# Hui Xie

## List of Publications by Year
## in descending order

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Reconfigurable magnetic microrobot swarm: Multimode transformation, locomotion, and manipulation. Science Robotics, 2019, 4, . | 17.6 | 459 |
| 2 | Dual-responsive biohybrid neutrobots for active target delivery. Science Robotics, 2021, 6, . | 17.6 | 227 |
| 3 | Shape-Transformable, Fusible Rodlike Swimming Liquid Metal Nanomachine. ACS Nano, 2018, 12, 10212-10220. | 14.6 | 186 |
| 4 | Magnetically Actuated Peanut Colloid Motors for Cell Manipulation and Patterning. ACS Nano, 2018, 12, 2539-2545. | 14.6 | 153 |
| 5 | 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 |
| 6 | 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 |
| 7 | Red Blood Cell-Mimicking Micromotor for Active Photodynamic Cancer Therapy. ACS Applied Materials & Interfaces, 2019, 11, 23392-23400. | 8.0 | 126 |
| 8 | Magnetic biohybrid micromotors with high maneuverability for efficient drug loading and targeted drug delivery. Nanoscale, 2019, 11, 18382-18392. | 5.6 | 86 |
| 9 | A versatile atomic force microscope for three-dimensional nanomanipulation and nanoassembly. Nanotechnology, 2009, 20, 215301. | 2.6 | 79 |
| 10 | 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 |
| 11 | Reconfigurable Magnetic Slime Robot: Deformation, Adaptability, and Multifunction. Advanced Functional Materials, 2022, 32, . | 14.9 | 71 |
| 12 | Ferrofluid Droplets as Liquid Microrobots with Multiple Deformabilities. Advanced Functional Materials, 2020, 30, 2000138. | 14.9 | 69 |
| 13 | 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 |
| 14 | 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 |
| 15 | Three-dimensional automated micromanipulation using a nanotip gripper with multi-feedback. Journal of Micromechanics and Microengineering, 2009, 19, 075009. | 2.6 | 65 |
| 16 | Arthropodâ€Metamerismâ€Inspired Resonant Piezoelectric Millirobot. Advanced Intelligent Systems, 2021, 3, 2100015. | 6.1 | 64 |
| 17 | Construction and evaluation of a wavelet-based focus measure for microscopy imaging. Microscopy Research and Technique, 2007, 70, 987-995. | 2.2 | 58 |
| 18 | High-Efficiency Automated Nanomanipulation With Parallel Imaging/Manipulation Force Microscopy. IEEE Nanotechnology Magazine, 2012, 11, 21-33. | 2.0 | 56 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Ultrahigh-Precision Rotational Positioning Under a Microscope: Nanorobotic System, Modeling, Control, and Applications. IEEE Transactions on Robotics, 2018, 34, 497-507. | 10.3 | 56 |
| 20 | Autonomous Biohybrid Urchinâ€Like Microperforator for Intracellular Payload Delivery. Small, 2020, 16, e1906701. | 10.0 | 55 |
| 21 | Cooperative recyclable magnetic microsubmarines for oil and microplastics removal from water. Applied Materials Today, 2020, 20, 100682. | 4.3 | 53 |
| 22 | Enzymeâ€Modulated Anaerobic Encapsulation of <i>Chlorella</i> Cells Allows Switching from O<sub>2</sub> to H<sub>2</sub> Production. Angewandte Chemie - International Edition, 2019, 58, 3992-3995. | 13.8 | 48 |
| 23 | Selfâ€Propelled Rolledâ€Up Polyelectrolyte Multilayer Microrockets. Advanced Functional Materials, 2018, 28, 1705684. | 14.9 | 46 |
| 24 | Swarming Microdroplets to a Dexterous Micromanipulator. Advanced Functional Materials, 2021, 31, 2011193. | 14.9 | 46 |
| 25 | 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 |
| 26 | Programmable Generation and Motion Control of a Snakelike Magnetic Microrobot Swarm. IEEE/ASME Transactions on Mechatronics, 2019, 24, 902-912. | 5.8 | 45 |
| 27 | Wavelet-Based Focus Measure and 3-D Surface Reconstruction Method for Microscopy Images. , 2006, , . | | 44 |
| 28 | 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 |
| 29 | Broad modulus range nanomechanical mapping by magnetic-drive soft probes. Nature Communications, 2017, 8, 1944. | 12.8 | 42 |
| 30 | Automated Noncontact Micromanipulation Using Magnetic Swimming Microrobots. IEEE Nanotechnology Magazine, 2018, 17, 666-669. | 2.0 | 40 |
| 31 | Magnetic/pH-sensitive double-layer microrobots for drug delivery and sustained release. Applied Materials Today, 2020, 19, 100583. | 4.3 | 39 |
| 32 | Advances in the atomic force microscopy for critical dimension metrology. Measurement Science and Technology, 2017, 28, 012001. | 2.6 | 37 |
| 33 | Magnetically Actuated Rolling of Starâ€Shaped Hydrogel Microswimmer. Macromolecular Chemistry and Physics, 2018, 219, 1700540. | 2.2 | 36 |
| 34 | A vacuum microgripping tool with integrated vibration releasing capability. Review of Scientific Instruments, 2014, 85, 085002. | 1.3 | 35 |
| 35 | 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 |
| 36 | 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 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | 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 |
| 38 | Calibration of lateral force measurements in atomic force microscopy with a piezoresistive force sensor. Review of Scientific Instruments, 2008, 79, 033708. | 1.3 | 34 |
| 39 | Polybenzoxazole Nanofiber-Reinforced Moisture-Responsive Soft Actuators. Scientific Reports, 2017, 7, 769. | 3.3 | 34 |
| 40 | 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 |
| 41 | Nanofabrication with the thermal AFM metallic tip irradiated by continuous laser. Integrated Ferroelectrics, 2017, 179, 140-147. | 0.7 | 32 |
| 42 | 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 |
| 43 | 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 |
| 44 | 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 |
| 45 | Melt Electrospinning Writing of Magnetic Microrobots. Advanced Science, 2021, 8, 2003177. | 11.2 | 29 |
| 46 | In Situ Quantification of Living Cell Adhesion Forces: Single Cell Force Spectroscopy with a Nanotweezer. Langmuir, 2014, 30, 2952-2959. | 3.5 | 28 |
| 47 | 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 |
| 48 | In Situ Selfâ€Assembly of Coacervate Microdroplets into Viable Artificial Cell Wall with Heritability. Advanced Functional Materials, 2018, 28, 1705699. | 14.9 | 26 |
| 49 | Magnetically actuated intelligent hydrogel-based child-parent microrobots for targeted drug delivery. Journal of Materials Chemistry B, 2021, 9, 1030-1039. | 5.8 | 26 |
| 50 | 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 |
| 51 | Experimental Study on the Creation of Nanodots with Combined-Dynamic Mode â€œDip-Penâ€• Nanolithography. Integrated Ferroelectrics, 2014, 151, 7-13. | 0.7 | 23 |
| 52 | Large-scale assembly of single-walled carbon nanotubes based on aqueous solution. Integrated Ferroelectrics, 2018, 190, 39-47. | 0.7 | 21 |
| 53 | Nanorobotic Manipulation System for 360$^{circ }$ Characterization Atomic Force Microscopy. IEEE Transactions on Industrial Electronics, 2020, 67, 2916-2924. | 7.9 | 20 |
| 54 | Triple-Configurational Magnetic Robot for Targeted Drug Delivery and Sustained Release. ACS Applied Materials & Interfaces, 2021, 13, 45315-45324. | 8.0 | 20 |

| # | Article | IF | Citations |
|---|---|---|---|
| 55 | Directly Writing Nanodots on Silicon Surface by Combined-Dynamic Dip-Pen Nanolithography. Key Engineering Materials, 0, 609-610, 191-195. | 0.4 | 19 |
| 56 | In Situ Gelation-Induced Death of Cancer Cells Based on Proteinosomes. Biomacromolecules, 2017, 18, 2446-2453. | 5.4 | 19 |
| 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 | Enhanced Accuracy of Force Application for AFM Nanomanipulation Using Nonlinear Calibration of Optical Levers. IEEE Sensors Journal, 2008, 8, 1478-1485. | 4.7 | 18 |
| 59 | Multiparametric Kelvin Probe Force Microscopy for the Simultaneous Mapping of Surface Potential and Nanomechanical Properties. Langmuir, 2017, 33, 2725-2733. | 3.5 | 18 |
| 60 | Atomic force microscope caliper for critical dimension measurements of micro and nanostructures through sidewall scanning. Ultramicroscopy, 2015, 158, 8-16. | 1.9 | 17 |
| 61 | In situ peeling of one-dimensional nanostructures using a dual-probe nanotweezer. Review of Scientific Instruments, 2010, 81, 035112. | 1.3 | 16 |
| 62 | 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 |
| 63 | 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 |
| 64 | A novel linear-rotary piezoelectric positioning stage based on surface's rectangular trajectory driving. Precision Engineering, 2019, 55, 376-380. | 3.4 | 14 |
| 65 | 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 |
| 66 | Optical lever calibration in atomic force microscope with a mechanical lever. Review of Scientific Instruments, 2008, 79, 096101. | 1.3 | 13 |
| 67 | 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 |
| 68 | Atomic force microscopy deep trench and sidewall imaging with an optical fiber probe. Review of Scientific Instruments, 2014, 85, 123704. | 1.3 | 12 |
| 69 | The cube-shaped hematite microrobot for biomedical application. Mechatronics, 2021, 74, 102498. | 3.3 | 12 |
| 70 | Capillary bridges and capillary forces between two axisymmetric powerâ€“law particles. Particuology, 2016, 27, 122-127. | 3.6 | 11 |
| 71 | Development of a novel long range piezoelectric motor based on double rectangular trajectories driving. Microsystem Technologies, 2018, 24, 1733-1742. | 2.0 | 11 |
| 72 | 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 |

| # | Article | IF | Citations |
|---|---|---|---|
| 73 | Hybrid Vision-Force Control for Automatic Assembly of Miniaturized Gear System. , 0, , . | | 9 |
| 74 | Visual servoing with modified Smith predictor for micromanipulation tasks. , 0, , . | | 9 |
| 75 | Gentle and fast atomic force microscopy with a piezoelectric scanning probe for nanorobotics applications. Nanotechnology, 2013, 24, 065502. | 2.6 | 9 |
| 76 | Atomic Force Microscopy Sidewall Imaging with a Quartz Tuning Fork Force Sensor. Sensors, 2018, 18, 100. | 3.8 | 9 |
| 77 | 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 |
| 78 | Sidewall Imaging of Microarray-Based Biosensor Using an Orthogonal Cantilever Probe. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-8. | 4.7 | 8 |
| 79 | Image Fusion and 3-D Surface Reconstruction of Microparts Using Complex Valued Wavelet Transforms. , 2006, , . | | 7 |
| 80 | <i>In Situ</i> 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 |
| 81 | 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 |
| 82 | 360Â° multiparametric imaging atomic force microscopy: A method for three-dimensional nanomechanical mapping. Ultramicroscopy, 2019, 196, 83-87. | 1.9 | 7 |
| 83 | Task-Reconfigurable System for MEMS Assembly. , 0, , . | | 6 |
| 84 | Enhanced Sensitivity of Mass Detection Using the First Torsional Mode of Microcantilevers. , 2007, , . | | 6 |
| 85 | High-sensitivity mass and position detection of micro-objects adhered to microcantilevers. Journal of Micro-Nano Mechatronics, 2008, 4, 17-25. | 1.0 | 6 |
| 86 | Analysis of nanoscale mechanical grasping under ambient conditions. Journal of Micromechanics and Microengineering, 2011, 21, 045009. | 2.6 | 6 |
| 87 | Fast Specimen Boundary Tracking and Local Imaging with Scanning Probe Microscopy. Scanning, 2018, 2018, 1-11. | 1.5 | 6 |
| 88 | Living Cell Manipulation and <i>In Situ</i> Nanoinjection Based on Frequency Shift Feedback Using Cantilevered Micropipette Probes. IEEE Transactions on Automation Science and Engineering, 2020, 17, 142-150. | 5.2 | 6 |
| 89 | Probing Multidimensional Mechanical Phenotyping of Intracellular Structures by Viscoelastic Spectroscopy. ACS Applied Materials & Interfaces, 2020, 12, 1913-1923. | 8.0 | 6 |
| 90 | Onâ€Chip Rotation of <i>Caenorhabditis elegans</i> Using Microfluidic Vortices. Advanced Materials Technologies, 2021, 6, . | 5.8 | 6 |

| # | Article | IF | Citations |
|---|---|---|---|
| 91 | 3D haptic handling of microspheres. , 2010, , . | | 5 |
| 92 | Simultaneously Measuring Force and Displacement: Calibration of Magnetic Torque Actuated Microcantilevers for Nanomechanical Mapping. IEEE Sensors Journal, 2018, 18, 2682-2689. | 4.7 | 4 |
| 93 | <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 |
| 94 | Nanomechanics of AFM Based Nanomanipulation. Springer Tracts in Advanced Robotics, 2011, , 87-143. | 0.4 | 4 |
| 95 | 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 |
| 96 | Three-Dimensional Kelvin Probe Force Microscopy. ACS Applied Materials & Interfaces, 2022, 14, 32719-32728. | 8.0 | 3 |
| 97 | Micromanipulation robot for automatic fiber alignment. , 0, , . | | 2 |
| 98 | Achieving three-dimensional automated micromanipulation at the scale of several micrometers with a nanotip gripper. , 2009, , . | | 2 |
| 99 | Stiffness analysis and modal analysis of precision parallel manipulator with flexure hinge. , 2012, , . | | 2 |
| 100 | Simulations of the Near-Field Enhancement on AFM Tip Irradiated by Annular Laser Beam. IEEE Nanotechnology Magazine, 2019, 18, 979-982. | 2.0 | 2 |
| 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 | A Flexible Microassembly System for Automated Fabrication of MEMS Sensors. , 2006, , . | | 1 |
| 104 | Quantification of living cell adhesion forces with a nanorobotic system. , 2013, , . | | 1 |
| 105 | Measurement of surface potential and adhesion with Kelvin Probe Force Microscopy. , 2016, , . | | 1 |
| 106 | Calibration of atomic force microscope probes using a pneumatic micromanipulation system. , 2017, , . | | 1 |
| 107 | Nanoscale Mapping of the Surface Potential: Multifrequency Modulation Open-Loop Kelvin Probe Force Microscopy. IEEE Nanotechnology Magazine, 2018, 17, 670-674. | 2.0 | 1 |
| 108 | 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 |

| # | Article | IF | Citations |
|---|---|---|---|
| 109 | Sidewall Imaging of Microstructures with a Tilted Quartz Tuning Fork (QTF) Force Sensor. , 2018, , . | | 1 |
| 110 | High-Bandwidth Multiparametric Kelvin Probe Force Microscopy With Polymer Microcantilevers. IEEE Access, 2019, 7, 183906-183913. | 4.2 | 1 |
| 111 | Instrumentation Issues of an AFM Based Nanorobotic System. Springer Tracts in Advanced Robotics, 2011, , 31-86. | 0.4 | 1 |
| 112 | Teleoperation Based AFM Manipulation Control. Springer Tracts in Advanced Robotics, 2011, , 145-235. | 0.4 | 1 |
| 113 | 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 |
| 114 | Optomechatronic Design of Integrated Systems for Microassembly of MEMS Sensors. , 2006, , . | | 0 |
| 115 | Calibration and nonlinearity compensation for force application in AFM based nanomanipulation. , 2008, , . | | 0 |
| 116 | Force calibration of a dual-probe nanotweezer using a mechanical lever. , 2012, , . | | 0 |
| 117 | Mechanism of force mode dip-pen nanolithography. Journal of Applied Physics, 2014, 115, 174314. | 2.5 | 0 |
| 118 | Study of adhesion force between cellulose micro-sphere and cellulose membrane. , 2016, , . | | 0 |
| 119 | Amplitude calibration of quartz tuning fork (QTF) force sensor with an atomic force microscope. , 2017, , . | | 0 |
| 120 | Investigation of HepG2 Cells' Local Extrusion Induced Electric Property Variation via Nanorobotic Manipulation System. , 2018, , . | | 0 |
| 121 | Impact of Inter Tine Coupling on the Spring Constant of the Quartz Tuning Fork. , 2019, , . | | 0 |
| 122 | Fast Batch Quantification of the Cellulose-Cellulose Adhesion Using a Cantilevered Microgripper. IEEE Sensors Journal, 2019, 19, 4849-4856. | 4.7 | 0 |
| 123 | Microfluidic Vortices: Onâ€Chip Rotation of <i>Caenorhabditis elegans</i> Using Microfluidic Vortices (Adv. Mater. Technol. 1/2021). Advanced Materials Technologies, 2021, 6, 2170002. | 5.8 | 0 |
| 124 | Characterization of topography and adhesion of sidewall using an orthogonal cantilever probe. , 2021, , . | | 0 |