

Jongyoon Han

List of Publications by Citations

Source: <https://exaly.com/author-pdf/1060203/jongyoon-han-publications-by-citations.pdf>

Version: 2024-04-23

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

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	Transport phenomena in nanofluidics. <i>Reviews of Modern Physics</i> , 2008 , 80, 839-883	40.5	1343
120	Isolation and retrieval of circulating tumor cells using centrifugal forces. <i>Scientific Reports</i> , 2013 , 3, 12594-9	4.9	523
119	Million-fold preconcentration of proteins and peptides by nanofluidic filter. <i>Analytical Chemistry</i> , 2005 , 77, 4293-9	7.8	506
118	Concentration polarization and nonlinear electrokinetic flow near a nanofluidic channel. <i>Physical Review Letters</i> , 2007 , 99, 044501	7.4	419
117	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
116	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
115	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
114	Desalination at overlimiting currents: State-of-the-art and perspectives. <i>Desalination</i> , 2014 , 342, 85-106	10.3	240
113	Molecular sieving using nanofilters: past, present and future. <i>Lab on A Chip</i> , 2008 , 8, 23-33	7.2	227
112	Direct evidence for cancer-cell-autonomous extracellular protein catabolism in pancreatic tumors. <i>Nature Medicine</i> , 2017 , 23, 235-241	50.5	199
111	Spiral microchannel with rectangular and trapezoidal cross-sections for size based particle separation. <i>Scientific Reports</i> , 2013 , 3, 1475	4.9	184
110	Multiplexed proteomic sample preconcentration device using surface-patterned ion-selective membrane. <i>Lab on A Chip</i> , 2008 , 8, 596-601	7.2	173
109	Separation of leukocytes from blood using spiral channel with trapezoid cross-section. <i>Analytical Chemistry</i> , 2012 , 84, 9324-31	7.8	151
108	An ultra-high-throughput spiral microfluidic biochip for the enrichment of circulating tumor cells. <i>Analyst, The</i> , 2014 , 139, 3245-55	5	146
107	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
106	High-throughput cell cycle synchronization using inertial forces in spiral microchannels. <i>Lab on A Chip</i> , 2011 , 11, 1359-67	7.2	137
105	Nanofluidic preconcentration device in a straight microchannel using ion concentration polarization. <i>Lab on A Chip</i> , 2012 , 12, 4472-82	7.2	134

104	Continuous-flow biomolecule and cell concentrator by ion concentration polarization. <i>Analytical Chemistry</i> , 2011 , 83, 7348-55	7.8	116
103	Microfluidic modelling of the tumor microenvironment for anti-cancer drug development. <i>Lab on A Chip</i> , 2019 , 19, 369-386	7.2	112
102	Continuous micro-vortex-based nanoparticle manipulation via focused surface acoustic waves. <i>Lab on A Chip</i> , 2016 , 17, 91-103	7.2	111
101	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
100	Membrane-less microfiltration using inertial microfluidics. <i>Scientific Reports</i> , 2015 , 5, 11018	4.9	104
99	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
98	Direct detection and drug-resistance profiling of bacteremias using inertial microfluidics. <i>Lab on A Chip</i> , 2015 , 15, 2297-307	7.2	91
97	Stabilization of ion concentration polarization using a heterogeneous nanoporous junction. <i>Nano Letters</i> , 2010 , 10, 16-23	11.5	89
96	Malaria detection using inertial microfluidics. <i>Lab on A Chip</i> , 2015 , 15, 1101-9	7.2	85
95	Micromagnetic resonance relaxometry for rapid label-free malaria diagnosis. <i>Nature Medicine</i> , 2014 , 20, 1069-73	50.5	84
94	Microfluidic probe for single-cell analysis in adherent tissue culture. <i>Nature Communications</i> , 2014 , 5, 3421	17.4	80
93	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
92	Liquid biopsy and therapeutic response: Circulating tumor cell cultures for evaluation of anticancer treatment. <i>Science Advances</i> , 2016 , 2, e1600274	14.3	78
91	Large-Volume Microfluidic Cell Sorting for Biomedical Applications. <i>Annual Review of Biomedical Engineering</i> , 2015 , 17, 1-34	12	76
90	Jetting microfluidics with size-sorting capability for single-cell protease detection. <i>Biosensors and Bioelectronics</i> , 2015 , 66, 19-23	11.8	73
89	Tunable ionic transport for a triangular nanochannel in a polymeric nanofluidic system. <i>ACS Nano</i> , 2013 , 7, 740-7	16.7	66
88	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
87	Purification of High Salinity Brine by Multi-Stage Ion Concentration Polarization Desalination. <i>Scientific Reports</i> , 2016 , 6, 31850	4.9	54

86	Microfluidic Cell Retention Device for Perfusion of Mammalian Suspension Culture. <i>Scientific Reports</i> , 2017 , 7, 6703	4.9	51
85	Enhancing malaria diagnosis through microfluidic cell enrichment and magnetic resonance relaxometry detection. <i>Scientific Reports</i> , 2015 , 5, 11425	4.9	49
84	Characterizing Deformability and Electrical Impedance of Cancer Cells in a Microfluidic Device. <i>Analytical Chemistry</i> , 2018 , 90, 912-919	7.8	49
83	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
82	Enhanced Salt Removal by Unipolar Ion Conduction in Ion Concentration Polarization Desalination. <i>Scientific Reports</i> , 2016 , 6, 25349	4.9	46
81	Multiplexed Affinity-Based Separation of Proteins and Cells Using Inertial Microfluidics. <i>Scientific Reports</i> , 2016 , 6, 23589	4.9	45
80	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
79	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
78	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
77	Helical vortex formation in three-dimensional electrochemical systems with ion-selective membranes. <i>Physical Review E</i> , 2016 , 93, 033114	2.4	33
76	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
75	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
74	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
73	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
72	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}	9.6	30
71	Direct in vivo electrochemical detection of haemoglobin in red blood cells. <i>Scientific Reports</i> , 2014 , 4, 6209	4.9	30
70	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
69	Negative Selection by Spiral Inertial Microfluidics Improves Viral Recovery and Sequencing from Blood. <i>Analytical Chemistry</i> , 2018 , 90, 4657-4662	7.8	29

68	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
67	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
66	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
65	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
64	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
63	Characterization and application of size-sorted zonal chondrocytes for articular cartilage regeneration. <i>Biomaterials</i> , 2018 , 165, 66-78	15.6	22
62	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
61	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
60	Nanofluidic device for continuous multiparameter quality assurance of biologics. <i>Nature Nanotechnology</i> , 2017 , 12, 804-812	28.7	19
59	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
58	Sheltering the perturbed vortical layer of electroconvection under shear flow. <i>Journal of Fluid Mechanics</i> , 2017 , 813, 799-823	3.7	18
57	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
56	Massively Multiplexed Submicron Particle Patterning in Acoustically Driven Oscillating Nanocavities. <i>Small</i> , 2020 , 16, e2000462	11	17
55	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
54	Force fields of charged particles in micro-nanofluidic preconcentration systems. <i>AIP Advances</i> , 2017 , 7, 125020	1.5	17
53	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
52	Partial desalination of hypersaline brine by lab-scale ion concentration polarization device. <i>Desalination</i> , 2017 , 412, 20-31	10.3	15
51	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

50	A multiscale-pore ion exchange membrane for better energy efficiency. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 7714-7723	13	14
49	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
48	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
47	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
46	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
45	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
44	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
43	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
42	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
41	Techno-economic analysis of ion concentration polarization desalination for high salinity desalination applications. <i>Water Research</i> , 2019 , 155, 162-174	12.5	10
40	Label-free separation of mesenchymal stem cell subpopulations with distinct differentiation potencies and paracrine effects. <i>Biomaterials</i> , 2020 , 240, 119881	15.6	9
39	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
38	Return flow ion concentration polarization desalination: A new way to enhance electromembrane desalination. <i>Water Research</i> , 2019 , 159, 501-510	12.5	8
37	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
36	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
35	Study of individual erythrocyte deformability susceptibility to INF β D and ethanol using a microfluidic chip. <i>Scientific Reports</i> , 2016 , 6, 22929	4.9	7
34	Dissipative particle dynamics simulation of field-dependent DNA mobility in nanoslits. <i>Microfluidics and Nanofluidics</i> , 2012 , 12, 157-163	2.8	7
33	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

32	Electrokinetic flow in the U-shaped micro-nanochannels. <i>Theoretical and Applied Mechanics Letters</i> , 2019 , 9, 36-42	1.8	6
31	Miniature auto-perfusion bioreactor system with spiral microfluidic cell retention device. <i>Biotechnology and Bioengineering</i> , 2021 , 118, 1951-1961	4.9	6
30	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
29	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
28	Molecular Phenotyping of Oxidative Stress in Diabetes Mellitus with Point-of-care NMR system		5
27	Microfluidic label-free bioprocessing of human reticulocytes from erythroid culture. <i>Lab on A Chip</i> , 2020 , 20, 3445-3460	7.2	5
26	Differential Spleen Remodeling Associated with Different Levels of Parasite Virulence Controls Disease Outcome in Malaria Parasite Infections. <i>MSphere</i> , 2016 , 1,	5	4
25	Numerical simulation of electrokinetic desalination using microporous permselective membranes. <i>Desalination</i> , 2020 , 477, 114262	10.3	4
24	Deep-Learning Based Label-Free Classification of Activated and Inactivated Neutrophils for Rapid Immune State Monitoring. <i>Sensors</i> , 2021 , 21,	3.8	4
23	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
22	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
21	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
20	Investigating the influence of physiologically relevant hydrostatic pressure on CHO cell batch culture. <i>Scientific Reports</i> , 2021 , 11, 162	4.9	3
19	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
18	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
17	Label-free Neutrophil Enrichment from Patient-derived Airway Secretion Using Closed-loop Inertial Microfluidics. <i>Journal of Visualized Experiments</i> , 2018 ,	1.6	2
16	Confined Plunging Liquid Jets for Dilution of Brine from Desalination Plants. <i>Processes</i> , 2021 , 9, 856	2.9	2
15	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

14	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
13	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
12	Nanofluidic molecular filters for efficient protein separation and preconcentration		1
11	On the validity of ion selective membrane simplification in concentration polarization. <i>AIP Advances</i> , 2021 , 11, 035116	1.5	1
10	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
9	Inflammation resolution circuits are uncoupled in acute sepsis and correlate with clinical severity. <i>JCI Insight</i> , 2021 , 6,	9.9	1
8	Rapid and Low Cost Manufacturing of Cuff Electrodes. <i>Frontiers in Neuroscience</i> , 2021 , 15, 628778	5.1	1
7	Microfluidic Separation of Canine Adipose-Derived Mesenchymal Stromal Cells. <i>Tissue Engineering - Part C: Methods</i> , 2021 , 27, 445-461	2.9	1
6	Separation of Ultra-High-Density Cell Suspension via Elasto-Inertial Microfluidics. <i>Small</i> , 2021 , 17, e2101880		1
5	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
4	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
3	Refinement of brine for lithium extraction using ion concentration polarization. <i>Separation and Purification Technology</i> , 2021 , 282, 120055	8.3	0
2	Current efficiency and selectivity reduction caused by co-ion leakage in electromembrane processes. <i>Water Research</i> , 2021 , 201, 117351	12.5	0
1	Microfluidic Probes for Single-Cell Proteomic Analysis 2018 , 221-248		