

Amaresh Dalal

List of Publications by Year in descending order

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Version: 2024-02-01

106
papers

2,189
citations

201674

27
h-index

254184

43
g-index

112
all docs

112
docs citations

112
times ranked

1327
citing authors

#	ARTICLE	IF	CITATIONS
1	A numerical study of natural convection around a square, horizontal, heated cylinder placed in an enclosure. <i>International Journal of Heat and Mass Transfer</i> , 2006, 49, 4608-4623.	4.8	158
2	Numerical simulation of unconfined flow past a triangular cylinder. <i>International Journal for Numerical Methods in Fluids</i> , 2006, 52, 801-821.	1.6	121
3	Influence of wavy wall and non-uniform heating on natural convection heat transfer and entropy generation inside porous complex enclosure. <i>Energy</i> , 2015, 79, 467-481.	8.8	115
4	Heatline method for the visualization of natural convection in a complicated cavity. <i>International Journal of Heat and Mass Transfer</i> , 2008, 51, 263-272.	4.8	74
5	Unsteady wake dynamics and heat transfer in forced and mixed convection past a circular cylinder in cross flow for high Prandtl numbers. <i>International Journal of Heat and Mass Transfer</i> , 2011, 54, 3536-3551.	4.8	67
6	A Finite-Volume Method for Navier-Stokes Equations on Unstructured Meshes. <i>Numerical Heat Transfer, Part B: Fundamentals</i> , 2008, 54, 238-259.	0.9	66
7	Mixed convective flow stability of nanofluids past a square cylinder by dynamic mode decomposition. <i>International Journal of Heat and Fluid Flow</i> , 2013, 44, 624-634.	2.4	64
8	Laminar natural convection in an inclined complicated cavity with spatially variable wall temperature. <i>International Journal of Heat and Mass Transfer</i> , 2005, 48, 3833-3854.	4.8	60
9	Numerical Study of Laminar Forced Convection Fluid Flow and Heat Transfer From a Triangular Cylinder Placed in a Channel. <i>Journal of Heat Transfer</i> , 2007, 129, 646-656.	2.1	58
10	Flow over and forced convection heat transfer around a semi-circular cylinder at incidence. <i>International Journal of Heat and Mass Transfer</i> , 2012, 55, 5171-5184.	4.8	56
11	Analysis of natural convection heat transfer and entropy generation inside porous right-angled triangular enclosure. <i>International Journal of Heat and Mass Transfer</i> , 2013, 65, 500-513.	4.8	54
12	Buoyancy driven flow and heat transfer of nanofluids past a square cylinder in vertically upward flow. <i>International Journal of Heat and Mass Transfer</i> , 2013, 59, 433-450.	4.8	54
13	Coalescence dynamics of unequal sized drops. <i>Physics of Fluids</i> , 2019, 31, 012105.	4.0	54
14	Mixed convective heat transfer from two identical square cylinders in cross flow at $Re=100$. <i>International Journal of Heat and Mass Transfer</i> , 2010, 53, 2628-2642.	4.8	46
15	Design and performance of a three-dimensional micromixer with curved ribs. <i>Chemical Engineering Research and Design</i> , 2018, 136, 761-775.	5.6	46
16	The regime of large bubble entrapment during a single drop impact on a liquid pool. <i>Physics of Fluids</i> , 2017, 29, .	4.0	43
17	Effect of angle of incidence on mixed convective wake dynamics and heat transfer past a square cylinder in cross flow at $Re=100$. <i>International Journal of Heat and Mass Transfer</i> , 2014, 74, 319-332.	4.8	41
18	Thermo-hydraulic transport characteristics of non-Newtonian fluid flows through corrugated channels. <i>International Journal of Thermal Sciences</i> , 2018, 129, 201-208.	4.9	41

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19	Natural Convection in a Rectangular Cavity Heated from Below and Uniformly Cooled from the Top and Both Sides. Numerical Heat Transfer; Part A: Applications, 2006, 49, 301-322.	2.1	40
20	Analysis of Entropy Generation During Mixed Convective Heat Transfer of Nanofluids Past a Square Cylinder in Vertically Upward Flow. Journal of Heat Transfer, 2012, 134, .	2.1	40
21	Natural Convection in a Cavity With a Wavy Wall Heated From Below and Uniformly Cooled From the Top and Both Sides. Journal of Heat Transfer, 2006, 128, 717-725.	2.1	38
22	Effect of superheat and electric field on saturated film boiling. Physics of Fluids, 2016, 28, .	4.0	37
23	Effects of the inclination angle on natural convection heat transfer and entropy generation in a square porous enclosure. Numerical Heat Transfer; Part A: Applications, 2016, 70, 1271-1296.	2.1	36
24	A Numerical Study of Fluid Flow and Heat Transfer around a Square Cylinder at Incidence using Unstructured Grids. Numerical Heat Transfer; Part A: Applications, 2008, 54, 890-913.	2.1	35
25	Coalescence dynamics of a compound drop on a deep liquid pool. Journal of Fluid Mechanics, 2019, 866, .	3.4	35
26	Saturated film boiling at various gravity levels under the influence of electrohydrodynamic forces. Physics of Fluids, 2017, 29, .	4.0	33
27	Analysis of Entropy Generation During Mixed Convective Heat Transfer of Nanofluids Past a Rotating Circular Cylinder. Journal of Heat Transfer, 2014, 136, .	2.1	31
28	Understanding flow dynamics, viability and metastatic potency of cervical cancer (HeLa) cells through constricted microchannel. Scientific Reports, 2018, 8, 17357.	3.3	29
29	Numerical study of laminar natural convection in a complicated cavity heated from top with sinusoidal temperature and cooled from other sides. Computers and Fluids, 2007, 36, 680-700.	2.5	24
30	Numerical assessment of mixing performances in cross-T microchannel with curved ribs. Microsystem Technologies, 2018, 24, 1949-1963.	2.0	24
31	Effect of Undulations on the Natural Convection Heat Transfer and Entropy Generation Inside a Porous Right-Angled Triangular Enclosure. Numerical Heat Transfer; Part A: Applications, 2015, 67, 972-991.	2.1	23
32	Migration of a droplet in a cylindrical tube in the creeping flow regime. Physical Review E, 2017, 95, 033110.	2.1	21
33	Laminar natural convection in an inclined complicated cavity with spatially variable wall temperature. International Journal of Heat and Mass Transfer, 2005, 48, 2986-3007.	4.8	20
34	Wettability effects on contact line dynamics of droplet motion in an inclined channel. Physical Review E, 2015, 91, 053006.	2.1	20
35	Numerical investigation of mixing enhancement for multi-species flows in wavy channels. Chemical Engineering and Processing: Process Intensification, 2018, 127, 191-205.	3.6	20
36	Analysis of droplet dynamics in a partially obstructed confinement in a three-dimensional channel. Physics of Fluids, 2018, 30, .	4.0	20

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37	A generic algorithm for three-dimensional multiphase flows on unstructured meshes. <i>International Journal of Multiphase Flow</i> , 2018, 106, 228-242.	3.4	19
38	Cross-stream migration of drops suspended in Poiseuille flow in the presence of an electric field. <i>Physical Review E</i> , 2018, 97, 063106.	2.1	19
39	Probing the influence of superhydrophobicity and mixed wettability on droplet displacement behavior. <i>Microfluidics and Nanofluidics</i> , 2014, 17, 657-674.	2.2	18
40	Critical assessment of numerical algorithms for convective-radiative heat transfer in enclosures with different geometries. <i>International Journal of Heat and Mass Transfer</i> , 2017, 108, 627-644.	4.8	18
41	Influence of electric field on deformation of a drop in shear flow. <i>Physics of Fluids</i> , 2019, 31, .	4.0	15
42	Magnetowetting dynamics of sessile ferrofluid droplets: a review. <i>Soft Matter</i> , 2022, 18, 2287-2324.	2.7	15
43	Effects of specularity and particle-particle restitution coefficients on the hydrodynamic behavior of dispersed gas-particle flows through horizontal channels. <i>Advanced Powder Technology</i> , 2018, 29, 874-889.	4.1	14
44	Electrohydrodynamic-induced interactions between droplets. <i>Journal of Fluid Mechanics</i> , 2021, 915, .	3.4	14
45	The influence of partitions on predicting heat transfer due to the combined effects of convection and thermal radiation in cubical enclosures. <i>International Journal of Heat and Mass Transfer</i> , 2018, 121, 1179-1200.	4.8	13
46	Evolution of jets during drop impact on a deep liquid pool. <i>Physics of Fluids</i> , 2022, 34, .	4.0	13
47	Capillarity-induced resonance of blobs in a 3-D duct: lattice Boltzmann modelling. <i>International Journal of Heat and Mass Transfer</i> , 2013, 65, 635-648.	4.8	12
48	Influence of viscosity ratio and wettability on droplet displacement behavior: A mesoscale analysis. <i>Computers and Fluids</i> , 2014, 102, 15-31.	2.5	12
49	Field induced anomalous spreading, oscillation, ejection, spinning, and breaking of oil droplets on a strongly slipping water surface. <i>Faraday Discussions</i> , 2017, 199, 115-128.	3.2	12
50	Evaluation of Thermophysical Properties of Menthol-Based Deep Eutectic Solvent as a Thermal Fluid: Forced Convection and Numerical Studies. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 20125-20133.	3.7	12
51	Interfacial dynamics of viscous droplets impacting a superhydrophobic candle soot surface: Overview and comparison. <i>Physics of Fluids</i> , 2022, 34, .	4.0	12
52	Effect of channel confinement on wake dynamics and forced convective heat transfer past a blunt headed cylinder. <i>International Journal of Thermal Sciences</i> , 2018, 124, 467-476.	4.9	11
53	Bubble Lifecycle During Heterogeneous Nucleate Boiling. <i>Journal of Heat Transfer</i> , 2018, 140, .	2.1	11
54	Deciphering Hydrodynamic and Drug-Resistant Behaviors of Metastatic EMT Breast Cancer Cells Moving in a Constricted Microcapillary. <i>Journal of Clinical Medicine</i> , 2019, 8, 1194.	2.4	11

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55	Magnetowetting dynamics of sessile ferrofluid drops on soft surfaces. <i>Soft Matter</i> , 2020, 16, 970-982.	2.7	11
56	Effect of Channel Confinement on Mixed Convective Flow Past an Equilateral Triangular Cylinder. <i>Journal of Heat Transfer</i> , 2015, 137, .	2.1	10
57	Forced convective flow and heat transfer past an unconfined blunt headed cylinder. <i>Numerical Heat Transfer; Part A: Applications</i> , 2017, 72, 372-388.	2.1	10
58	Dynamics of tongue shaped cavity generated during the impact of high-speed microdrops. <i>Physics of Fluids</i> , 2018, 30, .	4.0	10
59	Effects of specularity and particle-particle restitution coefficients on the recirculation characteristics of dispersed gas-particle flows through a sudden expansion. <i>Advanced Powder Technology</i> , 2018, 29, 2463-2475.	4.1	10
60	Effect of surface wettability and electric field on transition of film boiling to nucleate boiling. <i>Numerical Heat Transfer; Part A: Applications</i> , 2018, 74, 1105-1120.	2.1	9
61	A new Greenâ€“Gauss reconstruction on unstructured meshes. Part I: Gradient reconstruction. <i>Journal of Computational Physics</i> , 2020, 422, 108325.	3.8	9
62	Dynamics of formation and oscillation of non-spherical drops. <i>Chemical Engineering Science</i> , 2019, 201, 413-423.	3.8	8
63	Unified framework for buoyancy induced radiative-convective flow and heat transfer on hybrid unstructured meshes. <i>International Journal of Heat and Mass Transfer</i> , 2018, 126, 908-925.	4.8	7
64	Mesoscale understanding of capillarity driven two-phase flow in a packed bed architecture. <i>International Journal of Heat and Mass Transfer</i> , 2019, 136, 116-127.	4.8	7
65	A computational analysis of the role of particle diameter on the fluidization behavior in a bubbling gasâ€“solid fluidized bed. <i>Computational Particle Mechanics</i> , 2020, 7, 555-565.	3.0	7
66	Bubble Formation in Film Boiling Including Electrohydrodynamic Forces. <i>Procedia IUTAM</i> , 2015, 15, 86-94.	1.2	6
67	Temporal linear stability analysis of an entry flow in a channel with viscous heating. <i>International Journal of Heat and Mass Transfer</i> , 2017, 109, 922-929.	4.8	6
68	Sweeping of the entrapped fluid out of the groove in a three-dimensional channel using lattice Boltzmann method. <i>European Journal of Mechanics, B/Fluids</i> , 2018, 72, 328-339.	2.5	6
69	Probing the influence of confinement and wettability on droplet displacement behavior: A mesoscale analysis. <i>European Journal of Mechanics, B/Fluids</i> , 2019, 75, 327-338.	2.5	6
70	Discerning the self-healing, shear-thinning characteristics and therapeutic efficacy of hydrogel drug carriers migrating through constricted microchannel resembling blood microcapillary. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2021, 626, 127070.	4.7	6
71	Flow past an Equilateral Triangular Bluff Obstacle: Computational Study of the Effect of Thermal Buoyancy on Flow Physics and Heat Transfer. <i>Numerical Heat Transfer; Part A: Applications</i> , 2015, 67, 476-495.	2.1	5
72	Numerical investigation of two dimensional natural convection and entropy generation inside a porous square enclosure with sinusoidally heated wall. <i>Progress in Computational Fluid Dynamics</i> , 2016, 16, 88.	0.2	5

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73	Towards an improved conservative approach for simulating electrohydrodynamic two-phase flows using volume-of-fluid. <i>Journal of Computational Physics</i> , 2018, 367, 391-398.	3.8	5
74	Mesoscopic analysis of three-dimensional droplet displacement on wetted grooved wall of a rectangular channel. <i>European Journal of Mechanics, B/Fluids</i> , 2018, 67, 35-53.	2.5	5
75	Mesoscopic Analysis of Dynamic Droplet Behavior on Wetted Flat and Grooved Surface for Low Viscosity Ratio. <i>Journal of Heat Transfer</i> , 2017, 139, .	2.1	4
76	Investigations of turbulence-radiation interaction in non-Oberbeck-Boussinesq buoyancy-driven flows. <i>International Journal of Thermal Sciences</i> , 2018, 134, 298-316.	4.9	4
77	Experimental characterization of the growth dynamics during capillarity-driven droplet generation. <i>Physical Review E</i> , 2019, 100, 013106.	2.1	4
78	LESSONS FROM ANUPRAVAHA: TOWARDS A GENERAL PURPOSE COMPUTATIONAL FRAMEWORK ON HYBRID UNSTRUCTURED MESHES FOR MULTI-PHYSICS APPLICATIONS. , 2017, , .		4
79	Laminar Natural Convection in a Complicated Cavity With Spatially Variable Upper Wall Temperature. , 2003, , 633.		3
80	Lattice Boltzmann modeling of two-phase behavior under acoustic excitation: Capillarityâ€™wettability interaction. <i>International Journal of Heat and Mass Transfer</i> , 2014, 74, 460-472.	4.8	3
81	Influence of geometry on mobilization of trapped blob. <i>European Journal of Mechanics, B/Fluids</i> , 2015, 53, 1-10.	2.5	3
82	A parametric study of dispersed laminar gas-particle flows through vertical and horizontal channels. <i>Advanced Powder Technology</i> , 2018, 29, 1072-1084.	4.1	3
83	Simplified Mathematical Model to Evaluate the Performance of the All-Vanadium Redox Flow Battery. , 2013, , .		2
84	Two-Dimensional Unsteady Simulation of All-Vanadium Redox Flow Battery. <i>Journal of Thermal Science and Engineering Applications</i> , 2016, 8, .	1.5	2
85	Numerical appraisal of three low Mach number algorithms for radiativeâ€™convective flows in enclosures. <i>Computers and Mathematics With Applications</i> , 2019, 77, 2162-2181.	2.7	2
86	Electric-Discharge-Mediated Jetting, Crowning, Bursting, and Atomization of a Droplet. <i>Physical Review Applied</i> , 2021, 15, .	3.8	2
87	Dynamics of Growth and Breakup of an Evaporating Pendant Drop. <i>Journal of Heat Transfer</i> , 2020, 142, .	2.1	2
88	Flow and Heat Transfer From the Annular Fin Heat Exchanger Using Winglet Type Vortex Generators. , 2013, , .		1
89	Lattice Boltzmann simulations of coalescence of two droplets on a rectangular channel wall considering wetting effects. <i>Progress in Computational Fluid Dynamics</i> , 2017, 17, 281.	0.2	1
90	Mesoscopic Modeling of Capillarity-Induced Two-Phase Transport in a Microfluidic Porous Structure. <i>Transport in Porous Media</i> , 2018, 122, 673-691.	2.6	1

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91	Comment on "Modifications to the gradient schemes on unstructured cell centered grids for the accurate determination of gradients near conductivity changes" [Phys. Fluids 31, 047104 (2019)]. Physics of Fluids, 2019, 31, 129101.	4.0	1
92	A parametric study on the droplet detachment process from the ceiling under the effect of gravity. Engineering Computations, 2019, 36, 445-465.	1.4	1
93	LESSONS FROM ANUPRAVAHA: TOWARDS A GENERAL PURPOSE COMPUTATIONAL FRAMEWORK ON HYBRID UNSTRUCTURED MESHES FOR MULTI-PHYSICS APPLICATIONS. , 2017, , .		1
94	Numerical Investigation of Free Convection in a Porous Corrugated Cavity Filled With Silver (Ag) Dispersed Nano-Fluid. Journal of Thermal Science and Engineering Applications, 2021, 13, .	1.5	1
95	Transport Behavior of Commercial Anticancer Drug Protein-Bound Paclitaxel (Paclitad) in a Micron-Sized Channel. Langmuir, 2022, 38, 2014-2025.	3.5	1
96	Laminar Natural Convection Inside a Wavy Enclosure Heated From Top and Uniformly Cooled From the Bottom and Both Sides. , 2005, , 123.		0
97	Simulation of Blob Dynamics Inside a Channel Under Acoustic Excitation. , 2013, , .		0
98	Mesoscopic simulation of blob resonance in a model porous pathway. Microfluidics and Nanofluidics, 2015, 18, 215-232.	2.2	0
99	Mesoscopic Analysis of Droplet Spreading Behaviour on Wetted Surface for Low Viscosity Ratio. , 2016, , .		0
100	3D Unsteady Numerical Simulation of All-Vanadium Redox Flow Battery. Lecture Notes in Mechanical Engineering, 2017, , 457-466.	0.4	0
101	Numerical Analysis of Conjugate Heat Transfer in a Planar Sudden Expansion Flow. Journal of the Institution of Engineers (India): Series C, 2021, 102, 981.	1.2	0
102	Development of a phase change solver for concentrated energy beam applications. International Communications in Heat and Mass Transfer, 2021, 126, 105469.	5.6	0
103	Computation of Flow Coupled with the Electric Field on Unstructured Grid. Lecture Notes in Mechanical Engineering, 2017, , 467-476.	0.4	0
104	Eulerian-Eulerian Modeling of Dispersed Laminar Gas-Particle Flows over an Unstructured Grid. Lecture Notes in Mechanical Engineering, 2017, , 1101-1110.	0.4	0
105	Computation of Variable Density Flows on Hybrid Unstructured Grids. Lecture Notes in Mechanical Engineering, 2017, , 431-437.	0.4	0
106	Study of Pool Boiling Through Numerical Approach. , 2020, , 607-644.		0