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List of Publications by Year in Descending Order

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	Molecular mechanisms of environmental toxin cadmium at the feto-maternal interface investigated using an organ-on-chip (FMi-OOC) model. *Journal of Hazardous Materials*, **2022**, 422, 126759	12.8	4
113	Phenotype-Based Threat Assessment.. *Proceedings of the National Academy of Sciences of the United States of America*, **2022**, 119, e2112886119	11.5	0
112	Fabrication of Acoustophoretic Device with Lateral Polymer Wall for Micro-Particle Separation. *Journal of the Korean Society for Precision Engineering*, **2022**, 39, 379-384	0.3	
111	A Circular Gradient-Width Crossflow Microfluidic Platform for High-Efficiency Blood Plasma Separation. *Sensors and Actuators B: Chemical*, **2021**, 131180	8.5	0
110	Generalizing hydrogel microparticles into a new class of bioinks for extrusion bioprinting. *Science Advances*, **2021**, 7, eabk3087	14.3	10
109	Sub-second heat inactivation of coronavirus using a betacoronavirus model. *Biotechnology and Bioengineering*, **2021**, 118, 2067-2075	4.9	5
108	Organ-on-chip of the cervical epithelial layer: A platform to study normal and pathological cellular remodeling of the cervix. *FASEB Journal*, **2021**, 35, e21463	0.9	10
107	Direct cell extraction from fresh and stored soil samples: Impact on microbial viability and community compositions. *Soil Biology and Biochemistry*, **2021**, 155, 108178	7.5	3
106	Development of single-cell-level microfluidic technology for long-term growth visualization of living cultures of. *Microsystems and Nanoengineering*, **2021**, 7, 37	7.7	0
105	Cell Washing and Solution Exchange in Droplet Microfluidic Systems. *Analytical Chemistry*, **2021**, 93, 8622-8630	7.8	7
104	Discovery of Targeted Material Binding Microorganisms Using a Centrifugal Microfluidic Platform. *Advanced Materials Technologies*, **2021**, 6, 2100282	6.8	1
103	Extracellular vesicle mediated feto-maternal HMGB1 signaling induces preterm birth. *Lab on A Chip*, **2021**, 21, 1956-1973	7.2	9
102	Fabrication methods for a gel-based separation-free device for whole blood glucose detection. *MethodsX*, **2021**, 8, 101236	1.9	
101	Worldline numerics applied to custom Casimir geometry generates unanticipated intersection with Alcubierre warp metric. *European Physical Journal C*, **2021**, 81, 1	4.2	1
100	A scalable system for generation of mesenchymal stem cells derived from induced pluripotent cells employing bioreactors and degradable microcarriers. *Stem Cells Translational Medicine*, **2021**, 10, 1650-1665	6.8	3
99	Discovery of Targeted Material Binding Microorganisms Using a Centrifugal Microfluidic Platform (Adv. Mater. Technol. 9/2021). *Advanced Materials Technologies*, **2021**, 6, 2170053	6.8	
98	Organic Anion Transporting Polypeptide 2B1 in Human Fetal Membranes: A Novel Gatekeeper for Drug Transport During Pregnancy?. *Frontiers in Pharmacology*, **2021**, 12, 771818	5.6	1

97	A Gel-Based Separation-Free Point-of-Care Device for Whole Blood Glucose Detection. *Analytical Chemistry*, **2020**, 92, 16122-16129	7.8	14
96	Acoustofluidic microdevice for precise control of pressure nodal positions. *Microfluidics and Nanofluidics*, **2020**, 24, 1	2.8	1
95	PRESCIENT: platform for the rapid evaluation of antibody success using integrated microfluidics enabled technology. *Lab on A Chip*, **2020**, 20, 1628-1638	7.2	14
94	Enhancing droplet transition capabilities using sloped microfluidic channel geometry for stable droplet operation. *Biomedical Microdevices*, **2020**, 22, 15	3.7	3
93	Separation, Characterization, and Handling of Microalgae by Dielectrophoresis. *Microorganisms*, **2020**, 8,	4.9	11
92	Creating Physicochemical Gradients in Modular Microporous Annealed Particle Hydrogels via a Microfluidic Method. *Advanced Functional Materials*, **2020**, 30, 1907102	15.6	22
91	High-throughput and label-free multi-outlet cell counting using a single pair of impedance electrodes. *Biosensors and Bioelectronics*, **2020**, 166, 112458	11.8	3
90	Organ-On-Chip Technology: The Future of Feto-Maternal Interface Research?. *Frontiers in Physiology*, **2020**, 11, 715	4.6	21
89	Modeling ascending infection with a feto-maternal interface organ-on-chip. *Lab on A Chip*, **2020**, 20, 4486-4501	7.2	10
88	Eliminating air bubble in microfluidic systems utilizing integrated in-line sloped microstructures. *Biomedical Microdevices*, **2020**, 22, 76	3.7	5
87	An ultra high-efficiency droplet microfluidics platform using automatically synchronized droplet pairing and merging. *Lab on A Chip*, **2020**, 20, 3948-3959	7.2	12
86	In-droplet cell separation based on bipolar dielectrophoretic response to facilitate cellular droplet assays. *Lab on A Chip*, **2020**, 20, 3832-3841	7.2	7
85	Measurement of Dielectric Properties of Microalgae with Different Lipid Content Using Electrorotation and Negative Dielectrophoresis Cell Trap **2019**,		2
84	A continuous-flow acoustofluidic cytometer for single-cell mechanotyping. *Lab on A Chip*, **2019**, 19, 387-393	7.2	20
83	Computational characterization of nitrogen-doped carbon nanotube functionalized by Fe adatom and Fe substituent for oxygen reduction reaction. *Applied Surface Science*, **2019**, 485, 342-352	6.7	7
82	Amnion membrane organ-on-chip: an innovative approach to study cellular interactions. *FASEB Journal*, **2019**, 33, 8945-8960	0.9	27
81	A disposable microfluidic flow sensor with a reusable sensing substrate. *Sensors and Actuators B: Chemical*, **2019**, 288, 147-154	8.5	11
80	Digital quantification and selection of high-lipid-producing microalgae through a lateral dielectrophoresis-based microfluidic platform. *Lab on A Chip*, **2019**, 19, 4128-4138	7.2	16

79	A Three-Dimensional Arrayed Microfluidic Blood-Brain Barrier Model With Integrated Electrical Sensor Array. *IEEE Transactions on Biomedical Engineering*, **2018**, 65, 431-439	5	58
78	Influence of nanoparticle inclusions on the performance of reverse osmosis membranes. *Environmental Science: Water Research and Technology*, **2018**, 4, 411-420	4.2	8
77	Microfluidic systems for microalgal biotechnology: A review. *Algal Research*, **2018**, 30, 149-161	5	53
76	Prediction of Microdroplet Breakup Regime in Asymmetric T-Junction Microchannels. *Biomedical Microdevices*, **2018**, 20, 72	3.7	10
75	Single-cell compressibility quantification for assessing metastatic potential of cancer cells through multi-frequency acoustophoresis. *Microfluidics and Nanofluidics*, **2018**, 22, 1	2.8	7
74	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. *Applied Sciences (Switzerland)*, **2018**, 8, 2404	2.6	6
73	Dynamic Flow Characteristics and Design Principles of Laminar Flow Microbial Fuel Cells. *Micromachines*, **2018**, 9,	3.3	10
72	Technology Transfer of the Microphysiological Systems: A Case Study of the Human Proximal Tubule Tissue Chip. *Scientific Reports*, **2018**, 8, 14882	4.9	40
71	Impedance spectroscopy-based cell/particle position detection in microfluidic systems. *Lab on A Chip*, **2017**, 17, 1264-1269	7.2	28
70	Raman spectroscopy compatible PDMS droplet microfluidic culture and analysis platform towards on-chip lipidomics. *Analyst, The*, **2017**, 142, 1054-1060	5	30
69	In-droplet cell concentration using dielectrophoresis. *Biosensors and Bioelectronics*, **2017**, 97, 41-45	11.8	35
68	High-throughput droplet microfluidics screening platform for selecting fast-growing and high lipid-producing microalgae from a mutant library. *Plant Direct*, **2017**, 1, e00011	3.3	43
67	Raman spectra and DFT calculations for tetraterpene hydrocarbons from the L race of the green microalga Botryococcus braunii. *Journal of Molecular Structure*, **2017**, 1129, 216-221	3.4	1
66	Fabrication of PMMA Acoustophoretic Microfluidic Chip Using Plasma Assisted Bonding. *Journal of the Korean Society for Precision Engineering*, **2017**, 34, 343-347	0.3	3
65	A large-scale on-chip droplet incubation chamber enables equal microbial culture time. *RSC Advances*, **2016**, 6, 20516-20519	3.7	16
64	A droplet microfluidics platform for rapid microalgal growth and oil production analysis. *Biotechnology and Bioengineering*, **2016**, 113, 1691-701	4.9	45
63	A Microchip for High-throughput Axon Growth Drug Screening. *Micromachines*, **2016**, 7,	3.3	12
62	Effects of fluid medium flow and spatial temperature variation on acoustophoretic motion of microparticles in microfluidic channels. *Journal of the Acoustical Society of America*, **2016**, 139, 332-49	2.2	5

61	Bifunctional nano-sponges serving as non-precious metal catalysts and self-standing cathodes for high performance fuel cell applications. *Nano Energy*, **2016**, 22, 607-614	17.1	8
60	. *IEEE Transactions on Energy Conversion*, **2015**, 30, 262-272	5.4	32
59	A three-dimensional electrode for highly efficient electrocoalescence-based droplet merging. *Biomedical Microdevices*, **2015**, 17, 35	3.7	20
58	A high-throughput microfluidic single-cell screening platform capable of selective cell extraction. *Lab on A Chip*, **2015**, 15, 2467-75	7.2	74
57	. *IEEE Journal of Emerging and Selected Topics in Power Electronics*, **2015**, 3, 1109-1121	5.6	21
56	Three-dimensional porous carbon nanotube sponges for high-performance anodes of microbial fuel cells. *Journal of Power Sources*, **2015**, 298, 177-183	8.9	70
55	High-throughput droplet-based screening system for investigating microalgae library **2015**,		1
54	. *Journal of Microelectromechanical Systems*, **2015**, 24, 1069-1076	2.5	58
53	Control of geometrical properties of carbon nanotube electrodes towards high-performance microbial fuel cells. *Journal of Power Sources*, **2015**, 280, 347-354	8.9	63
52	Multi-compartment Neuron□lia Coculture Microsystem. *Neuromethods*, **2015**, 149-159	0.4	
51	A microfluidically cryocooled spiral microcoil with inductive coupling for MR microscopy. *IEEE Transactions on Biomedical Engineering*, **2014**, 61, 76-84	5	8
50	. *Journal of Microelectromechanical Systems*, **2014**, 23, 276-283	2.5	2
49	A microfluidic photobioreactor array demonstrating high-throughput screening for microalgal oil production. *Lab on A Chip*, **2014**, 14, 1415-25	7.2	78
48	Microfluidic acoustophoretic force based low-concentration oil separation and detection from the environment. *Lab on A Chip*, **2014**, 14, 947-56	7.2	16
47	A microchip for quantitative analysis of CNS axon growth under localized biomolecular treatments. *Journal of Neuroscience Methods*, **2014**, 221, 166-74	3	50
46	Microfluidic geometric metering-based multi-reagent mixture generator for robust live cell screening array. *Biomedical Microdevices*, **2014**, 16, 887-96	3.7	9
45	Thermoresponsive double network micropillared hydrogels for controlled cell release. *Macromolecular Bioscience*, **2014**, 14, 1346-52	5.5	4
44	High performance monolithic power management system with dynamic maximum power point tracking for microbial fuel cells. *Environmental Science & Technology*, **2014**, 48, 13992-9	10.3	34

43	Microfluidic systems for axonal growth and regeneration research. *Neural Regeneration Research*, **2014**, 9, 1703-5	4.5	7
42	Axon length quantification microfluidic culture platform for growth and regeneration study. *Methods in Molecular Biology*, **2014**, 1162, 85-95	1.4	
41	Microfluidic electro-sonoporation: a multi-modal cell poration methodology through simultaneous application of electric field and ultrasonic wave. *Lab on A Chip*, **2013**, 13, 2144-52	7.2	37
40	Microchemostat array with small-volume fraction replenishment for steady-state microbial culture. *Lab on A Chip*, **2013**, 13, 4217-24	7.2	19
39	Conjugated oligoelectrolytes increase power generation in E. coli microbial fuel cells. *Advanced Materials*, **2013**, 25, 1593-7	24	74
38	Microfabricated devices in microbial bioenergy sciences. *Trends in Biotechnology*, **2013**, 31, 225-32	15.1	55
37	Ratiometric temperature imaging using environment-insensitive luminescence of Mn-doped core-shell nanocrystals. *Nanoscale*, **2013**, 5, 4944-50	7.7	31
36	Frequency reconfigurable patch antenna using liquid metal as switching mechanism. *Electronics Letters*, **2013**, 49, 1370-1371	1.1	58
35	Acoustophoretic force-based compressibility measurement of cancer cells having different metastatic potential **2013**,		3
34	Numerical modeling for analyzing microfluidic acoustophoretic motion of cells and particles with application to identification of vibro-acoustic properties **2013**,		2
33	Development of a real-time microchip PCR system for portable plant disease diagnosis. *PLoS ONE*, **2013**, 8, e82704	3.7	45
32	A programmable microfluidic cell array for combinatorial drug screening. *Lab on A Chip*, **2012**, 12, 1813-22	7.2	113
31	A microfluidic microbial fuel cell array that supports long-term multiplexed analyses of electricigens. *Lab on A Chip*, **2012**, 12, 4151-9	7.2	50
30	Laser stenciling: a low-cost high-resolution CO2laser micromachining method. *Journal of Micromechanics and Microengineering*, **2012**, 22, 015006	2	2
29	Multi-compartment neuron-glia co-culture platform for localized CNS axon-glia interaction study. *Lab on A Chip*, **2012**, 12, 3296-304	7.2	72
28	Two-Dimensional Numerical Analyses of Acoustophoresis Phenomena in Microfluidic Channel With Microparticle-Suspended, Viscous, Moving Fluid Medium **2012**,		1
27	A magnetic resonance (MR) microscopy system using a microfluidically cryo-cooled planar coil. *Lab on A Chip*, **2011**, 11, 2197-203	7.2	9
26	Air-cathode microbial fuel cell array: a device for identifying and characterizing electrochemically active microbes. *Biosensors and Bioelectronics*, **2011**, 26, 2680-4	11.8	44

25	Microcontact printing for co-patterning cells and viruses for spatially controlled substrate-mediated gene delivery. *Soft Matter*, **2011**, 7, 4993	3.6	10
24	Characterization of controlled bone defects using 2D and 3D ultrasound imaging techniques. *Physics in Medicine and Biology*, **2010**, 55, 4839-59	3.8	14
23	Fabrication of high-aspect-ratio polymer nanochannels using a novel Si nanoimprint mold and solvent-assisted sealing. *Microfluidics and Nanofluidics*, **2010**, 9, 163-170	2.8	37
22	Micro-macro hybrid soft-lithography master (MMHSM) fabrication for lab-on-a-chip applications. *Biomedical Microdevices*, **2010**, 12, 345-51	3.7	26
21	Microfabricated microbial fuel cell arrays reveal electrochemically active microbes. *PLoS ONE*, **2009**, 4, e6570	3.7	118
20	A thermoresponsive hydrogel poly(N-isopropylacrylamide) micropatterning method using microfluidic techniques. *Journal of Micromechanics and Microengineering*, **2009**, 19, 127001	2	11
19	Lateral-flow particle filtration and separation with multilayer microfluidic channels. *Journal of Vacuum Science & Technology B*, **2009**, 27, 3115		3
18	Microfluidic compartmentalized co-culture platform for CNS axon myelination research. *Biomedical Microdevices*, **2009**, 11, 1145-53	3.7	139
17	Whole-Cell Impedance Analysis for Highly and Poorly Metastatic Cancer Cells. *Journal of Microelectromechanical Systems*, **2009**, 18, 808-817	2.5	52
16	Micropatterning of poly(dimethylsiloxane) using a photoresist lift-off technique for selective electrical insulation of microelectrode arrays. *Journal of Micromechanics and Microengineering*, **2009**, 19, 65016	2	22
15	A multi-compartment CNS neuron-glia Co-culture microfluidic platform. *Journal of Visualized Experiments*, **2009**,	1.6	10
14	Thermoresponsive nanocomposite hydrogels with cell-releasing behavior. *Biomaterials*, **2008**, 29, 3175-84	5.6	90
13	A fabrication technology for multi-layer polymer-based microsystems with integrated fluidic and electrical functionality. *Sensors and Actuators B: Chemical*, **2007**, 121, 689-697	8.5	18
12	Quantification of the heterogeneity in breast cancer cell lines using whole-cell impedance spectroscopy. *Clinical Cancer Research*, **2007**, 13, 139-43	12.9	152
11	Microsystems for isolation and electrophysiological analysis of breast cancer cells from blood. *Biosensors and Bioelectronics*, **2006**, 21, 1907-14	11.8	84
10	Ion channel characterization using single cell impedance spectroscopy. *Lab on A Chip*, **2006**, 6, 1412-4	7.2	56
9	An approach to multilayer microfluidic systems with integrated electrical, optical, and mechanical functionality. *IEEE Sensors Journal*, **2005**, 5, 82-89	4	11
8	A Multi-layer Technology for Biocompatible Polymer Microsystems with Integrated Fluid and Electrical Functionality. *Materials Research Society Symposia Proceedings*, **2004**, 820, 178		

7	Multi-layer plastic/glass microfluidic systems containing electrical and mechanical functionality. *Lab on A Chip*, **2003**, 3, 150-7	7.2	47
6	A low-temperature bonding technique using spin-on fluorocarbon polymers to assemble microsystems. *Journal of Micromechanics and Microengineering*, **2002**, 12, 187-191	2	75
5	Fluorogenic assay for beta-glucuronidase using microchip-based capillary electrophoresis. *Biomedical Applications*, **2001**, 762, 33-41		31
4	Development and Characterization of Microfluidic Devices and Systems for Magnetic Bead-Based Biochemical Detection. *Biomedical Microdevices*, **2001**, 3, 191-200	3.7	81
3	Development and Characterization of a Generic Microfluidic Subsystem toward Portable Biochemical Detection **2000**, 327-330		2
2	Resolving chemical/bio-compatibility issues in microfluidic MEMS systems **1999**,		5
1	Sub-second heat inactivation of coronavirus		2