

# Francois Gallaire

## List of Publications by Year in descending order

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108  
papers

3,320  
citations

185998

28  
h-index

161609

54  
g-index

112  
all docs

112  
docs citations

112  
times ranked

3014  
citing authors

#	ARTICLE	IF	CITATIONS
1	Dynamics of microfluidic droplets. <i>Lab on A Chip</i> , 2010, 10, 2032.	3.1	828
2	Spiral vortex breakdown as a global mode. <i>Journal of Fluid Mechanics</i> , 2006, 549, 71.	1.4	137
3	Mode selection in swirling jet experiments: a linear stability analysis. <i>Journal of Fluid Mechanics</i> , 2003, 494, 223-253.	1.4	133
4	Linear stability analysis of wind turbine wakes performed on wind tunnel measurements. <i>Journal of Fluid Mechanics</i> , 2013, 737, 499-526.	1.4	107
5	Global two-dimensional stability measures of the flat plate boundary-layer flow. <i>European Journal of Mechanics, B/Fluids</i> , 2008, 27, 501-513.	1.2	105
6	Prediction of the hub vortex instability in a wind turbine wake: stability analysis with eddy-viscosity models calibrated on wind tunnel data. <i>Journal of Fluid Mechanics</i> , 2014, 750, .	1.4	89
7	Fabrication of slender elastic shells by the coating of curved surfaces. <i>Nature Communications</i> , 2016, 7, 11155.	5.8	80
8	Self-Consistent Mean Flow Description of the Nonlinear Saturation of the Vortex Shedding in the Cylinder Wake. <i>Physical Review Letters</i> , 2014, 113, 084501.	2.9	79
9	A weakly nonlinear mechanism for mode selection in swirling jets. <i>Journal of Fluid Mechanics</i> , 2012, 699, 216-262.	1.4	78
10	Generalized Rayleigh criterion for non-axisymmetric centrifugal instabilities. <i>Journal of Fluid Mechanics</i> , 2005, 542, 365.	1.4	75
11	Fluid dynamic instabilities: theory and application to pattern forming in complex media. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2017, 375, 20160155.	1.6	62
12	Quantitative analysis of the dripping and jetting regimes in co-flowing capillary jets. <i>Physics of Fluids</i> , 2011, 23, .	1.6	58
13	Part Load Vortex Rope as a Global Unstable Mode. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2017, 139, .	0.8	58
14	Inkjet Printing of Viscous Monodisperse Microdroplets by Laser-Induced Flow Focusing. <i>Physical Review Applied</i> , 2016, 6, .	1.5	55
15	Origin of the synchronous pressure fluctuations in the draft tube of Francis turbines operating at part load conditions. <i>Journal of Fluids and Structures</i> , 2019, 86, 13-33.	1.5	53
16	Origin and role of the cerebrospinal fluid bidirectional flow in the central canal. <i>ELife</i> , 2020, 9, .	2.8	52
17	The role of boundary conditions in a simple model of incipient vortex breakdown. <i>Physics of Fluids</i> , 2004, 16, 274-286.	1.6	47
18	Sensitivity of aerodynamic forces in laminar and turbulent flow past a square cylinder. <i>Physics of Fluids</i> , 2014, 26, .	1.6	38

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19	Vortex-Breakdown-Induced Particle Capture in Branching Junctions. <i>Physical Review Letters</i> , 2016, 117, 084501.	2.9	36
20	Viscous Taylor droplets in axisymmetric and planar tubes: from Bretherton's theory to empirical models. <i>Microfluidics and Nanofluidics</i> , 2018, 22, 1.	1.0	35
21	Rayleigh-Taylor instability under an inclined plane. <i>Physics of Fluids</i> , 2015, 27, .	1.6	34
22	A self-consistent model for the saturation dynamics of the vortex shedding around the mean flow in the unstable cylinder wake. <i>Physics of Fluids</i> , 2015, 27, .	1.6	33
23	Flow dynamics of a dandelion pappus: A linear stability approach. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	31
24	Boundary elements method for microfluidic two-phase flows in shallow channels. <i>Computers and Fluids</i> , 2015, 107, 272-284.	1.3	30
25	A pancake droplet translating in a Hele-Shaw cell: lubrication film and flow field. <i>Journal of Fluid Mechanics</i> , 2016, 798, 955-969.	1.4	30
26	Inertial manipulation of bubbles in rectangular microfluidic channels. <i>Lab on A Chip</i> , 2018, 18, 1035-1046.	3.1	30
27	Suppression of von Kármán vortex streets past porous rectangular cylinders. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	29
28	Marangoni induced force on a drop in a Hele Shaw cell. <i>Physics of Fluids</i> , 2014, 26, .	1.6	28
29	Physics of Bubble-Propelled Microrockets. <i>Advanced Functional Materials</i> , 2018, 28, 1800686.	7.8	28
30	Optimal Control of Part Load Vortex Rope in Francis Turbines. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2019, 141, .	0.8	26
31	A new prediction of wavelength selection in radial viscous fingering involving normal and tangential stresses. <i>Physics of Fluids</i> , 2013, 25, .	1.6	25
32	Hub vortex instability within wind turbine wakes: Effects of wind turbulence, loading conditions, and blade aerodynamics. <i>Physical Review Fluids</i> , 2016, 1, .	1.0	25
33	Sensitivity and open-loop control of stochastic response in a noise amplifier flow: the backward-facing step. <i>Journal of Fluid Mechanics</i> , 2015, 762, 361-392.	1.4	24
34	Dynamics of falling films on the outside of a vertical rotating cylinder: waves, rivulets and dripping transitions. <i>Journal of Fluid Mechanics</i> , 2017, 832, 189-211.	1.4	24
35	Closed-loop control of vortex breakdown: a model study. <i>Journal of Fluid Mechanics</i> , 2004, 511, 67-93.	1.4	22
36	Mode selection in trailing vortices: harmonic response of the non-parallel Batchelor vortex. <i>Journal of Fluid Mechanics</i> , 2016, 790, 523-552.	1.4	22

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37	A numerical study of droplet trapping in microfluidic devices. <i>Physics of Fluids</i> , 2014, 26, 032002.	1.6	20
38	Predictive control of spiral vortex breakdown. <i>Journal of Fluid Mechanics</i> , 2018, 842, 58-86.	1.4	20
39	Capillary hysteresis in sloshing dynamics: a weakly nonlinear analysis. <i>Journal of Fluid Mechanics</i> , 2018, 837, 788-818.	1.4	20
40	Control of axisymmetric vortex breakdown in a constricted pipe: Nonlinear steady states and weakly nonlinear asymptotic expansions. <i>Physics of Fluids</i> , 2011, 23, .	1.6	19
41	Controlled reattachment in separated flows: a variational approach to recirculation length reduction. <i>Journal of Fluid Mechanics</i> , 2014, 742, 618-635.	1.4	19
42	Prediction of two-dimensional dripping onset of a liquid film under an inclined plane. <i>International Journal of Multiphase Flow</i> , 2018, 104, 286-293.	1.6	19
43	Three-dimensional Rayleigh-Taylor instability under a unidirectional curved substrate. <i>Journal of Fluid Mechanics</i> , 2018, 837, 19-47.	1.4	19
44	Instability of a thin viscous film flowing under an inclined substrate: steady patterns. <i>Journal of Fluid Mechanics</i> , 2020, 898, .	1.4	18
45	The influence of shear layer thickness on the stability of confined two-dimensional wakes. <i>Physics of Fluids</i> , 2011, 23, .	1.6	17
46	A unified criterion for the centrifugal instabilities of vortices and swirling jets. <i>Journal of Fluid Mechanics</i> , 2013, 734, 5-35.	1.4	17
47	A self-consistent formulation for the sensitivity analysis of finite-amplitude vortex shedding in the cylinder wake. <i>Journal of Fluid Mechanics</i> , 2016, 800, 327-357.	1.4	17
48	Self-consistent model for the saturation mechanism of the response to harmonic forcing in the backward-facing step flow. <i>Journal of Fluid Mechanics</i> , 2016, 793, 777-797.	1.4	17
49	Ultralow Interfacial Tension Measurement through Jetting/Dripping Transition. <i>Langmuir</i> , 2017, 33, 2531-2540.	1.6	17
50	Bifurcation Dynamics of a Particle-Encapsulating Droplet in Shear Flow. <i>Physical Review Letters</i> , 2017, 119, 064502.	2.9	17
51	Theoretical framework to analyze the combined effect of surface tension and viscosity on the damping rate of sloshing waves. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	17
52	Foam on troubled water: Capillary induced finite-time arrest of sloshing waves. <i>Physics of Fluids</i> , 2016, 28, 091701.	1.6	16
53	Oscillations of confined fibres transported in microchannels. <i>Journal of Fluid Mechanics</i> , 2018, 835, 444-470.	1.4	16
54	Rayleigh-Taylor instability under curved substrates: An optimal transient growth analysis. <i>Physical Review Fluids</i> , 2016, 1, .	1.0	16

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55	Open-loop control of noise amplification in a separated boundary layer flow. <i>Physics of Fluids</i> , 2013, 25, .	1.6	15
56	Rayleigh-Taylor instability under a spherical substrate. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	15
57	Transport of flexible fibers in confined microchannels. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	15
58	Second-order sensitivity of parallel shear flows and optimal spanwise-periodic flow modifications. <i>Journal of Fluid Mechanics</i> , 2015, 782, 491-514.	1.4	14
59	Deformation of porous flexible strip in low and moderate Reynolds number flows. <i>Physical Review Fluids</i> , 2020, 5, .	1.0	14
60	Environmental Control of Amyloid Polymorphism by Modulation of Hydrodynamic Stress. <i>ACS Nano</i> , 2021, 15, 944-953.	7.3	13
61	Obstacle-induced spiral vortex breakdown. <i>Experiments in Fluids</i> , 2014, 55, 1.	1.1	12
62	Film thickness distribution in gravity-driven pancake-shaped droplets rising in a Hele-Shaw cell. <i>Journal of Fluid Mechanics</i> , 2019, 874, 1021-1040.	1.4	12
63	Edge states control droplet breakup in subcritical extensional flows. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	12
64	Instability of a thin viscous film flowing under an inclined substrate: the emergence and stability of rivulets. <i>Journal of Fluid Mechanics</i> , 2020, 904, .	1.4	11
65	Effective stress jump across membranes. <i>Journal of Fluid Mechanics</i> , 2020, 892, .	1.4	11
66	Second-order sensitivity in the cylinder wake: Optimal spanwise-periodic wall actuation and wall deformation. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	11
67	Unraveling radial dependency effects in fiber thermal drawing. <i>Applied Physics Letters</i> , 2019, 115, .	1.5	10
68	Transition from Exponentially Damped to Finite-Time Arrest Liquid Oscillations Induced by Contact Line Hysteresis. <i>Physical Review Letters</i> , 2020, 124, 104502.	2.9	10
69	Feedback-free microfluidic oscillator with impinging jets. <i>Physical Review Fluids</i> , 2020, 5, .	1.0	10
70	Spatio-temporal stability of the Kármán vortex street and the effect of confinement. <i>Journal of Fluid Mechanics</i> , 2016, 795, 187-209.	1.4	9
71	Impinging planar jets: hysteretic behaviour and origin of the self-sustained oscillations. <i>Journal of Fluid Mechanics</i> , 2021, 913, .	1.4	9
72	The stability of a rising droplet: an inertialess non-modal growth mechanism. <i>Journal of Fluid Mechanics</i> , 2016, 786, .	1.4	8

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73	Saturation of the response to stochastic forcing in two-dimensional backward-facing step flow: A self-consistent approximation. <i>Physical Review Fluids</i> , 2016, 1, .	1.0	8
74	Hydrodynamic loading of perforated disks in creeping flows. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	8
75	Dripping down the rivulet. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	8
76	An amplitude equation modelling the double-crest swirling in orbital-shaken cylindrical containers. <i>Journal of Fluid Mechanics</i> , 2022, 943, .	1.4	8
77	Fingering instability on curved substrates: optimal initial film and substrate perturbations. <i>Journal of Fluid Mechanics</i> , 2019, 868, 726-761.	1.4	7
78	Hydrodynamic-driven morphogenesis of karst draperies: spatio-temporal analysis of the two-dimensional impulse response. <i>Journal of Fluid Mechanics</i> , 2021, 910, .	1.4	7
79	Homogenization-based design of microstructured membranes: wake flows past permeable shells. <i>Journal of Fluid Mechanics</i> , 2021, 927, .	1.4	7
80	Particle size selection in capillary instability of locally heated coaxial fiber. <i>Physical Review Fluids</i> , 2019, 4, .	1.0	7
81	Manipulating flow separation: sensitivity of stagnation points, separatrix angles and recirculation area to steady actuation. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2014, 470, 20140365.	1.0	6
82	Sloshing in a Hele-Shaw cell: experiments and theory. <i>Journal of Fluid Mechanics</i> , 2017, 831, .	1.4	6
83	The Hydrodynamics of a Micro-Rocket Propelled by a Deformable Bubble. <i>Fluids</i> , 2019, 4, 48.	0.8	6
84	Viscous growth and rebound of a bubble near a rigid surface. <i>Journal of Fluid Mechanics</i> , 2019, 860, 172-199.	1.4	6
85	Onset of chaos in helical vortex breakdown at low Reynolds number. <i>Physical Review Fluids</i> , 2018, 3, .	1.0	6
86	Relaxation of capillary-gravity waves due to contact line nonlinearity: A projection method. <i>Chaos</i> , 2021, 31, 123124.	1.0	6
87	On the effect of a penetrating recirculation region on the bifurcations of the flow past a permeable sphere. <i>Physics of Fluids</i> , 2021, 33, .	1.6	6
88	Drops on the Underside of a Slightly Inclined Wet Substrate Move Too Fast to Grow. <i>Physical Review Letters</i> , 2021, 127, 044503.	2.9	5
89	Self-consistent triple decomposition of the turbulent flow over a backward-facing step under finite amplitude harmonic forcing. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2019, 475, 20190018.	1.0	4
90	Everything in its right place: controlling the local composition of hydrogels using microfluidic traps. <i>Lab on A Chip</i> , 2020, 20, 4572-4581.	3.1	4

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91	Nonlinear evolution of the centrifugal instability using a semilinear model. Journal of Fluid Mechanics, 2020, 897, .	1.4	4
92	Leidenfrost flows: instabilities and symmetry breakings. Flow, 2022, 2, .	1.0	4
93	Influence of the inlet velocity profile on the flow stability in a symmetric channel expansion. Journal of Fluid Mechanics, 2021, 909, .	1.4	3
94	The influence of the entry region on the instability of a coflowing injector device. Journal of Physics Condensed Matter, 2018, 30, 284003.	0.7	2
95	Two-dimensional modelling of transient capillary driven damped micro-oscillations and self-alignment of objects in microassembly. Journal of Fluid Mechanics, 2021, 910, .	1.4	2
96	Secondary instability in thin film flows under an inclined plane: growth of lenses on spatially developing rivulets. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, .	1.0	2
97	Absolute/convective secondary instabilities and the role of confinement in free shear layers. Physical Review Fluids, 2018, 3, .	1.0	2
98	Swinging jets. Physical Review Fluids, 2020, 5, .	1.0	2
99	Beer tapping: dynamics of bubbles after impact. Journal of Physics: Conference Series, 2015, 656, 012029.	0.3	1
100	The motion of a 2D pendulum in a channel subjected to an incoming flow. Journal of Fluid Mechanics, 2015, 764, 5-25.	1.4	1
101	Flow control of weakly non-parallel flows: application to trailing vortices. Journal of Fluid Mechanics, 2017, 822, 342-363.	1.4	1
102	Frequency selection in a gravitationally stretched capillary jet in the jetting regime. Journal of Fluid Mechanics, 2020, 894, .	1.4	1
103	Vortex impingement onto an axisymmetric obstacle " subcritical bifurcation to vortex breakdown. Journal of Fluid Mechanics, 2021, 910, .	1.4	1
104	Optimal spanwise-periodic control for recirculation length in a backward-facing step flow. Physical Review Fluids, 2020, 5, .	1.0	1
105	Hydrodynamic-driven morphogenesis of karst draperies: spatio-temporal analysis of the two-dimensional impulse response " CORRIGENDUM. Journal of Fluid Mechanics, 2021, 926, .	1.4	0
106	Prediction of Self-Assembled Dewetted Nanostructures for Photonics Applications via a Continuum-Mechanics Framework. Physical Review Applied, 2021, 16, .	1.5	0
107	Instability of a thin viscous film flowing under an inclined substrate: the emergence and stability of rivulets " CORRIGENDUM. Journal of Fluid Mechanics, 2021, 926, .	1.4	0
108	Instability of a thin viscous film flowing under an inclined substrate: steady patterns " CORRIGENDUM. Journal of Fluid Mechanics, 2021, 926, .	1.4	0