Ye Ai

List of Publications by Year in descending order

100 papers	5,157 citations	71097 41 h-index	95259 68 g-index
102 all docs	102 docs citations	102 times ranked	4809 citing authors

#	Article	IF	Citations
1	The Poisson distribution and beyond: methods for microfluidic droplet production and single cell encapsulation. Lab on A Chip, 2015, 15, 3439-3459.	6.0	384
2	Active droplet sorting in microfluidics: a review. Lab on A Chip, 2017, 17, 751-771.	6.0	250
3	Two dimensional atomically thin MoS₂nanosheets and their sensing applications. Nanoscale, 2015, 7, 19358-19376.	5.6	217
4	Continuous micro-vortex-based nanoparticle manipulation via focused surface acoustic waves. Lab on A Chip, 2017, 17, 91-103.	6.0	166
5	Effects of Electroosmotic Flow on Ionic Current Rectification in Conical Nanopores. Journal of Physical Chemistry C, 2010, 114, 3883-3890.	3.1	164
6	Separation of Escherichia coli Bacteria from Peripheral Blood Mononuclear Cells Using Standing Surface Acoustic Waves. Analytical Chemistry, 2013, 85, 9126-9134.	6.5	159
7	Highly Localized Acoustic Streaming and Size-Selective Submicrometer Particle Concentration Using High Frequency Microscale Focused Acoustic Fields. Analytical Chemistry, 2016, 88, 5513-5522.	6.5	152
8	Highly focused high-frequency travelling surface acoustic waves (SAW) for rapid single-particle sorting. Lab on A Chip, 2016, 16, 471-479.	6.0	147
9	Acoustic tweezers via subâ€“time-of-flight regime surface acoustic waves. Science Advances, 2016, 2, e1600089.	10.3	120
10	Fluorescence activated cell sorting via a focused traveling surface acoustic beam. Lab on A Chip, 2017, 17, 3176-3185.	6.0	107
11	Field Effect Regulation of DNA Translocation through a Nanopore. Analytical Chemistry, 2010, 82, 8217-8225.	6.5	106
12	A novel single-layered MoS₂nanosheet based microfluidic biosensor for ultrasensitive detection of DNA. Nanoscale, 2015, 7, 2245-2249.	5.6	100
13	Submicron Particle Focusing and Exosome Sorting by Wavy Microchannel Structures within Viscoelastic Fluids. Analytical Chemistry, 2019, 91, 4577-4584.	6.5	89
14	Detachable Acoustofluidic System for Particle Separation via a Traveling Surface Acoustic Wave. Analytical Chemistry, 2016, 88, 5316-5323.	6.5	86
15	DC dielectrophoretic particleâ€“particle interactions and their relative motions. Journal of Colloid and Interface Science, 2010, 346, 448-454.	9.4	85
16	Selective particle and cell capture in a continuous flow using micro-vortex acoustic streaming. Lab on A Chip, 2017, 17, 1769-1777.	6.0	84
17	Characterizing Deformability and Electrical Impedance of Cancer Cells in a Microfluidic Device. Analytical Chemistry, 2018, 90, 912-919.	6.5	83
18	Exosome Purification and Analysis Using a Facile Microfluidic Hydrodynamic Trapping Device. Analytical Chemistry, 2020, 92, 10733-10742.	6.5	77

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19	DC Electrokinetic Particle Transport in an L-Shaped Microchannel. Langmuir, 2010, 26, 2937-2944.	3.5	74
20	Wall-induced lateral migration in particle electrophoresis through a rectangular microchannel. Journal of Colloid and Interface Science, 2010, 347, 142-146.	9.4	74
21	Mechanical Properties Based Particle Separation via Traveling Surface Acoustic Wave. Analytical Chemistry, 2016, 88, 11844-11851.	6.5	74
22	Electrokinetic particle translocation through a nanopore. Physical Chemistry Chemical Physics, 2011, 13, 4060.	2.8	70
23	Transient electrophoretic motion of a charged particle through a convergingâ€“diverging microchannel: Effect of direct currentâ€dielectrophoretic force. Electrophoresis, 2009, 30, 2499-2506.	2.4	66
24	Direct numerical simulation of AC dielectrophoretic particleâ€“particle interactive motions. Journal of Colloid and Interface Science, 2014, 417, 72-79.	9.4	65
25	Self-Aligned Acoustofluidic Particle Focusing and Patterning in Microfluidic Channels from Channel-Based Acoustic Waveguides. Physical Review Letters, 2018, 120, 074502.	7.8	65
26	pH-regulated ionic current rectification in conical nanopores functionalized with polyelectrolyte brushes. Physical Chemistry Chemical Physics, 2014, 16, 2465-2474.	2.8	64
27	dc electrokinetic transport of cylindrical cells in straight microchannels. Biomicrofluidics, 2009, 3, 44110.	2.4	63
28	Droplet translocation by focused surface acoustic waves. Microfluidics and Nanofluidics, 2012, 13, 715-722.	2.2	55
29	Sheathless inertial cell focusing and sorting with serial reverse wavy channel structures. Microsystems and Nanoengineering, 2018, 4, 5.	7.0	54
30	Detachable Acoustophoretic System for Fluorescence-Activated Sorting at the Single-Droplet Level. Analytical Chemistry, 2019, 91, 9970-9977.	6.5	53
31	Biophysical phenotyping of single cells using a differential multiconstriction microfluidic device with self-aligned 3D electrodes. Biosensors and Bioelectronics, 2019, 133, 16-23.	10.1	51
32	A low-voltage nano-porous electroosmotic pump. Journal of Colloid and Interface Science, 2010, 350, 465-470.	9.4	50
33	Deterministic Sorting of Submicrometer Particles and Extracellular Vesicles Using a Combined Electric and Acoustic Field. Nano Letters, 2021, 21, 6835-6842.	9.1	50
34	The patterning mechanism of carbon nanotubes using surface acoustic waves: the acoustic radiation effect or the dielectrophoretic effect. Nanoscale, 2015, 7, 14047-14054.	5.6	49
35	Huygens-Fresnel Acoustic Interference and the Development of Robust Time-Averaged Patterns from Traveling Surface Acoustic Waves. Physical Review Letters, 2017, 118, 154501.	7.8	48
36	Effect of linear surface-charge non-uniformities on the electrokinetic ionic-current rectification in conical nanopores. Journal of Colloid and Interface Science, 2009, 329, 376-383.	9.4	46

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37	Dynamically tunable elasto-inertial particle focusing and sorting in microfluidics. Lab on A Chip, 2020, 20, 568-581.	6.0	45
38	Ionic current rectification in a conical nanofluidic field effect transistor. Sensors and Actuators B: Chemical, 2011, 157, 742-751.	7.8	44
39	On-Demand Lensless Single Cell Imaging Activated by Differential Resistive Pulse Sensing. Analytical Chemistry, 2015, 87, 6516-6519.	6.5	44
40	Radiation dominated acoustophoresis driven by surface acoustic waves. Journal of Colloid and Interface Science, 2015, 455, 203-211.	9.4	44
41	Dielectrophoretic choking phenomenon in a converging-diverging microchannel. Biomicrofluidics, 2010, 4, 013201.	2.4	43
42	Field effect control of electrokinetic transport in micro/nanofluidics. Sensors and Actuators B: Chemical, 2012, 161, 1150-1167.	7.8	43
43	Hybrid microfluidic sorting of rare cells based on high throughput inertial focusing and high accuracy acoustic manipulation. RSC Advances, 2019, 9, 31186-31195.	3.6	43
44	Virtual membrane for filtration of particles using surface acoustic waves (SAW). Lab on A Chip, 2016, 16, 3515-3523.	6.0	41
45	A deep learning approach for designed diffraction-based acoustic patterning in microchannels. Scientific Reports, 2020, 10, 8745.	3.3	40
46	Pressure-driven transport of particles through a converging-diverging microchannel. Biomicrofluidics, 2009, 3, 22404.	2.4	39
47	Diffraction-based acoustic manipulation in microchannels enables continuous particle and bacteria focusing. Lab on A Chip, 2020, 20, 2674-2688.	6.0	38
48	Microfluidic impedance cytometry device with N-shaped electrodes for lateral position measurement of single cells/particles. Lab on A Chip, 2019, 19, 3609-3617.	6.0	37
49	A portable image-based cytometer for rapid malaria detection and quantification. PLoS ONE, 2017, 12, e0179161.	2.5	36
50	Ultrasonic microstreaming for complex-trajectory transport and rotation of single particles and cells. Lab on A Chip, 2020, 20, 2947-2953.	6.0	35
51	Label-Free Multivariate Biophysical Phenotyping-Activated Acoustic Sorting at the Single-Cell Level. Analytical Chemistry, 2021, 93, 4108-4117.	6.5	35
52	Electrophoretic motion of a soft spherical particle in a nanopore. Colloids and Surfaces B: Biointerfaces, 2011, 88, 165-174.	5.0	34
53	A highâ€throughput dielectrophoresisâ€based cell electrofusion microfluidic device. Electrophoresis, 2011, 32, 2488-2495.	2.4	34
54	Flow-rate-insensitive deterministic particle sorting using a combination of travelling and standing surface acoustic waves. Microfluidics and Nanofluidics, 2016, 20, 1.	2.2	33

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55	Electrokinetic particle translocation through a nanopore containing a floating electrode. Electrophoresis, 2011, 32, 1864-1874.	2.4	32
56	Self-Aligned Interdigitated Transducers for Acoustofluidics. Micromachines, 2016, 7, 216.	2.9	32
57	Submicron Particle Concentration and Patterning with Ultralow Frequency Acoustic Vibration. Analytical Chemistry, 2020, 92, 12795-12800.	6.5	32
58	Massively Multiplexed Submicron Particle Patterning in Acoustically Driven Oscillating Nanocavities. Small, 2020, 16, e2000462.	10.0	32
59	DNA Single-Base Mismatch Study Using Graphene Oxide Nanosheets-Based Fluorometric Biosensors. Analytical Chemistry, 2015, 87, 9132-9136.	6.5	31
60	Sheathless Acoustic Fluorescence Activated Cell Sorting (aFACS) with High Cell Viability. Analytical Chemistry, 2019, 91, 15425-15435.	6.5	31
61	Submicron-precision particle characterization in microfluidic impedance cytometry with double differential electrodes. Lab on A Chip, 2021, 21, 2869-2880.	6.0	31
62	Polarization Effect of a Dielectric Membrane on the Ionic Current Rectification in a Conical Nanopore. Journal of Physical Chemistry C, 2011, 115, 24951-24959.	3.1	29
63	Acoustic fields and microfluidic patterning around embedded micro-structures subject to surface acoustic waves. Soft Matter, 2019, 15, 8691-8705.	2.7	29
64	Single-Cell Stretching in Viscoelastic Fluids with Electronically Triggered Imaging for Cellular Mechanical Phenotyping. Analytical Chemistry, 2021, 93, 4567-4575.	6.5	29
65	A MoS₂â€“MWCNT based fluorometric nanosensor for exosome detection and quantification. Nanoscale Advances, 2019, 1, 2866-2872.	4.6	28
66	Direct numerical simulation of electrokinetic translocation of a cylindrical particle through a nanopore using a Poissonâ€“Boltzmann approach. Electrophoresis, 2011, 32, 996-1005.	2.4	27
67	Electrokinetic motion of a deformable particle: Dielectrophoretic effect. Electrophoresis, 2011, 32, 2282-2291.	2.4	26
68	Simple and low cost integration of highly conductive three-dimensional electrodes in microfluidic devices. Biomedical Microdevices, 2015, 17, 4.	2.8	26
69	Multi-frequency single cell electrical impedance measurement for label-free cell viability analysis. Analyst, The, 2021, 146, 1848-1858.	3.5	26
70	Acoustic Vibrationâ€induced Actuation of Multiple Microrotors in Microfluidics. Advanced Materials Technologies, 2020, 5, 2000323.	5.8	25
71	Single-actuator Bandpass Microparticle Filtration via Traveling Surface Acoustic Waves. Colloids and Interface Science Communications, 2017, 16, 6-9.	4.1	24
72	Differential microfluidic sensor on printed circuit board for biological cells analysis. Electrophoresis, 2015, 36, 1854-1858.	2.4	21

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73	A Compact Optofluidic Cytometer for Detection and Enumeration of Tumor Cells. Journal of Lightwave Technology, 2015, 33, 3433-3438.	4.6	21
74	A Microfluidic DNA Sensor Based on Three-Dimensional (3D) Hierarchical MoS2/Carbon Nanotube Nanocomposites. Sensors, 2016, 16, 1911.	3.8	20
75	Enhanced Molecular Diagnosis of Bloodstream Candida Infection with Size-Based Inertial Sorting at Submicron Resolution. Analytical Chemistry, 2020, 92, 15579-15586.	6.5	18
76	Slowness curve surface acoustic wave transducers for optimized acoustic streaming. RSC Advances, 2020, 10, 11582-11589.	3.6	18
77	Portable resistive pulse-activated lens-free cell imaging system. RSC Advances, 2014, 4, 56342-56345.	3.6	17
78	Real time size-dependent particle segregation and quantitative detection in a surface acoustic wave-photoacoustic integrated microfluidic system. Sensors and Actuators B: Chemical, 2017, 252, 568-576.	7.8	17
79	Sheathless and high-throughput elasto-inertial bacterial sorting for enhancing molecular diagnosis of bloodstream infection. Lab on A Chip, 2021, 21, 2163-2177.	6.0	17
80	Physical properties-based microparticle sorting at submicron resolution using a tunable acoustofluidic device. Sensors and Actuators B: Chemical, 2021, 344, 130203.	7.8	16
81	A rapid and meshless analytical model of acoustofluidic pressure fields for waveguide design. Biomicrofluidics, 2018, 12, 024104.	2.4	13
82	Contact configuration modification at carbon nanotube-metal interface during nanowelding. Journal of Applied Physics, 2009, 106, .	2.5	12
83	Numerical and experimental characterization of solidâ€state microporeâ€based cytometer for detection and enumeration of biological cells. Electrophoresis, 2015, 36, 737-743.	2.4	12
84	Accurate profiling of blood components in microliter with position-insensitive coplanar electrodes-based cytometry. Sensors and Actuators B: Chemical, 2022, 367, 132068.	7.8	12
85	Labelâ€Free Cell Viability Assay and Enrichment of Cryopreserved Cells Using Microfluidic Cytometry and Onâ€Demand Sorting. Advanced Materials Technologies, 2022, 7, 2100906.	5.8	11
86	Dual characterization of biological cells by optofluidic microscope and resistive pulse sensor. Electrophoresis, 2015, 36, 420-423.	2.4	10
87	Volumetric measurement of human red blood cells by MOSFETâ€based microfluidic gate. Electrophoresis, 2015, 36, 1862-1865.	2.4	10
88	A New Accurate and Fast Homography Computation Algorithm for Sports and Traffic Video Analysis. IEEE Transactions on Circuits and Systems for Video Technology, 2018, 28, 2993-3006.	8.3	10
89	Acoustic manipulation of breathing MOFs particles for self-folding composite films preparation. Sensors and Actuators A: Physical, 2020, 315, 112288.	4.1	5
90	A lowâ€cost and highâ€throughput benchtop cell sorter for isolating white blood cells from whole blood. Electrophoresis, 2021, 42, 2281-2292.	2.4	5

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91	CMOS Compatible Transient Resistive Memory with Prolonged Lifetime. Advanced Materials Technologies, 2019, 4, 1900217.	5.8	4
92	Automatic Microfluidic Cell Wash Platform for Purifying Cells in Suspension: Puriogen. Analytical Chemistry, 2022, 94, 9424-9433.	6.5	4
93	An Optimized Quantization Constraints Set for Image Restoration and its GPU Implementation. IEEE Transactions on Image Processing, 2020, 29, 6043-6053.	9.8	3
94	Separation of biological cells in a microfluidic device using surface acoustic waves (SAWs). Proceedings of SPIE, 2014, , .	0.8	2
95	Boron detection and quantification based on the absorption spectra of pyridoxine and its boron complex. Environmental Chemistry, 2017, 14, 135.	1.5	2
96	Subâ€Micron Particle Trapping: Massively Multiplexed Submicron Particle Patterning in Acoustically Driven Oscillating Nanocavities (Small 17/2020). Small, 2020, 16, 2070095.	10.0	1
97	Microfluidic particle manipulation using high frequency surface acoustic waves (Conference) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf		0
98	Field Effect Control of Ion, Fluid, and Particle Transport in Micro/Nanofluidics. , 0, , 2688-2704.		0
99	(Invited) Hybrid Microfluidic Cell Sorting for Rare Cell Isolation. ECS Meeting Abstracts, 2018, , .	0.0	0
100	Biosensors for single-cell mechanical characterization. , 2022, , 101-123.		0