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	Mobile Microrobots for In Vitro Biomedical Applications: A Survey. IEEE Transactions on Robotics, 2022, 38, 646-663.	10.3	23
2	Control and Transport of Passive Particles Using Self-Organized Spinning Micro-Disks. IEEE Robotics and Automation Letters, 2022, 7, 2156-2161.	5.1	6
3	A microrobotic platform actuated by thermocapillary flows for manipulation at the air-water interface. Science Robotics, 2021, 6, .	17.6	36
4	Development of new sticky and conducting polymer surfaces for MEMS applications. Synthetic Metals, 2021, 276, 116757.	3.9	5
5	Effect of insoluble surfactants on a thermocapillary flow. Physics of Fluids, 2021, 33, .	4.0	5
6	Path Planning for 3-D In-Hand Manipulation of Micro-Objects Using Rotation Decomposition. Micromachines, 2021, 12, 986.	2.9	1
7	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
8	Miniaturized Robotics: The Smallest Camera Operator Bot Pays Tribute to David Bowie. IEEE Robotics and Automation Magazine, 2020, 27, 22-28.	2.0	1
9	Electrorotation of Arbitrarily Shaped Micro-Objects: Modeling and Experiments. IEEE/ASME Transactions on Mechatronics, 2020, 25, 828-836.	5.8	4
10	Micro/Nano-Manipulation. , 2020, , 1-9.		1
11	Control-oriented model of dielectrophoresis and electrorotation for arbitrarily shaped objects. Physical Review E, 2019, 99, 053307.	2.1	8
12	Thermocapillary micromanipulation: force characterization and Cheerios interactions. Journal of Micro-Bio Robotics, 2019, 15, 13-22.	2.1	2
13	Impedance-based real-time position sensor for lab-on-a-chip devices. Lab on A Chip, 2018, 18, 818-831.	6.0	36
14	Enhance In-Hand Dexterous Micromanipulation by Exploiting Adhesion Forces. IEEE Transactions on Robotics, 2018, 34, 113-125.	10.3	21
15	Comparison of Dynamic Models for Non-Contact Micromanipulation Based on Dielectrophoretic Actuation. , 2018, , .		2
16	Enhancing in-hand dexterous micro-manipulation for real-time applications. , 2018, , .		1
17	Capillary Dipoles: Towards Thermocapillary Micromanipulation of Multiple Particles Floating at the Free Surface. , 2018, , .		1
18	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

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19	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
20	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
21	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
22	Analysis of the influence of inertia for non-contact micromanipulation. Journal of Micro-Bio Robotics, 2017, 13, 15-26.	2.1	3
23	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
24	1D manipulation of a micrometer size particle actuated via thermocapillary convective flows. , 2017, , .		2
25	Analytical Formulation of the Electric Field Induced by Electrode Arrays: Towards Automated Dielectrophoretic Cell Sorting. Micromachines, 2017, 8, 253.	2.9	14
26	Modeling and 1D control of a non contact magnetic actuation platform at the air/liquid interface for micrometer scale applications. , 2016, , .		0
27	Planning trajectories for dexterous in-hand micro-manipulation using adhesion forces. , 2016, , .		0
28	Experimental validation of in-hand planar orientation and translation in microscale. Intelligent Service Robotics, 2016, 9, 101-112.	2.6	14
29	Finger trajectory generation for planar dexterous micro-manipulation. , 2016, , .		4
30	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
31	Editorial: Multi-scale manipulation toward robotic manufacturing technologies. Intelligent Service Robotics, 2015, 8, 127-127.	2.6	0
32	Modeling and experiments of high speed magnetic micromanipulation at the air/liquid interface. , 2014, , .		8
33	Optimization of the size of a magnetic microrobot for high throughput handling of micro-objects. , 2014, , .		0
34	Robotic microassembly and micromanipulation at FEMTO-ST. Journal of Micro-Bio Robotics, 2013, 8, 91-106.	2.1	67
35	Analysis and Specificities of Adhesive Forces Between Microscale and Nanoscale. IEEE Transactions on Automation Science and Engineering, 2013, 10, 562-570.	5.2	14
36	Capillary self-alignment assisted hybrid robotic handling for ultra-thin die stacking. , 2013, , .		7

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37	High speed closed loop control of a dielectrophoresis-based system. , 2013, , .		18
38	Position Measurement/Tracking Comparison of the Instrumentation in a Droplet-Actuated-Robotic Platform. Sensors, 2013, 13, 5857-5869.	3.8	6
39	Simulation and experiments on magnetic microforces for magnetic microrobots applications. , 2013, , .		2
40	Modeling of electrostatic forces induced by chemical surface functionalisation for microrobotics applications. , 2013, , .		2
41	A gas bubble-based parallel micro manipulator: conceptual design and kinematics model. Journal of Micromechanics and Microengineering, 2012, 22, 057001.	2.6	6
42	Three-DOF Microrobotic Platform Based on Capillary Actuation. IEEE Transactions on Robotics, 2012, 28, 1157-1161.	10.3	8
43	Control of adhesion using surface functionalisations for robotic microhandling. , 2012, , .		1
44	2D robotic control of a planar dielectrophoresis-based system. , 2012, , .		0
45	Electrosynthesis and characterization of polymer films on silicon substrates for applications in micromanipulation. Synthetic Metals, 2012, 162, 2370-2378.	3.9	11
46	2D open loop trajectory control of a micro-object in a dielectrophoresis-based device. , 2012, , .		5
47	Open loop control of dielectrophoresis non contact manipulation. , 2012, , .		0
48	Nanostructured Nonadhesive Surfaces for Micro- and Nanomanipulation. Journal of Physical Chemistry C, 2012, 116, 15117-15125.	3.1	10
49	Adhesion Control for Micro- and Nanomanipulation. ACS Nano, 2011, 5, 4648-4657.	14.6	34
50	Parallel microrobot actuated by capillary effects. , 2011, , .		1
51	A van der Waals Force-Based Adhesion Model for Micromanipulation. , 2011, , 77-90.		0
52	Dynamic modelling for thermal micro-actuators using thermal networks. International Journal of Thermal Sciences, 2010, 49, 2108-2116.	4.9	12
53	Modular architecture of the microfactories for automatic micro-assembly. Robotics and Computer-Integrated Manufacturing, 2010, 26, 354-360.	9.9	28
54	Note: A novel integrated microforce measurement system for plane-plane contact research. Review of Scientific Instruments, 2010, 81, 116101.	1.3	9

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55	Kinematics parameters estimation for an AFM/robot integrated micro-force measurement system. , 2010, , .		1
56	Predictive control of a micro bead's trajectory in a dielectrophoresis-based device. , 2010, , .		10
57	Modeling the trajectory of a micro particle in a dielectrophoresis device for dynamic control. , 2010, , .		8
58	Dynamic modelling for a submerged freeze microgripper using thermal networks. Journal of Micromechanics and Microengineering, 2010, 20, 025001.	2.6	11
59	A van der Waals Force-Based Adhesion Model for Micromanipulation. Journal of Adhesion Science and Technology, 2010, 24, 2415-2428.	2.6	28
60	Reducing the Adhesion between Surfaces Using Surface Structuring with PS Latex Particle. ACS Applied Materials & Interfaces, 2010, 2, 1630-1636.	8.0	23
61	Modeling the trajectory of a microparticle in a dielectrophoresis device. Journal of Applied Physics, 2009, 106, .	2.5	37
62	Robotic submerged microhandling controlled by pH swithching. , 2009, , .		4
63	Reduction of a micro-object's adhesion using chemical functionalisation. Micro and Nano Letters, 2009, 4, 74-79.	1.3	13
64	Measurement of pull-off force for planar contact at the microscale. Micro and Nano Letters, 2009, 4, 148-154.	1.3	22
65	Silicon end-effectors for microgripping tasks. Precision Engineering, 2009, 33, 542-548.	3.4	28
66	Adhesion Forces Controlled by Chemical Self-Assembly and pH: Application to Robotic Microhandling. ACS Applied Materials & Interfaces, 2009, 1, 1966-1973.	8.0	41
67	Microbubble generation using a syringe pump. , 2009, , .		4
68	A mechanical de-tethering technique for silicon MEMS etched with a DRIE process. Journal of Micromechanics and Microengineering, 2009, 19, 055011.	2.6	14
69	Principle of a Submerged Freeze Gripper for Microassembly. IEEE Transactions on Robotics, 2008, 24, 897-902.	10.3	69
70	Improving rotation behaviour of robotic structures for micro-assembly. , 2008, , .		1
71	Robotic micro-assembly of microparts using a piezogripper. , 2008, , .		32
72	Capillary Force Disturbances on a Partially Submerged Cylindrical Micromanipulator. , 2007, 23, 600-604.		14

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73	A Submerged Freeze Microgripper for Micromanipulations. , 2007, , .		9
74	Dynamic modelling of a submerged freeze microgripper using a thermal network. , 2007, , .		6
75	Modelling of a planar magnetic micropusher for biological cell manipulations. Sensors and Actuators A: Physical, 2007, 138, 239-247.	4.1	21
76	Smart Microrobots for Mechanical Cell Characterization and Cell Convoying. IEEE Transactions on Biomedical Engineering, 2007, 54, 1536-1540.	4.2	26
77	Trajectory Modelling of a Planar Magnetic Cell Micropusher. , 2006, , .		0
78	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
79	Submerged Robotic Micromanipulation and Dielectrophoretic Micro-object Release. , 2006, , .		18
80	Submerged Freeze Gripper to Manipulate Micro-objects. , 2006, , .		7
81	Analysis of forces for micromanipulations in dry and liquid media. Journal of Micromechatronics, 2006, 3, 389-413.	1.9	92
82	Effect of the Capillary Force on Force Measurements in Submerged Micromanipulations. , 2006, , .		0
83	Modelling of a 2D magnetic cell transport system. , 2005, , .		2
84	An electromagnetic micromanipulation system for single-cell manipulation. Journal of Micromechatronics, 2002, 2, 87-119.	1.9	56
85	Control of a particular coarse-fine micro-positioning system based on a magnetic actuation. , 0, , .		0
86	Microfabrication and scale effect studies for a magnetic micromanipulation system. , 0, , .		6
87	Comparison between micro-objects manipulations in dry and liquid mediums. , 0, , .		15