Alexander Alexeev

List of Publications by Year
in descending order

128	4,002	101384	138251
papers	citations	36 h-index	58 g-index

132	132	132	4701
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Resolving the missing link between single platelet force and clot contractile force. IScience, 2022, 25, 103690.	1.9	10
2	Hydrodynamic performance of oscillating elastic propulsors with tapered thickness. Journal of Fluid Mechanics, 2022, 944, .	1.4	5
3	Effect of actuation method on hydrodynamics of elastic plates oscillating at resonance. Journal of Fluid Mechanics, 2021, 910, .	1.4	13
4	Fluid pumping of peristaltic vessel fitted with elastic valves. Journal of Fluid Mechanics, 2021, 918, .	1.4	5
5	Platelet heterogeneity enhances blood clot volumetric contraction: An example of asynchrono-mechanical amplification. Biomaterials, 2021, 274, 120828.	5.7	15
6	Efficient aquatic locomotion using elastic propulsors with hybrid actuation. Journal of Fluid Mechanics, 2021, 922, .	1.4	4
7	Microfluidic Platform to Transduce Cell Viability to Distinct Flow Pathways for High-Accuracy Sensing. ACS Sensors, 2021, 6, 3789-3799.	4.0	8
8	Label-free microfluidic enrichment of cancer cells from non-cancer cells in ascites. Scientific Reports, 2021, 11, 18032.	1.6	7
9	Microfluidic transfection of mRNA into human primary lymphocytes and hematopoietic stem and progenitor cells using ultra-fast physical deformations. Scientific Reports, 2021, 11, 21407.	1.6	17
10	Moth-inspired methods for particle capture on a cylinder. Journal of Fluid Mechanics, 2020, 884, .	1.4	8
11	Cell Mechanical and Physiological Behavior in the Regime of Rapid Mechanical Compressions that Lead to Cell Volume Change. Small, 2020, 16, e1903857.	5.2	28
12	Behavior and mechanics of dense microgel suspensions. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 27096-27103.	3.3	29
13	Metachronal Actuation of Microscale Magnetic Artificial Cilia. ACS Applied Materials & Interfaces, 2020, 12, 46963-46971.	4.0	28
14	Stiffness based enrichment of leukemia cells using microfluidics. APL Bioengineering, 2020, 4, 036101.	3.3	7
15	Inertial migration of spherical particles in channel flow of power law fluids. Physics of Fluids, 2020, 32, .	1.6	16
16	Simulating incompressible flow on moving meshfree grids. Computers and Fluids, 2020, 200, 104464.	1.3	2
17	Development of General Finite Differences for complex geometries using a sharp interface formulation. Computers and Fluids, 2019, 193, 103959.	1.3	0
18	Modeling condensation on structured surfaces using lattice Boltzmann method. International Journal of Heat and Mass Transfer, 2019, 136, 196-212.	2.5	13

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19	Phagocyte-Inspired Smart Microcapsules. ACS Macro Letters, 2019, 8, 421-426.	2.3	4
20	Turning strategies for plunging elastic plate propulsor. Physical Review Fluids, 2019, 4, .	1.0	5
21	Microfluidic cell sorting by stiffness to examine heterogenic responses of cancer cells to chemotherapy. Cell Death and Disease, 2018, 9, 239.	2.7	52
22	Mesoscale modeling of microgel mechanics and kinetics through the swelling transition. Applied Mathematics and Mechanics (English Edition), 2018, 39, 47-62.	1.9	44
23	Metachronal motion of artificial magnetic cilia. Soft Matter, 2018, 14, 3689-3693.	1.2	52
24	Microfluidic generation of transient cell volume exchange for convectively driven intracellular delivery of large macromolecules. Materials Today, 2018, 21, 703-712.	8.3	51
25	Extreme thermodynamics with polymer gel tori: Harnessing thermodynamic instabilities to induce large-scale deformations. Physical Review E, 2018, 98, 020501.	0.8	11
26	Artificial Cilia for Microfluidics Particle Capture. ECS Transactions, 2018, 86, 3-12.	0.3	1
27	Probing the effect of morphology on lymphatic valve dynamic function. Biomechanics and Modeling in Mechanobiology, 2018, 17, 1343-1356.	1.4	18
28	Microfluidic pumping using artificial magnetic cilia. Microsystems and Nanoengineering, 2018, 4, 11.	3.4	76
29	Artificial Cilia for Microfluidics Particle Capture. ECS Meeting Abstracts, 2018, , .	0.0	0
30	Magnetically Actuated Beating Cilia for Pre-Concentration of Bacteria. ECS Meeting Abstracts, 2018, , .	0.0	0
31	Microfluidic Sorting of Cells by Viability Based on Differences in Cell Stiffness. Scientific Reports, 2017, 7, 1997.	1.6	59
32	Continuous Sorting of Cells Based on Differential P Selectin Glycoprotein Ligand Expression Using Molecular Adhesion. Analytical Chemistry, 2017, 89, 11545-11551.	3.2	11
33	Macroscopic Strain-Induced Transition from Quasi-infinite Gold Nanoparticle Chains to Defined Plasmonic Oligomers. ACS Nano, 2017, 11, 8871-8880.	7.3	51
34	Asymmetric motion of magnetically actuated artificial cilia. Lab on A Chip, 2017, 17, 3138-3145.	3.1	47
35	Enhancing size based size separation through vertical focus microfluidics using secondary flow in a ridged microchannel. Scientific Reports, 2017, 7, 17375.	1.6	15
36	Efficient swimming using flexible fins with tapered thickness. Physical Review Fluids, 2017, 2, .	1.0	17

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37	MODELING FOULING LAYER GROWTH IN EGR HEAT EXCHANGERS. , 2017, , .		0
38	Artificial Cilia for Capture and Sampling. ECS Meeting Abstracts, 2017, , .	0.0	0
39	MODELING FOULING LAYER GROWTH IN EGR HEAT EXCHANGERS. , 2017, , .		0
40	Orbiting magnetic microbeads enable rapid microfluidic mixing. Microfluidics and Nanofluidics, 2016, 20, 1.	1.0	26
41	Biomimetic flexible plate actuators are faster and more efficient with a passive attachment. Acta Mechanica Sinica/Lixue Xuebao, 2016, 32, 1001-1011.	1.5	17
42	Rapid microfluidic mixing via rotating magnetic microbeads. Sensors and Actuators A: Physical, 2016, 251, 84-91.	2.0	31
43	Bimorph Silk Microsheets with Programmable Actuating Behavior: Experimental Analysis and Computer Simulations. ACS Applied Materials & Interfaces, 2016, 8, 17694-17706.	4.0	21
44	Heat transfer enhancement and thermalâ€“hydraulic performance in laminar flows through asymmetric wavy walled channels. International Journal of Heat and Mass Transfer, 2016, 97, 450-460.	2.5	57
45	Computational design of microscopic swimmers and capsules: From directed motion to collective behavior. Current Opinion in Colloid and Interface Science, 2016, 21, 44-56.	3.4	8
46	Effect of aspect ratio in free-swimming plunging flexible plates. Computers and Fluids, 2016, 124, 220-225.	1.3	38
47	Pumping Induced By Bio-Mimetic Magnetic Micro-Cilia in Creeping Flows. ECS Meeting Abstracts, 2016, , .	0.0	1
48	Selfâ€(Un)rolling Biopolymer Microstructures: Rings, Tubules, and Helical Tubules from the Same Material. Angewandte Chemie - International Edition, 2015, 54, 8490-8493.	7.2	24
49	Self-Propelled Microswimmer Actuated by Stimuli-Sensitive Bilayered Hydrogel. ACS Macro Letters, 2015, 4, 84-88.	2.3	28
50	Three-dimensional particle tracking in microfluidic channel flow using in and out of focus diffraction. Flow Measurement and Instrumentation, 2015, 45, 218-224.	1.0	9
51	Mesoscale modelling of environmentally responsive hydrogels: emerging applications. Chemical Communications, 2015, 51, 10083-10095.	2.2	24
52	Eyelashes divert airflow to protect the eye. Journal of the Royal Society Interface, 2015, 12, 20141294.	1.5	32
53	Cellular enrichment through microfluidic fractionation based on cell biomechanical properties. Microfluidics and Nanofluidics, 2015, 19, 987-993.	1.0	15
54	Microfluidic cellular enrichment and separation through differences in viscoelastic deformation. Lab on A Chip, 2015, 15, 532-540.	3.1	53

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55	Motion of spheroid particles in shear flow with inertia. Journal of Fluid Mechanics, 2014, 749, 145-166.	1.4	64
56	Magnetic microbeads for sampling and mixing in a microchannel. Proceedings of SPIE, 2014, , .	0.8	1
57	Creating localized-droplet train by traveling thermal waves. Physics of Fluids, 2014, 26, .	1.6	5
58	Onset of unsteady flow in wavy walled channels at low Reynolds number. Physics of Fluids, 2014, 26, .	1.6	11
59	Enhancing nanoparticle deposition using actuated synthetic cilia. Microfluidics and Nanofluidics, 2014, 17, 317-324.	1.0	12
60	Ultrasoft microgels displaying emergent platelet-like behaviours. Nature Materials, 2014, 13, 1108-1114.	13.3	181
61	Free swimming of an elastic plate plunging at low Reynolds number. Physics of Fluids, 2014, 26, .	1.6	48
62	Development of CD Based Micro-Fluidics Device for High Throughput Particle Capture and Sampling. ECS Meeting Abstracts, 2014, , .	0.0	0
63	Mesoscale modeling: solving complex flows in biology and biotechnology. Trends in Biotechnology, 2013, 31, 426-434.	4.9	64
64	Fluid transport in thin liquid films using traveling thermal waves. Physics of Fluids, 2013, 25, 072101.	1.6	11
65	Microbeads for Sampling and Mixing in a Complex Sample. Micromachines, 2013, 4, 103-115.	1.4	11
66	Stiffness Dependent Separation of Cells in a Microfluidic Device. PLoS ONE, 2013, 8, e75901.	1.1	86
67	Designing Active Surface Structures to Regulate Heat Transport in Microchannels. , 2012, , .		0
68	Stiffness Dependent Separation of Cells in a Microfluidic Device. , 2012, , .		1
69	Efficient Flapping Flight Using Flexible Wings Oscillating at Resonance. The IMA Volumes in Mathematics and Its Applications, 2012, , 235-245.	0.5	3
70	Beating synthetic cilia enhance heat transport in microfluidic channels. Soft Matter, 2012, 8, 11508.	1.2	39
71	Synthetic running and tumbling: an autonomous navigation strategy for catalytic nanoswimmers. Soft Matter, 2012, 8, 3077.	1.2	25
72	Designing maneuverable micro-swimmers actuated by responsive gel. Soft Matter, 2012, 8, 8944.	1.2	33

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73	Controlled Release of Nanoparticles and Macromolecules from Responsive Microgel Capsules. ACS Nano, 2012, 6, 212-219.	7.3	79
74	Continuous Inertial Focusing and Separation of Particles by Shape. Physical Review X, 2012, 2, .	2.8	93
75	Harnessing synthetic cilia to regulate motion of microparticles. Soft Matter, 2011, 7, 8702.	1.2	31
76	The growth of giant pumpkins: How extreme weight influences shape. International Journal of Non-Linear Mechanics, 2011, 46, 637-647.	1.4	15
77	Designing structured surfaces that repel fluid-borne particles. Physical Review E, 2011, 84, 066303.	0.8	9
78	Hydrodynamic sorting of microparticles by size in ridged microchannels. Physics of Fluids, 2011, 23, .	1.6	44
79	Selective control of surface properties using hydrodynamic interactions. Chemical Communications, 2011, 47, 472-474.	2.2	18
80	Inertial migration of deformable capsules in channel flow. Physics of Fluids, 2011, 23, .	1.6	79
81	Permeability and Diffusion through Mechanically Deformed Random Polymer Networks. Macromolecules, 2010, 43, 10117-10122.	2.2	32
82	Designing Oscillating Cilia That Capture or Release Microscopic Particles. Langmuir, 2010, 26, 2963-2968.	1.6	50
83	Anisotropic Microâ€•and Nanoâ€Capsules. Macromolecular Rapid Communications, 2010, 31, 2041-2046.	2.0	66
84	Resonance of flexible flapping wings at low Reynolds number. Physical Review E, 2010, 81, 056304.	0.8	86
85	Deformations in Siâ^'Li Anodes Upon Electrochemical Alloying in Nano-Confined Space. Journal of the American Chemical Society, 2010, 132, 8548-8549.	6.6	300
86	Designing ciliated surfaces that regulate deposition of solid particles. Soft Matter, 2010, 6, 4066.	1.2	33
87	Modeling magnetic microcapsules that crawl in microchannels. Soft Matter, 2010, 6, 794-799.	1.2	23
88	Using Actuated Cilia to Regulate Motion of Microscopic Particles. , 2010, , .		1
89	Regulating Motion of Magnetic Capsules in Microfluidic Systems. , 2010, , .		0
90	Modeling the Interactions between Membranes and Inclusions: Designing Selfâ€Cleaning Films and Resealing Pores. Macromolecular Theory and Simulations, 2009, 18, 11-24.	0.6	8

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91	Designing microfluidic channel that separates elastic particles upon stiffness. Soft Matter, 2009, 5, 2721.	1.2	31
92	Harnessing Janus Nanoparticles to Create Controllable Pores in Membranes. ACS Nano, 2008, 2, 1117-1122.	7.3	182
93	Modeling Microcapsules That Communicate through Nanoparticles To Undergo Self-Propelled Motion. ACS Nano, 2008, 2, 471-476.	7.3	35
94	Designing Synthetic, Pumping Cilia That Switch the Flow Direction in Microchannels. Langmuir, 2008, 24, 12102-12106.	1.6	59
95	Designing patterned substrates to regulate the movement of capsules in microchannels. Journal of Chemical Physics, 2008, 128, 235102.	1.2	7
96	Modeling the interactions between compliant microcapsules and pillars in microchannels. Journal of Chemical Physics, 2007, 127, 034703.	1.2	11
97	Patterned Surfaces Segregate Compliant Microcapsules. Langmuir, 2007, 23, 983-987.	1.6	63
98	Suppression of the Rayleigh-Taylor instability of thin liquid films by the Marangoni effect. Physics of Fluids, 2007, 19, .	1.6	33
99	Designing smart systems to selectively entrap and burst microcapsules. Soft Matter, 2007, 3, 1500.	1.2	45
100	Designing Constricted Microchannels To Selectively Entrap Soft Particles. Macromolecules, 2007, 40, 5176-5181.	2.2	21
101	Fork in the Road:â€‰ Patterned Surfaces Direct Microcapsules to Make a Decision. Langmuir, 2007, 23, 10887-10890.	1.6	24
102	Mechanical Characterization of Polymers on a Nanometer Scale through Nanoindentation. A Study on Pile-up and Viscoelasticity. Macromolecules, 2007, 40, 1259-1267.	2.2	126
103	Healing substrates with mobile, particle-filled microcapsules: designing a â€˜repair and goâ€™ system. Journal of the Royal Society Interface, 2007, 4, 349-357.	1.5	52
104	A numerical model for the thermocapillary flow and heat transfer in a thin liquid film on a microstructured wall. International Journal of Numerical Methods for Heat and Fluid Flow, 2007, 17, 247-262.	1.6	10
105	Modeling the interactions between deformable capsules rolling on a compliant surface. Soft Matter, 2006, 2, 499.	1.2	33
106	Marangoni-induced deformation and rupture of a liquid film on a heated microstructured wall. Physics of Fluids, 2006, 18, 012104.	1.6	62
107	Designing a Simple Ratcheting System to Sort Microcapsules by Mechanical Properties. Langmuir, 2006, 22, 6739-6742.	1.6	30
108	Motion of compliant capsules on corrugated surfaces: A means of sorting by mechanical properties. Journal of Polymer Science, Part B: Polymer Physics, 2006, 44, 2667-2678.	2.4	9

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109	Modeling the release of nanoparticles from mobile microcapsules. Journal of Chemical Physics, 2006, 125, 224712.	1.2	43
110	Accurately evaluating Youngâ€™s modulus of polymers through nanoindentations: A phenomenological correction factor to the Oliver and Pharr procedure. Applied Physics Letters, 2006, 89, 171905.	1.5	62
111	Designing Compliant Substrates to Regulate the Motion of Vesicles. Physical Review Letters, 2006, 96, 148103.	2.9	57
112	Polymerization-induced diffusion as a tool to generate periodic relief structures: a combinatorial study. , 2006, , .		1
113	Effect of the microscale wall topography on the thermocapillary convection within a heated liquid film. Experimental Thermal and Fluid Science, 2005, 29, 765-772.	1.5	24
114	Evaporation of Falling and Shear-Driven Thin Films on Smooth and Grooved Surfaces. Flow, Turbulence and Combustion, 2005, 75, 85-104.	1.4	26
115	Thermocapillary Convection in Thin Liquid Films on Walls With Microgrooves. , 2005, , 293.		1
116	Marangoni convection and heat transfer in thin liquid films on heated walls with topography: Experiments and numerical study. Physics of Fluids, 2005, 17, 062106.	1.6	60
117	Thermocapillarity-induced vortexes and liquid film dynamics on structured heated walls. Journal of Non-Equilibrium Thermodynamics, 2005, 30, .	2.4	8
118	Modeling the Motion of Microcapsules on Compliant Polymeric Surfaces. Macromolecules, 2005, 38, 10244-10260.	2.2	92
119	Aerosol deposition in periodic shock waves. Physics of Fluids, 2004, 16, 1028-1036.	1.6	7
120	Resonance oscillations with thermal effects of an inviscid gas in a closed tube. Journal of Fluid Mechanics, 2004, 518, 1-34.	1.4	4
121	Resonance gas oscillations in closed tubes: Numerical study and experiments. Physics of Fluids, 2003, 15, 3397-3408.	1.6	33
122	Particle drift in a resonance tubeâ€”a numerical study. Journal of the Acoustical Society of America, 2003, 114, 1357-1365.	0.5	22
123	The liquid and solid states of highly dissipative vibrated granular columns: one-dimensional computer simulations. Powder Technology, 2002, 123, 83-104.	2.1	11
124	Heat interaction in a resonance tube. Physics of Fluids, 2002, 14, 1812-1815.	1.6	14
125	Resonance Oscillations in Granular Gases. Lecture Notes in Physics, 2001, , 266-277.	0.3	3
126	Dynamics of vertically vibrated two-dimensional granular layers. Physical Review E, 1999, 59, 3231-3241.	0.8	10

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127	Hydrodynamics of resonance oscillations of columns of inelastic particles. Physical Review E, 1999, 59, 6967-6976.	0.8	8
128	Video: Metachronal motion of synthetic cilia. , 0, , .		0