Hui Xie

List of Publications by Year
in descending order

124 papers	3,899 citations	117625 34 h-index	138484 58 g-index
128 all docs	128 docs citations	128 times ranked	3216 citing authors

#	Article	IF	Citations
1	Torsional Harmonic Kelvin Probe Force Microscopy for High-Sensitivity Mapping of Surface Potential. IEEE Transactions on Industrial Electronics, 2022, 69, 1654-1662.	7.9	8
2	Quantification of the Microrheology of Living Cells Using Multi-Frequency Magnetic Force Modulation Atomic Force Microscopy. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-9.	4.7	1
3	Development and experiment evaluation of a compact inchworm piezoelectric actuator using three-jaw type clamping mechanism. Smart Materials and Structures, 2022, 31, 045020.	3.5	13
4	Reconfigurable Magnetic Slime Robot: Deformation, Adaptability, and Multifunction. Advanced Functional Materials, 2022, 32, .	14.9	71
5	Three-Dimensional Kelvin Probe Force Microscopy. ACS Applied Materials & Interfaces, 2022, 14, 32719-32728.	8.0	3
6	Interplay of long non-coding RNAs and HIF-1Î±: A new dimension to understanding hypoxia-regulated tumor growth and metastasis. Cancer Letters, 2021, 499, 49-59.	7.2	32
7	Onâ€Chip Rotation of Caenorhabditis elegans Using Microfluidic Vortices. Advanced Materials Technologies, 2021, 6, .	5.8	6
8	Melt Electrospinning Writing of Magnetic Microrobots. Advanced Science, 2021, 8, 2003177.	11.2	29
9	Swarming Microdroplets to a Dexterous Micromanipulator. Advanced Functional Materials, 2021, 31, 2011193.	14.9	46
10	Dual-responsive biohybrid neutrobots for active target delivery. Science Robotics, 2021, 6, .	17.6	227
11	The cube-shaped hematite microrobot for biomedical application. Mechatronics, 2021, 74, 102498.	3.3	12
12	Arthropodâ€Metamerismâ€Inspired Resonant Piezoelectric Millirobot. Advanced Intelligent Systems, 2021, 3, 2100015.	6.1	64
13	Triple-Configurational Magnetic Robot for Targeted Drug Delivery and Sustained Release. ACS Applied Materials & Interfaces, 2021, 13, 45315-45324.	8.0	20
14	Sidewall Imaging of Microarray-Based Biosensor Using an Orthogonal Cantilever Probe. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-8.	4.7	8
15	Magnetically actuated intelligent hydrogel-based child-parent microrobots for targeted drug delivery. Journal of Materials Chemistry B, 2021, 9, 1030-1039.	5.8	26
16	Microfluidic Vortices: Onâ€Chip Rotation of Caenorhabditis elegans Using Microfluidic Vortices (Adv. Mater. Technol. 1/2021). Advanced Materials Technologies, 2021, 6, 2170002.	5.8	0
17	Characterization of topography and adhesion of sidewall using an orthogonal cantilever probe. , 2021, , .		0
18	Living Cell Manipulation and In Situ Nanoinjection Based on Frequency Shift Feedback Using Cantilevered Micropipette Probes. IEEE Transactions on Automation Science and Engineering, 2020, 17, 142-150.	5.2	6

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19	Development of a Magnetically Driven Microgripper for PicoNewton Force-Controlled Microscale Manipulation and Characterization. IEEE Transactions on Industrial Electronics, 2020, 67, 2065-2075.	7.9	28
20	Nanorobotic Manipulation System for 360$^{circ }$ Characterization Atomic Force Microscopy. IEEE Transactions on Industrial Electronics, 2020, 67, 2916-2924.	7.9	20
21	High-Speed AFM Imaging of Nanopositioning Stages Using H$_{infty }$ and Iterative Learning Control. IEEE Transactions on Industrial Electronics, 2020, 67, 2430-2439.	7.9	35
22	A novel LncRNA HITT forms a regulatory loop with HIF-1Î± to modulate angiogenesis and tumor growth. Cell Death and Differentiation, 2020, 27, 1431-1446.	11.2	66
23	Probing Multidimensional Mechanical Phenotyping of Intracellular Structures by Viscoelastic Spectroscopy. ACS Applied Materials & Interfaces, 2020, 12, 1913-1923.	8.0	6
24	A lncRNA coordinates with Ezh2 to inhibit HIF-1Î± transcription and suppress cancer cell adaption to hypoxia. Oncogene, 2020, 39, 1860-1874.	5.9	35
25	Reconfigurable multifunctional ferrofluid droplet robots. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 27916-27926.	7.1	138
26	Ferrofluid Droplets as Liquid Microrobots with Multiple Deformabilities. Advanced Functional Materials, 2020, 30, 2000138.	14.9	69
27	Autonomous Biohybrid Urchinâ€Like Microperforator for Intracellular Payload Delivery. Small, 2020, 16, e1906701.	10.0	55
28	Cooperative recyclable magnetic microsubmarines for oil and microplastics removal from water. Applied Materials Today, 2020, 20, 100682.	4.3	53
29	Magnetic/pH-sensitive double-layer microrobots for drug delivery and sustained release. Applied Materials Today, 2020, 19, 100583.	4.3	39
30	Impact of Inter Tine Coupling on the Spring Constant of the Quartz Tuning Fork. , 2019, , .		0
31	Simulations of the Near-Field Enhancement on AFM Tip Irradiated by Annular Laser Beam. IEEE Nanotechnology Magazine, 2019, 18, 979-982.	2.0	2
32	A novel linear-rotary piezoelectric positioning stage based on surface's rectangular trajectory driving. Precision Engineering, 2019, 55, 376-380.	3.4	14
33	A survey of piezoelectric actuators with long working stroke in recent years: Classifications, principles, connections and distinctions. Mechanical Systems and Signal Processing, 2019, 123, 591-605.	8.0	126
34	Red Blood Cell-Mimicking Micromotor for Active Photodynamic Cancer Therapy. ACS Applied Materials & Interfaces, 2019, 11, 23392-23400.	8.0	126
35	Correlation of Surface Morphology and Interfacial Adhesive Behavior between Cellulose Surfaces: Quantitative Measurements in Peak-Force Mode with the Colloidal Probe Technique. Langmuir, 2019, 35, 7312-7321.	3.5	7
36	Fast Batch Quantification of the Cellulose-Cellulose Adhesion Using a Cantilevered Microgripper. IEEE Sensors Journal, 2019, 19, 4849-4856.	4.7	0

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37	Programmable Generation and Motion Control of a Snakelike Magnetic Microrobot Swarm. IEEE/ASME Transactions on Mechatronics, 2019, 24, 902-912.	5.8	45
38	Reconfigurable magnetic microrobot swarm: Multimode transformation, locomotion, and manipulation. Science Robotics, 2019, 4, .	17.6	459
39	Enzymeâ€Modulated Anaerobic Encapsulation of Chlorella Cells Allows Switching from O 2 to H 2 Production. Angewandte Chemie, 2019, 131, 4032-4035.	2.0	10
40	High-Bandwidth Multiparametric Kelvin Probe Force Microscopy With Polymer Microcantilevers. IEEE Access, 2019, 7, 183906-183913.	4.2	1
41	Magnetic biohybrid micromotors with high maneuverability for efficient drug loading and targeted drug delivery. Nanoscale, 2019, 11, 18382-18392.	5.6	86
42	<italic>In Situ</italic> Quantification of the Youngâ€™s Modulus of Nuclei in Multiple Cellular States Using a Modified Fiber Probe Sensor. IEEE Sensors Journal, 2019, 19, 2887-2894.	4.7	4
43	Enzymeâ€Modulated Anaerobic Encapsulation of Chlorella Cells Allows Switching from O₂ to H₂ Production. Angewandte Chemie - International Edition, 2019, 58, 3992-3995.	13.8	48
44	360Â° multiparametric imaging atomic force microscopy: A method for three-dimensional nanomechanical mapping. Ultramicroscopy, 2019, 196, 83-87.	1.9	7
45	High-Precision Automated Micromanipulation and Adhesive Microbonding With Cantilevered Micropipette Probes in the Dynamic Probing Mode. IEEE/ASME Transactions on Mechatronics, 2018, 23, 1425-1435.	5.8	43
46	Automated Noncontact Micromanipulation Using Magnetic Swimming Microrobots. IEEE Nanotechnology Magazine, 2018, 17, 666-669.	2.0	40
47	Nanoscale Mapping of the Surface Potential: Multifrequency Modulation Open-Loop Kelvin Probe Force Microscopy. IEEE Nanotechnology Magazine, 2018, 17, 670-674.	2.0	1
48	Magnetically Actuated Peanut Colloid Motors for Cell Manipulation and Patterning. ACS Nano, 2018, 12, 2539-2545.	14.6	153
49	Ultrahigh-Precision Rotational Positioning Under a Microscope: Nanorobotic System, Modeling, Control, and Applications. IEEE Transactions on Robotics, 2018, 34, 497-507.	10.3	56
50	In Situ Selfâ€Assembly of Coacervate Microdroplets into Viable Artificial Cell Wall with Heritability. Advanced Functional Materials, 2018, 28, 1705699.	14.9	26
51	Magnetically Actuated Rolling of Starâ€Shaped Hydrogel Microswimmer. Macromolecular Chemistry and Physics, 2018, 219, 1700540.	2.2	36
52	Selfâ€Propelled Rolledâ€Up Polyelectrolyte Multilayer Microrockets. Advanced Functional Materials, 2018, 28, 1705684.	14.9	46
53	In Situ Quantification the Complex Poisson's Ratio of Single Cells Using a Magnetic-Drive Dynamic Atomic Force Microscopy Approach. IEEE Nanotechnology Magazine, 2018, 17, 680-683.	2.0	7
54	Simultaneously Measuring Force and Displacement: Calibration of Magnetic Torque Actuated Microcantilevers for Nanomechanical Mapping. IEEE Sensors Journal, 2018, 18, 2682-2689.	4.7	4

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55	Development of a novel long range piezoelectric motor based on double rectangular trajectories driving. Microsystem Technologies, 2018, 24, 1733-1742.	2.0	11
56	Investigation of HepG2 Cells' Local Extrusion Induced Electric Property Variation via Nanorobotic Manipulation System. , 2018, , .		0
57	Simulation study of near-field enhancement on an Ag nanoparticle dimer system in a laser-induced nanowelding process. Integrated Ferroelectrics, 2018, 191, 72-79.	0.7	19
58	Electrochemical etching of lightweight nanotips for high qualityâ€factor quartz tuning fork force sensor: atomic force microscopy applications. Micro and Nano Letters, 2018, 13, 1136-1140.	1.3	1
59	Sidewall Imaging of Microstructures with a Tilted Quartz Tuning Fork (QTF) Force Sensor. , 2018, , .		1
60	3-D finite element calculation of electric field enhancement for nanostructures fabrication mechanism on silicon surface with AFM tip induced local anodic oxidation. Integrated Ferroelectrics, 2018, 190, 129-141.	0.7	25
61	Shape-Transformable, Fusible Rodlike Swimming Liquid Metal Nanomachine. ACS Nano, 2018, 12, 10212-10220.	14.6	186
62	Large-scale assembly of single-walled carbon nanotubes based on aqueous solution. Integrated Ferroelectrics, 2018, 190, 39-47.	0.7	21
63	Fast Specimen Boundary Tracking and Local Imaging with Scanning Probe Microscopy. Scanning, 2018, 2018, 1-11.	1.5	6
64	Atomic Force Microscopy Sidewall Imaging with a Quartz Tuning Fork Force Sensor. Sensors, 2018, 18, 100.	3.8	9
65	Atomistic simulations on the axial nanowelding configuration and contact behavior between Ag nanowire and single-walled carbon nanotubes. Journal of Nanoparticle Research, 2017, 19, 1.	1.9	31
66	The hierarchical structure and mechanical performance of a natural nanocomposite material: The turtle shell. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2017, 520, 97-104.	4.7	15
67	In Situ Gelation-Induced Death of Cancer Cells Based on Proteinosomes. Biomacromolecules, 2017, 18, 2446-2453.	5.4	19
68	Investigating interfacial contact configuration and behavior of single-walled carbon nanotube-based nanodevice with atomistic simulations. Journal of Nanoparticle Research, 2017, 19, 1.	1.9	35
69	Multiparametric Kelvin Probe Force Microscopy for the Simultaneous Mapping of Surface Potential and Nanomechanical Properties. Langmuir, 2017, 33, 2725-2733.	3.5	18
70	Optimizing the Quality Factor of Quartz Tuning Fork Force Sensor for Atomic Force Microscopy: Impact of Additional Mass and Mass Rebalance. IEEE Sensors Journal, 2017, 17, 2797-2806.	4.7	14
71	Surface functionalization of TFC FO membranes with zwitterionic polymers: Improvement of antifouling and salt-responsive cleaning properties. Journal of Membrane Science, 2017, 544, 368-377.	8.2	66
72	Polybenzoxazole Nanofiber-Reinforced Moisture-Responsive Soft Actuators. Scientific Reports, 2017, 7, 769.	3.3	34

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73	Broad modulus range nanomechanical mapping by magnetic-drive soft probes. Nature Communications, 2017, 8, 1944.	12.8	42
74	Advances in the atomic force microscopy for critical dimension metrology. Measurement Science and Technology, 2017, 28, 012001.	2.6	37
75	Nanofabrication with the thermal AFM metallic tip irradiated by continuous laser. Integrated Ferroelectrics, 2017, 179, 140-147.	0.7	32
76	Amplitude calibration of quartz tuning fork (QTF) force sensor with an atomic force microscope. , 2017, , .		0
77	Calibration of atomic force microscope probes using a pneumatic micromanipulation system. , 2017, , .		1
78	Study of adhesion force between cellulose micro-sphere and cellulose membrane. , 2016, , .		0
79	Measurement of surface potential and adhesion with Kelvin Probe Force Microscopy. , 2016, , .		1
80	New optical near-field nanolithography with optical fiber probe laser irradiating atomic force microscopy probe tip. Integrated Ferroelectrics, 2016, 169, 124-132.	0.7	33
81	Capillary bridges and capillary forces between two axisymmetric powerâ€“law particles. Particuology, 2016, 27, 122-127.	3.6	11
82	Development of Three-Dimensional Atomic Force Microscope for Sidewall Structures Imaging with Controllable Scanning Density. IEEE/ASME Transactions on Mechatronics, 2015, , 1-1.	5.8	29
83	Nanospot welding of carbon nanotubes using near-field enhancement effect of AFM probe irradiated by optical fiber probe laser. RSC Advances, 2015, 5, 56677-56685.	3.6	45
84	Atomic force microscope caliper for critical dimension measurements of micro and nanostructures through sidewall scanning. Ultramicroscopy, 2015, 158, 8-16.	1.9	17
85	A nondestructive calibration method for maximizing the range and accuracy of AFM force measurement. Journal of Micromechanics and Microengineering, 2014, 24, 025005.	2.6	3
86	Atomic force microscopy deep trench and sidewall imaging with an optical fiber probe. Review of Scientific Instruments, 2014, 85, 123704.	1.3	12
87	Mechanism of force mode dip-pen nanolithography. Journal of Applied Physics, 2014, 115, 174314.	2.5	0
88	A vacuum microgripping tool with integrated vibration releasing capability. Review of Scientific Instruments, 2014, 85, 085002.	1.3	35
89	Experimental Study on the Creation of Nanodots with Combined-Dynamic Mode â€œDip-Penâ€• Nanolithography. Integrated Ferroelectrics, 2014, 151, 7-13.	0.7	23
90	In Situ Quantification of Living Cell Adhesion Forces: Single Cell Force Spectroscopy with a Nanotweezer. Langmuir, 2014, 30, 2952-2959.	3.5	28

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91	Quantification of living cell adhesion forces with a nanorobotic system. , 2013, , .		1
92	Gentle and fast atomic force microscopy with a piezoelectric scanning probe for nanorobotics applications. Nanotechnology, 2013, 24, 065502.	2.6	9
93	Force calibration of a dual-probe nanotweezer using a mechanical lever. , 2012, , .		0
94	Stiffness analysis and modal analysis of precision parallel manipulator with flexure hinge. , 2012, , .		2
95	High-Efficiency Automated Nanomanipulation With Parallel Imaging/Manipulation Force Microscopy. IEEE Nanotechnology Magazine, 2012, 11, 21-33.	2.0	56
96	Development of a Flexible Robotic System for Multiscale Applications of Micro/Nanoscale Manipulation and Assembly. IEEE/ASME Transactions on Mechatronics, 2011, 16, 266-276.	5.8	79
97	Analysis of nanoscale mechanical grasping under ambient conditions. Journal of Micromechanics and Microengineering, 2011, 21, 045009.	2.6	6
98	Instrumentation Issues of an AFM Based Nanorobotic System. Springer Tracts in Advanced Robotics, 2011, , 31-86.	0.4	1
99	Nanomechanics of AFM Based Nanomanipulation. Springer Tracts in Advanced Robotics, 2011, , 87-143.	0.4	4
100	Teleoperation Based AFM Manipulation Control. Springer Tracts in Advanced Robotics, 2011, , 145-235.	0.4	1
101	Automated Control of AFM Based Nanomanipulation. Springer Tracts in Advanced Robotics, 2011, , 237-311.	0.4	2
102	Descriptions and Challenges of AFM Based Nanorobotic Systems. Springer Tracts in Advanced Robotics, 2011, , 13-29.	0.4	2
103	In situ peeling of one-dimensional nanostructures using a dual-probe nanotweezer. Review of Scientific Instruments, 2010, 81, 035112.	1.3	16
104	3D haptic handling of microspheres. , 2010, , .		5
105	Achieving three-dimensional automated micromanipulation at the scale of several micrometers with a nanotip gripper. , 2009, , .		2
106	A versatile atomic force microscope for three-dimensional nanomanipulation and nanoassembly. Nanotechnology, 2009, 20, 215301.	2.6	79
107	Three-dimensional automated micromanipulation using a nanotip gripper with multi-feedback. Journal of Micromechanics and Microengineering, 2009, 19, 075009.	2.6	65
108	High-sensitivity mass and position detection of micro-objects adhered to microcantilevers. Journal of Micro-Nano Mechatronics, 2008, 4, 17-25.	1.0	6

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109	Enhanced Accuracy of Force Application for AFM Nanomanipulation Using Nonlinear Calibration of Optical Levers. IEEE Sensors Journal, 2008, 8, 1478-1485.	4.7	18
110	Calibration and nonlinearity compensation for force application in AFM based nanomanipulation. , 2008, , .		0
111	Calibration of lateral force measurements in atomic force microscopy with a piezoresistive force sensor. Review of Scientific Instruments, 2008, 79, 033708.	1.3	34
112	Optical lever calibration in atomic force microscope with a mechanical lever. Review of Scientific Instruments, 2008, 79, 096101.	1.3	13
113	A Flexible Experimental System for Complex Microassembly under Microscale Force and Vision-Based Control. International Journal of Optomechatronics, 2007, 1, 81-102.	6.6	13
114	Enhanced Sensitivity of Mass Detection Using the First Torsional Mode of Microcantilevers. , 2007, , .		6
115	Construction and evaluation of a wavelet-based focus measure for microscopy imaging. Microscopy Research and Technique, 2007, 70, 987-995.	2.2	58
116	A Flexible Microassembly System for Automated Fabrication of MEMS Sensors. , 2006, , .		1
117	Wavelet-Based Focus Measure and 3-D Surface Reconstruction Method for Microscopy Images. , 2006, , .		44
118	Image Fusion and 3-D Surface Reconstruction of Microparts Using Complex Valued Wavelet Transforms. , 2006, , .		7
119	Optomechatronic Design of Integrated Systems for Microassembly of MEMS Sensors. , 2006, , .		0
120	Hybrid Vision-Force Control for Automatic Assembly of Miniaturized Gear System. , 0, , .		9
121	Visual servoing with modified Smith predictor for micromanipulation tasks. , 0, , .		9
122	Task-Reconfigurable System for MEMS Assembly. , 0, , .		6
123	Micromanipulation robot for automatic fiber alignment. , 0, , .		2
124	Directly Writing Nanodots on Silicon Surface by Combined-Dynamic Dip-Pen Nanolithography. Key Engineering Materials, 0, 609-610, 191-195.	0.4	19