron pool input-output function. Journal of Neurophysiology, 2017, 117, 1171-1184. | 0.9 | 45 |
| 39 | Reflex wind-up in early chronic spinal injury: plasticity of motor outputs. Journal of Neurophysiology, 2017, 117, 2065-2074. | 0.9 | 11 |
| 40 | Chronic electromyograms in treadmill running SOD1 mice reveal early changes in muscle activation. Journal of Physiology, 2017, 595, 5387-5400. | 1.3 | 12 |
| 41 | PICs in motoneurons do not scale with the size of the animal: a possible mechanism for faster speed of muscle contraction in smaller species. Journal of Neurophysiology, 2017, 118, 93-102. | 0.9 | 23 |
| 42 | The potential for understanding the synaptic organization of human motor commands via the firing patterns of motoneurons. Journal of Neurophysiology, 2017, 118, 520-531. | 0.9 | 61 |
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| 46 | Firing characteristics of deep dorsal horn neurons after acute spinal transection during administration of agonists for 5-HT _{1B/1D} and NMDA receptors. Journal of Neurophysiology, 2016, 116, 1644-1653. | 0.9 | 9 |
| 47 | Properties of the motor unit action potential shape in proximal and distal muscles of the upper limb in healthy and post-stroke individuals., 2016, 2016, 335-339. | | 6 |
| 48 | Data for spatial characterization of AC signal propagation over primary neuron dendrites. Data in Brief, 2016, 6, 341-344. | 0.5 | 0 |
| 49 | Absence of <scp>UCHL</scp> 1 function leads to selective motor neuropathy. Annals of Clinical and Translational Neurology, 2016, 3, 331-345. | 1.7 | 33 |
| 50 | The transformation of synaptic to system plasticity in motor output from the sacral cord of the adult mouse. Journal of Neurophysiology, 2015, 114, 1987-2004. | 0.9 | 8 |
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| 52 | Comparison of dendritic calcium transients in juvenile wild type and SOD1G93A mouse lumbar motoneurons. Frontiers in Cellular Neuroscience, 2015, 9, 139. | 1.8 | 10 |
| 53 | The tight relationship between asymmetric signaling and locational excitability in motoneuron dendrites. Communicative and Integrative Biology, 2015, 8, e1110657. | 0.6 | 2 |
| 54 | Contribution of intrinsic motoneuron properties to discharge hysteresis and its estimation based on paired motor unit recordings: a simulation study. Journal of Neurophysiology, 2015, 114, 184-198. | 0.9 | 50 |

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| 64 | Soma size and Ca _v 1.3 channel expression in vulnerable and resistant motoneuron populations of the SOD1 ^{G93A} mouse model of ALS. Physiological Reports, 2014, 2, e12113. | 0.7 | 15 |
| 65 | Adult spinal motoneurones are not hyperexcitable in a mouse model of inherited amyotrophic lateral sclerosis. Journal of Physiology, 2014, 592, 1687-1703. | 1.3 | 128 |
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| 80 | NMDA induces persistent inward and outward currents that cause rhythmic bursting in adult rodent motoneurons. Journal of Neurophysiology, 2012, 108, 2991-2998. | 0.9 | 24 |
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| 84 | O-Antigen Modulates Infection-Induced Pain States. PLoS ONE, 2012, 7, e41273. | 1.1 | 43 |
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| 86 | Stronger is not always better: Could a bodybuilding dietary supplement lead to ALS?. Experimental Neurology, 2011, 228, 5-8. | 2.0 | 11 |
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| 102 | Movementâ€related receptive fields of spinal motoneurones with active dendrites. Journal of Physiology, 2008, 586, 1581-1593. | 1.3 | 35 |
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| 118 | Decerebrate mammalian preparations: unalleviated or fully alleviated pain? A review and opinion. Contemporary Topics in Laboratory Animal Science, 2005, 44, 34-6. | 0.2 | 23 |
| 119 | Hyperexcitability of Cultured Spinal Motoneurons From Presymptomatic ALS Mice. Journal of Neurophysiology, 2004, 91, 571-575. | 0.9 | 168 |
| 120 | Synaptic integration in motoneurons with hyper-excitable dendrites. Canadian Journal of Physiology and Pharmacology, 2004, 82, 549-555. | 0.7 | 15 |
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| 163 | Hill muscle model performance during natural activation and electrical stimulation., 0,,. | | 1 |
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