Siva A Vanapalli

List of Publications by Year
in descending order

86	2,718	159585	206112
papers	citations	30 h-index	48 g-index

99	99	99	3221
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Microfluidic static droplet arrays with tuneable gradients in material composition. Lab on A Chip, 2011, 11, 3949.	6.0	129
2	Stability of emulsions to dispersed phase crystallization: effect of oil type, dispersed phase volume fraction, and cooling rate. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2002, 204, 227-237.	4.7	125
3	Hydrodynamic resistance of single confined moving drops in rectangular microchannels. Lab on A Chip, 2009, 9, 982-990.	6.0	125
4	Volume-of-fluid simulations in microfluidic T-junction devices: Influence of viscosity ratio on droplet size. Physics of Fluids, 2017, 29, .	4.0	118
5	Universal scaling for polymer chain scission in turbulence. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 16660-16665.	7.1	99
6	Microfluidics as a functional tool for cell mechanics. Biomicrofluidics, 2009, 3, 012006.	2.4	90
7	Microfluidic viscometers for shear rheology of complex fluids and biofluids. Biomicrofluidics, 2016, 10, 043402.	2.4	89
8	Growth kinetics of microalgae in microfluidic static droplet arrays. Biotechnology and Bioengineering, 2012, 109, 2987-2996.	3.3	84
9	Emulsions under shearâ€"the formation and properties of partially coalesced lipid structures. Food Hydrocolloids, 2001, 15, 507-512.	10.7	76
10	Glass Transition and Aging in Dense Suspensions of Thermosensitive Microgel Particles. Physical Review Letters, 2008, 101, 238301.	7.8	76
11	Microfluidic cell isolation technology for drug testing of single tumor cells and their clusters. Scientific Reports, 2017, 7, 41707.	3.3	69
12	Programmable Fluidic Production of Microparticles with Configurable Anisotropy. Journal of the American Chemical Society, 2008, 130, 1335-1340.	13.7	66
13	Label-free, high-throughput holographic screening and enumeration of tumor cells in blood. Lab on A Chip, 2017, 17, 2920-2932.	6.0	64
14	Behavior of a train of droplets in a fluidic network with hydrodynamic traps. Biomicrofluidics, 2010, 4, 44110.	2.4	60
15	Swim exercise in Caenorhabditis elegans extends neuromuscular and gut healthspan, enhances learning ability, and protects against neurodegeneration. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 23829-23839.	7.1	57
16	Probing the mechanical properties of brain cancer cells using a microfluidic cell squeezer device. Biomicrofluidics, 2013, 7, 11806.	2.4	53
17	Scission-induced bounds on maximum polymer drag reduction in turbulent flow. Physics of Fluids, 2005, 17, 095108.	4.0	52
18	Multiplexed microfluidic viscometer for high-throughput complex fluid rheology. Microfluidics and Nanofluidics, 2014, 16, 677-690.	2.2	45

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19	Ankyrin Is An Intracellular Tether for TMC Mechanotransduction Channels. Neuron, 2020, 107, 112-125.e10.	8.1	45
20	Influence of Fat Crystallization on the Stability of Flocculated Emulsions. Journal of Agricultural and Food Chemistry, 2002, 50, 5224-5228.	5.2	44
21	Fluidic Assembly and Packing of Microspheres in Confined Channels. Langmuir, 2008, 24, 3661-3670.	3.5	44
22	Electrowetting-enhanced microfluidic device for drop generation. Applied Physics Letters, 2008, 93, .	3.3	44
23	High-Reynolds-number turbulent boundary layer friction drag reduction from wall-injected polymer solutions. Journal of Fluid Mechanics, 2009, 621, 259-288.	3.4	44
24	Blood plasma separation in a long two-phase plug flowing through disposable tubing. Lab on A Chip, 2012, 12, 5225.	6.0	44
25	A stress-controlled microfluidic shear viscometer based on smartphone imaging. Rheologica Acta, 2016, 55, 727-738.	2.4	44
26	Muscle strength deficiency and mitochondrial dysfunction in a muscular dystrophy model of C. elegans and its functional response to drugs. DMM Disease Models and Mechanisms, 2018, 11, .	2.4	42
27	Inertial Effects on Polymer Chain Scission in Planar Elongational Cross-Slot Flow. Macromolecules, 2004, 37, 1023-1030.	4.8	39
28	Electrowetting-controlled droplet generation in a microfluidic flow-focusing device. Journal of Physics Condensed Matter, 2007, 19, 462101.	1.8	37
29	NemaFlex: a microfluidics-based technology for standardized measurement of muscular strength ofC. elegans. Lab on A Chip, 2018, 18, 2187-2201.	6.0	37
30	Coalescing drops in microfluidic parking networks: A multifunctional platform for drop-based microfluidics. Biomicrofluidics, 2014, 8, 034118.	2.4	34
31	The integrinâ€adhesome is required to maintain muscle structure, mitochondrial ATP production, and movement forces inCaenorhabditis elegans. FASEB Journal, 2015, 29, 1235-1246.	0.5	33
32	Multi-sample deformability cytometry of cancer cells. APL Bioengineering, 2018, 2, 032002.	6.2	33
33	Microfluidic Production of Spherical and Nonspherical Fat Particles by Thermal Quenching of Crystallizable Oils. Langmuir, 2013, 29, 12307-12316.	3.5	29
34	NemaLife chip: a micropillar-based microfluidic culture device optimized for aging studies in crawling C. elegans. Scientific Reports, 2020, 10, 16190.	3.3	29
35	Microfluidic production of size-tunable hexadecane-in-water emulsions: Effect of droplet size on destabilization of two-dimensional emulsions due to partial coalescence. Journal of Colloid and Interface Science, 2019, 533, 59-70.	9.4	28
36	Mitochondrial hydrogen sulfide supplementation improves health in the C. elegans Duchenne muscular dystrophy model. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	27

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37	Reaction Dynamics of Rocket Propellant with Magnesium Oxide Nanoparticles. Energy & Fuels, 2015, 29, 6111-6117.	5.1	24
38	Generation of Chemical Concentration Gradients in Mobile Droplet Arrays via Fragmentation of Long Immiscible Diluting Plugs. Analytical Chemistry, 2013, 85, 2044-2048.	6.5	23
39	Scaling of interface displacement in a microfluidic comparator. Applied Physics Letters, 2007, 90, 114109.	3.3	22
40	Locomotion of C. elegans: A Piecewise-Harmonic Curvature Representation of Nematode Behavior. PLoS ONE, 2012, 7, e40121.	2.5	21
41	Label-free fingerprinting of tumor cells in bulk flow using inline digital holographic microscopy. Biomedical Optics Express, 2017, 8, 536.	2.9	21
42	Roll maneuvers are essential for active reorientation of Caenorhabditis elegans in 3D media. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E3616-E3625.	7.1	21
43	Pluronic gel-based burrowing assay for rapid assessment of neuromuscular health in C. elegans. Scientific Reports, 2019, 9, 15246.	3.3	21
44	Design of a modelâ€based feedback controller for active sorting and synchronization of droplets in a microfluidic loop. AICHE Journal, 2012, 58, 2120-2130.	3.6	20
45	A microfluidic device for label-free isolation of tumor cell clusters from unprocessed blood samples. Biomicrofluidics, 2019, 13, 044111.	2.4	17
46	eCapillary: a disposable microfluidic extensional viscometer for weakly elastic polymeric fluids. Rheologica Acta, 2019, 58, 403-417.	2.4	17
47	Tart Cherry Increases Lifespan in Caenorhabditis elegans by Altering Metabolic Signaling Pathways. Nutrients, 2020, 12, 1482.	4.1	17
48	Effect of Cannabidiol on the Long-Term Toxicity and Lifespan in the Preclinical Model Caenorhabditis elegans. Cannabis and Cannabinoid Research, 2021, 6, 522-527.	2.9	16
49	Nematode locomotion in unconfined and confined fluids. Physics of Fluids, 2013, 25, .	4.0	15
50	Microfluidic cell fragmentation for mechanical phenotyping of cancer cells. Biomicrofluidics, 2016, 10, 021102.	2.4	15
51	Passage times and friction due to flow of confined cancer cells, drops, and deformable particles in a microfluidic channel. Convergent Science Physical Oncology, 2017, 3, 024001.	2.6	14
52	Origin of periodic and chaotic dynamics due to drops moving in a microfluidic loop device. Physical Review E, 2014, 89, 023015.	2.1	13
53	Electrocoalescence based serial dilution of microfluidic droplets. Biomicrofluidics, 2014, 8, 044111.	2.4	13
54	Collective dynamics of non-coalescing and coalescing droplets in microfluidic parking networks. Soft Matter, 2015, 11, 5122-5132.	2.7	13

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55	FTIR imaging detects diet and genotype-dependent chemical composition changes in wild type and mutantC. elegansstrains. Analyst, The, 2017, 142, 4727-4736.	3.5	13
56	Microfluidic shear rheology and wall-slip of viscoelastic fluids using holography-based flow kinematics. Physics of Fluids, 2020, 32, .	4.0	13
57	Detection of live breast cancer cells in bright-field microscopy images containing white blood cells by image analysis and deep learning. Journal of Biomedical Optics, 2022, 27, .	2.6	13
58	Traffic of pairs of drops in microfluidic ladder networks with fore-aft structural asymmetry. Microfluidics and Nanofluidics, 2013, 14, 337-344.	2.2	12
59	Microfluidic bypass manometry: highly parallelized measurement of flow resistance of complex channel geometries and trapped droplets. Lab on A Chip, 2018, 18, 343-355.	6.0	12
60	Spaceflight affects neuronal morphology and alters transcellular degradation of neuronal debris in adult Caenorhabditis elegans. IScience, 2021, 24, 102105.	4.1	12
61	Loss of physical contact in space alters the dopamine system in C.Âelegans. IScience, 2022, 25, 103762.	4.1	11
62	A Region of UNC-89 (Obscurin) Lying between Two Protein Kinase Domains Is a Highly Elastic Spring Required for Proper Sarcomere Organization. Journal of Molecular Biology, 2020, 432, 4799-4814.	4.2	10
63	Millifluidics as a simple tool to optimize droplet networks: Case study on drop traffic in a bifurcated loop. Biomicrofluidics, 2014, 8, 064111.	2.4	9
64	Flow-Induced Transport of Tumor Cells in a Microfluidic Capillary Network: Role of Friction and Repeated Deformation. Cellular and Molecular Bioengineering, 2017, 10, 563-576.	2.1	9
65	Pressure-driven flow of a vesicle through a square microchannel. Journal of Fluid Mechanics, 2019, 861, 447-483.	3.4	9
66	Inhibition of the neuromuscular acetylcholine receptor with atracurium activates FOXO/DAFâ€16â€induced longevity. Aging Cell, 2021, 20, e13381.	6.7	9
67	miR-1 coordinately regulates lysosomal v-ATPase and biogenesis to impact proteotoxicity and muscle function during aging. ELife, 2021, 10, .	6.0	9
68	Dynamics of ballistically injected latex particles in living human endothelial cells. Biorheology, 2009, 46, 309-321.	0.4	8
69	Molecular Muscle Experiment: Hardware and Operational Lessons for Future Astrobiology Space Experiments. Astrobiology, 2020, 20, 935-943.	3.0	8
70	Biological Age Prediction From Wearable Device Movement Data Identifies Nutritional and Pharmacological Interventions for Healthy Aging. Frontiers in Aging, 2021, 2, .	2.6	8
71	Microfluidic valves with integrated structured elastomeric membranes for reversible fluidic entrapment and in situ channel functionalization. Lab on A Chip, 2009, 9, 1461.	6.0	7
72	Hydrodynamic mobility of confined polymeric particles, vesicles, and cancer cells in a square microchannel. Biomicrofluidics, 2018, 12, 014114.	2.4	7

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73	Design of a Microfluidic Bleeding Chip to Evaluate Antithrombotic Agents for Use in COVID-19 Patients. Cellular and Molecular Bioengineering, 2020, 13, 331-339.	2.1	6
74	Microfluidic emulsification with a surfactant and a particulate emulsifier: Dripping-to-jetting transitions and drop size scaling. Physics of Fluids, 2022, 34, 032008.	4.0	6
75	Surface infusion micropatterning of elastomeric substrates. Microfluidics and Nanofluidics, 2012, 12, 451-464.	2.2	5
76	Bistability in the hydrodynamic resistance of a drop trapped at a microcavity junction. Microfluidics and Nanofluidics, 2017, 21, 1.	2.2	5
77	Continuous and high throughput production of alginate fibers using coâ€flow in a millifluidic Tâ€junction. Journal of Applied Polymer Science, 2019, 136, 47120.	2.6	5
78	Investigating the correlation of muscle function tests and sarcomere organization in C. elegans. Skeletal Muscle, 2021, 11, 20.	4.2	5
79	Batch-screening guided continuous flow synthesis of the metal-organic framework HKUST-1 in a millifluidic droplet reactor. Microporous and Mesoporous Materials, 2022, 339, 112005.	4.4	4
80	Collective nucleation dynamics in two-dimensional emulsions with hexagonal packing. Physical Review E, 2020, 101, 030602.	2.1	2
81	A nanosheet-based combination emulsifier system for bulk-scale production of emulsions with elongated droplets and long-term stability. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2022, 640, 128403.	4.7	2
82	Catastrophic thermal destabilization of two-dimensional close-packed emulsions due to synchronous coalescence initiation. Soft Matter, 2020, 16, 6032-6037.	2.7	1
83	Mechanisms of mass transport during coalescence-induced microfluidic drop dilution. Physical Review Fluids, 2016, 1, .	2.5	1
84	Worms in Space for Outreach on Earth: Space Life Science Activities for the Classroom. Gravitational and Space Research: Publication of the American Society for Gravitational and Space Research, 2018, 6, 74-82.	0.8	1
85	On the origins of the universal dynamics of endogenous granules in mammalian cells. MCB Molecular and Cellular Biomechanics, 2009, 6, 191-201.	0.7	1
86	How to tame a giant oscillation. Nature Physics, 2019, 15, 626-627.	16.7	0