

Prashant Valluri

List of Publications by Year in descending order

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34
papers

1,036
citations

471061

17
h-index

414034

32
g-index

35
all docs

35
docs citations

35
times ranked

973
citing authors

#	ARTICLE	IF	CITATIONS
1	Dynamics and universal scaling law in geometrically-controlled sessile drop evaporation. <i>Nature Communications</i> , 2017, 8, 14783.	5.8	106
2	Evaporation of sessile drops: a three-dimensional approach. <i>Journal of Fluid Mechanics</i> , 2015, 772, 705-739.	1.4	96
3	Thin film flow over structured packings at moderate Reynolds numbers. <i>Chemical Engineering Science</i> , 2005, 60, 1965-1975.	1.9	93
4	Linear instability of pressure-driven channel flow of a Newtonian and a Herschel-Bulkley fluid. <i>Physics of Fluids</i> , 2007, 19, .	1.6	90
5	Linear stability analysis and numerical simulation of miscible two-layer channel flow. <i>Physics of Fluids</i> , 2009, 21, .	1.6	89
6	Convective Rolls and Hydrothermal Waves in Evaporating Sessile Drops. <i>Langmuir</i> , 2012, 28, 11433-11439.	1.6	82
7	Pressure-driven miscible two-fluid channel flow with density gradients. <i>Physics of Fluids</i> , 2009, 21, .	1.6	58
8	Linear and nonlinear spatio-temporal instability in laminar two-layer flows. <i>Journal of Fluid Mechanics</i> , 2010, 656, 458-480.	1.4	49
9	A pilot-scale study of dynamic response scenarios for the flexible operation of post-combustion CO ₂ capture. <i>International Journal of Greenhouse Gas Control</i> , 2016, 48, 216-233.	2.3	37
10	Numerical simulation of the onset of slug initiation in laminar horizontal channel flow. <i>International Journal of Multiphase Flow</i> , 2008, 34, 206-225.	1.6	31
11	On phase change in Marangoni-driven flows and its effects on the hydrothermal-wave instabilities. <i>Physics of Fluids</i> , 2014, 26, .	1.6	31
12	Linear instability, nonlinear instability and ligament dynamics in three-dimensional laminar two-layer liquid-liquid flows. <i>Journal of Fluid Mechanics</i> , 2014, 750, 464-506.	1.4	31
13	Linear and nonlinear stability of hydrothermal waves in planar liquid layers driven by thermocapillarity. <i>Physics of Fluids</i> , 2013, 25, .	1.6	28
14	Three-dimensional molecular mapping in a microfluidic mixing device using fluorescence lifetime imaging. <i>Optics Letters</i> , 2008, 33, 1887.	1.7	26
15	On the Effect of Substrate Viscoelasticity on the Evaporation Kinetics and Deposition Patterns of Nanosuspension Drops. <i>Langmuir</i> , 2020, 36, 204-213.	1.6	21
16	Linear and nonlinear instability in vertical counter-current laminar gas-liquid flows. <i>Physics of Fluids</i> , 2016, 28, .	1.6	19
17	How does blood regulate cerebral temperatures during hypothermia?. <i>Scientific Reports</i> , 2018, 8, 7877.	1.6	19
18	Spreading and retraction dynamics of sessile evaporating droplets comprising volatile binary mixtures. <i>Journal of Fluid Mechanics</i> , 2021, 907, .	1.4	18

#	ARTICLE	IF	CITATIONS
19	Droplet motion on contrasting striated surfaces. Applied Physics Letters, 2020, 116, 251604.	1.5	15
20	Experimental and Numerical Investigation of Micro/Mini Channel Flow-Boiling Heat Transfer with Non-Uniform Circumferential Heat Fluxes at Different Rotational Orientations. International Journal of Heat and Mass Transfer, 2020, 158, 119948.	2.5	14
21	Dynamics of hygroscopic aqueous solution droplets undergoing evaporation or vapour absorption. Journal of Fluid Mechanics, 2021, 912, .	1.4	13
22	Analysis of DNA Binding and Nucleotide Flipping Kinetics Using Two-Color Two-Photon Fluorescence Lifetime Imaging Microscopy. Analytical Chemistry, 2014, 86, 10732-10740.	3.2	12
23	MODELLING HYDRODYNAMICS AND MASS TRANSFER IN STRUCTURED PACKINGS - A REVIEW. Multiphase Science and Technology, 2002, 14, 46.	0.2	12
24	Cross-flow structured packing for the process intensification of post-combustion carbon dioxide capture. Chemical Engineering Science, 2018, 178, 284-296.	1.9	9
25	Ultraefficient reduced model for countercurrent two-layer flows. Physical Review Fluids, 2017, 2, .	1.0	7
26	Manufacturing of microcirculation phantoms using rapid prototyping technologies. , 2015, 2015, 5908-11.		6
27	Stability of slowly evaporating thin liquid films of binary mixtures. Physical Review Fluids, 2020, 5, .	1.0	4
28	High-performance computational fluid dynamics: a custom-code approach. European Journal of Physics, 2016, 37, 045001.	0.3	3
29	Chaotic orbits of tumbling ellipsoids. Journal of Fluid Mechanics, 2020, 903, .	1.4	3
30	Interaction between multiple bubbles in microchannel flow boiling and the effects on heat transfer. International Communications in Heat and Mass Transfer, 2021, 129, 105703.	2.9	3
31	Direct Numerical Simulation Study of Hydrodynamic Interactions between Immersed Solids and Wall During Flow. Procedia IUTAM, 2015, 15, 150-157.	1.2	2
32	Adaptive mesh refinement method for the reduction of computational costs while simulating slug flow. International Communications in Heat and Mass Transfer, 2021, 129, 105702.	2.9	2
33	Stability and Two-phase Dynamics of Evaporating Marangoni-driven Flows in Laterally-heated Liquid Layers and Sessile Droplets. Procedia IUTAM, 2015, 15, 116-123.	1.2	1
34	Stability Analysis and Direct Numerical Simulation for Two-Phase Flows and Heat Transfer: A Complementary Approach. , 2018, , 239-291.		0