Hong Soo Choi

List of Publications by Year
in descending order

78	3,378	186209 28	149623 56
papers	citations	h-index	g-index

85	85	85	3142
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Fabrication and Characterization of Magnetic Microrobots for Threeâ€Dimensional Cell Culture and Targeted Transportation. Advanced Materials, 2013, 25, 5863-5868.	11.1	360
2	Magnetically actuated microrobots as a platform for stem cell transplantation. Science Robotics, 2019, 4, .	9.9	247
3	Review of piezoelectric micromachined ultrasonic transducers and their applications. Journal of Micromechanics and Microengineering, 2017, 27, 113001.	1.5	186
4	A Magnetically Controlled Soft Microrobot Steering a Guidewire in a Three-Dimensional Phantom Vascular Network. Soft Robotics, 2019, 6, 54-68.	4.6	183
5	Magnetic Actuation Based Motion Control for Microrobots: An Overview. Micromachines, 2015, 6, 1346-1364.	1.4	170
6	3Dâ€Printed Soft Magnetoelectric Microswimmers for Delivery and Differentiation of Neuronâ€Like Cells. Advanced Functional Materials, 2020, 30, 1910323.	7.8	157
7	Magnetically Actuated Degradable Microrobots for Actively Controlled Drug Release and Hyperthermia Therapy. Advanced Healthcare Materials, 2019, 8, e1900213.	3.9	116
8	Fabrication and Manipulation of Ciliary Microrobots with Non-reciprocal Magnetic Actuation. Scientific Reports, 2016, 6, 30713.	1.6	114
9	Stretchable and suturable fibre sensors for wireless monitoring of connective tissue strain. Nature Electronics, 2021, 4, 291-301.	13.1	106
10	A review of magnetic actuation systems and magnetically actuated guidewire- and catheter-based microrobots for vascular interventions. Intelligent Service Robotics, 2020, 13, 1-14.	1.6	95
11	3D Fabrication of Fully Iron Magnetic Microrobots. Small, 2019, 15, e1805006.	5.2	79
12	A Capsuleâ€Type Microrobot with Pickâ€andâ€Drop Motion for Targeted Drug and Cell Delivery. Advanced Healthcare Materials, 2018, 7, e1700985.	3.9	77
13	A microelectromechanical system artificial basilar membrane based on a piezoelectric cantilever array and its characterization using an animal model. Scientific Reports, 2015, 5, 12447.	1.6	70
14	Noncytotoxic artificial bacterial flagella fabricated from biocompatible ORMOCOMP and iron coating. Journal of Materials Chemistry B, 2014, 2, 357-362.	2.9	64
15	A magnetically actuated microrobot for targeted neural cell delivery and selective connection of neural networks. Science Advances, 2020, 6, .	4.7	64
16	A Triboelectricâ€Based Artificial Basilar Membrane to Mimic Cochlear Tonotopy. Advanced Healthcare Materials, 2016, 5, 2481-2487.	3.9	62
17	Fabrication and Characterization of a Magnetic Drilling Actuator for Navigation in a Three-dimensional Phantom Vascular Network. Scientific Reports, 2018, 8, 3691.	1.6	60
18	Acoustically Mediated Controlled Drug Release and Targeted Therapy with Degradable 3D Porous Magnetic Microrobots. Advanced Healthcare Materials, 2021, 10, e2001096.	3.9	59

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19	Fabrication of a two-dimensional piezoelectric micromachined ultrasonic transducer array using a top-crossover-to-bottom structure and metal bridge connections. Journal of Micromechanics and Microengineering, 2013, 23, 125037.	1.5	58
20	Dumbbell Fluidic Tweezers for Dynamical Trapping and Selective Transport of Microobjects. Advanced Functional Materials, 2017, 27, 1604571.	7.8	58
21	Recent Progress in Magnetically Actuated Microrobots for Targeted Delivery of Therapeutic Agents. Advanced Healthcare Materials, 2021, 10, e2001596.	3.9	56
22	A Needleâ€Type Microrobot for Targeted Drug Delivery by Affixing to a Microtissue. Advanced Healthcare Materials, 2020, 9, e1901697.	3.9	54
23	Upshift of Phase Transition Temperature in Nanostructured PbTiO₃ Thick Film for High Temperature Applications. ACS Applied Materials & Interfaces, 2014, 6, 11980-11987.	4.0	38
24	Psychological tactile sensor structure based on piezoelectric nanowire cell arrays. RSC Advances, 2015, 5, 40363-40368.	1.7	37
25	Early Pheromone Experience Modifies a Synaptic Activity to Influence Adult Pheromone Responses of C.Âelegans. Current Biology, 2017, 27, 3168-3177.e3.	1.8	35
26	A Magnetically Powered Stem Cellâ€Based Microrobot for Minimally Invasive Stem Cell Delivery via the Intranasal Pathway in a Mouse Brain. Advanced Healthcare Materials, 2021, 10, e2100801.	3.9	32
27	MEMS piezoelectric artificial basilar membrane with passive frequency selectivity for short pulse width signal modulation. Sensors and Actuators A: Physical, 2013, 203, 6-10.	2.0	31
28	Steering Algorithm for a Flexible Microrobot to Enhance Guidewire Control in a Coronary Angioplasty Application. Micromachines, 2018, 9, 617.	1.4	30
29	Mechanical frequency selectivity of an artificial basilar membrane using a beam array with narrow supports. Journal of Micromechanics and Microengineering, 2013, 23, 095018.	1.5	29
30	Magnetically Actuated SiCNâ€Based Ceramic Microrobot for Guided Cell Delivery. Advanced Healthcare Materials, 2019, 8, e1900739.	3.9	29
31	A Biodegradable Magnetic Microrobot Based on Gelatin Methacrylate for Precise Delivery of Stem Cells with Mass Production Capability. Small, 2022, 18, .	5.2	29
32	Magnetic actuation of a cylindrical microrobot using time-delay-estimation closed-loop control: modeling and experiments. Smart Materials and Structures, 2014, 23, 035013.	1.8	28
33	Control of Multilevel Resistance in Vanadium Dioxide by Electric Field Using Hybrid Dielectrics. ACS Applied Materials & Interfaces, 2017, 9, 13571-13576.	4.0	28
34	31-mode piezoelectric micromachined ultrasonic transducer with PZT thick film by granule spraying in vacuum process. Applied Physics Letters, 2017, 110, .	1.5	25
35	A simple and rapid fabrication method for biodegradable drug-encapsulating microrobots using laser micromachining, and characterization thereof. Sensors and Actuators B: Chemical, 2018, 266, 276-287.	4.0	25
36	Improving guidewire-mediated steerability of a magnetically actuated flexible microrobot. Micro and Nano Systems Letters, 2018, 6, .	1.7	25

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37	Feeding state regulates pheromoneâ€mediated avoidance behavior via the insulin signaling pathway in Caenorhabditis elegans. EMBO Journal, 2018, 37, .	3.5	25
38	A Robust Motion Control With Antiwindup Scheme for Electromagnetic Actuated Microrobot Using Time-Delay Estimation. IEEE/ASME Transactions on Mechatronics, 2019, 24, 1096-1105.	3.7	25
39	Development of a High-Density Piezoelectric Micromachined Ultrasonic Transducer Array Based on Patterned Aluminum Nitride Thin Film. Micromachines, 2020, 11, 623.	1.4	25
40	Biomimetic Artificial Basilar Membranes for Nextâ€Generation Cochlear Implants. Advanced Healthcare Materials, 2017, 6, 1700674.	3.9	24
41	A 3D Microscaffold Cochlear Electrode Array for Steroid Elution. Advanced Healthcare Materials, 2019, 8, e1900379.	3.9	23
42	Electromagnetic Steering of a Magnetic Cylindrical Microrobot Using Optical Feedback Closed-Loop Control. International Journal of Optomechatronics, 2014, 8, 129-145.	3.3	21
43	An Electromagnetically Controllable Microrobotic Interventional System for Targeted, Realâ€Time Cardiovascular Intervention. Advanced Healthcare Materials, 2022, 11, e2102529.	3.9	20
44	Finite Element Analysis of Piezoelectric Thin Film Membrane Structures. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2007, 54, 2036-2044.	1.7	19
45	Influence of top electrode design on pMUTs performance. Sensors and Actuators A: Physical, 2007, 135, 613-619.	2.0	18
46	Nano-patterned SU-8 surface using nanosphere-lithography for enhanced neuronal cell growth. Nanotechnology, 2016, 27, 175303.	1.3	16
47	Integrated Piezoelectric AlN Thin Film with SU-8/PDMS Supporting Layer for Flexible Sensor Array. Sensors, 2020, 20, 315.	2.1	15
48	A novel method for device-related electroencephalography artifact suppression to explore cochlear implant-related cortical changes in single-sided deafness. Journal of Neuroscience Methods, 2015, 255, 22-28.	1.3	14
49	Optimal path planning of multiple nanoparticles in continuous environment using a novel Adaptive Genetic Algorithm. Precision Engineering, 2018, 53, 65-78.	1.8	14
50	A piezoelectric micro-electro-mechanical system vector sensor with a mushroom-shaped proof mass for a dipole beam pattern. Sensors and Actuators A: Physical, 2021, 332, 113129.	2.0	14
51	Effect of Thickness Ratio in Piezoelectric/Elastic Cantilever Structure on the Piezoelectric Energy Harvesting Performance. Electronic Materials Letters, 2019, 15, 61-69.	1.0	12
52	A single chemosensory GPCR is required for a concentration-dependent behavioral switching in C.Âelegans. Current Biology, 2022, 32, 398-411.e4.	1.8	12
53	Characterization of a Piezoelectric AlN Beam Array in Air and Fluid for an Artificial Basilar Membrane. Electronic Materials Letters, 2018, 14, 101-111.	1.0	11
54	PZT Ferroelectric Synapse TFT With Multi-Level of Conductance State for Neuromorphic Applications. IEEE Access, 2021, 9, 140975-140982.	2.6	11

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55	Piezoelectric performance of continuous beam and narrow supported beam arrays for artificial basilar membranes. Electronic Materials Letters, 2014, 10, 1011-1018.	1.0	10
56	All-in-one low-intensity pulsed ultrasound stimulation system using piezoelectric micromachined ultrasonic transducer (pMUT) arrays for targeted cell stimulation. Biomedical Microdevices, 2017, 19, 86.	1.4	10
57	An SU-8-based microprobe with a nanostructured surface enhances neuronal cell attachment and growth. Micro and Nano Systems Letters, 2017, 5, .	1.7	9
58	Electronic Skin to Feel â€œPainâ€• Detecting â€œPrickâ€•and â€œHotâ€•Pain Sensations. Soft Robotics, 2019, 6, 745-759.	4.6	9
59	Closedâ€Loop Temperatureâ€Controlled Magnetic Hyperthermia Therapy with Magnetic Guidance of Superparamagnetic Ironâ€Oxide Nanoparticles. Advanced Therapeutics, 2022, 5, .	1.6	9
60	A top-crossover-to-bottom addressed segmented annular array using piezoelectric micromachined ultrasonic transducers. Journal of Micromechanics and Microengineering, 2015, 25, 115024.	1.5	8
61	Influence of mechanical coupling by SiO2 membrane on the frequency selectivity of microfabricated beam arrays for artificial basilar membranes. Journal of Mechanical Science and Technology, 2015, 29, 963-971.	0.7	8
62	A thickness-mode piezoelectric micromachined ultrasound transducer annular array using a PMNâ€“PZT single crystal. Journal of Micromechanics and Microengineering, 2018, 28, 075015.	1.5	8
63	Magnetically Actuated Forward-Looking Interventional Ultrasound Imaging: Feasibility Studies. IEEE Transactions on Biomedical Engineering, 2020, 67, 1797-1805.	2.5	7
64	A 28.7V Modular Supply Multiplying Pulser With 75.4% Power Reduction Relative to CV²f. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 858-862.	2.2	7
65	Dexamethasone delivery for hearing preservation in animal cochlear implant model: continuity, long-term release, and fast release rate. Acta Oto-Laryngologica, 2020, 140, 705-714.	0.3	7
66	SU-8-based nanoporous substrate for migration of neuronal cells. Microelectronic Engineering, 2015, 141, 173-177.	1.1	6
67	Characterization and modeling of an acoustic sensor using AlN thin-film for frequency selectivity. Electronic Materials Letters, 2014, 10, 299-303.	1.0	5
68	A lowâ€complexity iterative MIMO detection and decoding scheme using dimension reduction. Transactions on Emerging Telecommunications Technologies, 2016, 27, 136-145.	2.6	4
69	Neutrobots smuggle drugs across biological barriers. Science Robotics, 2021, 6, .	9.9	4
70	The Design and Optimization of a Compressive-Type Vector Sensor Utilizing a PMN-28PT Piezoelectric Single-Crystal. Sensors, 2019, 19, 5155.	2.1	3
71	Synthesize and Segment: Towards Improved Catheter Segmentation via Adversarial Augmentation. Applied Sciences (Switzerland), 2021, 11, 1638.	1.3	3
72	Microrobotics: 3D Fabrication of Fully Iron Magnetic Microrobots (Small 16/2019). Small, 2019, 15, 1970086.	5.2	2

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73	Biocompatible Microrobots: Magnetically Actuated SiCNâ€Based Ceramic Microrobot for Guided Cell Delivery (Adv. Healthcare Mater. 21/2019). Advanced Healthcare Materials, 2019, 8, 1970085.	3.9	2
74	Time delay estimation for control of microrobots under uncertainties. , 2013, , .		1
75	Design and fabrication of a mems test socket with an attached tip for a ball-grid-array integrated circuit package. Journal of Mechanical Science and Technology, 2014, 28, 2807-2814.	0.7	0
76	Mechanosensitive channel stimulation system using low-intensity ultrasound by piezoelectric micromachined ultrasonic transducer array. , 2016, , .		0
77	Editorial for the Special Issue on the ICAE 2019. Micromachines, 2020, 11, 874.	1.4	0
78	MICROFABRICATED AUDITORY SYSTEM MIMICKING HUMAN COCHLEA. World Scientific Series in Nanoscience and Nanotechnology, 2014, , 641-667.	0.1	0