

List of Publications by Citations

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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.

114 papers	2,945 citations	33 h-index	50 g-index
128 ext. papers	3,536 ext. citations	5.9 avg, IF	5.4 L-index

#	Paper	IF	Citations
114	Quantification of the heterogeneity in breast cancer cell lines using whole-cell impedance spectroscopy. <i>Clinical Cancer Research</i> , 2007 , 13, 139-43	12.9	152
113	Microfluidic compartmentalized co-culture platform for CNS axon myelination research. <i>Biomedical Microdevices</i> , 2009 , 11, 1145-53	3.7	139
112	Microfabricated microbial fuel cell arrays reveal electrochemically active microbes. <i>PLoS ONE</i> , 2009 , 4, e6570	3.7	118
111	A programmable microfluidic cell array for combinatorial drug screening. <i>Lab on A Chip</i> , 2012 , 12, 1813-22	2.2	113
110	Thermoresponsive nanocomposite hydrogels with cell-releasing behavior. <i>Biomaterials</i> , 2008 , 29, 3175-84	5.6	90
109	Microsystems for isolation and electrophysiological analysis of breast cancer cells from blood. <i>Biosensors and Bioelectronics</i> , 2006 , 21, 1907-14	11.8	84
108	Development and Characterization of Microfluidic Devices and Systems for Magnetic Bead-Based Biochemical Detection. <i>Biomedical Microdevices</i> , 2001 , 3, 191-200	3.7	81
107	A microfluidic photobioreactor array demonstrating high-throughput screening for microalgal oil production. <i>Lab on A Chip</i> , 2014 , 14, 1415-25	7.2	78
106	A low-temperature bonding technique using spin-on fluorocarbon polymers to assemble microsystems. <i>Journal of Micromechanics and Microengineering</i> , 2002 , 12, 187-191	2	75
105	A high-throughput microfluidic single-cell screening platform capable of selective cell extraction. <i>Lab on A Chip</i> , 2015 , 15, 2467-75	7.2	74
104	Conjugated oligoelectrolytes increase power generation in E. coli microbial fuel cells. <i>Advanced Materials</i> , 2013 , 25, 1593-7	24	74
103	Multi-compartment neuron-glia co-culture platform for localized CNS axon-glia interaction study. <i>Lab on A Chip</i> , 2012 , 12, 3296-304	7.2	72
102	Three-dimensional porous carbon nanotube sponges for high-performance anodes of microbial fuel cells. <i>Journal of Power Sources</i> , 2015 , 298, 177-183	8.9	70
101	Control of geometrical properties of carbon nanotube electrodes towards high-performance microbial fuel cells. <i>Journal of Power Sources</i> , 2015 , 280, 347-354	8.9	63
100	A Three-Dimensional Arrayed Microfluidic Blood-Brain Barrier Model With Integrated Electrical Sensor Array. <i>IEEE Transactions on Biomedical Engineering</i> , 2018 , 65, 431-439	5	58
99	. <i>Journal of Microelectromechanical Systems</i> , 2015 , 24, 1069-1076	2.5	58
98	Frequency reconfigurable patch antenna using liquid metal as switching mechanism. <i>Electronics Letters</i> , 2013 , 49, 1370-1371	1.1	58

97	Ion channel characterization using single cell impedance spectroscopy. <i>Lab on A Chip</i> , 2006 , 6, 1412-4	7.2	56
96	Microfabricated devices in microbial bioenergy sciences. <i>Trends in Biotechnology</i> , 2013 , 31, 225-32	15.1	55
95	Microfluidic systems for microalgal biotechnology: A review. <i>Algal Research</i> , 2018 , 30, 149-161	5	53
94	Whole-Cell Impedance Analysis for Highly and Poorly Metastatic Cancer Cells. <i>Journal of Microelectromechanical Systems</i> , 2009 , 18, 808-817	2.5	52
93	A microchip for quantitative analysis of CNS axon growth under localized biomolecular treatments. <i>Journal of Neuroscience Methods</i> , 2014 , 221, 166-74	3	50
92	A microfluidic microbial fuel cell array that supports long-term multiplexed analyses of electricigens. <i>Lab on A Chip</i> , 2012 , 12, 4151-9	7.2	50
91	Multi-layer plastic/glass microfluidic systems containing electrical and mechanical functionality. <i>Lab on A Chip</i> , 2003 , 3, 150-7	7.2	47
90	A droplet microfluidics platform for rapid microalgal growth and oil production analysis. <i>Biotechnology and Bioengineering</i> , 2016 , 113, 1691-701	4.9	45
89	Development of a real-time microchip PCR system for portable plant disease diagnosis. <i>PLoS ONE</i> , 2013 , 8, e82704	3.7	45
88	Air-cathode microbial fuel cell array: a device for identifying and characterizing electrochemically active microbes. <i>Biosensors and Bioelectronics</i> , 2011 , 26, 2680-4	11.8	44
87	High-throughput droplet microfluidics screening platform for selecting fast-growing and high lipid-producing microalgae from a mutant library. <i>Plant Direct</i> , 2017 , 1, e00011	3.3	43
86	Technology Transfer of the Microphysiological Systems: A Case Study of the Human Proximal Tubule Tissue Chip. <i>Scientific Reports</i> , 2018 , 8, 14882	4.9	40
85	Microfluidic electro-sonoporation: a multi-modal cell poration methodology through simultaneous application of electric field and ultrasonic wave. <i>Lab on A Chip</i> , 2013 , 13, 2144-52	7.2	37
84	Fabrication of high-aspect-ratio polymer nanochannels using a novel Si nanoimprint mold and solvent-assisted sealing. <i>Microfluidics and Nanofluidics</i> , 2010 , 9, 163-170	2.8	37
83	In-droplet cell concentration using dielectrophoresis. <i>Biosensors and Bioelectronics</i> , 2017 , 97, 41-45	11.8	35
82	High performance monolithic power management system with dynamic maximum power point tracking for microbial fuel cells. <i>Environmental Science & Technology</i> , 2014 , 48, 13992-9	10.3	34
81	. <i>IEEE Transactions on Energy Conversion</i> , 2015 , 30, 262-272	5.4	32
80	Ratiometric temperature imaging using environment-insensitive luminescence of Mn-doped core-shell nanocrystals. <i>Nanoscale</i> , 2013 , 5, 4944-50	7.7	31

79	Fluorogenic assay for beta-glucuronidase using microchip-based capillary electrophoresis. <i>Biomedical Applications</i> , 2001 , 762, 33-41		31
78	Raman spectroscopy compatible PDMS droplet microfluidic culture and analysis platform towards on-chip lipidomics. <i>Analyst, The</i> , 2017 , 142, 1054-1060	5	30
77	Impedance spectroscopy-based cell/particle position detection in microfluidic systems. <i>Lab on A Chip</i> , 2017 , 17, 1264-1269	7.2	28
76	Amnion membrane organ-on-chip: an innovative approach to study cellular interactions. <i>FASEB Journal</i> , 2019 , 33, 8945-8960	0.9	27
75	Micro-macro hybrid soft-lithography master (MMHSM) fabrication for lab-on-a-chip applications. <i>Biomedical Microdevices</i> , 2010 , 12, 345-51	3.7	26
74	Micropatterning of poly(dimethylsiloxane) using a photoresist lift-off technique for selective electrical insulation of microelectrode arrays. <i>Journal of Micromechanics and Microengineering</i> , 2009 , 19, 65016	2	22
73	Creating Physicochemical Gradients in Modular Microporous Annealed Particle Hydrogels via a Microfluidic Method. <i>Advanced Functional Materials</i> , 2020 , 30, 1907102	15.6	22
72	. <i>IEEE Journal of Emerging and Selected Topics in Power Electronics</i> , 2015 , 3, 1109-1121	5.6	21
71	Organ-On-Chip Technology: The Future of Feto-Maternal Interface Research?. <i>Frontiers in Physiology</i> , 2020 , 11, 715	4.6	21
70	A continuous-flow acoustofluidic cytometer for single-cell mechanotyping. <i>Lab on A Chip</i> , 2019 , 19, 387-393	3.2	20
69	A three-dimensional electrode for highly efficient electrocoalescence-based droplet merging. <i>Biomedical Microdevices</i> , 2015 , 17, 35	3.7	20
68	Microchemostat array with small-volume fraction replenishment for steady-state microbial culture. <i>Lab on A Chip</i> , 2013 , 13, 4217-24	7.2	19
67	A fabrication technology for multi-layer polymer-based microsystems with integrated fluidic and electrical functionality. <i>Sensors and Actuators B: Chemical</i> , 2007 , 121, 689-697	8.5	18
66	A large-scale on-chip droplet incubation chamber enables equal microbial culture time. <i>RSC Advances</i> , 2016 , 6, 20516-20519	3.7	16
65	Microfluidic acoustophoretic force based low-concentration oil separation and detection from the environment. <i>Lab on A Chip</i> , 2014 , 14, 947-56	7.2	16
64	Digital quantification and selection of high-lipid-producing microalgae through a lateral dielectrophoresis-based microfluidic platform. <i>Lab on A Chip</i> , 2019 , 19, 4128-4138	7.2	16
63	A Gel-Based Separation-Free Point-of-Care Device for Whole Blood Glucose Detection. <i>Analytical Chemistry</i> , 2020 , 92, 16122-16129	7.8	14
62	PRESCIENT: platform for the rapid evaluation of antibody success using integrated microfluidics enabled technology. <i>Lab on A Chip</i> , 2020 , 20, 1628-1638	7.2	14

61	Characterization of controlled bone defects using 2D and 3D ultrasound imaging techniques. <i>Physics in Medicine and Biology</i> , 2010 , 55, 4839-59	3.8	14
60	An ultra high-efficiency droplet microfluidics platform using automatically synchronized droplet pairing and merging. <i>Lab on A Chip</i> , 2020 , 20, 3948-3959	7.2	12
59	A Microchip for High-throughput Axon Growth Drug Screening. <i>Micromachines</i> , 2016 , 7,	3.3	12
58	A disposable microfluidic flow sensor with a reusable sensing substrate. <i>Sensors and Actuators B: Chemical</i> , 2019 , 288, 147-154	8.5	11
57	Separation, Characterization, and Handling of Microalgae by Dielectrophoresis. <i>Microorganisms</i> , 2020 , 8,	4.9	11
56	A thermoresponsive hydrogel poly(N-isopropylacrylamide) micropatterning method using microfluidic techniques. <i>Journal of Micromechanics and Microengineering</i> , 2009 , 19, 127001	2	11
55	An approach to multilayer microfluidic systems with integrated electrical, optical, and mechanical functionality. <i>IEEE Sensors Journal</i> , 2005 , 5, 82-89	4	11
54	Prediction of Microdroplet Breakup Regime in Asymmetric T-Junction Microchannels. <i>Biomedical Microdevices</i> , 2018 , 20, 72	3.7	10
53	Microcontact printing for co-patterning cells and viruses for spatially controlled substrate-mediated gene delivery. <i>Soft Matter</i> , 2011 , 7, 4993	3.6	10
52	A multi-compartment CNS neuron-glia Co-culture microfluidic platform. <i>Journal of Visualized Experiments</i> , 2009 ,	1.6	10
51	Generalizing hydrogel microparticles into a new class of bioinks for extrusion bioprinting. <i>Science Advances</i> , 2021 , 7, eabk3087	14.3	10
50	Modeling ascending infection with a feto-maternal interface organ-on-chip. <i>Lab on A Chip</i> , 2020 , 20, 4486-4501	4.5	10
49	Organ-on-chip of the cervical epithelial layer: A platform to study normal and pathological cellular remodeling of the cervix. <i>FASEB Journal</i> , 2021 , 35, e21463	0.9	10
48	Dynamic Flow Characteristics and Design Principles of Laminar Flow Microbial Fuel Cells. <i>Micromachines</i> , 2018 , 9,	3.3	10
47	Microfluidic geometric metering-based multi-reagent mixture generator for robust live cell screening array. <i>Biomedical Microdevices</i> , 2014 , 16, 887-96	3.7	9
46	A magnetic resonance (MR) microscopy system using a microfluidically cryo-cooled planar coil. <i>Lab on A Chip</i> , 2011 , 11, 2197-203	7.2	9
45	Extracellular vesicle mediated feto-maternal HMGB1 signaling induces preterm birth. <i>Lab on A Chip</i> , 2021 , 21, 1956-1973	7.2	9
44	Influence of nanoparticle inclusions on the performance of reverse osmosis membranes. <i>Environmental Science: Water Research and Technology</i> , 2018 , 4, 411-420	4.2	8

43	A microfluidically cryocooled spiral microcoil with inductive coupling for MR microscopy. <i>IEEE Transactions on Biomedical Engineering</i> , 2014 , 61, 76-84	5	8
42	Bifunctional nano-sponges serving as non-precious metal catalysts and self-standing cathodes for high performance fuel cell applications. <i>Nano Energy</i> , 2016 , 22, 607-614	17.1	8
41	Computational characterization of nitrogen-doped carbon nanotube functionalized by Fe adatom and Fe substituent for oxygen reduction reaction. <i>Applied Surface Science</i> , 2019 , 485, 342-352	6.7	7
40	Single-cell compressibility quantification for assessing metastatic potential of cancer cells through multi-frequency acoustophoresis. <i>Microfluidics and Nanofluidics</i> , 2018 , 22, 1	2.8	7
39	Microfluidic systems for axonal growth and regeneration research. <i>Neural Regeneration Research</i> , 2014 , 9, 1703-5	4.5	7
38	In-droplet cell separation based on bipolar dielectrophoretic response to facilitate cellular droplet assays. <i>Lab on A Chip</i> , 2020 , 20, 3832-3841	7.2	7
37	Cell Washing and Solution Exchange in Droplet Microfluidic Systems. <i>Analytical Chemistry</i> , 2021 , 93, 8627-8630	7.8	7
36	A Time-Interleave-Based Power Management System with Maximum Power Extraction and Health Protection Algorithm for Multiple Microbial Fuel Cells for Internet of Things Smart Nodes. <i>Applied Sciences (Switzerland)</i> , 2018 , 8, 2404	2.6	6
35	Resolving chemical/bio-compatibility issues in microfluidic MEMS systems 1999 ,		5
34	Eliminating air bubble in microfluidic systems utilizing integrated in-line sloped microstructures. <i>Biomedical Microdevices</i> , 2020 , 22, 76	3.7	5
33	Sub-second heat inactivation of coronavirus using a betacoronavirus model. <i>Biotechnology and Bioengineering</i> , 2021 , 118, 2067-2075	4.9	5
32	Effects of fluid medium flow and spatial temperature variation on acoustophoretic motion of microparticles in microfluidic channels. <i>Journal of the Acoustical Society of America</i> , 2016 , 139, 332-49	2.2	5
31	Thermoresponsive double network micropillared hydrogels for controlled cell release. <i>Macromolecular Bioscience</i> , 2014 , 14, 1346-52	5.5	4
30	Molecular mechanisms of environmental toxin cadmium at the feto-maternal interface investigated using an organ-on-chip (FMi-OOC) model. <i>Journal of Hazardous Materials</i> , 2022 , 422, 126759	12.8	4
29	Enhancing droplet transition capabilities using sloped microfluidic channel geometry for stable droplet operation. <i>Biomedical Microdevices</i> , 2020 , 22, 15	3.7	3
28	Acoustophoretic force-based compressibility measurement of cancer cells having different metastatic potential 2013 ,		3
27	Lateral-flow particle filtration and separation with multilayer microfluidic channels. <i>Journal of Vacuum Science & Technology B</i> , 2009 , 27, 3115		3
26	Fabrication of PMMA Acoustophoretic Microfluidic Chip Using Plasma Assisted Bonding. <i>Journal of the Korean Society for Precision Engineering</i> , 2017 , 34, 343-347	0.3	3

25	High-throughput and label-free multi-outlet cell counting using a single pair of impedance electrodes. <i>Biosensors and Bioelectronics</i> , 2020 , 166, 112458	11.8	3
24	Direct cell extraction from fresh and stored soil samples: Impact on microbial viability and community compositions. <i>Soil Biology and Biochemistry</i> , 2021 , 155, 108178	7.5	3
23	A scalable system for generation of mesenchymal stem cells derived from induced pluripotent cells employing bioreactors and degradable microcarriers. <i>Stem Cells Translational Medicine</i> , 2021 , 10, 1650-1665	6.9	3
22	Measurement of Dielectric Properties of Microalgae with Different Lipid Content Using Electrorotation and Negative Dielectrophoresis Cell Trap 2019 ,		2
21	. <i>Journal of Microelectromechanical Systems</i> , 2014 , 23, 276-283	2.5	2
20	Laser stenciling: a low-cost high-resolution CO ₂ laser micromachining method. <i>Journal of Micromechanics and Microengineering</i> , 2012 , 22, 015006	2	2
19	Numerical modeling for analyzing microfluidic acoustophoretic motion of cells and particles with application to identification of vibro-acoustic properties 2013 ,		2
18	Development and Characterization of a Generic Microfluidic Subsystem toward Portable Biochemical Detection 2000 , 327-330		2
17	Sub-second heat inactivation of coronavirus		2
16	Acoustofluidic microdevice for precise control of pressure nodal positions. <i>Microfluidics and Nanofluidics</i> , 2020 , 24, 1	2.8	1
15	Raman spectra and DFT calculations for tetraterpene hydrocarbons from the L race of the green microalga <i>Botryococcus braunii</i> . <i>Journal of Molecular Structure</i> , 2017 , 1129, 216-221	3.4	1
14	High-throughput droplet-based screening system for investigating microalgae library 2015 ,		1
13	Two-Dimensional Numerical Analyses of Acoustophoresis Phenomena in Microfluidic Channel With Microparticle-Suspended, Viscous, Moving Fluid Medium 2012 ,		1
12	Discovery of Targeted Material Binding Microorganisms Using a Centrifugal Microfluidic Platform. <i>Advanced Materials Technologies</i> , 2021 , 6, 2100282	6.8	1
11	Worldline numerics applied to custom Casimir geometry generates unanticipated intersection with Alcubierre warp metric. <i>European Physical Journal C</i> , 2021 , 81, 1	4.2	1
10	Organic Anion Transporting Polypeptide 2B1 in Human Fetal Membranes: A Novel Gatekeeper for Drug Transport During Pregnancy?. <i>Frontiers in Pharmacology</i> , 2021 , 12, 771818	5.6	1
9	A Circular Gradient-Width Crossflow Microfluidic Platform for High-Efficiency Blood Plasma Separation. <i>Sensors and Actuators B: Chemical</i> , 2021 , 131180	8.5	0
8	Development of single-cell-level microfluidic technology for long-term growth visualization of living cultures of. <i>Microsystems and Nanoengineering</i> , 2021 , 7, 37	7.7	0

7	Phenotype-Based Threat Assessment.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022 , 119, e2112886119	11.5	0
6	A Multi-layer Technology for Biocompatible Polymer Microsystems with Integrated Fluid and Electrical Functionality. <i>Materials Research Society Symposia Proceedings</i> , 2004 , 820, 178		
5	Multi-compartment NeuronGlia Coculture Microsystem. <i>Neuromethods</i> , 2015 , 149-159	0.4	
4	Axon length quantification microfluidic culture platform for growth and regeneration study. <i>Methods in Molecular Biology</i> , 2014 , 1162, 85-95	1.4	
3	Fabrication methods for a gel-based separation-free device for whole blood glucose detection. <i>MethodsX</i> , 2021 , 8, 101236	1.9	
2	Discovery of Targeted Material Binding Microorganisms Using a Centrifugal Microfluidic Platform (Adv. Mater. Technol. 9/2021). <i>Advanced Materials Technologies</i> , 2021 , 6, 2170053	6.8	
1	Fabrication of Acoustophoretic Device with Lateral Polymer Wall for Micro-Particle Separation. <i>Journal of the Korean Society for Precision Engineering</i> , 2022 , 39, 379-384	0.3	