Michael Gauthier

List of Publications by Year
in descending order

87 papers	1,284 citations	331670 21 h-index	414414 32 g-index
97 all docs	97 docs citations	97 times ranked	914 citing authors

#	Article	IF	Citations
1	Analysis of forces for micromanipulations in dry and liquid media. Journal of Micromechatronics, 2006, 3, 389-413.	1.9	92
2	Principle of a Submerged Freeze Gripper for Microassembly. IEEE Transactions on Robotics, 2008, 24, 897-902.	10.3	69
3	Robotic microassembly and micromanipulation at FEMTO-ST. Journal of Micro-Bio Robotics, 2013, 8, 91-106.	2.1	67
4	Positional dependence of particles and cells in microfluidic electrical impedance flow cytometry: origin, challenges and opportunities. Lab on A Chip, 2020, 20, 3665-3689.	6.0	65
5	An electromagnetic micromanipulation system for single-cell manipulation. Journal of Micromechatronics, 2002, 2, 87-119.	1.9	56
6	Control of a particular micro-macro positioning system applied to cell micromanipulation. IEEE Transactions on Automation Science and Engineering, 2006, 3, 264-271.	5.2	52
7	Adhesion Forces Controlled by Chemical Self-Assembly and pH: Application to Robotic Microhandling. ACS Applied Materials & Interfaces, 2009, 1, 1966-1973.	8.0	41
8	Modeling the trajectory of a microparticle in a dielectrophoresis device. Journal of Applied Physics, 2009, 106, .	2.5	37
9	Impedance-based real-time position sensor for lab-on-a-chip devices. Lab on A Chip, 2018, 18, 818-831.	6.0	36
10	A microrobotic platform actuated by thermocapillary flows for manipulation at the air-water interface. Science Robotics, 2021, 6, .	17.6	36
11	Laser-Induced Thermocapillary Convective Flows: A New Approach for Noncontact Actuation at Microscale at the Fluid/Gas Interface. IEEE/ASME Transactions on Mechatronics, 2017, 22, 693-704.	5.8	35
12	Adhesion Control for Micro- and Nanomanipulation. ACS Nano, 2011, 5, 4648-4657.	14.6	34
13	Robotic micro-assembly of microparts using a piezogripper. , 2008, , .		32
14	Silicon end-effectors for microgripping tasks. Precision Engineering, 2009, 33, 542-548.	3.4	28
15	Modular architecture of the microfactories for automatic micro-assembly. Robotics and Computer-Integrated Manufacturing, 2010, 26, 354-360.	9.9	28
16	A van der Waals Force-Based Adhesion Model for Micromanipulation. Journal of Adhesion Science and Technology, 2010, 24, 2415-2428.	2.6	28
17	Closed-Loop Control of a Magnetic Particle at the Airâ€“Liquid Interface. IEEE Transactions on Automation Science and Engineering, 2017, 14, 1387-1399.	5.2	28
18	Smart Microrobots for Mechanical Cell Characterization and Cell Convoying. IEEE Transactions on Biomedical Engineering, 2007, 54, 1536-1540.	4.2	26

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19	Reducing the Adhesion between Surfaces Using Surface Structuring with PS Latex Particle. ACS Applied Materials & Interfaces, 2010, 2, 1630-1636.	8.0	23
20	Mobile Microrobots for In Vitro Biomedical Applications: A Survey. IEEE Transactions on Robotics, 2022, 38, 646-663.	10.3	23
21	Measurement of pull-off force for planar contact at the microscale. Micro and Nano Letters, 2009, 4, 148-154.	1.3	22
22	Modelling of a planar magnetic micropusher for biological cell manipulations. Sensors and Actuators A: Physical, 2007, 138, 239-247.	4.1	21
23	Enhance In-Hand Dexterous Micromanipulation by Exploiting Adhesion Forces. IEEE Transactions on Robotics, 2018, 34, 113-125.	10.3	21
24	Submerged Robotic Micromanipulation and Dielectrophoretic Micro-object Release. , 2006, , .		18
25	High speed closed loop control of a dielectrophoresis-based system. , 2013, , .		18
26	Closed-Loop Particle Motion Control Using Laser-Induced Thermocapillary Convective Flows at the Fluid/Gas Interface at Micrometric Scale. IEEE/ASME Transactions on Mechatronics, 2018, 23, 1543-1554.	5.8	18
27	Comparison between micro-objects manipulations in dry and liquid mediums. , 0, , .		15
28	Capillary Force Disturbances on a Partially Submerged Cylindrical Micromanipulator. , 2007, 23, 600-604.		14
29	A mechanical de-tethering technique for silicon MEMS etched with a DRIE process. Journal of Micromechanics and Microengineering, 2009, 19, 055011.	2.6	14
30	Analysis and Specificities of Adhesive Forces Between Microscale and Nanoscale. IEEE Transactions on Automation Science and Engineering, 2013, 10, 562-570.	5.2	14
31	Experimental validation of in-hand planar orientation and translation in microscale. Intelligent Service Robotics, 2016, 9, 101-112.	2.6	14
32	Analytical Formulation of the Electric Field Induced by Electrode Arrays: Towards Automated Dielectrophoretic Cell Sorting. Micromachines, 2017, 8, 253.	2.9	14
33	Reduction of a micro-object's adhesion using chemical functionalisation. Micro and Nano Letters, 2009, 4, 74-79.	1.3	13
34	Dynamic modelling for thermal micro-actuators using thermal networks. International Journal of Thermal Sciences, 2010, 49, 2108-2116.	4.9	12
35	Dynamic modelling for a submerged freeze microgripper using thermal networks. Journal of Micromechanics and Microengineering, 2010, 20, 025001.	2.6	11
36	Electrosynthesis and characterization of polymer films on silicon substrates for applications in micromanipulation. Synthetic Metals, 2012, 162, 2370-2378.	3.9	11

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37	Predictive control of a micro bead's trajectory in a dielectrophoresis-based device. , 2010, , .		10
38	Nanostructured Nonadhesive Surfaces for Micro- and Nanomanipulation. Journal of Physical Chemistry C, 2012, 116, 15117-15125.	3.1	10
39	A Submerged Freeze Microgripper for Micromanipulations. , 2007, , .		9
40	Note: A novel integrated microforce measurement system for plane-plane contact research. Review of Scientific Instruments, 2010, 81, 116101.	1.3	9
41	Modeling the trajectory of a micro particle in a dielectrophoresis device for dynamic control. , 2010, , .		8
42	Three-DOF Microrobotic Platform Based on Capillary Actuation. IEEE Transactions on Robotics, 2012, 28, 1157-1161.	10.3	8
43	Modeling and experiments of high speed magnetic micromanipulation at the air/liquid interface. , 2014, , .		8
44	Control-oriented model of dielectrophoresis and electrorotation for arbitrarily shaped objects. Physical Review E, 2019, 99, 053307.	2.1	8
45	Submerged Freeze Gripper to Manipulate Micro-objects. , 2006, , .		7
46	Capillary self-alignment assisted hybrid robotic handling for ultra-thin die stacking. , 2013, , .		7
47	Microfabrication and scale effect studies for a magnetic micromanipulation system. , 0, , .		6
48	Dynamic modelling of a submerged freeze microgripper using a thermal network. , 2007, , .		6
49	A gas bubble-based parallel micro manipulator: conceptual design and kinematics model. Journal of Micromechanics and Microengineering, 2012, 22, 057001.	2.6	6
50	Position Measurement/Tracking Comparison of the Instrumentation in a Droplet-Actuated-Robotic Platform. Sensors, 2013, 13, 5857-5869.	3.8	6
51	Control and Transport of Passive Particles Using Self-Organized Spinning Micro-Disks. IEEE Robotics and Automation Letters, 2022, 7, 2156-2161.	5.1	6
52	2D open loop trajectory control of a micro-object in a dielectrophoresis-based device. , 2012, , .		5
53	Development of new sticky and conducting polymer surfaces for MEMS applications. Synthetic Metals, 2021, 276, 116757.	3.9	5
54	Effect of insoluble surfactants on a thermocapillary flow. Physics of Fluids, 2021, 33, .	4.0	5

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55	Robotic submerged microhandling controlled by pH swithching. , 2009, , .		4
56	Microbubble generation using a syringe pump. , 2009, , .		4
57	Finger trajectory generation for planar dexterous micro-manipulation. , 2016, , .		4
58	Electrorotation of Arbitrarily Shaped Micro-Objects: Modeling and Experiments. IEEE/ASME Transactions on Mechatronics, 2020, 25, 828-836.	5.8	4
59	Evaluation of Adhesion Forces for the Manipulation of Micro-Objects in Submerged Environment through Deposition of pH Responsive Polyelectrolyte Layers. Langmuir, 2016, 32, 102-111.	3.5	3
60	Analysis of the influence of inertia for non-contact micromanipulation. Journal of Micro-Bio Robotics, 2017, 13, 15-26.	2.1	3
61	On the contribution of adhesion and friction in planning dexterous in-hand micromanipulation. Journal of Micro-Bio Robotics, 2017, 12, 33-44.	2.1	3
62	Thermocapillary Convective Flows Generated by Laser Points or Patterns: Comparison for the Noncontact Micromanipulation of Particles at the Interface. IEEE Robotics and Automation Letters, 2018, 3, 3255-3262.	5.1	3
63	Modelling of a 2D magnetic cell transport system. , 2005, , .		2
64	Simulation and experiments on magnetic microforces for magnetic microrobots applications. , 2013, , .		2
65	Modeling of electrostatic forces induced by chemical surface functionalisation for microrobotics applications. , 2013, , .		2
66	1D manipulation of a micrometer size particle actuated via thermocapillary convective flows. , 2017, , .		2
67	Comparison of Dynamic Models for Non-Contact Micromanipulation Based on Dielectrophoretic Actuation. , 2018, , .		2
68	Thermocapillary micromanipulation: force characterization and Cheerios interactions. Journal of Micro-Bio Robotics, 2019, 15, 13-22.	2.1	2
69	Improving rotation behaviour of robotic structures for micro-assembly. , 2008, , .		1
70	Kinematics parameters estimation for an AFM/robot integrated micro-force measurement system. , 2010, , .		1
71	Parallel microrobot actuated by capillary effects. , 2011, , .		1
72	Control of adhesion using surface functionalisations for robotic microhandling. , 2012, , .		1

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73	Enhancing in-hand dexterous micro-manipulation for real-time applications. , 2018, , .		1
74	Capillary Dipoles: Towards Thermocapillary Micromanipulation of Multiple Particles Floating at the Free Surface. , 2018, , .		1
75	Miniaturized Robotics: The Smallest Camera Operator Bot Pays Tribute to David Bowie. IEEE Robotics and Automation Magazine, 2020, 27, 22-28.	2.0	1
76	Path Planning for 3-D In-Hand Manipulation of Micro-Objects Using Rotation Decomposition. Micromachines, 2021, 12, 986.	2.9	1
77	Micro/Nano-Manipulation. , 2020, , 1-9.		1
78	Control of a particular coarse-fine micro-positioning system based on a magnetic actuation. , 0, , .		0
79	Trajectory Modelling of a Planar Magnetic Cell Micropusher. , 2006, , .		0
80	Effect of the Capillary Force on Force Measurements in Submerged Micromanipulations. , 2006, , .		0
81	2D robotic control of a planar dielectrophoresis-based system. , 2012, , .		0
82	Open loop control of dielectrophoresis non contact manipulation. , 2012, , .		0
83	Optimization of the size of a magnetic microrobot for high throughput handling of micro-objects. , 2014, , .		0
84	Editorial: Multi-scale manipulation toward robotic manufacturing technologies. Intelligent Service Robotics, 2015, 8, 127-127.	2.6	0
85	Modeling and 1D control of a non contact magnetic actuation platform at the air/liquid interface for micrometer scale applications. , 2016, , .		0
86	Planning trajectories for dexterous in-hand micro-manipulation using adhesion forces. , 2016, , .		0
87	A van der Waals Force-Based Adhesion Model for Micromanipulation. , 2011, , 77-90.		0