Yu-Kun Ren

List of Publications by Year
in descending order

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Version: 2024-02-01

124	2,767	172207	253896
papers	citations	29 h-index	43 g-index

126	126	126	2255
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Ratiometric system based on graphene quantum dots and Eu 3+ for selective detection of tetracyclines. Analytica Chimica Acta, 2018, 1022, 131-137.	2.6	133
2	A Fast and Effective Microfluidic Spraying-Plunging Method for High-Resolution Single-Particle Cryo-EM. Structure, 2017, 25, 663-670.e3.	1.6	112
3	Induced-charge electroosmotic trapping of particles. Lab on A Chip, 2015, 15, 2181-2191.	3.1	82
4	Alternating Current Electrokinetic Properties of Gold-Coated Microspheres. Langmuir, 2012, 28, 13861-13870.	1.6	80
5	High-Throughput Separation, Trapping, and Manipulation of Single Cells and Particles by Combined Dielectrophoresis at a Bipolar Electrode Array. Analytical Chemistry, 2018, 90, 11461-11469.	3.2	76
6	A Simplified Microfluidic Device for Particle Separation with Two Consecutive Steps: Induced Charge Electro-osmotic Prefocusing and Dielectrophoretic Separation. Analytical Chemistry, 2017, 89, 9583-9592.	3.2	72
7	Continuous dielectrophoretic particle separation using a microfluidic device with 3D electrodes and vaulted obstacles. Electrophoresis, 2015, 36, 1744-1753.	1.3	62
8	Continuous microfluidic mixing and the highly controlled nanoparticle synthesis using direct current-induced thermal buoyancy convection. Microfluidics and Nanofluidics, 2020, 24, 1.	1.0	58
9	An effective splitting-and-recombination micromixer with self-rotated contact surface for wide Reynolds number range applications. Biomicrofluidics, 2013, 7, 54121.	1.2	56
10	Continuously Electrotriggered Core Coalescence of Double-Emulsion Drops for Microreactions. ACS Applied Materials & Interfaces, 2017, 9, 12282-12289.	4.0	54
11	Rapid, targeted and culture-free viral infectivity assay in drop-based microfluidics. Lab on A Chip, 2015, 15, 3934-3940.	3.1	53
12	A novel micromixer based on the alternating current-flow field effect transistor. Lab on A Chip, 2017, 17, 186-197.	3.1	53
13	AC Electrothermal Circulatory Pumping Chip for Cell Culture. ACS Applied Materials & Interfaces, 2015, 7, 26792-26801.	4.0	52
14	Electrically controlled rapid release of actives encapsulated in double-emulsion droplets. Lab on A Chip, 2018, 18, 1121-1129.	3.1	47
15	Scaled particle focusing in a microfluidic device with asymmetric electrodes utilizing induced-charge electroosmosis. Lab on A Chip, 2016, 16, 2803-2812.	3.1	46
16	Large-Scale Single Particle and Cell Trapping based on Rotating Electric Field Induced-Charge Electroosmosis. Analytical Chemistry, 2016, 88, 11791-11798.	3.2	44
17	Sequential Coalescence Enabled Twoâ€Step Microreactions in Tripleâ€Core Doubleâ€Emulsion Droplets Triggered by an Electric Field. Small, 2017, 13, 1702188.	5.2	44
18	Control of two-phase flow in microfluidics using out-of-phase electroconvective streaming. Physics of Fluids, 2017, 29, .	1.6	44

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19	A universal design of field-effect-tunable microfluidic ion diode based on a gating cation-exchange nanoporous membrane. Physics of Fluids, 2017, 29, .	1.6	42
20	A theoretical and numerical investigation of travelling wave induction microfluidic pumping in a temperature gradient. Journal Physics D: Applied Physics, 2014, 47, 075501.	1.3	39
21	Electrocoalescence of paired droplets encapsulated in double-emulsion drops. Lab on A Chip, 2016, 16, 4313-4318.	3.1	37
22	Continuous Particle Trapping, Switching, and Sorting Utilizing a Combination of Dielectrophoresis and Alternating Current Electrothermal Flow. Analytical Chemistry, 2019, 91, 5729-5738.	3.2	37
23	In-plane microvortices micromixer-based AC electrothermal for testing drug induced death of tumor cells. Biomicrofluidics, 2016, 10, 064102.	1.2	35
24	An efficient micromixer actuated by induced-charge electroosmosis using asymmetrical floating electrodes. Microfluidics and Nanofluidics, 2018, 22, 1.	1.0	34
25	Trapping and chaining self-assembly of colloidal polystyrene particles over a floating electrode by using combined induced-charge electroosmosis and attractive dipoleâ€“dipole interactions. Soft Matter, 2015, 11, 8105-8112.	1.2	33
26	On AC-Field-Induced Nonlinear Electroosmosis next to the Sharp Corner-Field-Singularity of Leaky Dielectric Blocks and Its Application in on-Chip Micro-Mixing. Micromachines, 2018, 9, 102.	1.4	33
27	Dielectrophoretic separation with a floating-electrode array embedded in microfabricated fluidic networks. Physics of Fluids, 2018, 30, .	1.6	32
28	On utilizing alternating current-flow field effect transistor for flexibly manipulating particles in microfluidics and nanofluidics. Biomicrofluidics, 2016, 10, 034105.	1.2	30
29	Compoundâ€Dropletâ€Pairsâ€Filled Hydrogel Microfiber for Electricâ€Fieldâ€Induced Selective Release. Small, 2019, 15, e1903098.	5.2	30
30	Artifactâ€Free Quantification and Sequencing of Rare Recombinant Viruses by Using Dropâ€Based Microfluidics. ChemBioChem, 2015, 16, 2167-2171.	1.3	28
31	A dual-core double emulsion platform for osmolarity-controlled microreactor triggered by coalescence of encapsulated droplets. Biomicrofluidics, 2016, 10, 034111.	1.2	28
32	Induced-charge electrokinetics in rotating electric fields: A linear asymptotic analysis. Physics of Fluids, 2018, 30, .	1.6	28
33	A microscopic physical description of electrothermalâ€induced flow for control of ion current transport in microfluidics interfacing nanofluidics. Electrophoresis, 2019, 40, 2683-2698.	1.3	28
34	Label-Free Multitarget Separation of Particles and Cells under Flow Using Acoustic, Electrophoretic, and Hydrodynamic Forces. Analytical Chemistry, 2021, 93, 7635-7646.	3.2	28
35	Label-free single-cell protein quantification using a drop-based mix-and-read system. Scientific Reports, 2015, 5, 12756.	1.6	26
36	Alternating current electrokinetics enhanced in situ capacitive immunoassay. Electrophoresis, 2015, 36, 471-474.	1.3	26

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37	Enhanced modelâ€based design of a highâ€throughput three dimensional micromixer driven by alternatingâ€current electrothermal flow. Electrophoresis, 2017, 38, 258-269.	1.3	26
38	Electric Field-Induced Cutting of Hydrogel Microfibers with Precise Length Control for Micromotors and Building Blocks. ACS Applied Materials & Interfaces, 2018, 10, 40228-40237.	4.0	26
39	Enhanced particle trapping performance of induced charge electroosmosis. Electrophoresis, 2016, 37, 1326-1336.	1.3	25
40	Fluid pumping and cells separation by DC-biased traveling wave electroosmosis and dielectrophoresis. Microfluidics and Nanofluidics, 2017, 21, 1.	1.0	24
41	Tri-fluid mixing in a microchannel for nanoparticle synthesis. Lab on A Chip, 2019, 19, 2936-2946.	3.1	24
42	Effect of vortex on mass transport and mixing in microcapillary channels. Chemical Engineering Journal, 2019, 362, 442-452.	6.6	24
43	Continuousâ€Flow Nanoparticle Trapping Driven by Hybrid Electrokinetics in Microfluidics. Electrophoresis, 2021, 42, 939-949.	1.3	24
44	Effect of the crossing-structure sequence on mixing performance within three-dimensional micromixers. Biomicrofluidics, 2014, 8, 034106.	1.2	23
45	Continuous-flow focusing of microparticles using induced-charge electroosmosis in a microfluidic device with 3D AgPDMS electrodes. RSC Advances, 2015, 5, 66602-66610.	1.7	22
46	Particle rotational trapping on a floating electrode by rotating induced-charge electroosmosis. Biomicrofluidics, 2016, 10, 054103.	1.2	22
47	Induced charge electro-osmotic particle separation. Nanoscale, 2019, 11, 6410-6421.	2.8	22
48	Self-powered AC electrokinetic microfluidic system based on triboelectric nanogenerator. Nano Energy, 2021, 89, 106451.	8.2	22
49	On hybrid electroosmotic kinetics for fieldâ€effectâ€reconfigurable nanoparticle trapping in a fourâ€terminal spiral microelectrode array. Electrophoresis, 2019, 40, 979-992.	1.3	21
50	Multiple frequency electrothermal induced flow: theory and microfluidic applications. Journal Physics D: Applied Physics, 2020, 53, 175304.	1.3	21
51	Fluid pumping by liquid metal droplet utilizing ac electric field. Physical Review E, 2022, 105, 025102.	0.8	21
52	Efficient particle and droplet manipulation utilizing the combined thermal buoyancy convection and temperature-enhanced rotating induced-charge electroosmotic flow. Analytica Chimica Acta, 2020, 1096, 108-119.	2.6	20
53	Three-Fluid Sequential Micromixing-Assisted Nanoparticle Synthesis Utilizing Alternating Current Electrothermal Flow. Industrial & Engineering Chemistry Research, 2020, 59, 12514-12524.	1.8	20
54	Electrical manipulation of electrolytes with conductivity gradients in microsystems. Journal of Electrostatics, 2009, 67, 372-376.	1.0	19

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55	Effects of discrete-electrode arrangement on traveling-wave electroosmotic pumping. Journal of Micromechanics and Microengineering, 2016, 26, 095003.	1.5	19
56	Fluid Flow and Mixing Induced by AC Continuous Electrowetting of Liquid Metal Droplet. Micromachines, 2017, 8, 119.	1.4	19
57	Flexible Continuous Particle Beam Switching via External-Field-Reconfigurable Asymmetric Induced-Charge Electroosmosis. Analytical Chemistry, 2018, 90, 11376-11384.	3.2	19
58	A simple microfluidic method for one-step encapsulation of reagents with varying concentrations in double emulsion drops for nanoliter-scale reactions and analyses. Analytical Methods, 2017, 9, 2511-2516.	1.3	18
59	Efficient Micro/Nanoparticle Concentration using Direct Current-Induced Thermal Buoyancy Convection for Multiple Liquid Media. Analytical Chemistry, 2019, 91, 4457-4465.	3.2	18
60	Actuation of co-flowing electrolytes in a microfluidic system by microelectrode arrays. Microfluidics and Nanofluidics, 2012, 13, 441-449.	1.0	17
61	Flexible particle flowâ€focusing in microchannel driven by dropletâ€directed inducedâ€charge electroosmosis. Electrophoresis, 2018, 39, 597-607.	1.3	17
62	Simulation analysis of rectifying microfluidic mixing with fieldâ€effectâ€tunable electrothermal induced flow. Electrophoresis, 2018, 39, 779-793.	1.3	16
63	Controllable rotating behavior of individual dielectric microrod in a rotating electric field. Electrophoresis, 2017, 38, 1427-1433.	1.3	15
64	On controlling the flow behavior driven by induction electrohydrodynamics in microfluidic channels. Electrophoresis, 2017, 38, 983-995.	1.3	15
65	Osmolarity-controlled swelling behaviors of dual-cored double-emulsion drops. Microfluidics and Nanofluidics, 2017, 21, 1.	1.0	15
66	Simulation Analysis of Improving Microfluidic Heterogeneous Immunoassay Using Induced Charge Electroosmosis on a Floating Gate. Micromachines, 2017, 8, 212.	1.4	14
67	A High-Throughput Electrokinetic Micromixer via AC Field-Effect Nonlinear Electroosmosis Control in 3D Electrode Configurations. Micromachines, 2018, 9, 432.	1.4	14
68	Combined alternating current electrothermal and dielectrophoresis-induced tunable patterning to actuate on-chip microreactions and switching at a floating electrode. Sensors and Actuators B: Chemical, 2020, 304, 127397.	4.0	14
69	Pumping of electrolyte with mobile liquid metal droplets driven by continuous electrowetting: A fullâ€scaled simulation study considering surfaceâ€coupled electrocapillary twoâ€phase flow. Electrophoresis, 2021, 42, 950-966.	1.3	14
70	On ion transport regulation with fieldâ€effect nonlinear electroosmosis control in microfluidics embedding an ionâ€selective medium. Electrophoresis, 2020, 41, 778-792.	1.3	13
71	Continuous microfluidic fabrication of anisotropic microparticles for enhanced wastewater purification. Lab on A Chip, 2021, 21, 1517-1526.	3.1	13
72	On traveling-wave field-effect flow control for simultaneous induced-charge electroosmotic pumping and mixing in microfluidics: physical perspectives and theoretical analysis. Journal of Micromechanics and Microengineering, 2018, 28, 055004.	1.5	12

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73	Three-dimensional paper based platform for automatically running multiple assays in a single step. Talanta, 2019, 200, 177-185.	2.9	12
74	Pumping of Ionic Liquids by Liquid Metalâ€Enabled Electrocapillary Flow under DCâ€Biased AC Forcing. Advanced Materials Interfaces, 2020, 7, 2000345.	1.9	12
75	Characterization of Particle Movement and High-Resolution Separation of Microalgal Cells via Induced-Charge Electroosmotic Advective Spiral Flow. Analytical Chemistry, 2021, 93, 1667-1676.	3.2	12
76	Small universal mechanical module driven by a liquid metal droplet. Lab on A Chip, 2021, 21, 2771-2780.	3.1	11
77	DC electric field-driven heartbeat phenomenon of gallium-based liquid metal on a floating electrode. Soft Matter, 2022, 18, 609-616.	1.2	11
78	Characterization of opioid activities of endomorphin analogs with C-terminal amide to hydrazide conversion. Neuropeptides, 2013, 47, 297-304.	0.9	10
79	Convection and mass transfer enhanced rapid capacitive serum immunoassay. RSC Advances, 2014, 4, 9064.	1.7	10
80	Electrode Cooling Effect on Out-Of-Phase Electrothermal Streaming in Rotating Electric Fields. Micromachines, 2017, 8, 327.	1.4	10
81	High-throughput and Multimodal Separation of Microbeads Using Cyclical Induced-charge Electro-osmotic Vortices and Its Application in Size Fractionation of Crumpled Graphene Oxide Balls. Applied Materials Today, 2020, 19, 100545.	2.3	10
82	Thermal field-actuated multifunctional double-emulsion droplet carriers: On-demand migration, core release and released particle focusing. Chemical Engineering Journal, 2022, 431, 134200.	6.6	10
83	Microwire formation based on dielectrophoresis of electroless gold plated polystyrene microspheres. Chinese Physics B, 2011, 20, 057701.	0.7	9
84	Continuous separation of multiple size microparticles using alternating current dielectrophoresis in microfluidic device with acupuncture needle electrodes. Chinese Journal of Mechanical Engineering (English Edition), 2016, 29, 325-331.	1.9	9
85	An integrated microfluidic system for zebrafish larva organs injection. , 2017, , .		9
86	On Developing Field-Effect-Tunable Nanofluidic Ion Diodes with Bipolar, Induced-Charge Electrokinetics. Micromachines, 2018, 9, 179.	1.4	9
87	A micro-needle induced strategy for preparation of monodisperse liquid metal droplets in glass capillary microfluidics. Microfluidics and Nanofluidics, 2019, 23, 1.	1.0	9
88	Flexible Particle Focusing and Switching in Continuous Flow via Controllable Thermal Buoyancy Convection. Analytical Chemistry, 2020, 92, 2778-2786.	3.2	9
89	Fabrication of syntactic foam fillers via manipulation of on-chip quasi concentric nanoparticle-shelled droplet templates. Lab on A Chip, 2020, 20, 4600-4610.	3.1	9
90	Dielectrophoresis Response of Water-in-Oil-in-Water Double Emulsion Droplets with Singular or Dual Cores. Micromachines, 2020, 11, 1121.	1.4	9

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91	Buoyancy-Free Janus Microcylinders as Mobile Microelectrode Arrays for Continuous Microfluidic Biomolecule Collection within a Wide Frequency Range: A Numerical Simulation Study. Micromachines, 2020, 11, 289.	1.4	9
92	A tripodal wheeled mobile robot driven by a liquid metal motor. Lab on A Chip, 2022, 22, 1943-1950.	3.1	9
93	Liquid metal droplet-enabled electrocapillary flow in biased alternating electric fields: a theoretical analysis from the perspective of induced-charge electrokinetics. Journal of Micromechanics and Microengineering, 2020, 30, 085007.	1.5	8
94	Flexible fabrication of lipophilic-hydrophilic micromotors by off-chip photopolymerization of three-phase immiscible flow induced Janus droplet templates. Analytica Chimica Acta, 2021, 1182, 338955.	2.6	8
95	A visual portable microfluidic experimental device with multiple electric field regulation functions. Lab on A Chip, 2022, 22, 1556-1564.	3.1	8
96	Diabetes attenuates the inhibitory effects of endomorphin-2, but not endomorphin-1 on gastrointestinal transit in mice. European Journal of Pharmacology, 2014, 738, 1-7.	1.7	7
97	Microbubble Formation in a Coâ€flowing Liquid in a Microfluidic Chip. Chemical Engineering and Technology, 2017, 40, 1512-1521.	0.9	7
98	On the Bipolar DC Flow Field-Effect-Transistor for Multifunctional Sample Handing in Microfluidics: A Theoretical Analysis under the Debyeâ€“Huckel Limit. Micromachines, 2018, 9, 82.	1.4	7
99	Dielectric Characterization and Multistage Separation of Various Cells via Dielectrophoresis in a Bipolar Electrode Arrayed Device. Analytical Chemistry, 2021, 93, 10220-10228.	3.2	7
100	Desktop-level small automatic guided vehicle driven by a liquid metal droplet. Lab on A Chip, 2022, 22, 826-835.	3.1	7
101	Microparticle separation using asymmetrical induced-charge electro-osmotic vortices on an arc-edge-based floating electrode. Analyst, The, 2019, 144, 5150-5163.	1.7	6
102	Flexible Microswimmer Manipulation in Multiple Microfluidic Systems Utilizing Thermal Buoyancy-Capillary Convection. Analytical Chemistry, 2021, 93, 2560-2569.	3.2	6
103	Dielectrophoretic medium exchange around droplets for on-chip fabrication of layer-by-layer microcapsules. Lab on A Chip, 2021, 21, 3352-3360.	3.1	6
104	Flexible online in-droplet cell/synthetic particle concentration utilizing alternating current electrothermal-flow field-effect transistor. Lab on A Chip, 2021, 21, 1987-1997.	3.1	6
105	Effects of chip geometries on dielectrophoresis and electrorotation investigation. Chinese Journal of Mechanical Engineering (English Edition), 2014, 27, 103-110.	1.9	5
106	A multifunctional resealable perfusion chip for cell culture and tissue engineering. RSC Advances, 2016, 6, 27183-27190.	1.7	5
107	Reversible Aggregation and Dispersion of Particles at a Liquidâ€“Liquid Interface Using Space Charge Injection. Advanced Materials Interfaces, 2019, 6, 1801920.	1.9	5
108	A Numerical Investigation of Enhancing Microfluidic Heterogeneous Immunoassay on Bipolar Electrodes Driven by Induced-Charge Electroosmosis in Rotating Electric Fields. Micromachines, 2020, 11, 739.	1.4	5

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109	Eccentric magnetic microcapsule for on-demand transportation, release, and evacuation in microfabrication fluidic networks. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2020, 599, 124905.	2.3	5
110	A Simulation Analysis of Nanofluidic Ion Current Rectification Using a Metal-Dielectric Janus Nanopore Driven by Induced-Charge Electrokinetic Phenomena. Micromachines, 2020, 11, 542.	1.4	5
111	Fabrication of syntactic foam fillers via integrated on/off-chip microfluidic methods for optimized geopolymer composites. Lab on A Chip, 2022, 22, 836-847.	3.1	5
112	Manipulation of gold coated microspheres using electrorotation. Science China Technological Sciences, 2011, 54, 643-649.	2.0	4
113	Multifrequency Induced-Charge Electroosmosis. Micromachines, 2019, 10, 447.	1.4	4
114	Numerical characterization of interâ€core coalescence by AC dielectrophoresis in doubleâ€emulsion droplets. Electrophoresis, 2022, 43, 2141-2155.	1.3	4
115	Controllable Fabrication of Molecularly Imprinted Microspheres with Nanoporous and Multilayered Structure for Dialysate Regeneration. Nanomaterials, 2022, 12, 418.	1.9	2
116	Control of the dielectric microrods rotation in liquid by alternating current electric field. Chinese Journal of Mechanical Engineering (English Edition), 2014, 27, 622-627.	1.9	1
117	Microreactions: Sequential Coalescence Enabled Twoâ€Step Microreactions in Tripleâ€Core Doubleâ€Emulsion Droplets Triggered by an Electric Field (Small 46/2017). Small, 2017, 13, .	5.2	1
118	Automatic microcircuit formation based on gold-coated SU-8 microrods via dielectrophoresis. Chinese Physics B, 2013, 22, 087701.	0.7	0
119	Formation Characteristics of microbubble in a co-flowing liquid in microfluidic chip. IOP Conference Series: Earth and Environmental Science, 2017, 81, 012162.	0.2	0
120	Microbubble movement during its formation in a co-flowing liquid in a microfluidic chip. AIP Conference Proceedings, 2017, , .	0.3	0
121	A Mathematical Model of the Knee Joint for Estimation of Forces and Torques During Standing-up. Lecture Notes in Electrical Engineering, 2014, , 21-28.	0.3	0
122	10.1063/1.5030579.1. , 2018, , .		0
123	10.1063/1.5054800.1. , 2018, , .		0
124	Fluid Mixing Using Induced Charge Electro-Osmotic Transverse Flow Actuated by Asymmetrical Driving Electrode Sequence. , 2019, , .		0