Yogendra K Joshi

List of Publications by Citations

114 papers	1,348 citations	20 h-index	30 g-index
135 ext. papers	1,654 ext. citations	2.1 avg, IF	5.03 L-index

#	Paper	IF	Citations
114	Parametric Numerical Study of Flow and Heat Transfer in Microchannels With Wavy Walls. *Journal of Heat Transfer*, **2011**, 133,	1.8	120
113	Modeling of data center airflow and heat transfer: State of the art and future trends. *Distributed and Parallel Databases*, **2007**, 21, 193-225	0.9	75
112	Thermal Characterization of Interlayer Microfluidic Cooling of Three-Dimensional Integrated Circuits With Nonuniform Heat Flux. *Journal of Heat Transfer*, **2010**, 132,	1.8	64
111	Thermal Characteristics of Open and Contained Data Center Cold Aisle. *Journal of Heat Transfer*, **2013**, 135,	1.8	48
110	A Natural Circulation Model of the Closed Loop, Two-Phase Thermosyphon for Electronics Cooling. *Journal of Heat Transfer*, **2002**, 124, 881-890	1.8	47
109	A Review of Two-Phase Forced Cooling in Three-Dimensional Stacked Electronics: Technology Integration. *Journal of Electronic Packaging, Transactions of the ASME*, **2015**, 137,	2	34
108	Proper Orthogonal Decomposition for Reduced Order Thermal Modeling of Air Cooled Data Centers. *Journal of Heat Transfer*, **2010**, 132,	1.8	33
107	Size Effect on the Thermal Conductivity of Thin Metallic Films Investigated by Scanning Joule Expansion Microscopy. *Journal of Heat Transfer*, **2008**, 130,	1.8	30
106	Integrated Circuit Cooling Using Heterogeneous Micropin-Fin Arrays for Nonuniform Power Maps. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2017**, 7, 1465-1475	1.7	27
105	Computational Fluid Dynamics Modeling of Flow Boiling in Microchannels With Nonuniform Heat Flux. *Journal of Heat Transfer*, **2018**, 140,	1.8	26
104	Convective Transport Processes in Data Centers. *Numerical Heat Transfer; Part A: Applications*, **2006** , 49, 923-945	2.3	24
103	Multiscale Thermal Modeling Methodology for Thermoelectrically Cooled Electronic Cabinets. *Numerical Heat Transfer; Part A: Applications*, **2007**, 53, 225-248	2.3	24
102	Hybrid Solid State/Fluidic Cooling for Hot Spot Removal. *Nanoscale and Microscale Thermophysical Engineering*, **2009**, 13, 135-150	3.7	23
101	A new general model for phase-change heat transfer of waxy crude oil during the ambient-induced cooling process. *Numerical Heat Transfer; Part A: Applications*, **2017**, 71, 511-527	2.3	22
100	Fluid-to-Fluid Spot-to-Spreader (F2/S2) Hybrid Heat Sink for Integrated Chip-Level and Hot Spot-Level Thermal Management. *Journal of Electronic Packaging, Transactions of the ASME*, **2009**, 131,	2	22
99	High-Quality Vertically Aligned Carbon Nanotubes for Applications as Thermal Interface Materials. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2014**, 4, 232-239	1.7	21
98	Adaptable Robust Design of Multi-Scale Convective Systems Applied to Energy Efficient Data Centers. *Numerical Heat Transfer; Part A: Applications*, **2010**, 57, 69-100	2.3	21

97	Flow regimes and convective heat transfer of refrigerant flow boiling in ultra-small clearance microgaps. *International Journal of Heat and Mass Transfer*, **2017**, 108, 1702-1713	4.9	20
96	Experimental Investigation of Air Flow Through a Perforated Tile in a Raised Floor Data Center. *Journal of Electronic Packaging, Transactions of the ASME*, **2015**, 137,	2	20
95	Reduced Order Thermal Models of Multiscale Microsystems. *Journal of Heat Transfer*, **2012**, 134,	1.8	20
94	A Compact Approach to On-Chip Interconnect Heat Conduction Modeling Using the Finite Element Method. *Journal of Electronic Packaging, Transactions of the ASME*, **2008**, 130,	2	20
93	Experimental investigations on the effect of perforated tile air jet velocity on server air distribution in a high density data center **2010**,		19
92	Downhole Electronics Cooling Using a Thermoelectric Device and Heat Exchanger Arrangement. *Journal of Electronic Packaging, Transactions of the ASME*, **2011**, 133,	2	18
91	Numerical Modeling of Perforated Tile Flow Distribution in a Raised-Floor Data Center. *Journal of Electronic Packaging, Transactions of the ASME*, **2010**, 132,	2	18
90	Thermal Performance Metrics for Arranging Forced Air Cooled Servers in a Data Processing Cabinet. *Journal of Electronic Packaging, Transactions of the ASME*, **2005**, 127, 452-459	2	18
89	Experimental Characterization of Various Cold Aisle Containment Configurations for Data Centers. *Journal of Electronic Packaging, Transactions of the ASME*, **2015**, 137,	2	17
88	Comparison of electro-thermal performance of advanced cooling techniques for electric vehicle motors. *Applied Thermal Engineering*, **2021**, 183, 116182	5.8	17
87	Impact of Copper Through-Package Vias on Thermal Performance of Glass Interposers. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2015**, 5, 1075-1084	1.7	16
86	Flow boiling of R245fa in a microgap with staggered circular cylindrical pin fins. *International Journal of Heat and Mass Transfer*, **2018**, 121, 329-342	4.9	16
85	Room Level Modeling of Air Flow in a Contained Data Center Aisle. *Journal of Electronic Packaging, Transactions of the ASME*, **2014**, 136,	2	16
84	Heat Transfer in Microchannels With Suspended Solid Particles: Lattice-Boltzmann Based Computations. *Journal of Heat Transfer*, **2010**, 132,	1.8	16
83	Dynamics of cold aisle air distribution in a raised floor data center **2010**,		16
82	Reduced Order Thermal Modeling of Data Centers via Distributed Sensor Data. *Journal of Heat Transfer*, **2012**, 134,	1.8	16
81	Flow Boiling in Microgaps for Thermal Management of High Heat Flux Microsystems. *Journal of Electronic Packaging, Transactions of the ASME*, **2016**, 138,	2	13
80	Further study on the thermal characteristic of a buried waxy crude oil pipeline during its cooling process after a shutdown. *Numerical Heat Transfer; Part A: Applications*, **2017**, 71, 137-152	2.3	12

79	Flow boiling heat transfer in silicon microgaps with multiple hotspots and variable pin fin clustering. *Physics of Fluids*, **2019**, 31, 102002	4.4	12
78	Rapid Temperature Predictions in Data Centers using Multi-Parameter Proper Orthogonal Decomposition. *Numerical Heat Transfer; Part A: Applications*, **2014**, 66, 41-63	2.3	12
77	The Thermal Design of a Next Generation Data Center: A Conceptual Exposition **2007**,		12
76	Comparison of Single-Phase Convection in Additive Manufactured Versus Traditional Metal Foams. *Journal of Heat Transfer*, **2020**, 142,	1.8	12
75	Hotspot Thermal Management With Flow Boiling of Refrigerant in Ultrasmall Microgaps. *Journal of Electronic Packaging, Transactions of the ASME*, **2017**, 139,	2	11
74	Capillary Performance of Micropillar Arrays in Different Arrangements. *Nanoscale and Microscale Thermophysical Engineering*, **2018**, 22, 97-113	3.7	11
73	A semianalytical solution for the 3 method including the effect of heater thermal conduction. *Journal of Applied Physics*, **2008**, 103, 113517	2.5	11
72	Cooling power optimization for hybrid solid-state and liquid cooling in integrated circuit chips with hotspots **2012**,		10
71	Three-Dimensional Integrated Circuit With Embedded Microfluidic Cooling: Technology, Thermal Performance, and Electrical Implications. *Journal of Electronic Packaging, Transactions of the ASME*, **2016**, 138,	2	10
70	Numerical modeling and experimental validation of two-phase microfluidic cooling in silicon devices for vertical integration of microelectronics. *International Journal of Heat and Mass Transfer*, **2019**, 138, 194-207	4.9	9
69	Coordinated Optimization of Cooling and IT Power in Data Centers. *Journal of Electronic Packaging, Transactions of the ASME*, **2010**, 132,	2	9
68	Effect of server load variation on rack air flow distribution in a raised floor data center **2011**,		9
67	Two-Phase Heat Spreaders Utilizing Microfabricated Boiling Enhancement Structures. *Heat Transfer Engineering*, **2004**, 25, 26-36	1.7	9
66	Thermal Performance Analysis of Biporous Metal Foam Heat Sink. *Journal of Heat Transfer*, **2017**, 139,	1.8	8
65	Two-Phase Convective Cooling for Ultrahigh Power Dissipation in Microprocessors. *Journal of Heat Transfer*, **2016**, 138,	1.8	8
64	Experimental characterization of cold aisle containment for data centers **2013**,		8
63	Hybrid Liquid Immersion and Synthetic Jet Heat Sink for Cooling 3-D Stacked Electronics. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2012**, 2, 817-824	1.7	8
62	Effect of rack server population on temperatures in data centers **2012**,		8

61	Experimental characterization of a micro-scale thin film evaporative cooling device **2010**,		8
60	Experimental investigation of hotspot removal using superlattice cooler **2010**,		8
59	Boiling of Water at Subatmospheric Conditions With Enhanced Structures: Effect of Liquid Fill Volume. *Journal of Electronic Packaging, Transactions of the ASME*, **2008**, 130,	2	8
58	Comparison of the Volume of Fluid and CLSVOF Methods for the Assessment of Flow Boiling in Silicon Microgaps. *Journal of Heat Transfer*, **2017**, 139,	1.8	7
57	A novel conduction-convection based cooling solution for 3D stacked electronics **2010**,		7
56	Algebraic Multigrid Preconditioned Krylov Subspace Methods for Fluid Flow and Heat Transfer on Unstructured Meshes. *Numerical Heat Transfer, Part B: Fundamentals*, **2006**, 49, 197-221	1.3	7
55	Flow boiling of R245fa in a microgap with integrated staggered pin fins **2016**,		7
54	Experimental Characterization of Hybrid Solid-State and Fluidic Cooling for Thermal Management of Localized Hotspots. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2015**, 5, 57-64	1.7	6
53	Proper Orthogonal Decomposition-Based Modeling Framework for Improving Spatial Resolution of Measured Temperature Data. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2014**, 4, 848-858	1.7	6
52	Energy and Exergy Analysis of Modular Data Centers. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2017**, 7, 1440-1452	1.7	6
51	A Proper Orthogonal Decomposition Based System-Level Thermal Modeling Methodology for Shipboard Power Electronics Cabinets. *Heat Transfer Engineering*, **2008**, 29, 198-215	1.7	6
50	Predictive Model Development and Validation for Raised Floor Plenum Data Center. *Journal of Electronic Packaging, Transactions of the ASME*, **2020**, 142,	2	6
49	Capillary-Assisted Evaporation/Boiling in PDMS Microchannel Integrated with Wicking Microstructures. *Langmuir*, **2020**, 36, 12143-12149	4	6
48	Single phase liquid cooling of hotspots in a heterogeneous pin-fin-enhanced microgap with non-uniform fin array **2017**,		5
47	Screening and Evaluation of Mixture Formulations for Electronics Thermal Management Using Pool Boiling. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2011**, 1, 1387-1394	1.7	5
46	A Modular Stackable Concept for Heat Removal From 3-D Stacked Chip Electronics by Interleaved Solid Spreaders and Synthetic Jets. *IEEE Transactions on Advanced Packaging*, **2009**, 32, 431-439		5
45	Coupled Electro-Thermal Analysis of Permanent Magnet Synchronous Motor for Electric Vehicles **2020**,		5
44	. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2020**, 10, 1499-1506	1.7	4

43	Anemometric tool for air flow rate measurement through perforated tiles in a raised floor data center **2015**,		4
42	Dynamic thermal management of high heat flux devices using embedded solid-liquid phase change materials and solid state coolers **2012**,		4
41	Use of airside economizer for data center thermal management **2008**,		4
40	Hybrid solid state/fluidic cooling for hotspot removal. *Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems*, **2008**,		4
39	EFFECT OF CONDENSER LOCATION AND IMPOSED CIRCULATION ON THE PERFORMANCE OF A COMPACT TWO-PHASE THERMOSYPHON. *Microscale Thermophysical Engineering*, **2003**, 7, 163-179		4
38	Scanning Joule Expansion Microscopy of a Constriction in Thin Metallic Film. *Journal of Heat Transfer*, **2005**, 127, 809-809	1.8	4
37	Rapid modeling of air flow through perforated tiles in a raised floor data center **2014**,		3
36	Active Fluidic Cooling on Energy Constrained System-on-Chip Systems. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2017**, 7, 1813-1822	1.7	3
35	Experimental characterization of in-package microfluidic cooling on a System-on-Chip **2015**,		3
34	Thermal characterization of planar interconnect architectures under different rapid transient currents using the transmission line matrix and finite element methods **2010**,		3
33	Fluid-to-fluid spot-to-spreader (F2/S2) hybrid heat sink for integrated chip-level and hotspot-level thermal management. *Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems*, **2008**,		3
32	Flow visualization of two phase flow of R245fa in a microgap with integrated staggered pin fins **2016**,		3
31	Passive and Active Thermal Technologies: Modeling and Evaluation **2019**, 375-412		3
30	Augmented PEEC for direct time-domain thermal and power estimation of Integrated Voltage Regulator architectures arising in Heterogeneous Integration **2020**,		2
29	Computational and Experimental Investigation of Thermal Coupling Between Superlattice Coolers. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2014**, 4, 622-631	1.7	2
28	Evaluation of modified body force (MBF) model for rapid air flow modeling through perforated tiles **2015**,		2
27	Compact Model-Based Microfluidic Controller for Energy Efficient Thermal Management Using Single Tier and Three-Dimensional Stacked Pin-Fin Enhanced Microgap. *Journal of Electronic Packaging, Transactions of the ASME*, **2015**, 137,	2	2
26	Transient Characterization of Hybrid Microfluidic-Thermoelectric Cooling Scheme for Dynamic Thermal Management of Microprocessor. *Journal of Electronic Packaging, Transactions of the ASME*, **2014**, 136,	2	2

25	Thermal capacitance matching in 3D many-core architectures **2011**,		2
24	Application of Thermoelectric-Adsorption Cooler for Harsh Environment Electronics Under Varying Heat Load. *Journal of Thermal Science and Engineering Applications*, **2010**, 2,	1.9	2
23	Development of a prototype thermal management solution for 3-D stacked chip electronics by interleaved solid spreaders and synthetic jets **2007**,		2
22	CFD study of flow boiling in silicon microgaps with staggered pin fins for the 3D-stacking of ICs **2016**,		2
21	Flow Assisted Evaporative Cooling for Electric Motor. *IEEE Transactions on Transportation Electrification*, **2021**, 1-1	7.6	2
20	Compact Transient Thermal Model of Microfluidically Cooled Three-Dimensional Stacked Chips With Pin-Fin Enhanced Microgap. *Journal of Electronic Packaging, Transactions of the ASME*, **2021**, 143,	2	2
19	Thermal Modeling of Air Cooled Outdoor Digital Displays **2019**,		1
18	Two phase convective cooling for ultra-high power dissipation in microprocessors **2014**,		1
17	Energy reduction in server cooling via real time thermal control **2012**,		1
16	Performance of two-step thermoelectric-adsorption heat pump for harsh environment electronics cooling **2010**,		1
15	Thermal characteristics of TIMs with elliptical particles **2010**,		1
14	Characterization of steady and transient heating of interconnects - a review **2011**,		1
13	Pool Boiling Using Thin Enhanced Structures Under Top-Confined Conditions. *Journal of Heat Transfer*, **2006**, 128, 1302-1311	1.8	1
12	Augmented finite element method (AFEM) for the linear steady-state thermal and thermomechanical analysis of heterogeneous integration architectures **2021**,		1
11	Single Phase Liquid Cooling of High Heat Flux Devices With Local Hotspot in a Microgap With Nonuniform Fin Array. *Journal of Heat Transfer*, **2021**, 143,	1.8	1
10	Design, Characterization, and Application of a Field-Programmable Thermal Emulation Platform. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2016**, 6, 1330-1339	1.7	0
9	Thermosyphon Cooled Three Dimensional Stacked Heat Sources. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2021**, 1-1	1.7	0
8	A CABINET LEVEL THERMAL TEST VEHICLE TO EVALUATE HYBRID DOUBLE-SIDED COOLING SCHEMES. *WSPC Series in Advanced Integration and Packaging*, **2014**, 333-356		

7	ENERGY EFFICIENT SOLID-STATE COOLING FOR HOT SPOT REMOVAL. *WSPC Series in Advanced Integration and Packaging*, **2014**, 195-226	
6	Energy Efficient Solid-State Cooling for Hot Spot Removal **2014**, 169-196	
5	A Cabinet Level Thermal Test Vehicle to Evaluate Hybrid Double-Sided Cooling Schemes **2014**, 289-310	
4	Closure to Discussion of Effect of Tip Clearance on the Thermal and Hydrodynamic Performance of a Shrouded Pin Fin Array (2006, ASME J. Heat Transfer, 128, pp. 855856). *Journal of Heat Transfer*, **2006**, 128, 857-857	1.8
3	A Tribute: Prof. Avram Bar-Cohen. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2021**, 11, 1519-1523	1.7
2	Multiphysics Challenges and Opportunities for Integrated Voltage Regulators in Power Delivery Architectures. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2021**, 1-1	1.7
1	In Memoriam Prof. Avram Bar-Cohen. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, **2021**, 11, 1153-1155	1.7