

Arezoo Ardekani

List of Publications by Year in descending order

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Version: 2024-02-01

132
papers

3,361
citations

172207

29
h-index

189595

50
g-index

137
all docs

137
docs citations

137
times ranked

2719
citing authors

#	ARTICLE	IF	CITATIONS
1	Hydrodynamic mechanisms of cell and particle trapping in microfluidics. <i>Biomicrofluidics</i> , 2013, 7, 21501.	1.2	332
2	Hydrodynamic interaction of microswimmers near a wall. <i>Physical Review E</i> , 2014, 90, 013010.	0.8	134
3	Interplay of physical mechanisms and biofilm processes: review of microfluidic methods. <i>Lab on A Chip</i> , 2015, 15, 23-42.	3.1	133
4	Dynamics of particle migration in channel flow of viscoelastic fluids. <i>Journal of Fluid Mechanics</i> , 2015, 785, 486-505.	1.4	96
5	Numerical investigation of particle-particle and particle-wall collisions in a viscous fluid. <i>Journal of Fluid Mechanics</i> , 2008, 596, 437-466.	1.4	91
6	Dynamics of bead formation, filament thinning and breakup in weakly viscoelastic jets. <i>Journal of Fluid Mechanics</i> , 2010, 665, 46-56.	1.4	90
7	Bacterial aggregation and biofilm formation in a vortical flow. <i>Biomicrofluidics</i> , 2012, 6, 44114.	1.2	79
8	Low-Reynolds-number swimming at pycnoclines. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 3856-3861.	3.3	77
9	Inertial squirmer. <i>Physics of Fluids</i> , 2012, 24, .	1.6	73
10	Unsteady swimming of small organisms. <i>Journal of Fluid Mechanics</i> , 2012, 702, 286-297.	1.4	62
11	Stratlets: Low Reynolds Number Point-Force Solutions in a Stratified Fluid. <i>Physical Review Letters</i> , 2010, 105, 084502.	2.9	60
12	Effect of solid boundaries on swimming dynamics of microorganisms in a viscoelastic fluid. <i>Rheologica Acta</i> , 2014, 53, 911-926.	1.1	59
13	A numerical study of the dynamics of a particle settling at moderate Reynolds numbers in a linearly stratified fluid. <i>Journal of Fluid Mechanics</i> , 2014, 750, 5-32.	1.4	57
14	Collective Motion of Microorganisms in a Viscoelastic Fluid. <i>Physical Review Letters</i> , 2016, 117, 118001.	2.9	56
15	Collision of multi-particle and general shape objects in a viscous fluid. <i>Journal of Computational Physics</i> , 2008, 227, 10094-10107.	1.9	53
16	Process Analytical Technologies and Data Analytics for the Manufacture of Monoclonal Antibodies. <i>Trends in Biotechnology</i> , 2020, 38, 1169-1186.	4.9	52
17	Undulatory swimming in non-Newtonian fluids. <i>Journal of Fluid Mechanics</i> , 2015, 784, .	1.4	51
18	Microfluidic fabrication of shape-tunable alginate microgels: Effect of size and impact velocity. <i>Carbohydrate Polymers</i> , 2015, 120, 38-45.	5.1	50

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19	Raman spectra-based deep learning: A tool to identify microbial contamination. <i>MicrobiologyOpen</i> , 2020, 9, e1122.	1.2	49
20	A model for a laser-induced cavitation bubble. <i>International Journal of Multiphase Flow</i> , 2020, 132, 103433.	1.6	47
21	Microswimming in viscoelastic fluids. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2021, 297, 104655.	1.0	47
22	Unsteady motion of two solid spheres in Stokes flow. <i>Physics of Fluids</i> , 2006, 18, 103306.	1.6	46
23	Hydrodynamic interaction of swimming organisms in an inertial regime. <i>Physical Review E</i> , 2016, 94, 053104.	0.8	46
24	Fabrication of Shape Controllable Janus Alginate/pNIPAAm Microgels via Microfluidics Technique and Off-Chip Ionic Cross-Linking. <i>Langmuir</i> , 2015, 31, 1885-1891.	1.6	38
25	Swimming Dynamics Near a Wall in a Weakly Elastic Fluid. <i>Journal of Nonlinear Science</i> , 2015, 25, 1153-1167.	1.0	33
26	Motion of a model swimmer near a weakly deforming interface. <i>Journal of Fluid Mechanics</i> , 2017, 824, 42-73.	1.4	32
27	Pore-scale statistics of flow and transport through porous media. <i>Physical Review E</i> , 2018, 98, 013104.	0.8	31
28	Consistent, essentially conservative and balanced-force Phase-Field method to model incompressible two-phase flows. <i>Journal of Computational Physics</i> , 2020, 406, 109192.	1.9	31
29	Two spheres in a free stream of a second-order fluid. <i>Physics of Fluids</i> , 2008, 20, .	1.6	30
30	Particle-wall collision in a viscoelastic fluid. <i>Journal of Fluid Mechanics</i> , 2009, 633, 475-483.	1.4	30
31	On the rising motion of a drop in stratified fluids. <i>Physics of Fluids</i> , 2013, 25, .	1.6	29
32	Locomotion of microorganisms near a no-slip boundary in a viscoelastic fluid. <i>Physical Review E</i> , 2014, 90, 043002.	0.8	29
33	Consistent and conservative scheme for incompressible two-phase flows using the conservative Allen-Cahn model. <i>Journal of Computational Physics</i> , 2020, 420, 109718.	1.9	29
34	Interaction between a pair of particles settling in a stratified fluid. <i>Physical Review E</i> , 2013, 88, 023029.	0.8	28
35	Hydrodynamics-mediated trapping of micro-swimmers near drops. <i>Soft Matter</i> , 2018, 14, 264-278.	1.2	28
36	Isolation and mutational assessment of pancreatic cancer extracellular vesicles using a microfluidic platform. <i>Biomedical Microdevices</i> , 2020, 22, 23.	1.4	28

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37	Emergence of a limit cycle for swimming microorganisms in a vortical flow of a viscoelastic fluid. <i>Physical Review E</i> , 2012, 85, 056309.	0.8	27
38	Numerical investigation of multistability in the unstable flow of a polymer solution through porous media. <i>Physical Review Fluids</i> , 2021, 6, .	1.0	27
39	Transport of particles, drops, and small organisms in density stratified fluids. <i>Physical Review Fluids</i> , 2017, 2, .	1.0	27
40	Biogenic mixing induced by intermediate Reynolds number swimming in stratified fluids. <i>Scientific Reports</i> , 2015, 5, 17448.	1.6	26
41	Elasto-inertial migration of deformable capsules in a microchannel. <i>Biomicrofluidics</i> , 2017, 11, 064113.	1.2	25
42	Hydrodynamic attraction of bacteria to gas and liquid interfaces. <i>Physical Review E</i> , 2019, 100, 062605.	0.8	23
43	Effect of roughness on the rheology of concentrated non-Brownian suspensions: A numerical study. <i>Journal of Rheology</i> , 2020, 64, 67-80.	1.3	23
44	Settling disks in a linearly stratified fluid. <i>Journal of Fluid Mechanics</i> , 2020, 885, .	1.4	21
45	Performance characterization of spring actuated autoinjector devices for Emgality and Aimovig. <i>Current Medical Research and Opinion</i> , 2020, 36, 1343-1354.	0.9	21
46	Elastic instabilities between two cylinders confined in a channel. <i>Physics of Fluids</i> , 2021, 33, .	1.6	21
47	Modeling of active swimmer suspensions and their interactions with the environment. <i>Soft Matter</i> , 2017, 13, 6033-6050.	1.2	20
48	Multi-objective history matching of surfactant-polymer flooding. <i>Fuel</i> , 2018, 228, 418-428.	3.4	20
49	Transport of complex and active fluids in porous media. <i>Journal of Rheology</i> , 2022, 66, 375-397.	1.3	20
50	Rising motion of a swarm of drops in a linearly stratified fluid. <i>International Journal of Multiphase Flow</i> , 2015, 69, 8-17.	1.6	19
51	Towards smart self-clearing glaucoma drainage device. <i>Microsystems and Nanoengineering</i> , 2018, 4, 35.	3.4	19
52	Numerical investigation of elasto-inertial particle focusing patterns in viscoelastic microfluidic devices. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2019, 272, 104166.	1.0	19
53	Motion of a sphere normal to a wall in a second-order fluid. <i>Journal of Fluid Mechanics</i> , 2007, 587, 163-172.	1.4	18
54	Self-Propulsion of Immersed Objects via Natural Convection. <i>Physical Review Letters</i> , 2014, 112, .	2.9	18

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55	Interaction between two drops ascending in a linearly stratified fluid. <i>European Journal of Mechanics, B/Fluids</i> , 2016, 60, 127-136.	1.2	18
56	Nanoparticle dispersion in porous media in viscoelastic polymer solutions. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2019, 268, 75-80.	1.0	18
57	Transport and lymphatic uptake of monoclonal antibodies after subcutaneous injection. <i>Microvascular Research</i> , 2022, 139, 104228.	1.1	18
58	Suspension of solid particles in a density stratified fluid. <i>Physics of Fluids</i> , 2015, 27, .	1.6	17
59	A mixed upwind/central WENO scheme for incompressible two-phase flows. <i>Journal of Computational Physics</i> , 2019, 387, 455-480.	1.9	17
60	Towards an analytical description of active microswimmers in clean and in surfactant-covered drops. <i>European Physical Journal E</i> , 2020, 43, 58.	0.7	17
61	A consistent and conservative Phase-Field model for thermo-gas-liquid-solid flows including liquid-solid phase change. <i>Journal of Computational Physics</i> , 2022, 449, 110795.	1.9	17
62	Gyrotactic bioconvection at pycnoclines. <i>Journal of Fluid Mechanics</i> , 2013, 733, 245-267.	1.4	16
63	Suspension of deformable particles in Newtonian and viscoelastic fluids in a microchannel. <i>Microfluidics and Nanofluidics</i> , 2019, 23, 1.	1.0	16
64	Biofilms at interfaces: microbial distribution in floating films. <i>Soft Matter</i> , 2020, 16, 1731-1750.	1.2	16
65	Unifying disparate rate-dependent rheological regimes in non-Brownian suspensions. <i>Physical Review E</i> , 2021, 103, 062610.	0.8	16
66	Reduced viscosity for flagella moving in a solution of long polymer chains. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	16
67	Swimming of a model ciliate near an air-liquid interface. <i>Physical Review E</i> , 2013, 87, 063010.	0.8	15
68	Locomotion inside a surfactant-laden drop at low surface Péclet numbers. <i>Journal of Fluid Mechanics</i> , 2018, 851, 187-230.	1.4	15
69	Motion of an inertial squirmer in a density stratified fluid. <i>Journal of Fluid Mechanics</i> , 2020, 905, .	1.4	15
70	Isogeometric analysis of subcutaneous injection of monoclonal antibodies. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 373, 113550.	3.4	15
71	A consistent and conservative model and its scheme for N-phase-M-component incompressible flows. <i>Journal of Computational Physics</i> , 2021, 434, 110229.	1.9	15
72	Microscale, scanning defocusing volumetric particle-tracking velocimetry. <i>Experiments in Fluids</i> , 2019, 60, 1.	1.1	14

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73	An experimentally validated dynamic model for spring-driven autoinjectors. <i>International Journal of Pharmaceutics</i> , 2021, 594, 120008.	2.6	14
74	Hydrodynamic interactions between swimming microorganisms in a linearly density stratified fluid. <i>Physical Review E</i> , 2021, 103, 013109.	0.8	14
75	Point force singularities outside a drop covered with an incompressible surfactant: Image systems and their applications. <i>Physical Review Fluids</i> , 2017, 2, .	1.0	14
76	Reorientation of elongated particles at density interfaces. <i>Physical Review E</i> , 2014, 90, 033013.	0.8	13
77	Effect of external shear flow on sperm motility. <i>Soft Matter</i> , 2019, 15, 6269-6277.	1.2	13
78	Hydrodynamic Interaction Enhances Colonization of Sinking Nutrient Sources by Motile Microorganisms. <i>Frontiers in Microbiology</i> , 2019, 10, 289.	1.5	13
79	A constitutive model for sheared dense suspensions of rough particles. <i>Journal of Rheology</i> , 2020, 64, 1107-1120.	1.3	13
80	Swimming sheet in a viscosity-stratified fluid. <i>Journal of Fluid Mechanics</i> , 2020, 895, .	1.4	13
81	Roughness induced shear thickening in frictional non-Brownian suspensions: A numerical study. <i>Journal of Rheology</i> , 2020, 64, 283-297.	1.3	13
82	The biomechanics of autoinjector-skin interactions during dynamic needle insertion. <i>Journal of Biomechanics</i> , 2022, 134, 110995.	0.9	13
83	Deformation of a droplet in a particulate shear flow. <i>Physics of Fluids</i> , 2009, 21, .	1.6	12
84	Bayesian model calibration and optimization of surfactant-polymer flooding. <i>Computational Geosciences</i> , 2019, 23, 981-996.	1.2	12
85	History matching of surfactant-polymer flooding using polynomial chaos expansion. <i>Journal of Petroleum Science and Engineering</i> , 2019, 173, 1438-1452.	2.1	12
86	Flow-induced buckling dynamics of sperm flagella. <i>Physical Review E</i> , 2019, 100, 063107.	0.8	12
87	A consistent and conservative volume distribution algorithm and its applications to multiphase flows using Phase-Field models. <i>International Journal of Multiphase Flow</i> , 2021, 142, 103727.	1.6	12
88	Transport and Lymphatic Uptake of Biotherapeutics Through Subcutaneous Injection. <i>Journal of Pharmaceutical Sciences</i> , 2022, 111, 752-768.	1.6	12
89	Near wall motion of undulatory swimmers in non-Newtonian fluids. <i>European Journal of Computational Mechanics</i> , 2017, 26, 44-60.	0.6	11
90	Unstable Displacement of Non-aqueous Phase Liquids with Surfactant and Polymer. <i>Transport in Porous Media</i> , 2019, 126, 455-474.	1.2	11

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91	Deformation and buckling of microcapsules in a viscoelastic matrix. <i>Physical Review E</i> , 2017, 96, 032603.	0.8	10
92	A poro-viscoelastic model for the subcutaneous injection of monoclonal antibodies. <i>Journal of the Mechanics and Physics of Solids</i> , 2021, 155, 104537.	2.3	10
93	Drag, deformation, and drift volume associated with a drop rising in a density stratified fluid. <i>Physical Review Fluids</i> , 2020, 5, .	1.0	10
94	Combined influence of hydrodynamics and chemotaxis in the distribution of microorganisms around spherical nutrient sources. <i>Physical Review E</i> , 2018, 98, 012419.	0.8	9
95	Swimming sheet in a density-stratified fluid. <i>Journal of Fluid Mechanics</i> , 2019, 874, 210-234.	1.4	9
96	Estimation of the probability density function of random displacements from images. <i>Physical Review E</i> , 2020, 102, 033305.	0.8	9
97	Effect of surfactant on bubble collisions on a free surface. <i>Physical Review Fluids</i> , 2017, 2, .	1.0	9
98	Unsteady particle motion in an acoustic standing wave field. <i>European Journal of Computational Mechanics</i> , 2017, 26, 115-130.	0.6	8
99	Swimming sheet near a plane surfactant-laden interface. <i>Physical Review E</i> , 2019, 99, 033101.	0.8	8
100	Motion of an arbitrarily shaped particle in a density stratified fluid. <i>Journal of Fluid Mechanics</i> , 2020, 890, .	1.4	8
101	Monoclonal Antibody Aggregation near Silicone Oil-Water Interfaces. <i>Langmuir</i> , 2021, 37, 1386-1398.	1.6	8
102	The Interface Motion and Hydrodynamic Shear of the Liquid Slosh in Syringes. <i>Pharmaceutical Research</i> , 2021, 38, 257-275.	1.7	8
103	Modeling cavitation bubble dynamics in an autoinjector and its implications on drug molecules. <i>International Journal of Pharmaceutics</i> , 2021, 608, 121062.	2.6	8
104	New Model to Predict the Concentration-Dependent Viscosity of Monoclonal Antibody Solutions. <i>Molecular Pharmaceutics</i> , 2021, 18, 4385-4392.	2.3	8
105	Instability of stationary liquid sheets. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 4992-4996.	3.3	7
106	Assessing the Utility of High-level CO2 Storage and Utilization Resource Estimates for CCS System Modelling. <i>Energy Procedia</i> , 2017, 114, 4658-4665.	1.8	7
107	Orientation instability of settling spheroids in a linearly density-stratified fluid. <i>Journal of Fluid Mechanics</i> , 2021, 929, .	1.4	7
108	A consistent and conservative Phase-Field method for multiphase incompressible flows. <i>Journal of Computational and Applied Mathematics</i> , 2022, 408, 114116.	1.1	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. <i>Physics of Fluids</i> , 2022, 34, .	1.6	7
110	Effect of interfacial viscosities on droplet migration at low surfactant concentrations. <i>Journal of Fluid Mechanics</i> , 2020, 902, .	1.4	6
111	Fluid flows with interactive boundaries. <i>European Journal of Computational Mechanics</i> , 2017, 26, 1-3.	0.6	5
112	Far-field flow and drift due to particles and organisms in density-stratified fluids. <i>Physical Review E</i> , 2020, 102, 063106.	0.8	5
113	Velocity scaling and breakup criteria for jets formed due to acceleration and deceleration process. <i>Physical Review Fluids</i> , 2020, 5, .	1.0	5
114	Squirming in density-stratified fluids. <i>Physics of Fluids</i> , 2021, 33, .	1.6	5
115	Uncertainty estimation for ensemble particle image velocimetry. <i>Measurement Science and Technology</i> , 2022, 33, 085302.	1.4	5
116	Nutrient uptake by chemotactic bacteria in presence of rising oil drops. <i>International Journal of Multiphase Flow</i> , 2018, 108, 156-168.	1.6	4
117	Data assimilation for modeling cavitation bubble dynamics. <i>Experiments in Fluids</i> , 2021, 62, 1.	1.1	4
118	Nearly touching spheres in a viscoelastic fluid. <i>Physics of Fluids</i> , 2021, 33, .	1.6	4
119	A model for bubble dynamics in a protein solution. <i>Journal of Fluid Mechanics</i> , 2022, 935, .	1.4	3
120	A framework to optimize spring-driven autoinjectors. <i>International Journal of Pharmaceutics</i> , 2022, 617, 121588.	2.6	3
121	Monitoring heterogeneity in therapeutic samples using Schlieren. <i>International Journal of Pharmaceutics</i> , 2021, 609, 121096.	2.6	2
122	Spatiotemporal Measurement of Concentration-Dependent Diffusion Coefficient . <i>Physics of Fluids</i> , 0, , .	1.6	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. <i>Journal of Controlled Release</i> , 2021, 340, 60-71.	4.8	1
125	Sheared Thick&€Film Electrode Materials Containing Silver Powders with Nanoscale Surface Asperities Improve Solar Cell Performance. <i>Advanced Energy and Sustainability Research</i> , 2022, 3, 2100145.	2.8	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, , .	0.3	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, .	2.8	0
132	Motile microorganisms in complex fluids. , 2022, 3, 100048.		0