

L Gary Leal

List of Publications by Year in descending order

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95
papers

2,819
citations

147801

31
h-index

197818

49
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99
docs citations

99
times ranked

2163
citing authors

#	ARTICLE	IF	CITATIONS
1	Flow-Induced Concentration Nonuniformity and Shear Banding in Entangled Polymer Solutions. <i>Physical Review Letters</i> , 2021, 126, 207801.	7.8	13
2	Bayesian estimations of orientation distribution functions from small-angle scattering enable direct prediction of mechanical stress in anisotropic materials. <i>Physical Review Materials</i> , 2021, 5, .	2.4	8
3	Modeling orthogonal superposition rheometry to probe nonequilibrium dynamics of entangled polymers. <i>Journal of Rheology</i> , 2021, 65, 983-998.	2.6	5
4	Predictions for flow-induced scission in well-entangled living polymers: The "living Rolie-Poly" model. <i>Journal of Rheology</i> , 2021, 65, 959-982.	2.6	7
5	Universal Gas Adsorption Mechanism for Flat Nanobubble Morphologies. <i>Physical Review Letters</i> , 2020, 125, 146101.	7.8	24
6	Shear induced demixing in bidisperse and polydisperse polymer blends: Predictions from a multifluid model. <i>Journal of Rheology</i> , 2020, 64, 1391-1408.	2.6	10
7	Coupled nonhomogeneous flows and flow-enhanced concentration fluctuations during startup shear of entangled polymer solutions. <i>Physical Review Fluids</i> , 2020, 5, .	2.5	6
8	Does shear induced demixing resemble a thermodynamically driven instability?. <i>Journal of Rheology</i> , 2019, 63, 335-359.	2.6	10
9	An integrated boundary approach for colloidal suspensions simulated using smoothed dissipative particle dynamics. <i>Computers and Fluids</i> , 2019, 179, 672-686.	2.5	1
10	Nonlinear rheology of polydisperse blends of entangled linear polymers: Rolie-Double-Poly models. <i>Journal of Rheology</i> , 2019, 63, 71-91.	2.6	40
11	Nanoparticle transport across model cellular membranes: when do solubility-diffusion models break down?. <i>Journal Physics D: Applied Physics</i> , 2018, 51, 294004.	2.8	15
12	Concentration fluctuations in polymer solutions under mixed flow. <i>Journal of Rheology</i> , 2017, 61, 711-730.	2.6	8
13	Distinguishing shear banding from shear thinning in flows with a shear stress gradient. <i>Rheologica Acta</i> , 2017, 56, 1007-1032.	2.4	17
14	Coupling discrete and continuum concentration particle models for multiscale and hybrid molecular-continuum simulations. <i>Journal of Chemical Physics</i> , 2017, 147, 234112.	3.0	12
15	Multiscale simulation of ideal mixtures using smoothed dissipative particle dynamics. <i>Journal of Chemical Physics</i> , 2016, 144, 084115.	3.0	17
16	Shear banding predictions for the two-fluid Rolie-Poly model. <i>Journal of Rheology</i> , 2016, 60, 927-951.	2.6	25
17	Surface viscosity and Marangoni stresses at surfactant laden interfaces. <i>Journal of Fluid Mechanics</i> , 2016, 792, 712-739.	3.4	57
18	The 2015 François Naftali Frenkiel Award for Fluid Mechanics. <i>Physics of Fluids</i> , 2016, 28, 010201.	4.0	0

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19	Coalescence of droplets due to a constant force interaction in a quiescent viscous fluid. <i>Physical Review Fluids</i> , 2016, 1, .	2.5	19
20	Hybrid molecular-continuum simulations using smoothed dissipative particle dynamics. <i>Journal of Chemical Physics</i> , 2015, 142, 044101.	3.0	32
21	Surface shear inviscidity of soluble surfactants. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 3677-3682.	7.1	102
22	Announcement: Changes in the Editorial Organization of <i>Physics of Fluids</i> . <i>Physics of Fluids</i> , 2014, 26, 070201.	4.0	0
23	Production of W/O/W double emulsions. Part I: Visual observation of deformation and breakup of double emulsion drops and coalescence of the inner droplets. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2014, 461, 336-343.	4.7	32
24	Direct measurement of interaction forces between charged multilamellar vesicles. <i>Soft Matter</i> , 2014, 10, 7769-7780.	2.7	15
25	Adsorption Energies of Poly(ethylene oxide)-Based Surfactants and Nanoparticles on an Air-Water Surface. <i>Langmuir</i> , 2014, 30, 110-119.	3.5	26
26	A study of shear banding in polymer solutions. <i>Physics of Fluids</i> , 2014, 26, .	4.0	55
27	Origins of Microstructural Transformations in Charged Vesicle Suspensions: The Crowding Hypothesis. <i>Langmuir</i> , 2014, 30, 10176-10187.	3.5	15
28	Local, Real-Time Measurement of Drying Films of Aqueous Polymer Solutions Using Active Microrheology. <i>Langmuir</i> , 2014, 30, 5230-5237.	3.5	11
29	Direct measurement of the interaction of model food emulsion droplets adhering by arrested coalescence. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2014, 441, 459-465.	4.7	9
30	Direct Measurements of Effect of Counterion Concentration on Mechanical Properties of Cationic Vesicles. <i>Langmuir</i> , 2013, 29, 14057-14065.	3.5	10
31	Cantilevered-Capillary Force Apparatus for Measuring Multiphase Fluid Interactions. <i>Langmuir</i> , 2013, 29, 4715-4725.	3.5	21
32	Multiscale modeling with smoothed dissipative particle dynamics. <i>Journal of Chemical Physics</i> , 2013, 138, 234105.	3.0	32
33	Shear banding in polymer solutions. <i>Physics of Fluids</i> , 2013, 25, .	4.0	78
34	Announcement: New Format for <i>Physics of Fluids</i> . <i>Physics of Fluids</i> , 2012, 24, .	4.0	0
35	A test of systematic coarse-graining of molecular dynamics simulations: Thermodynamic properties. <i>Journal of Chemical Physics</i> , 2012, 137, 164106.	3.0	54
36	The effect of interfacial slip on the rheology of a dilute emulsion of drops for small capillary numbers. <i>Journal of Rheology</i> , 2012, 56, 1555-1587.	2.6	25

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37	The effect of interfacial slip on the dynamics of a drop in flow: Part I. Stretching, relaxation, and breakup. <i>Journal of Rheology</i> , 2012, 56, 45-97.	2.6	24
38	Adhesive Interactions between Vesicles in the Strong Adhesion Limit. <i>Langmuir</i> , 2011, 27, 59-73.	3.5	36
39	Announcement: New Format for <i>Physics of Fluids</i> . <i>Physics of Fluids</i> , 2011, 23, 120201.	4.0	0
40	Microfabricated deflection tensiometers for insoluble surfactants. <i>Applied Physics Letters</i> , 2010, 97, 133505.	3.3	12
41	A scaling theory for the hydrodynamic interaction between a pair of vesicles or capsules. <i>Physics of Fluids</i> , 2010, 22, .	4.0	18
42	Dilution Technique To Determine the Hydrodynamic Volume Fraction of a Vesicle Suspension. <i>Langmuir</i> , 2010, 26, 15169-15176.	3.5	16
43	Drop deformation and break-up in concentrated suspensions. <i>Journal of Rheology</i> , 2010, 54, 981-1008.	2.6	20
44	Three-dimensional stability of a thin film between two approaching drops. <i>Physics of Fluids</i> , 2009, 21, .	4.0	15
45	Deformation of a viscoelastic drop in planar extensional flows of a Newtonian fluid. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009, 160, 176-180.	2.4	24
46	Stress Relaxation of Comb Polymers with Short Branches. <i>Macromolecules</i> , 2009, 42, 9592-9608.	4.8	63
47	Viscous coalescence of expanding low-viscosity drops; the dueling drops experiment. <i>Journal of Colloid and Interface Science</i> , 2008, 319, 263-269.	9.4	14
48	Effect of Multiple Branch Points on Non-Linear Rheology. <i>AIP Conference Proceedings</i> , 2008, , .	0.4	0
49	The mechanism of surfactant effects on drop coalescence. <i>Physics of Fluids</i> , 2008, 20, .	4.0	90
50	Editorial: Fifty years of <i>Physics of Fluids</i> . <i>Physics of Fluids</i> , 2008, 20, .	4.0	1
51	Coalescence of two equal-sized deformable drops in an axisymmetric flow. <i>Physics of Fluids</i> , 2007, 19, .	4.0	103
52	Transient surface patterns during adhesion and coalescence of thin liquid films. <i>Soft Matter</i> , 2007, 3, 88-93.	2.7	26
53	Interfacial Activity of Polymer-Coated Gold Nanoparticles. <i>Langmuir</i> , 2007, 23, 12497-12502.	3.5	22
54	Experimental investigation of the effects of copolymer surfactants on flow-induced coalescence of drops. <i>Physics of Fluids</i> , 2007, 19, 023102.	4.0	38

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55	Linear stability of a draining film squeezed between two approaching droplets. <i>Journal of Colloid and Interface Science</i> , 2007, 307, 188-202.	9.4	27
56	Droplet coalescence and breakup with application to polymer blending. <i>Central South University</i> , 2007, 14, 1-5.	0.5	14
57	Shear Rheology of Asymmetric Star Polymers. <i>Macromolecules</i> , 2006, 39, 4605-4614.	4.8	8
58	Effect of overall drop deformation on flow-induced coalescence at low capillary numbers. <i>Physics of Fluids</i> , 2006, 18, 013602.	4.0	52
59	Two touching spherical drops in uniaxial extensional flow: Analytic solution to the creeping flow problem. <i>Journal of Colloid and Interface Science</i> , 2005, 289, 262-270.	9.4	7
60	Rheo-Optical Evidence of CCR in an Entangled Four-Arm Star. <i>Macromolecules</i> , 2005, 38, 1451-1455.	4.8	14
61	Viscosity ratio effects on the coalescence of two equal-sized drops in a two-dimensional linear flow. <i>Journal of Fluid Mechanics</i> , 2005, 525, 355-379.	3.4	81
62	Experimental analysis of the coalescence process via head-on collisions in a time-dependent flow. <i>Physics of Fluids</i> , 2004, 16, 3945-3954.	4.0	35
63	Study of molecular weight effects on coalescence: Interface slip layer. <i>Journal of Rheology</i> , 2003, 47, 911-942.	2.6	41
64	Texture evolution of sheared liquid crystalline polymers: Numerical predictions of roll-cells instability, director turbulence, and striped texture with a molecular model. <i>Journal of Rheology</i> , 2003, 47, 1417-1444.	2.6	14
65	Hydrodynamic Interaction between Spheres Coated with Deformable Thin Liquid Films. <i>Journal of Colloid and Interface Science</i> , 2002, 250, 457-465.	9.4	15
66	Transient director patterns upon flow start-up of nematic liquid crystals (an explanation for stress) $T_j ETQq0 0 0 rgBT/Overlock 10 Tf 50$	2.4	1
67	Drop deformation, breakup, and coalescence with compatibilizer. <i>Physics of Fluids</i> , 2000, 12, 484-489.	4.0	199
68	A differential constitutive equation for entangled polymer solutions. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1999, 80, 115-134.	2.4	17
69	Flow-aligning and tumbling in small-molecule liquid crystals: pure components and mixtures. <i>Rheologica Acta</i> , 1999, 38, 183-197.	2.4	25
70	Surfactant and viscoelastic effects on drop deformation in 2-D extensional flow. <i>AICHE Journal</i> , 1999, 45, 929-937.	3.6	35
71	Effects of flexibility on liquid crystalline polymer behavior: The nematic broken rod. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 1999, 37, 281-300.	2.1	3
72	Comparison of dumbbell-based theory and experiment for a dilute polymer solution in a corotating two-roll mill. <i>Journal of Rheology</i> , 1999, 43, 197-218.	2.6	57

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73	Experimental trajectories of two drops in planar extensional flow. <i>Physics of Fluids</i> , 1999, 11, 971-981.	4.0	19
74	The response of entangled polymer solutions to step changes of shear rate: Signatures of segmental stretch?. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 1998, 36, 265-280.	2.1	30
75	A closure approximation for liquid-crystalline polymer models based on parametric density estimation. <i>Journal of Rheology</i> , 1998, 42, 177-201.	2.6	77
76	Experimental studies of an entangled polystyrene solution in steady state mixed type flows. <i>Journal of Rheology</i> , 1998, 42, 671-695.	2.6	14
77	The dynamics of ultradilute polymer solutions in transient flow: Comparison of dumbbell-based theory and experiment. <i>Journal of Rheology</i> , 1998, 42, 1039-1058.	2.6	31
78	Time-resolved velocity gradient and optical anisotropy in linear flow by photon correlation spectroscopy. <i>Physics of Fluids</i> , 1994, 6, 3519-3534.	4.0	18
79	A new computational method for the solution of flow problems of microstructured fluids. Part 2. Inhomogeneous shear flow of a suspension. <i>Journal of Fluid Mechanics</i> , 1994, 262, 171-204.	3.4	32
80	Symposium on Micromechanical Models for Complex Fluids. <i>Applied Mechanics Reviews</i> , 1994, 47, S228-S228.	10.1	0
81	Numerical solutions for the deformation of a bubble rising in dilute polymeric fluids. <i>Physics of Fluids A, Fluid Dynamics</i> , 1993, 5, 1315-1332.	1.6	42
82	Microstructure suspended in three-dimensional flows. <i>Journal of Fluid Mechanics</i> , 1993, 250, 143-167.	3.4	24
83	A new computational method for the solution of flow problems of microstructured fluids. Part 1. Theory. <i>Journal of Fluid Mechanics</i> , 1992, 242, 549-576.	3.4	37
84	Rigid particles suspended in time-dependent flows: irregular versus regular motion, disorder versus order. <i>Journal of Fluid Mechanics</i> , 1992, 237, 33-56.	3.4	35
85	Flow birefringence studies of a concentrated polystyrene solution in a two-roll mill. I. Steady flow and start-up of steady flow. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 1992, 30, 1329-1349.	2.1	15
86	On the dynamics of suspended microstructure in unsteady, spatially inhomogeneous, two-dimensional fluid flows. <i>Journal of Fluid Mechanics Digital Archive</i> , 1991, 228, 207.	0.6	14
87	Strong flows of dilute suspensions of microstructure. <i>Physics of Fluids A, Fluid Dynamics</i> , 1991, 3, 1438-1438.	1.6	1
88	The onset of chaotic oscillations and rapid growth of a spherical bubble at subcritical conditions in an incompressible liquid. <i>Physics of Fluids A, Fluid Dynamics</i> , 1991, 3, 551-555.	1.6	13
89	A Newton's method scheme for solving free-surface flow problems. <i>International Journal for Numerical Methods in Fluids</i> , 1989, 9, 1469-1486.	1.6	11
90	Existence of solutions for all Deborah numbers for a non-Newtonian model modified to include diffusion. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1989, 33, 257-287.	2.4	134

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91	Buoyancy-driven motion of a deformable drop through a quiescent liquid at intermediate Reynolds numbers. <i>Journal of Fluid Mechanics</i> , 1989, 208, 161-192.	3.4	141
92	Particle motion in Stokes flow near a plane fluid-fluid interface. Part 2. Linear shear and axisymmetric straining flows. <i>Journal of Fluid Mechanics</i> , 1984, 149, 275.	3.4	38
93	Particle motion in Stokes flow near a plane fluid-fluid interface. Part 1. Slender body in a quiescent fluid. <i>Journal of Fluid Mechanics</i> , 1983, 136, 393.	3.4	34
94	Interfacial resistance to interphase mass transfer in quiescent two-phase systems. <i>AIChE Journal</i> , 1978, 24, 246-254.	3.6	29
95	Light scattering from spheroids in shear flows. I. The orientation correlation. <i>Journal of Chemical Physics</i> , 1978, 68, 5348-5356.	3.0	12