# Carlo J De Luca

List of Publications by Year
in descending order



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|---|---|---|---|
| 74 papers | 10,915 citations | 61857 43 h-index | 95083 68 g-index |
| 74 all docs | 74 docs citations | 74 times ranked | 6593 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | The Use of Surface Electromyography in Biomechanics. Journal of Applied Biomechanics, 1997, 13, 135-163. | 0.3 | 2,182 |
| 2 | Filtering the surface EMG signal: Movement artifact and baseline noise contamination. Journal of Biomechanics, 2010, 43, 1573-1579. | 0.9 | 892 |
| 3 | Physiology and Mathematics of Myoelectric Signals. IEEE Transactions on Biomedical Engineering, 1979, BME-26, 313-325. | 2.5 | 546 |
| 4 | Frequency Parameters of the Myoelectric Signal as a Measure of Muscle Conduction Velocity. IEEE Transactions on Biomedical Engineering, 1981, BME-28, 515-523. | 2.5 | 466 |
| 5 | Lumbar Muscle Fatigue and Chronic Lower Back Pain. Spine, 1989, 14, 992-1001. | 1.0 | 407 |
| 6 | Common drive of motor units in regulation of muscle force. Trends in Neurosciences, 1994, 17, 299-305. | 4.2 | 397 |
| 7 | Decomposition of Surface EMG Signals. Journal of Neurophysiology, 2006, 96, 1646-1657. | 0.9 | 383 |
| 8 | The role of plantar cutaneous sensation in unperturbed stance. Experimental Brain Research, 2004, 156, 505-512. | 0.7 | 336 |
| 9 | High-yield decomposition of surface EMG signals. Clinical Neurophysiology, 2010, 121, 1602-1615. | 0.7 | 299 |
| 10 | Surface myoelectric signal cross-talk among muscles of the leg. Electroencephalography and Clinical Neurophysiology, 1988, 69, 568-575. | 0.3 | 280 |
| 11 | A Procedure for Decomposing the Myoelectric Signal Into Its Constituent Action Potentials - Part I: Technique, Theory, and Implementation. IEEE Transactions on Biomedical Engineering, 1982, BME-29, 149-157. | 2.5 | 259 |
| 12 | Relationship Between Firing Rate and Recruitment Threshold of Motoneurons in Voluntary Isometric Contractions. Journal of Neurophysiology, 2010, 104, 1034-1046. | 0.9 | 234 |
| 13 | Use of the surface EMG signal for performance evaluation of back muscles. Muscle and Nerve, 1993, 16, 210-216. | 1.0 | 220 |
| 14 | Effects of Aging on Motor-Unit Control Properties. Journal of Neurophysiology, 1999, 82, 2081-2091. | 0.9 | 210 |
| 15 | Firing rates of motor units in human vastus lateralis muscle during fatiguing isometric contractions. Journal of Applied Physiology, 2005, 99, 268-280. | 1.2 | 167 |
| 16 | Hierarchical control of motor units in voluntary contractions. Journal of Neurophysiology, 2012, 107, 178-195. | 0.9 | 167 |
| 17 | Inter-electrode spacing of surface EMG sensors: Reduction of crosstalk contamination during voluntary contractions. Journal of Biomechanics, 2012, 45, 555-561. | 0.9 | 153 |
| 18 | Rank-ordered regulation of motor units. , 1996, 19, 563-573. | | 148 |

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|---|---|---|---|
| 19 | A technique for the detection, decomposition and analysis of the EMG signal. Electroencephalography and Clinical Neurophysiology, 1984, 58, 175-188. | 0.3 | 144 |
| 20 | Common Drive in Motor Units of a Synergistic Muscle Pair. Journal of Neurophysiology, 2002, 87, 2200-2204. | 0.9 | 143 |
| 21 | Hand Dominance and Motor Unit Firing Behavior. Journal of Neurophysiology, 1998, 80, 1373-1382. | 0.9 | 140 |
| 22 | Recruitment Order of Motor Units in Human Vastus Lateralis Muscle Is Maintained During Fatiguing Contractions. Journal of Neurophysiology, 2003, 90, 2919-2927. | 0.9 | 139 |
| 23 | Spectral Electromyographic Assessment of Back Muscles in Patients With Low Back Muscles in Patients With Low Back Pain Undergoing Rehabilitation. Spine, 1995, 20, 38-48. | 1.0 | 132 |
| 24 | Median frequency of the myoelectric signal. European Journal of Applied Physiology and Occupational Physiology, 1984, 52, 258-265. | 1.2 | 130 |
| 25 | Reduced plantar sensitivity alters postural responses to lateral perturbations of balance. Experimental Brain Research, 2004, 157, 526-536. | 0.7 | 127 |
| 26 | A Procedure for Decomposing the Myoelectric Signal Into Its Constituent Action Potentials-Part II: Execution and Test for Accuracy. IEEE Transactions on Biomedical Engineering, 1982, BME-29, 158-164. | 2.5 | 123 |
| 27 | A Note on the Noninvasive Estimation of Muscle Fiber Conduction Velocity. IEEE Transactions on Biomedical Engineering, 1985, BME-32, 341-344. | 2.5 | 120 |
| 28 | Activation imbalances in lumbar spine muscles in the presence of chronic low back pain. Journal of Applied Physiology, 2003, 94, 1410-1420. | 1.2 | 117 |
| 29 | Motor unit control and force fluctuation during fatigue. Journal of Applied Physiology, 2009, 107, 235-243. | 1.2 | 112 |
| 30 | A Combined sEMG and Accelerometer System for Monitoring Functional Activity in Stroke. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2009, 17, 585-594. | 2.7 | 111 |
| 31 | Fatigue, recovery, and low back pain in varsity rowers. Medicine and Science in Sports and Exercise, 1990, 22, 463???469. | 0.2 | 103 |
| 32 | Decomposition of surface EMG signals from cyclic dynamic contractions. Journal of Neurophysiology, 2015, 113, 1941-1951. | 0.9 | 88 |
| 33 | Muscle Fatigue Monitor: A Noninvasive Device for Observing Localized Muscular Fatigue. IEEE Transactions on Biomedical Engineering, 1982, BME-29, 760-768. | 2.5 | 84 |
| 34 | Dynamical Learning and Tracking of Tremor and Dyskinesia From Wearable Sensors. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014, 22, 982-991. | 2.7 | 82 |
| 35 | The compensatory interaction between motor unit firing behavior and muscle force during fatigue. Journal of Neurophysiology, 2016, 116, 1579-1585. | 0.9 | 75 |
| 36 | Decomposition of indwelling EMG signals. Journal of Applied Physiology, 2008, 105, 700-710. | 1.2 | 74 |

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|---|---|---|---|
| 37 | Neural control of muscle force: indications from a simulation model. Journal of Neurophysiology, 2013, 109, 1548-1570. | 0.9 | 74 |
| 38 | Biomechanical benefits of the onion-skin motor unit control scheme. Journal of Biomechanics, 2015, 48, 195-203. | 0.9 | 70 |
| 39 | Recruitment threshold and muscle fiber conduction velocity of single motor units. Journal of Electromyography and Kinesiology, 1991, 1, 116-123. | 0.7 | 67 |
| 40 | Median frequency of the myoelectric signal. European Journal of Applied Physiology and Occupational Physiology, 1986, 55, 457-464. | 1.2 | 63 |
| 41 | Highâ€resolution tracking of motor disorders in Parkinson's disease during unconstrained activity. Movement Disorders, 2013, 28, 1080-1087. | 2.2 | 55 |
| 42 | Preferred sensor sites for surface EMG signal decomposition. Physiological Measurement, 2012, 33, 195-206. | 1.2 | 53 |
| 43 | Motor unit recruitment and firing rates interaction in the control of human muscles. Brain Research, 1985, 337, 311-319. | 1.1 | 52 |
| 44 | Electromyographic analysis of standing posture and demi-plie in ballet and modern dancers. Medicine and Science in Sports and Exercise, 1994, 26, 771-782. | 0.2 | 51 |
| 45 | Unusual motor unit firing behavior in older adults. Brain Research, 1989, 482, 136-140. | 1.1 | 44 |
| 46 | Motor Unit Recruitment and Proprioceptive Feedback Decrease the Common Drive. Journal of Neurophysiology, 2009, 101, 1620-1628. | 0.9 | 44 |
| 47 | An Electrode for Recording Single Motor Unit Activity During Strong Muscle Contractions. IEEE Transactions on Biomedical Engineering, 1972, BME-19, 367-372. | 2.5 | 42 |
| 48 | The relation between the myoelectric signal and physiological properties of constant-force isometric contractions. Electroencephalography and Clinical Neurophysiology, 1978, 45, 681-698. | 0.3 | 41 |
| 49 | Muscle Fatigue Monitor (MFM): Second Generation. IEEE Transactions on Biomedical Engineering, 1985, BME-32, 75-78. | 2.5 | 37 |
| 50 | Firing Rate Interactions Among Human Orbicularis Oris Motor Units. International Journal of Neuroscience, 1992, 64, 167-175. | 0.8 | 36 |
| 51 | Reply to Farina and Enoka: The Reconstruct-and-Test Approach Is the Most Appropriate Validation for Surface EMG Signal Decomposition to Date. Journal of Neurophysiology, 2011, 105, 983-984. | 0.9 | 36 |
| 52 | Electromyographic analysis of grand-pli?? in ballet and modern dancers. Medicine and Science in Sports and Exercise, 1998, 30, 1708-1720. | 0.2 | 31 |
| 53 | Synchronization of motor unit firings: an epiphenomenon of firing rate characteristics not common inputs. Journal of Neurophysiology, 2016, 115, 178-192. | 0.9 | 29 |
| 54 | Control of upper-limb prostheses. Journal of Medical Engineering and Technology, 1978, 2, 57-61. | 0.8 | 28 |

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|---|---|---|---|
| 55 | A model for a motor unit train recorded during constant force isometric contractions. Biological Cybernetics, 1975, 19, 159-167. | 0.6 | 27 |
| 56 | Lateral dominance and motor unit firing behavior. Brain Research, 1992, 576, 165-167. | 1.1 | 27 |
| 57 | Error reduction in EMG signal decomposition. Journal of Neurophysiology, 2014, 112, 2718-2728. | 0.9 | 24 |
| 58 | Transposed firing activation of motor units. Journal of Neurophysiology, 2014, 112, 962-970. | 0.9 | 21 |
| 59 | Clarification of methods used to validate surface EMG decomposition algorithms as described by Farina et al. (2014). Journal of Applied Physiology, 2015, 118, 1084-1084. | 1.2 | 21 |
| 60 | Multiple Motor Unit Recordings of Laryngeal Muscles: The Technique of Vector Laryngeal Electromyography. Laryngoscope, 2002, 112, 2196-2203. | 1.1 | 17 |
| 61 | Ordered Motor-Unit Firing Behavior in Acute Cerebellar Stroke. Journal of Neurophysiology, 2006, 96, 2769-2774. | 0.9 | 17 |
| 62 | Is the notion of central fatigue based on a solid foundation?. Journal of Neurophysiology, 2016, 115, 967-977. | 0.9 | 16 |
| 63 | Technique for detecting MUAP propagation from high-threshold motor units. Journal of Electromyography and Kinesiology, 1991, 1, 75-80. | 0.7 | 14 |
| 64 | Compression Induced Damage on In-Situ Severed and Intact Nerves. Orthopedics, 1987, 10, 777-784. | 0.5 | 14 |
| 65 | Statistically rigorous calculations do not support common input and long-term synchronization of motor-unit firings. Journal of Neurophysiology, 2014, 112, 2729-2744. | 0.9 | 13 |
| 66 | Decomposition and Analysis of Intramuscular Electromyographic Signals. , 1999, , 757-776. | | 13 |
| 67 | Improved resolution of pulse superpositions in a knowledge-based system EMG decomposition. , 2004, 2006, 69-71. | | 12 |
| 68 | Aliasing rejection in Precision Decomposition of EMG signals. , 2008, 2008, 4972-5. | | 11 |
| 69 | A simulation study for a surface EMG sensor that detects distinguishable motor unit action potentials. Journal of Neuroscience Methods, 2008, 168, 54-63. | 1.3 | 9 |
| 70 | Multi-Receiver Precision Decomposition of Intramuscular EMG Signals. , 2006, 2006, 1252-5. | | 7 |
| 71 | Surface EMG signal decomposition using empirically sustainable biosignal separation principles. , 2009, 2009, 4986-9. | | 5 |
| 72 | Multi-Receiver Precision Decomposition of Intramuscular EMG Signals. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , . | 0.5 | 2 |

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|---|---|---|---|
| 73 | Letters to the editor. Muscle and Nerve, 1995, 18, 1490-1497. | 1.0 | 1 |
| 74 | The common input notion, conceived and sustained by conjecture. Journal of Neurophysiology, 2016, 115, 1079-1080. | 0.9 | 1 |