Arezoo Ardekani

List of Publications by Year
in descending order

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132	3,361	172457	189892
papers	citations	29 h-index	50 g-index

137	137	137	2719
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Hydrodynamic mechanisms of cell and particle trapping in microfluidics. Biomicrofluidics, 2013, 7, 21501.	2.4	332
2	Hydrodynamic interaction of microswimmers near a wall. Physical Review E, 2014, 90, 013010.	2.1	134
3	Interplay of physical mechanisms and biofilm processes: review of microfluidic methods. Lab on A Chip, 2015, 15, 23-42.	6.0	133
4	Dynamics of particle migration in channel flow of viscoelastic fluids. Journal of Fluid Mechanics, 2015, 785, 486-505.	3.4	96
5	Numerical investigation of particleâ€“particle and particleâ€“wall collisions in a viscous fluid. Journal of Fluid Mechanics, 2008, 596, 437-466.	3.4	91
6	Dynamics of bead formation, filament thinning and breakup in weakly viscoelastic jets. Journal of Fluid Mechanics, 2010, 665, 46-56.	3.4	90
7	Bacterial aggregation and biofilm formation in a vortical flow. Biomicrofluidics, 2012, 6, 44114.	2.4	79
8	Low-Reynolds-number swimming at pycnoclines. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 3856-3861.	7.1	77
9	Inertial squirmer. Physics of Fluids, 2012, 24, .	4.0	73
10	Unsteady swimming of small organisms. Journal of Fluid Mechanics, 2012, 702, 286-297.	3.4	62
11	Stratlets: Low Reynolds Number Point-Force Solutions in a Stratified Fluid. Physical Review Letters, 2010, 105, 084502.	7.8	60
12	Effect of solid boundaries on swimming dynamics of microorganisms in a viscoelastic fluid. Rheologica Acta, 2014, 53, 911-926.	2.4	59
13	A numerical study of the dynamics of a particle settling at moderate Reynolds numbers in a linearly stratified fluid. Journal of Fluid Mechanics, 2014, 750, 5-32.	3.4	57
14	Collective Motion of Microorganisms in a Viscoelastic Fluid. Physical Review Letters, 2016, 117, 118001.	7.8	56
15	Collision of multi-particle and general shape objects in a viscous fluid. Journal of Computational Physics, 2008, 227, 10094-10107.	3.8	53
16	Process Analytical Technologies and Data Analytics for the Manufacture of Monoclonal Antibodies. Trends in Biotechnology, 2020, 38, 1169-1186.	9.3	52
17	Undulatory swimming in non-Newtonian fluids. Journal of Fluid Mechanics, 2015, 784, .	3.4	51
18	Microfluidic fabrication of shape-tunable alginate microgels: Effect of size and impact velocity. Carbohydrate Polymers, 2015, 120, 38-45.	10.2	50

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19	Raman spectraâ€based deep learning: A tool to identify microbial contamination. MicrobiologyOpen, 2020, 9, e1122.	3.0	49
20	A model for a laser-induced cavitation bubble. International Journal of Multiphase Flow, 2020, 132, 103433.	3.4	47
21	Microswimming in viscoelastic fluids. Journal of Non-Newtonian Fluid Mechanics, 2021, 297, 104655.	2.4	47
22	Unsteady motion of two solid spheres in Stokes flow. Physics of Fluids, 2006, 18, 103306.	4.0	46
23	Hydrodynamic interaction of swimming organisms in an inertial regime. Physical Review E, 2016, 94, 053104.	2.1	46
24	Fabrication of Shape Controllable Janus Alginate/pNIPAAm Microgels via Microfluidics Technique and Off-Chip Ionic Cross-Linking. Langmuir, 2015, 31, 1885-1891.	3.5	38
25	Swimming Dynamics Near a Wall in a Weakly Elastic Fluid. Journal of Nonlinear Science, 2015, 25, 1153-1167.	2.1	33
26	Motion of a model swimmer near a weakly deforming interface. Journal of Fluid Mechanics, 2017, 824, 42-73.	3.4	32
27	Pore-scale statistics of flow and transport through porous media. Physical Review E, 2018, 98, 013104.	2.1	31
28	Consistent, essentially conservative and balanced-force Phase-Field method to model incompressible two-phase flows. Journal of Computational Physics, 2020, 406, 109192.	3.8	31
29	Two spheres in a free stream of a second-order fluid. Physics of Fluids, 2008, 20, .	4.0	30
30	Particle-wall collision in a viscoelastic fluid. Journal of Fluid Mechanics, 2009, 633, 475-483.	3.4	30
31	On the rising motion of a drop in stratified fluids. Physics of Fluids, 2013, 25, .	4.0	29
32	Locomotion of microorganisms near a no-slip boundary in a viscoelastic fluid. Physical Review E, 2014, 90, 043002.	2.1	29
33	Consistent and conservative scheme for incompressible two-phase flows using the conservative Allen-Cahn model. Journal of Computational Physics, 2020, 420, 109718.	3.8	29
34	Interaction between a pair of particles settling in a stratified fluid. Physical Review E, 2013, 88, 023029.	2.1	28
35	Hydrodynamics-mediated trapping of micro-swimmers near drops. Soft Matter, 2018, 14, 264-278.	2.7	28
36	Isolation and mutational assessment of pancreatic cancer extracellular vesicles using a microfluidic platform. Biomedical Microdevices, 2020, 22, 23.	2.8	28

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37	Emergence of a limit cycle for swimming microorganisms in a vortical flow of a viscoelastic fluid. Physical Review E, 2012, 85, 056309.	2.1	27
38	Numerical investigation of multistability in the unstable flow of a polymer solution through porous media. Physical Review Fluids, 2021, 6, .	2.5	27
39	Transport of particles, drops, and small organisms in density stratified fluids. Physical Review Fluids, 2017, 2, .	2.5	27
40	Biogenic mixing induced by intermediate Reynolds number swimming in stratified fluids. Scientific Reports, 2015, 5, 17448.	3.3	26
41	Elasto-inertial migration of deformable capsules in a microchannel. Biomicrofluidics, 2017, 11, 064113.	2.4	25
42	Hydrodynamic attraction of bacteria to gas and liquid interfaces. Physical Review E, 2019, 100, 062605.	2.1	23
43	Effect of roughness on the rheology of concentrated non-Brownian suspensions: A numerical study. Journal of Rheology, 2020, 64, 67-80.	2.6	23
44	Settling disks in a linearly stratified fluid. Journal of Fluid Mechanics, 2020, 885, .	3.4	21
45	Performance characterization of spring actuated autoinjector devices for Emgality and Aimovig. Current Medical Research and Opinion, 2020, 36, 1343-1354.	1.9	21
46	Elastic instabilities between two cylinders confined in a channel. Physics of Fluids, 2021, 33, .	4.0	21
47	Modeling of active swimmer suspensions and their interactions with the environment. Soft Matter, 2017, 13, 6033-6050.	2.7	20
48	Multi-objective history matching of surfactant-polymer flooding. Fuel, 2018, 228, 418-428.	6.4	20
49	Transport of complex and active fluids in porous media. Journal of Rheology, 2022, 66, 375-397.	2.6	20
50	Rising motion of a swarm of drops in a linearly stratified fluid. International Journal of Multiphase Flow, 2015, 69, 8-17.	3.4	19
51	Towards smart self-clearing glaucoma drainage device. Microsystems and Nanoengineering, 2018, 4, 35.	7.0	19
52	Numerical investigation of elasto-inertial particle focusing patterns in viscoelastic microfluidic devices. Journal of Non-Newtonian Fluid Mechanics, 2019, 272, 104166.	2.4	19
53	Motion of a sphere normal to a wall in a second-order fluid. Journal of Fluid Mechanics, 2007, 587, 163-172.	3.4	18
54	Self-Propulsion of Immersed Objects via Natural Convection. Physical Review Letters, 2014, 112, .	7.8	18

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55	Interaction between two drops ascending in a linearly stratified fluid. European Journal of Mechanics, B/Fluids, 2016, 60, 127-136.	2.5	18
56	Nanoparticle dispersion in porous media in viscoelastic polymer solutions. Journal of Non-Newtonian Fluid Mechanics, 2019, 268, 75-80.	2.4	18
57	Transport and lymphatic uptake of monoclonal antibodies after subcutaneous injection. Microvascular Research, 2022, 139, 104228.	2.5	18
58	Suspension of solid particles in a density stratified fluid. Physics of Fluids, 2015, 27, .	4.0	17
59	A mixed upwind/central WENO scheme for incompressible two-phase flows. Journal of Computational Physics, 2019, 387, 455-480.	3.8	17
60	Towards an analytical description of active microswimmers in clean and in surfactant-covered drops. European Physical Journal E, 2020, 43, 58.	1.6	17
61	A consistent and conservative Phase-Field model for thermo-gas-liquid-solid flows including liquid-solid phase change. Journal of Computational Physics, 2022, 449, 110795.	3.8	17
62	Gyrotactic bioconvection at pycnoclines. Journal of Fluid Mechanics, 2013, 733, 245-267.	3.4	16
63	Suspension of deformable particles in Newtonian and viscoelastic fluids in a microchannel. Microfluidics and Nanofluidics, 2019, 23, 1.	2.2	16
64	Biofilms at interfaces: microbial distribution in floating films. Soft Matter, 2020, 16, 1731-1750.	2.7	16
65	Unifying disparate rate-dependent rheological regimes in non-Brownian suspensions. Physical Review E, 2021, 103, 062610.	2.1	16
66	Reduced viscosity for flagella moving in a solution of long polymer chains. Physical Review Fluids, 2018, 3, .	2.5	16
67	Swimming of a model ciliate near an air-liquid interface. Physical Review E, 2013, 87, 063010.	2.1	15
68	Locomotion inside a surfactant-laden drop at low surface PÃ©clet numbers. Journal of Fluid Mechanics, 2018, 851, 187-230.	3.4	15
69	Motion of an inertial squirmer in a density stratified fluid. Journal of Fluid Mechanics, 2020, 905, .	3.4	15
70	Isogeometric analysis of subcutaneous injection of monoclonal antibodies. Computer Methods in Applied Mechanics and Engineering, 2021, 373, 113550.	6.6	15
71	A consistent and conservative model and its scheme for N-phase-M-component incompressible flows. Journal of Computational Physics, 2021, 434, 110229.	3.8	15
72	Microscale, scanning defocusing volumetric particle-tracking velocimetry. Experiments in Fluids, 2019, 60, 1.	2.4	14

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73	An experimentally validated dynamic model for spring-driven autoinjectors. International Journal of Pharmaceutics, 2021, 594, 120008.	5.2	14
74	Hydrodynamic interactions between swimming microorganisms in a linearly density stratified fluid. Physical Review E, 2021, 103, 013109.	2.1	14
75	Point force singularities outside a drop covered with an incompressible surfactant: Image systems and their applications. Physical Review Fluids, 2017, 2, .	2.5	14
76	Reorientation of elongated particles at density interfaces. Physical Review E, 2014, 90, 033013.	2.1	13
77	Effect of external shear flow on sperm motility. Soft Matter, 2019, 15, 6269-6277.	2.7	13
78	Hydrodynamic Interaction Enhances Colonization of Sinking Nutrient Sources by Motile Microorganisms. Frontiers in Microbiology, 2019, 10, 289.	3.5	13
79	A constitutive model for sheared dense suspensions of rough particles. Journal of Rheology, 2020, 64, 1107-1120.	2.6	13
80	Swimming sheet in a viscosity-stratified fluid. Journal of Fluid Mechanics, 2020, 895, .	3.4	13
81	Roughness induced shear thickening in frictional non-Brownian suspensions: A numerical study. Journal of Rheology, 2020, 64, 283-297.	2.6	13
82	The biomechanics of autoinjector-skin interactions during dynamic needle insertion. Journal of Biomechanics, 2022, 134, 110995.	2.1	13
83	Deformation of a droplet in a particulate shear flow. Physics of Fluids, 2009, 21, .	4.0	12
84	Bayesian model calibration and optimization of surfactant-polymer flooding. Computational Geosciences, 2019, 23, 981-996.	2.4	12
85	History matching of surfactant-polymer flooding using polynomial chaos expansion. Journal of Petroleum Science and Engineering, 2019, 173, 1438-1452.	4.2	12
86	Flow-induced buckling dynamics of sperm flagella. Physical Review E, 2019, 100, 063107.	2.1	12
87	A consistent and conservative volume distribution algorithm and its applications to multiphase flows using Phase-Field models. International Journal of Multiphase Flow, 2021, 142, 103727.	3.4	12
88	Transport and Lymphatic Uptake of Biotherapeutics Through Subcutaneous Injection. Journal of Pharmaceutical Sciences, 2022, 111, 752-768.	3.3	12
89	Near wall motion of undulatory swimmers in non-Newtonian fluids. European Journal of Computational Mechanics, 2017, 26, 44-60.	0.6	11
90	Unstable Displacement of Non-aqueous Phase Liquids with Surfactant and Polymer. Transport in Porous Media, 2019, 126, 455-474.	2.6	11

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91	Deformation and buckling of microcapsules in a viscoelastic matrix. Physical Review E, 2017, 96, 032603.	2.1	10
92	A poro-viscoelastic model for the subcutaneous injection of monoclonal antibodies. Journal of the Mechanics and Physics of Solids, 2021, 155, 104537.	4.8	10
93	Drag, deformation, and drift volume associated with a drop rising in a density stratified fluid. Physical Review Fluids, 2020, 5, .	2.5	10
94	Combined influence of hydrodynamics and chemotaxis in the distribution of microorganisms around spherical nutrient sources. Physical Review E, 2018, 98, 012419.	2.1	9
95	Swimming sheet in a density-stratified fluid. Journal of Fluid Mechanics, 2019, 874, 210-234.	3.4	9
96	Estimation of the probability density function of random displacements from images. Physical Review E, 2020, 102, 033305.	2.1	9
97	Effect of surfactant on bubble collisions on a free surface. Physical Review Fluids, 2017, 2, .	2.5	9
98	Unsteady particle motion in an acoustic standing wave field. European Journal of Computational Mechanics, 2017, 26, 115-130.	0.6	8
99	Swimming sheet near a plane surfactant-laden interface. Physical Review E, 2019, 99, 033101.	2.1	8
100	Motion of an arbitrarily shaped particle in a density stratified fluid. Journal of Fluid Mechanics, 2020, 890, .	3.4	8
101	Monoclonal Antibody Aggregation near Silicone Oilâ€“Water Interfaces. Langmuir, 2021, 37, 1386-1398.	3.5	8
102	The Interface Motion and Hydrodynamic Shear of the Liquid Slosh in Syringes. Pharmaceutical Research, 2021, 38, 257-275.	3.5	8
103	Modeling cavitation bubble dynamics in an autoinjector and its implications on drug molecules. International Journal of Pharmaceutics, 2021, 608, 121062.	5.2	8
104	New Model to Predict the Concentration-Dependent Viscosity of Monoclonal Antibody Solutions. Molecular Pharmaceutics, 2021, 18, 4385-4392.	4.6	8
105	Instability of stationary liquid sheets. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 4992-4996.	7.1	7
106	Assessing the Utility of High-level CO2 Storage and Utilization Resource Estimates for CCS System Modelling. Energy Procedia, 2017, 114, 4658-4665.	1.8	7
107	Orientation instability of settling spheroids in a linearly density-stratified fluid. Journal of Fluid Mechanics, 2021, 929, .	3.4	7
108	A consistent and conservative Phase-Field method for multiphase incompressible flows. Journal of Computational and Applied Mathematics, 2022, 408, 114116.	2.0	7

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109	Multi-fidelity modeling to predict the rheological properties of a suspension of fibers using neural networks and Gaussian processes. Physics of Fluids, 2022, 34, .	4.0	7
110	Effect of interfacial viscosities on droplet migration at low surfactant concentrations. Journal of Fluid Mechanics, 2020, 902, .	3.4	6
111	Fluid flows with interactive boundaries. European Journal of Computational Mechanics, 2017, 26, 1-3.	0.6	5
112	Far-field flow and drift due to particles and organisms in density-stratified fluids. Physical Review E, 2020, 102, 063106.	2.1	5
113	Velocity scaling and breakup criteria for jets formed due to acceleration and deceleration process. Physical Review Fluids, 2020, 5, .	2.5	5
114	Squirming in density-stratified fluids. Physics of Fluids, 2021, 33, .	4.0	5
115	Uncertainty estimation for ensemble particle image velocimetry. Measurement Science and Technology, 2022, 33, 085302.	2.6	5
116	Nutrient uptake by chemotactic bacteria in presence of rising oil drops. International Journal of Multiphase Flow, 2018, 108, 156-168.	3.4	4
117	Data assimilation for modeling cavitation bubble dynamics. Experiments in Fluids, 2021, 62, 1.	2.4	4
118	Nearly touching spheres in a viscoelastic fluid. Physics of Fluids, 2021, 33, .	4.0	4
119	A model for bubble dynamics in a protein solution. Journal of Fluid Mechanics, 2022, 935, .	3.4	3
120	A framework to optimize spring-driven autoinjectors. International Journal of Pharmaceutics, 2022, 617, 121588.	5.2	3
121	Monitoring heterogeneity in therapeutic samples using Schlieren. International Journal of Pharmaceutics, 2021, 609, 121096.	5.2	2
122	Spatiotemporal Measurement of Concentration-Dependent Diffusion Coefficient . Physics of Fluids, 0, , .	4.0	2
123	10.1063/1.4771407.1. , 2012, , .		1
124	A Bayesian approach to estimate the diffusion coefficient of Rhodamine 6G in breast cancer spheroids. Journal of Controlled Release, 2021, 340, 60-71.	9.9	1
125	Sheared Thickâ€Film Electrode Materials Containing Silver Powders with Nanoscale Surface Asperities Improve Solar Cell Performance. Advanced Energy and Sustainability Research, 2022, 3, 2100145.	5.8	1
126	Modified DLM Method for Finite-Volume Simulation of Particle Flow. , 2007, , .		0

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127	Particle-Wall Interaction in a Viscoelastic Fluid. AIP Conference Proceedings, 2008, , .	0.4	0
128	Vertical Migration of the Small Organisms in a Stratified Fluid. , 2012, , .		0
129	Interaction Between a Pair of Drops Ascending in a Linearly Stratified Fluid. , 2013, , .		0
130	10.1063/5.0057497.1. , 2021, , .		0
131	Sheared Thickâ€Film Electrode Materials Containing Silver Powders with Nanoscale Surface Asperities Improve Solar Cell Performance. Advanced Energy and Sustainability Research, 2022, 3, .	5.8	0
132	Motile microorganisms in complex fluids. , 2022, 3, 100048.		0