Bernhard Wolfrum

List of Publications by Year
in descending order

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116 papers	2,942 citations	159358 30 h-index	197535 49 g-index
122 all docs	122 docs citations	122 times ranked	3241 citing authors

#	Article	IF	Citations
1	Single-Impact Electrochemistry in Paper-Based Microfluidics. ACS Sensors, 2022, 7, 884-892.	4.0	11
2	Inkjet printed Ta2O5 on a flexible substrate for capacitive pH sensing at high ionic strength. Sensors and Actuators B: Chemical, 2022, 369, 132250.	4.0	4
3	Prototype Digital Lateral Flow Sensor Using Impact Electrochemistry in a Competitive Binding Assay. ACS Sensors, 2022, 7, 1967-1976.	4.0	3
4	(Digital Presentation) Stochastic Impact Electrochemistry in a Lateral-Flow Sensor Architecture. ECS Meeting Abstracts, 2022, MA2022-01, 2116-2116.	0.0	0
5	A Superabsorbent Sodium Polyacrylate Printing Resin as Actuator Material in 4D Printing. Macromolecular Materials and Engineering, 2022, 307, .	1.7	5
6	Biocompatible, Flexible, and Oxygen-Permeable Silicone-Hydrogel Material for Stereolithographic Printing of Microfluidic Lab-On-A-Chip and Cell-Culture Devices. ACS Applied Polymer Materials, 2021, 3, 243-258.	2.0	15
7	An Investigation into the Intrinsic Peroxidaseâ€Like Activity of Feâ€MOFs and Feâ€MOFs/Polymer Composites. Advanced Materials Technologies, 2021, 6, 2001048.	3.0	27
8	Inkjet-Printed and Electroplated 3D Electrodes for Recording Extracellular Signals in Cell Culture. Sensors, 2021, 21, 3981.	2.1	11
9	A Cost-Effective, Impediometric Na⁺-Sensor in Fluids. , 2021, 5, 1-4.		5
10	Lab-on-a-chip based mechanical actuators and sensors for single-cell and organoid culture studies. Journal of Applied Physics, 2021, 129, 210905.	1.1	7
11	3D Printing of Implants Composed of Nanjing Tamasudareâ€Inspired Flexible Shape Transformers. Advanced Materials Technologies, 2021, 6, 2100240.	3.0	4
12	Engineering Electrostatic Repulsion of Metal Nanoparticles for Reduced Adsorption in Single-Impact Electrochemical Recordings. ACS Applied Nano Materials, 2021, 4, 8314-8320.	2.4	8
13	Impedance scaling for gold and platinum microelectrodes. Journal of Neural Engineering, 2021, 18, 056025.	1.8	10
14	Upscaling of pneumatic membrane valves for the integration of 3D cell cultures on chip. Lab on A Chip, 2021, 21, 2986-2996.	3.1	14
15	Temperature profile characterization with fluorescence lifetime imaging microscopy in a thermophoretic chip. European Physical Journal E, 2021, 44, 130.	0.7	1
16	Recent developments and future perspectives on neuroelectronic devices. Neuroforum, 2021, .	0.2	1
17	Manufacturing Cycle-Time Optimization Using Gaussian Drying Model for Inkjet-Printed Electronics. , 2021, , .		0
18	Printed 3D Electrode Arrays with Micrometerâ€Scale Lateral Resolution for Extracellular Recording of Action Potentials. Advanced Materials Technologies, 2020, 5, 1900517.	3.0	23

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19	Opportunities and challenges of translating direct single impact electrochemistry to high-throughput sensing applications. Current Opinion in Electrochemistry, 2020, 22, 203-210.	2.5	5
20	Detection of cellular micromotion by advanced signal processing. Scientific Reports, 2020, 10, 20078.	1.6	0
21	Soft peripheral nerve interface made from carbon nanotubes embedded in silicone. APL Materials, 2020, 8, .	2.2	17
22	Tantalum(<scp>v</scp>) 1,3-propanediolate Î²-diketonate solution as a precursor to solâ€“gel derived, metal oxide thin films. RSC Advances, 2020, 10, 13737-13748.	1.7	3
23	Ultrasoft Silicone Gel as a Biomimetic Passivation Layer in Inkjetâ€Printed 3D MEA Devices. Advanced Biology, 2019, 3, e1900130.	3.0	8
24	Fully Printed Î¼-Needle Electrode Array from Conductive Polymer Ink for Bioelectronic Applications. ACS Applied Materials & Interfaces, 2019, 11, 32778-32786.	4.0	45
25	Electronic design automation for increased robustness in inkjet-printed electronics. Flexible and Printed Electronics, 2019, 4, 045002.	1.5	2
26	Tuning Channel Architecture of Interdigitated Organic Electrochemical Transistors for Recording the Action Potentials of Electrogenic Cells. Advanced Functional Materials, 2019, 29, 1902085.	7.8	42
27	Direct Stereolithographic 3D Printing of Microfluidic Structures on Polymer Substrates for Printed Electronics. Advanced Materials Technologies, 2019, 4, 1800455.	3.0	15
28	Rapid Prototyping of Ultralowâ€Cost, Inkjetâ€Printed Carbon Microelectrodes for Flexible Bioelectronic Devices. Advanced Biology, 2018, 2, 1700136.	3.0	33
29	Fabrication of ultrathin and flexible graphene-based devices for in vivo neuroprosthetics. MRS Advances, 2018, 3, 1621-1627.	0.5	6
30	On-Chip Stochastic Detection of Silver Nanoparticles without a Reference Electrode. ACS Sensors, 2018, 3, 93-98.	4.0	12
31	Chipâ€Based Heat Stimulation for Modulating Signal Propagation in HLâ€1 Cell Networks. Advanced Biology, 2018, 2, 1800138.	3.0	2
32	Printed microelectrode arrays on soft materials: from PDMS to hydrogels. Npj Flexible Electronics, 2018, 2, .	5.1	95
33	CMOS-Compatible Silicon Nanowire Field-Effect Transistor Biosensor: Technology Development toward Commercialization. Materials, 2018, 11, 785.	1.3	85
34	Fabrication of precisely aligned microwire and microchannel structures: Toward heat stimulation of guided neurites in neuronal cultures. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1600729.	0.8	2
35	Three-dimensional inkjet-printed redox cycling sensor. RSC Advances, 2017, 7, 5473-5479.	1.7	17
36	Flexible Microgap Electrodes by Direct Inkjet Printing for Biosensing Application. Advanced Biology, 2017, 1, 1600016.	3.0	21

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37	MEAs and 3D nanoelectrodes: electrodeposition as tool for a precisely controlled nanofabrication. Nanotechnology, 2017, 28, 095302.	1.3	25
38	The Influence of Supporting Ions on the Electrochemical Detection of Individual Silver Nanoparticles: Understanding the Shape and Frequency of Current Transients in Nanoâ€impacts. Chemistry - A European Journal, 2017, 23, 4638-4643.	1.7	33
39	Printed microfluidic filter for heparinized blood. Biomicrofluidics, 2017, 11, 034101.	1.2	9
40	Graphene Multielectrode Arrays as a Versatile Tool for Extracellular Measurements. Advanced Healthcare Materials, 2017, 6, 1601433.	3.9	38
41	All-inkjet-printed gold microelectrode arrays for extracellular recording of action potentials. Flexible and Printed Electronics, 2017, 2, 035003.	1.5	32
42	Observation of chemically protected polydimethylsiloxane: towards crack-free PDMS. Soft Matter, 2017, 13, 6297-6303.	1.2	25
43	Graphene transistors for interfacing with cells: towards a deeper understanding of liquid gating and sensitivity. Scientific Reports, 2017, 7, 6658.	1.6	60
44	Electrochemical Nanocavity Devices. Springer Series on Chemical Sensors and Biosensors, 2017, , 199-214.	0.5	2
45	Versatile Flexible Graphene Multielectrode Arrays. Biosensors, 2017, 7, 1.	2.3	63
46	Graphene field effect transistors for in vitro and ex vivo recordings. IEEE Nanotechnology Magazine, 2016, , 1-1.	1.1	13
47	Nanoscale Electrochemical Sensor Arrays: Redox Cycling Amplification in Dual-Electrode Systems. Accounts of Chemical Research, 2016, 49, 2031-2040.	7.6	75
48	On-chip electromagnetic tweezers â€“ 3-dimensional particle actuation using microwire crossbar arrays. Lab on A Chip, 2016, 16, 4749-4758.	3.1	9
49	High throughput transfer technique: Save your graphene. Carbon, 2016, 107, 319-324.	5.4	23
50	Toward Intraoperative Detection of Disseminated Tumor Cells in Lymph Nodes with Silicon Nanowire Field Effect Transistors. ACS Nano, 2016, 10, 2357-2364.	7.3	48
51	Influence of Self-Assembled Alkanethiol Monolayers on Stochastic Amperometric On-Chip Detection of Silver Nanoparticles. Analytical Chemistry, 2016, 88, 3632-3637.	3.2	13
52	Inkjet printing of UV-curable adhesive and dielectric inks for microfluidic devices. Lab on A Chip, 2016, 16, 70-74.	3.1	44
53	Inducing microscopic thermal lesions for the dissection of functional cell networks on a chip. Lab on A Chip, 2015, 15, 237-243.	3.1	6
54	Nanostructured cavity devices for extracellular stimulation of HL-1 cells. Nanoscale, 2015, 7, 9275-9281.	2.8	22

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55	Stochastic On-Chip Detection of Subpicomolar Concentrations of Silver Nanoparticles. Analytical Chemistry, 2015, 87, 7321-7325.	3.2	29
56	Complementary Metal Oxide Semiconductor Compatible Silicon Nanowires-on-a-Chip: Fabrication and Preclinical Validation for the Detection of a Cancer Prognostic Protein Marker in Serum. Analytical Chemistry, 2015, 87, 1662-1668.	3.2	29
57	Nanocavity crossbar arrays for parallel electrochemical sensing on a chip. Beilstein Journal of Nanotechnology, 2014, 5, 1137-1143.	1.5	16
58	Brownian motion in electrochemical nanodevices. European Physical Journal: Special Topics, 2014, 223, 3165-3178.	1.2	11
59	Photoresponsive properties of ultrathin silicon nanowires. Applied Physics Letters, 2014, 105, 231116.	1.5	22
60	Simulation of the impact of reversible adsorption on the response time of interdigitated electrode arrays. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 1352-1356.	0.8	1
61	Fabrication of MEAâ€based nanocavity sensor arrays for extracellular recording of action potentials. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 1462-1466.	0.8	16
62	Onâ€chip fast scan cyclic voltammetry for selective detection of redox active neurotransmitters. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 1364-1371.	0.8	11
63	Redox cycling in nanoporous electrochemical devices. Nanoscale, 2014, 6, 589-598.	2.8	30
64	Electrochemical artifacts originating from nanoparticle contamination by Ag/AgCl quasi-reference electrodes. Lab on A Chip, 2014, 14, 602-607.	3.1	30
65	Sensing with nanopores â€“ the influence of asymmetric blocking on electrochemical redox cycling current. Analyst, The, 2014, 139, 5499-5503.	1.7	3
66	Noise Phenomena Caused by Reversible Adsorption in Nanoscale Electrochemical Devices. ACS Nano, 2014, 8, 4924-4930.	7.3	27
67	Fabrication of locally thinned down silicon nanowires. Journal of Materials Chemistry C, 2014, 2, 5229-5234.	2.7	12
68	Equality of diffusion-limited chronoamperometric currents to equal area spherical and cubic nanoparticles on a supporting electrode surface. Chemical Physics Letters, 2014, 595-596, 31-34.	1.2	8
69	How Many Molecules are Required to Obtain a Steady Faradaic Current from Mediated Electron Transfer at a Single Nanoparticle on a Supporting Surface?. ChemPhysChem, 2014, 15, 872-875.	1.0	7
70	Nanoporous dual-electrodes with millimetre extensions: parallelized fabrication and area effects on redox cycling. Physical Chemistry Chemical Physics, 2014, 16, 11609-11616.	1.3	8
71	Fabrication, Properties and Applications of Gold Nanopillars. , 2014, , 317-354.		4
72	Photopatterning of self-assembled poly (ethylene) glycol monolayer for neuronal network fabrication. Journal of Neuroscience Methods, 2013, 213, 196-203.	1.3	20

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73	Parallel On-Chip Analysis of Single Vesicle Neurotransmitter Release. Analytical Chemistry, 2013, 85, 5483-5490.	3.2	50
74	Noise Characteristics of Nanoscaled Redox-Cycling Sensors: Investigations Based on Random Walks. Journal of the American Chemical Society, 2013, 135, 8874-8881.	6.6	33
75	On-chip optical stimulation and electrical recording from cells. Journal of Biomedical Optics, 2013, 18, 1.	1.4	15
76	Ion Transport Through Polyelectrolyte Multilayers. Macromolecular Rapid Communications, 2013, 34, 1820-1826.	2.0	9
77	Wafer-scale fabrication of ultra-thin silicon nanowire devices. , 2013, , .		0
78	Transistor Functions Based on Electrochemical Rectification. Angewandte Chemie - International Edition, 2013, 52, 4029-4032.	7.2	18
79	Planar reference electrodes on multielectrode arrays for electrochemical measurements of ionic currents. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 892-897.	0.8	8
80	Actuation and tracking of a single magnetic particle on a chip. Applied Physics Letters, 2012, 100, .	1.5	4
81	Frequency-dependent signal transfer at the interface between electrogenic cells and nanocavity electrodes. Physical Review E, 2012, 85, 031917.	0.8	17
82	A nanoporous alumina microelectrode array for functional cellâ€“chip coupling. Nanotechnology, 2012, 23, 495303.	1.3	22
83	On-chip redox cycling techniques for electrochemical detection. Reviews in Analytical Chemistry, 2012, 31, .	1.5	23
84	Adhesion and survival of electrogenic cells on gold nanopillar array electrodes. International Journal of Nano and Biomaterials, 2012, 4, 108.	0.1	12
85	Stochasticity in Single-Molecule Nanoelectrochemistry: Origins, Consequences, and Solutions. ACS Nano, 2012, 6, 9662-9671.	7.3	57
86	Printed Carbon Microelectrodes for Electrochemical Detection of Single Vesicle Release from PC12 Cells. Analytical Chemistry, 2012, 84, 4613-4617.	3.2	26
87	Onâ€chip control of magnetic particles. Physica Status Solidi (A) Applications and Materials Science, 2012, 209, 871-874.	0.8	6
88	Simulationâ€based investigations on noise characteristics of redoxâ€cycling sensors. Physica Status Solidi (A) Applications and Materials Science, 2012, 209, 881-884.	0.8	7
89	Frontispiece: Simulationâ€based investigations on noise characteristics of redoxâ€cycling sensors (Phys.) Tj ETQq1 1 0.784314 rgBT /	0.8	0
90	Gradient etching of silicon-based thin films for depth-resolved measurements: The example of Raman crystallinity. Thin Solid Films, 2012, 520, 2605-2608.	0.8	13

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91	Nanocavity electrode array for recording from electrogenic cells. Lab on A Chip, 2011, 11, 1054.	3.1	42
92	Stochastic Sensing of Single Molecules in a Nanofluidic Electrochemical Device. Nano Letters, 2011, 11, 2881-2886.	4.5	129
93	Nanostructured gold microelectrodes for extracellular recording from electrogenic cells. Nanotechnology, 2011, 22, 265104.	1.3	98
94	Microfluidic anodization of aluminum films for the fabrication of nanoporous lipid bilayer support structures. Beilstein Journal of Nanotechnology, 2011, 2, 104-109.	1.5	4
95	Fabrication of a nanoporous dualâ€electrode system for electrochemical redox cycling. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 1265-1269.	0.8	6
96	Low impedance surface coatings via nanopillars and conductive polymers. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 1284-1289.	0.8	6
97	Time-resolved mapping of neurotransmitter fluctuations by arrays of nanocavity redox-cycling sensors. Procedia Engineering, 2010, 5, 956-958.	1.2	2
98	Fabrication and application of a microfluidicâ€embedded silicon nanowire biosensor chip. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 850-857.	0.8	37
99	Nanocavity Redox Cycling Sensors for the Detection of Dopamine Fluctuations in Microfluidic Gradients. Analytical Chemistry, 2010, 82, 8502-8509.	3.2	70
100	Redox cycling in nanofluidic channels using interdigitated electrodes. Analytical and Bioanalytical Chemistry, 2009, 394, 447-456.	1.9	88
101	Fast Electron-Transfer Kinetics Probed in Nanofluidic Channels. Journal of the American Chemical Society, 2009, 131, 11471-11477.	6.6	119
102	Electrochemical Correlation Spectroscopy in Nanofluidic Cavities. Analytical Chemistry, 2009, 81, 8203-8212.	3.2	62
103	Analyzing the electroactive surface of gold nanopillars by electrochemical methods for electrode miniaturization. Electrochimica Acta, 2008, 53, 6265-6272.	2.6	57
104	Nanofluidic Redox Cycling Amplification for the Selective Detection of Catechol. Analytical Chemistry, 2008, 80, 972-977.	3.2	133
105	Spatially resolved non-invasive chemical stimulation for modulation of signalling in reconstructed neuronal networks. Journal of the Royal Society Interface, 2006, 3, 333-343.	1.5	7
106	Suspended Nanoporous Membranes as Interfaces for Neuronal Biohybrid Systems. Nano Letters, 2006, 6, 453-457.	4.5	58
107	Fabrication of Large-Scale Patterned Gold-Nanopillar Arrays on a Silicon Substrate Using Imprinted Porous Alumina Templates. Small, 2006, 2, 1256-1260.	5.2	26
108	Cell detachment method using shock-waveâ€“induced cavitation. Ultrasound in Medicine and Biology, 2003, 29, 1769-1776.	0.7	30

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109	Detachment and sonoporation of adherent HeLa-cells by shock wave-induced cavitation. Biochimica Et Biophysica Acta - General Subjects, 2003, 1624, 131-138.	1.1	102
110	Shock wave induced interaction of microbubbles and boundaries. Physics of Fluids, 2003, 15, 2916.	1.6	41
111	Observations of pressure-wave-excited contrast agent bubbles in the vicinity of cells. Applied Physics Letters, 2002, 81, 5060-5062.	1.5	52
112	Dynamics of laser-induced cavitation bubbles. Experimental Thermal and Fluid Science, 2002, 26, 731-737.	1.5	34
113	Luminescence of transient bubbles at elevated ambient pressures. Physical Review E, 2001, 64, 046306.	0.8	22
114	Cavitation induced cell detachment and membrane permeabilization. , 0, , .		1
115	Photo-responsive Properties on Locally Confined Ultrathin Silicon Nanowires. , 0, , .		0
116	3D printed microfluidics for blood filtration. Frontiers in Bioengineering and Biotechnology, 0, 4, .	2.0	0