Sukumar Pati

List of Publications by Year
in descending order

98	1,933	279487	329751
papers	citations	23 h-index	37 g-index

100	100	100	796
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Influence of wavy wall and non-uniform heating on natural convection heat transfer and entropy generation inside porous complex enclosure. Energy, 2015, 79, 467-481.	4.5	115
2	Numerical study of mixing in wavy micromixers: comparison between raccoon and serpentine mixer. Chemical Engineering and Processing: Process Intensification, 2019, 136, 44-61.	1.8	104
3	Numerical investigation of magnetohydrodynamic natural convection heat transfer and entropy generation in a rhombic enclosure filled with Cu-water nanofluid. International Journal of Heat and Mass Transfer, 2019, 136, 777-798.	2.5	92
4	Numerical investigation of thermo-hydraulic transport characteristics in wavy channels: Comparison between raccoon and serpentine channels. International Communications in Heat and Mass Transfer, 2017, 88, 171-176.	2.9	66
5	Natural convection heat transfer and entropy generation inside porous quadrantal enclosure with nonisothermal heating at the bottom wall. Numerical Heat Transfer; Part A: Applications, 2018, 73, 222-240.	1.2	58
6	Numerical study of the vortexâ€induced electroosmotic mixing of nonâ€Newtonian biofluids in a nonuniformly charged wavy microchannel: Effect of finite ion size. Electrophoresis, 2021, 42, 2498-2510.	1.3	58
7	Analysis of thermo-hydraulic performance and entropy generation characteristics for laminar flow through triangular corrugated channel. Journal of Thermal Analysis and Calorimetry, 2019, 136, 49-62.	2.0	52
8	Numerical investigation of multi-layered porosity in the gas diffusion layer on the performance of a PEM fuel cell. International Journal of Hydrogen Energy, 2020, 45, 21836-21847.	3.8	48
9	Numerical analysis of electroosmotic mixing in a heterogeneous charged micromixer with obstacles. Chemical Engineering and Processing: Process Intensification, 2021, 168, 108585.	1.8	43
10	Thermo-hydraulic transport characteristics of non-Newtonian fluid flows through corrugated channels. International Journal of Thermal Sciences, 2018, 129, 201-208.	2.6	41
11	Wettability-mediated dynamics of two-phase flow in microfluidic T-junction. Physics of Fluids, 2018, 30, 122106.	1.6	41
12	Comparative assessment of mixing characteristics and pressure drop in spiral and serpentine micromixers. Chemical Engineering and Processing: Process Intensification, 2021, 162, 108335.	1.8	40
13	Natural convection heat transfer and entropy generation from a heated cylinder of different geometry in an enclosure with non-uniform temperature distribution on the walls. Journal of Thermal Analysis and Calorimetry, 2020, 141, 839-857.	2.0	37
14	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.	1.2	36
15	Natural convection heat transfer and entropy generation in a porous rhombic enclosure: influence of non-uniform heating. Journal of Thermal Analysis and Calorimetry, 2021, 144, 1493-1515.	2.0	35
16	Numerical investigation of unsteady natural convection heat transfer and entropy generation from a pair of cylinders in a porous enclosure. Numerical Heat Transfer; Part A: Applications, 2018, 74, 1323-1341.	1.2	34
17	Analysis of mixing performances in microchannel with obstacles of different aspect ratios. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2019, 233, 1045-1051.	1.4	33
18	Numerical study of thermo-hydraulic characteristics for forced convective flow through wavy channel at different Prandtl numbers. Journal of Thermal Analysis and Calorimetry, 2020, 141, 2429-2451.	2.0	33

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19	Numerical investigation of mixing performance in spiral micromixers based on Dean flows and chaotic advection. Chemical Engineering and Processing: Process Intensification, 2021, 169, 108609.	1.8	33
20	Numerical analysis of natural convection heat transfer and entropy generation in a porous quadrantal cavity. International Journal of Numerical Methods for Heat and Fluid Flow, 2019, 29, 4826-4849.	1.6	30
21	Electroosmotic flow of viscoelastic fluid through a microchannel with slip-dependent zeta potential. Physics of Fluids, 2021, 33, .	1.6	30
22	Hydrothermal performance and entropy generation analysis for mixed convective flows over a backward facing step channel with baffle. International Journal of Heat and Mass Transfer, 2018, 125, 525-542.	2.5	27
23	Thermo-hydraulic and entropy generation analysis for magnetohydrodynamic pressure driven flow of nanofluid through an asymmetric wavy channel. International Journal of Numerical Methods for Heat and Fluid Flow, 2021, 31, 1190-1213.	1.6	26
24	Numerical analysis of magnetohydrodynamic natural convection in a nanofluid filled quadrantal enclosure. Case Studies in Thermal Engineering, 2021, 28, 101507.	2.8	26
25	Heat Transfer and Entropy Generation Characteristics of a Non-Newtonian Fluid Squeezed and Extruded Between Two Parallel Plates. Journal of Heat Transfer, 2017, 139, .	1.2	25
26	Conjugate heat transfer in a duct using nanofluid by two-phase Eulerianâ€“Lagrangian method: Effect of non-uniform heating. Powder Technology, 2019, 346, 180-192.	2.1	25
27	Implication of fluid rheology on the hydrothermal and entropy generation characteristics for mixed convective flow in a backward facing step channel with baffle. International Journal of Heat and Mass Transfer, 2019, 137, 138-160.	2.5	25
28	Effect of non-uniform asymmetric heating on the thermal and entropy generation characteristics for flow of Al₂O₃-water nanofluid in a micro-channel. International Journal of Numerical Methods for Heat and Fluid Flow, 2019, 29, 981-999.	1.6	24
29	Optimal heating strategy for minimization of peak temperature and entropy generation for forced convective flow through a circular pipe. International Journal of Heat and Mass Transfer, 2020, 150, 119318.	2.5	24
30	Analysis of thermal transport and entropy generation characteristics for electroosmotic flow through a hydrophobic microchannel considering viscoelectric effect. International Communications in Heat and Mass Transfer, 2021, 127, 105519.	2.9	24
31	Analytical solution to heat transfer for mixed electroosmotic and pressure-driven flow through a microchannel with slip-dependent zeta potential. International Journal of Heat and Mass Transfer, 2021, 181, 121989.	2.5	23
32	Thermodynamic performance of microscale swirling flows with interfacial slip. International Journal of Heat and Mass Transfer, 2013, 57, 397-401.	2.5	22
33	Evaporation of multicomponent liquid fuel droplets: Influences of component composition in droplet and vapor concentration in free stream ambience. International Journal of Thermal Sciences, 2016, 105, 83-95.	2.6	22
34	Combined influences of electrostatic component of disjoining pressure and interfacial slip on thin film evaporation in nanopores. International Journal of Heat and Mass Transfer, 2013, 64, 304-312.	2.5	21
35	Tuning the Splitting Behavior of Droplet in a Bifurcating Channel through Wettabilityâ€“Capillarity Interaction. Langmuir, 2020, 36, 10471-10489.	1.6	21
36	Effect of amplitude of walls on thermal and hydrodynamic characteristics of laminar flow through an asymmetric wavy channel. Case Studies in Thermal Engineering, 2022, 31, 101796.	2.8	21

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37	Implications of non-uniform porosity distribution in gas diffusion layer on the performance of a high temperature PEM fuel cell. International Journal of Hydrogen Energy, 2021, 46, 18571-18588.	3.8	20
38	Implication of corrugation profile on thermo-hydraulic characteristics of Cu-water nanofluid flow through partially filled porous channel. International Communications in Heat and Mass Transfer, 2021, 125, 105329.	2.9	20
39	Implications of novel cold plate design with hybrid cooling on thermal management of fast discharging lithium-ion battery. Journal of Energy Storage, 2022, 53, 105051.	3.9	20
40	Enhanced Electroosmotic Mixing in a Wavy Micromixer Using Surface Charge Heterogeneity. Industrial & Engineering Chemistry Research, 2022, 61, 2904-2914.	1.8	19
41	Slip-driven alteration in film condensation over vertical surfaces. International Communications in Heat and Mass Transfer, 2013, 46, 37-41.	2.9	18
42	Numerical investigation on the effect of magnetic field on natural convection heat transfer from a pair of embedded cylinders within a porous enclosure. Journal of Thermal Analysis and Calorimetry, 2020, 141, 2405-2427.	2.0	18
43	Critical review on local thermal equilibrium and local thermal non-equilibrium approaches for the analysis of forced convective flow through porous media. International Communications in Heat and Mass Transfer, 2022, 132, 105889.	2.9	18
44	Electroosmotic mixing in a microchannel with heterogeneous slip dependent zeta potential. Chemical Engineering and Processing: Process Intensification, 2022, 176, 108940.	1.8	18
45	Enhanced electroosmotic mixing of non-Newtonian fluids in a heterogeneous surface charged micromixer with obstacles. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2022, 648, 129215.	2.3	17
46	Tuning of regimes during two-phase flow through a cross-junction. Physics of Fluids, 2021, 33, .	1.6	15
47	Effect of Prandtl number on thermo-fluidic transport characteristics for mixed convection past a sphere. International Communications in Heat and Mass Transfer, 2018, 98, 191-199.	2.9	14
48	Effects of undulated wall on the hydrodynamic and thermal transport characteristics of turbulent jet. International Journal of Thermal Sciences, 2020, 152, 106297.	2.6	14
49	Influence of non-uniform asymmetric heating on conjugate heat transfer in a rectangular minichannel using nanofluid by two-phase Eulerian-Lagrangian method. Powder Technology, 2021, 381, 164-180.	2.1	14
50	Analysis of natural convection in a rhombic enclosure with undulations of the top wall â€“ a numerical study. International Journal of Ambient Energy, 2022, 43, 87-97.	1.4	13
51	Combined effects of wall slip and nanofluid on interfacial transport from a thin-film evaporating meniscus in a microfluidic channel. Microfluidics and Nanofluidics, 2020, 24, 1.	1.0	13
52	Fabrication of wavy micromixer using soft lithography technique. Materials Today: Proceedings, 2020, 26, 1271-1278.	0.9	13
53	Influence of ambient vapor concentration on droplet evaporation in a perspective of comparison between diffusion controlled model and kinetic model. International Journal of Heat and Mass Transfer, 2011, 54, 4580-4584.	2.5	12
54	Consistent description of electrohydrodynamics in narrow fluidic confinements in the presence of hydrophobic interactions. Physical Review E, 2012, 85, 046305.	0.8	11

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55	Hydrodynamic Swirl Decay in Microtubes with Interfacial Slip. Nanoscale and Microscale Thermophysical Engineering, 2012, 16, 133-143.	1.4	11
56	Hydrodynamic and thermal transport characteristics of swirling flows through microchannels with interfacial slip. International Journal of Heat and Mass Transfer, 2012, 55, 4359-4365.	2.5	11
57	Thermal transport analysis for natural convection in a porous corrugated rhombic enclosure. Heat Transfer, 2020, 49, 3287-3313.	1.7	11
58	Numerical assessment of hydrodynamic and mixing characteristics for mixed electroosmotic and pressure-driven flow through a wavy microchannel with patchwise surface heterogeneity. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 0, , 095440892110516.	1.4	10
59	Analytical study of two-layered mixed electro-osmotic and pressure-driven flow and heat transfer in a microchannel with hydrodynamic slippage and asymmetric wall heating. Physics of Fluids, 2022, 34, .	1.6	10
60	Analysis of thermo-hydraulic and entropy generation characteristics for flow through ribbed-wavy channel. International Journal of Numerical Methods for Heat and Fluid Flow, 2022, 32, 1618-1642.	1.6	9
61	Influence of Confluence Angle Between Inlets on the Mixing Performance of Micro-mixer with Obstacles. , 2020, , 275-283.		9
62	Natural convection heat transfer within a square porous enclosure with four heated cylinders. Case Studies in Thermal Engineering, 2022, 30, 101733.	2.8	9
63	Conjugate heat transfer analysis for forced convective flow through a parallel plate microchannel: Effect of nonuniform asymmetric heating. Numerical Heat Transfer; Part A: Applications, 2021, 80, 210-233.	1.2	8
64	Numerical Analysis of Mixing Performance in Microchannel with Different Ratio of Outlet to Inlet Width. , 2020, , 257-266.		8
65	Implications of capillarity-wettability interaction on geometrically mediated droplet splitting mechanism. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2022, 633, 127873.	2.3	8
66	Natural convection in an enclosure with a pair of cylinders under magnetic field. Case Studies in Thermal Engineering, 2022, 30, 101763.	2.8	8
67	Film condensation in presence of non-condensable gases: Interplay between variable radius of curvature and interfacial slip. International Communications in Heat and Mass Transfer, 2014, 56, 31-36.	2.9	7
68	Analysis of mixed convective heat transfer from a sphere with an aligned magnetic field. International Journal of Heat and Mass Transfer, 2020, 162, 120342.	2.5	7
69	Serpentine square wave microchannel fabrication with WEDM and soft lithography. Materials Today: Proceedings, 2021, 46, 8513-8518.	0.9	7
70	Morpho-dynamic evolution due to inertia-mediated impact of a compound drop on a deep liquid pool. Physics of Fluids, 2022, 34, .	1.6	7
71	Analysis of mixed convection past a heated sphere. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2019, 233, 601-616.	1.4	6
72	Effects of temperature-dependent thermo-physical properties on hydrodynamic swirl decay in microtubes. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2019, 233, 427-435.	1.4	6

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73	Implication of geometrical configuration on heat transfer enhancement in converging minichannel using nanofluid by two phase mixture model: A numerical analysis. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2021, 235, 416-427.	1.4	6
74	Effect of Thickness of Porous Layer on Thermo-Hydraulic Characteristics and Entropy Generation in a Partially Porous Wavy Channel. Lecture Notes in Mechanical Engineering, 2020, , 119-130.	0.3	6
75	Charge convection and interfacial deformation of a compound drop in plane Poiseuille flow under an electric field. Physical Review Fluids, 2022, 7, .	1.0	6
76	Mixing characteristics and pressure drop analysis in a spiral micromixer. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2022, 236, 2618-2629.	1.4	6
77	Analysis of mixed convective heat transfer past an isoflux/isothermal sphere: influence of Prandtl number. Physica Scripta, 2020, 95, 085211.	1.2	5
78	Natural Convection from a Pair of Heated Cylinders in a Square Cavity with Non-uniform Temperature on the Side Walls. Journal of the Institution of Engineers (India): Series C, 2021, 102, 389-396.	0.7	5
79	Implication of air-throttling on combustion characteristics of cavity-strut based scramjet combustor. Acta Astronautica, 2021, 188, 171-184.	1.7	5
80	Influence of conjugate heat transfer on the minimization of entropy generation for forced convective flow through parallel plate channel filled with porous material. Heat Transfer, 2021, 50, 6401-6417.	1.7	4
81	Influence of wettability and initial size on the merging dynamics of droplet within a Y-shaped bifurcating channel. Fluid Dynamics Research, 2021, 53, 035506.	0.6	4
82	Effect of Non-uniform Heating on Forced Convective Flow Through Asymmetric Wavy Channel. Lecture Notes in Mechanical Engineering, 2021, , 333-341.	0.3	4
83	Effect of non-uniform heating on conjugate heat transfer performance for nanofluid flow in a converging duct by a two-phase Eulerianâ€“Lagrangian method. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 0, , 095440892110429.	1.4	3
84	On the Implication of Porosity Configuration on Lithium-Ion Cell Performance: A Numerical Study. Journal of Electrochemical Energy Conversion and Storage, 2021, 18, .	1.1	3
85	Analysis of forced convective nanofluid flow through a wavy channel with linearly varying amplitude at the entrance. International Journal of Numerical Methods for Heat and Fluid Flow, 2023, 33, 311-332.	1.6	3
86	Analysis of conjugate heat transfer for forced convective flow through wavy minichannel. International Journal of Numerical Methods for Heat and Fluid Flow, 2023, 33, 174-203.	1.6	3
87	Thermo-Hydraulic Performance for an Electronic Cooling System Using Porous Material. , 2021, , 197-204.		2
88	Natural Convection Inside a Porous Square Enclosure Embedded with Two Elliptic Cylinders. Journal of Thermophysics and Heat Transfer, 2022, 36, 745-762.	0.9	2
89	Numerical Analysis of Heat Transfer and Entropy Generation for Natural Convection in a Quadrantal Cavity with Non-uniform Heating at the Bottom Wall. Lecture Notes on Multidisciplinary Industrial Engineering, 2019, , 483-501.	0.4	1
90	Limiting thermal characteristics for flow of non-Newtonian fluids between asymmetrically heated parallel plates: An analytical study. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2019, 233, 880-892.	1.4	1

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91	Analysis of Heat Transfer and Pressure Drop for Pressure Driven Flow of Non-Newtonian Fluids Through a Serpentine Channel: Influence of Prandtl Number. , 2021, , 965-974.		1
92	Influence of Thermal Radiation on Natural Convection in a Square Enclosure. , 2021, , 513-524.		1
93	Effect of Slip on Vortex Formation Near Two-Part Cylinder with Same Sign Zeta Potential in a Plane Microchannel. , 2021, , 1013-1022.		1
94	Natural Convection from Two Cylinders in an Enclosure with Sinusoidal Bottom Wall: A Numerical Study. Lecture Notes in Mechanical Engineering, 2021, , 351-359.	0.3	1
95	Magnetohydrodynamic Natural Convection in a Quadrantal Enclosure. Journal of Thermophysics and Heat Transfer, 0, , 1-15.	0.9	1
96	Analysis of thermo-hydraulic characteristics for flow of MWCNT-Fe₃O₄/H₂O hybrid nanofluid through a wavy channel under magnetic field. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2024, 238, 67-77.	1.4	1
97	Conjugate Heat Transfer Analysis for Flow Through Microduct Subjected to Non-uniform Heating. Lecture Notes in Mechanical Engineering, 2021, , 377-385.	0.3	0
98	Numerical Investigation on the Influence of Reactant Gas Concentration on the Performance of a PEM Fuel Cell. Springer Proceedings in Energy, 2021, , 1679-1689.	0.2	0