

# Todd J Freeborn

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/2384756/publications.pdf>

Version: 2024-02-01

83  
papers

2,733  
citations

236925

25  
h-index

182427

51  
g-index

84  
all docs

84  
docs citations

84  
times ranked

1635  
citing authors

#	ARTICLE	IF	CITATIONS
1	A Survey of Fractional-Order Circuit Models for Biology and Biomedicine. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2013, 3, 416-424.	3.6	536
2	Measurement of Supercapacitor Fractional-Order Model Parameters From Voltage-Excited Step Response. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2013, 3, 367-376.	3.6	158
3	Field programmable analogue array implementation of fractional step filters. IET Circuits, Devices and Systems, 2010, 4, 514.	1.4	154
4	Fractional-order models of supercapacitors, batteries and fuel cells: a survey. Materials for Renewable and Sustainable Energy, 2015, 4, 1.	3.6	149
5	Reevaluation of Performance of Electric Double-layer Capacitors from Constant-current Charge/Discharge and Cyclic Voltammetry. Scientific Reports, 2016, 6, 38568.	3.3	144
6	On the practical realization of higher-order filters with fractional stepping. Signal Processing, 2011, 91, 484-491.	3.7	127
7	Review of fractional-order electrical characterization of supercapacitors. Journal of Power Sources, 2018, 400, 457-467.	7.8	125
8	Approximated Fractional Order Chebyshev Lowpass Filters. Mathematical Problems in Engineering, 2015, 2015, 1-7.	1.1	75
9	Extracting the parameters of the double-dispersion Cole bioimpedance model from magnitude response measurements. Medical and Biological Engineering and Computing, 2014, 52, 749-758.	2.8	69
10	Approximated Fractional-Order Inverse Chebyshev Lowpass Filters. Circuits, Systems, and Signal Processing, 2016, 35, 1973-1982.	2.0	67
11	Comparison of $(1+\alpha)^s$ and $(1+\hat{\alpha})^s$ Fractional-Order Transfer Functions to Approximate Lowpass Butterworth Magnitude Responses. Circuits, Systems, and Signal Processing, 2016, 35, 1983-2002.	2.0	65
12	Cole impedance extractions from the step-response of a current excited fruit sample. Computers and Electronics in Agriculture, 2013, 98, 100-108.	7.7	46
13	Fractional Resonance-Based $RL\hat{I}^2C\hat{I}^{\pm}$ Mathematical Problems in Engineering, 2013, 2013, 1-10.		
14	Spectral Capacitance of Series and Parallel Combinations of Supercapacitors. ChemElectroChem, 2016, 3, 1429-1436.	3.4	46
15	Ultra-shortened time-domain HRV parameters at rest and following exercise in athletes: an alternative to frequency computation of sympathovagal balance. European Journal of Applied Physiology, 2018, 118, 175-184.	2.5	46
16	Fractional-step Tow-Thomas biquad filters. Nonlinear Theory and Its Applications IEICE, 2012, 3, 357-374.	0.6	45
17	Emulation of an electrical-analogue of a fractional-order human respiratory mechanical impedance model using OTA topologies. AEU - International Journal of Electronics and Communications, 2017, 78, 201-208.	2.9	39
18	Fractional-order band-pass filter design using fractional-characteristic specimen functions. Microelectronics Journal, 2019, 86, 77-86.	2.0	37

#	ARTICLE	IF	CITATIONS
19	Further experimental evidence of the fractional-order energy equation in supercapacitors. AEU - International Journal of Electronics and Communications, 2017, 78, 209-212.	2.9	35
20	( $1 \pm \hat{\epsilon}$ ) Fractional-order transfer functions to approximate low-pass magnitude responses with arbitrary quality factor. AEU - International Journal of Electronics and Communications, 2018, 83, 570-578.	2.9	35
21	Emulation of current excited fractional-order capacitors and inductors using OTA topologies. Microelectronics Journal, 2016, 55, 70-81.	2.0	34
22	Biceps tissue bioimpedance changes from isotonic exercise-induced fatigue at different intensities. Biomedical Physics and Engineering Express, 2018, 4, 025037.	1.2	32
23	Electrical impedance myography: A critical review and outlook. Clinical Neurophysiology, 2021, 132, 338-344.	1.5	30
24	Cole-impedance parameters representing biceps tissue bioimpedance in healthy adults and their alterations following eccentric exercise. Journal of Advanced Research, 2020, 25, 285-293.	9.5	29
25	Towards the realization of fractional step filters. , 2010, , .		26
26	Least squares estimation technique of Cole-Cole parameters from step response. Electronics Letters, 2012, 48, 752.	1.0	26
27	Fatigue-Induced Cole Electrical Impedance Model Changes of Biceps Tissue Bioimpedance. Fractal and Fractional, 2018, 2, 27.	3.3	26
28	Residual impedance effect on emulated bioimpedance measurements using Keysight E4990A precision impedance analyzer. Measurement: Journal of the International Measurement Confederation, 2019, 134, 468-479.	5.0	24
29	Supercapacitor reciprocity and response to linear current and voltage ramps. Electrochimica Acta, 2017, 258, 1081-1085.	5.2	22
30	Extraction of Phase Information from Magnitude-Only Bio-impedance Measurements Using a Modified Kramersâ€“Kronig Transform. Circuits, Systems, and Signal Processing, 2018, 37, 3635-3650.	2.0	20
31	Localized Bicep Tissue Bioimpedance Alterations Following Eccentric Exercise in Healthy Young Adults. IEEE Access, 2020, 8, 23100-23109.	4.2	20
32	Numerical extraction of Cole-Cole impedance parameters from step response. Nonlinear Theory and Its Applications IEICE, 2011, 2, 548-561.	0.6	19
33	Estimating supercapacitor performance for embedded applications using fractionalâ€“order models. Electronics Letters, 2016, 52, 1478-1480.	1.0	19
34	Lowâ€“voltage commercial superâ€“capacitor response to periodic linearâ€“withâ€“time current excitation: a case study. IET Circuits, Devices and Systems, 2017, 11, 189-195.	1.4	19
35	Compact Wide Frequency Range Fractional-Order Models of Human Body Impedance against Contact Currents. Mathematical Problems in Engineering, 2016, 2016, 1-10.	1.1	18
36	Variability of Cole-model bioimpedance parameters using magnitude-only measurements of apples from a two-electrode configuration. International Journal of Food Properties, 2017, 20, S507-S519.	3.0	18

#	ARTICLE	IF	CITATIONS
37	Validation of Fractional-Order Lowpass Elliptic Responses of $(1 + \hat{\pm})$ -Order Analog Filters. Applied Sciences (Switzerland), 2018, 8, 2603.	2.5	18
38	Agreement between supine and standing bioimpedance spectroscopy devices and dual-energy X-ray absorptiometry for body composition determination. Clinical Physiology and Functional Imaging, 2019, 39, 355-361.	1.2	16
39	Evaluation of $(1 + \hat{\pm})$ Fractional-Order Approximated Butterworth High-Pass and Band-Pass Filter Transfer Functions. Elektronika Ir Elektrotechnika, 2018, 24, .	0.8	16
40	Localized Bioimpedance Measurements with the MAX3000x Integrated Circuit: Characterization and Demonstration. Sensors, 2021, 21, 3013.	3.8	14
41	Hook artifact correction of localized electrical bioimpedance for improved agreement between different device measurements. Biomedical Physics and Engineering Express, 2018, 4, 015016.	1.2	13
42	Cole-Impedance Model Representations of Right-Side Segmental Arm, Leg, and Full-Body Bioimpedances of Healthy Adults: Comparison of Fractional-Order. Fractal and Fractional, 2021, 5, 13.	3.3	13
43	Comparison of Bioimpedance and Underwater Weighing Body Fat Percentage Before and Acutely After Exercise at Varying Intensities. Journal of Strength and Conditioning Research, 2017, 31, 1395-1402.	2.1	12
44	Time-course bicep tissue bio-impedance changes throughout a fatiguing exercise protocol. Medical Engineering and Physics, 2019, 69, 109-115.	1.7	12
45	A Comparative Study of Two Fractional-Order Equivalent Electrical Circuits for Modeling the Electrical Impedance of Dental Tissues. Entropy, 2020, 22, 1117.	2.2	11
46	Fixturing impacts on high-frequency low-resistance, low-inductance impedance measurements. Electronics Letters, 2016, 52, 1772-1774.	1.0	10
47	Performance evaluation of raspberry Pi platform for bioimpedance analysis using least squares optimization. Personal and Ubiquitous Computing, 2019, 23, 279-285.	2.8	10
48	Second order approximation of the fractional laplacian operator for equal-ripple response. , 2010, , .		9
49	Modelling supercapacitors leakage behaviour using a fractional-order model. , 2017, , .		9
50	Modeling and Validation of Fixture-Induced Error for Impedance Measurements. IEEE Transactions on Instrumentation and Measurement, 2019, 68, 129-137.	4.7	9
51	Multi-Site Impedance Measurement System based on MAX30001 Integrated-Circuit. , 2020, , .		9
52	Accurate time domain extraction of supercapacitor fractional-order model parameters. , 2013, , .		8
53	Electrode location impact on cole-impedance parameters using magnitude-only measurements. , 2016, , .		8
54	Evaluation of ImpediMed SFB7 BIS device for low-impedance measurements. Measurement: Journal of the International Measurement Confederation, 2018, 129, 20-30.	5.0	8

#	ARTICLE	IF	CITATIONS
55	Changes of Fractional-Order Model Parameters in Biceps Tissue from Fatiguing Exercise. , 2018, , .		7
56	Introducing electrical engineering through characterization of a handheld moisture meter: A research experience case study. International Journal of Electrical Engineering and Education, 2019, 56, 24-37.	0.8	7
57	Contraction Artifacts on Biceps Tissue Bioimpedance Collected using Stepped-Sine Excitations. , 2019, , .		7
58	Improved Cole-Cole parameter extraction from frequency response using least squares fitting. , 2012, , .		6
59	Fractional Step Analog Filter Design. Lecture Notes in Electrical Engineering, 2013, , 243-267.	0.4	6
60	Supercapacitor Fractional-Order Model Discharging from Polynomial Time-Varying Currents. , 2018, , .		6
61	Fractional-order Lowpass Elliptic Responses of $(1+\hat{\Gamma})$ -order Transfer Functions. , 2018, , .		6
62	Rates and Effects of Local Minima on Fractional-Order Circuit Model Parameters Extracted from Supercapacitor Discharging Using Least Squares Optimization. Circuits, Systems, and Signal Processing, 2019, 38, 1907-1922.	2.0	6
63	Variability of supercapacitor fractional-order parameters extracted from discharging behavior using least squares optimization. , 2017, , .		5
64	Flexible PCB Failures From Dynamic Activity and Their Impacts on Bioimpedance Measurements: A Wearable Case Study. IEEE Open Journal of Circuits and Systems, 2021, 2, 732-742.	1.9	5
65	Factors impacting accurate Cole-impedance extractions from magnitude-only measurements. , 2016, , .		4
66	Design of a wood tissue impedance emulator in monolithic form. , 2017, , .		4
67	Incorporating FPAs into Laboratory Exercises for Analogue Filter Design. International Journal of Electrical Engineering and Education, 2013, 50, 188-200.	0.8	3
68	Analysis of a rectifier circuit realized with a fractional-order capacitor. , 2016, , .		3
69	Improved method to determine supercapacitor metrics from highpass filter response. , 2016, , .		3
70	Determination of supercapacitor metrics using a magnitude-only method. , 2016, , .		3
71	Transfer Functions of Fractional-Order Band-Pass Filter with Arbitrary Magnitude Slope in Stopband. , 2019, , .		3
72	Electrical Equivalent Network Modeling of Forearm Tissue Bioimpedance. , 2019, , .		3

#	ARTICLE	IF	CITATIONS
73	Modeling and experimental validation of parasitic capacitance effects on emulated bioimpedance measurements with high-impedance residuals. International Journal of Circuit Theory and Applications, 2020, 48, 1057-1069.	2.0	3
74	Analysis of localized bioimpedance from healthy young adults during activities of the vocal folds using Cole-impedance model representation. Biomedical Signal Processing and Control, 2021, 68, 102665.	5.7	2
75	Simplifying Cole-impedance extraction from the current-excited step response. , 2013, , .		1
76	Authors'™ reply to Medeiros et al.: Make it easier! Evaluation of the "vagal-sympathetic effect"™ in different conditions with R-R intervals monitoring. European Journal of Applied Physiology, 2018, 118, 1289-1290.	2.5	1
77	Performance Analysis of Oustaloup Approximation for the Design of Fractional-Order Analogue Circuits. , 2018, , .		1
78	Estimating Localized Bio-impedance with Measures from Multiple Redundant Electrode Configurations. , 2018, 2018, 4351-4354.		1
79	Analysis of Parasitic Capacitances Impact on Estimating Cole-Model Impedances using Tetrapolar Measurements. , 2019, , .		1
80	Biceps Tissue Electrical Resistance and Circumference Changes Following an Eccentric Exercise Protocol. , 2019, , .		1
81	Short-Term Evaluation of Dry Electrodes Fabricated using Flexible Printed Circuits Processes for Bioimpedance Measurements. , 2020, , .		1
82	Throwing Event Detection using Acceleration Magnitude collected with Wrist-Worn Sensors. , 2020, , .		1
83	Experimental Validation of CT-Snubber for Multichip SiC MOSFET Power Module. , 2020, , .		0