

Qing Shi

List of Publications by Year in descending order

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133
papers

1,496
citations

304743

22
h-index

395702

33
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135
all docs

135
docs citations

135
times ranked

1300
citing authors

#	ARTICLE	IF	CITATIONS
1	Routes for advancing SnTe thermoelectrics. <i>Journal of Materials Chemistry A</i> , 2020, 8, 16790-16813.	10.3	87
2	Ionic shape-morphing microrobotic end-effectors for environmentally adaptive targeting, releasing, and sampling. <i>Nature Communications</i> , 2021, 12, 411.	12.8	87
3	An overview of biomimetic robots with animal behaviors. <i>Neurocomputing</i> , 2019, 332, 339-350.	5.9	72
4	Automated Assembly of Vascular-Like Microtube With Repetitive Single-Step Contact Manipulation. <i>IEEE Transactions on Biomedical Engineering</i> , 2015, 62, 2620-2628.	4.2	58
5	Assembly of RGD-Modified Hydrogel Micromodules into Permeable Three-Dimensional Hollow Microtissues Mimicking in Vivo Tissue Structures. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 41669-41679.	8.0	50
6	Magnetic alginate microfibers as scaffolding elements for the fabrication of microvascular-like structures. <i>Acta Biomaterialia</i> , 2018, 66, 272-281.	8.3	45
7	Modulation of rat behaviour by using a rat-like robot. <i>Bioinspiration and Biomimetics</i> , 2013, 8, 046002.	2.9	37
8	Design and Control of a Biomimetic Robotic Rat for Interaction With Laboratory Rats. <i>IEEE/ASME Transactions on Mechatronics</i> , 2015, 20, 1832-1842.	5.8	37
9	The lateralization of left hippocampal CA3 during the retrieval of spatial working memory. <i>Nature Communications</i> , 2020, 11, 2901.	12.8	37
10	On-chip fabrication and magnetic force estimation of peapod-like hybrid microfibers using a microfluidic device. <i>Microfluidics and Nanofluidics</i> , 2015, 18, 1177-1187.	2.2	36
11	A Vision-Based Automated Manipulation System for the Pick-Up of Carbon Nanotubes. <i>IEEE/ASME Transactions on Mechatronics</i> , 2017, 22, 845-854.	5.8	35
12	Fabrication of perfusable 3D hepatic lobule-like constructs through assembly of multiple cell type laden hydrogel microstructures. <i>Biofabrication</i> , 2019, 11, 015016.	7.1	35
13	Multicellular Co-Culture in Three-Dimensional Gelatin Methacryloyl Hydrogels for Liver Tissue Engineering. <i>Molecules</i> , 2019, 24, 1762.	3.8	34
14	Multifunctional Noncontact Micromanipulation Using Whirling Flow Generated by Vibrating a Single Piezo Actuator. <i>Small</i> , 2019, 15, e1804421.	10.0	34
15	Magnetic assembly of microfluidic spun alginate microfibers for fabricating three-dimensional cell-laden hydrogel constructs. <i>Microfluidics and Nanofluidics</i> , 2015, 19, 1169-1180.	2.2	31
16	A Modified Robotic Rat to Study Rat-Like Pitch and Yaw Movements. <i>IEEE/ASME Transactions on Mechatronics</i> , 2018, 23, 2448-2458.	5.8	31
17	Microfluidic Spun Alginate Hydrogel Microfibers and Their Application in Tissue Engineering. <i>Gels</i> , 2018, 4, 38.	4.5	28
18	Development of a Small-Sized Quadruped Robotic Rat Capable of Multimodal Motions. <i>IEEE Transactions on Robotics</i> , 2022, 38, 3027-3043.	10.3	28

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19	Characterization of the Resistance and Force of a Carbon Nanotube/Metal Side Contact by Nanomanipulation. Scanning, 2017, 2017, 1-11.	1.5	26
20	Behavior modulation of rats to a robotic rat in multi-rat interaction. Bioinspiration and Biomimetics, 2015, 10, 056011.	2.9	24
21	Implementing Rat-Like Motion for a Small-Sized Biomimetic Robot Based on Extraction of Key Movement Joints. IEEE Transactions on Robotics, 2021, 37, 747-762.	10.3	24
22	Development of a Highly Compact Microgripper Capable of Online Calibration for Multisized Microobject Manipulation. IEEE Nanotechnology Magazine, 2018, 17, 657-661.	2.0	22
23	Simultaneous determination of DL-cysteine, DL-homocysteine, and glutathione in saliva and urine by UHPLC-Q-Orbitrap HRMS: Application to studies of oxidative stress. Journal of Pharmaceutical and Biomedical Analysis, 2021, 196, 113939.	2.8	20
24	Automated Fluidic Assembly of Microvessel-Like Structures Using a Multimicromanipulator System. IEEE/ASME Transactions on Mechatronics, 2018, 23, 667-678.	5.8	19
25	3D Construction of Shape-Controllable Tissues through Self-Bonding of Multicellular Microcapsules. ACS Applied Materials & Interfaces, 2019, 11, 22950-22961.	8.0	18
26	Development of a Hybrid Wheel-Legged Mobile Robot WR-3 Designed for the Behavior Analysis of Rats. Advanced Robotics, 2011, 25, 2255-2272.	1.8	17
27	Hydrodynamic Tweezers: Trapping and Transportation in Microscale Using Vortex Induced by Oscillation of a Single Piezoelectric Actuator. Sensors, 2018, 18, 2002.	3.8	17
28	Isotropic Thermoelectric Performance of Layer-Structured n-Type Bi ₂ Te _{2.7} Se _{0.3} by Cu Doping. ACS Applied Materials & Interfaces, 2021, 13, 58781-58788.	8.0	17
29	Distributed Control System for a Humanoid Robot. , 2007, , .		16
30	Micro-Assembly of a Vascular-Like Micro-Channel with Railed Micro-Robot Team-Coordinated Manipulation. International Journal of Advanced Robotic Systems, 2014, 11, 115.	2.1	16
31	Assembly of alginate microfibers to form a helical structure using micromanipulation with a magnetic field. Journal of Micromechanics and Microengineering, 2016, 26, 105017.	2.6	16
32	Fabrication of vascular smooth muscle-like tissues based on self-organization of circumferentially aligned cells in microengineered hydrogels. Lab on A Chip, 2020, 20, 3120-3131.	6.0	16
33	A tetrahedral DNA nanorobot with conformational change in response to molecular trigger. Nanoscale, 2021, 13, 15552-15559.	5.6	15
34	A novel, simplified strategy of relative quantification N-glycan: Quantitative glycomics using electrospray ionization mass spectrometry through the stable isotopic labeling by transglycosylation reaction of mutant enzyme Endo-M-N175Q. Journal of Pharmaceutical and Biomedical Analysis, 2018, 149, 365-373.	2.8	13
35	Bio-inspired engineering of a perfusion culture platform for guided three-dimensional nerve cell growth and differentiation. Lab on A Chip, 2022, 22, 1006-1017.	6.0	13
36	Electrically Controlled Aquatic Soft Actuators with Desynchronized Actuation and Light-Mediated Reciprocal Locomotion. ACS Applied Materials & Interfaces, 2022, 14, 12936-12948.	8.0	13

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37	Design of operating software and electrical system of mobile robot for environmental monitoring. , 2014, , .		12
38	Biped Walking of Magnetic Microrobot in Oscillating Field for Indirect Manipulation of Non-Magnetic Objects. IEEE Nanotechnology Magazine, 2020, 19, 21-24.	2.0	12
39	Permeable hollow 3D tissue-like constructs engineered by on-chip hydrodynamic-driven assembly of multicellular hierarchical micromodules. Acta Biomaterialia, 2020, 113, 328-338.	8.3	12
40	Magnetic Micromachine Using Nickel Nanoparticles for Propelling and Releasing in Indirect Assembly of Cell-Laden Micromodules. Micromachines, 2019, 10, 370.	2.9	11
41	Simultaneous determination of three endogenous chiral thiol compounds in serum from humans at normal and stress states using ultrahigh-performance liquid chromatography coupled to quadrupole-Orbitrap high resolution mass spectrometry. Journal of Chromatography A, 2021, 1642, 462028.	3.7	11
42	Development of a cognition system for analyzing rat's behaviors. , 2010, , .		10
43	Image processing and behavior planning for robot-rat interaction. , 2012, , .		10
44	Highly sensitive derivatization reagents possessing positively charged structures for the determination of oligosaccharides in glycoproteins by high-performance liquid chromatography electrospray ionization tandem mass spectrometry. Journal of Chromatography A, 2016, 1465, 79-89.	3.7	10
45	Vortex-Driven Rotation for Three-Dimensional Imaging Under Microscopy. IEEE Nanotechnology Magazine, 2018, 17, 688-691.	2.0	10
46	Determination of d,l-Amino Acids in Collagen from Pig and Cod Skins by UPLC Using Pre-column Fluorescent Derivatization. Food Analytical Methods, 2018, 11, 3130-3137.	2.6	10
47	Development of experimental setup to create novel mental disorder model rats using small mobile robot. , 2010, , .		9
48	A novel method to develop an animal model of depression using a small mobile robot. Advanced Robotics, 2013, 27, 61-69.	1.8	9
49	Mechanism design and control strategies of an ankle robot for rehabilitation training. , 2015, , .		9
50	Engineered tissue micro-rings fabricated from aggregated fibroblasts and microfibrils for a bottom-up tissue engineering approach. Biofabrication, 2019, 11, 035029.	7.1	9
51	Optogenetic stimulation of CA3 pyramidal neurons restores synaptic deficits to improve spatial short-term memory in APP/PS1 mice. Progress in Neurobiology, 2022, 209, 102209.	5.7	9
52	Development of the hybrid wheel-legged mobile robot WR-3 designed to interact with rats. , 2010, , .		8
53	Micromanipulation for Coiling Microfluidic Spun Alginate Microfibers by Magnetically Guided System. IEEE Robotics and Automation Letters, 2016, 1, 808-813.	5.1	8
54	How to achieve precise operation of a robotic manipulator on a macro to micro/nano scale. Assembly Automation, 2017, 37, 186-199.	1.7	8

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55	Simultaneous Determination of Chiral Thiol Compounds and Monitoring of Dynamic Changes in Human Urine after Drinking Chinese Korean Ethnic Rice Wine. <i>Journal of Agricultural and Food Chemistry</i> , 2021, 69, 5416-5427.	5.2	8
56	A 1-Hydroxy-2,4-Diformylnaphthalene-Based Fluorescent Probe and Its Detection of Sulfites/Bisulfite. <i>Molecules</i> , 2021, 26, 3064.	3.8	8
57	A rat-like robot for interacting with real rats. <i>Robotica</i> , 2013, 31, 1337-1350.	1.9	7
58	3D assembly of carbon nanotubes for fabrication of field-effect transistors through nanomanipulation and electron-beam-induced deposition. <i>Journal of Micromechanics and Microengineering</i> , 2017, 27, 105007.	2.6	7
59	Microrobotic Assembly of Shape-Customized Three-Dimensional Microtissues Based on Surface Tension Driven Self-Alignment. <i>IEEE Nanotechnology Magazine</i> , 2018, 17, 684-687.	2.0	7
60	Design and optimization of a lightweight and compact waist mechanism for a robotic rat. <i>Mechanism and Machine Theory</i> , 2020, 146, 103723.	4.5	7
61	Development of Highly Sensitive Analysis Method for Histamine and Metabolites in Pregnant Women's Fingernail by UPLC-ESI-MS. <i>Analytical Sciences</i> , 2018, 34, 1023-1029.	1.6	6
62	A robot-rat interaction experimental system based on the rat-inspired mobile robot WR-4. , 2011, , .		5
63	Hardware and control design considerations for a monitoring system of autonomous mobile robots in extreme environment. , 2017, , .		5
64	Motion evaluation of a modified multi-link robotic rat. , 2017, , .		5
65	Special Feature on Bio-Inspired Robotics. <i>Applied Sciences (Switzerland)</i> , 2018, 8, 817.	2.5	5
66	Development of an MEMS based biomimetic whisker sensor for tactile sensing. , 2019, , .		5
67	Determination of N-acetyl-DL-leucine in the saliva of healthy volunteers and diabetic patients using ultra-performance liquid chromatography with fluorescence detection. <i>Clinica Chimica Acta</i> , 2022, 526, 66-73.	1.1	5
68	Development of a human-like motor nerve model to simulate the diseases effects on muscle tension for neurologic examination training. , 2014, , .		4
69	Contact characterization between multi-walled carbon nanotubes and metal electrodes. , 2015, , .		4
70	Non-contact high-speed rotation of micro targets by vibration of single piezoelectric actuator. , 2016, , .		4
71	Robotics-based micro-reeling of magnetic microfibers to fabricate helical structure for smooth muscle cells culture. , 2017, , .		4
72	Robotics in Biomedical and Healthcare Engineering. <i>Journal of Healthcare Engineering</i> , 2017, 2017, 1-2.	1.9	4

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73	Automated Sorting of Rare Cells Based on Autofocusing Visual Feedback in Fluorescence Microscopy. , 2019, , .		4
74	Template-based fabrication of spatially organized 3D bioactive constructs using magnetic low-concentration gelation methacrylate (GelMA) microfibers. Soft Matter, 2020, 16, 3902-3913.	2.7	4
75	Noncontact 3-D Orientation Control at Microscale: Hydrodynamic Out-of-Plane Rotation and In-Plane Rotation by Compacted Rotational Stage. IEEE/ASME Transactions on Mechatronics, 2022, 27, 4807-4818.	5.8	4
76	Development of a novel quadruped mobile robot for behavior analysis of rats. , 2010, , .		3
77	Development of an omnidirectional vision system for environment perception. , 2014, , .		3
78	3D magnetic assembly of cellular structures with "printing" manipulation by microrobot-controlled microfluidic system. , 2015, , .		3
79	Development of lower limb motion detection based on LPMS. , 2016, , .		3
80	Development of an ankle robot MKA-III for rehabilitation training. , 2016, , .		3
81	High-Speed Bioassembly of Cellular Microstructures With Force Characterization for Repeating Single-Step Contact Manipulation. IEEE Robotics and Automation Letters, 2016, 1, 1097-1102.	5.1	3
82	Design and Characterization of a 16-DOFs Nanorobotic Manipulation System for Repetitive and Pre-Programmable Tasks. IEEE Nanotechnology Magazine, 2019, 18, 1208-1212.	2.0	3
83	Three-Dimensional Autofocusing Visual Feedback for Automated Rare Cells Sorting in Fluorescence Microscopy. Micromachines, 2019, 10, 567.	2.9	3
84	Bioinspired Phase-Shift Turning Action for a Biomimetic Robot. IEEE/ASME Transactions on Mechatronics, 2020, 25, 84-94.	5.8	3
85	Holographic Display-Based Control for High-Accuracy Photolithography of Cellular Micro-Scaffold With Heterogeneous Architecture. IEEE/ASME Transactions on Mechatronics, 2022, 27, 1117-1127.	5.8	3
86	Accurate modulation of photoprinting under stiffness imaging feedback for engineering ECMs with high-fidelity mechanical properties. Microsystems and Nanoengineering, 2022, 8, .	7.0	3
87	Learning Rat-Like Behavior for a Small-Scale Biomimetic Robot. Engineering, 2022, 17, 232-243.	6.7	3
88	A Motion Generation Strategy of Robotic Rat Using Imitation Learning for Behavioral Interaction. IEEE Robotics and Automation Letters, 2022, 7, 7351-7358.	5.1	3
89	Bioinspired, Multifunctional, Active Whisker Sensors for Tactile Sensing of Mobile Robots. IEEE Robotics and Automation Letters, 2022, 7, 9565-9572.	5.1	3
90	A clamp-free micro-stretching system for evaluating the viscoelastic response of cell-laden microfibers. Biosensors and Bioelectronics, 2022, 214, 114517.	10.1	3

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91	A rat-like robot WR-5 for animal behavior research. , 2012, , .		2
92	Automated bubble-based assembly of cell-laden microgels into vascular-like microtubes. , 2015, , .		2
93	Three-dimensional magnetic assembly of alginate microfibers using microfluidic “printing” method. , 2015, , .		2
94	Development of lower limb rehabilitation evaluation system based on virtual reality technology. , 2016, , .		2
95	Mechanism design of an ankle robot MKA-III for rehabilitation training. , 2016, , .		2
96	Non-contact transportation and rotation of micro objects by vibrating glass needle circularly under water. , 2017, , .		2
97	A Miniature Stereo Vision System for a Biomimetic Robotic Rat. , 2018, , .		2
98	Contact Annealing for Self-Soldering: In Situ Investigation into Interfaces between PVP-Coated Silver Nanoelectrodes and Carbon Nanotubes. ACS Applied Materials & Interfaces, 2019, 11, 36035-36043.	8.0	2
99	A Real-Time Motion Detection and Object Tracking Framework for Future Robot-Rat Interaction. , 2021, , .		2
100	A Small-Scale, Rat-Inspired Whisker Sensor for the Perception of a Biomimetic Robot: Design, Fabrication, Modeling, and Experimental Characterization. IEEE Robotics and Automation Magazine, 2022, 29, 115-126.	2.0	2
101	Mathematical modeling of robot-rat interaction for the analysis and modification of rat sociality. , 2012, , .		1
102	A biological humanoid joint controller based on muscle model. , 2013, , .		1
103	Analytical magnetic model for medical endoscopic robots: A ready-to-use implementation with permanent magnets. , 2016, , .		1
104	Automated pick-up of carbon nanotubes inside a scanning electron microscope. , 2016, , .		1
105	Microbubbles for High-Speed Assembly of Cell-Laden Vascular-Like Microtube. IEEE Robotics and Automation Letters, 2016, 1, 754-759.	5.1	1
106	Nanomanipulation of a single carbon nanotube for the fabrication of a field-effect transistor. , 2017, , .		1
107	Development of a mobile APP for the operation monitoring and health management system of a steam turbine. , 2017, , .		1
108	Construction of Multilayer Porous Scaffold Based on Magnetically Guided Assembly of Microfiber. Journal of Systems Science and Complexity, 2018, 31, 581-595.	2.8	1

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109	Construction of 3D Micro-Tissue Based on Electrodeposition and Robotic Manipulation. , 2018, , .		1
110	Automated Fabrication of the High-Fidelity Cellular Micro-Scaffold Through Proportion-Corrective Control of the Photocuring Process. IEEE Robotics and Automation Letters, 2021, 6, 849-854.	5.1	1
111	A Study on Effects of Outer Shape of Mobile Robot on Locomotive Performance in Grass Field. The Abstracts of the International Conference on Advanced Mechatronics Toward Evolutionary Fusion of IT and Mechatronics ICAM, 2015, 2015.6, 161-162.	0.0	1
112	Controllable Melting and Flow of Ag in Self-Formed Amorphous Carbonaceous Shell for Nanointerconnection. Micromachines, 2022, 13, 213.	2.9	1
113	Development of a nerve model of eyeball motion nerves to simulate the disorders of eyeball movements for neurologic examination training. , 2014, , .		0
114	Bubble-based assembly of micro-tube with coordinated multiple manipulators. , 2014, , .		0
115	Dexterous nanomanipulation of 2D hydrogel microstructure for 3D assembly by multi-robot cooperation. , 2014, , .		0
116	Control of posture and trajectory for a rat-like robot interacting with multiple real rats. , 2014, , .		0
117	Automated biomanipulation to assemble cellular microstructure with railed multi-microrobotic system. , 2015, , .		0
118	Measurement of MWCNT/Tungsten contact resistance by bridging CNT on two tungsten electrodes with two manipulators. , 2015, , .		0
119	Development of an ankle motion detecting mechanism for ankle rehabilitation training. , 2015, , .		0
120	Generation of swirl flow for non-contact rotation of micro objects by vibrating glass needle. , 2016, , .		0
121	Magnetically-guided manipulation of microfiber for fabrication of porous cell scaffold. , 2016, , .		0
122	Microrobotic assembly of shape-controllable microstructures to perfusable 3D cell-laden microtissues. , 2017, , .		0
123	3-D Visual Feedback for Automated Sorting of Cells with ultra-low Proportion under Dark Field. , 2018, , .		0
124	Assembly of Cellular Microstructures into Lobule-Like 3D Microtissues Based on Microrobotic Manipulation* Research supported by the Beijing Natural Science Foundation under Grant 4164099 and the National Natural Science Foundation of China under grants 61603044 and 61520106011.. , 2018, , .		0
125	Design and Online Calibration of a Highly Compact Microgripper. , 2018, , .		0
126	Identification of Rat Ultrasonic Vocalizations from Mix Sounds of a Robotic Rat in a Noisy Environment. , 2019, , .		0

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127	Nanorobot assisted self-soldering investigation between PVP-coated silver electrodes and carbon nanotubes. , 2019, , .		0
128	Untethered Micromachines Using Magnetic Nanoparticles for Wireless Assembly of Cell-laden Heterogeneous Micromodules*. , 2019, , .		0
129	Texture Classification of a Miniature Whisker Sensor with Varied Contact Pose. Communications in Computer and Information Science, 2021, , 517-526.	0.5	0
130	Crystal structure of 3,3â€²,3â€³-((1E,1â€²E,1â€³E)-((nitrilotris(ethane-2,1-diyl))tris(azaneylylidene))) Tj ETQq0 0 0 rgBT /Overlock 10 Tf Fur Kristallographie - New Crystal Structures, 2021, 236, 773-775.	0.3	0
131	Special issue on cyborg and bionic systems III. Advanced Robotics, 2021, 35, 399-399.	1.8	0
132	Development of Battery Charging System Using Wireless Power Transmission for Outdoor Mobile Robots. The Abstracts of the International Conference on Advanced Mechatronics Toward Evolutionary Fusion of IT and Mechatronics ICAM, 2015, 2015.6, 110-111.	0.0	0
133	Magnetically Actuated Pick-and-place Operations of Cellular Micro-rings for High-speed Assembly of Micro-scale Biological Tube. , 2020, , .		0