Teck Neng Wong

List of Publications by Year
in descending order

138 papers	3,297 citations	117571 34 h-index	189801 50 g-index
138 all docs	138 docs citations	138 times ranked	2504 citing authors

#	Article	IF	Citations
1	Comparative economic, environmental and productivity assessment of a concrete bathroom unit fabricated through 3D printing and a precast approach. Journal of Cleaner Production, 2020, 261, 121245.	4.6	116
2	Two-fluid electroosmotic flow in microchannels. Journal of Colloid and Interface Science, 2005, 284, 306-314.	5.0	103
3	Mixture Design Approach to optimize the rheological properties of the material used in 3D cementitious material printing. Construction and Building Materials, 2019, 198, 245-255.	3.2	102
4	Thermally mediated droplet formation in microchannels. Applied Physics Letters, 2007, 91, .	1.5	98
5	An investigation on the mechanism of droplet formation in a microfluidic T-junction. Microfluidics and Nanofluidics, 2011, 11, 1-10.	1.0	90
6	Study of heat transfer enhancement for structured surfaces in spray cooling. Applied Thermal Engineering, 2013, 59, 464-472.	3.0	89
7	Thermally mediated breakup of drops in microchannels. Applied Physics Letters, 2006, 89, 234101.	1.5	88
8	Rapid Synthesis of Sulfur Nanodots by One-Step Hydrothermal Reaction for Luminescence-Based Applications. ACS Applied Nano Materials, 2019, 2, 6622-6628.	2.4	76
9	Thermally mediated control of liquid microdroplets at a bifurcation. Journal Physics D: Applied Physics, 2009, 42, 065503.	1.3	71
10	Thermally controlled droplet formation in flow focusing geometry: formation regimes and effect of nanoparticle suspension. Journal Physics D: Applied Physics, 2008, 41, 165501.	1.3	69
11	Experimental study of impingement spray cooling for high power devices. Applied Thermal Engineering, 2010, 30, 1225-1230.	3.0	69
12	Convective heat transfer performance of airfoil heat sinks fabricated by selective laser melting. International Journal of Thermal Sciences, 2017, 114, 213-228.	2.6	69
13	Microdroplet formation of water and nanofluids in heat-induced microfluidic T-junction. Microfluidics and Nanofluidics, 2009, 6, 253-259.	1.0	64
14	Multi-nozzle spray cooling for high heat flux applications in a closed loop system. Applied Thermal Engineering, 2013, 54, 372-379.	3.0	62
15	Characterization of spray atomization and heat transfer of pressure swirl nozzles. International Journal of Thermal Sciences, 2013, 68, 94-102.	2.6	60
16	Transient two-liquid electroosmotic flow with electric charges at the interface. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2005, 266, 117-128.	2.3	57
17	Fabrication of heat sinks by Selective Laser Melting for convective heat transfer applications. Virtual and Physical Prototyping, 2016, 11, 159-165.	5.3	56
18	Thermal mixing of two miscible fluids in a T-shaped microchannel. Biomicrofluidics, 2010, 4, 44102.	1.2	55

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19	Development of liquid cooling techniques for flip chip ball grid array packages with High Heat flux dissipations. IEEE Transactions on Components and Packaging Technologies, 2005, 28, 127-135.	1.4	50
20	Self-trapped exciton emission from carbon dots investigated by polarization anisotropy of photoluminescence and photoexcitation. Nanoscale, 2017, 9, 12637-12646.	2.8	49
21	Improving surface finish quality in extrusion-based 3D concrete printing using machine learning-based extrudate geometry control. Virtual and Physical Prototyping, 2020, 15, 178-193.	5.3	46
22	Heat transfer enhancement by recirculating flow within liquid plugs in microchannels. International Journal of Heat and Mass Transfer, 2012, 55, 1947-1956.	2.5	44
23	Three-dimensional dynamics of thin liquid films on vertical cylinders with Marangoni effect. Physics of Fluids, 2017, 29, .	1.6	43
24	Electro-osmotic control of the interface position of two-liquid flow through a microchannel. Journal of Micromechanics and Microengineering, 2007, 17, 358-366.	1.5	42
25	Dynamic aspects of electroosmotic flow in rectangular microchannels. International Journal of Engineering Science, 2004, 42, 1459-1481.	2.7	41
26	Characterization of electroosmotic flow in rectangular microchannels. International Journal of Heat and Mass Transfer, 2007, 50, 3115-3121.	2.5	41
27	Two immiscible layers of electro-osmotic driven flow with a layer of conducting non-Newtonian fluid. International Journal of Heat and Mass Transfer, 2014, 74, 368-375.	2.5	41
28	Multi-nozzle array spray cooling for large area high power devices in a closed loop system. International Journal of Heat and Mass Transfer, 2014, 78, 1177-1186.	2.5	41
29	Interface control of pressure-driven two-fluid flow in microchannels using electroosmosis. Journal of Micromechanics and Microengineering, 2005, 15, 2289-2297.	1.5	39
30	Thermal effects on a pressure swirl nozzle in spray cooling. International Journal of Heat and Mass Transfer, 2014, 73, 130-140.	2.5	39
31	Study of MgO-activated slag as a cementless material for sustainable spray-based 3D printing. Journal of Cleaner Production, 2020, 258, 120671.	4.6	36
32	Modelling and parameter optimization for filament deformation in 3D cementitious material printing using support vector machine. Composites Part B: Engineering, 2020, 193, 108018.	5.9	36
33	Two-phase spray cooling for high ambient temperature data centers: Evaluation of system performance. Applied Energy, 2022, 305, 117816.	5.1	36
34	Time-dependent model of mixed electroosmotic/pressure-driven three immiscible fluids in a rectangular microchannel. International Journal of Heat and Mass Transfer, 2010, 53, 772-785.	2.5	35
35	Reliable addition of reagents into microfluidic droplets. Microfluidics and Nanofluidics, 2010, 8, 409-416.	1.0	34
36	Three dimensional features of convective heat transfer in droplet-based microchannel heat sinks. International Journal of Heat and Mass Transfer, 2015, 86, 455-464.	2.5	34

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37	Acoustofluidic control of bubble size in microfluidic flow-focusing configuration. Lab on A Chip, 2015, 15, 996-999.	3.1	33
38	Falling liquid films on a slippery substrate with Marangoni effects. International Journal of Heat and Mass Transfer, 2015, 90, 689-701.	2.5	32
39	Chaotic micromixer utilizing electro-osmosis and induced charge electro-osmosis in eccentric annulus. Physics of Fluids, 2016, 28, .	1.6	32
40	Magnetic Nanorobots, Generating Vortexes Inside Nanoliter Droplets for Effective Mixing. Advanced Materials Technologies, 2018, 3, 1700312.	3.0	32
41	Optical measurement of flow field and concentration field inside a moving nanoliter droplet. Sensors and Actuators A: Physical, 2007, 133, 317-322.	2.0	31
42	Thin liquid film flow and heat transfer under spray impingement. Applied Thermal Engineering, 2012, 48, 342-348.	3.0	31
43	AC electric field controlled non-Newtonian filament thinning and droplet formation on the microscale. Lab on A Chip, 2017, 17, 2969-2981.	3.1	30
44	Study on refrigerant circuitry of condenser coils with exergy destruction analysis. Applied Thermal Engineering, 2000, 20, 559-577.	3.0	27
45	Effect of printing parameters on material distribution in spray-based 3D concrete printing (S-3DCP). Automation in Construction, 2021, 124, 103570.	4.8	27
46	Absolute instability induced by Marangoni effect in thin liquid film flows on vertical cylindrical surfaces. Chemical Engineering Science, 2018, 177, 261-269.	1.9	26
47	Synchronized concrete and bonding agent deposition system for interlayer bond strength enhancement in 3D concrete printing. Automation in Construction, 2021, 123, 103546.	4.8	26
48	Analysis of chaotic mixing in plugs moving in meandering microchannels. Physical Review E, 2011, 84, 066309.	0.8	25
49	Heat transfer in plug flow in cylindrical microcapillaries with constant surface heat flux. International Journal of Thermal Sciences, 2013, 64, 204-212.	2.6	24
50	Condensation heat transfer and pressure drop characteristics of R-134a in horizontal smooth tubes and enhanced tubes fabricated by selective laser melting. International Journal of Heat and Mass Transfer, 2018, 126, 949-962.	2.5	23
51	Temperature-induced droplet coalescence in microchannels. Biomicrofluidics, 2012, 6, 012811.	1.2	22
52	Droplet manipulation in a microfluidic chamber with acoustic radiation pressure and acoustic streaming. Soft Matter, 2014, 10, 8122-8132.	1.2	22
53	Electrolyte effect in induced charge electroosmosis. Soft Matter, 2017, 13, 4864-4870.	1.2	22
54	Electroosmotic flow in irregular shape microchannels. International Journal of Engineering Science, 2005, 43, 1450-1463.	2.7	21

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55	Recent advancement in induced-charge electrokinetic phenomena and their micro- and nano-fluidic applications. Advances in Colloid and Interface Science, 2020, 280, 102159.	7.0	21
56	Analytical effective length study of a flat plate heat pipe using point source approach. Applied Thermal Engineering, 2005, 25, 2272-2284.	3.0	20
57	A simple method for evaluating and predicting chaotic advection in microfluidic slugs. Chemical Engineering Science, 2010, 65, 5382-5391.	1.9	19
58	Hydrodynamically mediated breakup of droplets in microchannels. Applied Physics Letters, 2011, 98, 054102.	1.5	19
59	Dynamics of liquid films on vertical fibres in a radial electric field. Journal of Fluid Mechanics, 2014, 752, 66-89.	1.4	19
60	Numerical analysis of different fluted fins for condensation on a vertical tube. International Journal of Thermal Sciences, 2017, 122, 359-370.	2.6	19
61	Filmwise condensation of steam on sinusoidal pin fin arrays: Effects of fin height and fin pitch. International Journal of Heat and Mass Transfer, 2019, 130, 1004-1015.	2.5	19
62	Comparative study on the enhancement of spray cooling heat transfer using conventional and bio-surfactants. Applied Thermal Engineering, 2021, 194, 117047.	3.0	19
63	Analytical model of mixed electroosmotic/pressure driven three immiscible fluids in a rectangular microchannel. International Journal of Heat and Mass Transfer, 2009, 52, 4459-4469.	2.5	18
64	Influence of air on heat transfer of a closed-loop spray cooling system. Experimental Thermal and Fluid Science, 2020, 111, 109903.	1.5	18
65	An analytical model for plug flow in microcapillaries with circular cross section. International Journal of Heat and Fluid Flow, 2011, 32, 1005-1013.	1.1	17
66	Viscous liquid films on a porous vertical cylinder: Dynamics and stability. Physics of Fluids, 2013, 25, .	1.6	17
67	Large area impingement spray cooling from multiple normal and inclined spray nozzles. Heat and Mass Transfer, 2013, 49, 985-990.	1.2	16
68	A simple method for the formation of water-in-oil-in-water (W/O/W) double emulsions. Microfluidics and Nanofluidics, 2017, 21, 1.	1.0	16
69	Experimental study on heat transfer enhancement using combined surface roughening and macro-structures in a confined double-nozzle spray cooling system. Applied Thermal Engineering, 2022, 202, 117850.	3.0	16
70	An analytical model for a liquid plug moving in curved microchannels. International Journal of Heat and Mass Transfer, 2010, 53, 1977-1985.	2.5	15
71	Pair interactions in induced charge electrophoresis of conducting cylinders. International Journal of Heat and Mass Transfer, 2015, 88, 674-683.	2.5	15
72	Modelling on the dynamics of droplet impingement and bubble boiling in spray cooling. International Journal of Thermal Sciences, 2016, 104, 469-479.	2.6	15

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73	An electrokinetically tunable optofluidic bi-concave lens. Lab on A Chip, 2012, 12, 3680.	3.1	14
74	Fast Dynamic Visualizations in Microfluidics Enabled by Fluorescent Carbon Nanodots. Small, 2017, 13, 1700869.	5.2	14
75	Numerical investigation of upstream pressure fluctuation during growth and breakup of pendant drops. Chemical Engineering Science, 2011, 66, 5293-5300.	1.9	13
76	Microfluidic switch based on combined effect of hydrodynamics and electroosmosis. Microfluidics and Nanofluidics, 2011, 10, 965-976.	1.0	13
77	Induced charge electrophoresis of a conducting cylinder in a nonconducting cylindrical pore and its micromotoring application. Physical Review Fluids, 2016, 1, .	1.0	13
78	Laminar film condensation inside and outside vertical diverging/converging small channels: A theoretical study. International Journal of Heat and Mass Transfer, 2020, 149, 119193.	2.5	12
79	Dynamic aspects of electroosmotic flow. Microfluidics and Nanofluidics, 2006, 2, 205-214.	1.0	11
80	A simple model for predicting the pressure drop and film thickness of non-Newtonian annular flows in horizontal pipes. Chemical Engineering Science, 2013, 102, 121-128.	1.9	11
81	Net fluid flow and non-Newtonian effect in induced-charge electro-osmosis of polyelectrolyte solutions. Physical Review E, 2019, 100, 013105.	0.8	11
82	Electric Scissors for Precise Generation of Organic Droplets in Microfluidics: A Universal Approach that Goes beyond Surface Wettability. Journal of Physical Chemistry C, 2019, 123, 25643-25650.	1.5	11
83	Electroosmotic control of width and position of liquid streams in hydrodynamic focusing. Microfluidics and Nanofluidics, 2009, 7, 489-497.	1.0	10
84	A tunable optofluidic lens based on combined effect of hydrodynamics and electroosmosis. Microfluidics and Nanofluidics, 2011, 10, 1033-1043.	1.0	10
85	Non-Newtonian two-phase stratified flow with curved interface through horizontal and inclined pipes. International Journal of Heat and Mass Transfer, 2014, 74, 113-120.	2.5	10
86	Pair interactions between conducting and non-conducting cylinders under uniform electric field. Chemical Engineering Science, 2016, 142, 12-22.	1.9	10
87	Simulation of non-Newtonian oil-water core annular flow through return bends. Heat and Mass Transfer, 2018, 54, 37-48.	1.2	10
88	Precise morphology control and fast merging of a complex multi-emulsion system: the effects of AC electric fields. Soft Matter, 2019, 15, 5614-5625.	1.2	10
89	Tunable and Robust Nanostructuring for Multifunctional Metal Additively Manufactured Interfaces. Nano Letters, 2022, 22, 2650-2659.	4.5	10
90	Instability of pressure driven viscous fluid streams in a microchannel under a normal electric field. International Journal of Heat and Mass Transfer, 2012, 55, 6994-7004.	2.5	9

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91	Dynamics of droplet in flow-focusing microchannel under AC electric fields. International Journal of Multiphase Flow, 2020, 125, 103212.	1.6	9
92	Rotation nozzle and numerical simulation of mass distribution at corners in 3D cementitious material printing. Additive Manufacturing, 2020, 34, 101190.	1.7	9
93	Comprehensive investigations on printability and thermal performance of cementitious material incorporated with PCM under various conditions. Energy Conversion and Management, 2022, 261, 115667.	4.4	9
94	Thermal modeling and design of liquid cooled heat sinks assembled vvith flip chip ball grid array packages. , 0, , .		8
95	Experimental and numerical investigation of thermal chaotic mixing in a T-shaped microchannel. Heat and Mass Transfer, 2011, 47, 1331-1339.	1.2	8
96	Stability of a localized heated falling film with insoluble surfactants. International Journal of Heat and Mass Transfer, 2013, 67, 627-636.	2.5	8
97	Stability of two immiscible leaky-dielectric liquids subjected to a radial electric field in an annulus duct. Physics of Fluids, 2013, 25, .	1.6	8
98	The Effects of Oil Property and Inclination Angle on Oilâ€"Water Core Annular Flow Through U-Bends. Heat Transfer Engineering, 2018, 39, 536-548.	1.2	8
99	Ultrascalable Surface Structuring Strategy of Metal Additively Manufactured Materials for Enhanced Condensation. Advanced Science, 2022, 9, .	5.6	8
100	Investigation of active interface control of pressure driven two-fluid flow in microchannels. Sensors and Actuators A: Physical, 2007, 133, 323-328.	2.0	7
101	Electrohydrodynamic instability in an annular liquid layer with radial conductivity gradients. Physical Review E, 2014, 89, 033010.	0.8	7
102	Formation and breakup of compound pendant drops at the tip of a capillary and its effect on upstream velocity fluctuations. International Journal of Heat and Mass Transfer, 2012, 55, 1022-1029.	2.5	6
103	Pressure drop, void fraction and wave behavior in two-phase non-Newtonian churn flow. Chemical Engineering Science, 2017, 174, 82-92.	1.9	6
104	Convective filmwise condensation on the outer surface of a vertical tube: A theoretical analysis. International Journal of Heat and Mass Transfer, 2020, 161, 120266.	2.5	6
105	Microfluidic on-chip fluorescence-activated interface control system. Biomicrofluidics, 2010, 4, 044109.	1.2	5
106	Slow viscous flow around two particles in a cylinder. Microfluidics and Nanofluidics, 2017, 21, 1.	1.0	5
107	Induced-charge electro-osmosis in dielectric annuli. Applied Mathematics and Computation, 2018, 333, 133-144.	1.4	5
108	Low-frequency acoustic atomization with oscillatory flow around micropillars in a microfluidic device. Applied Physics Letters, 2014, 105, .	1.5	4

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109	Asymmetric heat transfer in liquidâ€“liquid segmented flow in microchannels. International Journal of Heat and Mass Transfer, 2014, 77, 385-394.	2.5	4
110	Electrohydrodynamic instability of miscible coreâ€“annular flows with electrical conductivity stratification. Journal of Fluid Mechanics, 2015, 764, 488-512.	1.4	4
111	Slow viscous flow of two porous spherical particles translating along the axis of a cylinder. Journal of Fluid Mechanics, 2019, 861, 643-678.	1.4	4
112	Theoretical investigation of two-fluid electroosmotic flow in microchannels. Journal of Physics: Conference Series, 2006, 34, 470-474.	0.3	3
113	A Silicon/glass-based microfluidic device for invetigation of Lagrangian velocity field in microdroplets. Journal of Physics: Conference Series, 2006, 34, 130-135.	0.3	3
114	Numerical modeling of tunable optofluidics lens based on combined effect of hydrodynamics and electroosmosis. International Journal of Heat and Mass Transfer, 2012, 55, 2647-2655.	2.5	3
115	Experimental and numerical investigation on a simple droplet coalescence design in microchannels. Heat and Mass Transfer, 2019, 55, 1553-1562.	1.2	3
116	Non-monotonic dependence of induced-charge electro-osmosis on ion concentration. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2021, 622, 126604.	2.3	3
117	Tunable ultraviolet to deep blue light emission from sulfur nanodots fabricated by a controllable fission-aggregation strategy. Science China Materials, 0, , .	3.5	3
118	Active control for droplet-based microfluidics. , 2006, 6416, 113.		2
119	Investigation of heat transfer in a microchannel with same heat capacity rate. Heat and Mass Transfer, 2019, 55, 899-909.	1.2	2
120	Critical conditions for organic thread cutting under electric fields. Soft Matter, 2021, 17, 2913-2919.	1.2	2
121	Experimental Study of Flow Boiling and Condensation in Tubes with Pin-Fin and Metallic Foam Structures. Heat Transfer Engineering, 2022, 43, 991-1007.	1.2	2
122	Assessments of Single-Phase Liquid Cooling Enhancement Techniques for Microelectronic Systems. , 2005, , 43.		1
123	Non-Newtonian Liquid-Gas Non-Uniform Stratified Flow With Interfacial Level Gradient Through Horizontal Tubes. Journal of Fluids Engineering, Transactions of the ASME, 2014, 136, .	0.8	1
124	Electrophoresis of a Cylinder in a Cylindrical Tube. Communications in Computational Physics, 2017, 22, 1101-1122.	0.7	1
125	Spray cooling enhancement studies using dielectric liquid. , 2018, , .		1
126	Towards Additive Manufacturing: Pumping Flow Rate with Time-Dependent Material Rheology in 3D Cementitious Material Printing. Materials Science Forum, 2018, 941, 2131-2136.	0.3	1

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127	Numerical investigation on the heat transfer characteristics of liquid-liquid plug-train in microchannels. Chemical Engineering and Processing: Process Intensification, 2019, 143, 107592.	1.8	1
128	Geometrical optimization of bare tube heat exchangers for process industries. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 2005, 219, 139-147.	1.4	0
129	Analytical model of plug flow in microchannels. , 2011, , .		0
130	Electrohydrodynamic and Shear-Stress Interfacial Instability of Two Streaming Viscous Liquid Inside a Microchannel for Normal Electric Fields. , 2011, , .		0
131	Flow Bifurcation in Microchannel. , 2014, , 1-13.		0
132	Numerical Simulation of Unidirectional Stratified Flow by Moving Particle Semi Implicit Method. Communications in Computational Physics, 2014, 15, 756-775.	0.7	0
133	Electric Field Enhances Mixing in Micro Circular Pipes. Procedia Engineering, 2015, 126, 39-43.	1.2	0
134	Enabling seamless investigation of fast and complex flow fields in microfluidics via metal lead halide perovskite based micro-particles. Applied Materials Today, 2020, 20, 100736.	2.3	0
135	Sample Flow Switching Technique Based on Combined Effect of Hydrodynamic and Electroosmosis. , 2009, , .		0
136	Electrokinetic Two-Phase Flows. , 2014, , 1-12.		0
137	10.1063/1.4952971.1. , 2016, , .		0
138	Dynamics of alternating current electric field assisted Nonâ€Newtonian droplet formation with geometry confinement. Electrophoresis, 2022, , .	1.3	0