Pierre Lambert

List of Publications by Year
in descending order

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112 papers	2,400 citations	218677 26 h-index	233421 45 g-index
123 all docs	123 docs citations	123 times ranked	2466 citing authors

#	Article	IF	Citations
1	Control and Transport of Passive Particles Using Self-Organized Spinning Micro-Disks. IEEE Robotics and Automation Letters, 2022, 7, 2156-2161.	5.1	6
2	Characterization and modeling of granular jamming: models for mechanical design. Granular Matter, 2021, 23, 1.	2.2	7
3	Two-dimensional modelling of transient capillary driven damped micro-oscillations and self-alignment of objects in microassembly. Journal of Fluid Mechanics, 2021, 910, .	3.4	2
4	A microrobotic platform actuated by thermocapillary flows for manipulation at the air-water interface. Science Robotics, 2021, 6, .	17.6	36
5	Optimization of Phase-Change Materialâ€“Elastomer Composite and Integration in Kirigami-Inspired Voxel-Based Actuators. Frontiers in Robotics and AI, 2021, 8, 672934.	3.2	6
6	Effect of insoluble surfactants on a thermocapillary flow. Physics of Fluids, 2021, 33, .	4.0	5
7	The importance of pre-formulation studies and of 3D-printed nasal casts in the success of a pharmaceutical product intended for nose-to-brain delivery. Advanced Drug Delivery Reviews, 2021, 175, 113826.	13.7	19
8	Shape Memory Polymer-Based Insertable Electrode Array Towards Minimally Invasive Subdural Implantation. IEEE Sensors Journal, 2021, 21, 17282-17289.	4.7	1
9	A Soft Pneumatic Two-Degree-of-Freedom Actuator for Endoscopy. Frontiers in Robotics and AI, 2021, 8, 768236.	3.2	9
10	Design, characterization and optimization of a soft fluidic actuator for minimally invasive surgery. International Journal of Computer Assisted Radiology and Surgery, 2020, 15, 333-340.	2.8	16
11	Pick up and release of micro-objects: a motion-free method to change the conformity of a capillary contact. Soft Matter, 2020, 16, 754-763.	2.7	8
12	Programmable Stimuli-Responsive Actuators for Complex Motions in Soft Robotics: Concept, Design and Challenges. Actuators, 2020, 9, 131.	2.3	22
13	Miniaturized Robotics: The Smallest Camera Operator Bot Pays Tribute to David Bowie. IEEE Robotics and Automation Magazine, 2020, 27, 22-28.	2.0	1
14	From Basic Particle Gradation Parameters to Water Retention Curves and Tensile Strength of Unsaturated Granular Soils. International Journal of Geomechanics, 2020, 20, .	2.7	7
15	A consensus research agenda for optimising nasal drug delivery. Expert Opinion on Drug Delivery, 2020, 17, 127-132.	5.0	16
16	Microscale Surface Tension and its Applications. Micromachines, 2019, 10, 526.	2.9	2
17	Rupture of a Liquid Bridge between a Cone and a Plane. Langmuir, 2019, 35, 11979-11985.	3.5	9
18	Statistical Modeling of Photo-Bending Actuation of Hybrid Silicones Mixed with Azobenzene Powder. Actuators, 2019, 8, 68.	2.3	7

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19	Contact line stick-slip motion and meniscus evolution on micrometer-size wavy fibres. Journal of Colloid and Interface Science, 2019, 540, 544-553.	9.4	7
20	Micro-scale investigation of unsaturated sand in mini-triaxial shearing using X-ray CT. Geotechnique Letters, 2019, 9, 269-277.	1.2	10
21	Thermocapillary micromanipulation: force characterization and Cheerios interactions. Journal of Micro-Bio Robotics, 2019, 15, 13-22.	2.1	2
22	Adhesive elastocapillary force on a cantilever beam. Soft Matter, 2019, 15, 3999-4007.	2.7	8
23	Hybrid Two-Scale Fabrication of Sub-Millimetric Capillary Grippers. Micromachines, 2019, 10, 224.	2.9	4
24	Investigation of the effect of specific interfacial area on strength of unsaturated granular materials by X-ray tomography. Acta Geotechnica, 2019, 14, 1545-1559.	5.7	22
25	In situ cancer diagnosis through online plasmonics. Biosensors and Bioelectronics, 2019, 131, 104-112.	10.1	68
26	Pick and release of micro-objects: An actuation-free method to change the conformity of a capillary contact. , 2019, , .		1
27	Adaptive stitching for meso-scale printing with two-photon lithography. Additive Manufacturing, 2018, 21, 589-597.	3.0	16
28	Multi-Scale 3D Printed Capillary Gripper. , 2018, , .		2
29	Capillary Dipoles: Towards Thermocapillary Micromanipulation of Multiple Particles Floating at the Free Surface. , 2018, , .		1
30	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
31	Liquid secretion and setal compliance: the beetle's winning combination for a robust and reversible adhesion. Current Opinion in Insect Science, 2018, 30, 19-25.	4.4	14
32	Fast IR-Actuated Shape-Memory Polymers Using in Situ Silver Nanoparticle-Grafted Cellulose Nanocrystals. ACS Applied Materials & Interfaces, 2018, 10, 29933-29942.	8.0	66
33	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
34	Granular Jamming as Controllable Stiffness Mechanism for Medical Devices. Trends in Mathematics, 2018, , 57-66.	0.1	6
35	Zero overlap stitching of microlens arrays with two-photon polymerisation. , 2018, , .		1
36	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

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37	Bilayer solvent and vapor-triggered actuators made of cross-linked polymer architectures via Dielsâ€“Alder pathways. Journal of Materials Chemistry B, 2017, 5, 5556-5563.	5.8	22
38	On the cohesion of fluids and their adhesion to solids: Young's equation at the atomic scale. Advances in Colloid and Interface Science, 2017, 245, 102-107.	14.7	50
39	Equations for hydraulic conductivity estimation from particle size distribution: A dimensional analysis. Water Resources Research, 2017, 53, 8127-8134.	4.2	48
40	Estimating water retention curves and strength properties of unsaturated sandy soils from basic soil gradation parameters. Water Resources Research, 2017, 53, 6069-6088.	4.2	48
41	Multi-scale tarsal adhesion kinematics of freely-walking dock beetles. Journal of the Royal Society Interface, 2017, 14, 20170493.	3.4	15
42	Optimizing the speed of single infrared-laser-induced thermocapillary flows micromanipulation by using design of experiments. Journal of Micro-Bio Robotics, 2017, 12, 65-72.	2.1	5
43	Capillary force and rupture of funicular liquid bridges between three spherical bodies. Powder Technology, 2017, 305, 89-98.	4.2	79
44	Cancer biomarker sensing using packaged plasmonic optical fiber gratings: Towards in vivo diagnosis. Biosensors and Bioelectronics, 2017, 92, 449-456.	10.1	149
45	Surface tension-driven self-alignment. Soft Matter, 2017, 13, 304-327.	2.7	53
46	3D-printed vision-based micro-force sensor dedicated to in situ SEM measurements. , 2017, , .		7
47	1D manipulation of a micrometer size particle actuated via thermocapillary convective flows. , 2017, , .		2
48	Automatic characterization of soft tissues material properties during mechanical tests. Muscles, Ligaments and Tendons Journal, 2017, 7, 530.	0.3	4
49	Flexible Medical Devices: Review of Controllable Stiffness Solutions. Actuators, 2017, 6, 23.	2.3	133
50	Elasto-capillarity in insect fibrillar adhesion. Journal of the Royal Society Interface, 2016, 13, 20160371.	3.4	32
51	Development of an automatic procedure to mechanically characterize soft tissue materials. , 2016, , .		1
52	Linear encoder based low frequency inertial sensor. International Journal of Optomechatronics, 2016, 10, 120-129.	6.6	3
53	Development of a Rubber Soft Actuator Driven with Gas/Liquid Phase Change. International Journal of Automation Technology, 2016, 10, 517-524.	1.0	8
54	Linear encoder based low frequency inertial sensor. MATEC Web of Conferences, 2015, 32, 06001.	0.2	0

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55	Modeling capillary forces for large displacements. Microfluidics and Nanofluidics, 2015, 18, 695-708.	2.2	12
56	Capillary Gripping and Self-Alignment: A Route Toward Autonomous Heterogeneous Assembly. IEEE Transactions on Robotics, 2015, 31, 1033-1043.	10.3	17
57	Design, manufacturing and implementation of a novel 2-axis force sensor for haptic applications. Sensors and Actuators A: Physical, 2014, 209, 107-114.	4.1	8
58	In-Plane Mode Dynamics of Capillary Self-Alignment. Langmuir, 2014, 30, 13092-13102.	3.5	22
59	Experimental characterization of Drobot: Towards closed-loop control. , 2014, , .		2
60	Robust Structured Light Pattern for Use with a Spatial Light Modulator in 3-D Endoscopy. International Journal of Optomechatronics, 2013, 7, 105-121.	6.6	4
61	Vertical excitation of axisymmetric liquid bridges. European Journal of Mechanics, B/Fluids, 2013, 38, 47-57.	2.5	20
62	Position Measurement/Tracking Comparison of the Instrumentation in a Droplet-Actuated-Robotic Platform. Sensors, 2013, 13, 5857-5869.	3.8	6
63	Physical Background. Microtechnology and MEMS, 2013, , 3-16.	0.2	4
64	Axial Capillary Forces. Microtechnology and MEMS, 2013, , 19-44.	0.2	0
65	Lateral Capillary Forces. Microtechnology and MEMS, 2013, , 45-69.	0.2	0
66	A gas bubble-based parallel micro manipulator: conceptual design and kinematics model. Journal of Micromechanics and Microengineering, 2012, 22, 057001.	2.6	6
67	Three-DOF Microrobotic Platform Based on Capillary Actuation. IEEE Transactions on Robotics, 2012, 28, 1157-1161.	10.3	8
68	Robust structured light pattern for use with a hologram in 3D endoscopy. , 2012, , .		0
69	Effect of substrate wettability in liquid dielectrophoresis (LDEP) based droplet generation: Theoretical analysis and experimental confirmation. Lab on A Chip, 2012, 12, 361-368.	6.0	18
70	PMNâ€“PT (lead magnesium niobateâ€“lead titanate) piezoelectric material micromachining by excimer laser ablation and dry etching (DRIE). Sensors and Actuators A: Physical, 2012, 177, 37-47.	4.1	13
71	Micromechanical modelling of erosion due to evaporation in a partially wet granular slope. International Journal for Numerical and Analytical Methods in Geomechanics, 2012, 36, 918-943.	3.3	43
72	High-resolution cantilever biosensor resonating at airâ€“liquid in a microchannel. Lab on A Chip, 2011, 11, 4187.	6.0	21

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73	Optimization of Liquid DiElectroPhoresis (LDEP) Digital Microfluidic Transduction for Biomedical Applications. Micromachines, 2011, 2, 258-273.	2.9	26
74	Compact polymer multi-nozzles electrospray device with integrated microfluidic feeding system. Journal of Electrostatics, 2011, 69, 313-319.	1.9	18
75	Optimization of liquid dielectrophoresis (L-DEP) based devices towards conductive biological liquids handling. , 2011, , .		1
76	Modeling and implementation of nanoscale robotic grasping. , 2011, , .		0
77	CF4plasma treatment-assisted inkjet printing for color pixel flexible display. Journal of Micromechanics and Microengineering, 2011, 21, 105021.	2.6	5
78	Parallel microrobot actuated by capillary effects. , 2011, , .		1
79	Analysis of nanoscale mechanical grasping under ambient conditions. Journal of Micromechanics and Microengineering, 2011, 21, 045009.	2.6	6
80	Acoustic wave levitation: Handling of components. Journal of Applied Physics, 2011, 109, .	2.5	27
81	Theoretical and Experimental Study of the Influence of AFM Tip Geometry and Orientation on Capillary Force. , 2011, , 165-176.		0
82	A van der Waals Force-Based Adhesion Model for Micromanipulation. , 2011, , 77-90.		0
83	An integrated and compact device for microassembly exploiting electrostatic sorting and capillary grasping. CIRP Journal of Manufacturing Science and Technology, 2010, 3, 185-190.	4.5	6
84	Spectral analysis and experimental study of lateral capillary dynamics for flip-chip applications. Microfluidics and Nanofluidics, 2010, 9, 797-807.	2.2	37
85	Lateral capillary forces of cylindrical fluid menisci: a comprehensive quasi-static study. Journal of Micromechanics and Microengineering, 2010, 20, 075041.	2.6	29
86	A van der Waals Force-Based Adhesion Model for Micromanipulation. Journal of Adhesion Science and Technology, 2010, 24, 2415-2428.	2.6	28
87	Theoretical and Experimental Study of the Influence of AFM Tip Geometry and Orientation on Capillary Force. Journal of Adhesion Science and Technology, 2010, 24, 2499-2510.	2.6	24
88	Variation of the Electrostatic Adhesion Force on a Rough Surface due to the Deformation of Roughness Asperities During Micromanipulation of a Spherical Rigid Body. Journal of Adhesion Science and Technology, 2009, 23, 1303-1325.	2.6	6
89	Electrostatic forces in micromanipulation: Experimental characterization and simulation including roughness. Applied Surface Science, 2009, 255, 7898-7904.	6.1	12
90	Towards flexible medical instruments: Review of flexible fluidic actuators. Precision Engineering, 2009, 33, 311-321.	3.4	178

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91	Microbubble generation using a syringe pump. , 2009, , .		4
92	Flexible fluidic actuators: Determining force and position without force or position sensors. , 2009, , .		0
93	Comparison between Two Capillary Forces Models. Langmuir, 2008, 24, 3157-3163.	3.5	106
94	Effects of relative humidity on capillary force and applicability of these effects in micromanipulation. , 2008, , .		2
95	Three-dimensional model for capillary nanobridges and capillary forces. Modelling and Simulation in Materials Science and Engineering, 2007, 15, 305-317.	2.0	30
96	Electrostatic forces and micromanipulator design: on the importance of surface topography parameters. , 2007, , .		3
97	Influence of geometrical parameters on capillary forces. , 2007, , .		4
98	Study of cylinder/plan capillary force near millimeter scale and experimental validation. , 2007, , .		2
99	Electrostatic forces in micromanipulations: Review of analytical models and simulations including roughness. Applied Surface Science, 2007, 253, 6203-6210.	6.1	37
100	Capillary Forces in Microassembly. Microtechnology and MEMS, 2007, , .	0.2	60
101	A case study of surface tension gripping: the watch bearing. Journal of Micromechanics and Microengineering, 2006, 16, 1267-1276.	2.6	56
102	Surface and contact forces models within the framework of microassembly. Journal of Micromechatronics, 2006, 3, 123-157.	1.9	43
103	Non-contact handling in microassembly: Acoustical levitation. Precision Engineering, 2005, 29, 491-505.	3.4	198
104	A study of capillary forces as a gripping principle. Assembly Automation, 2005, 25, 275-283.	1.7	24
105	Parameters Ruling Capillary Forces at the Submillimetric Scale. Langmuir, 2005, 21, 9537-9543.	3.5	47
106	Design and performances of a one-degree-of-freedom guided nano-actuator. Robotics and Computer-Integrated Manufacturing, 2003, 19, 89-98.	9.9	26
107	Capillary and surface tension forces in the manipulation of small parts. , 0, , .		11
108	Capturing micro-assembly process windows on process data sheets. , 0, , .		4

#	Article	IF	Citations
109	Microhandling and Micromanipulation Strategies. , 0, , 179-242.		2
110	Actuators for Microrobotics. , 0, , 99-178.		0
111	The Physics of the Microworld. , 0, , 1-97.		0
112	Instillation of a Dry Powder in Nasal Casts: Parameters Influencing the Olfactory Deposition With Uni- and Bi-Directional Devices. Frontiers in Medical Technology, 0, 4, .	2.5	5