Sigurdur T Thoroddsen

List of Publications by Year
in descending order

162 papers	7,033 citations	57631 44 h-index	66788 78 g-index
193 all docs	193 docs citations	193 times ranked	6275 citing authors

#	Article	IF	Citations
1	Stabilization of Leidenfrost vapour layer by textured superhydrophobic surfaces. Nature, 2012, 489, 274-277.	13.7	467
2	Solution-printed organic semiconductor blends exhibiting transport properties on par with single crystals. Nature Communications, 2015, 6, 8598.	5.8	219
3	The coalescence cascade of a drop. Physics of Fluids, 2000, 12, 1265-1267.	1.6	204
4	The coalescence speed of a pendent and a sessile drop. Journal of Fluid Mechanics, 2005, 527, 85-114.	1.4	185
5	The air bubble entrapped under a drop impacting on a solid surface. Journal of Fluid Mechanics, 2005, 545, 203.	1.4	182
6	Phase Transition Control for High-Performance Blade-Coated Perovskite Solar Cells. Joule, 2018, 2, 1313-1330.	11.7	180
7	Evolution of the fingering pattern of an impacting drop. Physics of Fluids, 1998, 10, 1359-1374.	1.6	177
8	Drag Reduction by Leidenfrost Vapor Layers. Physical Review Letters, 2011, 106, 214501.	2.9	169
9	Air entrapment under an impacting drop. Journal of Fluid Mechanics, 2003, 478, 125-134.	1.4	164
10	Spinâ€Cast Bulk Heterojunction Solar Cells: A Dynamical Investigation. Advanced Materials, 2013, 25, 1923-1929.	11.1	163
11	The ejecta sheet generated by the impact of a drop. Journal of Fluid Mechanics, 2002, 451, 373-381.	1.4	151
12	Experimental study of coating flows in a partially-filled horizontally Rotating cylinder. Experiments in Fluids, 1997, 23, 1-13.	1.1	150
13	Semi-metallic, strong and stretchable wet-spun conjugated polymer microfibers. Journal of Materials Chemistry C, 2015, 3, 2528-2538.	2.7	130
14	One-dimensional self-confinement promotes polymorph selection in large-area organic semiconductor thin films. Nature Communications, 2014, 5, 3573.	5.8	129
15	von KÃ¡rmÃ¡n Vortex Street within an Impacting Drop. Physical Review Letters, 2012, 108, 264506.	2.9	127
16	Granular jets. Physics of Fluids, 2001, 13, 4-6.	1.6	126
17	Experiments on bubble pinch-off. Physics of Fluids, 2007, 19, 042101.	1.6	123
18	High-ampacity conductive polymer microfibers as fast response wearable heaters and electromechanical actuators. Journal of Materials Chemistry C, 2016, 4, 1238-1249.	2.7	100

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19	Vertical Phase Separation in Small Molecule:Polymer Blend Organic Thin Film Transistors Can Be Dynamically Controlled. Advanced Functional Materials, 2016, 26, 1737-1746.	7.8	98
20	Scaling of the fingering pattern of an impacting drop. Physics of Fluids, 1996, 8, 1344-1346.	1.6	93
21	Crown sealing and buckling instability during water entry of spheres. Journal of Fluid Mechanics, 2016, 794, 506-529.	1.4	92
22	Drop impact entrapment of bubble rings. Journal of Fluid Mechanics, 2013, 724, 234-258.	1.4	88
23	Spray and microjets produced by focusing a laser pulse into a hemispherical drop. Physics of Fluids, 2009, 21, .	1.6	83
24	Water entry without surface seal: extended cavity formation. Journal of Fluid Mechanics, 2014, 743, 295-326.	1.4	82
25	Time-resolved imaging of a compressible air disc under a drop impacting on a solid surface. Journal of Fluid Mechanics, 2015, 780, 636-648.	1.4	81
26	Micro-bubble morphologies following drop impacts onto a pool surface. Journal of Fluid Mechanics, 2012, 708, 469-479.	1.4	79
27	Satellite Formation during Coalescence of Unequal Size Drops. Physical Review Letters, 2009, 102, 104502.	2.9	77
28	Micro-splashing by drop impacts. Journal of Fluid Mechanics, 2012, 706, 560-570.	1.4	74
29	Droplet Splashing by a Slingshot Mechanism. Physical Review Letters, 2011, 106, 034501.	2.9	70
30	Drop impact into a deep pool: vortex shedding and jet formation. Journal of Fluid Mechanics, 2015, 764, .	1.4	70
31	The initial coalescence of miscible drops. Physics of Fluids, 2007, 19, .	1.6	67
32	Propagation of capillary waves and ejection of small droplets in rapid droplet spreading. Journal of Fluid Mechanics, 2012, 697, 92-114.	1.4	65
33	Leidenfrost vapour layer moderation of the drag crisis and trajectories of superhydrophobic and hydrophilic spheres falling in water. Soft Matter, 2014, 10, 5662-5668.	1.2	63
34	Impact jetting by a solid sphere. Journal of Fluid Mechanics, 2004, 499, 139-148.	1.4	62
35	Exponential tails and skewness of density-gradient probability density functions in stably stratified turbulence. Journal of Fluid Mechanics, 1992, 244, 547.	1.4	61
36	Vortex-ring-induced large bubble entrainment during drop impact. Physical Review E, 2016, 93, 033128.	0.8	59

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37	Rainbow particle imaging velocimetry for dense 3D fluid velocity imaging. ACM Transactions on Graphics, 2017, 36, 1-14.	4.9	57
38	Bubble entrapment through topological change. Physics of Fluids, 2010, 22, .	1.6	54
39	Experimental evidence supporting Kolmogorovâ€™s refined similarity hypothesis. Physics of Fluids A, Fluid Dynamics, 1992, 4, 2592-2594.	1.6	52
40	Self-determined shapes and velocities of giant near-zero drag gas cavities. Science Advances, 2017, 3, e1701558.	4.7	52
41	Dynamic Air Layer on Textured Superhydrophobic Surfaces. Langmuir, 2013, 29, 11074-11081.	1.6	50
42	Crown breakup by Marangoni instability. Journal of Fluid Mechanics, 2006, 557, 63.	1.4	48
43	Satellite generation during bubble coalescence. Physics of Fluids, 2008, 20, .	1.6	46
44	Unraveling the Order and Disorder in Poly(3,4-ethylenedioxythiophene)/Poly(styrenesulfonate) Nanofilms. Macromolecules, 2015, 48, 5688-5696.	2.2	46
45	Cavity formation by the impact of Leidenfrost spheres. Journal of Fluid Mechanics, 2012, 699, 465-488.	1.4	44
46	Probing the nanoscale: the first contact of an impacting drop. Journal of Fluid Mechanics, 2015, 785, .	1.4	44
47	On the formation of hydrogen peroxide in water microdroplets. Chemical Science, 2022, 13, 2574-2583.	3.7	44
48	On the coalescence speed of bubbles. Physics of Fluids, 2005, 17, 071703.	1.6	43
49	A â€œtwistedâ€•microfluidic mixer suitable for a wide range of flow rate applications. Biomicrofluidics, 2016, 10, 034120.	1.2	43
50	Droplet generation in cross-flow for cost-effective 3D-printed â€œplug-and-playâ€•microfluidic devices. RSC Advances, 2016, 6, 81120-81129.	1.7	42
51	A simple and low-cost fully 3D-printed non-planar emulsion generator. RSC Advances, 2016, 6, 2793-2799.	1.7	42
52	The deformation of a liquid film flowing down an inclined plane wall over a small particle arrested on the wall. Physics of Fluids A, Fluid Dynamics, 1991, 3, 2546-2558.	1.6	41
53	Double Contact During Drop Impact on a Solid Under Reduced Air Pressure. Physical Review Letters, 2017, 119, 214502.	2.9	41
54	Coalescence Dynamics of Mobile and Immobile Fluid Interfaces. Langmuir, 2018, 34, 2096-2108.	1.6	41

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55	Drag crisis moderation by thin air layers sustained on superhydrophobic spheres falling in water. Soft Matter, 2018, 14, 1608-1613.	1.2	40
56	Evolution of fluid-like granular ejecta generated by sphere impact. Journal of Fluid Mechanics, 2012, 704, 5-36.	1.4	39
57	Tomographic Particle Image Velocimetry using Smartphones and Colored Shadows. Scientific Reports, 2017, 7, 3714.	1.6	38
58	Sphere impact and penetration into wet sand. Physical Review E, 2012, 86, 020301.	0.8	37
59	Highly Efficient Thermoresponsive Nanocomposite for Controlled Release Applications. Scientific Reports, 2016, 6, 28539.	1.6	37
60	Stableâ€"streamlined and helical cavities following the impact of Leidenfrost spheres. Journal of Fluid Mechanics, 2017, 823, 716-754.	1.4	37
61	Asymmetric liquid wetting and spreading on surfaces with slanted micro-pillar arrays. Soft Matter, 2013, 9, 11113.	1.2	36
62	A co-flow-focusing monodisperse microbubble generator. Journal of Micromechanics and Microengineering, 2014, 24, 035008.	1.5	36
63	Partial coalescence from bubbles to drops. Journal of Fluid Mechanics, 2015, 782, 209-239.	1.4	36
64	Leidenfrost Vapor Layers Reduce Drag without the Crisis in High Viscosity Liquids. Physical Review Letters, 2016, 117, 114503.	2.9	36
65	Bubble entrapment during sphere impact onto quiescent liquid surfaces. Journal of Fluid Mechanics, 2011, 680, 660-670.	1.4	35
66	Squeeze flow of a Carreau fluid during sphere impact. Physics of Fluids, 2012, 24, .	1.6	35
67	Impact of ultra-viscous drops: air-film gliding and extreme wetting. Journal of Fluid Mechanics, 2017, 813, 647-666.	1.4	33
68	Singular jets during the collapse of drop-impact craters. Journal of Fluid Mechanics, 2018, 848, .	1.4	33
69	Mobile-surface bubbles and droplets coalesce faster but bounce stronger. Science Advances, 2019, 5, eaaw4292.	4.7	33
70	Reevaluation of the experimental support for the Kolmogorov refined similarity hypothesis. Physics of Fluids, 1995, 7, 691-693.	1.6	31
71	Antibubbles and fine cylindrical sheets of air. Journal of Fluid Mechanics, 2015, 779, 87-115.	1.4	31
72	The air entrapment under a drop impacting on a nano-rough surface. Soft Matter, 2018, 14, 7586-7596.	1.2	31

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73	Microjetting from wave focusing on oscillating drops. Physics of Fluids, 2007, 19, 052101.	1.6	29
74	Scanning tomographic particle image velocimetry applied to a turbulent jet. Physics of Fluids, 2013, 25, .	1.6	29
75	Stabilization of Thin Liquid Films by Repulsive van der Waals Force. Langmuir, 2014, 30, 5162-5169.	1.6	27
76	Single-camera 3D PTV using particle intensities and structured light. Experiments in Fluids, 2019, 60, 1.	1.1	27
77	To Split or Not to Split: Dynamics of an Air Disk Formed under a Drop Impacting on a Pool. Physical Review Letters, 2020, 124, 184501.	2.9	26
78	Satellite formation during bubble transition through an interface between immiscible liquids. Journal of Fluid Mechanics, 2014, 744, .	1.4	25
79	Formation of microbeads during vapor explosions of Field's metal in water. Physical Review E, 2016, 93, 063108.	0.8	25
80	Gliding on a layer of air: impact of a large-viscosity drop on a liquid film. Journal of Fluid Mechanics, 2019, 878, .	1.4	25
81	Droplet impacts onto soft solids entrap more air. Soft Matter, 2020, 16, 5702-5710.	1.2	25
82	Simple and inexpensive microfluidic devices for the generation of monodisperse multiple emulsions. Journal of Micromechanics and Microengineering, 2014, 24, 015019.	1.5	24
83	Experiments on the breakup of drop-impact crowns by Marangoni holes. Journal of Fluid Mechanics, 2018, 844, 162-186.	1.4	23
84	Multitude of dimple shapes can produce singular jets during the collapse of immiscible drop-impact craters. Journal of Fluid Mechanics, 2020, 904, .	1.4	23
85	Superhydrophobicity and size reduction enabled Halobates (Insecta: Heteroptera, Gerridae) to colonize the open ocean. Scientific Reports, 2020, 10, 7785.	1.6	22
86	Experiments on density-gradient anisotropies and scalar dissipation of turbulence in a stably stratified fluid. Journal of Fluid Mechanics, 1996, 322, 383-409.	1.4	21
87	Early azimuthal instability during drop impact. Journal of Fluid Mechanics, 2018, 848, 821-835.	1.4	21
88	Effect of specific cathode surface area on biofouling in an anaerobic electrochemical membrane bioreactor: Novel insights using high-speed video camera. Journal of Membrane Science, 2019, 577, 176-183.	4.1	20
89	Wave patterns in a thin layer of sand within a rotating horizontal cylinder. Physics of Fluids, 1998, 10, 10-12.	1.6	19
90	Direct verification of the lubrication force on a sphere travelling through a viscous film upon approach to a solid wall. Journal of Fluid Mechanics, 2010, 655, 515-526.	1.4	19

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91	Navier slip model of drag reduction by Leidenfrost vapor layers. Physics of Fluids, 2017, 29, .	1.6	19
92	Ultra-high speed visualization of a flash-boiling jet in a low-pressure environment. International Journal of Multiphase Flow, 2019, 110, 238-255.	1.6	19
93	The fastest drop climbing on a wet conical fibre. Physics of Fluids, 2013, 25, 052105.	1.6	18
94	Stable-streamlined cavities following the impact of non-superhydrophobic spheres on water. Soft Matter, 2019, 15, 6278-6287.	1.2	18
95	Jetting from an impacting drop containing a particle. Physics of Fluids, 2020, 32, .	1.6	18
96	Qualitative flow visualization using colored lights and reflective flakes. Physics of Fluids, 1999, 11, 1702-1704.	1.6	17
97	Evaporative Lithography in Open Microfluidic Channel Networks. Langmuir, 2017, 33, 2861-2871.	1.6	17
98	Marangoni instability of two liquids mixing at a free surface. Physics of Fluids, 1998, 10, 3038-3040.	1.6	16
99	Impact of granular drops. Physical Review E, 2013, 88, 010201.	0.8	16
100	Foam-Film-Stabilized Liquid Bridge Networks in Evaporative Lithography and Wet Granular Matter. Langmuir, 2013, 29, 4966-4973.	1.6	16
101	Giant drag reduction on Leidenfrost spheres evaluated from extended free-fall trajectories. Experimental Thermal and Fluid Science, 2019, 102, 181-188.	1.5	16
102	Contraction of an air disk caught between two different liquids. Physical Review E, 2013, 88, 061001.	0.8	15
103	Soft colloidal probes for AFM force measurements between water droplets in oil. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2014, 462, 259-263.	2.3	15
104	Partial coalescence of a drop on a larger-viscosity pool. Physics of Fluids, 2020, 32, .	1.6	15
105	Free-Rising Bubbles Bounce More Strongly from Mobile than from Immobile Waterâ€"Air Interfaces. Langmuir, 2020, 36, 5908-5918.	1.6	15
106	Cavitation structures formed during the rebound of a sphere from a wetted surface. Experiments in Fluids, 2011, 50, 729-746.	1.1	14
107	Drag Moderation by the Melting of an Ice Surface in Contact with Water. Physical Review Letters, 2015, 115, 044501.	2.9	14
108	Free-surface entrainment into a rimming flow containing surfactants. Physics of Fluids, 2004, 16, L13-L16.	1.6	13

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109	Apex jets from impacting drops. Journal of Fluid Mechanics, 2008, 614, 293-302.	1.4	13
110	The making of a splash. Journal of Fluid Mechanics, 2012, 690, 1-4.	1.4	13
111	A droplet reactor on a super-hydrophobic surface allows control and characterization of amyloid fibril growth. Communications Biology, 2020, 3, 457.	2.0	13
112	Stick-slip substructure in rapid tape peeling. Physical Review E, 2010, 82, 046107.	0.8	12
113	Fine radial jetting during the impact of compound drops. Journal of Fluid Mechanics, 2020, 883, .	1.4	12
114	Vortex-induced buckling of a viscous drop impacting a pool. Physical Review Fluids, 2017, 2, .	1.0	11
115	Laser-induced micro-jetting from armored droplets. Experiments in Fluids, 2015, 56, 1.	1.1	10
116	Acoustic separation of oil droplets, colloidal particles and their mixtures in a microfluidic cell. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2016, 506, 138-147.	2.3	10
117	Effects of interface mobility on the dynamics of colliding bubbles. Current Opinion in Colloid and Interface Science, 2022, 57, 101540.	3.4	10
118	Coalescence time of water-in-oil emulsions under shear. Chemical Engineering Science, 2022, 250, 117257.	1.9	10
119	Experiments on homogeneous turbulence in an unstably stratified fluid. Physics of Fluids, 1998, 10, 3155-3167.	1.6	9
120	Puncturing a drop using surfactants. Journal of Fluid Mechanics, 2005, 530, 295-304.	1.4	9
121	When superhydrophobicity can be a drag: Ventilated cavitation and splashing effects in hydrofoil and speed-boat models tests. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2021, 628, 127344.	2.3	9
122	RainbowPIV with improved depth resolutionâ€"design and comparative study with TomoPIV. Measurement Science and Technology, 2021, 32, 025401.	1.4	9
123	Jet breakup in superfluid and normal liquid <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>He</mml:mi><mml:mprescripts /><mml:none /><mml:mn>4</mml:mn></mml:mmultiscripts></mml:math>. Physical Review Fluids, 2020, 5, .	1.0	9
124	The effects of a vertical contraction on turbulence dynamics in a stably stratified fluid. Journal of Fluid Mechanics, 1995, 285, 371.	1.4	8
125	Droplet genealogy. Nature Physics, 2006, 2, 223-224.	6.5	8
126	DEWETTING AT THE CENTER OF A DROP IMPACT. Modern Physics Letters B, 2009, 23, 361-364.	1.0	8

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127	Vortex-induced vapor explosion during drop impact on a superheated pool. Experimental Thermal and Fluid Science, 2017, 87, 60-68.	1.5	8
128	Cavitation upon low-speed solidâ€"liquid impact. Nature Communications, 2021, 12, 7250.	5.8	8
129	Leaping shampoo glides on a lubricating air layer. Physical Review E, 2013, 87, 061001.	0.8	7
130	The onset of cavitation during the collision of a sphere with a wetted surface. Experiments in Fluids, 2014, 55, 1.	1.1	7
131	Cavitation structures formed during the collision of a sphere with an ultra-viscous wetted surface. Journal of Fluid Mechanics, 2016, 796, 473-515.	1.4	7
132	The effect of ambient pressure on ejecta sheets from free-surface ablation. Experiments in Fluids, 2016, 57, 1.	1.1	7
133	A new image-based microfluidic method to test demulsifier enhancement of coalescence-rate, for water droplets in crude oil. Journal of Petroleum Science and Engineering, 2022, 208, 109720.	2.1	7
134	Ejecta evolution during cone impact. Journal of Fluid Mechanics, 2014, 752, 410-438.	1.4	6
135	Interferometry and Simulation of the Thin Liquid Film between a Free-Rising Bubble and a Glass Substrate. Langmuir, 2022, 38, 2363-2371.	1.6	6
136	Development of a drop-on-demand system for multiple material dispensing. , 2008, , .		5
137	Multi-layer film flow down an inclined plane: experimental investigation. Experiments in Fluids, 2014, 55, 1.	1.1	5
138	Magnetically Triggered Monodispersed Nanocomposite Fabricated by Microfluidic Approach for Drug Delivery. International Journal of Polymer Science, 2016, 2016, 1-8.	1.2	5
139	Evolution of toroidal free-rim perturbations on an expanding circular liquid sheet. Experiments in Fluids, 2018, 59, 1.	1.1	5
140	Hydrodynamic regimes and drag on horizontally pulled floating spheres. Physics of Fluids, 2021, 33, 093308.	1.6	5
141	Air-bubble entrapment due to a drop. , 2005, , .		4
142	Penetration in bimodal, polydisperse granular material. Physical Review E, 2016, 94, 052902.	0.8	4
143	The alignment of vortical structures in turbulent flow through a contraction. Journal of Fluid Mechanics, 2020, 884, .	1.4	4
144	Stably stratified turbulence subjected to a constant area vertical expansion. Physics of Fluids, 1995, 7, 1165-1167.	1.6	3

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145	IS SEGREGATION-BY-PARTICLE-TYPE A GENERIC MECHANISM UNDERLYING FINGER FORMATION AT FRONTS OF FLOWING GRANULAR MEDIA?. Particulate Science and Technology, 1999, 17, 141-147.	1.1	3
146	Laser-induced onset of electrospinning. Physical Review E, 2010, 81, 035302.	0.8	3
147	Generation of ultra-sound during tape peeling. Scientific Reports, 2015, 4, 4326.	1.6	3
148	How drain flies manage to almost never get washed away. Scientific Reports, 2020, 10, 17829.	1.6	3
149	Conditional sampling of dissipation in moderate Reynolds number grid turbulence. Physics of Fluids, 1996, 8, 1333-1335.	1.6	2
150	Latex particle template lift-up guided gold wire-networks via evaporation lithography. RSC Advances, 2014, 4, 59118-59121.	1.7	2
151	High-Speed Interferometry Under Impacting Drops. , 2018, , 321-341.		2
152	High-Speed Time-Resolved Tomographic Particle Shadow Velocimetry Using Smartphones. Applied Sciences (Switzerland), 2020, 10, 7094.	1.3	2
153	Direct imaging of polymer filaments pulled from rebounding drops. Soft Matter, 2022, 18, 5097-5105.	1.2	2
154	Baroclinic generation of vorticity by an axisymmetric vortex in a linearly stratified fluid; in the passive limit. Physics of Fluids, 1996, 8, 2774-2776.	1.6	1
155	Technical Report: Development of a Piezoelectric Inkjet Dopant Delivery Device for an Atmospheric Pressure Photoionization Source with Liquid Chromatography/Mass Spectrometry. European Journal of Mass Spectrometry, 2013, 19, 325-334.	0.5	1
156	Stability of an unsupported multi-layer surfactant laden liquid curtain under gravity. Journal of Engineering Mathematics, 2016, 99, 119-136.	0.6	1
157	Impact and lifecycle of superfluid helium drops on a solid surface. Physical Review Fluids, 2020, 5, .	1.0	1
158	Bubble eruptions in a multilayer Hele-Shaw flow. Physical Review E, 2022, 105, 045101.	0.8	1
159	Probing the nanoscale with high-speed interferometry of an impacting drop. Proceedings of SPIE, 2017, , .	0.8	0
160	Spreading of Normal Liquid Helium Drops. Physical Review E, 2020, 102, 043105.	0.8	0
161	10.1063/1.5139534.8. , 2020, , .		0
162	Poster: Bouncing with filaments. , 0, , .		0