Madeleine M Lowery

List of Publications by Year
in descending order

109	3,288	136885	168321
papers	citations	32 h-index	53 g-index

114	114	114	3265
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Rectification and non-linear pre-processing of EMG signals for cortico-muscular analysis. Journal of Neuroscience Methods, 2003, 124, 157-165.	1.3	242
2	Decoding a New Neuralâ€“Machine Interface for Control of Artificial Limbs. Journal of Neurophysiology, 2007, 98, 2974-2982.	0.9	185
3	Consensus for experimental design in electromyography (CEDE) project: Amplitude normalization matrix. Journal of Electromyography and Kinesiology, 2020, 53, 102438.	0.7	170
4	Simple and customizable method for fabrication of high-aspect ratio microneedle molds using low-cost 3D printing. Microsystems and Nanoengineering, 2019, 5, 42.	3.4	156
5	Effect of elbow joint angle on forceâ€“EMG relationships in human elbow flexor and extensor muscles. Journal of Electromyography and Kinesiology, 2008, 18, 760-770.	0.7	141
6	A multiple-layer finite-element model of the surface EMG signal. IEEE Transactions on Biomedical Engineering, 2002, 49, 446-454.	2.5	123
7	Consensus for experimental design in electromyography (CEDE) project: Electrode selection matrix. Journal of Electromyography and Kinesiology, 2019, 48, 128-144.	0.7	95
8	A simulation study to examine the use of cross-correlation as an estimate of surface EMG cross talk. Journal of Applied Physiology, 2003, 94, 1324-1334.	1.2	93
9	Fatigue related changes in electromyographic coherence between synergistic hand muscles. Experimental Brain Research, 2010, 202, 89-99.	0.7	85
10	Spectral compression of the electromyographic signal due to decreasing muscle fiber conduction velocity. IEEE Transactions on Rehabilitation Engineering: A Publication of the IEEE Engineering in Medicine and Biology Society, 2000, 8, 353-361.	1.4	83
11	Influence of Uncertainties in the Material Properties of Brain Tissue on the Probabilistic Volume of Tissue Activated. IEEE Transactions on Biomedical Engineering, 2013, 60, 1378-1387.	2.5	66
12	Volume Conduction in an Anatomically Based Surface EMG Model. IEEE Transactions on Biomedical Engineering, 2004, 51, 2138-2147.	2.5	60
13	Simulation of Closed-Loop Deep Brain Stimulation Control Schemes for Suppression of Pathological Beta Oscillations in Parkinsonâ€™s Disease. Frontiers in Neuroscience, 2020, 14, 166.	1.4	60
14	Effects of age and sex on neuromuscular-mechanical determinants of muscle strength. Age, 2016, 38, 57.	3.0	59
15	Analysis and Biophysics of Surface EMG for Physiotherapists and Kinesiologists: Toward a Common Language With Rehabilitation Engineers. Frontiers in Neurology, 2020, 11, 576729.	1.1	59
16	Effect of Dispersive Conductivity and Permittivity in Volume Conductor Models of Deep Brain Stimulation. IEEE Transactions on Biomedical Engineering, 2010, 57, 2386-2393.	2.5	58
17	Electromyogram median frequency, spectral compression and muscle fibre conduction velocity during sustained sub-maximal contraction of the brachioradialis muscle. Journal of Electromyography and Kinesiology, 2002, 12, 111-118.	0.7	56
18	Independence of myoelectric control signals examined using a surface emg model. IEEE Transactions on Biomedical Engineering, 2003, 50, 789-793.	2.5	52

#	Article	IF	Citations
19	Effects of antidromic and orthodromic activation of STN afferent axons during DBS in Parkinson's disease: a simulation study. Frontiers in Computational Neuroscience, 2014, 8, 32.	1.2	51
20	Analysis and simulation of changes in emg amplitude during high-level fatiguing contractions. IEEE Transactions on Biomedical Engineering, 2003, 50, 1052-1062.	2.5	48
21	Interaction of Oscillations, and Their Suppression via Deep Brain Stimulation, in a Model of the Cortico-Basal Ganglia Network. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2013, 21, 244-253.	2.7	48
22	Changes in motor unit behavior following isometric fatigue of the first dorsal interosseous muscle. Journal of Neurophysiology, 2015, 113, 3186-3196.	0.9	48
23	Muscle fatigue increases beta-band coherence between the firing times of simultaneously active motor units in the first dorsal interosseous muscle. Journal of Neurophysiology, 2016, 115, 2830-2839.	0.9	47
24	Effect of subcutaneous fat thickness and surface electrode configuration during neuromuscular electrical stimulation. Medical Engineering and Physics, 2010, 32, 468-474.	0.8	45
25	Effect of Extracellular Potassium Accumulation on Muscle Fiber Conduction Velocity: A Simulation Study. Annals of Biomedical Engineering, 2009, 37, 2105-2117.	1.3	44
26	Time and frequency domain methods for quantifying common modulation of motor unit firing patterns. Journal of NeuroEngineering and Rehabilitation, 2004, 1, 2.	2.4	42
27	Simulation of Intramuscular EMG Signals Detected Using Implantable Myoelectric Sensors (IMES). IEEE Transactions on Biomedical Engineering, 2006, 53, 1926-1933.	2.5	39
28	Electric field distribution in a finite-volume head model of deep brain stimulation. Medical Engineering and Physics, 2009, 31, 1095-1103.	0.8	38
29	Genioglossus fatigue in obstructive sleep apnea. Respiratory Physiology and Neurobiology, 2012, 183, 59-66.	0.7	38
30	Simulation of Cortico-Basal Ganglia Oscillations and Their Suppression by Closed Loop Deep Brain Stimulation. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2013, 21, 584-594.	2.7	37
31	Coherence between motor unit discharges in response to shared neural inputs. Journal of Neuroscience Methods, 2007, 163, 384-391.	1.3	35
32	Evidence of Potential Averaging over the Finite Surface of a Bioelectric Surface Electrode. Annals of Biomedical Engineering, 2009, 37, 1141-1151.	1.3	35
33	Frequency- and time-domain FEM models of EMG: capacitive effects and aspects of dispersion. IEEE Transactions on Biomedical Engineering, 2002, 49, 763-772.	2.5	34
34	Increased EMG intermuscular coherence and reduced signal complexity in Parkinsonâ€™s disease. Clinical Neurophysiology, 2019, 130, 259-269.	0.7	32
35	A Simulation Study to Examine the Effect of Common Motoneuron Inputs on Correlated Patterns of Motor Unit Discharge. Journal of Computational Neuroscience, 2005, 19, 107-124.	0.6	30
36	Consensus for experimental design in electromyography (CEDE) project: Terminology matrix. Journal of Electromyography and Kinesiology, 2021, 59, 102565.	0.7	29

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37	Finite-element time-domain algorithms for modeling linear debye and lorentz dielectric dispersions at low frequencies. IEEE Transactions on Biomedical Engineering, 2003, 50, 1100-1107.	2.5	28
38	Analysis of the Mechanism of Action of Deep Brain Stimulation Using the Concepts of Dither Injection and the Equivalent Nonlinearity. IEEE Transactions on Biomedical Engineering, 2009, 56, 2717-2720.	2.5	28
39	Effect of Knee Joint Angle and Contraction Intensity on Hamstrings Coactivation. Medicine and Science in Sports and Exercise, 2017, 49, 1668-1676.	0.2	27
40	Beta-Band Resonance and Intrinsic Oscillations in a Biophysically Detailed Model of the Subthalamic Nucleus-Globus Pallidus Network. Frontiers in Computational Neuroscience, 2019, 13, 77.	1.2	27
41	Development and Evaluation of 3Dâ€Printed Dry Microneedle Electrodes for Surface Electromyography. Advanced Materials Technologies, 2020, 5, 2000518.	3.0	27
42	Improved surface EMG electrode for measuring genioglossus muscle activity. Respiratory Physiology and Neurobiology, 2007, 159, 55-67.	0.7	25
43	The effect of subcutaneous fat thickness on the efficacy of transcutaneous electrical stimulation. , 2008, 2008, 5684-7.		24
44	Effect of mental fatigue on induced tremor in human knee extensors. Journal of Electromyography and Kinesiology, 2014, 24, 412-418.	0.7	24
45	Analysis of Oscillatory Neural Activity in Series Network Models of Parkinson's Disease During Deep Brain Stimulation. IEEE Transactions on Biomedical Engineering, 2016, 63, 86-96.	2.5	24
46	Finite element modeling of electromagnetic signal propagation in a phantom arm. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2001, 9, 346-354.	2.7	23
47	Application of Describing Function Analysis to a Model of Deep Brain Stimulation. IEEE Transactions on Biomedical Engineering, 2014, 61, 957-965.	2.5	23
48	Consensus for experimental design in electromyography (CEDE) project: High-density surface electromyography matrix. Journal of Electromyography and Kinesiology, 2022, 64, 102656.	0.7	22
49	Alpha Band Cortico-Muscular Coherence Occurs in Healthy Individuals during Mechanically-Induced Tremor. PLoS ONE, 2014, 9, e115012.	1.1	21
50	A Finite-Element Analysis of the Effect of Muscle Insulation and Shielding on the Surface EMG Signal. IEEE Transactions on Biomedical Engineering, 2005, 52, 117-121.	2.5	19
51	Musculoskeletal modelling of muscle activation and applied external forces for the correction of scoliosis. Journal of NeuroEngineering and Rehabilitation, 2014, 11, 52.	2.4	19
52	Motor Unit Activity during Fatiguing Isometric Muscle Contraction in Hemispheric Stroke Survivors. Frontiers in Human Neuroscience, 2017, 11, 569.	1.0	18
53	Self-Tuning Deep Brain Stimulation Controller for Suppression of Beta Oscillations: Analytical Derivation and Numerical Validation. Frontiers in Neuroscience, 2020, 14, 639.	1.4	18
54	Beta-band motor unit coherence and nonlinear surface EMG features of the first dorsal interosseous muscle vary with force. Journal of Neurophysiology, 2019, 122, 1147-1162.	0.9	17

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55	Towards Improved Myoelectric Prosthesis Control: High Density Surface EMG Recording After Targeted Muscle Reinnervation. , 2005, 2005, 4064-7.		16
56	Dexterity Training Improves Manual Precision in Patients Affected by Essential Tremor. Archives of Physical Medicine and Rehabilitation, 2014, 95, 705-710.	0.5	16
57	Anatomically accurate model of EMG during index finger flexion and abduction derived from diffusion tensor imaging. PLoS Computational Biology, 2019, 15, e1007267.	1.5	16
58	Quantitative clinical assessment of motor function during and following LSVT-BIGÂ® therapy. Journal of NeuroEngineering and Rehabilitation, 2020, 17, 92.	2.4	15
59	Nonlinear Spatial Filtering of Multichannel Surface Electromyogram Signals During Low Force Contractions. IEEE Transactions on Biomedical Engineering, 2009, 56, 1871-1879.	2.5	14
60	A Technique to Track Individual Motor Unit Action Potentials in Surface EMG by Monitoring Their Conduction Velocities and Amplitudes. IEEE Transactions on Biomedical Engineering, 2005, 52, 622-629.	2.5	13
61	Whole body oxygen uptake and evoked knee torque in response to low frequency electrical stimulation of the quadriceps muscles: Vâ€¢O2 frequency response to NMES. Journal of NeuroEngineering and Rehabilitation, 2013, 10, 63.	2.4	13
62	Cortical network effects of subthalamic deep brain stimulation in a thalamo-cortical microcircuit model. Journal of Neural Engineering, 2021, 18, 056006.	1.8	13
63	Detection of spontaneous seizures in EEGs in multiple experimental mouse models of epilepsy. Journal of Neural Engineering, 2021, 18, 056060.	1.8	12
64	Recording Intramuscular EMG Signals Using Surface Electrodes. , 0, , .		11
65	The Active Electrode in the Living Brain: The Response of the Brain Parenchyma to Chronically Implanted Deep Brain Stimulation Electrodes. Operative Neurosurgery, 2021, 20, 131-140.	0.4	11
66	Benefits of a worksite or homeâ€based bench stepping intervention for sedentary middleâ€aged adults â€“ a pilot study. Clinical Physiology and Functional Imaging, 2014, 34, 10-17.	0.5	10
67	Simulation of PID control schemes for closed-loop deep brain stimulation. , 2013, , .		9
68	Whole Body Oxygen Uptake and Evoked Torque During Subtetanic Isometric Electrical Stimulation of the Quadriceps Muscles in a Single 30-Minute Session. Archives of Physical Medicine and Rehabilitation, 2014, 95, 1750-1758.	0.5	9
69	A model of pathological oscillations in the basal ganglia and deep brain stimulation in parkinson’s disease. , 2009, 2009, 3909-12.		8
70	Spindle-AI: Sleep Spindle Number and Duration Estimation in Infant EEG. IEEE Transactions on Biomedical Engineering, 2022, 69, 465-474.	2.5	8
71	Methods for Lowering the Power Consumption of OS-Based Adaptive Deep Brain Stimulation Controllers. Sensors, 2021, 21, 2349.	2.1	8
72	The Effect of Extracellular Potassium Concentration on Muscle Fiber Conduction Velocity Examined Using Model Simulation. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 2726-9.	0.5	7

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73	Altered supraspinal motor networks in survivors of poliomyelitis: A cortico-muscular coherence study. Clinical Neurophysiology, 2021, 132, 106-113.	0.7	7
74	An Intraoral Non-Occlusal MEMS Sensor for Bruxism Detection. IEEE Sensors Journal, 2022, 22, 153-161.	2.4	7
75	Elimination of ECG Artifacts from Myoelectric Prosthesis Control Signals Developed by Targeted Muscle Reinnervation. , 2005, 2005, 5276-9.		6
76	Effect of membrane properties on skeletal muscle fiber excitability: a sensitivity analysis. Medical and Biological Engineering and Computing, 2012, 50, 617-629.	1.6	6
77	Effects of a Low-Volume, Vigorous Intensity Step Exercise Program on Functional Mobility in Middle-Aged Adults. Annals of Biomedical Engineering, 2013, 41, 1748-1757.	1.3	6
78	Analysis of the effects of mechanically induced tremor on EEG-EMG coherence using wavelet and partial directed coherence. , 2013, , .		6
79	The effect of elbow joint centre displacement on force generation and neural excitation. Medical and Biological Engineering and Computing, 2009, 47, 589-598.	1.6	5
80	Effects of the electrical double layer and dispersive tissue properties in a volume conduction model of deep brain stimulation. , 2009, 2009, 6497-500.		5
81	Insights from control theory into deep brain stimulation for relief from Parkinson's disease. , 2012, , .		5
82	Changes in Neuronal Entropy in a Network Model of the Cortico-Basal Ganglia during Deep Brain Stimulation. , 2019, 2019, 5172-5175.		5
83	Effects of extracellular potassium on calcium handling and force generation in a model of excitation-contraction coupling in skeletal muscle. Journal of Theoretical Biology, 2021, 519, 110656.	0.8	5
84	Application of non-linear control theory to a model of deep brain stimulation. , 2011, 2011, 6785-8.		4
85	Uncertainty Quantification of Oscillation Suppression During DBS in a Coupled Finite Element and Network Model. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 281-290.	2.7	4
86	Changes in knee joint angle affect torque steadiness differently in young and older individuals. Journal of Electromyography and Kinesiology, 2019, 47, 49-56.	0.7	4
87	Simulation of the Interaction Between Muscle Fiber Conduction Velocity and Instantaneous Firing Rate. Annals of Biomedical Engineering, 2011, 39, 96-109.	1.3	3
88	Age-related fatigability in knee extensors and knee flexors during dynamic fatiguing contractions. Journal of Electromyography and Kinesiology, 2022, 62, 102626.	0.7	3
89	Characterization of geometric variance in the epithelial nerve net of the ctenophore Pleurobrachia pileus. Journal of Comparative Neurology, 2022, 530, 1438-1458.	0.9	3
90	A model of the cortico-basal ganglia network and local field potential during deep brain stimulation. , 2015, , .		2

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91	F35â€...Sleep monitoring in huntingtonâ€™s disease using fitbit compared to polysomnography. , 2021, , .		2
92	Simulation of Intramuscular EMG Signal Detection using Implantable MyoElectric Sensors. , 0, , .		1
93	A neuromusculoskeletal model of the elbow joint for pre-clinical testing of total elbow replacement. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 2400-3.	0.5	1
94	Effect of subthalamic nucleus interconnectivity at deep brain stimulation onset and offset: A simulation study. , 2011, 2011, 7107-10.		1
95	Fatigue-related alterations to intra-muscular coherence. , 2015, , .		1
96	Simplified parametric models of the dielectric properties of brain and muscle tissue during electrical stimulation. Medical Engineering and Physics, 2019, 65, 61-67.	0.8	1
97	The Influence of Force Level and Motor Unit Coherence on Nonlinear Surface EMG Features Examined Using Model Simulation. , 2019, 2019, 6616-6619.		1
98	Investigating the Effect of Persistent Inward Currents on Motor Unit Firing Rates and Beta-Band Coherence in a Model of the First Dorsal Interosseous Muscle. , 2019, 2019, 2293-2296.		1
99	Royal academy of medicine in Ireland section of bioengineering. Irish Journal of Medical Science, 1998, 167, 256-276.	0.8	0
100	Coherence between motor unit discharge patterns investigated using a motoneuron model. , 0, , .		0
101	2074v Alpha1-Beta1 and Alpha6-Beta1-Integrin. , 2008, , 1-1.		0
102	Towards a genioglossus surface EMG model of obstructive sleep apnea. , 2009, 2009, 2979-82.		0
103	Contribution of dielectric dispersions to voltage waveforms arising from electrical stimulation. , 2012, 2012, 4148-51.		0
104	Analysis of a fourth order model of neural synchrony and applied stimulation using control theory. , 2013, , .		0
105	Using the root locus method to analyze pathological oscillations in neurological diseases. , 2014, , .		0
106	On the Composition of Describing Functions in Feedback Loops. International Journal of Engineering Research in Africa, 2015, 18, 95-102.	0.7	0
107	Numerical Identification of Motor Units using an Optimal Control Approach. IFAC-PapersOnLine, 2018, 51, 174-179.	0.5	0
108	F34â€...Remote monitoring of speech in hd using mobile devices. , 2021, , .		0

#	Article	IF	Citations
109	F36â€…DXA, BIA, anthropometry and skin folds methodology in body composition. , 2021, , .		0