Benjamin Sanchez

List of Publications by Citations

86 papers	1,126 citations	20 h-index	29 g-index
90 ext. papers	1,345 ext. citations	3.6 avg, IF	4.97 L-index

#	Paper	IF	Citations
86	Electrical Impedance Myography and Its Applications in Neuromuscular Disorders. *Neurotherapeutics*, **2017**, 14, 107-118	6.4	63
85	A new measuring and identification approach for time-varying bioimpedance using multisine electrical impedance spectroscopy. *Physiological Measurement*, **2013**, 34, 339-57	2.9	55
84	Basics of broadband impedance spectroscopy measurements using periodic excitations. *Measurement Science and Technology*, **2012**, 23, 105501	2	49
83	Optimal multisine excitation design for broadband electrical impedance spectroscopy. *Measurement Science and Technology*, **2011**, 22, 115601	2	48
82	Novel estimation of the electrical bioimpedance using the local polynomial method. Application to in vivo real-time myocardium tissue impedance characterization during the cardiac cycle. *IEEE Transactions on Biomedical Engineering*, **2011**, 58, 3376-85	5	44
81	The neuromuscular impact of symptomatic SMN restoration in a mouse model of spinal muscular atrophy. *Neurobiology of Disease*, **2016**, 87, 116-23	7.5	39
80	Present Uses, Future Applications, and Technical Underpinnings of Electrical Impedance Myography. *Current Neurology and Neuroscience Reports*, **2017**, 17, 86	6.6	35
79	Electrical stimulation of cardiac adipose tissue-derived progenitor cells modulates cell phenotype and genetic machinery. *Journal of Tissue Engineering and Regenerative Medicine*, **2015**, 9, E76-83	4.4	32
78	Guidelines to electrode positioning for human and animal electrical impedance myography research. *Scientific Reports*, **2016**, 6, 32615	4.9	32
77	In vivo electrical bioimpedance characterization of human lung tissue during the bronchoscopy procedure. A feasibility study. *Medical Engineering and Physics*, **2013**, 35, 949-57	2.4	29
76	Online monitoring of myocardial bioprosthesis for cardiac repair. *International Journal of Cardiology* , **2014**, 174, 654-61	3.2	28
75	Novel approach of processing electrical bioimpedance data using differential impedance analysis. *Medical Engineering and Physics*, **2013**, 35, 1349-57	2.4	28
74	Sensitivity distribution simulations of surface electrode configurations for electrical impedance myography. *Muscle and Nerve*, **2017**, 56, 887-895	3.4	21
73	An improved crest factor minimization algorithm to synthesize multisines with arbitrary spectrum. *Physiological Measurement*, **2015**, 36, 895-910	2.9	21
72	Differentiation of the intracellular structure of slow- versus fast-twitch muscle fibers through evaluation of the dielectric properties of tissue. *Physics in Medicine and Biology*, **2014**, 59, 2369-80	3.8	21
71	New electrical impedance methods for the in situ measurement of the complex permittivity of anisotropic biological tissues. *Physics in Medicine and Biology*, **2017**, 62, 8616-8633	3.8	21
70	Electromechanical Conditioning of Adult Progenitor Cells Improves Recovery of Cardiac Function After Myocardial Infarction. *Stem Cells Translational Medicine*, **2017**, 6, 970-981	6.9	21

69	Impedance Alterations in Healthy and Diseased Mice During Electrically Induced Muscle Contraction. *IEEE Transactions on Biomedical Engineering*, **2016**, 63, 1602-12	5	20
68	Evaluation of Electrical Impedance as a Biomarker of Myostatin Inhibition in Wild Type and Muscular Dystrophy Mice. *PLoS ONE*, **2015**, 10, e0140521	3.7	20
67	Harmonic impedance spectra identification from time-varying bioimpedance: theory and validation. *Physiological Measurement*, **2013**, 34, 1217-38	2.9	20
66	Physiological conditioning by electric field stimulation promotes cardiomyogenic gene expression in human cardiomyocyte progenitor cells. *Stem Cell Research and Therapy*, **2014**, 5, 93	8.3	19
65	On the calculation of theD-optimal multisine excitation power spectrum for broadband impedance spectroscopy measurements. *Measurement Science and Technology*, **2012**, 23, 085702	2	19
64	Electrical Impedance Methods in Neuromuscular Assessment: An Overview. *Cold Spring Harbor Perspectives in Medicine*, **2019**, 9,	5.4	19
63	Permittivity of ex vivo healthy and diseased murine skeletal muscle from 10 kHz to 1 MHz. *Scientific Data*, **2019**, 6, 37	8.2	18
62	Time-invariant measurement of time-varying bioimpedance using vector impedance analysis. *Physiological Measurement*, **2015**, 36, 595-620	2.9	18
61	Predicting myofiber size with electrical impedance myography: A study in immature mice. *Muscle and Nerve*, **2018**, 58, 106	3.4	18
60	Estimating Myofiber Size With Electrical Impedance Myography: a Study In Amyotrophic Lateral Sclerosis MICE. *Muscle and Nerve*, **2018**, 58, 713-717	3.4	18
59	Non-invasive assessment of muscle injury in healthy and dystrophic animals with electrical impedance myography. *Muscle and Nerve*, **2017**, 56, E85-E94	3.4	17
58	An FPGA-based frequency response analyzer for multisine and stepped sine measurements on stationary and time-varying impedance. *Measurement Science and Technology*, **2014**, 25, 015501	2	17
57	Propagation of Measurement Errors Through Body Composition Equations for Body Impedance Analysis. *IEEE Transactions on Instrumentation and Measurement*, **2014**, 63, 1535-1544	5.2	17
56	Muscle dysfunction in a zebrafish model of Duchenne muscular dystrophy. *Physiological Genomics*, **2016**, 48, 850-860	3.6	17
55	Electrical impedance myography: A critical review and outlook. *Clinical Neurophysiology*, **2021**, 132, 338-344	3.7	17
54	Recording characteristics of electrical impedance myography needle electrodes. *Physiological Measurement*, **2017**, 38, 1748-1765	2.9	16
53	Electrical impedance myography detects age-related muscle change in mice. *PLoS ONE*, **2017**, 12, e0185614	3.7	16
52	Recording characteristics of electrical impedance-electromyography needle electrodes. *Physiological Measurement*, **2018**, 39, 055005	2.9	16

51	New electrical impedance methods for the in situ measurement of the complex permittivity of anisotropic skeletal muscle using multipolar needles. *Scientific Reports*, **2019**, 9, 3145	4.9	15
50	Single and modeled multifrequency electrical impedance myography parameters and their relationship to force production in the ALS SOD1G93A mouse. *Amyotrophic Lateral Sclerosis and Frontotemporal Degeneration*, **2016**, 17, 397-403	3.6	14
49	Electrical impedance myography as a biomarker of myostatin inhibition with ActRIIB-mFc: a study in wild-type mice. *Future Science OA*, **2018**, 4, FSO308	2.7	13
48	Separation of Subcutaneous Fat From Muscle in Surface Electrical Impedance Myography Measurements Using Model Component Analysis. *IEEE Transactions on Biomedical Engineering*, **2019**, 66, 354-364	5	13
47	On the correct use of stepped-sine excitations for the measurement of time-varying bioimpedance. *Physiological Measurement*, **2017**, 38, N73-N80	2.9	12
46	Simultaneous monitoring of Staphylococcus aureus growth in a multi-parametric microfluidic platform using microscopy and impedance spectroscopy. *Bioelectrochemistry*, **2015**, 105, 56-64	5.6	12
45	Electrical Impedance Myography to Detect the Effects of Electrical Muscle Stimulation in Wild Type and Mdx Mice. *PLoS ONE*, **2016**, 11, e0151415	3.7	9
44	Electrical impedance imaging of human muscle at the microscopic scale using a multi-electrode needle device: A simulation study. *Clinical Neurophysiology*, **2018**, 129, 1704-1708	4.3	8
43	Minimal implementation of an AFE4300-based spectrometer for electrical impedance spectroscopy measurements. *Journal of Physics: Conference Series*, **2013**, 434, 012014	0.3	7
42	Functional Mixed-Effects Modeling of Longitudinal Duchenne Muscular Dystrophy Electrical Impedance Myography Data Using State-Space Approach. *IEEE Transactions on Biomedical Engineering*, **2019**, 66, 1761-1768	5	7
41	An open source microcontroller based flume for evaluating swimming performance of larval, juvenile, and adult zebrafish. *PLoS ONE*, **2018**, 13, e0199712	3.7	7
40	Altered muscle electrical tissue properties in a mouse model of premature aging. *Muscle and Nerve*, **2019**, 60, 801-810	3.4	6
39	Approximate complex electrical potential distribution in the monodomain model with unequal conductivity and relative permittivity anisotropy ratios. *Physiological Measurement*, **2019**, 40, 085008	2.9	6
38	Standalone IoT Bioimpedance Device Supporting Real-Time Online Data Access. *IEEE Internet of Things Journal*, **2019**, 6, 9545-9554	10.7	6
37	Influence of the multisine excitation amplitude design for biomedical applications using Impedance Spectroscopy. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2011**, 2011, 3975-8	0.9	6
36	Modeling and Reproducibility of Twin Concentric Electrical Impedance Myography. *IEEE Transactions on Biomedical Engineering*, **2021**, 68, 3068-3077	5	6
35	Bioimpedance technology for detection of thoracic injury. *Physiological Measurement*, **2017**, 38, 2000-2014	2.9	5
34	Time-frequency analysis of time-varying in vivo myocardial impedance. *Measurement: Journal of the International Measurement Confederation*, **2014**, 56, 19-29	4.6	5

33	Development of Bioactive Patch for Maintenance of Implanted Cells at the Myocardial Infarcted Site. *Journal of Nanomaterials*, **2015**, 2015, 1-14	3.2	5
32	Predicting myofiber cross-sectional area and triglyceride content with electrical impedance myography: A study in db/db mice. *Muscle and Nerve*, **2021**, 63, 127-140	3.4	5
31	In vivo muscle conduction study of the tongue using a multi-electrode tongue depressor. *Clinical Neurophysiology*, **2021**, 132, 683-687	4.3	5
30	The effect of profound dehydration on electrical impedance of mouseskeletal muscle. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2014**, 2014, 514-7	0.9	4
29	Influence of electrical stimulation on 3D-cultures of adipose tissue derived progenitor cells (ATDPCs) behavior. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2012**, 2012, 5658-61	0.9	4
28	Estimating myofiber cross-sectional area and connective tissue deposition with electrical impedance myography: A study in D2-mdx mice. *Muscle and Nerve*, **2021**, 63, 941-950	3.4	4
27	Numerical estimation of Fricke-Morse impedance model parameters using single-frequency sinusoidal excitation. *Physiological Measurement*, **2019**, 40, 09NT01	2.9	3
26	Development and impedimetric evaluation of a magnetic interdigitated microelectrode. *Sensors and Actuators B: Chemical*, **2014**, 203, 444-451	8.5	3
25	Structural changes of Arthrospira sp. after low energy sonication treatment for microalgae harvesting: Elucidating key parameters to detect the rupture of gas vesicles. *Bioresource Technology*, **2017**, 223, 98-104	11	3
24	Robust excitation power spectrum design for broadband impedance spectroscopy. *Measurement Science and Technology*, **2014**, 25, 065501	2	3
23	A pilot spectroscopy study on time-varying bioimpedance during electrically-induced muscle contraction. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2014**, 2014, 3739-42	0.9	3
22	In-cycle myocardium tissue electrical impedance monitoring using broadband impedance spectroscopy. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2011**, 2011, 2518-21	0.9	3
21	Minimally invasive in vivo human lung tissue bioimpedance measurements during the bronchoscopy procedure. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2012**, 2012, 130-3	0.9	2
20	Electrical Impedance Measurements on Electropermeabilized Cells Attached to Microelectrodes. *IFMBE Proceedings*, **2015**, 553-556	0.2	2
19	muscle volume conduction study validatesmeasurement of tongue volume conduction properties using a user tongue array depressor. *Physiological Measurement*, **2021**, 42,	2.9	2
18	A novel method for estimating the fractional Cole impedance model using single-frequency DC-biased sinusoidal excitation. *Circuits, Systems, and Signal Processing*, **2021**, 40, 543-558	2.2	2
17	Three-harmonic optimal multisine input power spectrum for bioimpedance identification. *Physiological Measurement*, **2019**, 40, 05NT02	2.9	1
16	Quantitative muscle ultrasound in upper extremity mononeuropathies. *Muscle and Nerve*, **2019**, 60, 67-71	3.4	1

15	Towards an accurate bioimpedance identification. *Journal of Physics: Conference Series*, **2013**, 434, 012002	2.3	1
14	Nonhomogeneous volume conduction effects affecting needle electromyography: an analytical and simulation study. *Physiological Measurement*, **2021**,	2.9	1
13	A framework for modeling bioimpedance measurements of nonhomogeneous tissues: a theoretical and simulation study. *Physiological Measurement*, **2021**, 42,	2.9	1
12	Modeling and simulation of needle electrical impedance myography in nonhomogeneous isotropic skeletal muscle.. *IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology*, **2022**, 6, 103-110	2.8	1
11	Design and pilot testing of a 26-gauge impedance-electromyography needle in wild type and ALS mice.. *Muscle and Nerve*, **2022**,	3.4	1
10	Electrical Characterization of Basal Cell Carcinoma Using a Handheld Electrical Impedance Dermography Device.. *JID Innovations*, **2022**, 2, 100075		0
9	A Bioimpedance-Based Device to Assess the Volume Conduction Properties of the Tongue in Neurological Disorders Affecting Bulbar function.. *IEEE Open Journal of Engineering in Medicine and Biology*, **2021**, 2, 278-285	5.9	0
8	Relationships between in vivo surface and ex vivo electrical impedance myography measurements in three different neuromuscular disorder mouse models. *PLoS ONE*, **2021**, 16, e0259071	3.7	0
7	Skin Electrical Resistance as a Diagnostic and Therapeutic Biomarker of Breast Cancer Measuring Lymphatic Regions. *IEEE Access*, **2021**, 9, 152322-152332	3.5	0
6	Altered electrical properties in skeletal muscle of mice with glycogen storage disease type II.. *Scientific Reports*, **2022**, 12, 5327	4.9	0
5	Circular motion analysis of time-varying bioimpedance. *Physiological Measurement*, **2015**, 36, 2353-67	2.9	
4	Reply to Comment on ‘On the correct use of stepped-sine excitations for the measurement and identification of time-varying bioimpedance’ *Physiological Measurement*, **2018**, 39, 028002	2.9	
3	Effect of a cell-based bioactive smart patch after myocardial infarction in swine. *European Heart Journal*, **2013**, 34, P1469-P1469	9.5	
2	Reply to "Putting the patient first: The validity and value of surface-based electrical impedance myography techniques". *Clinical Neurophysiology*, **2021**, 132, 1754-1755	4.3	
1	On the measurement of skeletal muscle anisotropic permittivity property with a single cross-shaped needle insertion.. *Scientific Reports*, **2022**, 12, 8494	4.9	