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RESEARCH PUBLICATIONS

(ResearcherID site: <http://www.researcherid.com/rid/A-1286-2013>)

Dr. Garimella's publications are in the following research areas (a breakout of the papers by topic is available at <https://engineering.purdue.edu/CTRC/research/coolpubs.php>):

- Microscale heat transport & microchannels
- Electromechanical microfluidic actuation
- Surface engineering and electrowetting; superhydrophobic surfaces
- Thin-film transport
- Non-intrusive microscale measurements
- Open-celled foams and wick structures
- Heat pipes
- Boiling heat transfer
- Small-scale refrigeration systems
- Miniature piezoelectric fans
- Jet impingement
- Renewable energy systems
- Waste heat recovery
- Thermal interfaces
- Melting and solidification
- Crystal growth
- Energetic materials processing

Books / Book Chapters

1. M. J. Rau and S. V. Garimella, "Two-Phase Jet Impingement: liquid-vapor interactions and heat transfer mapping for multiscale surface enhancement design," in *Encyclopedia of Two-Phase Heat Transfer and Flow III*, World Scientific Publishers.
2. R. A. Simmons, P. F. Secor and S. V. Garimella, "Adapting Policies for a New Energy Future," *Handbook of Clean Energy Systems* (J. Yan ed.), Vol. 6, John Wiley and Sons, 2015, pp. 3139-3164.
3. R. A. Simmons and S. V. Garimella, "Electric, Hybrid and Advanced Vehicles: Finding a Lane on the Road Ahead," *Handbook of Clean Energy Systems* (J. Yan, ed.), Vol. 4, John Wiley and Sons, 2015, pp. 2279-2300.
4. S. V. Garimella and T. Harirchian, *Microchannel Heat Sinks for Electronics Cooling*, Vol. 1 in the *Encyclopedia of Thermal Packaging*, World Scientific, Singapore, 2013 (248 pp., ISBN 978-981-4313-80-3).
5. K. K. Bodla, J. Y. Murthy and S. V. Garimella, "Optimization under Uncertainty for Electronics Cooling Designs" WSPC Series in Advanced Integration and Packaging, Vol. 3: Cooling of Microelectronic and Nanoelectronic Equipment: Advances and Emerging Research, Chapter 11, 2014.
6. G. A. Powell, A. Bulusu, J. A. Weibel, S. S. Kim, S. V. Garimella and T. S. Fisher, "Hydrophilic CNT-Sintered Copper Composite Wick for Enhanced Cooling" WSPC Series in Advanced Integration and Packaging, Vol. 3: Cooling of Microelectronic and Nanoelectronic Equipment: Advances and Emerging Research, Chapter 12, 2014.

7. D. Liu and S. V. Garimella, "Cooling Techniques for Electronic Devices," Chapter in *Heat and Mass Transfer (6.170), Encyclopedia of Life Support Systems*, UNESCO-EOLSS Joint Committee.
8. B. D. Iverson and S. V. Garimella, *Integrated Micropumping: Traveling-wave Electrohydrodynamics Induced in a Temperature Gradient*, LAP Lambert Academic Publishing, 2010 (244 pgs, ISBN-10: 3838354079).
9. D. Liu and S. V. Garimella, "Electromechanical Actuation of Nanofluids," in *Nanoparticles: Synthesis, Characterization and Applications*, Ramesh S. Chaugule (ed.), American Scientific Publishers, 2009.
10. D. Liu and S. V. Garimella, *Thermal Transport in Microchannels: Single-Phase and Two-Phase Fluid Flow and Heat Transfer*, VDM Verlag Dr. Muller Aktiengesellschaft & Co. KG, Germany, 2009.
11. T. Acikalin and S. V. Garimella, *Thermal and Fluidic Characterization of Piezoelectric Fans: A Novel Technology for Electronics Cooling*, VDM Verlag Dr. Muller Aktiengesellschaft & Co. KG, Germany, 2009.
12. S. Krishnan, S. V. Garimella and J. Y. Murthy, "Thermal Characterization of Open-Celled Metal Foams by Direct Simulation," in *Cellular and Porous Materials: Thermal Properties Simulation and Prediction*, Ochsner, Murch and de Lemos (Eds), Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, 2009.
13. S. Krishnan, S. V. Garimella and J. Y. Murthy, "Metal Foams for Passive Control of Thermal Systems," in *Emerging Topics in Heat and Mass Transfer in Porous Media - from Bioengineering and Microelectronics to Nanotechnology*, P. Vadasz (Ed.), Springer, 2008.
14. P. Chamarchy, S. T. Wereley, and S. V. Garimella, "μPIV based Diffusometry," in *Encyclopedia of Micro and Nano-Fluidics*, 2007.
15. S. V. Garimella and J. E. Simpson, "Numerical Treatment of Moving Interfaces in Phase-Change Processes," in *Fluid Dynamics at Interfaces*, W. Shyy and R. Narayanan (eds.), Cambridge University Press, pp. 278-293, 1999.
16. S. V. Garimella, Flow Visualization Methods and Their Application in Electronic Systems, Chapter 10, *Thermal Measurements in Electronics Cooling* (K. Azar, ed.) CRC Press, 1997, ISBN 0-8493-3279-6.
17. S. V. Garimella, Enhanced Air Cooling of Electronic Equipment, Chapter 6, *Air Cooling Technology for Electronic Equipment* (S. J. Kim and S. W. Lee eds.) CRC Press, 1996, , ISBN 0-8493-9447-3.

Refereed Journal Publications

1. K. N. Son, J. C. Knox, G. E. Cmarik, J. A. Weibel, and S. V. Garimella, "Measurement and Prediction of Heat of Adsorption and Equilibrium Concentration of CO₂ on Zeolite 13X," *Journal of Chemical and Engineering Data* (in press).
2. T. P. Allred, J. A. Weibel, and S. V. Garimella, "Enabling Highly Effective Boiling from Superhydrophobic Surfaces," *Physical Review Letters* (in press).
3. C. Mira- Hernández, M. D. Clark, J. A. Weibel, and S. V. Garimella, "Development and Validation of a Semi-Empirical Model for Two-Phase Heat Transfer from Arrays of Impinging Jets," *International Journal of Heat and Mass Transfer* (in press).
4. T. Van Oevelen, J. A. Weibel, and S. V. Garimella, "The Effect of Lateral Thermal Coupling Between Parallel Microchannels on Two-Phase Flow Distribution," *International Journal of Heat and Mass Transfer* (in press).
5. K. P. Drummond, D. Back, M. D. Sinanis, D. B. Janes, and D. Peroulis, J. A. Weibel, and S. V. Garimella, "A Hierarchical Manifold Microchannel Heat Sink Array for High-Heat-Flux Two-Phase Cooling of Electronics," *International Journal of Heat and Mass Transfer* Vol. 117, pp. 319-330, 2018.
6. G. Patankar, J. A. Weibel, and S. V. Garimella, "A Validated Time-Stepping Analytical Model for 3D Transient Vapor Chamber Transport," *International Journal of Heat and Mass Transfer* Vol. 119, pp. 867–879, 2018.

7. X. Chen, S. Ku, J. A. Weibel, E. Ximenes, X. Liu, M. Ladisch, and S. V. Garimella, "Enhanced Antimicrobial Efficacy of Bimetallic Porous CuO Microspheres Decorated with Ag Nanoparticles", *ACS Applied Materials and Interfaces* Vol. 9, pp. 39165-39173, 2017.
8. H. Hu, M. Chakraborty, T. P. Allred, J. A. Weibel, and S. V. Garimella, "Multiscale Modeling of the Three-Dimensional Meniscus Shape of a Wetting Liquid Film on Micro-/Nano-Structured Surfaces," *Langmuir* 33, pp. 12028–12037, 2017.
9. K. N. Son, J. A. Weibel, and S. V. Garimella, "Design of Multifunctional Lattice-Frame Materials for Compact Heat Exchangers," *International Journal of Heat and Mass Transfer* Vol. 115 Part A, pp. 619-629, 2017.
10. R. S. Patel, J. A. Weibel, and S. V. Garimella, "Characterization of Liquid Film Thickness in Slug-Regime Microchannel Flow," *International Journal of Heat and Mass Transfer* Vol. 115 Part A, pp. 1137-1143, 2017.
11. T. P. Allred, J.A. Weibel, and S. V. Garimella, "A Wettability Metric for Characterization of Capillary Flow on Textured Superhydrophilic Surfaces," *Langmuir* Vol. 33, pp. 7847-7853, 2017.
12. S. V. Garimella, T. Persoons, J. A. Weibel, V. Gektin, "Electronics Thermal Management in Information and Communications Technologies: Challenges and Future Directions," *IEEE Transactions on Components Packaging and Manufacturing Technology* Vol. 7, pp. 1191-1205, 2017.
13. R. S. Patel, J. A. Weibel, and S. V. Garimella, "Mechanistic Modeling of the Liquid Film Shape and Heat Transfer Coefficient in Annular-Regime Microchannel Flow Boiling," *International Journal of Heat and Mass Transfer* Vol. 114, pp. 841-851, 2017.
14. X. Chen, J. A. Weibel, and S. V. Garimella, "Characterization of Coalescence-Induced Droplet Jumping Height on Hierarchical Superhydrophobic Surfaces," *ACS Omega* Vol. 2, pp. 2883-2890, 2017.
15. T. Guo, M. J. Rau, P. P. Vlachos and S. V. Garimella, "Axisymmetric Wall Jet Development in Confined Jet Impingement," *Physics of Fluids* Vol. 29, 025102, 2017.
16. A. Chandramohan, J.A. Weibel, and S.V. Garimella, "Spatiotemporal Infrared Measurement of Interface Temperatures During Water Droplet Evaporation on a Nonwetting Substrate," *Applied Physics Letters* Vol. 110, p. 041605, 2017.
17. T. Van Oevelen, J. A. Weibel, and S. V. Garimella, "Predicting Two-Phase Flow Distribution and Stability in Systems with Many Parallel Heated Channels," *International Journal of Heat and Mass Transfer* Vol. 107, pp. 557-571, 2017.
18. S. H. Taylor and S. V. Garimella, "Design of Electrode Arrays for 3D Capacitance Tomography in Planar Domains," *International Journal of Heat and Mass Transfer* Vol. 106, pp. 1251-1260, 2017.
19. T. A. Kingston, J. A. Weibel, and S. V. Garimella, "An Experimental Method for Controlled Generation and Characterization of Microchannel Slug Flow Boiling," *International Journal of Heat and Mass Transfer* Vol. 106, pp. 619-628, 2017.
20. G. Patankar, J. A. Weibel, and S. V. Garimella, "Working-Fluid Selection for Minimized Thermal Resistance in Ultra-Thin Vapor Chambers," *International Journal of Heat and Mass Transfer* Vol. 106, pp. 648-654, 2017.
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26. H. Inamdar, E. A. Groll, J. A. Weibel, and S. V. Garimella, "Prediction of Air-Side Particulate Fouling of HVAC&R Heat Exchangers," *Applied Thermal Engineering* Vol. 104, pp. 720-733, 2016.
27. A. Chandramohan, S. Dash, J. A. Weibel, X. Chen, and S. V. Garimella, "Marangoni Convection in Evaporating Organic Liquid Droplets on a Nonwetting Substrate," *Langmuir* Vol. 32, pp. 4729-4735, 2016.
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34. X. Chen, R. S. Patel, J. A. Weibel, and S. V. Garimella, "Coalescence-Induced Jumping of Multiple Condensate Droplets on Hierarchical Superhydrophobic Surfaces," *Scientific Reports* Vol. 6, p. 18649, 2016.
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45. C. Mira-Hernández, S. M. Flueckiger and S. V. Garimella, "Comparative Analysis of Single- and Dual-Media Thermocline Tanks for Thermal Energy Storage in Concentrating Solar Power Plants," *ASME Journal of Solar Energy Engineering* Vol. 137, 031012 (10 pp), 2015.
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48. J. E. Castillo, J.A. Weibel, and S.V. Garimella, "The Effect of Relative Humidity on Dropwise Condensation Dynamics," *International Journal of Heat and Mass Transfer* Vol. 80, pp. 759-766, 2015.
49. Z. Pan, J. A. Weibel and S. V. Garimella, "Spurious Current Suppression in VOF-CSF Simulation of Slug Flow through Small Channels," *Numerical Heat Transfer A* Vol. 67, pp. 1-12, 2015.
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51. S. Dash, A. Chandramohan, J. A. Weibel and S. V. Garimella, "Buoyancy-Induced On-the-Spot Mixing in Droplets Evaporating on Non-Wetting Surfaces," *Physics Review E* Vol. 90, 062407 (8 pp), 2014.
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63. S. Dash and S. V. Garimella, "Droplet Evaporation on Heated Hydrophobic and Superhydrophobic Surfaces," *Physics Review E* Vol. 89, 042402 (8 pp.), 2014.
64. D. R. McKinnis, M. A. Sloan, L. D. Snow, and S. V. Garimella, "A University Engagement Model for Achieving Technology Adoption and Performance Improvement Impacts in Healthcare, Manufacturing, and Government," *Journal of Higher Education Outreach and Engagement* Vol. 18, pp. 187-213, 2014.
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Refereed Conference Publications

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1. T. P. Allred, J. A. Weibel, S. V. Garimella, "Control of Pool Boiling Hydrodynamics Through Surface Wettability Patterning," *The 16th International Heat Transfer Conference*, Beijing, China, August 10-15, 2018.
2. M. D. Clark, J. A. Weibel, S. V. Garimella, "Identification of the Dominant Heat Transfer Mechanisms During Confined Two-Phase Jet Impingement," *The IEEE Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems (ITherm)*, San Diego, CA, USA, May 29- Jun 1, 2018.
3. I. L. Collins, J. A. Weibel, L. Pan, S. V. Garimella, "Experimental Characterization of Microchannel Heat Sinks made by Additive Manufacturing," *The IEEE Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems (ITherm)*, San Diego, CA, USA, May 29- Jun 1, 2018.
4. Karen N. Son, Justin A. Weibel, Suresh V. Garimella, James C. Knox, and Robert F. Coker, "Calibration and Sensitivity of a Fixed-bed Adsorption Model for Atmosphere Revitalization in Space," *47th International Conference on Environmental Systems (ICES)*, Charleston, SC, USA, July 16-20, 2017.
5. S. Sudhakar, J. A. Weibel, and S. V. Garimella, "An Area-Scalable Two-Layer Evaporator Wick Concept for High-Heat-Flux Vapor Chambers," *Procs. ITherm17*, Orlando, FL, USA, May 30 - Jun 2, 2017.
6. G. Patankar, J. A. Weibel, and S. V. Garimella, "A Time-Stepping Analytical Model for 3D Transient Vapor Chamber Transport," *Procs. ITherm17*, Orlando, FL, USA, May 30 - Jun 2, 2017.
7. C. Mira-Hernández, M. D. Clark, J. A. Weibel, and S. V. Garimella, "A Semi-Empirical Model for Two-Phase Heat Transfer from Arrays of Confined Impinging Jets," *Procs. ITherm17*, Orlando, FL, USA, May 30 - Jun 2, 2017.
8. T. A. Kingston, J. A. Weibel, and S. V. Garimella, "Rapid-Bubble-Growth Instability at the Onset of Microchannel Flow Boiling," *Procs. ITherm17*, Orlando, FL, USA, May 30 - Jun 2, 2017.
9. K.P. Drummond, J.A. Weibel, and S.V. Garimella, "Experimental Study on Flow Boiling in a Compact Hierarchical Manifold Microchannel Heat Sink Array," *SEMI-THERM 33rd Annual Symposium and Exhibit*, San Jose, CA, USA, March 13-17, 2017.
10. A. Jain, Y. Huang, J. A. Weibel, and S. V. Garimella, "Visualization of Ice Formation Modes and Flow Blockage during Freezing of Water Flowing in a Microchannel," *ASME Summer Heat Transfer Conference*, HT2016-7243, Washington, DC, July 10-14, 2016.
11. A. Chandramohan, J. A. Weibel, and S. V. Garimella, "The Role of Condensation from Humid Air on Melting of Ice," *Procs. ITherm16*, Las Vegas, NV, May 31- June 3, 2016.
12. K. P. Drummond, J. A. Weibel, S. V. Garimella, D. Back, D. B. Janes, M. D. Sinanis, and D. Peroulis, "Evaporative Intrachip Hotspot Cooling with a Hierarchical Manifold Microchannel Heat Sink Array," *Procs. ITherm16*, Las Vegas, NV, May 31- June 3, 2016.
13. S. Sarangi, J. A. Weibel, and S. V. Garimella, "Effect of Particle Morphology on Pool Boiling from Surfaces Coated with Sintered Particles," *ASME International Mechanical Engineering Congress and Exposition*, Houston, Texas, November 13-19, IMECE2012-50238, 2015.
14. R. A. Simmons, H. Wang, S. V. Garimella, and E. A. Groll, "Hybrid, Plug-in Hybrid, and Electric Vehicle Energy Consumption Sensitivity to the Combined Effects of Driving Cycle and Ambient Temperature-Induced Thermal Loads," *Procs. 3rd Sustainable Thermal Energy Management International Conference (SUSTEM 2015)*, Newcastle upon Tyne, United Kingdom, July 7-8, 2015, pp. 271-283.
15. Z. Pan, J. A. Weibel, and S. V. Garimella, "A Cost-Effective Modeling Approach for Simulating Phase Change and Flow Boiling in Microchannels," *International Technical Conference and Exhibition on Packaging and Integration of Electronic and Photonic Microsystems (InterPACK) and International*

- Conference on Nanochannels, Microchannels and Minichannels (ICNMM)*, San Francisco, CA, July 6-9, 2015.
16. G. Patankar, S. Mancin, J. A. Weibel, M. A. MacDonald, and S. V. Garimella, "A Method for Thermal Performance Characterization of Ultra-Thin Vapor Chambers Cooled by Natural Convection," *International Technical Conference and Exhibition on Packaging and Integration of Electronic and Photonic Microsystems (InterPACK) and International Conference on Nanochannels, Microchannels and Minichannels (ICNMM)*, San Francisco, CA, July 6-9, 2015.
 17. T. A. Kingston, J. A. Weibel, and S. V. Garimella, "Quantitative Visualization of Vapor Bubble Growth in Diabatic Vapor-Liquid Microchannel Slug Flow," *International Technical Conference and Exhibition on Packaging and Integration of Electronic and Photonic Microsystems (InterPACK) and International Conference on Nanochannels, Microchannels and Minichannels (ICNMM)*, San Francisco, CA, July 6-9, 2015.
 18. M. J. Rau, T. Guo, P. P. Vlachos, and S. V. Garimella, "Visualization of Confined Jet Impingement with Boiling using Time-Resolved Stereo-PIV," *International Technical Conference and Exhibition on Packaging and Integration of Electronic and Photonic Microsystems (InterPACK) and International Conference on Nanochannels, Microchannels and Minichannels (ICNMM)*, San Francisco, CA, July 6-9, 2015.
 19. K. P. Drummond, J. A. Weibel, S. V. Garimella, D. Back, D. B. Janes, M. D. Sinanis, and D. Peroulis, "Fabrication and Characterization of a Hierarchical Manifold Microchannel Array for Evaporative Intrachip Cooling," *40th Annual Government Microcircuit Applications & Critical Technology (GOMACTech) Conference*, St. Louis, MO, March 23-26, 2015.
 20. S. G. Krishnan, K. K. Bodla, J. A. Weibel and S. V. Garimella, "Numerical Investigation of Fluid Flow and Heat Transfer in Periodic Porous Lattice-Frame Materials," *Procs. 15th International Heat Transfer Conference (IHTC-15)*, Kyoto, Japan, August 10-15, 2014.
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 22. M. Dicuango, S. Dash, J. A. Weibel and S. V. Garimella, "Evaporative Particle Deposition on Superhydrophobic Surfaces," *ASME International Mechanical Engineering Congress & Exposition, IMECE2013-63928*, San Diego, CA, November 15-21, 2013.
 23. C. Mira-Hernández, S. M. Flueckiger and S. V. Garimella, "Numerical Simulation of Single- and Dual-Media Thermocline Tanks for Energy Storage in Concentrating Solar Power Plants," *Solar Power and Chemical Energy Systems (SolarPACES)*, Las Vegas, NV, September 17-20, 2013; also published as *Energy Procedia* Vol. 49, pp. 916-926, 2014.
 24. S. M. Flueckiger, B. D. Iverson and S. V. Garimella, "Simulation of a Concentrating Solar Power Plant with Molten-Salt Thermocline Storage for Optimized Annual Performance," *ASME International Conference on Energy Sustainability, ES2013-19297*, Minneapolis, MN, July 14-19, 2013.
 25. K. K. Bodla and S. V. Garimella, "Microstructural Evolution and Transport Properties of Sintered Porous Media," *ASME Summer Heat Transfer Conference, HT2013-17241*, Minneapolis, MN, July 14-19, 2013.
 26. Z. Pan, S. Dash, J. A. Weibel and S. V. Garimella, "Numerical Study of Water Droplet Evaporation on a Superhydrophobic Surface," *ASME Summer Heat Transfer Conference, HT2013-17697*, Minneapolis, MN, July 14-19, 2013.
 27. S. N. Joshi, M. J. Rau, E. M. Dede and S. V. Garimella, "An Experimental Study of a Multi-Device Jet Impingement Cooler with Phase Change Using HFE-7100," *ASME Summer Heat Transfer Conference, HT2013-17241*, Minneapolis, MN, July 14-19, 2013.
 28. R. S. Patel and S. V. Garimella, "Diagnostic Technique for Quantitative Resolution of Three-Dimensional Liquid-Gas Phase Boundaries in Microchannel Flows," *ASME International Technical Conference and*

- Exhibition on Packaging and Integration of Electronic and Photonic Microsystems*, InterPACK2013-73057, Burlingame, CA, July 16-18, 2013.
29. S. H. Taylor and S. V. Garimella, "A Capacitance-Based Technique for Characterization of Dielectric Interfaces Using a Grid of Electrode Junctions," *ASME International Technical Conference and Exhibition on Packaging and Integration of Electronic and Photonic Microsystems*, InterPACK2013-73283, Burlingame, CA, July 16-18, 2013.
 30. S. N. Ritchey, J. A. Weibel and S. V. Garimella, "Effects of Non-Uniform Heating on Two-Phase Flow through Microchannels," *ASME International Technical Conference and Exhibition on Packaging and Integration of Electronic and Photonic Microsystems*, InterPACK2013-73058, Burlingame, CA, July 16-18, 2013 (**Outstanding Paper Award in Thermal**).
 31. S. Sarangi, K. K. Bodla, S. V. Garimella and J.Y. Murthy, "Optimization Under Uncertainty of Manifold Microchannel Heat Sinks," *ASME International Mechanical Engineering Congress and Exposition*, Houston, Texas, November 9-15, IMECE2012-89261, 2012.
 32. B. J. Woodland, A. Krishna, E. A. Groll, J. E. Braun, W. T. Horton and S. V. Garimella, "Thermodynamic Comparison of Organic Rankine Cycle with Liquid Flooded Expansion and with Solution Circuit," *Heat Powered Cycles Conference 2012*, Elkmaar, Netherlands, Sept 10-12, 2012.
 33. S. M. Flueckiger, S. V. Garimella and E. A. Groll, "Numerical Study of Supercritical CO₂ Convective Heat Transfer in Advanced Brayton Cycles for Concentrated Solar Power," ES2012-91396, *Procs. 6th International Conference on Energy Sustainability*, ASME, San Diego, CA, July 23-26, 2012.
 34. K. K. Bodla, J. Y. Murthy and S. V. Garimella, "Analysis of Thin-Film Evaporation through Sintered Wick Microstructures", HT2012-58598, *Procs. Summer Heat Transfer Conference*, Rio Grande, Puerto Rico, July 8-12, 2012.
 35. J. A. Weibel, A. S. Kousalya, T. S. Fisher and S. V. Garimella, "Characterization and Nanostructured Enhancement of Boiling Incipience in Capillary-Fed, Ultra-Thin Sintered Powder Wicks," *Procs. IThERM12*, San Diego, California, May 30-June 1, 2012.
 36. K. K. Bodla, J. Y. Murthy and S. V. Garimella, "Optimization Under Uncertainty for Electronics Cooling Design Applications," *Procs. IThERM12*, San Diego, California, May 30-June 1, 2012.
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 38. R. S. Patel and S. V. Garimella, "Development of a Particle Tracking-Based Measurement Technique to Map Three-Dimensional Interfaces Between Transparent, Immiscible Fluids," *Procs. IThERM12*, San Diego, California, May 30-June 1, 2012.
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 42. S. Flueckiger, Z. Yang and S. V. Garimella, "Thermocline Energy Storage in the Solar One Power Plant: An Experimentally Validated Thermomechanical Investigation," *ASME Energy Sustainability Conference*, Washington DC, August 7-10, 2011.
 43. R. Ranjan, A. Patel, S. V. Garimella and J. Y. Murthy, "Wicking and Thermal Characteristics of Micropillared Structures for use in Passive Heat Spreaders," InterPACK2011-52041, *Proceedings of the*

ASME 2011 Pacific Rim Technical Conference & Exposition on Packaging and Integration of Electronic and Photonic Systems, Portland, Oregon, July 6-8, 2011.

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45. R. Ranjan, J. Y. Murthy, S. V. Garimella and D. H. Altman, "An Experimentally Validated Model for Transport in Thin, High Thermal Conductivity, Low CTE Heat Spreaders," InterPACK2011-56039, *Proceedings of the ASME 2011 Pacific Rim Technical Conference & Exposition on Packaging and Integration of Electronic and Photonic Systems*, Portland, Oregon, July 6-8, 2011 (**First Prize for Best Poster** in Thermal Management).
46. S. R. Annapragada, S. Dash, S. V. Garimella and J. Y. Murthy, "Dynamics of Droplet Motion under Electrowetting Actuation," InterPACK2011-52061, *Proceedings of the ASME 2011 Pacific Rim Technical Conference & Exposition on Packaging and Integration of Electronic and Photonic System*, Portland, Oregon, July 6-8, 2011.
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50. T. Chen and S. V. Garimella, "A Study of Critical Heat Flux during Flow Boiling in Microchannel Heat Sinks," *ASME/JSME 2011 8th Thermal Engineering Joint Conference (AJTEC2011)*, Honolulu, Hawaii, March 13-17, 2011.
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52. M. Hashimoto, H. Kasai, K. Usami, H. Ryoson, K. Yazawa, J. A. Weibel and S. V. Garimella, "Nano-Structured Two-Phase Heat Spreader for Cooling Ultra- High Heat Flux Sources," *14th International Heat Transfer Conference*, Washington, D.C., August 8-13, 2010.
53. S. Kim, J. A. Weibel, T. S. Fisher and S. V. Garimella, "Thermal Performance of Carbon Nanotube Enhanced Vapor Chamber Wicks," *14th International Heat Transfer Conference*, Washington, D.C., August 8-13, 2010.
54. X. Nie, X. Hu, S. V. Garimella and D. Tang, "Heat and Mass Transfer in the Corner Flow Region of Vertical Microgrooves," *Proceedings of ASME 2010 3rd Joint US-European Fluids Engineering Summer Meeting and 8th International Conference on Nanochannels, Microchannels, and Minichannels FEDSM2010*, Montreal, Canada, August 2-4, 2010.
55. J. A. Weibel, S. V. Garimella, J. Y. Murthy and D. H. Altman, "Optimization of Mass Transport in Integrated Nanostructured Wicking Surfaces for the Reduction of Evaporative Thermal Resistance," *Procs. IThERM10*, Reno, Nevada, June 2-5, 2010.

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57. K. K. Bodla, J. Y. Murthy and S. V. Garimella "XMT-Based Direct Simulation of Flow and Heat Transfer through Open-cell Aluminum Foams," *Procs. ITherm10*, Reno, Nevada, June 2-5, 2010.
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59. S. R. Annapragada, T. Salamon, P. Kolodner, M. Hodes and S. V. Garimella, "Prediction of Electrical Contact Resistivity in Thermoelectric Modules (TEMS) from Module-Level Measurements," *Procs. ITherm10*, Reno, Nevada, June 2-5, 2010.
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61. A. Dalal, R. Ranjan, J. Y. Murthy and S. V. Garimella, "Heat Transfer during Evaporation of Binary Liquids from Wick Microstructures," *ASME/ISHMT Heat and Mass Transfer Conference*, Mumbai, India, January 4-6, 2010.
62. S. R. Annapragada, S. V. Garimella, and J. Y. Murthy, "Experimental Characterization of Droplet Motion on Inclined Hydrophobic Surfaces," *ASME/ISHMT Heat and Mass Transfer Conference*, Mumbai, India, January 4-6, 2010.
63. R. Ranjan, J. Y. Murthy and S. V. Garimella, "Numerical Study of Evaporation Heat Transfer from the Liquid-Vapor Interface in Wick Microstructures," IMECE2009-11326, *ASME International Mechanical Engineering Congress and Exposition*, Lake Buena Vista, Florida, November 13-19, 2009 (**Best Poster Award**).
64. S. R. Annapragada, J. Y. Murthy and S. V. Garimella, "Forces Acting on Sessile Droplets on Inclined Surfaces," HT2009-88365, *ASME Summer Heat Transfer Conference*, San Francisco, California, July 19-23, 2009 (**Best Poster Award**).
65. T. Harirchian and S. V. Garimella, "A Systematic Investigation of the Effects of Microchannel Width, Depth, and Aspect Ratio on Convective Boiling Heat Transfer and Flow Regimes in Parallel Microchannels," HT2009-88331, *ASME Summer Heat Transfer Conference*, San Francisco, California, July 19-23, 2009.
66. B. T. Holcomb, T. Harirchian and S. V. Garimella, "An Experimental Investigation of Microchannel Size Effects on Flow Boiling with De-Ionized Water," HT2009-88329, *ASME Summer Heat Transfer Conference*, San Francisco, California, July 19-23, 2009.
67. N. Kumari, V. Bahadur, M. Hodes, T. Salamon, A. Lyons, P. Kolodner and S. V. Garimella, "Numerical Analysis of Mist-Cooled High Power Components in Cabinets," IPACK2009-89269, *The ASME/Pacific Rim Technical Conference and Exhibition on Integration and Packaging of Micro, Nano, and Electronic Systems (InterPACK '09)*, San Francisco, California, July 19-23, 2009 (**Best Poster Award**).
68. C. P. Migliaccio, H. K. Dhavaleswarapu and S. V. Garimella, "Microscale Temperature Measurements near the Contact Line of an Evaporating Thin Film in a V-Groove," IPACK2009-89134, *The ASME/Pacific Rim Technical Conference and Exhibition on Integration and Packaging of Micro, Nano, and Electronic Systems (InterPACK '09)*, San Francisco, California, July 19-23, 2009.
69. B. J. Jones and S. V. Garimella, "Surface Roughness Effects on Flow Boiling in Microchannels," IPACK2009-89168, *The ASME/Pacific Rim Technical Conference and Exhibition on Integration and Packaging of Micro, Nano, and Electronic Systems (InterPACK '09)*, San Francisco, California, July 19-23, 2009.
70. R. Lonergan, M. L. Kimber and S. V. Garimella, "Vibration Coupling in Arrays of Oscillating Piezoelectric Fans," *Second International Conference on Thermal Issues in Emerging Technologies Theory and Applications (TheTA) Conference*, Cairo, Egypt, December 17-20, 2008.

71. D. B. Go, R. A. Maturana, R. K. Mongia, S. V. Garimella and T. S. Fisher, "Ionic Winds for Enhanced Cooling in Portable Platforms," *10th Electronics Packaging Technology Conference*, December 9-12, 2008, Singapore.
72. F. Volle, S. V. Garimella and M. A. Juds, "A Thermal Quadrupole-Based Model for Heat Diffusion in a Multilayered System: Application to Determination of Transient Performance of a Medium-Voltage Soft Starter," IMECE2008-67470, *ASME International Mechanical Engineering Congress and Exposition*, Boston, Massachusetts, October 31-November 6, 2008.
73. R. Ranjan, J. Y. Murthy and S. V. Garimella, "Characterization of Microstructures for Heat Transfer Performance in Passive Cooling Devices," HT2008-56170, *ASME Summer Heat Transfer Conference*, Jacksonville, Florida, August 10-14, 2008.
74. S. R. Annapragada, J. Y. Murthy and S. V. Garimella, "Permeability and Thermal Transport in Compressed Open-Celled Foams," HT2008-56375, *ASME Summer Heat Transfer Conference*, Jacksonville, Florida, August 10-14, 2008 (**Best Paper Award**).
75. J. P. McHale and S. V. Garimella, "Measurements of Bubble Nucleation Characteristics in Pool Boiling of FC-77 on Smooth and Roughened Surfaces," HT2008-56179, *ASME Summer Heat Transfer Conference*, Jacksonville, Florida, August 10-14, 2008.
76. R. A. Bidkar, M. Kimber, A. Raman, A. K. Bajaj and S. V. Garimella, "Nonlinear Aerodynamic Damping of Beams at High Oscillatory Reynolds Numbers," *9th International Conference on Flow-Induced Vibrations – FIV2008*, Prague, Czech Republic, June 30-July 2, 2008.
77. S. Aradhya, S. V. Garimella and T. S. Fisher, "Electrochemically Bonded Carbon Nanotube Interfaces," *Procs. ITherm08*, Orlando, Florida, May 28-31, 2008.
78. M. Kimber, K. Suzuki, N. Kitsunai, K. Seki and S. V. Garimella, "Quantification of Piezoelectric Fan Flow Rate Performance and Experimental Identification of Installation Effects," *Procs. ITherm08*, Orlando, Florida, May 28-31, 2008.
79. D. Liu and S. V. Garimella, "Microfluidic Pumping based on Dielectrophoresis for Thermal Management of Microelectronics," *Procs. ITherm08*, Orlando, Florida, May 28-31, 2008.
80. V. Bahadur, M. Hodes, A. Lyons, S. Krishnan and S. V. Garimella, "Enhanced Cooling in a Sealed Cabinet using an Evaporating-Condensing Dielectric Mist," *Procs. ITherm08*, Orlando, Florida, May 28-31, 2008.
81. T. Harirchian and S. V. Garimella, "An Investigation of Flow Boiling Regimes in Microchannels of Different Dimensions by Means of High-Speed Visualization," *Procs. ITherm08*, Orlando, Florida, May 28-31, 2008.
82. H. Wang, S. V. Garimella and J. Y. Murthy, "Analysis of the Total Heat Transfer in an Evaporating Thin Film," MNHT2008-52386, *ASME Micro/Nanoscale Heat Transfer International Conference (MNHT08)*, Tainan, Taiwan, January 6-9, 2008.
83. S. V. Garimella and D. Liu, "Microscale Thermal Transport and Electromechanical Microfluidic Actuation," **Keynote Lecture** at *ASME/ISHMT Heat and Mass Transfer Conference*, Hyderabad, India, January 3-5, 2008.
84. T. Harirchian and S. V. Garimella, "Microchannel Size Effects on Two-Phase Local Heat Transfer and Pressure Drop in Silicon Microchannel Heat Sinks with a Dielectric Fluid," IMECE2007-42458, *ASME International Mechanical Engineering Congress and Exposition*, Seattle, WA, November 2007.
85. H. Dhavaleswarapu, S. V. Garimella and J. Y. Murthy, "Microscale Temperature Measurements at the Triple Line of an Evaporating Thin Film," IMECE2007-42398, *ASME International Mechanical Engineering Congress and Exposition*, Seattle, WA, November 2007.
86. S. Bertsch, E. A. Groll and S. V. Garimella, "Experimental Investigation of Local Heat Transfer Coefficient for Refrigerant Flow Boiling in Microchannel Cold Plate Evaporators," *22nd International Congress on Refrigeration*, Beijing, August 21-26, 2007.

87. S. Krishnan, J. Y. Murthy and S. V. Garimella, "Thermal and Fluid Transport through Open Cell Metal Foams," *3rd International Conference on Diffusion in Solids and Liquids - DSL-2007*, Algarve, Portugal, July 4-6, 2007.
88. N. Kumari, S. Krishnan and S. V. Garimella, "Analysis and Performance Comparison of Competing Cooling Technologies for a Desktop Application," *The ASME/Pacific Rim Technical Conference and Exhibition on Integration and Packaging of Micro, Nano, and Electronic Systems (InterPACK '07)*, IPACK2007-33407, Vancouver, Canada, July 8-12, 2007.
89. M. Kimber and S. V. Garimella, "Local Heat Transfer Characteristics of Flows Induced by Multiple Piezoelectrically Actuated Vibrating Cantilevers," *ASME-JSME Thermal Engineering Summer Heat Transfer Conference*, HT2007-32394, Vancouver, Canada, July 8-12, 2007.
90. D. B. Go, R. A. Maturana, T. S. Fisher and S. V. Garimella, "External Forced Convection Enhancement using a Corona Discharge," *ASME-JSME Thermal Engineering Summer Heat Transfer Conference*, HT2007-32379, Vancouver, Canada, July 8-12, 2007.
91. B. J. Jones and S. V. Garimella, "Effects of Surface Roughness on the Pool Boiling of Water," *ASME-JSME Thermal Engineering Summer Heat Transfer Conference*, HT2007-32230, Vancouver, Canada, July 8-12, 2007.
92. H. Wang, J. Y. Murthy and S. V. Garimella, "Characteristics of an Evaporating Thin Film in a Microchannel," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2006-13899, Chicago, IL, November 2006.
93. S. Krishnan, S. V. Garimella and J. Y. Murthy, "Simulation of Thermal Transport in Open-Cell Metal Foams: Effect of Periodic Unit Cell Structure," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2006-14044, Chicago, IL, November 2006.
94. S. R. Annapragada, D. Sun and S. V. Garimella, "Prediction of Effective Thermo-Mechanical Properties of Particulate Composites," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2006-14087, Chicago, IL, November 2006.
95. P.S. Lee and S. V. Garimella, "Flow Boiling in Silicon Microchannel Arrays," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2006-14577, Chicago, IL, November 2006.
96. M. Kimber, S. V. Garimella and A. Raman, "Experimental Mapping of Local Heat Transfer Coefficients under Multiple Piezoelectric Fans," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2006-13922, Chicago, IL, November 2006.
97. P. Chamrathy, H. Dhavalewsarapu, S. V. Garimella, J. Y. Murthy and S. T. Wereley, "Visualization of Thermocapillary Convection Near an Evaporating Meniscus," *12th International Symposium on Flow Visualization*, Gottingen, Germany, Paper No. ISFV12- 74.2 (253), September 10-14, 2006.
98. B. J. Jones and S. V. Garimella, "Infrared Micro-Particle Image Velocimetry in a Silicon Microchannel Heat Sink," *International Heat Transfer Conference*, Sydney, Australia, August 13-18, 2006 (**Best Poster Prize**).
99. D. B. Go, S. V. Garimella and T. S. Fisher, "Numerical Simulation of Microscale Ionic Wind for Local Cooling Enhancement," *Procs. ITherm06*, San Diego, California, pp. 45-53, May 30 - June 2, 2006.
100. M. Kimber, S. V. Garimella and A. Raman, "An Experimental Study of Fluidic Coupling Between Multiple Piezoelectric Fans," *Procs. ITherm06*, San Diego, California, pp. 333-340, May 30 - June 2, 2006.
101. M. Iyengar and S. V. Garimella, "Design and Optimization of Microchannel Cooling Systems," *Procs. ITherm06*, San Diego, California, pp. 54-62, May 30 - June 2, 2006.
102. R. S. Annapragada, D. Sun and S. V. Garimella, "Analysis and Suppression of Base Separation in the Casting of a Cylindrical Ingot," *ASME/ISHMT Heat and Mass Transfer Conference*, Guwahati, India, January 4-6, 2006.

103. S. Basak, A. Raman and S. V. Garimella, "Hydrodynamic Loading of Vibrating Micro-Cantilevers," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2005-80007, Orlando, FL, November 2005.
104. P. S. Lee and S. V. Garimella, "Hot-Spot Thermal Management with Flow Modulation in a Microchannel Heat Sink," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2005-79562, Orlando, FL, November 2005.
105. D. Liu and S. V. Garimella, "Flow Boiling in a Microchannel Heat Sink," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2005-79555, Orlando, FL, November 2005.
106. D. Sun, R. S. Annapragada, S. V. Garimella and S. Singh, "Solidification Heat Transfer and Base Separation Analysis in the Casting of an Energetic Material in a Projectile," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2005-80432, Orlando, FL, November 2005.
107. S. Krishnan, J. Y. Murthy and S. V. Garimella, "Direct Simulation of Transport in Open-Cell Metal Foams," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2005-81309, Orlando, FL, November 2005.
108. S. Krishnan, J. Y. Murthy and S. V. Garimella, "Analysis of Solid-Liquid Phase Change under Pulsed Heating," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2005-82553, Orlando, FL, November 2005.
109. S. Krishnan, S. V. Garimella, G. M. Chrysler and R. V. Mahajan, "Towards a Thermal Moore's Law," *The ASME/Pacific Rim Technical Conference and Exhibition on Integration and Packaging of Micro, Nano, and Electronic Systems (InterPACK '05)*, IPACK2005-73409, San Francisco, July 17-22, 2005.
110. T. Chen and S. V. Garimella, "Flow Boiling Heat Transfer to a Dielectric Coolant in a Microchannel Heat Sink," *The ASME/Pacific Rim Technical Conference and Exhibition on Integration and Packaging of Micro, Nano, and Electronic Systems (InterPACK '05)*, IPACK2005-73438, San Francisco, July 17-22, 2005.
111. T. Acikalin, I. Sauciu and S. V. Garimella, "Piezoelectric Actuators for Low-Form-Factor Electronics Cooling," *The ASME/Pacific Rim Technical Conference and Exhibition on Integration and Packaging of Micro, Nano, and Electronic Systems (InterPACK '05)*, IPACK2005-73288, San Francisco, July 17-22, 2005.
112. S. V. Garimella, "Transport in Mesoscale Cooling Systems," **Keynote Lecture**, *Symposium on Fundamental Issues and Perspectives in Fluid Mechanics*, FEDSM2005-77325, ASME Fluids Engineering Summer Conference, Houston, TX, June 19-23, 2005.
113. T. Chen and S. V. Garimella, "Effects of Dissolved Air on Subcooled Flow Boiling of a Dielectric Coolant in a Microchannel Heat Sink," *3rd International Conference on Microchannels and Minichannels*, Toronto, Canada, June 13-15, 2005.
114. D. Sun, S. V. Garimella and A. Mukhopadhyay, "Analysis of the Solidification of Particle-Laden Melts," *Symposium on Frontiers in Solidification Science*, TMS Annual Meeting and Exhibition, February 13-17, 2005, San Francisco, California.
115. D. Sun, S. V. Garimella, S. Singh and N. Naik, "Numerical and Experimental Investigation of the Melt Casting of Explosives," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2004-59338, Anaheim, CA, November 2004.
116. V. Singhal and S. V. Garimella, "A Novel Micropump for Electronics Cooling," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2004-61147, Anaheim, CA, November 2004.
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Conference Publications

(Full Paper Based on Review of an Extended Abstract)

184. C. R. Bradshaw, E. A. Groll and S. V. Garimella, "A Sensitivity Analysis of a Miniature-Scale Linear Compressor for Electronics Cooling using a Comprehensive Model," *International Compressor Engineering Conference at Purdue*, West Lafayette, Indiana, Paper 1133, July 16-19, 2012.
185. C. R. Bradshaw, E. A. Groll and S. V. Garimella, "Linear Compressors for Electronics Cooling: Energy Recovery and Useful Benefits," *International Compressor Engineering Conference at Purdue*, West Lafayette, Indiana, Paper 1134, July 16-19, 2012.
186. C. R. Bradshaw, E. A. Groll, and S. V. Garimella, "A Miniature-Scale Linear Compressor for Electronics Cooling," *Proceedings of the Deutscher Klt- und Klimatechnischer Verein (DKV)*, Aachen, Germany, No. AA11.2.03, November 17, 2011.
187. S. V. Garimella, "Small-Scale Solutions to Grand Challenges in Thermal Management," **Invited Lecture** at the *10th International Workshop on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS 2010)*, Leuven, Belgium, November 30-December 3, 2010.
188. E. Da Riva, D. Del Col, A. Cavallini and S. V. Garimella, "Simulation of Condensation in a Circular Minichannel: Application of VOF Method and Turbulence Model," *International Refrigeration and Air Conditioning Conference*, West Lafayette, IN, July 12-15, 2010.
189. C. Bradshaw, E. A. Groll, and S. V. Garimella, "A Comprehensive Model of a Miniature-Scale Linear Compressor for Electronics Cooling," *International Refrigeration and Air Conditioning Conference*, West Lafayette, IN, July 12-15, 2010 (**Best Paper Award**).
190. S. V. Garimella and T. Harirchian, "Boiling Heat Transfer and Flow Regimes in Microchannels – a Comprehensive Understanding," **Keynote Lecture** at the *15th International Workshop on Thermal Investigations of ICs and Systems (THERMINIC)*, Leuven, Belgium, pp. 101-112, October 7-9, 2009.
191. B. J. Jones and S. V. Garimella, "Surface Roughness Effects on Boiling Heat Transfer," *International Microelectronics and Packaging Society (IMAPS) Advanced Technology Workshop on Thermal Management*, Palo Alto, CA, October 6-8, 2009.
192. S. Bertsch, E. A. Groll and S. V. Garimella, "Flow Boiling Heat Transfer in Microchannel Heat Exchangers for Electronics Cooling," *Deutsche Kältetechnische Tagung (DKV) 2008 Conference*, Ulm, Germany, November 20-21, 2008.
193. B. D. Iverson and S. V. Garimella, "Performance Characterization of a Traveling-Wave Electrohydrodynamic Micropump," IMECE2008-67790, *ASME International Mechanical Engineering Congress and Exposition*, Boston, Massachusetts, October 31-November 6, 2008.
194. A. A. Sathe, E. A. Groll and S. V. Garimella, "Experimental Evaluation of a Miniature Rotary Compressor for Application in Electronics Cooling," *International Compressor Engineering Conference*, West Lafayette, IN, July 2008.
195. S. S. Bertsch, E. A. Groll and S. V. Garimella, "Flow Boiling Heat Transfer in Microchannel Cold Plate Evaporators for Electronics Cooling," *International Refrigeration and Air Conditioning Conference*, West Lafayette, IN, July 2008.

196. A. A. Sathe, E. A. Groll and S. V. Garimella, "Analysis of Diaphragm Compressors for Electronics Cooling," *International Compressor Engineering Conference*, West Lafayette, IN, July 2008.
197. T. Harirchian and S. V. Garimella, "Flow Boiling in Silicon Microchannel Heat Sinks," ST-24, *24th IEEE SemiTHERM Symposium*, San Jose, CA, March 16-20, 2008.
198. P. Chamrathy, S. Wereley and S. V. Garimella, "Microscale Laser-Induced Fluorescence Method for Non-Intrusive Temperature Measurement," IMECE2007-41935, *ASME International Mechanical Engineering Congress and Exposition*, Seattle, WA, November 2007.
199. S. V. Garimella and V. Bahadur, "Electrically Actuated Microscale Flows for Microelectronics Cooling," **Keynote Lecture**, *The Eighteenth International Symposium on Transport Phenomena*, Daejeon, Korea, pp. 281-294, 27-30 August, 2007.
200. L. Cremaschi, E. A. Groll and S. V. Garimella, "Performance Potential and Challenges of Future Refrigeration Systems for Electronics Cooling," *Thermal Challenges in Next-Generation Electronic Systems – THERMES II*, Santa Fe, NM, January 7-10, 2007.
201. V. Bahadur and S. V. Garimella, "Electrowetting-Induced Droplet Motion for Heat Transfer Applications," *Thermal Challenges in Next-Generation Electronic Systems – THERMES II*, Santa Fe, NM, January 7-10, 2007.
202. P. Chamrathy, S. Wereley and S. V. Garimella, "Simultaneous Measurement of Velocity and Temperature using μ PIV," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2006-14079, Chicago, IL, November 2006.
203. L. Cremaschi, B. D. Iverson and S. V. Garimella, "Enhanced Electrohydrodynamic Pumping at the Microscale," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2006-13264, Chicago, IL, November 2006.
204. H. Wang, J. Y. Murthy and S. V. Garimella, "Transport from a Volatile Meniscus in a Microtube," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2006-13898, Chicago, IL, November 2006.
205. D. Go, T. S. Fisher and S. V. Garimella, "Direct Simulation Monte Carlo Analysis of Microscale Field Emission and Ionization of Atmospheric Air," *ASME International Mechanical Engineering Congress and Exposition*, IMECE2006-14476, Chicago, IL, November 2006.
206. S. Trutassanawin, L. Cremaschi, E. A. Groll and S. V. Garimella, "Performance Analysis of a Miniature-Scale Vapor Compression System For Electronics Cooling: Bread Board Setup," Paper No. R167, *International Refrigeration and Air Conditioning Conference*, West Lafayette, IN, July 17-20, 2006.
207. A. A. Sathe, L. Cremaschi, E. A. Groll and S. V. Garimella, "A New Model for an Electrostatically Actuated Miniature-Scale Diaphragm Compressor for Electronics Cooling," Paper No. C152, *International Compressor Engineering Conference*, West Lafayette, IN, July 17-20, 2006.
208. P. Chamrathy, S. T. Wereley and S. V. Garimella, "Simultaneous Measurement of Velocity and Temperature using Cross- Correlation PIV," *13th International Symposium on Applications of Laser Techniques to Fluid Mechanics*, Lisbon, Portugal, June 26-29, 2006.
209. P. Chamrathy, S. T. Wereley and S. V. Garimella, "Assessment of Alternate Approaches for Temperature Measurement using Brownian Motion," *6th International Symposium on Particle Image Velocimetry*, Pasadena, California, September 21-23, 2005.
210. T. Açıkalın, A. Raman and S. V. Garimella, "Two-dimensional Streaming Flows Induced by A Baffled Piezoelectric Fan," *Flow Induced Vibrations Conference*, Paper No. 164, Paris, France, July 6-9, 2004.
211. D. Liu and S. V. Garimella, "Investigation of Liquid Flow in Microchannels," *8th AIAA/ASME Joint Thermophysics and Heat Transfer Conference*, Paper No. AIAA 2002-2776, pp. 1-10, St. Louis, Missouri, June 24-26, 2002.

212. P. Buermann, A. Raman and S. V. Garimella, "Dynamics and Topology Optimization of Piezoelectric Fans," *Thermal Challenges in Next Generation Electronic Systems: THERMES 2002*, pp. 113-121, January 2002 (Millpress, Netherlands).
213. S. V. Garimella, "Considerations in the Design of Impingement-Cooled Systems," *Proceedings of the SMTA International 2001*, Chicago, Illinois, pp. 144-150, September 30 – October 4, 2001.
214. S. V. Garimella, "CFD in Electronics Packaging and Electronic Materials Processing," **Invited lecture** published in *Proceedings of the International Symposium on Challenges and New Directions in Computation of Internal Flows*, IIT Madras, India, (Editors V. Ganesan, T. S. Sundararajan, and E. G. Tulapurkara), pp. 217-240, January 2000.

Conference Publications

(Presentation Based on Review of an Extended Abstract)

215. K.P. Drummond, J.A. Weibel, and S.V. Garimella, "Effects of Flow Channel Length in a Two-Phase Hierarchical Manifold Microchannel Heat Sink Array," *42nd Annual Government Microcircuit Applications & Critical Technology (GOMACTech) Conference*, Reno, NV, March 20-23, 2017.
216. T. Guo, M. J. Rau, P. P. Vlachos and S. V. Garimella, "The Effect of Confinement on the Development of an Axisymmetric Wall-Jet in Confined Jet Impingement," *68th Annual Meeting of American Physical Society's Division of Fluid Dynamics*, Boston, MA, USA, November 22-24, 2015.
217. T. Guo, M. J. Rau, P. P. Vlachos and S. V. Garimella, "Experimental Investigation of a Confined Developing Axisymmetric Wall Jet," *67th Annual Meeting of American Physical Society's Division of Fluid Dynamics*, San Francisco, CA, USA, November 23-25, 2014.
218. S. Dash, A. Chandramohan, J. A. Weibel and S. V. Garimella, "Buoyant convection in droplets on superhydrophobic surfaces," *67th Annual Meeting of American Physical Society's Division of Fluid Dynamics*, San Francisco, CA, USA, November 23-25, 2014.
219. X. Chen, J. A. Weibel and S. V. Garimella, "Hierarchical Superhydrophobic Copper for Sustained Dropwise Condensation," Photogallery at the *ASME International Mechanical Engineering Congress and Exposition*, Montreal, Canada, November 14-20, 2014.
220. C. Mira-Hernandez, V. Patel, P. Deepu, S. Dawande, J. A. Weibel, S. Basu and S. V. Garimella, "Simulation of Thermocline Formation in an Experimental Molten-Salt Energy Storage System for Concentrating Solar Power Applications," *ASME 8th International Conference on Energy Sustainability*, Boston, MA, USA, June 30- July 2, 2014.
221. K. Nielson, H.-C. Su, J. A. Weibel and S. V. Garimella, "Comparison of Simulated and Measured Pressure Drop for Flow Through Periodic Lattice-Frame Heat Exchange Surfaces," *6th International Conference on Porous Media (InterPore)*, Milwaukee, WI, USA, May 27-30, 2014.
222. S. Dash, A. Chandramohan, and S. V. Garimella, "Flow Visualization During Droplet Evaporation on Hydrophobic and Superhydrophobic Surfaces," Photogallery at the *ASME International Mechanical Engineering Congress and Exposition*, San Diego, CA, USA, November 15-21, 2013.
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224. J. A. Weibel, S. Sarangi and S. V. Garimella, "Pool Boiling Heat Transfer from Deformable Particulate Beds," Photogallery at the *ASME International Mechanical Engineering Congress and Exposition*, Houston, TX, USA, November 9-15, 2012.
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