Min Jun Kim

List of Publications by Year
in descending order

131	3,712	109137	155451
papers	citations	35 h-index	55 g-index

134	134	134	3107
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Magnetically Controlled Modular Cubes With Reconfigurable Self-Assembly and Disassembly. IEEE Transactions on Robotics, 2022, 38, 1793-1805.	7.3	11
2	Self-Induced Back-Action Actuated Nanopore Electrophoresis (SANE) Sensor for Label-Free Detection of Cancer Immunotherapy-Relevant Antibody-Ligand Interactions. Methods in Molecular Biology, 2022, 2394, 343-376.	0.4	1
3	Investigating protein translocation in the presence of an electrolyte concentration gradient across a solidâ€state nanopore. Electrophoresis, 2022, 43, 785-792.	1.3	8
4	Experimental Approaches to Solid-State Nanopores. Nanostructure Science and Technology, 2022, , 297-341.	0.1	1
5	Multi-physics simulations of label-free optical-electrical forces acting on a silica nanoparticle trapped in a SANE plasmonic nanopore. , 2022, , .		0
6	Label-free alternating-current plasmonic nanopore sensing of nanoparticles. , 2022, , .		0
7	Effects of non-magnetic carbon nanotubes on the performance and stability of magnetorheological fluids containing FeCo-deposited carbon nanotubes. Korea Australia Rheology Journal, 2022, 34, 137-146.	0.7	3
8	Rolling Motion of a Soft Microsnowman under Rotating Magnetic Field. Micromachines, 2022, 13, 1005.	1.4	4
9	Assessment of 1/f noise associated with nanopores fabricated through chemically tuned controlled dielectric breakdown. Electrophoresis, 2021, 42, 899-909.	1.3	7
10	Modulation of electrophoresis, electroosmosis and diffusion for electrical transport of proteins through a solid-state nanopore. RSC Advances, 2021, 11, 24398-24409.	1.7	16
11	Symmetry breaking propulsion of magnetic microspheres in nonlinearly viscoelastic fluids. Nature Communications, 2021, 12, 1116.	5.8	30
12	Detection of nucleotides in hydrated ssDNA via 2D hâ€BN nanopore with ionicâ€liquid/saltâ€“water interface. Electrophoresis, 2021, 42, 991-1002.	1.3	10
13	Real-Time Teleoperation of Magnetic Force-Driven Microrobots With 3D Haptic Force Feedback for Micro-Navigation and Micro-Transportation. IEEE Robotics and Automation Letters, 2021, 6, 1769-1776.	3.3	14
14	Flagellated Janus particles for multimodal actuation and transport. Biomicrofluidics, 2021, 15, 044104.	1.2	4
15	Retinaâ€Inspired Structurally Tunable Synaptic Perovskite Nanocones. Advanced Functional Materials, 2021, 31, 2105596.	7.8	42
16	Nanopore Data Analysis: Baseline Construction and Abrupt Change-Based Multilevel Fitting. Analytical Chemistry, 2021, 93, 11710-11718.	3.2	20
17	Quantification of low affinity binding interactions between natural killer cell inhibitory receptors and targeting ligands with a self-induced back-action actuated nanopore electrophoresis (SANE) sensor. Nanotechnology, 2021, 32, 045501.	1.3	15
18	Propulsion of magnetically actuated achiral planar microswimmers in Newtonian and non-Newtonian fluids. Scientific Reports, 2021, 11, 21190.	1.6	10

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19	Bird-Inspired Self-Navigating Artificial Synaptic Compass. ACS Nano, 2021, 15, 20116-20126.	7.3	12
20	Adaptive Tracking Controller for an Alginate Artificial Cell. , 2021, , .		2
21	Enumeration of Polyominoes & Polycubes Composed of Magnetic Cubes. , 2021, , .		4
22	Fabrication of hexagonal boron nitride based 2D nanopore sensor for the assessment of electroâ€chemical responsiveness of human serum transferrin protein. Electrophoresis, 2020, 41, 630-637.	1.3	13
23	Detection of specific antibody-ligand interactions with a self-induced back-action actuated nanopore electrophoresis sensor. Nanotechnology, 2020, 31, 085502.	1.3	17
24	Adeno-associated virus characterization for cargo discrimination through nanopore responsiveness. Nanoscale, 2020, 12, 23721-23731.	2.8	18
25	Novel Dual-Curing Process for a Stereolithographically Printed Part Triggers a Remarkably Improved Interlayer Adhesion and Excellent Mechanical Properties. Langmuir, 2020, 36, 9250-9258.	1.6	14
26	Teleoperation control scheme for magnetically actuated microrobots with haptic guidance. Journal of Micro-Bio Robotics, 2020, 16, 161-171.	2.1	1
27	Beyond nanopore sizing: improving solid-state single-molecule sensing performance, lifetime, and analyte scope for omics by targeting surface chemistry during fabrication. Nanotechnology, 2020, 31, 335707.	1.3	28
28	Flagellar nanorobot with kinetic behavior investigation and 3D motion. Nanoscale, 2020, 12, 12154-12164.	2.8	10
29	Magnetically Actuated Simple Millirobots for Complex Navigation and Modular Assembly. IEEE Robotics and Automation Letters, 2020, 5, 2958-2965.	3.3	19
30	Mechanical characterization of vesicles and cells: A review. Electrophoresis, 2020, 41, 449-470.	1.3	24
31	Closed-loop Control Using High Power Hexapole Magnetic Tweezers for 3D Micromanipulation. Journal of Bionic Engineering, 2020, 17, 113-122.	2.7	5
32	Heterogeneously flagellated microswimmer behavior in viscous fluids. Biomicrofluidics, 2020, 14, 024112.	1.2	9
33	Magnetically Programmable Cuboids for 2D Locomotion and Collaborative Assembly. , 2020, , .		1
34	Design, Implementation, and Analysis of a 3-D Magnetic Tweezer System With High Magnetic Field Gradient. IEEE Transactions on Instrumentation and Measurement, 2019, 68, 680-687.	2.4	22
35	Optimum Thermoelectric Performance of Bismuthâ€“Antimonyâ€“Telluride Alloy/PEDOT:PSS Nanocomposites Prepared by an Innovative Redox Process. ACS Applied Energy Materials, 2019, 2, 8219-8228.	2.5	18
36	Characterization of Flagellar Filaments and Flagellin through Optical Microscopy and Label-Free Nanopore Responsiveness. Analytical Chemistry, 2019, 91, 13665-13674.	3.2	12

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37	Stiffness measurement of nanosized liposomes using solidâ€state nanopore sensor with automated recapturing platform. Electrophoresis, 2019, 40, 1337-1344.	1.3	17
38	Surface-Controlled Molecular Self-Alignment in Polymer Actuators for Flexible Microrobot Applications. Polymers, 2019, 11, 736.	2.0	1
39	Electrophoretic transport and dynamic deformation of bioâ€vesicles. Electrophoresis, 2019, 40, 2584-2591.	1.3	10
40	Molecular-Level Profiling of Human Serum Transferrin Protein through Assessment of Nanopore-Based Electrical and Chemical Responsiveness. ACS Nano, 2019, 13, 4246-4254.	7.3	31
41	Biomimetic synthesis of silver nanoparticles using Syzygium aromaticum (clove) extract: Catalytic and antimicrobial effects. Applied Organometallic Chemistry, 2019, 33, e4867.	1.7	52
42	Evaluation of grating realized via pulse current electroplating combined with atomic layer deposition as an x-ray grating interferometer. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2019, 37, 030903.	0.9	6
43	3D Micromanipulation of Particle Swarm Using a Hexapole Magnetic Tweezer. , 2019, , .		4
44	Âµ-PIV Measurements of Flows Generated by Photolithography-Fabricated Achiral Microswimmers. Micromachines, 2019, 10, 865.	1.4	11
45	Mechanical characterization of HIVâ€1 with a solidâ€state nanopore sensor. Electrophoresis, 2019, 40, 776-783.	1.3	38
46	Multiple consecutive recapture of rigid nanoparticles using a solidâ€state nanopore sensor. Electrophoresis, 2018, 39, 833-843.	1.3	16
47	Development and Implementation of High Power Hexapole Magnetic Tweezer System for Micromanipulations. , 2018, , .		2
48	Motion planning of particle based microrobots for static obstacle avoidance. Journal of Micro-Bio Robotics, 2018, 14, 41-49.	2.1	18
49	Microsnowman Propagation and Robotics inside Synthetic Mucus. , 2018, , .		4
50	Feedback control of an achiral robotic microswimmer. Journal of Bionic Engineering, 2017, 14, 245-259.	2.7	48
51	Bacteria-inspired nanorobots with flagellar polymorphic transformations and bundling. Scientific Reports, 2017, 7, 14098.	1.6	56
52	Novel 3D magnetic tweezer system for microswimmer manipulations. , 2017, , .		6
53	Swimming in synthetic mucus. , 2017, , .		2
54	Biotemplated flagellar nanoswimmers. APL Materials, 2017, 5, .	2.2	15

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55	Parallel Self-Assembly of Polyominoes under Uniform Control Inputs. IEEE Robotics and Automation Letters, 2017, , 1-1.	3.3	11
56	Path planning and aggregation for a microrobot swarm in vascular networks using a global input. , 2017, , .		11
57	Manipulation and control of microrobots using a novel permanent magnet stage. , 2017, , .		5
58	Substrate Dependent Ad-Atom Migration on Graphene and the Impact on Electron-Beam Sculpting Functional Nanopores. Sensors, 2017, 17, 1091.	2.1	1
59	Autonomous dynamic obstacle avoidance for bacteria-powered microrobots (BPMs) with modified vector field histogram. PLoS ONE, 2017, 12, e0185744.	1.1	10
60	Probing the Smallâ€Molecule Inhibition of an Anticancer Therapeutic Proteinâ€Protein Interaction Using a Solidâ€State Nanopore. Angewandte Chemie - International Edition, 2016, 55, 5713-5717.	7.2	44
61	Probing the Smallâ€Molecule Inhibition of an Anticancer Therapeutic Proteinâ€Protein Interaction Using a Solidâ€State Nanopore. Angewandte Chemie, 2016, 128, 5807-5811.	1.6	6
62	Fabrication and magnetic control of alginate-based rolling microrobots. AIP Advances, 2016, 6, .	0.6	28
63	Fabrication and control of simple low Reynolds number microswimmers. Applied Physics Letters, 2016, 109, .	1.5	22
64	Micro-PIV measurements of flows induced by rotating microparticles near a boundary. Microfluidics and Nanofluidics, 2016, 20, 1.	1.0	9
65	Micro manipulation using magnetic microrobots. Journal of Bionic Engineering, 2016, 13, 515-524.	2.7	29
66	Hydrophilic and size-controlled graphene nanopores for protein detection. Nanotechnology, 2016, 27, 495301.	1.3	56
67	Superior catalytic activity of synthesized triangular silver nanoplates with optimized sizes and shapes. Catalysis Science and Technology, 2016, 6, 8289-8299.	2.1	18
68	Versatile microrobotics using simple modular subunits. Scientific Reports, 2016, 6, 30472.	1.6	41
69	Nanoparticle mechanics: deformation detection via nanopore resistive pulse sensing. Nanoscale, 2016, 8, 14420-14431.	2.8	43
70	Electric Field Control of Bacteria-Powered Microrobots Using a Static Obstacle Avoidance Algorithm. IEEE Transactions on Robotics, 2016, 32, 125-137.	7.3	48
71	Single Molecule Protein Unfolding Using a Nanopore. RSC Nanoscience and Nanotechnology, 2016, , 237-269.	0.2	1
72	Low aspect ratio micropores for singleâ€particle and singleâ€cell analysis. Electrophoresis, 2015, 36, 1164-1171.	1.3	23

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73	Hydrodynamics of a self-actuated bacterial carpet using microscale particle image velocimetry. Biomicrofluidics, 2015, 9, 024121.	1.2	7
74	Dynamic obstacle avoidance for bacteria-powered microrobots. , 2015, , .		1
75	Algorithms for simultaneous motion control of multiple T. pyriformis cells: Model predictive control and Particle Swarm Optimization. , 2015, , .		7
76	Self-assembly of robotic micro- and nanoswimmers using magnetic nanoparticles. Journal of Nanoparticle Research, 2015, 17, 1.	0.8	55
77	Investigation of bacterial chemotaxis using a simple three-point microfluidic system. Biochip Journal, 2015, 9, 50-58.	2.5	7
78	Imparting magnetic dipole heterogeneity to internalized iron oxide nanoparticles for microorganism swarm control. Journal of Nanoparticle Research, 2015, 17, 1.	0.8	19
79	Use of solid-state nanopores for sensing co-translocational deformation of nano-liposomes. Analyst, The, 2015, 140, 4865-4873.	1.7	33
80	Minimal geometric requirements for micropropulsion via magnetic rotation. Physical Review E, 2014, 90, 033007.	0.8	89
81	Multiple-robot drug delivery strategy through coordinated teams of microswimmers. Applied Physics Letters, 2014, 105, .	1.5	84
82	Obstacle avoidance method for microbiorobots using electric field control. , 2014, , .		4
83	Novel Motion Modes for 2-D Locomotion of a Microrobot. IEEE Transactions on Magnetics, 2014, 50, 1-5.	1.2	7
84	Development of flagella bio-templated nanomaterials for electronics. Nano Convergence, 2014, 1, 10.	6.3	14
85	Non-Jumping Take off Performance in Beetle Flight (Rhinoceros Beetle Trypoxylus dichotomus). Journal of Bionic Engineering, 2014, 11, 61-71.	2.7	22
86	Towards Model-Based Control of Achiral Microswimmers. , 2014, , .		10
87	Power enhancement of a Î¼-scale microbial fuel cells by surface roughness. Applied Physics Letters, 2014, 104, .	1.5	12
88	Gold Nanoparticle Translocation Dynamics and Electrical Detection of Single Particle Diffusion Using Solid-State Nanopores. Analytical Chemistry, 2013, 85, 8180-8187.	3.2	60
89	Flow structures around a flapping wing considering ground effect. Experiments in Fluids, 2013, 54, 1.	1.1	20
90	Motion control of magnetized Tetrahymena pyriformis cells by a magnetic field with Model Predictive Control. International Journal of Robotics Research, 2013, 32, 129-140.	5.8	30

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91	Mixing enhancement by biologically inspired convection in a micro-chamber using alternating current galvanotactic control of the Tetrahymena pyriformis. Applied Physics Letters, 2013, 103, 103703.	1.5	5
92	Swarm control of cell-based microrobots using a single global magnetic field. , 2013, , .		8
93	Detection of Long and Short DNA Using Nanopores with Graphitic Polyhedral Edges. ACS Nano, 2013, 7, 5008-5016.	7.3	52
94	Single molecule unfolding and stretching of protein domains inside a solid-state nanopore by electric field. Scientific Reports, 2013, 3, 1638.	1.6	157
95	Electrical property measurements of metallized flagella-templated silica nanotube networks. Nanotechnology, 2013, 24, 135704.	1.3	7
96	Solidâ€State Nanopore Detection of Protein Complexes: Applications in Healthcare and Protein Kinetics. Small, 2013, 9, 750-759.	5.2	59
97	Feedback control of many magnetized: Tetrahymena pyriformis cells by exploiting phase inhomogeneity. , 2013, , .		24
98	Motion control of Tetrahymena pyriformis cells with artificial magnetotaxis: Model Predictive Control (MPC) approach. , 2012, , .		3
99	Three-dimensional control of Tetrahymena pyriformis using artificial magnetotaxis. Applied Physics Letters, 2012, 100, .	1.5	16
100	Fabrication of tunable silica-mineralized nanotubes using flagella as bio-templates. Nanotechnology, 2012, 23, 055601.	1.3	20
101	Three-dimensional control of engineered motile cellular microrobots. , 2012, , .		8
102	Metallization of biologically inspired silica nanotubes. Materials Science and Engineering C, 2012, 32, 2426-2430.	3.8	9
103	Stable vertical takeoff of an insect-mimicking flapping-wing system without guide implementing inherent pitching stability. Journal of Bionic Engineering, 2012, 9, 391-401.	2.7	68
104	Flexible Wing Kinematics of a Free-Flying Beetle (Rhinoceros Beetle Trypoxylus Dichotomus). Journal of Bionic Engineering, 2012, 9, 177-184.	2.7	46
105	Temperature measurement in a single patterned gold nanorod cluster using laser-induced fluorescence. Journal of Nanoparticle Research, 2012, 14, 1.	0.8	7
106	Chemical, Thermal, and Electric Field Induced Unfolding of Single Protein Molecules Studied Using Nanopores. Analytical Chemistry, 2011, 83, 5137-5144.	3.2	123
107	SEM-induced shrinking of solid-state nanopores for single molecule detection. Nanotechnology, 2011, 22, 425302.	1.3	42
108	Characterization of deciliation-regeneration process of Tetrahymena Pyriformis for cellular robot fabrication. Journal of Bionic Engineering, 2011, 8, 273-279.	2.7	5

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109	Quantitative measurement of dynamic flow induced by Tetrahymena pyriformis (T. pyriformis) using micro-particle image velocimetry. Journal of Visualization, 2011, 14, 361-370.	1.1	5
110	Real-time feedback control using artificial magnetotaxis with rapidly-exploring random tree (RRT) for Tetrahymena pyriformis as a microbiorobot. , 2011, , .		19
111	Use of an AC electric field in galvanotactic on/off switching of the motion of a microstructure blotted by Serratia marcescens. Applied Physics Letters, 2011, 99, .	1.5	18
112	Electrokinetic and optical control of bacterial microrobots. Journal of Micromechanics and Microengineering, 2011, 21, 035001.	1.5	123
113	Artificial magnetotactic motion control of Tetrahymena pyriformis using ferromagnetic nanoparticles: A tool for fabrication of microbiorobots. Applied Physics Letters, 2010, 97, .	1.5	64
114	Fabrication and magnetic control of bacteria-inspired robotic microswimmers. Applied Physics Letters, 2010, 97, .	1.5	74
115	Single cell manipulation using ferromagnetic composite microtransporters. Applied Physics Letters, 2010, 96, 043705.	1.5	127
116	Biosensing and actuation for microbiorobots. , 2010, , .		17
117	Chemically modified solid state nanopores for high throughput nanoparticle separation. Journal of Physics Condensed Matter, 2010, 22, 454107.	0.7	41
118	10.1063/1.3497275.1. , 2010, , .		1
119	Harnessing bacterial power in microscale actuation. , 2009, , .		13
120	Galvanotactic and phototactic control of Tetrahymena pyriformis as a microfluidic workhorse. Applied Physics Letters, 2009, 94, .	1.5	42
121	A novel method of microfabrication and manipulation of bacterial teamsters in low Reynolds number fluidic environments. Microfluidics and Nanofluidics, 2008, 5, 337-346.	1.0	23
122	Microfluidic Pump Powered by Selfâ€Organizing Bacteria. Small, 2008, 4, 111-118.	5.2	81
123	Validating models of bacterial chemotaxis by simulating the random motility coefficient. , 2008, , .		21
124	Control of microfabricated structures powered by flagellated bacteria using phototaxis. Applied Physics Letters, 2007, 90, 263901.	1.5	161
125	Use of Bacterial Carpets to Enhance Mixing in Microfluidic Systems. Journal of Fluids Engineering, Transactions of the ASME, 2007, 129, 319-324.	0.8	71
126	Characteristics of solid-state nanometre pores fabricated using a transmission electron microscope. Nanotechnology, 2007, 18, 205302.	1.3	142

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127	Controlled Mixing in Microfluidic Systems Using Bacterial Chemotaxis. Analytical Chemistry, 2007, 79, 955-959.	3.2	80
128	Enhanced diffusion due to motile bacteria. Physics of Fluids, 2004, 16, L78-L81.	1.6	164
129	Particle image velocimetry experiments on a macro-scale model for bacterial flagellar bundling. Experiments in Fluids, 2004, 37, 782-788.	1.1	71
130	Fine-tuning-based Transfer Learning for Characterization of Adeno-Associated Virus. Journal of Signal Processing Systems, 0, , 1.	1.4	0
131	Ensemble control of spatial variance of microbot systems through sequencing of motion primitives from optimal control trajectories. Intelligent Service Robotics, 0, , 1.	1.6	0