Arun Ramachandran

List of Publications by Year
in descending order

42 papers	983 citations	430874 18 h-index	434195 31 g-index
42 all docs	42 docs citations	42 times ranked	1221 citing authors

#	ARTICLE	IF	CITATIONS
1	Effect of channel geometry on solute dispersion in pressure-driven microfluidic systems. Microfluidics and Nanofluidics, 2006, 2, 275-290.	2.2	140
2	Emulsion characterization via microfluidic devices: A review on interfacial tension and stability to coalescence. Advances in Colloid and Interface Science, 2022, 299, 102541.	14.7	71
3	Relating domain size distribution to line tension and molecular dipole density in model cytoplasmic myelin lipid monolayers. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 9425-9430.	7.1	62
4	Mathematical model accurately predicts protein release from an affinity-based delivery system. Journal of Controlled Release, 2015, 197, 69-77.	9.9	60
5	h-FIBER: Microfluidic Topographical Hollow Fiber for Studies of Glomerular Filtration Barrier. ACS Central Science, 2020, 6, 903-912.	11.3	59
6	The influence of secondary flows induced by normal stress differences on the shear-induced migration of particles in concentrated suspensions. Journal of Fluid Mechanics, 2008, 603, 207-243.	3.4	44
7	Lipid-Protein Interactions Alter Line Tensions and Domain Size Distributions in Lung Surfactant Monolayers. Biophysical Journal, 2012, 102, 56-65.	0.5	40
8	3D Printing of Vascular Tubes Using Bioelastomer Prepolymers by Freeform Reversible Embedding. ACS Biomaterials Science and Engineering, 2020, 6, 1333-1343.	5.2	40
9	Adhesive Interactions between Vesicles in the Strong Adhesion Limit. Langmuir, 2011, 27, 59-73.	3.5	36
10	Microfluidic Generation of Composite Biopolymer Microgels with Tunable Compositions and Mechanical Properties. Biomacromolecules, 2014, 15, 2419-2425.	5.4	36
11	Universal behavior of hydrogels confined to narrow capillaries. Scientific Reports, 2015, 5, 17017.	3.3	36
12	The dynamics and rheology of a dilute suspension of hydrodynamically Janus spheres in a linear flow. Journal of Fluid Mechanics, 2009, 633, 233-269.	3.4	25
13	The effect of interfacial slip on the rheology of a dilute emulsion of drops for small capillary numbers. Journal of Rheology, 2012, 56, 1555-1587.	2.6	25
14	The effect of interfacial slip on the dynamics of a drop in flow: Part I. Stretching, relaxation, and breakup. Journal of Rheology, 2012, 56, 45-97.	2.6	24
15	The effect of gravity on the meniscus accumulation phenomenon in a tube. Journal of Rheology, 2007, 51, 1073-1098.	2.6	21
16	Adsorption Mechanism of Myelin Basic Protein on Model Substrates and Its Bridging Interaction between the Two Surfaces. Langmuir, 2015, 31, 3159-3166.	3.5	20
17	The motion of a microgel in an axisymmetric constriction with a tapered entrance. Soft Matter, 2013, 9, 10391.	2.7	19
18	A scaling theory for the hydrodynamic interaction between a pair of vesicles or capsules. Physics of Fluids, 2010, 22, .	4.0	18

#	Article	IF	Citations
19	Viscous resuspension in a tube: The impact of secondary flows resulting from second normal stress differences. Physics of Fluids, 2007, 19, 053301.	4.0	17
20	Dilution Technique To Determine the Hydrodynamic Volume Fraction of a Vesicle Suspension. Langmuir, 2010, 26, 15169-15176.	3.5	16
21	Origins of Microstructural Transformations in Charged Vesicle Suspensions: The Crowding Hypothesis. Langmuir, 2014, 30, 10176-10187.	3.5	15
22	The suppression of droplet-droplet coalescence in a sheared yield stress fluid. Journal of Colloid and Interface Science, 2017, 492, 199-206.	9.4	15
23	Interfacial Tension of the Water-Diluted Bitumen Interface at High Bitumen Concentrations Measured Using a Microfluidic Technique. Langmuir, 2019, 35, 15710-15722.	3.5	15
24	A macrotransport equation for the particle distribution in the flow of a concentrated, non-colloidal suspension through a circular tube. Journal of Fluid Mechanics, 2013, 734, 219-252.	3.4	14
25	Mass transfer dynamics in the dissolution of Taylor bubbles. Soft Matter, 2019, 15, 2746-2756.	2.7	14
26	Demonstration of Secondary Currents in the Pressure-Driven Flow of a Concentrated Suspension Through a Square Conduit. Physical Review Letters, 2013, 110, 018306.	7.8	13
27	A constitutive equation for droplet distribution in unidirectional flows of dilute emulsions for low capillary numbers. Physics of Fluids, 2010, 22, .	4.0	12
28	The roles of contact time and contact pressure on the coalescence of water droplets suspended in concentrated bitumen solutions. Fuel, 2018, 223, 486-495.	6.4	12
29	Direct Measurements of Effect of Counterion Concentration on Mechanical Properties of Cationic Vesicles. Langmuir, 2013, 29, 14057-14065.	3.5	10
30	Formation of extremely fine water droplets in sheared, concentrated bitumen solutions via surfactant-mediated tip streaming. Fuel, 2016, 180, 538-550.	6.4	8
31	Novel Activated Microbubbles-based Strategy to Coat Nanoparticles on Root Canal Dentin: Fluid Dynamical Characterization. Journal of Endodontics, 2019, 45, 797-802.	3.1	8
32	Secondary convection due to second normal stress differences: A new mechanism for the mass transport of solutes in pressure-driven flows of concentrated, non-colloidal suspensions. Soft Matter, 2013, 9, 6824.	2.7	6
33	Understanding the mechanism of retinal displacement following rhegmatogenous retinal detachment repair: A computer simulation model. Acta Ophthalmologica, 2021, , .	1.1	6
34	Fibrous hydrogels under biaxial confinement. Nature Communications, 2022, 13, .	12.8	6
35	Two touching spherical drops in a uniaxial compressional flow: The effect of interfacial slip. Physics of Fluids, 2016, 28, 053303.	4.0	5
36	An exploration of the reflow technique for the fabrication of an in vitro microvascular system to study occlusive clots. Biomedical Microdevices, 2017, 19, 82.	2.8	5

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37	Properties and solution techniques for a mixed type boundary integral equation arising in creeping flow problems. Computers and Fluids, 2012, 64, 141-156.	2.5	3
38	Dispersion of a passive tracer in the pressure-driven flow of a non-colloidal suspension. Soft Matter, 2016, 12, 7920-7936.	2.7	3
39	Impact of tamponade agent on retinal displacement following pars plana vitrectomy for rhegmatogenous retinal detachment repair: a computer simulation model. Acta Ophthalmologica, 2022, , .	1.1	2
40	A macrotransport equation for the Hele-Shaw flow of a concentrated suspension. Journal of Fluid Mechanics, 2021, 924, .	3.4	1
41	Substrate colonization by an emulsion drop prior to spreading. Nature Communications, 2021, 12, 5734.	12.8	1
42	The hydrodynamics of segmented two-phase flow in a circular tube with rapidly dissolving drops. Soft Matter, 2017, 13, 3147-3160.	2.7	0