Sigurdur T Thoroddsen

List of Publications by Citations

155 papers	5,468 citations	40 h-index	68 g-index
193 ext. papers	6,267 ext. citations	5.1 avg, IF	6 L-index

#	Paper	IF	Citations
155	Stabilization of Leidenfrost vapour layer by textured superhydrophobic surfaces. *Nature*, **2012**, 489, 274-7	50.4	385
154	Solution-printed organic semiconductor blends exhibiting transport properties on par with single crystals. *Nature Communications*, **2015**, 6, 8598	17.4	188
153	The coalescence cascade of a drop. *Physics of Fluids*, **2000**, 12, 1265-1267	4.4	166
152	Evolution of the fingering pattern of an impacting drop. *Physics of Fluids*, **1998**, 10, 1359-1374	4.4	160
151	Spin-cast bulk heterojunction solar cells: a dynamical investigation. *Advanced Materials*, **2013**, 25, 1923-9	24	154
150	The air bubble entrapped under a drop impacting on a solid surface. *Journal of Fluid Mechanics*, **2005**, 545, 203	3.7	151
149	The coalescence speed of a pendent and a sessile drop. *Journal of Fluid Mechanics*, **2005**, 527, 85-114	3.7	148
148	Drag reduction by Leidenfrost vapor layers. *Physical Review Letters*, **2011**, 106, 214501	7.4	138
147	Air entrapment under an impacting drop. *Journal of Fluid Mechanics*, **2003**, 478, 125-134	3.7	136
146	Phase Transition Control for High-Performance Blade-Coated Perovskite Solar Cells. *Joule*, **2018**, 2, 1313-1330	27.8	125
145	The ejecta sheet generated by the impact of a drop. *Journal of Fluid Mechanics*, **2002**, 451, 373-381	3.7	124
144	Experimental study of coating flows in a partially-filled horizontally Rotating cylinder. *Experiments in Fluids*, **1997**, 23, 1-13	2.5	121
143	One-dimensional self-confinement promotes polymorph selection in large-area organic semiconductor thin films. *Nature Communications*, **2014**, 5, 3573	17.4	116
142	Experiments on bubble pinch-off. *Physics of Fluids*, **2007**, 19, 042101	4.4	111
141	von K□m□ vortex street within an impacting drop. *Physical Review Letters*, **2012**, 108, 264506	7.4	105
140	Granular jets. *Physics of Fluids*, **2001**, 13, 4-6	4.4	102
139	Semi-metallic, strong and stretchable wet-spun conjugated polymer microfibers. *Journal of Materials Chemistry C*, **2015**, 3, 2528-2538	7.1	100

138	Vertical Phase Separation in Small Molecule:Polymer Blend Organic Thin Film Transistors Can Be Dynamically Controlled. *Advanced Functional Materials*, **2016**, 26, 1737-1746	15.6	85
137	High-ampacity conductive polymer microfibers as fast response wearable heaters and electromechanical actuators. *Journal of Materials Chemistry C*, **2016**, 4, 1238-1249	7.1	80
136	Scaling of the fingering pattern of an impacting drop. *Physics of Fluids*, **1996**, 8, 1344-1346	4.4	77
135	Drop impact entrapment of bubble rings. *Journal of Fluid Mechanics*, **2013**, 724, 234-258	3.7	68
134	Crown sealing and buckling instability during water entry of spheres. *Journal of Fluid Mechanics*, **2016**, 794, 506-529	3.7	64
133	Micro-bubble morphologies following drop impacts onto a pool surface. *Journal of Fluid Mechanics*, **2012**, 708, 469-479	3.7	62
132	Time-resolved imaging of a compressible air disc under a drop impacting on a solid surface. *Journal of Fluid Mechanics*, **2015**, 780, 636-648	3.7	61
131	Exponential tails and skewness of density-gradient probability density functions in stably stratified turbulence. *Journal of Fluid Mechanics*, **1992**, 244, 547	3.7	59
130	Water entry without surface seal: extended cavity formation. *Journal of Fluid Mechanics*, **2014**, 743, 295-326	3.7	58
129	Spray and microjets produced by focusing a laser pulse into a hemispherical drop. *Physics of Fluids*, **2009**, 21, 112101	4.4	57
128	Impact jetting by a solid sphere. *Journal of Fluid Mechanics*, **2004**, 499, 139-148	3.7	56
127	Satellite Formation during Coalescence of Unequal Size Drops. *Physical Review Letters*, **2009**, 102, 104502	7.4	55
126	Droplet splashing by a slingshot mechanism. *Physical Review Letters*, **2011**, 106, 034501	7.4	55
125	Leidenfrost vapour layer moderation of the drag crisis and trajectories of superhydrophobic and hydrophilic spheres falling in water. *Soft Matter*, **2014**, 10, 5662-8	3.6	54
124	Micro-splashing by drop impacts. *Journal of Fluid Mechanics*, **2012**, 706, 560-570	3.7	53
123	The initial coalescence of miscible drops. *Physics of Fluids*, **2007**, 19, 072110	4.4	53
122	Drop impact into a deep pool: vortex shedding and jet formation. *Journal of Fluid Mechanics*, **2015**, 764,	3.7	52
121	Experimental evidence supporting Kolmogorov's refined similarity hypothesis. *Physics of Fluids A, Fluid Dynamics*, **1992**, 4, 2592-2594		52

120	Vortex-ring-induced large bubble entrainment during drop impact. *Physical Review E*, **2016**, 93, 033128	2.4	47
119	Propagation of capillary waves and ejection of small droplets in rapid droplet spreading. *Journal of Fluid Mechanics*, **2012**, 697, 92-114	3.7	47
118	Dynamic air layer on textured superhydrophobic surfaces. *Langmuir*, **2013**, 29, 11074-81	4	45
117	Bubble entrapment through topological change. *Physics of Fluids*, **2010**, 22, 051701	4.4	43
116	Crown breakup by Marangoni instability. *Journal of Fluid Mechanics*, **2006**, 557, 63	3.7	41
115	Unraveling the Order and Disorder in Poly(3,4-ethylenedioxythiophene)/Poly(styrenesulfonate) Nanofilms. *Macromolecules*, **2015**, 48, 5688-5696	5.5	40
114	On the coalescence speed of bubbles. *Physics of Fluids*, **2005**, 17, 071703	4.4	40
113	Satellite generation during bubble coalescence. *Physics of Fluids*, **2008**, 20, 022104	4.4	38
112	Self-determined shapes and velocities of giant near-zero drag gas cavities. *Science Advances*, **2017**, 3, e1701558	14.3	37
111	Droplet generation in cross-flow for cost-effective 3D-printed 'plug-and-play' microfluidic devices. *RSC Advances*, **2016**, 6, 81120-81129	3.7	35
110	A simple and low-cost fully 3D-printed non-planar emulsion generator. *RSC Advances*, **2016**, 6, 2793-2799	3.7	35
109	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		35
108	Asymmetric liquid wetting and spreading on surfaces with slanted micro-pillar arrays. *Soft Matter*, **2013**, 9, 11113	3.6	33
107	Rainbow particle imaging velocimetry for dense 3D fluid velocity imaging. *ACM Transactions on Graphics*, **2017**, 36, 1-14	7.6	33
106	A "twisted" microfluidic mixer suitable for a wide range of flow rate applications. *Biomicrofluidics*, **2016**, 10, 034120	3.2	33
105	Evolution of fluid-like granular ejecta generated by sphere impact. *Journal of Fluid Mechanics*, **2012**, 704, 5-36	3.7	32
104	Highly Efficient Thermoresponsive Nanocomposite for Controlled Release Applications. *Scientific Reports*, **2016**, 6, 28539	4.9	32
103	Probing the nanoscale: the first contact of an impacting drop. *Journal of Fluid Mechanics*, **2015**, 785,	3.7	31

102	Cavity formation by the impact of Leidenfrost spheres. *Journal of Fluid Mechanics*, **2012**, 699, 465-488	3.7	31
101	Bubble entrapment during sphere impact onto quiescent liquid surfaces. *Journal of Fluid Mechanics*, **2011**, 680, 660-670	3.7	31
100	Reevaluation of the experimental support for the Kolmogorov refined similarity hypothesis. *Physics of Fluids*, **1995**, 7, 691-693	4.4	30
99	Coalescence Dynamics of Mobile and Immobile Fluid Interfaces. *Langmuir*, **2018**, 34, 2096-2108	4	29
98	Leidenfrost Vapor Layers Reduce Drag without the Crisis in High Viscosity Liquids. *Physical Review Letters*, **2016**, 117, 114503	7.4	29
97	Double Contact During Drop Impact on a Solid Under Reduced Air Pressure. *Physical Review Letters*, **2017**, 119, 214502	7.4	28
96	A co-flow-focusing monodisperse microbubble generator. *Journal of Micromechanics and Microengineering*, **2014**, 24, 035008	2	26
95	Stable streamlined and helical cavities following the impact of Leidenfrost spheres. *Journal of Fluid Mechanics*, **2017**, 823, 716-754	3.7	26
94	Sphere impact and penetration into wet sand. *Physical Review E*, **2012**, 86, 020301	2.4	26
93	Satellite formation during bubble transition through an interface between immiscible liquids. *Journal of Fluid Mechanics*, **2014**, 744,	3.7	25
92	Partial coalescence from bubbles to drops. *Journal of Fluid Mechanics*, **2015**, 782, 209-239	3.7	24
91	Scanning tomographic particle image velocimetry applied to a turbulent jet. *Physics of Fluids*, **2013**, 25, 025102	4.4	24
90	Stabilization of thin liquid films by repulsive van der Waals force. *Langmuir*, **2014**, 30, 5162-9	4	23
89	Squeeze flow of a Carreau fluid during sphere impact. *Physics of Fluids*, **2012**, 24, 073104	4.4	23
88	Impact of ultra-viscous drops: air-film gliding and extreme wetting. *Journal of Fluid Mechanics*, **2017** , 813, 647-666	3.7	22
87	Drag crisis moderation by thin air layers sustained on superhydrophobic spheres falling in water. *Soft Matter*, **2018**, 14, 1608-1613	3.6	22
86	Tomographic Particle Image Velocimetry using Smartphones and Colored Shadows. *Scientific Reports*, **2017**, 7, 3714	4.9	21
85	Microjetting from wave focusing on oscillating drops. *Physics of Fluids*, **2007**, 19, 052101	4.4	21

84	The air entrapment under a drop impacting on a nano-rough surface. *Soft Matter*, **2018**, 14, 7586-7596	3.6	20
83	Antibubbles and fine cylindrical sheets of air. *Journal of Fluid Mechanics*, **2015**, 779, 87-115	3.7	19
82	Mobile-surface bubbles and droplets coalesce faster but bounce stronger. *Science Advances*, **2019**, 5, eaaw4292	14.3	18
81	Simple and inexpensive microfluidic devices for the generation of monodisperse multiple emulsions. *Journal of Micromechanics and Microengineering*, **2014**, 24, 015019	2	18
80	Experiments on density-gradient anisotropies and scalar dissipation of turbulence in a stably stratified fluid. *Journal of Fluid Mechanics*, **1996**, 322, 383-409	3.7	18
79	Single-camera 3D PTV using particle intensities and structured light. *Experiments in Fluids*, **2019**, 60, 1	2.5	18
78	Gliding on a layer of air: impact of a large-viscosity drop on a liquid film. *Journal of Fluid Mechanics*, **2019**, 878,	3.7	17
77	Ultra-high speed visualization of a flash-boiling jet in a low-pressure environment. *International Journal of Multiphase Flow*, **2019**, 110, 238-255	3.6	17
76	Foam-film-stabilized liquid bridge networks in evaporative lithography and wet granular matter. *Langmuir*, **2013**, 29, 4966-73	4	16
75	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	3.7	16
74	Qualitative flow visualization using colored lights and reflective flakes. *Physics of Fluids*, **1999**, 11, 1702-1704	4.4	16
73	Experiments on the breakup of drop-impact crowns by Marangoni holes. *Journal of Fluid Mechanics*, **2018**, 844, 162-186	3.7	15
72	Singular jets during the collapse of drop-impact craters. *Journal of Fluid Mechanics*, **2018**, 848,	3.7	15
71	The fastest drop climbing on a wet conical fibre. *Physics of Fluids*, **2013**, 25, 052105	4.4	15
70	Wave patterns in a thin layer of sand within a rotating horizontal cylinder. *Physics of Fluids*, **1998**, 10, 10-12	4.4	15
69	Formation of microbeads during vapor explosions of Field's metal in water. *Physical Review E*, **2016**, 93, 063108	2.4	14
68	Soft colloidal probes for AFM force measurements between water droplets in oil. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **2014**, 462, 259-263	5.1	14
67	Impact of granular drops. *Physical Review E*, **2013**, 88, 010201	2.4	14

66	Navier slip model of drag reduction by Leidenfrost vapor layers. *Physics of Fluids*, **2017**, 29, 107104	4.4	14
65	Marangoni instability of two liquids mixing at a free surface. *Physics of Fluids*, **1998**, 10, 3038-3040	4.4	14
64	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	9.6	13
63	Superhydrophobicity and size reduction enabled Halobates (Insecta: Heteroptera, Gerridae) to colonize the open ocean. *Scientific Reports*, **2020**, 10, 7785	4.9	13
62	Cavitation structures formed during the rebound of a sphere from a wetted surface. *Experiments in Fluids*, **2011**, 50, 729-746	2.5	13
61	Evaporative Lithography in Open Microfluidic Channel Networks. *Langmuir*, **2017**, 33, 2861-2871	4	12
60	Drag Moderation by the Melting of an Ice Surface in Contact with Water. *Physical Review Letters*, **2015**, 115, 044501	7.4	12
59	Early azimuthal instability during drop impact. *Journal of Fluid Mechanics*, **2018**, 848, 821-835	3.7	12
58	Apex jets from impacting drops. *Journal of Fluid Mechanics*, **2008**, 614, 293-302	3.7	12
57	Free-surface entrainment into a rimming flow containing surfactants. *Physics of Fluids*, **2004**, 16, L13-L16	4.4	12
56	Stable-streamlined cavities following the impact of non-superhydrophobic spheres on water. *Soft Matter*, **2019**, 15, 6278-6287	3.6	11
55	The making of a splash. *Journal of Fluid Mechanics*, **2012**, 690, 1-4	3.7	11
54	Droplet impacts onto soft solids entrap more air. *Soft Matter*, **2020**, 16, 5702-5710	3.6	10
53	Jetting from an impacting drop containing a particle. *Physics of Fluids*, **2020**, 32, 011704	4.4	10
52	Contraction of an air disk caught between two different liquids. *Physical Review E*, **2013**, 88, 061001	2.4	10
51	On the formation of hydrogen peroxide in water microdroplets.. *Chemical Science*, **2022**, 13, 2574-2583	9.4	10
50	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	7.4	9
49	Experiments on homogeneous turbulence in an unstably stratified fluid. *Physics of Fluids*, **1998**, 10, 3155-3167	4.4	9

48	Fine radial jetting during the impact of compound drops. *Journal of Fluid Mechanics*, **2020**, 883,	3.7	9
47	Giant drag reduction on Leidenfrost spheres evaluated from extended free-fall trajectories. *Experimental Thermal and Fluid Science*, **2019**, 102, 181-188	3	9
46	DEWETTING AT THE CENTER OF A DROP IMPACT. *Modern Physics Letters B*, **2009**, 23, 361-364	1.6	8
45	Puncturing a drop using surfactants. *Journal of Fluid Mechanics*, **2005**, 530, 295-304	3.7	8
44	Vortex-induced buckling of a viscous drop impacting a pool. *Physical Review Fluids*, **2017**, 2,	2.8	8
43	Free-Rising Bubbles Bounce More Strongly from Mobile than from Immobile Water-Air Interfaces. *Langmuir*, **2020**, 36, 5908-5918	4	7
42	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	5.1	7
41	Stick-slip substructure in rapid tape peeling. *Physical Review E*, **2010**, 82, 046107	2.4	7
40	Multitude of dimple shapes can produce singular jets during the collapse of immiscible drop-impact craters. *Journal of Fluid Mechanics*, **2020**, 904,	3.7	7
39	Laser-induced micro-jetting from armored droplets. *Experiments in Fluids*, **2015**, 56, 1	2.5	6
38	The effects of a vertical contraction on turbulence dynamics in a stably stratified fluid. *Journal of Fluid Mechanics*, **1995**, 285, 371	3.7	6
37	A droplet reactor on a super-hydrophobic surface allows control and characterization of amyloid fibril growth. *Communications Biology*, **2020**, 3, 457	6.7	6
36	Vortex-induced vapor explosion during drop impact on a superheated pool. *Experimental Thermal and Fluid Science*, **2017**, 87, 60-68	3	5
35	Leaping shampoo glides on a lubricating air layer. *Physical Review E*, **2013**, 87, 061001	2.4	5
34	Jet breakup in superfluid and normal liquid He4. *Physical Review Fluids*, **2020**, 5,	2.8	5
33	Partial coalescence of a drop on a larger-viscosity pool. *Physics of Fluids*, **2020**, 32, 122115	4.4	5
32	The onset of cavitation during the collision of a sphere with a wetted surface. *Experiments in Fluids*, **2014**, 55, 1	2.5	4
31	Multi-layer film flow down an inclined plane: experimental investigation. *Experiments in Fluids*, **2014** , 55, 1	2.5	4

30	Ejecta evolution during cone impact. *Journal of Fluid Mechanics*, **2014**, 752, 410-438	3.7	4
29	Development of a drop-on-demand system for multiple material dispensing **2008**,		4
28	Air-bubble entrapment due to a drop **2005**,		4
27	Cavitation structures formed during the collision of a sphere with an ultra-viscous wetted surface. *Journal of Fluid Mechanics*, **2016**, 796, 473-515	3.7	4
26	Generation of ultra-sound during tape peeling. *Scientific Reports*, **2014**, 4, 4326	4.9	3
25	Laser-induced onset of electrospinning. *Physical Review E*, **2010**, 81, 035302	2.4	3
24	Magnetically Triggered Monodispersed Nanocomposite Fabricated by Microfluidic Approach for Drug Delivery. *International Journal of Polymer Science*, **2016**, 2016, 1-8	2.4	3
23	The effect of ambient pressure on ejecta sheets from free-surface ablation. *Experiments in Fluids*, **2016**, 57, 1	2.5	3
22	Evolution of toroidal free-rim perturbations on an expanding circular liquid sheet. *Experiments in Fluids*, **2018**, 59, 1	2.5	3
21	Penetration in bimodal, polydisperse granular material. *Physical Review E*, **2016**, 94, 052902	2.4	2
20	Latex particle template lift-up guided gold wire-networks via evaporation lithography. *RSC Advances*, **2014**, 4, 59118-59121	3.7	2
19	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	2	2
18	Stably stratified turbulence subjected to a constant area vertical expansion. *Physics of Fluids*, **1995**, 7, 1165-1167	4.4	2
17	RainbowPIV with improved depth resolution□design and comparative study with TomoPIV. *Measurement Science and Technology*, **2021**, 32, 025401	2	2
16	The alignment of vortical structures in turbulent flow through a contraction. *Journal of Fluid Mechanics*, **2020**, 884,	3.7	2
15	High-Speed Time-Resolved Tomographic Particle Shadow Velocimetry Using Smartphones. *Applied Sciences (Switzerland)*, **2020**, 10, 7094	2.6	1
14	High-Speed Interferometry Under Impacting Drops **2018**, 321-341		1
13	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, 325-34	1.1	1

12	Baroclinic generation of vorticity by an axisymmetric vortex in a linearly stratified fluid; in the passive limit. *Physics of Fluids*, **1996**, 8, 2774-2776	4.4	1
11	Impact and lifecycle of superfluid helium drops on a solid surface. *Physical Review Fluids*, **2020**, 5,	2.8	1
10	How drain flies manage to almost never get washed away. *Scientific Reports*, **2020**, 10, 17829	4.9	1
9	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	5.1	1
8	Cavitation upon low-speed solid-liquid impact.. *Nature Communications*, **2021**, 12, 7250	17.4	0
7	Effects of interface mobility on the dynamics of colliding bubbles. *Current Opinion in Colloid and Interface Science*, **2021**, 101540	7.6	0
6	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*, **2021**, 109720	4.4	0
5	Coalescence time of water-in-oil emulsions under shear. *Chemical Engineering Science*, **2022**, 250, 117257	4.4	0
4	Stability of an unsupported multi-layer surfactant laden liquid curtain under gravity. *Journal of Engineering Mathematics*, **2016**, 99, 119-136	1.2	
3	Conditional sampling of dissipation in moderate Reynolds number grid turbulence. *Physics of Fluids*, **1996**, 8, 1333-1335	4.4	
2	Spreading of Normal Liquid Helium Drops. *Physical Review E*, **2020**, 102, 043105	2.4	
1	Bubble eruptions in a multilayer Hele-Shaw flow.. *Physical Review E*, **2022**, 105, 045101	2.4	