

Rosa Villa

List of Publications by Year in descending order

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114
papers

2,881
citations

126858

33
h-index

206029

48
g-index

118
all docs

118
docs citations

118
times ranked

3702
citing authors

#	ARTICLE	IF	CITATIONS
1	Inkjet-printed electrochemical sensors. <i>Current Opinion in Electrochemistry</i> , 2017, 3, 29-39.	2.5	133
2	High-resolution mapping of infraslow cortical brain activity enabled by graphene microtransistors. <i>Nature Materials</i> , 2019, 18, 280-288.	13.3	121
3	SU-8 based microprobes for simultaneous neural depth recording and drug delivery in the brain. <i>Lab on A Chip</i> , 2013, 13, 1422.	3.1	109
4	Online oxygen monitoring using integrated inkjet-printed sensors in a liver-on-a-chip system. <i>Lab on A Chip</i> , 2018, 18, 2023-2035.	3.1	100
5	Flexible Graphene Solution-Gated Field-Effect Transistors: Efficient Transducers for Micro-Electrocorticography. <i>Advanced Functional Materials</i> , 2018, 28, 1703976.	7.8	97
6	Mapping brain activity with flexible graphene micro-transistors. <i>2D Materials</i> , 2017, 4, 025040.	2.0	72
7	Study of functional viability of SU-8-based microneedles for neural applications. <i>Journal of Micromechanics and Microengineering</i> , 2009, 19, 025007.	1.5	64
8	Electrochemical sensors for cortisol detections: Almost there. <i>TrAC - Trends in Analytical Chemistry</i> , 2020, 132, 116058.	5.8	62
9	SU-8 microprobe with microelectrodes for monitoring electrical impedance in living tissues. <i>Biosensors and Bioelectronics</i> , 2009, 24, 2410-2416.	5.3	61
10	A compartmentalized microfluidic chip with crisscross microgrooves and electrophysiological electrodes for modeling the blood-retinal barrier. <i>Lab on A Chip</i> , 2018, 18, 95-105.	3.1	61
11	Minimally invasive silicon probe for electrical impedance measurements in small animals. <i>Biosensors and Bioelectronics</i> , 2003, 19, 391-399.	5.3	60
12	SU-8 based microprobes with integrated planar electrodes for enhanced neural depth recording. <i>Biosensors and Bioelectronics</i> , 2012, 37, 1-5.	5.3	60
13	Quantitative self-powered electrochromic biosensors. <i>Chemical Science</i> , 2017, 8, 1995-2002.	3.7	58
14	Bistability, Causality, and Complexity in Cortical Networks: An In Vitro Perturbational Study. <i>Cerebral Cortex</i> , 2018, 28, 2233-2242.	1.6	58
15	Gut-on-a-chip: Mimicking and monitoring the human intestine. <i>Biosensors and Bioelectronics</i> , 2021, 181, 113156.	5.3	58
16	New technology for multi-sensor silicon needles for biomedical applications. <i>Sensors and Actuators B: Chemical</i> , 2001, 78, 279-284.	4.0	57
17	Inkjet printed flexible non-enzymatic glucose sensor for tear fluid analysis. <i>Applied Materials Today</i> , 2018, 10, 133-141.	2.3	57
18	Easily made single-walled carbon nanotube surface microelectrodes for neuronal applications. <i>Biosensors and Bioelectronics</i> , 2009, 24, 1942-1948.	5.3	54

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19	Bioimpedance dispersion width as a parameter to monitor living tissues. <i>Physiological Measurement</i> , 2005, 26, S165-S173.	1.2	53
20	All-inkjet-printed dissolved oxygen sensors on flexible plastic substrates. <i>Organic Electronics</i> , 2016, 39, 168-176.	1.4	53
21	Geometric correction factor for transepithelial electrical resistance measurements in transwell and microfluidic cell cultures. <i>Journal Physics D: Applied Physics</i> , 2016, 49, 375401.	1.3	53
22	Engineering and monitoring cellular barrier models. <i>Journal of Biological Engineering</i> , 2018, 12, 18.	2.0	52
23	Manufacturing and full characterization of silicon carbide-based multi-sensor micro-probes for biomedical applications. <i>Microelectronics Journal</i> , 2007, 38, 406-415.	1.1	50
24	Full-bandwidth electrophysiology of seizures and epileptiform activity enabled by flexible graphene microtransistor depth neural probes. <i>Nature Nanotechnology</i> , 2022, 17, 301-309.	15.6	49
25	Non-invasive intraocular pressure monitoring with a contact lens engineered with a nanostructured polymeric sensing film. <i>Sensors and Actuators A: Physical</i> , 2011, 170, 36-43.	2.0	48
26	Electrochromic biosensors based on screen-printed Prussian Blue electrodes. <i>Sensors and Actuators B: Chemical</i> , 2019, 290, 591-597.	4.0	46
27	Stable Full-Inkjet-Printed Solid-State Ag/AgCl Reference Electrode. <i>Analytical Chemistry</i> , 2019, 91, 15539-15546.	3.2	42
28	Switchless Multiplexing of Graphene Active Sensor Arrays for Brain Mapping. <i>Nano Letters</i> , 2020, 20, 3528-3537.	4.5	42
29	Engineering Tissue Barrier Models on Hydrogel Microfluidic Platforms. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 13920-13933.	4.0	42
30	Peripheral nerve regeneration through microelectrode arrays based on silicon technology. <i>Restorative Neurology and Neuroscience</i> , 1996, 9, 151-160.	0.4	39
31	SU-8-based microneedles for <i>in vitro</i> neural applications. <i>Journal of Micromechanics and Microengineering</i> , 2010, 20, 064014.	1.5	39
32	Prototype of a Nanostructured Sensing Contact Lens for Noninvasive Intraocular Pressure Monitoring. , 2011, 52, 8310.		39
33	Enhanced Performance Stability of Iridium Oxide-Based pH Sensors Fabricated on Rough Inkjet-Printed Platinum. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 15160-15169.	4.0	39
34	Resemblance of the human liver sinusoid in a fluidic device with biomedical and pharmaceutical applications. <i>Biotechnology and Bioengineering</i> , 2018, 115, 2585-2594.	1.7	38
35	Color tunable pressure sensors based on polymer nanostructured membranes for optofluidic applications. <i>Scientific Reports</i> , 2019, 9, 3259.	1.6	35
36	Multiparametric monitoring of ischemia-reperfusion in rat kidney: effect of ischemic preconditioning. <i>Transplantation</i> , 2003, 75, 744-749.	0.5	32

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37	A Novel Modular Bioreactor to In Vitro Study the Hepatic Sinusoid. PLoS ONE, 2014, 9, e111864.	1.1	31
38	Quantification of Signal-to-Noise Ratio in Cerebral Cortex Recordings Using Flexible MEAs With Co-localized Platinum Black, Carbon Nanotubes, and Gold Electrodes. Frontiers in Neuroscience, 2018, 12, 862.	1.4	28
39	3D Printed porous polyamide macrocapsule combined with alginate microcapsules for safer cell-based therapies. Scientific Reports, 2018, 8, 8512.	1.6	25
40	Nanomechanical Sensors as a Tool for Bacteria Detection and Antibiotic Susceptibility Testing. Frontiers in Mechanical Engineering, 2020, 6, .	0.8	25
41	A SiC microdevice for the minimally invasive monitoring of ischemia in living tissues. Biomedical Microdevices, 2006, 8, 43-49.	1.4	23
42	Single-walled carbon nanotubes deposited on surface electrodes to improve interface impedance. Physiological Measurement, 2008, 29, S203-S212.	1.2	23
43	Effect of surface conductivity on the sensitivity of interdigitated impedimetric sensors and their design considerations. Sensors and Actuators B: Chemical, 2015, 207, 1010-1018.	4.0	23
44	Multiplexed neural sensor array of graphene solution-gated field-effect transistors. 2D Materials, 2020, 7, 025046.	2.0	23
45	Real-Time Direct Measurement of Human Liver Allograft Temperature from Recovery to Transplantation. Transplantation, 2006, 81, 483-486.	0.5	21
46	Cancer Prognostics by Direct Detection of p53 Antibodies on Gold Surfaces by Impedance Measurements. Small, 2012, 8, 2106-2115.	5.2	20
47	Distortion-Free Sensing of Neural Activity Using Graphene Transistors. Small, 2020, 16, 1906640.	5.2	20
48	Fully Inkjet-Printed Biosensors Fabricated with a Highly Stable Ink Based on Carbon Nanotubes and Enzyme-Functionalized Nanoparticles. Nanomaterials, 2021, 11, 1645.	1.9	20
49	<i>In vivo</i> detection of liver steatosis in rats based on impedance spectroscopy. Physiological Measurement, 2007, 28, 813-828.	1.2	19
50	Vertically aligned multi-walled carbon nanotube growth on platinum electrodes for bio-impedance applications. Microelectronic Engineering, 2009, 86, 806-808.	1.1	19
51	<i>In Situ</i> Drop Effects in Self-Powered and Electrochromic Biosensors. Journal of Physical Chemistry C, 2018, 122, 2596-2607.	1.5	19
52	Improved metal-graphene contacts for low-noise, high-density microtransistor arrays for neural sensing. Carbon, 2020, 161, 647-655.	5.4	19
53	Increasing biosensor response through hydrogel thin film deposition: Influence of hydrogel thickness. Vacuum, 2012, 86, 2102-2104.	1.6	18
54	Electrical bioimpedance measurement during hypothermic rat kidney preservation for assessing ischemic injury. Biosensors and Bioelectronics, 2005, 20, 1866-1871.	5.3	17

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55	Non-invasive assessment of corneal endothelial permeability by means of electrical impedance measurements. <i>Medical Engineering and Physics</i> , 2010, 32, 1107-1115.	0.8	16
56	A Rapid and Reliable Means of Assessing Hepatic Steatosis In Vivo Via Electrical Bioimpedance. <i>Transplantation</i> , 2009, 88, 716-722.	0.5	15
57	Characterization of an encapsulated insulin secreting human pancreatic beta cell line in a modular microfluidic device. <i>Journal of Drug Targeting</i> , 2018, 26, 36-44.	2.1	15
58	¹¹¹ In-Oxine-labelled autologous leucocytes in inflammatory bowel disease: New scintigraphic activity index. <i>European Journal of Nuclear Medicine and Molecular Imaging</i> , 1986, 11, 341-344.	2.2	14
59	3D printed polyamide macroencapsulation devices combined with alginate hydrogels for insulin-producing cell-based therapies. <i>International Journal of Pharmaceutics</i> , 2019, 566, 604-614.	2.6	14
60	Specially Designed Polyaniline/Polypyrrole Ink for a Fully Printed Highly Sensitive pH Microsensor. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 33524-33535.	4.0	14
61	A non-invasive method for an in vivo assessment of corneal epithelium permeability through tetrapolar impedance measurements. <i>Biosensors and Bioelectronics</i> , 2012, 31, 55-61.	5.3	13
62	A simple approach for DNA detection on carbon nanotube microelectrode arrays. <i>Sensors and Actuators B: Chemical</i> , 2012, 162, 120-127.	4.0	13
63	Profiling of oxygen in biofilms using individually addressable disk microelectrodes on a microfabricated needle. <i>Mikrochimica Acta</i> , 2015, 182, 985-993.	2.5	13
64	Characterization of optogenetically-induced cortical spreading depression in awake mice using graphene micro-transistor arrays. <i>Journal of Neural Engineering</i> , 2021, 18, 055002.	1.8	13
65	Impedance microprobes for myocardial ischemia monitoring. , 0, , .		11
66	Biofilm dynamics characterization using a novel DO-MEA sensor: mass transport and biokinetics. <i>Applied Microbiology and Biotechnology</i> , 2015, 99, 55-66.	1.7	11
67	Miniaturized multiparametric flexible platform for the simultaneous monitoring of ionic: Application in real urine. <i>Sensors and Actuators B: Chemical</i> , 2018, 255, 2861-2870.	4.0	10
68	Mechanochromic Detection for Soft Opto-Magnetic Actuators. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 47871-47881.	4.0	10
69	Total Iron-Overload Measurement in the Human Liver Region by the Magnetic Iron Detector. <i>IEEE Transactions on Biomedical Engineering</i> , 2010, 57, 2295-2303.	2.5	9
70	New Generation of SiC Based Biodevices Implemented on 4" Wafers. <i>Materials Science Forum</i> , 0, 645-648, 1097-1100.	0.3	9
71	Antimony tin oxide (ATO) screen-printed electrodes and their application to spectroelectrochemistry. <i>Electrochemistry Communications</i> , 2018, 93, 123-127.	2.3	9
72	Versatile Graphene-Based Platform for Robust Nanobiohybrid Interfaces. <i>ACS Omega</i> , 2019, 4, 3287-3297.	1.6	9

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73	A perfusion chamber for monitoring transepithelial NaCl transport in an in vitro model of the renal tubule. <i>Biotechnology and Bioengineering</i> , 2018, 115, 1604-1613.	1.7	8
74	A Minimally Invasive Microsensor Specially Designed for Simultaneous Dissolved Oxygen and pH Biofilm Profiling. <i>Sensors</i> , 2019, 19, 4747.	2.1	8
75	Ultrabroadband light absorbing Fe/polymer flexible metamaterial for soft opto-mechanical devices. <i>Applied Materials Today</i> , 2021, 23, 101052.	2.3	8
76	A novel strategy to monitor microfluidic in-vitro blood-brain barrier models using impedance spectroscopy. <i>Proceedings of SPIE</i> , 2015, , .	0.8	7
77	Portable 4 Wire Bioimpedance Meter with Bluetooth Link. <i>IFMBE Proceedings</i> , 2009, , 868-871.	0.2	7
78	Elastic Plasmonicâ€Enhanced Fabryâ€PÃ©rot Cavities with Ultrasensitive Stretching Tunability. <i>Advanced Materials</i> , 2022, 34, e2106731.	11.1	7
79	Reliable Paper Surface Treatments for the Development of Inkjetâ€Printed Electrochemical Sensors. <i>Advanced Materials Interfaces</i> , 2022, 9, .	1.9	7
80	Instrumentation system for in vivo organ studies. , 0, , .		6
81	Development of a three-dimensional cell culture system based on microfluidics for nuclear magnetic resonance and optical monitoring. <i>Biomicrofluidics</i> , 2014, 8, 064105.	1.2	6
82	Biofilm Oxygen Profiling using an Array of Microelectrodes on a Microfabricated Needle. <i>Procedia Engineering</i> , 2014, 87, 256-259.	1.2	6
83	Vertically Aligned Carbon Nanotubes for Microelectrode Arrays Applications. <i>Journal of Nanoscience and Nanotechnology</i> , 2012, 12, 6941-6947.	0.9	5
84	Flexible probe for in vivo quantification of corneal epithelium permeability through non-invasive tetrapolar impedance measurements. <i>Biomedical Microdevices</i> , 2013, 15, 849-858.	1.4	5
85	A Microwave Microfluidic Reflective-Mode Phase-Variation Sensor. , 2021, , .		5
86	An Integrated Implantable Electrical Sacral Root Stimulator for Bladder Control. <i>Neuromodulation</i> , 2002, 5, 238-247.	0.4	4
87	Multi-walled carbon nanotube based multi-electrode arrays for the detection of the emergent activity in the cortical network. <i>Microelectronic Engineering</i> , 2013, 112, 14-20.	1.1	4
88	New Trends in Quantitative Assessment of the Corneal Barrier Function. <i>Sensors</i> , 2014, 14, 8718-8727.	2.1	4
89	Interface impedance improvement with carbon nanotubes. , 2007, , 296-299.		4
90	Silicon microsystem passivation for high-voltage applications in DNA chips. <i>Microelectronics Reliability</i> , 2000, 40, 787-789.	0.9	3

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91	Multisensor silicon needle for cardiac applications. , 0, , .		3
92	Carbon Nanotubes as Suitable Electrochemical Platforms for Metalloprotein Sensors and Genosensors. , 0, , .		3
93	A SU-8-based flexible microprobe for close and distal recordings from the cortical network. Proceedings of SPIE, 2015, , .	0.8	3
94	All Inkjet Printing Sensor Device on Paper: for Immunosensors Applications. , 2019, , .		3
95	Hybrid contact lens capable of intraocular pressure monitoring in noninvasive way. , 2013, , .		2
96	Flexible Polyimide Platform based on the Integration of Potentiometric Multi-sensor for Biomedical Applications. Procedia Engineering, 2014, 87, 276-279.	1.2	2
97	Low cost nanomechanical surfaces stress based sensors fabricated by hybrid materials. , 2017, , .		2
98	COBRA: An Evolved Online Tool for Mammography Interpretation. Lecture Notes in Computer Science, 2003, , 726-733.	1.0	2
99	Direct Color Observation of Light-Driven Molecular Conformation-Induced Stress. Small Methods, 2022, 6, 2101283.	4.6	2
100	Micro and nano technologies in medical applications: a challenge. , 0, , .		1
101	Flexible microfluidic bio-lab-on-a-chip multi-sensor platform for electrochemical measurements. , 2014, , .		1
102	Key Points for Transferring Graphene Grown by Chemical Vapor Deposition. , 2016, , 3-18.		1
103	Neural interfaces based on flexible graphene transistors: A new tool for electrophysiology. , 2019, , .		1
104	Discrete Portable Measuring Device for Monitoring Noninvasive Intraocular Pressure with a Nano-Structured Sensing Contact Lens Prototype. International Journal of E-Health and Medical Communications, 2011, 2, 1-19.	1.4	1
105	Chapter 2. Development of Microelectrode-based Biosensors for Biomedical Analysis. RSC Detection Science, 2015, , 19-84.	0.0	1
106	In vivo assessment of corneal barrier function through non-invasive impedance measurements using a flexible probe. Journal of Physics: Conference Series, 2013, 434, 012072.	0.3	0
107	P0104 : The liver sinusoid within a microfluidic chamber: A new tool for vascular biology research. Journal of Hepatology, 2015, 62, S339-S340.	1.8	0
108	Maintenance of Hepatocyte Phenotype in Vitro: The Sinusoidal Milieu is the Key. Journal of Hepatology, 2016, 64, S307-S308.	1.8	0

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109	Nanoengineered Biomaterials for the treatment of liver diseases. , 2019, , 417-441.		0
110	Activity Modulation in Human Neuroblastoma Cultured Cells: Towards a Biological Neuroprocessor. Lecture Notes in Computer Science, 2009, , 142-154.	1.0	0
111	Regenerative-type neural interface. Lecture Notes in Computer Science, 1995, , 114-120.	1.0	0
112	New perspectives in auditory coding: Bases for a new cochlear behavioural model. Lecture Notes in Computer Science, 1995, , 121-129.	1.0	0
113	Inkjet-printed dissolved oxygen and pH sensors on flexible plastic substrates. , 2017, , .		0
114	Discrete Portable Measuring Device for Monitoring Noninvasive Intraocular Pressure with a Nano-Structured Sensing Contact Lens Prototype. , 0, , 214-229.		0