

Jongyoon Han

List of Publications by Year in Descending Order

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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.

121
papers

8,380
citations

41
h-index

91
g-index

129
ext. papers

9,742
ext. citations

9.5
avg, IF

6.32
L-index

#	Paper	IF	Citations
121	Multi-dimensional-double-spiral (MDDS) inertial microfluidic platform for sperm isolation directly from the raw semen sample.. <i>Scientific Reports</i> , 2022 , 12, 4212	4.9	2
120	A Pre-Clinical Animal Study for Zonal Articular Cartilage Regeneration Using Stratified Implantation of Microcarrier Expanded Zonal Chondrocytes.. <i>Cartilage</i> , 2022 , 13, 19476035221093063	3	1
119	Engineering a deformation-free plastic spiral inertial microfluidic system for CHO cell clarification in biomanufacturing.. <i>Lab on A Chip</i> , 2021 ,	7.2	3
118	Refinement of brine for lithium extraction using ion concentration polarization. <i>Separation and Purification Technology</i> , 2021 , 282, 120055	8.3	0
117	On the validity of ion selective membrane simplification in concentration polarization. <i>AIP Advances</i> , 2021 , 11, 035116	1.5	1
116	Inflammation Biomarkers: Label-Free Biophysical Markers from Whole Blood Microfluidic Immune Profiling Reveal Severe Immune Response Signatures (Small 12/2021). <i>Small</i> , 2021 , 17, 2170051	11	1
115	Confined Plunging Liquid Jets for Dilution of Brine from Desalination Plants. <i>Processes</i> , 2021 , 9, 856	2.9	2
114	Fully Automated, Sample-to-Answer Leukocyte Functional Assessment Platform for Continuous Sepsis Monitoring via Microliters of Blood. <i>ACS Sensors</i> , 2021 , 6, 2747-2756	9.2	3
113	Inflammation resolution circuits are uncoupled in acute sepsis and correlate with clinical severity. <i>JCI Insight</i> , 2021 , 6,	9.9	1
112	Investigating the influence of physiologically relevant hydrostatic pressure on CHO cell batch culture. <i>Scientific Reports</i> , 2021 , 11, 162	4.9	3
111	Microfluidic studies of hydrostatic pressure-enhanced doxorubicin resistance in human breast cancer cells. <i>Lab on A Chip</i> , 2021 , 21, 746-754	7.2	3
110	Deep-Learning Based Label-Free Classification of Activated and Inactivated Neutrophils for Rapid Immune State Monitoring. <i>Sensors</i> , 2021 , 21,	3.8	4
109	Multiplexed Single-Cell Leukocyte Enzymatic Secretion Profiling from Whole Blood Reveals Patient-Specific Immune Signature. <i>Analytical Chemistry</i> , 2021 , 93, 4374-4382	7.8	4
108	Rapid and Low Cost Manufacturing of Cuff Electrodes. <i>Frontiers in Neuroscience</i> , 2021 , 15, 628778	5.1	1
107	Miniature auto-perfusion bioreactor system with spiral microfluidic cell retention device. <i>Biotechnology and Bioengineering</i> , 2021 , 118, 1951-1961	4.9	6
106	Microfluidic Separation of Canine Adipose-Derived Mesenchymal Stromal Cells. <i>Tissue Engineering - Part C: Methods</i> , 2021 , 27, 445-461	2.9	1
105	Separation of Ultra-High-Density Cell Suspension via Elasto-Inertial Microfluidics. <i>Small</i> , 2021 , 17, e2101880		1

104	Current efficiency and selectivity reduction caused by co-ion leakage in electromembrane processes. <i>Water Research</i> , 2021 , 201, 117351	12.5	0
103	Deformation behavior of normal human enamel: A study by nanoindentation. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2020 , 108, 103799	4.1	8
102	Techno-economic analysis of multi-stage ion concentration polarization with recirculation for treatment of oil produced water. <i>Journal of Environmental Management</i> , 2020 , 269, 110788	7.9	1
101	Massively Multiplexed Submicron Particle Patterning in Acoustically Driven Oscillating Nanocavities. <i>Small</i> , 2020 , 16, e2000462	11	17
100	One-Step Nucleic Acid Purification and Noise-Resistant Polymerase Chain Reaction by Electrokinetic Concentration for Ultralow-Abundance Nucleic Acid Detection. <i>Angewandte Chemie</i> , 2020 , 132, 11074-11081	3.6	2
99	One-Step Nucleic Acid Purification and Noise-Resistant Polymerase Chain Reaction by Electrokinetic Concentration for Ultralow-Abundance Nucleic Acid Detection. <i>Angewandte Chemie - International Edition</i> , 2020 , 59, 10981-10988	16.4	11
98	Continuous Online Protein Quality Monitoring during Perfusion Culture Production Using an Integrated Micro/Nanofluidic System. <i>Analytical Chemistry</i> , 2020 , 92, 5267-5275	7.8	5
97	Diffraction-based acoustic manipulation in microchannels enables continuous particle and bacteria focusing. <i>Lab on A Chip</i> , 2020 , 20, 2674-2688	7.2	17
96	Label-free separation of mesenchymal stem cell subpopulations with distinct differentiation potencies and paracrine effects. <i>Biomaterials</i> , 2020 , 240, 119881	15.6	9
95	Sensitive CometChip assay for screening potentially carcinogenic DNA adducts by trapping DNA repair intermediates. <i>Nucleic Acids Research</i> , 2020 , 48, e13	20.1	16
94	Sub-Micron Particle Trapping: Massively Multiplexed Submicron Particle Patterning in Acoustically Driven Oscillating Nanocavities (Small 17/2020). <i>Small</i> , 2020 , 16, 2070095	11	0
93	Numerical simulation of electrokinetic desalination using microporous permselective membranes. <i>Desalination</i> , 2020 , 477, 114262	10.3	4
92	Molecular phenotyping of oxidative stress in diabetes mellitus with point-of-care NMR system. <i>Npj Aging and Mechanisms of Disease</i> , 2020 , 6, 11	5.5	6
91	K13-Mediated Reduced Susceptibility to Artemisinin in Plasmodium falciparum Is Overlaid on a Trait of Enhanced DNA Damage Repair. <i>Cell Reports</i> , 2020 , 32, 107996	10.6	12
90	Microfluidic label-free bioprocessing of human reticulocytes from erythroid culture. <i>Lab on A Chip</i> , 2020 , 20, 3445-3460	7.2	5
89	Fully-automated and field-deployable blood leukocyte separation platform using multi-dimensional double spiral (MDDS) inertial microfluidics. <i>Lab on A Chip</i> , 2020 , 20, 3612-3624	7.2	10
88	Enhanced teeth whitening by nanofluidic transport of hydrogen peroxide into enamel with electrokinetic flows. <i>Dental Materials</i> , 2019 , 35, 1637-1643	5.7	5
87	Numerical simulation of continuous extraction of highly concentrated Li ⁺ from high Mg ²⁺ /Li ⁺ ratio brines in an ion concentration polarization-based microfluidic system. <i>Separation and Purification Technology</i> , 2019 , 217, 174-182	8.3	8

86	Microfluidic modelling of the tumor microenvironment for anti-cancer drug development. <i>Lab on A Chip</i> , 2019 , 19, 369-386	7.2	112
85	Return flow ion concentration polarization desalination: A new way to enhance electromembrane desalination. <i>Water Research</i> , 2019 , 159, 501-510	12.5	8
84	Biophysical phenotyping of single cells using a differential multiconstriction microfluidic device with self-aligned 3D electrodes. <i>Biosensors and Bioelectronics</i> , 2019 , 133, 16-23	11.8	25
83	Rapid identification and phylogenetic classification of diverse bacterial pathogens in a multiplexed hybridization assay targeting ribosomal RNA. <i>Scientific Reports</i> , 2019 , 9, 4516	4.9	8
82	Improved zonal chondrocyte production protocol integrating size-based inertial spiral microchannel separation and dynamic microcarrier culture for clinical application. <i>Biomaterials</i> , 2019 , 220, 119409	15.6	13
81	Universal amplification-free molecular diagnostics by billion-fold hierarchical nanofluidic concentration. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 16240-16249	11.5	31
80	Leukocyte function assessed via serial microlitre sampling of peripheral blood from sepsis patients correlates with disease severity. <i>Nature Biomedical Engineering</i> , 2019 , 3, 961-973	19	26
79	Techno-economic analysis of ion concentration polarization desalination for high salinity desalination applications. <i>Water Research</i> , 2019 , 155, 162-174	12.5	10
78	Electrokinetic flow in the U-shaped micro-nanochannels. <i>Theoretical and Applied Mechanics Letters</i> , 2019 , 9, 36-42	1.8	6
77	Acoustic fields and microfluidic patterning around embedded micro-structures subject to surface acoustic waves. <i>Soft Matter</i> , 2019 , 15, 8691-8705	3.6	15
76	Liquid biopsy for minimal residual disease detection in leukemia using a portable blast cell biochip. <i>Npj Precision Oncology</i> , 2019 , 3, 30	9.8	12
75	Femtomolar Detection of Lipopolysaccharide in Injectables and Serum Samples Using Aptamer-Coupled Reduced Graphene Oxide in a Continuous Injection-Electrostacking Biochip. <i>Analytical Chemistry</i> , 2019 , 91, 2360-2367	7.8	20
74	Characterization and application of size-sorted zonal chondrocytes for articular cartilage regeneration. <i>Biomaterials</i> , 2018 , 165, 66-78	15.6	22
73	Direct numerical simulation of continuous lithium extraction from high Mg/Li ratio brines using microfluidic channels with ion concentration polarization. <i>Journal of Membrane Science</i> , 2018 , 556, 34-41 ^{9.6}	19.6	30
72	Microfluidic label-free selection of mesenchymal stem cell subpopulation during culture expansion extends the chondrogenic potential in vitro. <i>Lab on A Chip</i> , 2018 , 18, 878-889	7.2	26
71	Self-Aligned Acoustofluidic Particle Focusing and Patterning in Microfluidic Channels from Channel-Based Acoustic Waveguides. <i>Physical Review Letters</i> , 2018 , 120, 074502	7.4	48
70	Microfluidic Probes for Single-Cell Proteomic Analysis 2018 , 221-248		
69	High-throughput sorting of eggs for synchronization of <i>C. elegans</i> in a microfluidic spiral chip. <i>Lab on A Chip</i> , 2018 , 18, 679-687	7.2	26

68	A multiscale-pore ion exchange membrane for better energy efficiency. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 7714-7723	13	14
67	Negative Selection by Spiral Inertial Microfluidics Improves Viral Recovery and Sequencing from Blood. <i>Analytical Chemistry</i> , 2018 , 90, 4657-4662	7.8	29
66	Continuous removal of small nonviable suspended mammalian cells and debris from bioreactors using inertial microfluidics. <i>Lab on A Chip</i> , 2018 , 18, 2826-2837	7.2	31
65	Label-free Neutrophil Enrichment from Patient-derived Airway Secretion Using Closed-loop Inertial Microfluidics. <i>Journal of Visualized Experiments</i> , 2018 ,	1.6	2
64	Characterizing Deformability and Electrical Impedance of Cancer Cells in a Microfluidic Device. <i>Analytical Chemistry</i> , 2018 , 90, 912-919	7.8	49
63	Expansion of patient-derived circulating tumor cells from liquid biopsies using a CTC microfluidic culture device. <i>Nature Protocols</i> , 2018 , 13, 34-58	18.8	79
62	Pressure-Modulated Selective Electrokinetic Trapping for Direct Enrichment, Purification, and Detection of Nucleic Acids in Human Serum. <i>Analytical Chemistry</i> , 2018 , 90, 11366-11375	7.8	19
61	Deciphering ion concentration polarization-based electrokinetic molecular concentration at the micro-nanofluidic interface: theoretical limits and scaling laws. <i>Nanoscale</i> , 2018 , 10, 15187-15194	7.7	34
60	Sheltering the perturbed vortical layer of electroconvection under shear flow. <i>Journal of Fluid Mechanics</i> , 2017 , 813, 799-823	3.7	18
59	Partial desalination of hypersaline brine by lab-scale ion concentration polarization device. <i>Desalination</i> , 2017 , 412, 20-31	10.3	15
58	Patient-Derived Airway Secretion Dissociation Technique To Isolate and Concentrate Immune Cells Using Closed-Loop Inertial Microfluidics. <i>Analytical Chemistry</i> , 2017 , 89, 5549-5556	7.8	32
57	Nanofluidic device for continuous multiparameter quality assurance of biologics. <i>Nature Nanotechnology</i> , 2017 , 12, 804-812	28.7	19
56	Selective particle and cell capture in a continuous flow using micro-vortex acoustic streaming. <i>Lab on A Chip</i> , 2017 , 17, 1769-1777	7.2	61
55	Direct evidence for cancer-cell-autonomous extracellular protein catabolism in pancreatic tumors. <i>Nature Medicine</i> , 2017 , 23, 235-241	50.5	199
54	Enabling electrical biomolecular detection in high ionic concentrations and enhancement of the detection limit thereof by coupling a nanofluidic crystal with reconfigurable ion concentration polarization. <i>Lab on A Chip</i> , 2017 , 17, 3772-3784	7.2	13
53	Microfluidic Cell Retention Device for Perfusion of Mammalian Suspension Culture. <i>Scientific Reports</i> , 2017 , 7, 6703	4.9	51
52	Accurate Multi-Physics Numerical Analysis of Particle Preconcentration Based on Ion Concentration Polarization. <i>International Journal of Applied Mechanics</i> , 2017 , 09, 1750107	2.4	23
51	Force fields of charged particles in micro-nanofluidic preconcentration systems. <i>AIP Advances</i> , 2017 , 7, 125020	1.5	17

50	Microfluidic Platform for Assessment of Therapeutic Proteins Using Molecular Charge Modulation Enhanced Electrokinetic Concentration Assays. <i>Analytical Chemistry</i> , 2016 , 88, 9669-9677	7.8	18
49	Helical vortex formation in three-dimensional electrochemical systems with ion-selective membranes. <i>Physical Review E</i> , 2016 , 93, 033114	2.4	33
48	Study of individual erythrocyte deformability susceptibility to INFeD and ethanol using a microfluidic chip. <i>Scientific Reports</i> , 2016 , 6, 22929	4.9	7
47	Liquid biopsy and therapeutic response: Circulating tumor cell cultures for evaluation of anticancer treatment. <i>Science Advances</i> , 2016 , 2, e1600274	14.3	78
46	Multiplexed Affinity-Based Separation of Proteins and Cells Using Inertial Microfluidics. <i>Scientific Reports</i> , 2016 , 6, 23589	4.9	45
45	Purification of High Salinity Brine by Multi-Stage Ion Concentration Polarization Desalination. <i>Scientific Reports</i> , 2016 , 6, 31850	4.9	54
44	Creating Sub-50 Nm Nanofluidic Junctions in PDMS Microfluidic Chip via Self-Assembly Process of Colloidal Particles. <i>Journal of Visualized Experiments</i> , 2016 ,	1.6	1
43	Ultra-fast, label-free isolation of circulating tumor cells from blood using spiral microfluidics. <i>Nature Protocols</i> , 2016 , 11, 134-48	18.8	338
42	Differential Spleen Remodeling Associated with Different Levels of Parasite Virulence Controls Disease Outcome in Malaria Parasite Infections. <i>MSphere</i> , 2016 , 1,	5	4
41	Continuous micro-vortex-based nanoparticle manipulation via focused surface acoustic waves. <i>Lab on A Chip</i> , 2016 , 17, 91-103	7.2	111
40	Enhanced Salt Removal by Unipolar Ion Conduction in Ion Concentration Polarization Desalination. <i>Scientific Reports</i> , 2016 , 6, 25349	4.9	46
39	Gene disruption of dematin causes precipitous loss of erythrocyte membrane stability and severe hemolytic anemia. <i>Blood</i> , 2016 , 128, 93-103	2.2	20
38	Identification of malaria parasite-infected red blood cell surface aptamers by inertial microfluidic SELEX (I-SELEX). <i>Scientific Reports</i> , 2015 , 5, 11347	4.9	41
37	Enhancing malaria diagnosis through microfluidic cell enrichment and magnetic resonance relaxometry detection. <i>Scientific Reports</i> , 2015 , 5, 11425	4.9	49
36	Membrane-less microfiltration using inertial microfluidics. <i>Scientific Reports</i> , 2015 , 5, 11018	4.9	104
35	Large-Volume Microfluidic Cell Sorting for Biomedical Applications. <i>Annual Review of Biomedical Engineering</i> , 2015 , 17, 1-34	12	76
34	Direct detection and drug-resistance profiling of bacteremias using inertial microfluidics. <i>Lab on A Chip</i> , 2015 , 15, 2297-307	7.2	91
33	Malaria detection using inertial microfluidics. <i>Lab on A Chip</i> , 2015 , 15, 1101-9	7.2	85

32	Bone marrow regeneration promoted by biophysically sorted osteoprogenitors from mesenchymal stromal cells. <i>Stem Cells Translational Medicine</i> , 2015 , 4, 56-65	6.9	30
31	Jetting microfluidics with size-sorting capability for single-cell protease detection. <i>Biosensors and Bioelectronics</i> , 2015 , 66, 19-23	11.8	73
30	Reply to "Considerations regarding the micromagnetic resonance relaxometry technique for rapid label-free malaria diagnosis". <i>Nature Medicine</i> , 2015 , 21, 1387-9	50.5	12
29	Desalination at overlimiting currents: State-of-the-art and perspectives. <i>Desalination</i> , 2014 , 342, 85-106	10.3	240
28	An ultra-high-throughput spiral microfluidic biochip for the enrichment of circulating tumor cells. <i>Analyst, The</i> , 2014 , 139, 3245-55	5	146
27	Multivariate biophysical markers predictive of mesenchymal stromal cell multipotency. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, E4409-18	11.5	105
26	Micromagnetic resonance relaxometry for rapid label-free malaria diagnosis. <i>Nature Medicine</i> , 2014 , 20, 1069-73	50.5	84
25	Direct in vivo electrochemical detection of haemoglobin in red blood cells. <i>Scientific Reports</i> , 2014 , 4, 6209	4.9	30
24	Clinical validation of an ultra high-throughput spiral microfluidics for the detection and enrichment of viable circulating tumor cells. <i>PLoS ONE</i> , 2014 , 9, e99409	3.7	139
23	Slanted spiral microfluidics for the ultra-fast, label-free isolation of circulating tumor cells. <i>Lab on A Chip</i> , 2014 , 14, 128-37	7.2	385
22	Microfluidic probe for single-cell analysis in adherent tissue culture. <i>Nature Communications</i> , 2014 , 5, 3421	17.4	80
21	Spiral microchannel with rectangular and trapezoidal cross-sections for size based particle separation. <i>Scientific Reports</i> , 2013 , 3, 1475	4.9	184
20	Tunable ionic transport for a triangular nanochannel in a polymeric nanofluidic system. <i>ACS Nano</i> , 2013 , 7, 740-7	16.7	66
19	Isolation and retrieval of circulating tumor cells using centrifugal forces. <i>Scientific Reports</i> , 2013 , 3, 1259	4.9	523
18	Shear flow of an electrically charged fluid by ion concentration polarization: scaling laws for electroconvective vortices. <i>Physical Review Letters</i> , 2013 , 110, 114501	7.4	103
17	Dissipative particle dynamics simulation of field-dependent DNA mobility in nanoslits. <i>Microfluidics and Nanofluidics</i> , 2012 , 12, 157-163	2.8	7
16	Nanofluidic preconcentration device in a straight microchannel using ion concentration polarization. <i>Lab on A Chip</i> , 2012 , 12, 4472-82	7.2	134
15	Separation of leukocytes from blood using spiral channel with trapezoid cross-section. <i>Analytical Chemistry</i> , 2012 , 84, 9324-31	7.8	151

14	Adhesive-based liquid metal radio-frequency microcoil for magnetic resonance relaxometry measurement. <i>Lab on A Chip</i> , 2012 , 12, 287-94	7.2	37
13	Development of miniaturized, portable magnetic resonance relaxometry system for point-of-care medical diagnosis. <i>Review of Scientific Instruments</i> , 2012 , 83, 095115	1.7	30
12	High-throughput cell cycle synchronization using inertial forces in spiral microchannels. <i>Lab on A Chip</i> , 2011 , 11, 1359-67	7.2	137
11	Continuous-flow biomolecule and cell concentrator by ion concentration polarization. <i>Analytical Chemistry</i> , 2011 , 83, 7348-55	7.8	116
10	Fabrication and Characterization of an Integrated Microsystem for Protein Preconcentration and Sensing. <i>Journal of Microelectromechanical Systems</i> , 2011 , 20, 221-230	2.5	10
9	Stabilization of ion concentration polarization using a heterogeneous nanoporous junction. <i>Nano Letters</i> , 2010 , 10, 16-23	11.5	89
8	Nanofluidic concentration devices for biomolecules utilizing ion concentration polarization: theory, fabrication, and applications. <i>Chemical Society Reviews</i> , 2010 , 39, 912-22	58.5	275
7	Multiplexed proteomic sample preconcentration device using surface-patterned ion-selective membrane. <i>Lab on A Chip</i> , 2008 , 8, 596-601	7.2	173
6	Transport phenomena in nanofluidics. <i>Reviews of Modern Physics</i> , 2008 , 80, 839-883	40.5	1343
5	Molecular sieving using nanofilters: past, present and future. <i>Lab on A Chip</i> , 2008 , 8, 23-33	7.2	227
4	Concentration polarization and nonlinear electrokinetic flow near a nanofluidic channel. <i>Physical Review Letters</i> , 2007 , 99, 044501	7.4	419
3	Million-fold preconcentration of proteins and peptides by nanofluidic filter. <i>Analytical Chemistry</i> , 2005 , 77, 4293-9	7.8	506
2	Nanofluidic molecular filters for efficient protein separation and preconcentration		1
1	Molecular Phenotyping of Oxidative Stress in Diabetes Mellitus with Point-of-care NMR system		5