

# Dong Sun

## List of Publications by Citations

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334  
papers

7,712  
citations

46  
h-index

73  
g-index

404  
ext. papers

9,645  
ext. citations

4.7  
avg, IF

6.42  
L-index

#	Paper	IF	Citations
334	Enhanced cell sorting and manipulation with combined optical tweezer and microfluidic chip technologies. <i>Lab on A Chip</i> , <b>2011</b> , 11, 3656-62	7.2	283
333	Position synchronization of multiple motion axes with adaptive coupling control. <i>Automatica</i> , <b>2003</b> , 39, 997-1005	5.7	188
332	Superhydrophobic-like tunable droplet bouncing on slippery liquid interfaces. <i>Nature Communications</i> , <b>2015</b> , 6, 7986	17.4	164
331	Leader-Follower Formation Control of Multiple Non-holonomic Mobile Robots Incorporating a Receding-horizon Scheme. <i>International Journal of Robotics Research</i> , <b>2010</b> , 29, 727-747	5.7	157
330	A Synchronization Approach to Trajectory Tracking of Multiple Mobile Robots While Maintaining Time-Varying Formations. <i>IEEE Transactions on Robotics</i> , <b>2009</b> , 25, 1074-1086	6.5	146
329	Adaptive synchronized control for coordination of multirobot assembly tasks. <i>IEEE Transactions on Automation Science and Engineering</i> , <b>2002</b> , 18, 498-510		138
328	Robotic Cell Injection System With Position and Force Control: Toward Automatic Batch Biomanipulation. <i>IEEE Transactions on Robotics</i> , <b>2009</b> , 25, 727-737	6.5	137
327	Moving Groups of Microparticles Into Array With a Robot-Tweezers Manipulation System. <i>IEEE Transactions on Robotics</i> , <b>2012</b> , 28, 1069-1080	6.5	131
326	A Model-Free Cross-Coupled Control for Position Synchronization of Multi-Axis Motions: Theory and Experiments. <i>IEEE Transactions on Control Systems Technology</i> , <b>2007</b> , 15, 306-314	4.8	126
325	Automatic transportation of biological cells with a robot-tweezer manipulation system. <i>International Journal of Robotics Research</i> , <b>2011</b> , 30, 1681-1694	5.7	121
324	Flexible Fiber-Shaped Supercapacitor Based on Nickel-Cobalt Double Hydroxide and Pen Ink Electrodes on Metallized Carbon Fiber. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 5409-5418	9.5	120
323	Slewing and vibration control of a single-link flexible manipulator by positive position feedback (PPF). <i>Mechatronics</i> , <b>2005</b> , 15, 487-503	3	116
322	H/sub /spl infin// controller synthesis of fuzzy dynamic systems based on piecewise Lyapunov functions and bilinear matrix inequalities. <i>IEEE Transactions on Fuzzy Systems</i> , <b>2005</b> , 13, 94-103	8.3	113
321	Mechanical characterization of human red blood cells under different osmotic conditions by robotic manipulation with optical tweezers. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2010</b> , 57, 1816-25	5	110
320	Enclosing a target by nonholonomic mobile robots with bearing-only measurements. <i>Automatica</i> , <b>2015</b> , 53, 400-407	5.7	108
319	. <i>IEEE Transactions on Industrial Electronics</i> , <b>2007</b> , 54, 3428-3429	8.9	108
318	Design of an enhanced nonlinear PID controller. <i>Mechatronics</i> , <b>2005</b> , 15, 1005-1024	3	106

317	Integration of saturated PI synchronous control and PD feedback for control of parallel manipulators <b>2006</b> , 22, 202-207		103
316	A PZT actuator control of a single-link flexible manipulator based on linear velocity feedback and actuator placement. <i>Mechatronics</i> , <b>2004</b> , 14, 381-401	3	91
315	. <i>IEEE Transactions on Vehicular Technology</i> , <b>2011</b> , 60, 4238-4248	6.8	88
314	Coordinated Motion Planning for Multiple Mobile Robots Along Designed Paths With Formation Requirement. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2011</b> , 16, 1021-1031	5.5	78
313	. <i>IEEE Transactions on Vehicular Technology</i> , <b>2012</b> , 61, 498-508	6.8	77
312	Development of a Tracked Climbing Robot. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , <b>2002</b> , 35, 427-443	2.9	76
311	Minimizing Energy Consumption of Wheeled Mobile Robots via Optimal Motion Planning. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2014</b> , 19, 401-411	5.5	75
310	Visual-Based Impedance Control of Out-of-Plane Cell Injection Systems. <i>IEEE Transactions on Automation Science and Engineering</i> , <b>2009</b> , 6, 565-571	4.9	75
309	Mechanical force characterization in manipulating live cells with optical tweezers. <i>Journal of Biomechanics</i> , <b>2011</b> , 44, 741-6	2.9	74
308	Microfluidic Single-Cell Manipulation and Analysis: Methods and Applications. <i>Micromachines</i> , <b>2019</b> , 10,	3.3	73
307	Dynamic trapping and manipulation of biological cells with optical tweezers. <i>Automatica</i> , <b>2013</b> , 49, 1614-1625	5.6	67
306	Mechanical modeling of biological cells in microinjection. <i>IEEE Transactions on Nanobioscience</i> , <b>2008</b> , 7, 257-66	3.4	67
305	Modified input shaping for a rotating single-link flexible manipulator. <i>Journal of Sound and Vibration</i> , <b>2005</b> , 285, 187-207	3.9	67
304	Dynamics Analysis and Motion Planning for Automated Cell Transportation With Optical Tweezers. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2013</b> , 18, 706-713	5.5	65
303	Force Sensing and Manipulation Strategy in Robot-Assisted Microinjection on Zebrafish Embryos. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2011</b> , 16, 1002-1010	5.5	65
302	Development of a New Robot Controller Architecture with FPGA-Based IC Design for Improved High-Speed Performance. <i>IEEE Transactions on Industrial Informatics</i> , <b>2007</b> , 3, 312-321	11.9	64
301	Two-Stage Charging Strategy for Plug-In Electric Vehicles at the Residential Transformer Level. <i>IEEE Transactions on Smart Grid</i> , <b>2013</b> , 4, 1442-1452	10.7	63
300	A simple nonlinear velocity estimator for high-performance motion control. <i>IEEE Transactions on Industrial Electronics</i> , <b>2005</b> , 52, 1161-1169	8.9	61

299	Graphene-Bridged Multifunctional Flexible Fiber Supercapacitor with High Energy Density. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 28597-28607	9.5	59
298	Hand motion classification using a multi-channel surface electromyography sensor. <i>Sensors</i> , <b>2012</b> , 12, 1130-47	3.8	59
297	Localization for Multirobot Formations in Indoor Environment. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2010</b> , 15, 561-574	5.5	58
296	Single Cell Transfection through Precise Microinjection with Quantitatively Controlled Injection Volumes. <i>Scientific Reports</i> , <b>2016</b> , 6, 24127	4.9	56
295	Probing the mechanobiological properties of human embryonic stem cells in cardiac differentiation by optical tweezers. <i>Journal of Biomechanics</i> , <b>2012</b> , 45, 123-8	2.9	52
294	Model identification of a micro air vehicle in loitering flight based on attitude performance evaluation. <i>Journal of the American College of Radiology</i> , <b>2004</b> , 20, 702-712	3.5	49
293	A bounded controller for multirobot navigation while maintaining network connectivity in the presence of obstacles. <i>Automatica</i> , <b>2013</b> , 49, 285-292	5.7	48
292	H/sub /spl infin// output feedback control of discrete-time fuzzy systems with application to chaos control. <i>IEEE Transactions on Fuzzy Systems</i> , <b>2005</b> , 13, 531-543	8.3	47
291	. <i>IEEE Transactions on Control Systems Technology</i> , <b>2007</b> , 15, 982-988	4.8	46
290	Modeling and performance evaluation of traveling-wave piezoelectric ultrasonic motors with analytical method. <i>Sensors and Actuators A: Physical</i> , <b>2002</b> , 100, 84-93	3.9	46
289	Out-of-Plane Rotation Control of Biological Cells With a Robot-Tweezers Manipulation System for Orientation-Based Cell Surgery. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2019</b> , 66, 199-207	5	46
288	Asymptotic trajectory tracking of manipulators using uncalibrated visual feedback. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2003</b> , 8, 87-98	5.5	45
287	Distributed control for uniform circumnavigation of ring-coupled unicycles. <i>Automatica</i> , <b>2015</b> , 53, 23-29	5.7	44
286	Observer-Based Optical Manipulation of Biological Cells With Robotic Tweezers. <i>IEEE Transactions on Robotics</i> , <b>2014</b> , 30, 68-80	6.5	43
285	A High-Throughput Automated Microinjection System for Human Cells With Small Size. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2016</b> , 21, 838-850	5.5	42
284	Development of Magnet-Driven and Image-Guided Degradable Microrobots for the Precise Delivery of Engineered Stem Cells for Cancer Therapy. <i>Small</i> , <b>2020</b> , 16, e1906908	11	42
283	Rapidly Exploring Random Tree Algorithm-Based Path Planning for Robot-Aided Optical Manipulation of Biological Cells. <i>IEEE Transactions on Automation Science and Engineering</i> , <b>2014</b> , 11, 649-657	4.9	41
282	High-Entropy Alloy (HEA)-Coated Nanolattice Structures and Their Mechanical Properties. <i>Advanced Engineering Materials</i> , <b>2018</b> , 20, 1700625	3.5	40

281	Approaches to Robust Filtering Design of Discrete Time Fuzzy Dynamic Systems. <i>IEEE Transactions on Fuzzy Systems</i> , <b>2008</b> , 16, 331-340	8.3	40
280	Force Modeling, Identification, and Feedback Control of Robot-Assisted Needle Insertion: A Survey of the Literature. <i>Sensors</i> , <b>2018</b> , 18,	3.8	39
279	Activation of multiple signaling pathways during the differentiation of mesenchymal stem cells cultured in a silicon nanowire microenvironment. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , <b>2014</b> , 10, 1153-63	6	39
278	Reorganization of cytoskeleton and transient activation of Ca <sup>2+</sup> channels in mesenchymal stem cells cultured on silicon nanowire arrays. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2013</b> , 5, 13295-304	9.5	39
277	A universal piezo-driven ultrasonic cell microinjection system. <i>Biomedical Microdevices</i> , <b>2011</b> , 13, 743-52	3.7	38
276	A Synchronization Approach for the Minimization of Contouring Errors of CNC Machine Tools. <i>IEEE Transactions on Automation Science and Engineering</i> , <b>2009</b> , 6, 720-729	4.9	38
275	Control of a rotating cantilever beam using a torque actuator and a distributed piezoelectric polymer actuator. <i>Applied Acoustics</i> , <b>2002</b> , 63, 885-899	3.1	37
274	Micro air vehicle: configuration, analysis, fabrication, and test. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2004</b> , 9, 108-117	5.5	37
273	A dynamic priority based path planning for cooperation of multiple mobile robots in formation forming. <i>Robotics and Computer-Integrated Manufacturing</i> , <b>2014</b> , 30, 589-596	9.2	36
272	Direct measurement of cell protrusion force utilizing a robot-aided cell manipulation system with optical tweezers for cell migration control. <i>International Journal of Robotics Research</i> , <b>2014</b> , 33, 1782-1792	5.7	36
271	Multilevel-based topology design and shape control of robot swarms. <i>Automatica</i> , <b>2012</b> , 48, 3122-3127	5.7	36
270	Manipulating rigid payloads with multiple robots using compliant grippers. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2002</b> , 7, 23-34	5.5	36
269	. <i>IEEE Transactions on Automation Science and Engineering</i> , <b>2016</b> , 13, 543-551	4.9	35
268	Development of an Enhanced Electromagnetic Actuation System With Enlarged Workspace. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2017</b> , 22, 2265-2276	5.5	35
267	Vision-Based 2-D Automatic Micrograsping Using Coarse-to-Fine Grasping Strategy. <i>IEEE Transactions on Industrial Electronics</i> , <b>2008</b> , 55, 3324-3331	8.9	35
266	Design for robust component synthesis vibration suppression of flexible structures with on-off actuators. <i>IEEE Transactions on Automation Science and Engineering</i> , <b>2004</b> , 20, 512-525		35
265	Design of a robust unified controller for cell manipulation with a robot-aided optical tweezers system. <i>Automatica</i> , <b>2015</b> , 55, 279-286	5.7	34
264	Three-dimensional cell manipulation and patterning using dielectrophoresis via a multi-layer scaffold structure. <i>Lab on A Chip</i> , <b>2015</b> , 15, 920-30	7.2	34

263	Microstructure, Mechanical and Corrosion Behaviors of CoCrFeNiAl <sub>0.3</sub> High Entropy Alloy (HEA) Films. <i>Coatings</i> , <b>2017</b> , 7, 156	2.9	34
262	A Novel Arch-Shape Nanogenerator Based on Piezoelectric and Triboelectric Mechanism for Mechanical Energy Harvesting. <i>Nanomaterials</i> , <b>2014</b> , 5, 36-46	5.4	33
261	Coalition-Based Approach to Task Allocation of Multiple Robots With Resource Constraints. <i>IEEE Transactions on Automation Science and Engineering</i> , <b>2012</b> , 9, 516-528	4.9	33
260	Trajectory Tracking Control for a 3-DOF Planar Parallel Manipulator Using the Convex Synchronized Control Method. <i>IEEE Transactions on Control Systems Technology</i> , <b>2008</b> , 16, 613-623	4.8	33
259	Combined power management/design optimization for a fuel cell/battery plug-in hybrid electric vehicle using multi-objective particle swarm optimization. <i>International Journal of Automotive Technology</i> , <b>2014</b> , 15, 645-654	1.6	32
258	In Vivo Manipulation of Single Biological Cells With an Optical Tweezers-Based Manipulator and a Disturbance Compensation Controller. <i>IEEE Transactions on Robotics</i> , <b>2017</b> , 33, 1200-1212	6.5	32
257	Cell migration microfluidics for electrotaxis-based heterogeneity study of lung cancer cells. <i>Biosensors and Bioelectronics</i> , <b>2017</b> , 89, 837-845	11.8	31
256	Resource constrained multirobot task allocation based on leader-follower coalition methodology. <i>International Journal of Robotics Research</i> , <b>2011</b> , 30, 1423-1434	5.7	31
255	Global Stability of a Saturated Nonlinear PID Controller for Robot Manipulators. <i>IEEE Transactions on Control Systems Technology</i> , <b>2009</b> , 17, 892-899	4.8	31
254	Modeling and Impedance Control of a Two-Manipulator System Handling a Flexible Beam. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>1997</b> , 119, 736-742	1.6	31
253	Adaptive Synchronization Control of Multiple Spacecraft Formation Flying. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>2007</b> , 129, 337-342	1.6	31
252	A fluorescent microbead-based microfluidic immunoassay chip for immune cell cytokine secretion quantification. <i>Lab on A Chip</i> , <b>2018</b> , 18, 522-531	7.2	30
251	An approach to quantized consensus of continuous-time linear multi-agent systems. <i>Automatica</i> , <b>2018</b> , 91, 98-104	5.7	30
250	Cell manipulation tool with combined microwell array and optical tweezers for cell isolation and deposition. <i>Journal of Micromechanics and Microengineering</i> , <b>2013</b> , 23, 075006	2	30
249	Liquid metal droplet robot. <i>Applied Materials Today</i> , <b>2020</b> , 19, 100597	6.6	29
248	A simplified sheathless cell separation approach using combined gravitational-sedimentation-based prefocusing and dielectrophoretic separation. <i>Lab on A Chip</i> , <b>2018</b> , 18, 1521-1532	7.2	29
247	Fiber surface modification technology for fiber-optic localized surface plasmon resonance biosensors. <i>Sensors</i> , <b>2012</b> , 12, 2729-41	3.8	29
246	Biophysical characterization of hematopoietic cells from normal and leukemic sources with distinct primitiveness. <i>Applied Physics Letters</i> , <b>2011</b> , 99, 083702	3.4	29

245	Multilevel-Based Topology Design and Cell Patterning With Robotically Controlled Optical Tweezers. <i>IEEE Transactions on Control Systems Technology</i> , <b>2015</b> , 23, 176-185	4.8	28
244	A visual sensing application to a climbing cleaning robot on the glass surface. <i>Mechatronics</i> , <b>2004</b> , 14, 1089-1104	3	28
243	Transportation of Multiple Biological Cells Through Saturation-Controlled Optical Tweezers In Crowded Microenvironments. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2016</b> , 21, 888-899	5.5	27
242	A dynamic model of chemoattractant-induced cell migration. <i>Biophysical Journal</i> , <b>2015</b> , 108, 1645-1651	2.9	27
241	Influence of semiflexible structural features of actin cytoskeleton on cell stiffness based on actin microstructural modeling. <i>Journal of Biomechanics</i> , <b>2012</b> , 45, 1900-8	2.9	27
240	Applying combined optical tweezers and fluorescence microscopy technologies to manipulate cell adhesions for cell-to-cell interaction study. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2013</b> , 60, 2308-15	5	27
239	Rationally designed nickel oxide ravinestiron cobalt-hydroxides with largely enhanced capacitive performance for asymmetric supercapacitors. <i>Journal of Materials Chemistry A</i> , <b>2017</b> , 5, 16944-16952	13	26
238	Rendezvous of unicycles: A bearings-only and perimeter shortening approach. <i>Systems and Control Letters</i> , <b>2013</b> , 62, 401-407	2.4	26
237	Global localization of multirobot formations using ceiling vision SLAM strategy. <i>Mechatronics</i> , <b>2009</b> , 19, 617-628	3	26
236	Adaptive Synchronized Control for a Planar Parallel Manipulator: Theory and Experiments. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>2006</b> , 128, 976-979	1.6	26
235	Development of a MEMS based colloid thruster with sandwich structure. <i>Sensors and Actuators A: Physical</i> , <b>2005</b> , 117, 168-172	3.9	26
234	Robust Control to Manipulate a Microparticle with Electromagnetic Coil System. <i>IEEE Transactions on Industrial Electronics</i> , <b>2017</b> , 64, 8566-8577	8.9	25
233	Fusion with stem cell makes the hepatocellular carcinoma cells similar to liver tumor-initiating cells. <i>BMC Cancer</i> , <b>2016</b> , 16, 56	4.8	25
232	Laser-induced fusion of human embryonic stem cells with optical tweezers. <i>Applied Physics Letters</i> , <b>2013</b> , 103, 033701	3.4	25
231	Application of a Service Climbing Robot with Motion Planning and Visual Sensing. <i>Journal of Field Robotics</i> , <b>2003</b> , 20, 189-199		25
230	Stabilizing a flexible beam handled by two manipulators via PD feedback. <i>IEEE Transactions on Automatic Control</i> , <b>2000</b> , 45, 2159-2164	5.9	25
229	Achieving Automated Organelle Biopsy on Small Single Cells Using a Cell Surgery Robotic System. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2019</b> , 66, 2210-2222	5	25
228	Characterizing mechanical properties of biological cells by microinjection. <i>IEEE Transactions on Nanobioscience</i> , <b>2010</b> , 9, 171-80	3.4	23



227	Automated Pairing Manipulation of Biological Cells With a Robot-Tweezers Manipulation System. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2015</b> , 20, 2242-2251	5.5	22
226	Mechanically stable ternary heterogeneous electrodes for energy storage and conversion. <i>Nanoscale</i> , <b>2018</b> , 10, 2613-2622	7.7	22
225	Orientation control of a differential mobile robot through wheel synchronization. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2005</b> , 10, 345-351	5.5	22
224	Hybrid control of a rotational flexible beam using enhanced PD feedback with a nonlinear differentiator and PZT actuators. <i>Smart Materials and Structures</i> , <b>2005</b> , 14, 69-78	3.4	22
223	Rapid characterization of the biomechanical properties of drug-treated cells in a microfluidic device. <i>Journal of Micromechanics and Microengineering</i> , <b>2015</b> , 25, 105004	2	21
222	Design and characterization of a conductive nanostructured polypyrrole-polycaprolactone coated magnesium/PLGA composite for tissue engineering scaffolds. <i>Journal of Biomedical Materials Research - Part A</i> , <b>2015</b> , 103, 2966-73	5.4	21
221	Development and application of ultrasonic surgical instruments. <i>IEEE Transactions on Biomedical Engineering</i> , <b>1997</b> , 44, 462-7	5	21
220	Generalized H/sub 2/ controller synthesis of fuzzy dynamic systems based on piecewise Lyapunov functions. <i>IEEE Transactions on Circuits and Systems Part 1: Regular Papers</i> , <b>2002</b> , 49, 1843-1850		21
219	Self-assembly of hierarchical 3D starfish-like Co <sub>3</sub> O <sub>4</sub> nanowire bundles on nickel foam for high-performance supercapacitor. <i>Journal of Nanoparticle Research</i> , <b>2016</b> , 18, 1	2.3	21
218	Gradient-Enhanced Electromagnetic Actuation System With a New Core Shape Design for Microrobot Manipulation. <i>IEEE Transactions on Industrial Electronics</i> , <b>2020</b> , 67, 4700-4710	8.9	21
217	Effects of direct current electric fields on lung cancer cell electrotaxis in a PMMA-based microfluidic device. <i>Analytical and Bioanalytical Chemistry</i> , <b>2017</b> , 409, 2163-2178	4.4	20
216	Saturated PID Control for the Optical Manipulation of Biological Cells. <i>IEEE Transactions on Control Systems Technology</i> , <b>2018</b> , 26, 1909-1916	4.8	19
215	Preserving Multirobot Connectivity in Rendezvous Tasks in the Presence of Obstacles With Bounded Control Input. <i>IEEE Transactions on Control Systems Technology</i> , <b>2013</b> , 21, 2306-2314	4.8	19
214	Characterization of biomechanical properties of cells through dielectrophoresis-based cell stretching and actin cytoskeleton modeling. <i>BioMedical Engineering OnLine</i> , <b>2017</b> , 16, 41	4.1	19
213	Manipulating cell adhesions with optical tweezers for study of cell-to-cell interactions. <i>Journal of Biomedical Nanotechnology</i> , <b>2013</b> , 9, 281-5	4	19
212	Mechanical modeling of red blood cells during optical stretching. <i>Journal of Biomechanical Engineering</i> , <b>2010</b> , 132, 044504	2.1	19
211	Integrated design of trajectory planning and control for micro air vehicles. <i>Mechatronics</i> , <b>2007</b> , 17, 245-253		19
210	Visual-based Impedance Force Control of Three-dimensional Cell Injection System. <i>Proceedings - IEEE International Conference on Robotics and Automation</i> , <b>2007</b> ,		19



209	Lgr5-overexpressing mesenchymal stem cells augment fracture healing through regulation of Wnt/ERK signaling pathways and mitochondrial dynamics. <i>FASEB Journal</i> , <b>2019</b> , 33, 8565-8577	0.9	18
208	Revealing elasticity of largely deformed cells flowing along confining microchannels.. <i>RSC Advances</i> , <b>2018</b> , 8, 1030-1038	3.7	18
207	Magnetically Driven Undulatory Microswimmers Integrating Multiple Rigid Segments. <i>Small</i> , <b>2019</b> , 15, e1901197	11	18
206	Dynamic Path Planning for Inserting a Steerable Needle Into a Soft Tissue. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2014</b> , 19, 549-558	5.5	18
205	Automated Transportation of Multiple Cell Types Using a Robot-Aided Cell Manipulation System With Holographic Optical Tweezers. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2017</b> , 22, 804-814	5.5	18
204	A simple hybrid fuzzy PD controller. <i>Mechatronics</i> , <b>2004</b> , 14, 877-890	3	18
203	Integrated Design and Control under Uncertainty: A Fuzzy Modeling Approach. <i>Industrial &amp; Engineering Chemistry Research</i> , <b>2010</b> , 49, 1312-1324	3.9	17
202	Automated transportation of single cells using robot-tweezer manipulation system. <i>Journal of the Association for Laboratory Automation</i> , <b>2011</b> , 16, 263-70		17
201	Nonlinear PD Synchronized Control for Parallel Manipulators		17
200	Design of an Interactive Control System for a Multisection Continuum Robot. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2018</b> , 23, 2379-2389	5.5	16
199	An Inverse-Kinematics Table-Based Solution of a Humanoid Robot Finger With Nonlinearly Coupled Joints. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2009</b> , 14, 273-281	5.5	16
198	Automated In Vivo Navigation of Magnetic-Driven Microrobots Using OCT Imaging Feedback. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2020</b> , 67, 2349-2358	5	16
197	Characterization of a Honeycomb-Like Scaffold With Dielectrophoresis-Based Patterning for Tissue Engineering. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2017</b> , 64, 755-764	5	15
196	Magnetically Powered Biodegradable Microswimmers. <i>Micromachines</i> , <b>2020</b> , 11,	3.3	15
195	Robust orientation control of multi-DOF cell based on uncertainty and disturbance estimation. <i>International Journal of Robust and Nonlinear Control</i> , <b>2019</b> , 29, 4859-4871	3.6	15
194	Global exponential stability and periodic solutions of high-order bidirectional associative memory (BAM) neural networks with time delays and impulses. <i>Neurocomputing</i> , <b>2015</b> , 155, 261-276	5.4	15
193	Apply RRT-based path planning to robotic manipulation of biological cells with optical tweezer <b>2011</b> ,		15
192	Optimal motion planning of a mobile robot with minimum energy consumption <b>2011</b> ,		15

191	Design of a Novel Compliant Safe Robot Joint With Multiple Working States. <i>IEEE/ASME Transactions on Mechatronics</i> , <b>2016</b> , 21, 1193-1198	5.5	14
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189	A switching controller for high speed cell transportation by using a robot-aided optical tweezers system. <i>Automatica</i> , <b>2018</b> , 89, 308-315	5.7	13
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185	Force Sensing and Control in Robot-Assisted Suspended Cell Injection System. <i>Intelligent Systems Reference Library</i> , <b>2012</b> , 61-88	0.8	13
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172	Integrated vision and force control in suspended cell injection system: Towards automatic batch biomanipulation <b>2008</b> ,		10
171	Translational and rotational manipulation of filamentous cells using optically driven microrobots. <i>Optics Express</i> , <b>2019</b> , 27, 16475-16482	3.3	10
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169	Simultaneous Localization and Mapping-Based In Vivo Navigation Control of Microparticles. <i>IEEE Transactions on Industrial Informatics</i> , <b>2020</b> , 16, 2956-2964	11.9	10
168	Modeling and experimental study for minimization of energy consumption of a mobile robot <b>2012</b> ,		9
167	A dynamic priority strategy in decentralized motion planning for formation forming of multiple mobile robots <b>2009</b> ,		9
166	Penetration force measurement and control in robotic cell microinjection <b>2009</b> ,		9
165	Controlling Swarms of Mobile Robots for Switching between Formations Using Synchronization Concept. <i>Proceedings - IEEE International Conference on Robotics and Automation</i> , <b>2007</b> ,		9
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148	Modeling and development of a magnetically actuated system for micro-particle manipulation <b>2014</b> ,		7
147	Automatic suspended cell injection under vision and force control biomanipulation <b>2007</b> ,		7
146	Multirobot rendezvous with bearing-only or range-only measurements. <i>Robotics and Biomimetics</i> , <b>2014</b> , 1,		6
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143	Optical Tweezer Technology. <i>IEEE Nanotechnology Magazine</i> , <b>2011</b> , 5, 17-21	1.7	6
142	A force control based cell injection approach in a bio-robotics system <b>2009</b> ,		6
141	A Model Free Synchronization Approach to Controls of Parallel Manipulators		6
140	Uniform synchronization in multi-axis motion control		6
139	Acoustic valves in microfluidic channels for droplet manipulation. <i>Lab on A Chip</i> , <b>2021</b> , 21, 3165-3173	7.2	6
138	Soft Gripper Design Based on the Integration of Flat Dry Adhesive, Soft Actuator, and Microspine. <i>IEEE Transactions on Robotics</i> , <b>2021</b> , 37, 1065-1080	6.5	6

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133	Coordinated motion planning of multiple mobile robots in formation <b>2010</b> ,		5
132	Path planning for 3D transportation of biological cells with optical tweezers <b>2011</b> ,		5
131	Robot-assisted automatic cell sorting with combined optical tweezer and microfluidic chip technologies <b>2011</b> ,		5
130	Robotic cell manipulation with optical tweezers for biomechanical characterization <b>2011</b> ,		5
129	Global Stability of a Saturated Nonlinear PID Controller for Robotic Manipulators <b>2006</b> ,		5
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124	A novel allocation-based formation algorithm for swarm of micro-scaled particles <b>2011</b> ,		4
123	Automatic flocking manipulation of micro particles with robot-tweezers technologies <b>2012</b> ,		4
122	A new motion control hardware architecture with FPGA-based IC design for robotic manipulators		4
121	A Visual Based Extended Monte Carlo Localization for Autonomous Mobile Robots <b>2006</b> ,		4
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113	Advanced Biological Imaging for Intracellular Micromanipulation: Methods and Applications. <i>Applied Sciences (Switzerland)</i> , <b>2020</b> , 10, 7308	2.6	3
112	A novel MEMS force sensor based on Laterally Movable Gate Array Field Effect Transistor(LMGAFET) <b>2017</b> ,		3
111	Cell out-of-plane rotation control using a cell surgery robotic system equipped with optical tweezers manipulators <b>2016</b> ,		3
110	Swarm-inspired transportation of biological cells using saturation-controlled optical tweezers <b>2015</b> ,		3
109	Modeling and closed-loop control of electromagnetic manipulation of a microparticle <b>2015</b> ,		3
108	Development of a high throughput robot-aided cell injection system for human cells <b>2014</b> ,		3
107	Cell sorting with combined optical tweezers and microfluidic chip technologies <b>2010</b> ,		3
106	Predictive control for Plug-in Microturbine powered Hybrid Electric Vehicles using telemetry information <b>2011</b> ,		3
105	Mechanical modeling characterization of biological cells using microrobotics cell injection test bed <b>2009</b> ,		3
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92	Inchworm-inspired soft climbing robot using microspine arrays <b>2019</b> ,		3
91	Calcium Spike Patterns Reveal Linkage of Electrical Stimulus and MSC Osteogenic Differentiation. <i>IEEE Transactions on Nanobioscience</i> , <b>2019</b> , 18, 3-9	3.4	3
90	A Fish-Like Magnetically Propelled Microswimmer Fabricated by 3D Laser Lithography <b>2018</b> ,		3
89	Automated Optical Tweezers Manipulation to Transfer Mitochondria from Fetal to Adult MSCs to Improve Antiaging Gene Expressions. <i>Small</i> , <b>2021</b> , 17, e2103086	11	3
88	Topology design for router networks to accomplish a cooperative exploring task <b>2014</b> ,		2
87	Design of an automated controller with collision-avoidance capability for in-vivo transportation of biological cells <b>2017</b> ,		2
86	Dielectrophoresis-based automatic 3D cell manipulation and patterning through a micro-electrode integrated multi-layer scaffold <b>2014</b> ,		2
85	Dynamics calibration of optically trapped cells with adaptive control technology <b>2013</b> ,		2
84	Connectivity constrained multirobot navigation with considering physical size of robots <b>2011</b> ,		2



83	Modeling and cooperation of two-arm robotic system manipulating a deformable object		2
82	Distributed neural network-based policy gradient reinforcement learning for multi-robot formations <b>2008</b> ,		2
81	Performance Improvement of Tracking Control for a Planar Parallel Robot Using Synchronized Control <b>2006</b> ,		2
80	A FPGA-based motion control IC design		2
79	A New Flux Observer Design for Backstepping Controls of Induction Motors. <i>Electric Power Components and Systems</i> , <b>2005</b> , 33, 113-126	1	2
78	Development of a nonlinear PID controller with saturated function design		2
77	Tracking control of differential mobile robots using adaptive coupling scheme		2
76	Position and Force Control of Two CRS A460 Robots Manipulating a Flexible Sheet: Theory and Experiment. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , <b>1998</b> , 120, 529-533	1.6	2
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73	A Bioinspired Composite Finger With Self-Locking Joints. <i>IEEE Robotics and Automation Letters</i> , <b>2021</b> , 6, 1391-1398	4.2	2
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71	Development of biocompatible magnetic microrobot transporter using 3D laser lithography <b>2016</b> ,		2
70	A Robotic Surgery Approach to Mitochondrial Transfer Amongst Single Cells <b>2019</b> ,		2
69	High-Throughput Single Cell Trapping and Patterning Using a Sandwiched Microfluidic Chip <b>2018</b> ,		2
68	Microfluidic implementation of functional cytometric microbeads for improved multiplexed cytokine quantification. <i>Biomicrofluidics</i> , <b>2018</b> , 12, 044112	3.2	2
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66	Advanced tools and methods for single-cell surgery.. <i>Microsystems and Nanoengineering</i> , <b>2022</b> , 8, 47	7.7	2

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64	Rendezvous of wheeled mobile robots using bearings-only or range-only measurements <b>2013</b> ,		1
63	Automated manipulation of magnetic micro beads with electromagnetic coil system <b>2013</b> ,		1
62	Distributed multirobot shape control with a multilevel-based topology and market-based auction algorithm <b>2012</b> ,		1
61	Apply Robot-Tweezers Manipulation to Cell Stretching for Biomechanical Characterization <b>2013</b> , 223-239		1
60	Leader-follower-based dynamic trajectory planning for multirobot formation. <i>Robotica</i> , <b>2013</b> , 31, 1351-1359		1
59	Automated laser-induced cell fusion based on microwell array <b>2013</b> ,		1
58	Resource constrained multirobot task allocation with a leader-follower coalition method <b>2010</b> ,		1
57	Force characterization of live cells in automated transportation with robot-tweezers manipulation system <b>2010</b> ,		1
56	An experimental study on leader-follower coalition method for solving multirobot task allocation problems <b>2010</b> ,		1
55	Motion planning of multirobot formation <b>2010</b> ,		1
54	An online coalition based approach to solving resource constrained multirobot task allocation problem <b>2010</b> ,		1
53	Motion planning of multiple mobile robots with formation requirement <b>2010</b> ,		1
52	Multilevel based topology design and formation control of robot swarms <b>2011</b> ,		1
51	Mechanical characterization of human red blood cells by robotic manipulation with optical tweezers <b>2009</b> ,		1
50	A decentralized local constraint path planner for multiple mobile robots <b>2009</b> ,		1
49	Networked architecture for multi-robot task reallocation in dynamic environment <b>2009</b> ,		1
48	Localization strategies for indoor multi-robot formations <b>2009</b> ,		1

47	Pairing and moving swarm of micro particles into array with a robot-tweezer manipulation system <b>2011,</b>		1
46	Dynamic path planning in robot-aided optical manipulation of biological cells <b>2012,</b>		1
45	A mechanical model of biological cells in microinjection <b>2009,</b>		1
44	A synchronization control strategy for multiple robot systems using shape regulation technology <b>2008,</b>		1
43	A synchronous controller for multiple mobile robots in time-varied formations <b>2008,</b>		1
42	A RECEDING-HORIZON FORMATION TRACKING CONTROLLER WITH LEADER-FOLLOWER STRATEGIES. <i>IFAC Postprint Volumes IPPV / International Federation of Automatic Control</i> , <b>2008</b> , 41, 4400-4405		1
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40	Multi-Sensory Fusion for Mobile Robot Self-Localization <b>2006,</b>		1
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38	Integrated design of a linear positioning system with applications to electronic manufacturing <b>2004</b>		1
37	Model identification of a small-scale air vehicle for loitering control design <b>2004,</b>		1
36	Nonlinear trajectory tracking control of a closed-chain manipulator		1
35	Robust component synthesis vibration suppression for maneuver of flexible spacecrafts <b>2004,</b>		1
34	Adaptive synchronized control for coordination of two robot manipulators		1
33	Position and force tracking of a two-manipulator system manipulating a flexible beam payload		1
32	High-throughput deterministic pairing and coculturing of single cells in a microwell array using combined hydrodynamic and recirculation flow captures. <i>Biomicrofluidics</i> , <b>2021</b> , 15, 054103	3-2	1
31	Active disturbance rejection control of single cell migration induced by chemoattractant-loaded microbead <b>2016,</b>		1
30	Preformation Characterization of a Torque-Driven Magnetic Microswimmer With Multi-Segment Structure. <i>IEEE Access</i> , <b>2021</b> , 9, 29279-29292	3-5	1

29	Robust Navigation Control of a Microrobot With Hysteresis Compensation. <i>IEEE Transactions on Automation Science and Engineering</i> , <b>2021</b> , 1-10	4.9	1
28	Robot-Aided Micromanipulation of Biological Cells with Integrated Optical Tweezers and Microfluidic Chip. <i>Advanced Micro &amp; Nanosystems</i> , 393-416		1
27	Cell Manipulation with Robot-Aided Optical Tweezers Technology <b>2013</b> , 159-174		1
26	Preparation and Experimental Study on Dielectrophoresis-Based Microfluidic Chip for Cell Patterning. <i>Chinese Journal of Analytical Chemistry</i> , <b>2014</b> , 42, 1568-1573	1.6	0
25	Combined Single-Cell Manipulation and Chemomechanical Modeling to Probe Cell Migration Mechanism During Cell-to-Cell Interaction. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2020</b> , 67, 1474-1482	5.82	0
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23	A synchronisation approach to mutual error compensation in controlling the vehicle with an installed manipulator. <i>International Journal of Vehicle Design</i> , <b>2006</b> , 42, 287	2.4	
22	Nanomanipulation in Biomedical Applications. <i>Current Robotics Reports</i> , <b>2021</b> , 2, 133-145	3.5	
21	Stable control framework for cell transportation using robot-aided optical tweezers <b>2021</b> , 23-37		
20	Automated in-vivo transportation control of biological cells using robot-aided optical tweezers <b>2021</b> , 93-113		
19	Laser-induced fusion of biological cells with cell positioning technique <b>2021</b> , 137-146		
18	Automated transportation of multiple types of cells with holographic optical tweezers <b>2021</b> , 61-74		
17	Cell biopsy using robot-aided optical manipulation of cell reorientation technique <b>2021</b> , 147-167		
16	Automated pairing manipulation of biological cells with a robot-tweezers manipulation system <b>2021</b> , 39-59		
15	Robotic optical tweezers for cell biophysics <b>2021</b> , 227-239		
14	Automated Optical Tweezers Manipulation to Transfer Mitochondria from Fetal to Adult MSCs to Improve Antiaging Gene Expressions (Small 38/2021). <i>Small</i> , <b>2021</b> , 17, 2170199	11	
13	Cell rotation <b>2022</b> , 213-241		
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- 11 Cell adhesion **2022**, 383-403
- 10 Cell stretching and compression **2022**, 107-162
- 9 Three-dimensional image reconstruction and intracellular surgery **2022**, 243-274
- 8 Cell manipulation tools **2022**, 17-49
- 7 Cell navigation and delivery in vivo **2022**, 433-465
- 6 Robotic cell injection **2022**, 51-105
- 5 Cell stimulation and migration control **2022**, 311-345
- 4 Cell sorting and separation **2022**, 275-310
- 3 Cell fusion **2022**, 405-431
- 2 Cell transport with optical tweezers **2022**, 163-211
- 1 Organelle biopsy and gene editing of single cells **2022**, 467-510