Luca Mesin

List of Publications by Year
in descending order

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107 papers	2,032 citations	304602 22 h-index	276775 41 g-index
109 all docs	109 docs citations	109 times ranked	1559 citing authors

#	Article	IF	Citations
1	A Surface EMG Generation Model With Multilayer Cylindrical Description of the Volume Conductor. IEEE Transactions on Biomedical Engineering, 2004, 51, 415-426.	2.5	186
2	Surface EMG: The issue of electrode location. Journal of Electromyography and Kinesiology, 2009, 19, 719-726.	0.7	146
3	Assessment of force and fatigue in isometric contractions of the upper trapezius muscle by surface EMG signal and perceived exertion scale. Gait and Posture, 2008, 28, 179-186.	0.6	127
4	Automatic segmentation of surface EMG images: Improving the estimation of neuromuscular activity. Journal of Biomechanics, 2010, 43, 2149-2158.	0.9	92
5	A bi-dimensional index for the selective assessment of myoelectric manifestations of peripheral and central muscle fatigue. Journal of Electromyography and Kinesiology, 2009, 19, 851-863.	0.7	79
6	Multichannel Surface EMG for the Non-Invasive Assessment of the Anal Sphincter Muscle. Digestion, 2004, 69, 112-122.	1.2	75
7	Insights gained into the interpretation of surface electromyograms from the gastrocnemius muscles: A simulation study. Journal of Biomechanics, 2011, 44, 1096-1103.	0.9	71
8	A Finite Element Model for Describing the Effect of Muscle Shortening on Surface EMG. IEEE Transactions on Biomedical Engineering, 2006, 53, 593-600.	2.5	62
9	New System for Detecting Road Ice Formation. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 1091-1101.	2.4	62
10	Effect of spatial filtering on crosstalk reduction in surface EMG recordings. Medical Engineering and Physics, 2009, 31, 374-383.	0.8	48
11	Simulation of Surface EMG Signals Generated by Muscle Tissues With Inhomogeneity Due to Fiber Pinnation. IEEE Transactions on Biomedical Engineering, 2004, 51, 1521-1529.	2.5	46
12	Investigation of motor unit recruitment during stimulated contractions of tibialis anterior muscle. Journal of Electromyography and Kinesiology, 2010, 20, 580-589.	0.7	43
13	Comparison of spatial filter selectivity in surface myoelectric signal detection: Influence of the volume conductor model. Medical and Biological Engineering and Computing, 2004, 42, 114-120.	1.6	38
14	Advances in surface electromyographic signal simulation with analytical and numerical descriptions of the volume conductor. Medical and Biological Engineering and Computing, 2004, 42, 467-476.	1.6	35
15	Use of Electromyographic and Electrocardiographic Signals to Detect Sleep Bruxism Episodes in a Natural Environment. IEEE Journal of Biomedical and Health Informatics, 2013, 17, 994-1001.	3.9	35
16	Crosstalk in surface electromyogram: literature review and some insights. Physical and Engineering Sciences in Medicine, 2020, 43, 481-492.	1.3	32
17	MODELLING OF THE IMMUNE RESPONSE: CONCEPTUAL FRAMEWORKS AND APPLICATIONS. Mathematical Models and Methods in Applied Sciences, 2001, 11, 1609-1630.	1.7	30
18	Dysregulation of the Autonomous Nervous System in Patients with Temporomandibular Disorder: A Pupillometric Study. PLoS ONE, 2012, 7, e45424.	1.1	26

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19	Distribution of Electrical Stimulation Current in a Planar Multilayer Anisotropic Tissue. IEEE Transactions on Biomedical Engineering, 2008, 55, 660-670.	2.5	25
20	Motor unit firing rates and synchronisation affect the fractal dimension of simulated surface electromyogram during isometric/isotonic contraction of vastus lateralis muscle. Medical Engineering and Physics, 2016, 38, 1530-1533.	0.8	24
21	An analytical model for surface EMG generation in volume conductors with smooth conductivity variations. IEEE Transactions on Biomedical Engineering, 2006, 53, 773-779.	2.5	23
22	Automatic localisation of innervation zones: A simulation study of the external anal sphincter. Journal of Electromyography and Kinesiology, 2009, 19, e413-e421.	0.7	23
23	Volume conductor models in surface electromyography: Computational techniques. Computers in Biology and Medicine, 2013, 43, 942-952.	3.9	23
24	Estimation of Complexity of Sampled Biomedical Continuous Time Signals Using Approximate Entropy. Frontiers in Physiology, 2018, 9, 710.	1.3	23
25	A Model for Surface EMG Generation in Volume Conductors With Spherical Inhomogeneities. IEEE Transactions on Biomedical Engineering, 2005, 52, 1984-1993.	2.5	22
26	Fundamental Concepts of Bipolar and High-Density Surface EMG Understanding and Teaching for Clinical, Occupational, and Sport Applications: Origin, Detection, and Main Errors. Sensors, 2022, 22, 4150.	2.1	22
27	Simulation of Surface EMG Signals for a Multilayer Volume Conductor With a Superficial Bone or Blood Vessel. IEEE Transactions on Biomedical Engineering, 2008, 55, 1647-1657.	2.5	21
28	Geometry assessment of anal sphincter muscle based on monopolar multichannel surface EMG signals. Journal of Electromyography and Kinesiology, 2011, 21, 394-401.	0.7	21
29	Investigation of Nonlinear Pupil Dynamics by Recurrence Quantification Analysis. BioMed Research International, 2013, 2013, 1-11.	0.9	21
30	Vena Cava Responsiveness to Controlled Isovolumetric Respiratory Efforts. Journal of Ultrasound in Medicine, 2017, 36, 2113-2123.	0.8	21
31	Simulation of Surface EMG Signals for a Multilayer Volume Conductor With Triangular Model of the Muscle Tissue. IEEE Transactions on Biomedical Engineering, 2006, 53, 2177-2184.	2.5	20
32	Evaluation of autonomic nervous system in sleep apnea patients using pupillometry under occlusal stress: a pilot study. Cranio - Journal of Craniomandibular Practice, 2014, 32, 139-147.	0.6	20
33	Dysregulation of the Descending Pain System in Temporomandibular Disorders Revealed by Low-Frequency Sensory Transcutaneous Electrical Nerve Stimulation: A Pupillometric Study. PLoS ONE, 2015, 10, e0122826.	1.1	20
34	Sensitivity of surface EMG-based conduction velocity estimates to local tissue in-homogeneities â€“ influence of the number of channels and inter-channel distance. Journal of Neuroscience Methods, 2005, 142, 83-89.	1.3	19
35	Repeatability of innervation zone identification in the external anal sphincter muscle. Neurourology and Urodynamics, 2010, 29, 449-457.	0.8	19
36	Semi-automated Tracking and Continuous Monitoring of Inferior Vena Cava Diameter in Simulated and Experimental Ultrasound Imaging. Ultrasound in Medicine and Biology, 2015, 41, 845-857.	0.7	19

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37	Optimal spatio-temporal filter for the reduction of crosstalk in surface electromyogram. Journal of Neural Engineering, 2018, 15, 016013.	1.8	19
38	Estimation of average muscle fiber conduction velocity from simulated surface EMG in pinnate muscles. Journal of Neuroscience Methods, 2007, 160, 327-334.	1.3	18
39	Estimation of Motor Unit Conduction Velocity From Surface EMG Recordings by Signal-Based Selection of the Spatial Filters. IEEE Transactions on Biomedical Engineering, 2006, 53, 1963-1971.	2.5	17
40	Real time identification of active regions in muscles from high density surface electromyogram. Computers in Biology and Medicine, 2015, 56, 37-50.	3.9	17
41	A neural algorithm for the non-uniform and adaptive sampling of biomedical data. Computers in Biology and Medicine, 2016, 71, 223-230.	3.9	17
42	A neural data-driven algorithm for smart sampling in wireless sensor networks. Eurasip Journal on Wireless Communications and Networking, 2014, 2014, .	1.5	14
43	Improved Repeatability of the Estimation of Pulsatility of Inferior Vena Cava. Ultrasound in Medicine and Biology, 2019, 45, 2830-2843.	0.7	14
44	A human-computer interface based on the â€œvoluntaryâ€•pupil accommodative response. International Journal of Human Computer Studies, 2019, 126, 53-63.	3.7	14
45	Tracking and Monitoring Pulsatility of a Portion of Inferior Vena Cava from Ultrasound Imaging in Long Axis. Ultrasound in Medicine and Biology, 2019, 45, 1338-1343.	0.7	14
46	Accuracy of right atrial pressure estimation using a multi-parameter approach derived from inferior vena cava semi-automated edge-tracking echocardiography: a pilot study in patients with cardiovascular disorders. International Journal of Cardiovascular Imaging, 2020, 36, 1213-1225.	0.7	14
47	Non-invasive Estimation of Right Atrial Pressure Using Inferior Vena Cava Echography. Ultrasound in Medicine and Biology, 2019, 45, 1331-1337.	0.7	13
48	Separation of propagating and non propagating components in surface EMG. Biomedical Signal Processing and Control, 2008, 3, 126-137.	3.5	11
49	Prognostic value of EEG indexes for the Glasgow outcome scale of comatose patients in the acute phase. Journal of Clinical Monitoring and Computing, 2014, 28, 377-385.	0.7	11
50	Multi-directional Assessment of Respiratory and Cardiac Pulsatility of the Inferior Vena Cava From Ultrasound Imaging in Short Axis. Ultrasound in Medicine and Biology, 2020, 46, 3475-3482.	0.7	11
51	Automated Volume Status Assessment Using Inferior Vena Cava Pulsatility. Electronics (Switzerland), 2020, 9, 1671.	1.8	10
52	A new dynamic tactile display for reconfigurable braille: implementation and tests. Frontiers in Neuroengineering, 2014, 7, 6.	4.8	9
53	Non-invasive aortic systolic pressure and pulse wave velocity estimation in a primary care setting: An in silico study. Medical Engineering and Physics, 2017, 42, 91-98.	0.8	9
54	A Multi-Modal Analysis of the Freezing of Gait Phenomenon in Parkinsonâ€™s Disease. Sensors, 2022, 22, 2613.	2.1	9

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55	A Feature Selection Method for Air Quality Forecasting. Lecture Notes in Computer Science, 2010, , 489-494.	1.0	8
56	Volume conductor models in surface electromyography: Applications to signal interpretation and algorithm test. Computers in Biology and Medicine, 2013, 43, 953-961.	3.9	8
57	Improving lifetime in wireless sensor networks using neural data prediction. , 2014, , .		8
58	Real time estimation of generation, extinction and flow of muscle fibre action potentials in high density surface EMG. Computers in Biology and Medicine, 2015, 57, 8-19.	3.9	8
59	Heartbeat monitoring from adaptively down-sampled electrocardiogram. Computers in Biology and Medicine, 2017, 84, 217-225.	3.9	8
60	Assessment of Phasic Changes of Vascular Size by Automated Edge Tracking-State of the Art and Clinical Perspectives. Frontiers in Cardiovascular Medicine, 2021, 8, 775635.	1.1	8
61	Separation of interference surface electromyogram into propagating and non-propagating components. Biomedical Signal Processing and Control, 2019, 52, 238-247.	3.5	7
62	Estimation of monopolar signals from sphincter muscles and removal of common mode interference. Biomedical Signal Processing and Control, 2009, 4, 37-48.	3.5	6
63	Dynamics of spiral waves in a cardiac electromechanical model with a local electrical inhomogeneity. Chaos, Solitons and Fractals, 2012, 45, 1220-1230.	2.5	6
64	Artefacts Removal to Detect Visual Evoked Potentials in Brain Computer Interface Systems. Journal of Biomimetics, Biomaterials and Biomedical Engineering, 2019, 41, 91-103.	0.5	6
65	Resolution of Spike Overlapping by Biogeography-Based Optimization. Electronics (Switzerland), 2021, 10, 1469.	1.8	6
66	A new method for the estimation of motor nerve conduction block. Clinical Neurophysiology, 2007, 118, 730-740.	0.7	5
67	Detection volume of simulated electrode systems for recording sphincter muscle electromyogram. Medical Engineering and Physics, 2008, 30, 896-904.	0.8	5
68	A Low Cost ECG Biometry System Based on an Ensemble of Support Vector Machine Classifiers. Smart Innovation, Systems and Technologies, 2016, , 425-433.	0.5	5
69	Automated Morphological Measurements of Brain Structures and Identification of Optimal Surgical Intervention for Chiari I Malformation. IEEE Journal of Biomedical and Health Informatics, 2020, 24, 3144-3153.	3.9	5
70	Inferior Vena Cava Edge Tracking Echocardiography: A Promising Tool with Applications in Multiple Clinical Settings. Diagnostics, 2022, 12, 427.	1.3	5
71	The Cardiac Caval Index. Journal of Ultrasound in Medicine, 2021, , .	0.8	5
72	Estimation of M-Wave Scale Factor During Sustained Contractions at High Stimulation Rate. IEEE Transactions on Biomedical Engineering, 2005, 52, 869-877.	2.5	4

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73	Spiral waves on a contractile tissue. European Physical Journal Plus, 2011, 126, 1.	1.2	4
74	Effects of transducer size on impedance spectroscopy measurements. Physical Review E, 2012, 85, 051505.	0.8	4
75	A neural data-driven approach to increase Wireless Sensor Networks' lifetime. , 2014, , .		4
76	Inverse modelling to reduce crosstalk in high density surface electromyogram. Medical Engineering and Physics, 2020, 85, 55-62.	0.8	4
77	Motor unit distribution estimation by multi-channel surface EMG. , 2008, , .		3
78	In Field Application of an Innovative Sensor for Monitoring Road and Runway Surfaces. , 2010, , .		3
79	Single channel surface electromyogram deconvolution to explore motor unit discharges. Medical and Biological Engineering and Computing, 2019, 57, 2045-2054.	1.6	3
80	Automatic identification of slow biphasic complexes in EEG: an effective tool to detect encephalitis. Biomedical Physics and Engineering Express, 2019, 5, 045006.	0.6	3
81	Balanced multi-image demons for non-rigid registration of magnetic resonance images. Magnetic Resonance Imaging, 2020, 74, 128-138.	1.0	3
82	Evidence that large vessels do affect near infrared spectroscopy. Scientific Reports, 2022, 12, 2155.	1.6	3
83	Non-Invasive Estimation of Right Atrial Pressure Using a Semi-Automated Echocardiographic Tool for Inferior Vena Cava Edge-Tracking. Journal of Clinical Medicine, 2022, 11, 3257.	1.0	3
84	Non-Propagating Components of Surface Electromyogram Reflect Motor Unit Firing Rates. IEEE Access, 2019, 7, 106155-106161.	2.6	2
85	Biomedical Image Processing and Classification. Electronics (Switzerland), 2021, 10, 66.	1.8	2
86	The relation between lesions and localization of sources of slow biphasic complexes in encephalitis. Neuroimmunology and Neuroinflammation, 0, 2020, .	1.4	2
87	Functional Connectivity of EEG in Encephalitis during Slow Biphasic Complexes. Electronics (Switzerland), 2021, 10, 2978.	1.8	2
88	Nonlinear Adaptive Filtering to ForecastAir Pollution. , 2011, , .		1
89	Short range tracking of rainy clouds by multi-image flow processing of X-band radar data. Eurasip Journal on Advances in Signal Processing, 2011, 2011, .	1.0	1
90	Control of coffee grinding with Artificial Neural Networks. , 2012, , .		1

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91	Detection and Assessment of Encephalitis from EEG. , 2019, , .		1
92	Identification of optimal surgical intervention for Chiari I malformation. , 2019, , .		1
93	Automated diagnosis of encephalitis in pediatric patients using EEG rhythms and slow biphasic complexes. Physical and Engineering Sciences in Medicine, 2020, 43, 997-1006.	1.3	1
94	Motor Unit Discharges from Multi-Kernel Deconvolution of Single Channel Surface Electromyogram. Electronics (Switzerland), 2021, 10, 2022.	1.8	1
95	Development of a prototype for the analysis of multiple responses of the autonomic nervous system. Biomedical Signal Processing and Control, 2021, 70, 102994.	3.5	1
96	Pupillometric Study of the Dysregulation of the Autonomous Nervous System by SVM Networks. Smart Innovation, Systems and Technologies, 2014, , 107-115.	0.5	1
97	Single Channel Surface Electromyogram Deconvolution is a Useful Pre-Processing for Myoelectric Control. IEEE Transactions on Biomedical Engineering, 2022, 69, 1767-1775.	2.5	1
98	Motor Nerve Conduction Block Estimation in Demyelinating Neuropathies by Deconvolution. Bioengineering, 2022, 9, 23.	1.6	1
99	Approximate Entropy of Spiking Series Reveals Different Dynamical States in Cortical Assemblies. Electronics (Switzerland), 2022, 11, 936.	1.8	1
100	Forecasting tropospheric ozone concentrations with adaptive neural networks. , 2011, , .		0
101	Reduction of Protein Networks Models by Passivity Preserving Projection. Communications in Theoretical Physics, 2013, 60, 247-257.	1.1	0
102	Approximate Entropy of Spiking Series of a Neuronal Network in Either Subcritical or Critical State. , 2018, , .		0
103	Do Large Vessels Affect Hemodynamic Monitoring by Near Infrared Spectroscopy?. FASEB Journal, 2021, 35, .	0.2	0
104	Infiltration condition and mouldability diagram in resin injection moulding. Computational and Applied Mathematics, 2007, 26, .	1.0	0
105	Infiltration condition and mouldability diagram in resin injection moulding. Computational and Applied Mathematics, 2007, 26, .	1.3	0
106	Control of Coffee Grinding with General Regression Neural Networks. Smart Innovation, Systems and Technologies, 2013, , 139-146.	0.5	0
107	Estimation of Aortic Stiffness with Bramwellâ€“Hill Equation: A Comparative Analysis with Carotidâ€“Femoral Pulse Wave Velocity. Bioengineering, 2022, 9, 265.	1.6	0