Yu Sun

List of Publications by Year
in descending order

324 papers	13,662 citations	17405 63 h-index	29081 104 g-index
334 all docs	334 docs citations	334 times ranked	14074 citing authors

#	Article	IF	Citations
1	Autofocusing in computer microscopy: Selecting the optimal focus algorithm. Microscopy Research and Technique, 2004, 65, 139-149.	1.2	393
2	Microengineered Platforms for Cell Mechanobiology. Annual Review of Biomedical Engineering, 2009, 11, 203-233.	5.7	378
3	Bio-Microarray Fabrication Techniquesâ€”A Review. Critical Reviews in Biotechnology, 2006, 26, 237-259.	5.1	334
4	Monolithically Fabricated Microgripper With Integrated Force Sensor for Manipulating Microobjects and Biological Cells Aligned in an Ultrasonic Field. Journal of Microelectromechanical Systems, 2007, 16, 7-15.	1.7	322
5	Biological Cell Injection Using an Autonomous MicroRobotic System. International Journal of Robotics Research, 2002, 21, 861-868.	5.8	310
6	Mechanical property characterization of mouse zona pellucida. IEEE Transactions on Nanobioscience, 2003, 2, 279-286.	2.2	282
7	On the tensile and shear strength of nano-reinforced composite interfaces. Materials & Design, 2004, 25, 289-296.	5.1	279
8	Microfluidic approaches for cancer cell detection, characterization, and separation. Lab on A Chip, 2012, 12, 1753.	3.1	267
9	Nanonewton force-controlled manipulation of biological cells using a monolithic MEMS microgripper with two-axis force feedback. Journal of Micromechanics and Microengineering, 2008, 18, 055013.	1.5	259
10	Development of Carbon Nanotube-Based Sensorsâ€”A Review. IEEE Sensors Journal, 2007, 7, 266-284.	2.4	242
11	A Feedforward Mechanism Mediated by Mechanosensitive Ion Channel PIEZO1 and Tissue Mechanics Promotes Glioma Aggression. Neuron, 2018, 100, 799-815.e7.	3.8	241
12	Recent advances in microfluidic techniques for single-cell biophysical characterization. Lab on A Chip, 2013, 13, 2464.	3.1	229
13	A Fully Automated Robotic System for Microinjection of Zebrafish Embryos. PLoS ONE, 2007, 2, e862.	1.1	217
14	<i>In Situ</i> Mechanical Characterization of the Cell Nucleus by Atomic Force Microscopy. ACS Nano, 2014, 8, 3821-3828.	7.3	176
15	Classification of cell types using a microfluidic device for mechanical and electrical measurement on single cells. Lab on A Chip, 2011, 11, 3174.	3.1	160
16	Autonomous Robotic Pick-and-Place of Microobjects. IEEE Transactions on Robotics, 2010, 26, 200-207.	7.3	159
17	A bulk microfabricated multi-axis capacitive cellular force sensor using transverse comb drives. Journal of Micromechanics and Microengineering, 2002, 12, 832-840.	1.5	152
18	A superelastic alloy microgripper with embedded electromagnetic actuators and piezoelectric force sensors: a numerical and experimental study. Smart Materials and Structures, 2005, 14, 1265-1272.	1.8	148

#	Article	IF	Citations
19	High-throughput biophysical measurement of human red blood cells. Lab on A Chip, 2012, 12, 2560.	3.1	144
20	Robotic ICSI (Intracytoplasmic Sperm Injection). IEEE Transactions on Biomedical Engineering, 2011, 58, 2102-2108.	2.5	141
21	High strength measurement of monolayer graphene oxide. Carbon, 2015, 81, 497-504.	5.4	138
22	Moldable elastomeric polyester-carbon nanotube scaffolds for cardiac tissue engineering. Acta Biomaterialia, 2017, 52, 81-91.	4.1	135
23	Recent advances in nanorobotic manipulation inside scanning electron microscopes. Microsystems and Nanoengineering, 2016, 2, 16024.	3.4	133
24	Microfabricated arrays for high-throughput screening of cellular response to cyclic substrate deformation. Lab on A Chip, 2010, 10, 227-234.	3.1	129
25	Characterizing fruit fly flight behavior using a microforce sensor with a new comb-drive configuration. Journal of Microelectromechanical Systems, 2005, 14, 4-11.	1.7	126
26	Orientation Control of Biological Cells Under Inverted Microscopy. IEEE/ASME Transactions on Mechatronics, 2011, 16, 918-924.	3.7	123
27	Microfabricated perfusable cardiac biowire: a platform that mimics native cardiac bundle. Lab on A Chip, 2014, 14, 869-882.	3.1	121
28	Mesenchymal stem cell mechanobiology and emerging experimental platforms. Journal of the Royal Society Interface, 2013, 10, 20130179.	1.5	120
29	Nanonewton Force Sensing and Control in Microrobotic Cell Manipulation. International Journal of Robotics Research, 2009, 28, 1065-1076.	5.8	118
30	An autoantibody identifies arrhythmogenic right ventricular cardiomyopathy and participates in its pathogenesis. European Heart Journal, 2018, 39, 3932-3944.	1.0	114
31	Effect of Nanowire Number, Diameter, and Doping Density on Nano-FET Biosensor Sensitivity. ACS Nano, 2011, 5, 6661-6668.	7.3	112
32	Active Release of Microobjects Using a MEMS Microgripper to Overcome Adhesion Forces. Journal of Microelectromechanical Systems, 2009, 18, 652-659.	1.7	111
33	Human cardiac fibrosis-on-a-chip model recapitulates disease hallmarks and can serve as a platform for drug testing. Biomaterials, 2020, 233, 119741.	5.7	111
34	A review of non-contact micro- and nano-printing technologies. Journal of Micromechanics and Microengineering, 2014, 24, 053001.	1.5	110
35	Intracellular manipulation and measurement with multipole magnetic tweezers. Science Robotics, 2019, 4, .	9.9	110
36	Fatigue of graphene. Nature Materials, 2020, 19, 405-411.	13.3	110

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37	Anisotropic stress orients remodelling of mammalian limb bud ectoderm. Nature Cell Biology, 2015, 17, 569-579.	4.6	102
38	A microfabricated platform for high-throughput unconfined compression of micropatterned biomaterial arrays. Biomaterials, 2010, 31, 577-584.	5.7	101
39	Robotic Micromanipulation: Fundamentals and Applications. Annual Review of Control, Robotics, and Autonomous Systems, 2019, 2, 181-203.	7.5	101
40	Three-Dimensional Rotation of Mouse Embryos. IEEE Transactions on Biomedical Engineering, 2012, 59, 1049-1056.	2.5	98
41	Automated Four-Point Probe Measurement of Nanowires Inside a Scanning Electron Microscope. IEEE Nanotechnology Magazine, 2011, 10, 674-681.	1.1	92
42	Piezoresistivity Characterization of Synthetic Silicon Nanowires Using a MEMS Device. Journal of Microelectromechanical Systems, 2011, 20, 959-967.	1.7	91
43	A fast and simple method to fabricate circular microchannels in polydimethylsiloxane (PDMS). Lab on A Chip, 2011, 11, 545-551.	3.1	91
44	Electrical measurement of red blood cell deformability on a microfluidic device. Lab on A Chip, 2013, 13, 3275.	3.1	83
45	Human sperm rheotaxis: a passive physical process. Scientific Reports, 2016, 6, 23553.	1.6	83
46	Suspended, Shrinkage-Free, Electrospun PLGA Nanofibrous Scaffold for Skin Tissue Engineering. ACS Applied Materials & Interfaces, 2015, 7, 10872-10877.	4.0	82
47	Dynamic evaluation of autofocusing for automated microscopic analysis of blood smear and pap smear. Journal of Microscopy, 2007, 227, 15-23.	0.8	81
48	(Micro)managing the mechanical microenvironment. Integrative Biology (United Kingdom), 2011, 3, 959.	0.6	79
49	A microfluidic device for simultaneous electrical and mechanical measurements on single cells. Biomicrofluidics, 2011, 5, 14113.	1.2	79
50	High-Throughput Automated Injection of Individual Biological Cells. IEEE Transactions on Automation Science and Engineering, 2009, 6, 209-219.	3.4	78
51	Automated Micropipette Aspiration of Single Cells. Annals of Biomedical Engineering, 2013, 41, 1208-1216.	1.3	77
52	Investigation of mechanical properties of soft hydrogel microcapsules in relation to protein delivery using a MEMS force sensor. Journal of Biomedical Materials Research - Part A, 2010, 92A, 103-113.	2.1	76
53	Mechanical Analysis of Chorion Softening in Prehatching Stages of Zebrafish Embryos. IEEE Transactions on Nanobioscience, 2006, 5, 89-94.	2.2	73
54	Mechanical properties of wrinkled graphene generated by topological defects. Carbon, 2016, 108, 204-214.	5.4	72

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55	Nonlinear fracture toughness measurement and crack propagation resistance of functionalized graphene multilayers. Science Advances, 2018, 4, eaao7202.	4.7	72
56	Effect of oscillating fluid flow stimulation on osteocyte mRNA expression. Journal of Biomechanics, 2012, 45, 247-251.	0.9	69
57	Electrodeformation for single cell mechanical characterization. Journal of Micromechanics and Microengineering, 2011, 21, 054012.	1.5	68
58	A Load-Lock-Compatible Nanomanipulation System for Scanning Electron Microscope. IEEE/ASME Transactions on Mechatronics, 2013, 18, 230-237.	3.7	68
59	Vision-based cellular force measurement using an elastic microfabricated device. Journal of Micromechanics and Microengineering, 2007, 17, 1281-1288.	1.5	67
60	Voyage inside the cell: Microsystems and nanoengineering for intracellular measurement and manipulation. Microsystems and Nanoengineering, 2015, 1, .	3.4	66
61	Controlled Aspiration and Positioning of Biological Cells in a Micropipette. IEEE Transactions on Biomedical Engineering, 2012, 59, 1032-1040.	2.5	65
62	Robotic Adherent Cell Injection for Characterizing Cellâ€"Cell Communication. IEEE Transactions on Biomedical Engineering, 2015, 62, 119-125.	2.5	65
63	Contact Detection in Microrobotic Manipulation. International Journal of Robotics Research, 2007, 26, 821-828.	5.8	64
64	A MEMS stage for 3-axis nanopositioning. Journal of Micromechanics and Microengineering, 2007, 17, 1796-1802.	1.5	64
65	Single Cell Deposition and Patterning with a Robotic System. PLoS ONE, 2010, 5, e13542.	1.1	64
66	In situ mechanical characterization of mouse oocytes using a cell holding device. Lab on A Chip, 2010, 10, 2154.	3.1	64
67	Microfluidic approaches for gene delivery and gene therapy. Lab on A Chip, 2011, 11, 3941.	3.1	64
68	Interfacial Shear Strength of Multilayer Graphene Oxide Films. ACS Nano, 2016, 10, 1939-1947.	7.3	64
69	Mechanical stability of the cell nucleus: roles played by the cytoskeleton in nuclear deformation and strain recovery. Journal of Cell Science, 2018, 131, .	1.2	64
70	Solving the shrinkage-induced PDMS alignment registration issue in multilayer soft lithography. Journal of Micromechanics and Microengineering, 2009, 19, 065015.	1.5	62
71	Characterization of red blood cell deformability change during blood storage. Lab on A Chip, 2014, 14, 577-583.	3.1	62
72	Recapitulating Pancreatic Tumor Microenvironment through Synergistic Use of Patient Organoids and Organâ€ônâ€aâ€Chip Vasculature. Advanced Functional Materials, 2020, 30, 2000545.	7.8	62

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73	A high-aspect-ratio two-axis electrostatic microactuator with extended travel range. Sensors and Actuators A: Physical, 2002, 102, 49-60.	2.0	61
74	Three-dimensional nanosprings for electromechanical sensors. Sensors and Actuators A: Physical, 2006, 130-131, 54-61.	2.0	61
75	MEMS capacitive force sensors for cellular and flight biomechanics. Biomedical Materials (Bristol), 2007, 2, S16-S22.	1.7	61
76	Strengthening in Graphene Oxide Nanosheets: Bridging the Gap between Interplanar and Intraplanar Fracture. Nano Letters, 2015, 15, 6528-6534.	4.5	61
77	Spatial mapping of tissue properties in vivo reveals a 3D stiffness gradient in the mouse limb bud. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 4781-4791.	3.3	60
78	Automated Pick-Place of Silicon Nanowires. IEEE Transactions on Automation Science and Engineering, 2013, 10, 554-561.	3.4	59
79	Microfluidic characterization of specific membrane capacitance and cytoplasm conductivity of singlecells. Biosensors and Bioelectronics, 2013, 42, 496-502.	5.3	58
80	Magnetic Measurement and Stimulation of Cellular and Intracellular Structures. ACS Nano, 2020, 14, 3805-3821.	7.3	57
81	Manipulation of cells using an ultrasonic pressure field. Ultrasound in Medicine and Biology, 2005, 31, 857-864.	0.7	56
82	In vitro and in vivo testing of glucose-responsive insulin-delivery microdevices in diabetic rats. Lab on A Chip, 2012, 12, 2533.	3.1	56
83	Elastic and viscoelastic characterization of microcapsules for drug delivery using a force-feedback MEMS microgripper. Biomedical Microdevices, 2009, 11, 421-427.	1.4	53
84	Locating End-Effector Tips in Robotic Micromanipulation. IEEE Transactions on Robotics, 2014, 30, 125-130.	7.3	53
85	Stiffness increase of red blood cells during storage. Microsystems and Nanoengineering, 2018, 4, .	3.4	53
86	A Three-Dimensional Magnetic Tweezer System for Intraembryonic Navigation and Measurement. IEEE Transactions on Robotics, 2018, 34, 240-247.	7.3	52
87	Oscillatory cortical forces promote three dimensional cell intercalations that shape the murine mandibular arch. Nature Communications, 2019, 10, 1703.	5.8	52
88	Calibration of Multi-Axis MEMS Force Sensors Using the Shape-From-Motion Method. IEEE Sensors Journal, 2007, 7, 344-351.	2.4	51
89	A system for high-speed microinjection of adherent cells. Review of Scientific Instruments, 2008, 79, 104302.	0.6	51
90	Determination of local and global elastic moduli of valve interstitial cells cultured on soft substrates. Journal of Biomechanics, 2013, 46, 1967-1971.	0.9	50

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91	A Paper-Based Piezoelectric Accelerometer. Micromachines, 2018, 9, 19.	1.4	50
92	Travel range extension of a MEMS electrostatic microactuator. IEEE Transactions on Control Systems Technology, 2005, 13, 138-145.	3.2	49
93	High-Staticâ€"Low-Dynamic Stiffness Isolator With Tunable Electromagnetic Mechanism. IEEE/ASME Transactions on Mechatronics, 2020, 25, 316-326.	3.7	49
94	A Closed-Loop Controlled Nanomanipulation System for Probing Nanostructures Inside Scanning Electron Microscopes. IEEE/ASME Transactions on Mechatronics, 2016, 21, 1233-1241.	3.7	48
95	Biophysical Characterization of Bladder Cancer Cells with Different Metastatic Potential. Cell Biochemistry and Biophysics, 2014, 68, 241-246.	0.9	47
96	A monolithic polymeric microdevice for pH-responsive drug delivery. Biomedical Microdevices, 2009, 11, 1251-1257.	1.4	46
97	Microdevice array-based identification of distinct mechanobiological response profiles in layer-specific valve interstitial cells. Integrative Biology (United Kingdom), 2013, 5, 673.	0.6	46
98	Elastic and Viscoelastic Characterization of Mouse Oocytes Using Micropipette Indentation. Annals of Biomedical Engineering, 2012, 40, 2122-2130.	1.3	45
99	The conductive function of biopolymer corrects myocardial scar conduction blockage and resynchronizes contraction to prevent heart failure. Biomaterials, 2020, 258, 120285.	5.7	45
100	Quantification of the specific membrane capacitance of single cells using a microfluidic device and impedance spectroscopy measurement. Biomicrofluidics, 2012, 6, 34112.	1.2	43
101	Robotic Manipulation of Deformable Cells for Orientation Control. IEEE Transactions on Robotics, 2020, 36, 271-283.	7.3	43
102	Quantitative Analysis of Locomotive Behavior of Human Sperm Head and Tail. IEEE Transactions on Biomedical Engineering, 2013, 60, 390-396.	2.5	42
103	Decreased deformability of lymphocytes in chronic lymphocytic leukemia. Scientific Reports, 2015, 5, 7613.	1.6	41
104	Digital Microfluidic Processing of Mammalian Embryos for Vitrification. PLoS ONE, 2014, 9, e108128.	1.1	41
105	Automated Sperm Immobilization for Intracytoplasmic Sperm Injection. IEEE Transactions on Biomedical Engineering, 2011, 58, 935-942.	2.5	40
106	Millimeter-sized nanomanipulator with sub-nanometer positioning resolution and large force output. Smart Materials and Structures, 2007, 16, 1742-1750.	1.8	39
107	Hedgehog-Activated Fat4 and PCP Pathways Mediate Mesenchymal Cell Clustering and Villus Formation in Gut Development. Developmental Cell, 2020, 52, 647-658.e6.	3.1	39
108	Legless soft robots capable of rapid, continuous, and steered jumping. Nature Communications, 2021, 12, 7028.	5.8	38

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109	Autofocusing algorithm selection in computer microscopy. , 2005, , .		37
110	Precision patterning of PDMS membranes and applications. Journal of Micromechanics and Microengineering, 2008, 18, 037004.	1.5	37
111	On-chip sample preparation for complete blood count from raw blood. Lab on A Chip, 2015, 15, 1533-1544.	3.1	36
112	Automated Vitrification of Embryos: A Robotics Approach. IEEE Robotics and Automation Magazine, 2015, 22, 33-40.	2.2	36
113	MEMS-based platforms for mechanical manipulation and characterization of cells. Journal of Micromechanics and Microengineering, 2017, 27, 123003.	1.5	36
114	Robotic Immobilization of Motile Sperm for Clinical Intracytoplasmic Sperm Injection. IEEE Transactions on Biomedical Engineering, 2019, 66, 444-452.	2.5	36
115	Automated Microinjection of Recombinant BCL-X into Mouse Zygotes Enhances Embryo Development. PLoS ONE, 2011, 6, e21687.	1.1	36
116	Evolutionarily conserved intercalated disc protein Tmem65 regulates cardiac conduction and connexin 43 function. Nature Communications, 2015, 6, 8391.	5.8	35
117	Characterizing Inner Pressure and Stiffness of Trophoblast and Inner Cell Mass of Blastocysts. Biophysical Journal, 2018, 115, 2443-2450.	0.2	35
118	Microdevice Platform for Continuous Measurement of Contractility, Beating Rate, and Beating Rhythm of Human-Induced Pluripotent Stem Cell-Cardiomyocytes inside a Controlled Incubator Environment. ACS Applied Materials & Interfaces, 2018, 10, 21173-21183.	4.0	35
119	Microfabricated glass devices for rapid single cell immobilization in mouse zygote microinjection. Biomedical Microdevices, 2009, 11, 1169-1174.	1.4	34
120	Characterizing mechanical behavior of atomically thin films: A review. Journal of Materials Research, 2014, 29, 338-347.	1.2	34
121	A microfabricated platform with hydrogel arrays for 3D mechanical stimulation of cells. Acta Biomaterialia, 2016, 34, 113-124.	4.1	34
122	Microdevice arrays with strain sensors for 3D mechanical stimulation and monitoring of engineered tissues. Biomaterials, 2018, 172, 30-40.	5.7	34
123	Optical Measurement of Highly Reflective Surfaces From a Single Exposure. IEEE Transactions on Industrial Informatics, 2021, 17, 1882-1891.	7.2	34
124	Microfluidic devices for mechanical characterisation of single cells in suspension. Micro and Nano Letters, 2011, 6, 327.	0.6	33
125	Automated nanomanipulation for nanodevice construction. Nanotechnology, 2012, 23, 065304.	1.3	33
126	A Stick-Slip Positioning Stage Robust to Load Variations. IEEE/ASME Transactions on Mechatronics, 2016, 21, 2165-2173.	3.7	33

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127	Cell Contour Tracking and Data Synchronization for Real-Time, High-Accuracy Micropipette Aspiration. IEEE Transactions on Automation Science and Engineering, 2009, 6, 536-543.	3.4	32
128	TMEM43 Mutation p.S358L Alters Intercalated Disc Protein Expression and Reduces Conduction Velocity in Arrhythmogenic Right Ventricular Cardiomyopathy. PLoS ONE, 2014, 9, e109128.	1.1	31
129	A CNT-PDMS wearable device for simultaneous measurement of wrist pulse pressure and cardiac electrical activity. Materials Science and Engineering C, 2020, 117, 111345.	3.8	30
130	Coordinating Biointeraction and Bioreaction of a Nanocarrier Material and an Anticancer Drug to Overcome Membrane Rigidity and Target Mitochondria in Multidrugâ€Resistant Cancer Cells. Advanced Functional Materials, 2017, 27, 1700804.	7.8	29
131	Advances in sperm analysis: techniques, discoveries and applications. Nature Reviews Urology, 2021, 18, 447-467.	1.9	29
132	Design of a Micro-Gripper and an Ultrasonic Manipulator for Handling Micron Sized Objects. , 2006, , .		28
133	Multiplexed high-throughput electrokinetically-controlled immunoassay for the detection of specific bacterial antibodies in human serum. Analytica Chimica Acta, 2008, 606, 98-107.	2.6	28
134	Robotic Probing of Nanostructures inside Scanning Electron Microscopy. IEEE Transactions on Robotics, 2014, 30, 758-765.	7.3	28
135	Automated Non-Invasive Measurement of Single Spermâ€™s Motility and Morphology. IEEE Transactions on Medical Imaging, 2018, 37, 2257-2265.	5.4	28
136	Micropipette Aspiration of Single Cells for Both Mechanical and Electrical Characterization. IEEE Transactions on Biomedical Engineering, 2019, 66, 3185-3191.	2.5	28
137	Robotic Pick-And-Place of Multiple Embryos for Vitrification. IEEE Robotics and Automation Letters, 2017, 2, 570-576.	3.3	27
138	A Flexure-Guided Piezo Drill for Penetrating the Zona Pellucida of Mammalian Oocytes. IEEE Transactions on Biomedical Engineering, 2018, 65, 678-686.	2.5	27
139	Stiffness and ATP recovery of stored red blood cells in serum. Microsystems and Nanoengineering, 2019, 5, 51.	3.4	27
140	Automated Parallel Electrical Characterization of Cells Using Optically-Induced Dielectrophoresis. IEEE Transactions on Automation Science and Engineering, 2020, 17, 1084-1092.	3.4	27
141	Autonomous Zebrafish Embryo Injection Using a Microrobotic System. , 2007, , .		26
142	MEMS microgrippers with thin gripping tips. Journal of Micromechanics and Microengineering, 2011, 21, 105004.	1.5	26
143	Three-dimensional niche stiffness synergizes with Wnt7a to modulate the extent of satellite cell symmetric self-renewal divisions. Molecular Biology of the Cell, 2020, 31, 1703-1713.	0.9	26
144	A microdevice platform for characterizing the effect of mechanical strain magnitudes on the maturation of iPSC-Cardiomyocytes. Biosensors and Bioelectronics, 2021, 175, 112875.	5.3	26

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145	Integrating polyurethane culture substrates into poly(dimethylsiloxane) microdevices. Biomaterials, 2009, 30, 5241-5250.	5.7	25
146	Mechanical characterization of benign and malignant urothelial cells from voided urine. Applied Physics Letters, 2013, 102, .	1.5	25
147	A System for Counting Fetal and Maternal Red Blood Cells. IEEE Transactions on Biomedical Engineering, 2014, 61, 2823-2829.	2.5	25
148	Mechanical differences of sickle cell trait (SCT) and normal red blood cells. Lab on A Chip, 2015, 15, 3138-3146.	3.1	25
149	A MEMS<i>XY</i>-stage integrating compliant mechanism for nanopositioning at sub-nanometer resolution. Journal of Micromechanics and Microengineering, 2016, 26, 025014.	1.5	25
150	Investigating chorion softening of zebrafish embryos with a microrobotic force sensing system. Journal of Biomechanics, 2005, 38, 1359-1363.	0.9	24
151	An in-plane, bi-directional electrothermal MEMS actuator. Journal of Micromechanics and Microengineering, 2006, 16, 2067-2070.	1.5	22
152	Automated Robotic Measurement of 3-D Cell Morphologies. IEEE Robotics and Automation Letters, 2017, 2, 499-505.	3.3	22
153	Role of graphene in enhancing the mechanical properties of TiO₂/graphene heterostructures. Nanoscale, 2017, 9, 11678-11684.	2.8	22
154	Combined Sensing, Cognition, Learning, and Control for Developing Future Neuro-Robotics Systems: A Survey. IEEE Transactions on Cognitive and Developmental Systems, 2019, 11, 148-161.	2.6	22
155	Graphene fatigue through van der Waals interactions. Science Advances, 2020, 6, .	4.7	22
156	Label-free conduction velocity mapping and gap junction assessment of functional iPSC-Cardiomyocyte monolayers. Biosensors and Bioelectronics, 2020, 167, 112468.	5.3	22
157	Effect of lattice stacking orientation and local thickness variation on the mechanical behavior of few layer graphene oxide. Carbon, 2018, 136, 168-175.	5.4	21
158	Polyacrylamide gel substrates that simulate the mechanical stiffness of normal and malignant neuronal tissues increase protoporphyin IX synthesis in glioma cells. Journal of Biomedical Optics, 2015, 20, 098002.	1.4	20
159	<i>In situ</i>TEM tensile testing of carbon-linked graphene oxide nanosheets using a MEMS device. Nanotechnology, 2016, 27, 28LT01.	1.3	20
160	Fluorescence and SEM correlative microscopy for nanomanipulation of subcellular structures. Light: Science and Applications, 2014, 3, e224-e224.	7.7	19
161	Nanoâ€Dissection and Sequencing of DNA at Single Subâ€Nuclear Structures. Small, 2014, 10, 3267-3274.	5.2	19
162	Microengineered platforms for characterizing the contractile function of in vitro cardiac models. Microsystems and Nanoengineering, 2022, 8, 26.	3.4	19

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163	Toward Carbon Nanotube-Based AFM Cantilevers. IEEE Nanotechnology Magazine, 2007, 6, 519-523.	1.1	18
164	Miniaturized platform with on-chip strain sensors for compression testing of arrayed materials. Lab on A Chip, 2012, 12, 4178.	3.1	18
165	Directed batch assembly of three-dimensional helical nanobelts through angular winding and electroplating. Nanotechnology, 2007, 18, 055304.	1.3	17
166	MicroNewton Force-Controlled Manipulation of Biomaterials using a Monolithic MEMS Microgripper with Two-Axis Force Feedback. , 2008, , .		17
167	Nanomechanical elasticity and fracture studies of lithium phosphate (LPO) and lithium tantalate (LTO) solid-state electrolytes. Nanoscale, 2019, 11, 18730-18738.	2.8	17
168	Model-Based Robotic Cell Aspiration: Tackling Nonlinear Dynamics and Varying Cell Sizes. IEEE Robotics and Automation Letters, 2020, 5, 173-178.	3.3	17
169	Design and Control of a Piezo Drill for Robotic Piezo-Driven Cell Penetration. IEEE Robotics and Automation Letters, 2020, 5, 339-345.	3.3	17
170	Fast Eye-in-Hand 3-D Scanner-Robot Calibration for Low Stitching Errors. IEEE Transactions on Industrial Electronics, 2021, 68, 8422-8432.	5.2	17
171	Accuracy analysis of a multi-closed-loop deployable mechanism. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2016, 230, 611-621.	1.1	16
172	High-throughput measurement of gap junctional intercellular communication. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 306, H1708-H1713.	1.5	15
173	Cell and Tissue Scale Forces Coregulate Fgfr2 -Dependent Tetrads and Rosettes in the Mouse Embryo. Biophysical Journal, 2017, 112, 2209-2218.	0.2	15
174	Efficient obstacle detection based on prior estimation network and spatially constrained mixture model for unmanned surface vehicles. Journal of Field Robotics, 2021, 38, 212-228.	3.2	15
175	A Carbon-Based Biosensing Platform for Simultaneously Measuring the Contraction and Electrophysiology of iPSC-Cardiomyocyte Monolayers. ACS Nano, 2022, 16, 11278-11290.	7.3	15
176	A micromanipulation system for single cell deposition. , 2010, , .		14
177	Batch Transfer of Zebrafish Embryos Into Multiwell Plates. IEEE Transactions on Automation Science and Engineering, 2011, 8, 625-632.	3.4	14
178	Semi-confined compression of microfabricated polymerized biomaterial constructs. Journal of Micromechanics and Microengineering, 2011, 21, 054014.	1.5	14
179	A System for Automated Detection of Ampoule Injection Impurities. IEEE Transactions on Automation Science and Engineering, 2017, 14, 1119-1128.	3.4	14
180	Electrical impedance-based contractile stress measurement of human iPSC-Cardiomyocytes. Biosensors and Bioelectronics, 2020, 166, 112399.	5.3	14

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181	Dielectrophoretically trapping semiconductive carbon nanotube networks. Nanotechnology, 2008, 19, 485303.	1.3	13
182	Electromechanical interactions in a carbon nanotube based thin film field emitting diode. Nanotechnology, 2008, 19, 025701.	1.3	13
183	Embedded silver PDMS electrodes for single cell electrical impedance spectroscopy. Journal of Micromechanics and Microengineering, 2016, 26, 095006.	1.5	13
184	Combinatorial screen of dynamic mechanical stimuli for predictive control of MSC mechano-responsiveness. Science Advances, 2021, 7, .	4.7	13
185	Magnetic Micromanipulation for <i>In Vivo</i> Measurement of Stiffness Heterogeneity and Anisotropy in the Mouse Mandibular Arch. Research, 2020, 2020, 7914074.	2.8	13
186	Microrobotic Swarms for Intracellular Measurement with Enhanced Signal-to-Noise Ratio. ACS Nano, 2022, 16, 10824-10839.	7.3	12
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