

# Francois Gallaire

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

99 papers	2,407 citations	22 h-index	46 g-index
112 ext. papers	2,936 ext. citations	4.1 avg, IF	5.55 L-index

#	Paper	IF	Citations
99	Influence of the inlet velocity profile on the flow stability in a symmetric channel expansion. <i>Journal of Fluid Mechanics</i> , <b>2021</b> , 909,	3.7	1
98	Environmental Control of Amyloid Polymorphism by Modulation of Hydrodynamic Stress. <i>ACS Nano</i> , <b>2021</b> , 15, 944-953	16.7	7
97	Impinging planar jets: hysteretic behaviour and origin of the self-sustained oscillations. <i>Journal of Fluid Mechanics</i> , <b>2021</b> , 913,	3.7	3
96	Drops on the Underside of a Slightly Inclined Wet Substrate Move Too Fast to Grow. <i>Physical Review Letters</i> , <b>2021</b> , 127, 044503	7.4	0
95	Hydrodynamic-driven morphogenesis of karst draperies: spatio-temporal analysis of the two-dimensional impulse response. <i>Journal of Fluid Mechanics</i> , <b>2021</b> , 910,	3.7	1
94	Secondary instability in thin film flows under an inclined plane: growth of lenses on spatially developing rivulets. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , <b>2021</b> , 477, 20210291	2.4	0
93	Homogenization-based design of microstructured membranes: wake flows past permeable shells. <i>Journal of Fluid Mechanics</i> , <b>2021</b> , 927,	3.7	1
92	Relaxation of capillary-gravity waves due to contact line nonlinearity: A projection method.. <i>Chaos</i> , <b>2021</b> , 31, 123124	3.3	0
91	On the effect of a penetrating recirculation region on the bifurcations of the flow past a permeable sphere. <i>Physics of Fluids</i> , <b>2021</b> , 33, 124103	4.4	1
90	Transition from Exponentially Damped to Finite-Time Arrest Liquid Oscillations Induced by Contact Line Hysteresis. <i>Physical Review Letters</i> , <b>2020</b> , 124, 104502	7.4	3
89	Instability of a thin viscous film flowing under an inclined substrate: steady patterns. <i>Journal of Fluid Mechanics</i> , <b>2020</b> , 898,	3.7	8
88	Frequency selection in a gravitationally stretched capillary jet in the jetting regime. <i>Journal of Fluid Mechanics</i> , <b>2020</b> , 894,	3.7	1
87	Effective stress jump across membranes. <i>Journal of Fluid Mechanics</i> , <b>2020</b> , 892,	3.7	3
86	Feedback-free microfluidic oscillator with impinging jets. <i>Physical Review Fluids</i> , <b>2020</b> , 5,	2.8	7
85	Deformation of porous flexible strip in low and moderate Reynolds number flows. <i>Physical Review Fluids</i> , <b>2020</b> , 5,	2.8	5
84	Swinging jets. <i>Physical Review Fluids</i> , <b>2020</b> , 5,	2.8	1
83	Origin and role of the cerebrospinal fluid bidirectional flow in the central canal. <i>ELife</i> , <b>2020</b> , 9,	8.9	26

82	Optimal spanwise-periodic control for recirculation length in a backward-facing step flow. <i>Physical Review Fluids</i> , <b>2020</b> , 5,	2.8	1
81	Instability of a thin viscous film flowing under an inclined substrate: the emergence and stability of rivulets. <i>Journal of Fluid Mechanics</i> , <b>2020</b> , 904,	3.7	3
80	Everything in its right place: controlling the local composition of hydrogels using microfluidic traps. <i>Lab on A Chip</i> , <b>2020</b> , 20, 4572-4581	7.2	1
79	Optimal Control of Part Load Vortex Rope in Francis Turbines. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , <b>2019</b> , 141,	2.1	11
78	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> , <b>2019</b> , 86, 13-33	3.1	28
77	The Hydrodynamics of a Micro-Rocket Propelled by a Deformable Bubble. <i>Fluids</i> , <b>2019</b> , 4, 48	1.6	3
76	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> , <b>2019</b> , 475, 20190018	2.4	1
75	Fingering instability on curved substrates: optimal initial film and substrate perturbations. <i>Journal of Fluid Mechanics</i> , <b>2019</b> , 868, 726-761	3.7	4
74	Unraveling radial dependency effects in fiber thermal drawing. <i>Applied Physics Letters</i> , <b>2019</b> , 115, 044103,	3.4	6
73	Film thickness distribution in gravity-driven pancake-shaped droplets rising in a Hele-Shaw cell. <i>Journal of Fluid Mechanics</i> , <b>2019</b> , 874, 1021-1040	3.7	5
72	Transport of flexible fibers in confined microchannels. <i>Physical Review Fluids</i> , <b>2019</b> , 4,	2.8	10
71	Second-order sensitivity in the cylinder wake: Optimal spanwise-periodic wall actuation and wall deformation. <i>Physical Review Fluids</i> , <b>2019</b> , 4,	2.8	6
70	Particle size selection in capillary instability of locally heated coaxial fiber. <i>Physical Review Fluids</i> , <b>2019</b> , 4,	2.8	3
69	Flow dynamics of a dandelion pappus: A linear stability approach. <i>Physical Review Fluids</i> , <b>2019</b> , 4,	2.8	11
68	Hydrodynamic loading of perforated disks in creeping flows. <i>Physical Review Fluids</i> , <b>2019</b> , 4,	2.8	5
67	Dripping down the rivulet. <i>Physical Review Fluids</i> , <b>2019</b> , 4,	2.8	5
66	Viscous growth and rebound of a bubble near a rigid surface. <i>Journal of Fluid Mechanics</i> , <b>2019</b> , 860, 172-199	3.7	5
65	Predictive control of spiral vortex breakdown. <i>Journal of Fluid Mechanics</i> , <b>2018</b> , 842, 58-86	3.7	10

64	Inertial manipulation of bubbles in rectangular microfluidic channels. <i>Lab on A Chip</i> , <b>2018</b> , 18, 1035-1046	7.2	22
63	Prediction of two-dimensional dripping onset of a liquid film under an inclined plane. <i>International Journal of Multiphase Flow</i> , <b>2018</b> , 104, 286-293	3.6	10
62	Three-dimensional Rayleigh-Taylor instability under a unidirectional curved substrate. <i>Journal of Fluid Mechanics</i> , <b>2018</b> , 837, 19-47	3.7	11
61	Capillary hysteresis in sloshing dynamics: a weakly nonlinear analysis. <i>Journal of Fluid Mechanics</i> , <b>2018</b> , 837, 788-818	3.7	7
60	Physics of Bubble-Propelled Microrockets. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1800686	15.6	25
59	Viscous Taylor droplets in axisymmetric and planar tubes: from Bretherton's theory to empirical models. <i>Microfluidics and Nanofluidics</i> , <b>2018</b> , 22, 1	2.8	22
58	Absolute/convective secondary instabilities and the role of confinement in free shear layers. <i>Physical Review Fluids</i> , <b>2018</b> , 3,	2.8	1
57	Onset of chaos in helical vortex breakdown at low Reynolds number. <i>Physical Review Fluids</i> , <b>2018</b> , 3,	2.8	2
56	Edge states control droplet breakup in subcritical extensional flows. <i>Physical Review Fluids</i> , <b>2018</b> , 3,	2.8	5
55	Rayleigh-Taylor instability under a spherical substrate. <i>Physical Review Fluids</i> , <b>2018</b> , 3,	2.8	8
54	Theoretical framework to analyze the combined effect of surface tension and viscosity on the damping rate of sloshing waves. <i>Physical Review Fluids</i> , <b>2018</b> , 3,	2.8	7
53	Suppression of von Kármán vortex streets past porous rectangular cylinders. <i>Physical Review Fluids</i> , <b>2018</b> , 3,	2.8	18
52	Oscillations of confined fibres transported in microchannels. <i>Journal of Fluid Mechanics</i> , <b>2018</b> , 835, 444-470	5.7	10
51	The influence of the entry region on the instability of a coflowing injector device. <i>Journal of Physics Condensed Matter</i> , <b>2018</b> , 30, 284003	1.8	2
50	Ultralow Interfacial Tension Measurement through Jetting/Dripping Transition. <i>Langmuir</i> , <b>2017</b> , 33, 2531-2540	14	
49	Part Load Vortex Rope as a Global Unstable Mode. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , <b>2017</b> , 139,	2.1	36
48	Flow control of weakly non-parallel flows: application to trailing vortices. <i>Journal of Fluid Mechanics</i> , <b>2017</b> , 822, 342-363	3.7	1
47	Fluid dynamic instabilities: theory and application to pattern forming in complex media. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2017</b> , 375,	3	43

46	Dynamics of falling films on the outside of a vertical rotating cylinder: waves, rivulets and dripping transitions. <i>Journal of Fluid Mechanics</i> , <b>2017</b> , 832, 189-211	3.7	17
45	Sloshing in a Hele-Shaw cell: experiments and theory. <i>Journal of Fluid Mechanics</i> , <b>2017</b> , 831,	3.7	3
44	Bifurcation Dynamics of a Particle-Encapsulating Droplet in Shear Flow. <i>Physical Review Letters</i> , <b>2017</b> , 119, 064502	7.4	12
43	Vortex-Breakdown-Induced Particle Capture in Branching Junctions. <i>Physical Review Letters</i> , <b>2016</b> , 117, 084501	7.4	26
42	Hub vortex instability within wind turbine wakes: Effects of wind turbulence, loading conditions, and blade aerodynamics. <i>Physical Review Fluids</i> , <b>2016</b> , 1,	2.8	19
41	Saturation of the response to stochastic forcing in two-dimensional backward-facing step flow: A self-consistent approximation. <i>Physical Review Fluids</i> , <b>2016</b> , 1,	2.8	3
40	Rayleigh-Taylor instability under curved substrates: An optimal transient growth analysis. <i>Physical Review Fluids</i> , <b>2016</b> , 1,	2.8	11
39	A self-consistent formulation for the sensitivity analysis of finite-amplitude vortex shedding in the cylinder wake. <i>Journal of Fluid Mechanics</i> , <b>2016</b> , 800, 327-357	3.7	13
38	Fabrication of slender elastic shells by the coating of curved surfaces. <i>Nature Communications</i> , <b>2016</b> , 7, 11155	17.4	54
37	Foam on troubled water: Capillary induced finite-time arrest of sloshing waves. <i>Physics of Fluids</i> , <b>2016</b> , 28, 091701	4.4	12
36	A pancake droplet translating in a Hele-Shaw cell: lubrication film and flow field. <i>Journal of Fluid Mechanics</i> , <b>2016</b> , 798, 955-969	3.7	27
35	The stability of a rising droplet: an inertialess non-modal growth mechanism. <i>Journal of Fluid Mechanics</i> , <b>2016</b> , 786,	3.7	8
34	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> , <b>2016</b> , 793, 777-797	3.7	13
33	Mode selection in trailing vortices: harmonic response of the non-parallel Batchelor vortex. <i>Journal of Fluid Mechanics</i> , <b>2016</b> , 790, 523-552	3.7	17
32	Spatio-temporal stability of the Kármán vortex street and the effect of confinement. <i>Journal of Fluid Mechanics</i> , <b>2016</b> , 795, 187-209	3.7	8
31	Inkjet Printing of Viscous Monodisperse Microdroplets by Laser-Induced Flow Focusing. <i>Physical Review Applied</i> , <b>2016</b> , 6,	4.3	40
30	Boundary elements method for microfluidic two-phase flows in shallow channels. <i>Computers and Fluids</i> , <b>2015</b> , 107, 272-284	2.8	25
29	The motion of a 2D pendulum in a channel subjected to an incoming flow. <i>Journal of Fluid Mechanics</i> , <b>2015</b> , 764, 5-25	3.7	

28	Sensitivity and open-loop control of stochastic response in a noise amplifier flow: the backward-facing step. <i>Journal of Fluid Mechanics</i> , <b>2015</b> , 762, 361-392	3.7	20
27	Second-order sensitivity of parallel shear flows and optimal spanwise-periodic flow modifications. <i>Journal of Fluid Mechanics</i> , <b>2015</b> , 782, 491-514	3.7	10
26	Rayleigh-Taylor instability under an inclined plane. <i>Physics of Fluids</i> , <b>2015</b> , 27, 084107	4.4	22
25	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> , <b>2015</b> , 27, 074103	4.4	21
24	Beer tapping: dynamics of bubbles after impact. <i>Journal of Physics: Conference Series</i> , <b>2015</b> , 656, 012029	0.3	1
23	A numerical study of droplet trapping in microfluidic devices. <i>Physics of Fluids</i> , <b>2014</b> , 26, 032002	4.4	18
22	Marangoni induced force on a drop in a Hele Shaw cell. <i>Physics of Fluids</i> , <b>2014</b> , 26, 062105	4.4	22
21	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> , <b>2014</b> , 470, 20140365	2.4	5
20	Obstacle-induced spiral vortex breakdown. <i>Experiments in Fluids</i> , <b>2014</b> , 55, 1	2.5	11
19	Self-consistent mean flow description of the nonlinear saturation of the vortex shedding in the cylinder wake. <i>Physical Review Letters</i> , <b>2014</b> , 113, 084501	7.4	56
18	Sensitivity of aerodynamic forces in laminar and turbulent flow past a square cylinder. <i>Physics of Fluids</i> , <b>2014</b> , 26, 104101	4.4	30
17	Controlled reattachment in separated flows: a variational approach to recirculation length reduction. <i>Journal of Fluid Mechanics</i> , <b>2014</b> , 742, 618-635	3.7	16
16	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> , <b>2014</b> , 750,	3.7	68
15	Linear stability analysis of wind turbine wakes performed on wind tunnel measurements. <i>Journal of Fluid Mechanics</i> , <b>2013</b> , 737, 499-526	3.7	76
14	A new prediction of wavelength selection in radial viscous fingering involving normal and tangential stresses. <i>Physics of Fluids</i> , <b>2013</b> , 25, 124107	4.4	18
13	A unified criterion for the centrifugal instabilities of vortices and swirling jets. <i>Journal of Fluid Mechanics</i> , <b>2013</b> , 734, 5-35	3.7	10
12	Open-loop control of noise amplification in a separated boundary layer flow. <i>Physics of Fluids</i> , <b>2013</b> , 25, 124106	4.4	15
11	A weakly nonlinear mechanism for mode selection in swirling jets. <i>Journal of Fluid Mechanics</i> , <b>2012</b> , 699, 216-262	3.7	59

10	Control of axisymmetric vortex breakdown in a constricted pipe: Nonlinear steady states and weakly nonlinear asymptotic expansions. <i>Physics of Fluids</i> , <b>2011</b> , 23, 084102	4.4	15
9	Quantitative analysis of the dripping and jetting regimes in co-flowing capillary jets. <i>Physics of Fluids</i> , <b>2011</b> , 23, 094111	4.4	51
8	The influence of shear layer thickness on the stability of confined two-dimensional wakes. <i>Physics of Fluids</i> , <b>2011</b> , 23, 034103	4.4	15
7	Dynamics of microfluidic droplets. <i>Lab on A Chip</i> , <b>2010</b> , 10, 2032-45	7.2	691
6	Global two-dimensional stability measures of the flat plate boundary-layer flow. <i>European Journal of Mechanics, B/Fluids</i> , <b>2008</b> , 27, 501-513	2.4	89
5	Spiral vortex breakdown as a global mode. <i>Journal of Fluid Mechanics</i> , <b>2006</b> , 549, 71	3.7	107
4	Generalized Rayleigh criterion for non-axisymmetric centrifugal instabilities. <i>Journal of Fluid Mechanics</i> , <b>2005</b> , 542, 365	3.7	59
3	The role of boundary conditions in a simple model of incipient vortex breakdown. <i>Physics of Fluids</i> , <b>2004</b> , 16, 274-286	4.4	37
2	Closed-loop control of vortex breakdown: a model study. <i>Journal of Fluid Mechanics</i> , <b>2004</b> , 511, 67-93	3.7	20
1	Mode selection in swirling jet experiments: a linear stability analysis. <i>Journal of Fluid Mechanics</i> , <b>2003</b> , 494, 223-253	3.7	107