Carlos H Hidrovo

List of Publications by Year
in descending order

63	985	430754 18	454834 30
papers	citations	h-index	g-index

64	64	64	1289
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	3-D numerical simulation of contact angle hysteresis for microscale two phase flow. International Journal of Multiphase Flow, 2008, 34, 690-705.	1.6	107
2	Enhancement of the thermo-mechanical properties of PDMS molds for the hot embossing of PMMA microfluidic devices. Journal of Micromechanics and Microengineering, 2013, 23, 095024.	1.5	86
3	Emission reabsorption laser induced fluorescence (ERLIF) film thickness measurement. Measurement Science and Technology, 2001, 12, 467-477.	1.4	82
4	Energetic performance optimization of a capacitive deionization system operating with transient cycles and brackish water. Desalination, 2013, 314, 130-138.	4.0	71
5	The improved resistance of PDMS to pressure-induced deformation and chemical solvent swelling for microfluidic devices. Microelectronic Engineering, 2014, 124, 66-75.	1.1	52
6	Pressure and partial wetting effects on superhydrophobic friction reduction in microchannel flow. Physics of Fluids, 2012, 24, .	1.6	51
7	A thermophysical battery for storage-based climate control. Applied Energy, 2017, 189, 31-43.	5.1	47
8	Optimization of capillary flow through square micropillar arrays. International Journal of Multiphase Flow, 2014, 58, 39-51.	1.6	34
9	Macro Analysis of the Electro-Adsorption Process in Low Concentration NaCl Solutions for Water Desalination Applications. Journal of the Electrochemical Society, 2013, 160, E13-E21.	1.3	32
10	Capillary flow through rectangular micropillar arrays. International Journal of Heat and Mass Transfer, 2014, 75, 710-717.	2.5	28
11	Measurement and modeling of liquid film thickness evolution in stratified two-phase microchannel flows. Applied Thermal Engineering, 2007, 27, 1722-1727.	3.0	24
12	Experimental Investigation of Inertial Mixing in Colliding Droplets. Heat Transfer Engineering, 2013, 34, 120-130.	1.2	23
13	Liquid-in-gas droplet microfluidics; experimental characterization of droplet morphology, generation frequency, and monodispersity in a flow-focusing microfluidic device. Journal of Micromechanics and Microengineering, 2017, 27, 075020.	1.5	22
14	ADVANCED COOLING TECHNOLOGIES FOR MICROPROCESSORS. International Journal of High Speed Electronics and Systems, 2006, 16, 301-313.	0.3	21
15	Impact of channel geometry on two-phase flow in fuel cell microchannels. Journal of Power Sources, 2011, 196, 5012-5020.	4.0	20
16	Flow regime mapping of high inertial gasâ€“liquid droplet microflows in flow-focusing geometries. Microfluidics and Nanofluidics, 2016, 20, 1.	1.0	20
17	Droplet Detachment Mechanism in a High-Speed Gaseous Microflow. Journal of Fluids Engineering, Transactions of the ASME, 2013, 135, .	0.8	19
18	A parametric study of multiscale transport phenomena and performance characteristics of capacitive deionization systems. Desalination, 2018, 438, 24-36.	4.0	19

#	Article	IF	Citations
19	Excitation nonlinearities in emission reabsorption laser-induced fluorescence techniques. Applied Optics, 2004, 43, 894.	2.1	18
20	An integrated gas-liquid droplet microfluidic platform for digital sampling and detection of airborne targets. Sensors and Actuators B: Chemical, 2018, 267, 279-293.	4.0	17
21	Two-Phase Microfluidics for Semiconductor Circuits and Fuel Cells. Heat Transfer Engineering, 2006, 27, 53-63.	1.2	15
22	Significance of the micropores electro-sorption resistance in capacitive deionization systems. Water Research, 2020, 169, 115286.	5.3	15
23	A hybrid method for bubble geometry reconstruction in two-phase microchannels. Experiments in Fluids, 2006, 40, 847-858.	1.1	14
24	Droplet collision mixing diagnostics using single fluorophore LIF. Experiments in Fluids, 2012, 53, 1301-1316.	1.1	14
25	Humidity Effects on the Wetting Characteristics of Poly(N-isopropylacrylamide) during a Lower Critical Solution Transition. Langmuir, 2013, 29, 8116-8124.	1.6	12
26	Study of drag reduction using periodic spanwise grooves on incompressible viscous laminar flows. Physical Review Fluids, 2020, 5, .	1.0	12
27	Laser-induced fluorescence visualization of ion transport in a pseudo-porous capacitive deionization microstructure. Microfluidics and Nanofluidics, 2014, 16, 109-122.	1.0	11
28	Micro- and Nanoscale Measurement Methods for Phase Change Heat Transfer on Planar and Structured Surfaces. Nanoscale and Microscale Thermophysical Engineering, 2014, 18, 270-287.	1.4	11
29	Nanostructured origami. , 0, , .		10
30	Water Slug Detachment in Two-Phase Hydrophobic Microchannel Flows. , 2005, , 709.		9
31	Vapor-Venting, Micromachined Heat Exchanger for Electronics Cooling. , 2007, , 951.		7
32	Investigation of Nanopillar Wicking Capabilities for Heat Pipes Applications. , 2009, , .		6
33	Investigation of two-phase transport phenomena in microchannels using a microfabricated experimental structure. Applied Thermal Engineering, 2007, 27, 1728-1733.	3.0	5
34	Thermo-Wetting and Friction Reduction Characterization of Microtextured Superhydrophobic Surfaces. Journal of Fluids Engineering, Transactions of the ASME, 2012, 134, .	0.8	5
35	Characterization of Ion Transport and -Sorption in a Carbon Based Porous Electrode for Desalination Purposes. Journal of Fluids Engineering, Transactions of the ASME, 2013, 135, .	0.8	5
36	2D THICKNESS AND TEMPERATURE MAPPING OF FLUIDS BY MEANS OF A TWO-DYE LASER INDUCED FLUORESCENCE RATIOMETRIC SCHEME. Journal of Flow Visualization and Image Processing, 2002, 9, 21.	0.3	5

#	Article	IF	Citations
37	Microchannel Experimental Structure for Measuring Temperature Fields During Convective Boiling. , 2004, , 699.		4
38	Experimental Investigation and Visualization of Two-Phase Flow and Water Transport in Microchannels. , 2004, , .		4
39	Stability Analysis of Cassie-Baxter State Under Pressure Driven Flow. , 2010, , .		3
40	Thermal Characterization of Microheated Microchannels With Spatially Resolved Two-Color Fluorescence Thermometry. Journal of Microelectromechanical Systems, 2015, 24, 115-125.	1.7	3
41	Generation of Uniform Liquid Droplets in a Microfluidic Chip Using a High-Speed Gaseous Microflow. , 2016, , .		3
42	1D Homogeneous Modeling of Microchannel Two-Phase Flow With Distributed Liquid Water Injection From Walls. , 2004, , .		3
43	Flow Structures and Frictional Characteristics on Two-Phase Flow in Microchannels in PEM Fuel Cells. , 2005, , 899.		2
44	Development and Calibration of a Two-Dye Fluorescence System for Use in Two-Phase Micro Flow Thermometry. , 0, , .		2
45	An Experimental Investigation of Droplet Detachment in High-Speed Microchannel Air Flow. , 2009, , .		2
46	A Novel Thermo-Hydraulic Test Platform for Micropillared Array Thermal Wick Optimization. , 2012, , .		2
47	Optical diversity by nanoscale actuation. , 0, , .		1
48	Superhydrophobic Friction Reduction Microtextured Surfaces. , 2009, , .		1
49	Characterization of Capillary Flow Within a Homogenously Dispersed Array of Vertical Micropillars. , 2010, , .		1
50	Quantification of Inertial Droplet Collision Mixing Rates in Confined Microchannel Flows Using Differential Fluorescence Measurements. , 2010, , .		1
51	Compact Model of Slug Flow in Microchannels. , 2007, , .		1
52	Experimental Investigation of Inertial Mixing in Droplets. , 2011, , .		1
53	ADVANCED COOLING TECHNOLOGIES FOR MICROPROCESSORS. , 2006, , .		1
54	3-D Numerical Simulation of Contact Angle Hysteresis for Slug Flow in Microchannel. , 2007, , 955.		0

#	Article	IF	Citations
55	Nanoscale Wicking Structures. , 2009, , .		0
56	Experimental Investigation of Geometrical Parameters for Gas-Liquid Droplet Generation in Flow-Focusing Configurations. , 2015, , .		0
57	An Ultra-High-Throughput Flow-Focusing Microfluidic Device for Creation of Liquid Droplets in Air. , 2017, , .		0
58	Dual fluorescence ratiometric technique for micromixing characterization. Experiments in Fluids, 2018, 59, 1.	1.1	0
59	Flow Regime Evolution in Long, Serpentine Microchannels With a Porous Carbon Paper Wall. , 2008, , .		0
60	In-Situ Neutron Radiography of Water Freezing in a GDL. , 2009, , .		0
61	FLUIDS BY MEANS OF A TWO-DYE LASER INDUCED FLUORESCENCE RATIOMETRIC SCHEME: 2D THICKNESS AND TEMPERATURE MAPPING. Journal of Flow Visualization and Image Processing, 2017, 24, 347-367.	0.3	0
62	Capacitive Deionization Systems for Water Desalination Applications: Role of the Electrosorption Resistance and Non-Electrostatic Binding in the Porous Electrodes. ECS Meeting Abstracts, 2019, , .	0.0	0
63	Activated Carbon-Based Electrodes with Engineered Microstructure for Capacitive Deionization (CDI) of Aqueous Solutions. ECS Meeting Abstracts, 2019, , .	0.0	0