John Tsamopoulos

List of Publications by Year in descending order

121 papers	4,098 citations	117625 34 h-index	133252 59 g-index
124 all docs	124 docs citations	124 times ranked	1943 citing authors

#	Article	IF	Citations
1	Creeping motion of a sphere through a Bingham plastic. Journal of Fluid Mechanics, 1985, 158, 219-244.	3.4	393
2	Nonlinear oscillations of inviscid drops and bubbles. Journal of Fluid Mechanics, 1983, 127, 519.	3.4	227
3	Spherical capsules in three-dimensional unbounded Stokes flows: effect of the membrane constitutive law and onset of buckling. Journal of Fluid Mechanics, 2004, 516, 303-334.	3.4	215
4	Steady bubble rise and deformation in Newtonian and viscoplastic fluids and conditions for bubble entrapment. Journal of Fluid Mechanics, 2008, 601, 123-164.	3.4	135
5	Squeeze flow of Bingham plastics. Journal of Non-Newtonian Fluid Mechanics, 2001, 100, 165-189.	2.4	114
6	Steady bubble rise in Herschelâ€“Bulkley fluids and comparison of predictions via the Augmented Lagrangian Method with those via the Papanastasiou model. Journal of Non-Newtonian Fluid Mechanics, 2013, 200, 34-51.	2.4	102
7	Numerical simulations of complex yield-stress fluid flows. Rheologica Acta, 2017, 56, 231-258.	2.4	100
8	Yielding the yield-stress analysis: a study focused on the effects of elasticity on the settling of a single spherical particle in simple yield-stress fluids. Soft Matter, 2016, 12, 5378-5401.	2.7	91
9	A quasi-elliptic transformation for moving boundary problems with large anisotropic deformations. Journal of Computational Physics, 2003, 192, 494-522.	3.8	89
10	How viscoelastic is human blood plasma?. Soft Matter, 2018, 14, 4238-4251.	2.7	83
11	Resonant oscillations of inviscid charged drops. Journal of Fluid Mechanics, 1984, 147, 373.	3.4	76
12	On the velocity discontinuity at a critical volume of a bubble rising in a viscoelastic fluid. Journal of Fluid Mechanics, 2016, 789, 310-346.	3.4	75
13	Transient displacement of a viscoplastic material by air in straight and suddenly constricted tubes. Journal of Non-Newtonian Fluid Mechanics, 2003, 112, 43-75.	2.4	73
14	Bjerknes forces between two bubbles. Part 2. Response to an oscillatory pressure field. Journal of Fluid Mechanics, 1993, 254, 501-527.	3.4	69
15	Dynamics of axisymmetric core-annular flow in a straight tube. I. The more viscous fluid in the core, bamboo waves. Physics of Fluids, 2001, 13, 841-858.	4.0	61
16	Bjerknes forces between two bubbles. Part 1. Response to a step change in pressure. Journal of Fluid Mechanics, 1993, 254, 467-499.	3.4	60
17	Modeling the rheology of thixotropic elasto-visco-plastic materials. Journal of Rheology, 2019, 63, 609-639.	2.6	60
18	Nonlinear dynamics of capillary bridges: theory. Journal of Fluid Mechanics, 1993, 255, 373.	3.4	59

#	Article	IF	Citations
19	Nonlinear dynamics of capillary bridges: experiments. Journal of Fluid Mechanics, 1993, 255, 411.	3.4	57
20	Boundaryâ€layer analysis of the dynamics of axisymmetric capillary bridges. Physics of Fluids A, Fluid Dynamics, 1991, 3, 2866-2874.	1.6	56
21	Viscous oscillations of capillary bridges. Journal of Fluid Mechanics, 1992, 235, 579.	3.4	56
22	A critical analysis of some popular methods for the discretisation of the gradient operator in finite volume methods. Physics of Fluids, 2017, 29, .	4.0	55
23	Yielding the yield stress analysis: A thorough comparison of recently proposed elasto-visco-plastic (EVP) fluid models. Journal of Non-Newtonian Fluid Mechanics, 2016, 236, 104-122.	2.4	49
24	Equilibrium shapes and stability of charged and conducting drops. Physics of Fluids A, Fluid Dynamics, 1990, 2, 1328-1340.	1.6	48
25	Transient squeeze flow of viscoplastic materials. Journal of Non-Newtonian Fluid Mechanics, 2006, 133, 35-56.	2.4	48
26	Asymmetric flows of complex fluids past confined cylinders: A comprehensive numerical study with experimental validation. Physics of Fluids, 2020, 32, 053103.	4.0	48
27	On the elliptic mesh generation in domains containing multiple inclusions and undergoing large deformations. Journal of Computational Physics, 2009, 228, 1980-2011.	3.8	45
28	A model for the catalytic growth of carbon filaments. Carbon, 1992, 30, 285-293.	10.3	44
29	Dynamics of the axisymmetric core-annular flow. II. The less viscous fluid in the core, saw tooth waves. Physics of Fluids, 2002, 14, 1011-1029.	4.0	44
30	Capillary bridges between parallel and non-parallel surfaces and their stability. Journal of Colloid and Interface Science, 1992, 151, 49-69.	9.4	42
31	On the gas-penetration in straight tubes completely filled with a viscoelastic fluid. Journal of Non-Newtonian Fluid Mechanics, 2004, 117, 117-139.	2.4	42
32	Transition between solid and liquid state of yield-stress fluids under purely extensional deformations. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12611-12617.	7.1	39
33	Transient displacement of Newtonian and viscoplastic liquids by air in complex tubes. Journal of Non-Newtonian Fluid Mechanics, 2007, 142, 162-182.	2.4	37
34	The PAL (Penalized Augmented Lagrangian) method for computing viscoplastic flows: A new fast converging scheme. Journal of Non-Newtonian Fluid Mechanics, 2018, 256, 23-41.	2.4	37
35	A new finite element formulation for viscoelastic flows: Circumventing simultaneously the LBB condition and the high-Weissenberg number problem. Journal of Non-Newtonian Fluid Mechanics, 2019, 267, 78-97.	2.4	37
36	On the origin of extrusion instabilities: Linear stability analysis of the viscoelastic die swell. Journal of Non-Newtonian Fluid Mechanics, 2015, 224, 61-77.	2.4	32

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37	Theoretical study of the flow in a fluid damper containing high viscosity silicone oil: Effects of shear-thinning and viscoelasticity. Physics of Fluids, 2018, 30, 030708.	4.0	32
38	Hemodynamics in stenotic vessels of small diameter under steady state conditions: Effect of viscoelasticity and migration ofÂredÂblood cells. Biorheology, 2015, 52, 183-210.	0.4	31
39	Advanced Constitutive Modeling of the Thixotropic Elasto-Visco-Plastic Behavior of Blood: Description of the Model and Rheological Predictions. Materials, 2020, 13, 4184.	2.9	31
40	Nonisothermal parison inflation in blow molding. AICHE Journal, 1990, 36, 1837-1850.	3.6	29
41	Steady extrusion of viscoelastic materials from an annular die. Journal of Non-Newtonian Fluid Mechanics, 2008, 154, 136-152.	2.4	29
42	Evaluation of tube models for linear entangled polymers in simple and complex flows. Journal of Rheology, 2018, 62, 25-47.	2.6	29
43	Transient displacement of a Newtonian fluid by air in straight or suddenly constricted tubes. Physics of Fluids, 2003, 15, 1973-1991.	4.0	28
44	Risk analysis of industrial structures under extreme transient loads. Soil Dynamics and Earthquake Engineering, 2004, 24, 435-448.	3.8	27
45	Numerical simulation of bubble growth in Newtonian and viscoelastic filaments undergoing stretching. Journal of Non-Newtonian Fluid Mechanics, 2004, 122, 177-200.	2.4	26
46	Stress-gradient induced migration of polymers in corrugated channels. Journal of Rheology, 2014, 58, 911-947.	2.6	26
47	Inflation dynamics of fluid annular menisci inside a mold cavityâ€"I. Deformation driven by small gas pressures. Chemical Engineering Science, 1991, 46, 215-232.	3.8	23
48	A hybrid finite-boundary element method for inviscid flows with free surface. Journal of Computational Physics, 1992, 101, 231-251.	3.8	22
49	The steady annular extrusion of a Newtonian liquid under gravity and surface tension. International Journal for Numerical Methods in Fluids, 2000, 33, 1099-1119.	1.6	22
50	Steady viscoelastic film flow over 2D topography: I. The effect of viscoelastic properties under creeping flow. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 576-591.	2.4	22
51	Bubble Deformation and Growth Inside Viscoelastic Filaments Undergoing Very Large Extensions. Industrial & Engineering Chemistry Research, 2014, 53, 7548-7569.	3.7	22
52	PEGAFEM-V: A new petrov-galerkin finite element method for free surface viscoelastic flows. Journal of Non-Newtonian Fluid Mechanics, 2020, 284, 104365.	2.4	22
53	Steady film flow over a substrate with rectangular trenches forming air inclusions. Physical Review Fluids, 2017, 2, .	2.5	21
54	On the transient coating of a straight tube with a viscoelastic material. Journal of Non-Newtonian Fluid Mechanics, 2009, 159, 95-114.	2.4	20

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55	Injection of a viscoplastic material inside a tube or between two parallel disks: Conditions for wall detachment of the advancing front. Journal of Rheology, 2009, 53, 1155-1191.	2.6	20
56	Unsteady flow of an axisymmetric annular film under gravity. Physics of Fluids, 1998, 10, 2500-2516.	4.0	19
57	Unsteady extrusion of a viscoelastic annular film. Journal of Non-Newtonian Fluid Mechanics, 2000, 88, 229-259.	2.4	18
58	A direct comparison between volume and surface tracking methods with a boundary-fitted coordinate transformation and third-order upwinding. Journal of Computational Physics, 2007, 227, 1428-1469.	3.8	18
59	On the stick-slip flow from slit and cylindrical dies of a Phan-Thien and Tanner fluid model. II. Linear stability analysis. Physics of Fluids, 2013, 25, 093105.	4.0	18
60	Discretization of three-dimensional free surface flows and moving boundary problems via elliptic grid methods based on variational principles. Journal of Computational Physics, 2017, 344, 127-150.	3.8	18
61	Equilibrium shapes and stability of captive annular menisci. Journal of Fluid Mechanics, 1988, 197, 523-549.	3.4	17
62	Coreâ€“annular flow in a periodically constricted circular tube. Part 1. Steady-state, linear stability and energy analysis. Journal of Fluid Mechanics, 2001, 432, 31-68.	3.4	17
63	Viscoplastic flow in an extrusion damper. Journal of Non-Newtonian Fluid Mechanics, 2016, 232, 102-124.	2.4	17
64	Electro-osmotic flow of electrolyte solutions of PEO in microfluidic channels. Journal of Colloid and Interface Science, 2020, 563, 381-393.	9.4	17
65	A finite volume method for the simulation of elastoviscoplastic flows and its application to the lid-driven cavity case. Journal of Non-Newtonian Fluid Mechanics, 2020, 275, 104216.	2.4	17
66	Concentric core-annular flow in a circular tube of slowly varying cross-section. Chemical Engineering Science, 2000, 55, 5509-5530.	3.8	16
67	Coreâ€“annular flow in a periodically constricted circular tube. Part 2. Nonlinear dynamics. Journal of Fluid Mechanics, 2002, 470, 181-222.	3.4	16
68	Numerical simulation of multiple bubbles growing in a Newtonian liquid filament undergoing stretching. Physics of Fluids, 2006, 18, 042106.	4.0	16
69	Gas-assisted injection molding with fluids partially occupying straight or complex tubes. Polymer Engineering and Science, 2006, 46, 47-68.	3.1	16
70	Yielding the yield stress analysis: A thorough comparison of recently proposed elasto-visco-plastic (EVP) fluid models. Journal of Non-Newtonian Fluid Mechanics, 2016, 238, 170-188.	2.4	16
71	Dynamics of viscoplastic filament stretching. Journal of Non-Newtonian Fluid Mechanics, 2020, 284, 104371.	2.4	16
72	The concept of elasto-visco-plasticity and its application to a bubble rising in yield stress fluids. Journal of Non-Newtonian Fluid Mechanics, 2021, 297, 104670.	2.4	16

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73	Dynamic centering of liquid shells. Physics of Fluids, 1987, 30, 27.	1.4	15
74	Nonlinear oscillations of liquid shells in zero gravity. Journal of Fluid Mechanics, 1991, 230, 541-582.	3.4	15
75	Steady viscoelastic film flow over 2D Topography: II. The effect of capillarity, inertia and substrate geometry. Journal of Non-Newtonian Fluid Mechanics, 2016, 234, 201-214.	2.4	15
76	Origin of the Sharkskin Instability: Nonlinear Dynamics. Physical Review Letters, 2021, 127, 088001.	7.8	15
77	Structure-property relationship of a soft colloidal glass in simple and mixed flows. Journal of Colloid and Interface Science, 2021, 601, 454-466.	9.4	15
78	Quantifying the non-Newtonian effects of pulsatile hemodynamics in tubes. Journal of Non-Newtonian Fluid Mechanics, 2021, 298, 104673.	2.4	15
79	Flow of two immiscible fluids in a periodically constricted tube: Transitions to stratified, segmented, churn, spray, or segregated flow. Physics of Fluids, 2015, 27, .	4.0	14
80	Unsteady state operation of catalytic particles with constant and periodically changing degree of external wetting. Chemical Engineering Science, 1998, 53, 3129-3142.	3.8	13
81	Transient flow of gravity-driven viscous films over substrates with rectangular topographical features. Microfluidics and Nanofluidics, 2016, 20, 1.	2.2	13
82	Transient flow of gravity-driven viscous films over 3D patterned substrates: conditions leading to Wenzel, Cassie and intermediate states. Microfluidics and Nanofluidics, 2017, 21, 1.	2.2	13
83	Advanced Constitutive Modeling of the Thixotropic Elasto-Visco-Plastic Behavior of Blood: Steady-State Blood Flow in Microtubes. Materials, 2021, 14, 367.	2.9	13
84	Oscillations of small bubbles and medium yielding in elastoviscoplastic fluids. Physical Review Fluids, 2019, 4, .	2.5	13
85	Unsteady extrusion of a viscoelastic annular film. Journal of Non-Newtonian Fluid Mechanics, 2000, 88, 303-325.	2.4	12
86	On the stick-slip flow from slit and cylindrical dies of a Phan-Thien and Tanner fluid model. I. Steady state. Physics of Fluids, 2009, 21, .	4.0	12
87	Inflation dynamnics of fluid annular menisci inside a mold cavityâ€”II. Deformation driven by large gas pressures. Chemical Engineering Science, 1991, 46, 597-608.	3.8	11
88	Linear stability of a gas boundary layer flowing past a thin liquid film over a flat plate. Journal of Fluid Mechanics, 2001, 436, 321-352.	3.4	11
89	Dynamics and motion of a gas bubble in aÂviscoplastic medium under acoustic excitation. Journal of Fluid Mechanics, 2019, 865, 381-413.	3.4	11
90	Investigation of the extensional properties of elasto-visco-plastic materials in cross-slot geometries. Journal of Non-Newtonian Fluid Mechanics, 2021, 296, 104627.	2.4	11

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91	Reduced and increased flow resistance in shear-dominated flows of Oldroyd-B fluids. Journal of Non-Newtonian Fluid Mechanics, 2022, 300, 104698.	2.4	11
92	Two- and three-dimensional instabilities in the film blowing process. Journal of Non-Newtonian Fluid Mechanics, 2007, 141, 193-220.	2.4	10
93	On the degree of wetting of a slit by a liquid film flowing along an inclined plane. Journal of Fluid Mechanics, 2017, 820, 5-41.	3.4	10
94	Adhesion, cavitation, and fibrillation during the debonding process of pressure sensitive adhesives. Physical Review Fluids, 2021, 6, .	2.5	10
95	Viscoelastic film flows over an inclined substrate with sinusoidal topography. I. Steady state. Physical Review Fluids, 2019, 4, .	2.5	10
96	Cooling of a viscoelastic film during unsteady extrusion from an annular die. Rheologica Acta, 2000, 39, 44-61.	2.4	9
97	The rising velocity of a slowly pulsating bubble in a shear-thinning fluid. Physics of Fluids, 2019, 31, 083103.	4.0	9
98	Modeling the channeling action of catalysts in gas-carbon reactions. AICHE Journal, 1989, 35, 686-689.	3.6	8
99	Boundary layer flow of air past solid surfaces in the presence of rainfall. Journal of Fluid Mechanics, 2000, 425, 79-110.	3.4	8
100	Comparison of spectral and finite element methods applied to the study of the core-annular flow in an undulating tube. International Journal for Numerical Methods in Fluids, 2002, 39, 41-73.	1.6	8
101	Fully developed flow of a viscoelastic film down a vertical cylindrical or planar wall. Rheologica Acta, 2009, 48, 1031-1048.	2.4	8
102	Viscous effects on the oscillations of two equal and deformable bubbles under a step change in pressure. Journal of Fluid Mechanics, 2011, 673, 513-547.	3.4	8
103	Steady flow of a viscoelastic film over an inclined plane featuring periodic slits. Journal of Non-Newtonian Fluid Mechanics, 2020, 278, 104243.	2.4	8
104	Transient rotational flow of an Oldroydâ€B fluid over a disk. Physics of Fluids, 1994, 6, 1144-1157.	4.0	7
105	Start-up flow of an upper convected maxwell fluid over a rotating disk. Journal of Non-Newtonian Fluid Mechanics, 1994, 55, 163-189.	2.4	7
106	Stress-gradient induced migration of polymers in thin films flowing over smoothly corrugated surfaces. Journal of Non-Newtonian Fluid Mechanics, 2016, 228, 79-95.	2.4	7
107	Viscoelastic film flows over an inclined substrate with sinusoidal topography. II. Linear stability analysis. Physical Review Fluids, 2019, 4, .	2.5	7
108	Experimental investigation and mathematical modeling of triode PEM fuel cells. Electrochimica Acta, 2017, 248, 518-533.	5.2	6

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109	Dynamics of charged and conducting drops via the hybrid finite-boundary element method. Engineering Analysis With Boundary Elements, 1995, 15, 339-348.	3.7	5
110	On the flow characteristics of the conical Minoan pipes used in water supply systems, via computational fluid dynamics simulations. Journal of Archaeological Science, 2013, 40, 2057-2068.	2.4	5
111	Dynamics and apparent permeability of the glycocalyx layer: Start-up and pulsating shear experiments in silico. Physical Review Fluids, 2022, 7, .	2.5	5
112	Evaluation of constitutive models for shear-banding wormlike micellar solutions in simple and complex flows. Journal of Non-Newtonian Fluid Mechanics, 2022, 307, 104855.	2.4	5
113	Gasification of graphite by the channeling action of metal catalysts. Journal of Catalysis, 1989, 117, 549-557.	6.2	4
114	Transient displacement of Newtonian liquids by gas in periodically constricted tubes. AICHE Journal, 2006, 52, 2707-2726.	3.6	4
115	Stability analysis of viscoelastic film flows over an inclined substrate with rectangular trenches. Journal of Fluid Mechanics, 2021, 915, .	3.4	4
116	Stability analysis of a Newtonian film flow over hydrophobic microtextured substrates. Physical Review Fluids, 2022, 7, .	2.5	4
117	Numerical simulations of interfacial and elastic instabilities. , 2022, 3, 100053.		2
118	Squeeze Flow of Bingham Plastic. , 1998, , 159-160.		1
119	Transient Coating of the Inner Wall of a Straight Tube with a Viscoelastic Material. AIP Conference Proceedings, 2008, , .	0.4	0
120	On the Interaction of an Air Jet with a Viscoelastic Tubular Film Produced during the Film Blowing Process. AIP Conference Proceedings, 2008, , .	0.4	0
121	The 3rd International Conference of the Hellenic Society of Rheology (HSR). Applied Rheology, 2002, 12, 35-36.	5.2	0