

# Karabi Biswas

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

78  
papers

1,400  
citations

21  
h-index

35  
g-index

91  
ext. papers

1,694  
ext. citations

2.6  
avg, IF

5.17  
L-index

#	Paper	IF	Citations
78	Design guidelines for fabrication of MWCNT-polymer based solid-state fractional capacitor <b>2022</b> , 485-522		
77	A review on the realization of fractional-order devices to use as sensors and circuit elements for experimental studies and research <b>2022</b> , 287-340		0
76	Low-Noise Potentiostat Circuit for Electrochemical Detection of Heavy Metals or Metalloids. <i>IEEE Transactions on Instrumentation and Measurement</i> , <b>2022</b> , 1-1	5.2	1
75	New class of fractal elements with log-periodic corrections: Confirmation on experimental data. <i>Chaos, Solitons and Fractals</i> , <b>2021</b> , 153, 111519	9.3	
74	Multifractal Texture Analysis of Salivary Fern Pattern for Oral Pre-Cancers and Cancer Assessment. <i>IEEE Sensors Journal</i> , <b>2021</b> , 21, 9333-9340	4	2
73	A Fractional Order Notch Filter to Compensate the Attenuation-Loss Due to Change in Order of the Circuit. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , <b>2021</b> , 68, 655-666	3.9	4
72	Fabricating Solid State Fractional Capacitor in the Frequency Range of mHz to kHz. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , <b>2021</b> , 1-1	1.7	0
71	Nanocomposite Material Characterization of a Solid-State Fractional Capacitor. <i>IEEE Transactions on Electron Devices</i> , <b>2020</b> , 67, 1136-1142	2.9	7
70	Optimisation of effective parameters of multiwalled carbon nanotube-based solid-state fractional capacitor for evaluation of fractional exponent. <i>IET Circuits, Devices and Systems</i> , <b>2020</b> , 14, 148-154	1.1	2
69	Milk Tester: Simultaneous Detection of Fat Content and Adulteration. <i>IEEE Transactions on Instrumentation and Measurement</i> , <b>2020</b> , 69, 2468-2476	5.2	6
68	Hardware Implementation and Performance Study of Analog PID Controllers on DC Motor. <i>Fractal and Fractional</i> , <b>2020</b> , 4, 34	3	0
67	Detection of Formaldehyde by A RGO/PMMA Coated Sensor <b>2020</b> ,		1
66	Performance Analysis of Solid-State Fractional Capacitor-Based Analog ( $\text{PI}^\lambda \text{D}^\mu$ ) Controller. <i>Circuits, Systems, and Signal Processing</i> , <b>2020</b> , 39, 1815-1830	2.2	6
65	Realization of Foster Structure-Based Ladder Fractor with Phase Band Specification. <i>Circuits, Systems, and Signal Processing</i> , <b>2020</b> , 39, 2272-2292	2.2	15
64	Performance study of a two-electrode type aqueous conductivity sensor for smart farming <b>2019</b> ,		2
63	An Impedimetric Cu-Polymer Sensor-Based Conductivity Meter for Precision Agriculture and Aquaculture Applications. <i>IEEE Sensors Journal</i> , <b>2019</b> , 19, 12087-12095	4	7
62	Single transistor fractional-order filter using a multi-walled carbon nanotube device. <i>Analog Integrated Circuits and Signal Processing</i> , <b>2019</b> , 100, 215-219	1.2	3

61	Hardware Platform to Detect Fat Percent in Milk Using a Lipase Immobilized PMMA-Coated Sensor. <i>IEEE Transactions on Instrumentation and Measurement</i> , <b>2019</b> , 68, 4526-4534	5.2	5
60	PMMA-Coated Capacitive Type Soil Moisture Sensor: Design, Fabrication, and Testing. <i>IEEE Transactions on Instrumentation and Measurement</i> , <b>2019</b> , 68, 189-196	5.2	8
59	Hand-held soil moisture meter using polymer coated sensor. <i>IEEE Instrumentation and Measurement Magazine</i> , <b>2019</b> , 22, 24-29	1.4	1
58	Electrical Model for Lipase Immobilized PMMA Coated Sensor to Detect Fat Content in Milk <b>2019</b> ,		1
57	Jigsaw electrode design for electrowetting devices. <i>Micro and Nano Letters</i> , <b>2019</b> , 14, 1046-1051	0.9	1
56	Study of threshold voltage for different electrode shapes in electrowetting device. <i>Materials Research Express</i> , <b>2019</b> , 6, 046414	1.7	1
55	A survey of single and multi-component Fractional-Order Elements (FOEs) and their applications. <i>Microelectronics Journal</i> , <b>2019</b> , 84, 9-25	1.8	48
54	Limit of Detection for Five Common Adulterants in Milk: A Study With Different Fat Percent. <i>IEEE Sensors Journal</i> , <b>2018</b> , 18, 2395-2403	4	19
53	Bioimpedimetric analysis in conjunction with growth dynamics to differentiate aggressiveness of cancer cells. <i>Scientific Reports</i> , <b>2018</b> , 8, 783	4.9	18
52	Analysis of disturbance rejection by PI controller using solid state fractional capacitor <b>2018</b> ,		2
51	Fractional-Order Filter Design <b>2018</b> , 357-382		4
50	Realization and characterization of carbon black based fractional order element. <i>Microelectronics Journal</i> , <b>2018</b> , 82, 22-28	1.8	16
49	Electrical equivalent model of a PMMA-urease based aqueous urea sensor <b>2018</b> ,		5
48	Fractional-Order Devices. <i>SpringerBriefs in Applied Sciences and Technology</i> , <b>2017</b> ,	0.4	27
47	Electrical equivalent circuit modelling of solid state fractional capacitor. <i>AEU - International Journal of Electronics and Communications</i> , <b>2017</b> , 78, 258-264	2.8	19
46	Solid-state fractional capacitor using MWCNT-epoxy nanocomposite. <i>Applied Physics Letters</i> , <b>2017</b> , 110, 163504	3.4	62
45	Introduction to Fractional-Order Elements and Devices. <i>SpringerBriefs in Applied Sciences and Technology</i> , <b>2017</b> , 1-20	0.4	2
44	Devices. <i>SpringerBriefs in Applied Sciences and Technology</i> , <b>2017</b> , 21-53	0.4	2

43	Demonstrations and Applications of Fractional-Order Devices. <i>SpringerBriefs in Applied Sciences and Technology</i> , <b>2017</b> , 55-72	0.4	
42	Fractional-Order Models of Vegetable Tissues. <i>SpringerBriefs in Applied Sciences and Technology</i> , <b>2017</b> , 73-92	0.4	2
41	Design and Hardware Realization of a Tunable Fractional-Order Series Resonator with High Quality Factor. <i>Circuits, Systems, and Signal Processing</i> , <b>2017</b> , 36, 3457-3476	2.2	21
40	Realization of Fractional Order Elements. <i>INAE Letters</i> , <b>2017</b> , 2, 41-47	0.7	23
39	A comparative study of polymer coated capacitive sensors for soil moisture sensing <b>2017</b> ,		4
38	. <i>IEEE Sensors Journal</i> , <b>2017</b> , 17, 6850-6858	4	6
37	Practical Realization of Tunable Fractional Order Parallel Resonator and Fractional Order Filters. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , <b>2016</b> , 63, 1142-1151	3.9	74
36	Fabrication and performance study of BST/Teflon nanocomposite thin film for low voltage electrowetting devices. <i>Sensors and Actuators A: Physical</i> , <b>2016</b> , 238, 122-132	3.9	24
35	Modelling and performance improvement of phase-angle-based conductivity sensor <b>2016</b> ,		10
34	Design and Performance Study of Dynamic Fractors in Any of the Four Quadrants. <i>Circuits, Systems, and Signal Processing</i> , <b>2016</b> , 35, 1909-1932	2.2	51
33	Milk Adulteration and Detection: A Review. <i>Sensor Letters</i> , <b>2016</b> , 14, 4-18	0.9	24
32	<b>2016</b> ,		9
31	A statistical study of detergent and shampoo adulterated milk detection system <b>2016</b> ,		2
30	Realization of a carbon nanotube based electrochemical fractor <b>2015</b> ,		25
29	Design and performance study of phase-locked loop using fractional-order loop filter. <i>International Journal of Circuit Theory and Applications</i> , <b>2015</b> , 43, 776-792	2	39
28	Experimental studies on realization of fractional inductors and fractional-order bandpass filters. <i>International Journal of Circuit Theory and Applications</i> , <b>2015</b> , 43, 1183-1196	2	108
27	Wavelet-based multiscale analysis of bioimpedance data measured by electric cell-substrate impedance sensing for classification of cancerous and normal cells. <i>Physical Review E</i> , <b>2015</b> , 92, 062702	2.4	8
26	Dielectrophoresis based microfluidic chip for continuous label-free separation of cells <b>2015</b> ,		1

25	A low cost instrumentation system to analyze different types of milk adulteration. <i>ISA Transactions</i> , <b>2015</b> , 56, 268-75	5.5	19
24	Dynamic Sensing of Liquid Droplet in Electrowetting Devices. <i>Sensor Letters</i> , <b>2015</b> , 13, 721-734	0.9	6
23	Evaluation of single cell electrical parameters from bioimpedance of a cell suspension. <i>RSC Advances</i> , <b>2014</b> , 4, 18178-18185	3.7	25
22	A microfluidic device for continuous manipulation of biological cells using dielectrophoresis. <i>Medical Engineering and Physics</i> , <b>2014</b> , 36, 726-31	2.4	36
21	Fragmental Frequency Analysis Method to Estimate Electrical Cell Parameters From Bioimpedance Study. <i>IEEE Transactions on Instrumentation and Measurement</i> , <b>2014</b> , 63, 1991-2000	5.2	11
20	Study of PDMS as Dielectric Layer in Electrowetting Devices. <i>Environmental Science and Engineering</i> , <b>2014</b> , 487-490	0.2	2
19	Rational Approximation and Analog Realization of Fractional Order Transfer Function with Multiple Fractional Powered Terms. <i>Asian Journal of Control</i> , <b>2013</b> , 15, 723-735	1.7	16
18	A Design Example of a Fractional-Order Kerwin-Buelsman-Newcomb Biquad Filter with Two Fractional Capacitors of Different Order. <i>Circuits, Systems, and Signal Processing</i> , <b>2013</b> , 32, 1523-1536	2.2	69
17	Packaging of Single-Component Fractional Order Element. <i>IEEE Transactions on Device and Materials Reliability</i> , <b>2013</b> , 13, 73-80	1.6	56
16	Use of squared magnitude function in approximation and hardware implementation of SISO fractional order system. <i>Journal of the Franklin Institute</i> , <b>2013</b> , 350, 1753-1767	4	12
15	Reduced Order Approximation of MIMO Fractional Order Systems. <i>IEEE Journal on Emerging and Selected Topics in Circuits and Systems</i> , <b>2013</b> , 3, 451-458	5.2	14
14	A novel approach for droplet position sensing in electrowetting devices <b>2013</b> ,		1
13	Electrical characterization of suspended HeLa cells using ECIS based biosensor <b>2012</b> ,		2
12	Performance study of fractional order integrator using single-component fractional order element. <i>IET Circuits, Devices and Systems</i> , <b>2011</b> , 5, 334	1.1	73
11	Fabrication of a Fractional Order Capacitor With Desired Specifications: A Study on Process Identification and Characterization. <i>IEEE Transactions on Electron Devices</i> , <b>2011</b> , 58, 4067-4073	2.9	124
10	Performance study of a constant phase angle based impedance sensor to detect milk adulteration. <i>Sensors and Actuators A: Physical</i> , <b>2011</b> , 167, 273-278	3.9	51
9	Study of Electrical Equivalent Model of the PMMA Coated Probe Dipped in Milk and Milk Adulterated with Urea <b>2011</b> ,		3
8	Effect of electrode geometry on voltage reduction in EWOD based devices <b>2010</b> ,		4

7	Rational approximation of fractional operator $\mathbb{I}^\alpha$ comparative study <b>2010</b> ,		9
6	Study of electrical equivalent model of the PMMA coated probe dipped in milk and milk adulterated with tap water <b>2010</b> ,		3
5	Performance of a constant phase element (CPE) sensor to detect adulteration in cow-milk with whey <b>2009</b> ,		4
4	Impedance Behaviour of a Microporous PMMA-Film ' Coated Constant Phase Element' based Chemical Sensor. <i>International Journal on Smart Sensing and Intelligent Systems</i> , <b>2008</b> , 1, 922-939	0.4	12
3	MEMS Capacitive Accelerometers. <i>Sensor Letters</i> , <b>2007</b> , 5, 471-484	0.9	21
2	A constant phase element sensor for monitoring microbial growth. <i>Sensors and Actuators B: Chemical</i> , <b>2006</b> , 119, 186-191	8.5	44
1	Modeling of a capacitive probe in a polarizable medium. <i>Sensors and Actuators A: Physical</i> , <b>2005</b> , 120, 115-122	3.9	29