

## Journal Publications

- 59 Soleimani, S. and S. Eckels, *Parametric Study of 3D Micro-Fin Tubes on Heat Transfer and Friction Factor*. International Journal of Mechanical and Mechatronics Engineering, 2021. 15(8): p. 331-335.
- 58 Waez, M.S., S.J. Eckels, and C.M. Sorensen, *Determination of Size and Complex Index of Refraction of Single Particles with Elastic Light Scattering*. Applied Optics. 2021: 60 (3), 600-605.
- 57 Ahmed, Z., S.J. Eckels, S.C. Eckels, H. Bindra., *Forced Convective Boiling in a Vertical Annular Test Section with Seawater Coolant*. Journal of Nuclear Eng. and Radiation Science, 2021, 7(3)
- 56 Soleimani, S. and S. Eckels, *A review of drag reduction and heat-transfer enhancement by riblet surfaces in closed- and open-channel flow*. International Journal of Thermofluids, 2021: 9 p. 100053.
- 55 Amare, R., A.A. Bahadori, and S. Eckels, *A Structured Cleaving Mesh for Bioheat Transfer Application*. IEEE Open Journal of Engineering in Medicine and Biology, 2020. 1: p. 174-186.
- 54 Soleimani, S., M. Campbell, and S. Eckels, *Performance analysis of different transverse and axial micro-fins in a turbulent-flow channel*. International Journal of Thermal Sciences, 2020. 149: p. 106185..
- 53 Asher, W.E. and S.J. Eckels, *Characterization and numerical simulation of liquid refrigerant R-134a flow emerging from a flooded evaporator tube bundle*. International Journal of Refrigeration, 2019. 107: p. 275-287.
- 52 Franken, D., Z. Ahmed, S. Eckels, S. Eckels, and H. Bindra, *Impact of dissolved salts on two-phase flow and boiling heat transfer in a natural circulation loop*. Chemical Engineering Science, 2019. 206: p. 463-470.
- 51 Li, P., M. Campbell, N. Zhang, and S.J. Eckels, *Relationship between turbulent structures and heat transfer in microfin enhanced surfaces using large eddy simulations and particle image velocimetry*. International Journal of Heat and Mass Transfer, 2019. 136: p. 1282-1298.
- 50 Gorgy, E. and S. Eckels, *Convective boiling of R-123 on enhanced-tube bundles*. International Journal of Heat and Mass Transfer, 2019. 134: p. 752-767.
- 49 Mann, G.W. and S.J. Eckels, *Multi-Objective Heat Transfer Optimization of 2D Helical Microfins Using NSAG-II*. International Journal of Heat and Mass Transfer. 2019. v 132. p 1250-1261.
- 48 Waez, M.S., S.J. Eckels, and C.M. Sorensen, *A refractive-index and position-independent single-particle detector for large, nonabsorbing, spherical particles*. Aerosol Science and Technology, 2018: p. 1-8.
- 47 Schlabach, M., E.A. McCullough, and S.J. Eckels, *Determining temperature ratings for children's sleeping bags*. International Journal of Industrial Ergonomics, 2018. 65: p. 153-160.
- 46 Li, P., S.J. Eckels, G.W. Mann, and N. Zhang, *A Method of Measuring Turbulent Flow Structures With Particle Image Velocimetry and Incorporating Into Boundary Conditions of Large Eddy Simulations*. Journal of Fluids Engineering, 2018. 140(7): p. 071401-071401-11.
- 45 Elson, J. and S. Eckels, *Contribution of wetted clothing to body energy exchange and heat stress*. Journal of Thermal Biology, 2018. 78: p. 343-351. <https://doi.org/10.1016/j.jtherbio.2018.09.014>
- 44 Asher, W. and S.J. Eckels, *Characterization of liquid refrigerant R-123 flow emerging from a flooded evaporator tube bundle*. Science and Technology for the Built Environment, 2018: p. 1-13.
- 43 Young, M.E., A.W. McCoy, J.P. Hutson, M. Schlabach, and S. Eckels, *Hot under the collar: The impact of heat on game play*. Applied Ergonomics, 2017. 59, Part A: p. 209-214.
- 42 Mann, G.W. and S.J. Eckels, *Focal plane model for flat refractive geometry*. Journal of the European Optical Society-Rapid, 2017. 13:39.
- 41 Derby, M.M., M. Hamehkasi, S. Eckels, G.M. Hwang, B. Jones, R. Maghirang, and D. Shulan, *Update of the scientific evidence for specifying lower limit relative humidity levels for comfort*,

- health, and indoor environmental quality in occupied spaces (RP-1630)*. Science and Technology for the Built Environment, 2017. **23**(1): p. 30-45.
- 40 Omana, M.A., G.W. Mann, B.W. Jones, and S.J. Eckels, *Persistence of Bleed-Air Contaminants on High-Efficiency Particulate Arrestance Filters*. Journal of Aircraft, 2016. **53**(5): p. 1574-1577.
- 39 Mann, G.W., G.R. Madamadakala, and S.J. Eckels, *Heat transfer characteristics of R-134a in a converging-Diverging nozzle*. Int. Journal of Heat and Fluid Flow, 2016. **62, Part B**: p. 464-473.
- 38 Gorgy, E. and S. Eckels, *Convective boiling of R-134a on enhanced-tube bundles*. International Journal of Refrigeration, 2016. **68**: p. 145-160.
- 37 Elson, J. and S. Eckels, *An objective method for screening and selecting personal cooling systems based on cooling properties*. Applied Ergonomics, 2015. **48**: p. 33-41.
- 36 Mann, G.W., S.J. Eckels, and B.W. Jones, *Analysis of particulate size distribution and concentrations from simulated jet engine bleed air incidents*. HVAC&R Research, 2014. **20**(7): p. 780-789.
- 35 Eckels, S.J., B. Jones, G. Mann, K.R. Mohan, and C.P. Weisel, *Aircraft Recirculation Filter for Air-Quality and Incident Assessment*. Journal of Aircraft, 2014. **51**(1): p. 320-326.
- 34 Yang, X., Z.C. Zheng, S. Winecki, and S. Eckels, *Model Simulation and Experiments of Flow and Mass Transport through a Nano-Material Gas Filter*. Applied Mathematical Modelling, 2013. **37**: p. 9052-9062.
- 33 Gorgy, E. and S. Eckels, *Convective boiling of R-134a and R-123 on an enhanced tube bundle with standard pitch, RP-1316*. HVAC&R Research, 2013. **19**(2): p. 193-206.
- 32 Sun, X., S. Eckels, and Z.C. Zheng, *An improved thermal model of the human body*. HVAC&R Research, 2012. **18**(3): p. 323-338.
- 31 Gorgy, E. and S. Eckels, *Local heat transfer coefficient for pool boiling of R-134a and R-123 on smooth and enhanced tubes*. International Journal of Heat and Mass Transfer, 2012. **55**(11): p. 3021-3028.
- 30 Jokar, A., S.J. Eckels, and M.H. Hosni, *Single-phase flow in meso-channel compact heat exchangers for air conditioning applications*. Heat Transfer Engineering, 2010. **31**(1): p. 3-16.
- 29 Gorgy, E. and S. Eckels, *Average heat transfer coefficient for pool boiling of R-134a and R-123 on smooth and enhanced tubes (RP-1316)*. HVAC&R Research, 2010. **16**(5): p. 657-676.
- 28 Zhang, N., Z. Zheng, S. Eckels, V.B. Nadella, and X. Sun, *Transient Response of Particle Distribution in a Chamber to Transient Particle Injection*. Particle & Particle Systems Characterization, 2009. **26**(4): p. 199-209.
- 27 McCullough, E.A., S. Eckels, and C. Harms, *Determining temperature ratings for children's cold weather clothing*. Applied Ergonomics, 2009. **40**(5): p. 870-877.
- 26 Cochran, M., J. Goodnight, B. Babin, and S.J. Eckels, *Condensing dryers with enhanced dehumidification using surface tension elements*. Applied Thermal Engineering, 2009. **29**: p. 723-731.
- 25 Zhang, N., Z. Zheng, and S. Eckels, *Study of heat-transfer on the surface of a circular cylinder in flow using an immersed-boundary method*. International Journal of Heat and Fluid Flow, 2008. **29**(6): p. 1558-1566.
- 24 Hubbard, J.A., S.J. Eckels, and C.M. Sorensen, *Q-Space analysis applied to polydisperse, dense random aggregates*. Particle & Particle Systems Characterization, 2008. **25**(1): p. 68-73.
- 23 Jokar, A., M.H. Hosni, and S.J. Eckels, *Dimensional analysis on the evaporation and condensation of refrigerant R-134a in minichannel plate heat exchangers*. Applied Thermal Engineering, 2006. **26**(17-18): p. 2287-2300.

- 22 Randall, D.L. and S.J. Eckels, *Effect of Inundation Upon the Condensation Heat Transfer Performance of R-134a: Part II—Results (RP-984)*. HVAC&R Research, 2005. **11**(4): p. 543-562.
- 21 Randall, D.L. and S.J. Eckels, *Effect of inundation upon the condensation heat transfer performance of R-134a: Part I - Facility overview and data analysis (RP-984)*. Hvac&R Research, 2005. **11**(4): p. 527-542.
- 20 Jokar, A., M.H. Hosni, and S.J. Eckels, *Correlations for heat transfer and pressure drop of glycol-water and air flows in minichannel heat exchangers*. ASHRAE transactions, 2005. **111**(2): p. 213-224.
- 19 Jokar, A., S.J. Eckels, M.H. Honsi, and T.P. Giolda, *Condensation heat transfer and pressure drop of brazed plate heat exchangers using refrigerant R-134a*. Journal of Enhanced Heat Transfer, 2004. **11**(2): p. 161-182.
- 18 Eckels, S.J. and G.D. Holthaus, *Single-phase heat transfer and pressure drop performance in smooth tubes with R-22, R-134a, R-407C, and R-410A at superheated conditions with lubricant mixtures (RP-1067)*. Hvac&R Research, 2004. **10**(4): p. 421-440.
- 17 Xie, T. and S.J. Eckels, *An investigation of condensation heat transfer performance of HFC-134a on single enhanced tubes (RP-984)*. HVAC&R Research, 2003. **9**(1): p. 3-18.
- 16 Kelly, J.E., S.J. Eckels, and D.L. Fenton, *An experimental investigation of in-tube evaporation of pure ammonia in a smooth and a microfin tube, Part II - Pressure drop (RP-866)*. Hvac&R Research, 2002. **8**(3): p. 257-275.
- 15 Kelly, J.E., S.J. Eckels, and D.L. Fenton, *An experimental investigation of in-tube evaporation of pure ammonia in a smooth and a microfin tube, Part I - Heat transfer (RP-866)*. Hvac&R Research, 2002. **8**(3): p. 239-256.
- 14 Kelly, J.E., S. Lies, S.J. Eckels, and D.L. Fenton, *Literature review of the experimental work performed to characterize the two-phase heat transfer and pressure drop in ammonia systems*. ASHRAE Transactions, 1999. **105**(1): p. 110-123.
- 13 Eckels, S.J. and B.J. Unruh, *Local heat transfer coefficients during condensation of R-22 and R-32/R-125 mixtures*. HVAC&R Research, 1999. **5**(1): p. 59-76.
- 12 Eckels, S.J. and B.A. Tesene, *A comparison of R-22, R-134a, R-410a, and R-407c condensation performance in smooth and enhanced tubes: Part II Pressure Drop*. ASHRAE Transactions, 1999. **105**(2): p. 442-452.
- 11 Eckels, S.J. and B.A. Tesene, *A comparison of R-22, R-134a, R-410a, and R-407c condensation performance in smooth and enhanced tubes: part 1, heat transfer*. ASHRAE Transactions, 1999. **105**(2): p. 428-441.
- 10 Eckels, S.J., T.M. Doerr, and M.B. Pate, *Heat transfer coefficients and pressure drops for R-134 a and an ester lubricant mixture in a smooth tube and a micro-fin tube*. ASHRAE transactions, 1998. **104**(1a): p. 366-375.
- 9 Eckels, S.J., T.M. Doer, and M.B. Pate, *Comparison of the heat transfer and pressure drop performance of R-134 a-lubricant mixtures in different diameter smooth tubes and micro-fin tubes*. ASHRAE Transaction, 1998. **104**(1a): p. 376-386.
- 8 Eckels, S.J., T.M. Doerr, and M.B. Pate, *In-tube heat transfer and pressure drop of R-134a and ester lubricant mixtures in a smooth tube and a micro-fin tube: Part II condensation*. ASHRAE Transaction, 1994. **100**(2): p. 283-294.
- 7 Eckels, S.J., T.M. Doer, and M.B. Pate, *In-tube heat transfer and pressure drop of R-134a and Ester lubricant mixtures in a smooth tube and a micro-fin tube: Part I-Evaporation*. ASHRAE Transaction, 1994. **100**(2): p. 265-282.
- 6 Doer, T.M., S.J. Eckels, and M.B. Pate, *In-tube Condensation Heat Transfer of Refrigerant Blends*. ASHRAE Transactions, 1994. **100**(2): p. 547-553.

- 5 Eckels, S.J., S.C. Zoz, and M.B. Pate, *Using solubility data for HFC-134a and ester lubricant mixtures to model an in-tube evaporator or condenser*. ASHRAE Transactions, 1993. **99**(2): p. 283-291.
- 4 Eckels, S.J. and M.B. Pate, *Evaporation and condensation of HFC-134a in a smooth tube and a micro-fin tube*. ASHRAE Transactions, 1991. **97**(2): p. 68-78.
- 3 Eckels, S.J. and M.B. Pate, *An experimental comparison of evaporation and condensation heat transfer coefficients for HFC-134a and CFC-12*. International Journal of Refrigeration, 1991. **14**(2): p. 70-77.
- 2 Eckels, S. and M. Pate, *In-tube evaporation and condensation of refrigerant-lubricant mixtures of HFC-134a and CFC-12*. ASHRAE Transactions, 1991. **97**(2): p. 62-67.
- 1 Eckels, S. and M. Pate, *A comparison of R-134a and R-12 in-tube heat transfer coefficients based on existing correlations*. ASHRAE transactions, 1990. **96**(1): p. 223-232.

### Conference Publications

- 37 Ahmed, Z, S.J. Eckels, and H. Bindra. Experimental Results on the Coolability of a Top Flooded Debris Bed With Seawater Injection. in ASME 2020 (ICONE28-POWER2020-16644). 2020. ASME.
- 36 S.C. Eckels, Z. Ahmed, D. Franken, S.J. Eckels, and H. Bindra, *Experimental Study on the Coolability of Fuel Rods Under Forced Injection of Artificial Seawater*. Transactions of the American Nuclear Society, 2019. **118**: p. 1277-1280
- 35 Waez, M.S., S.J. Eckels, and C.M. Sorensen. Low-cost Particulate Detection in Bleed Air. IMECE2019-10460. Proceedings of the ASME 2019, International Mechanical Engineering Congress and Exposition, IMECE2019, November 11-14, 2019, Salt Lake City, UT, USA
- 34 Ahmed, Z., D. Franken, S. Eckels, S. Eckels, and H. Bindra. Scaling analysis on the coolability of fuel rods and debris beds with seawater injection. 18th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-18), August 18-22, 2019, Portland, Oregon, USA
- 33 Seth M. Heronemus and Steven J. Eckels, *Thermometry of Flow Fields using two-color ratiometric PLIF Technique*, in 4nd Thermal and Fluids Engineering Conference and. 2019, ASFTE: Las Vegas
- 32 Shima Soleimani and Steve Eckels, *Effect of Micro-fin Geometry on Liquid Heat Transfer Rate and Pressure Drop*, in 4nd Thermal and Fluids Engineering Conference and. 2019, ASFTE: Las Vegas
- 31 Ross, M., A.v. Bergeijk, A. Cebula, S. Eckels, and H. Bindra. *Neutron imaging of percolating hydraulic flow through a simulated debris bed*. in *ATH 2018*. 2018. Orlando, Florida
- 30 Franken, D., Z. Ahmed, S. Eckels, S. Eckels, and H. Bindra. *Two-Phase Natural Circulation and Flow Boiling Characteristics with Artificial Seawater* in *ATH 2018*. 2018. Orlando, Florida: American Nuclear Society.
- 29 Amare, R., A. Bahadori, and S. Eckels. *Modeling Heat Regulation with Structured mesh finite volume approach in a voxelized domain*. in *IMECE 2018*. 2018. Pittsburg, PA: ASME.
- 28 Ahmed, Z., D. Franken, S. Eckels, S. Eckels, and H. Bindra, *Influence of Dissolved Impurities on the Coolability of Nuclear Fuel Rods*. Transactions of the American Nuclear Society, 2018. **118**: p. 1277-1280.
- 27 Ahmed, Z., H. Bindra, and S. Eckels, *Scaling Analysis of a Debris Bed for Salt Deposition Studies*. Transactions of the American Nuclear Society, 2018. **119**: p. 149-152.
- 26 Li, P. and S. Eckels, *Measurements and Numerical Simulations of Heat Transfer and Pressure drop in a Duct with Smooth Walls*, in *ASME 2017 IMECE*. 2017, ASME: Tampa Florida.

- 25 Eckels, S. and J. Schlup, *Two phase flow visualization in evaporator tube bundles using experimental and numerical techniques*, in *2nd Thermal and Fluids Engineering Conference and 4th International Workshop on Heat Transfer*. 2017, ASFTE: Las Vegas.
- 24 Eckels, E., M. Schlabach, M. Young, and S. Eckels. *Measured Thermal Comfort and Sensation in Highly Transient Environments*. in *ASHRAE Winter Meeting*. 2017. Las Vegas: ASHRAE.
- 23 Asher, W.E. and S.J. Eckels. *Analysis of Cavitating High Speed Liquid Flow Through a Converging-Diverging Nozzle*. in *ASME 2015 (IMECE2015-52060)*. 2015. ASME.
- 22 Alkotami, A., B.T. Beck, C.M. Sorensen, M.H. Hosni, S.J. Eckels, and D. Tomasi. *A Thermodynamic Analysis of the Temperature Drop and Potential Cooling Effect of Cavitation*. in *ASME 2015 International Mechanical Engineering Congress and Exposition*. 2015. American Society of Mechanical Engineers.
- 21 Wilms, J., B.T. Beck, M.H. Hosni, C.M. Sorensen, D. Tomasi, and S.J. Eckels, *Experimental Measurement and Flow Visualization of Water Cavitation through a Nozzle (IMECE2014-40276)*, in *IMECE2014*. 2014, ASME Publishing: Montreal, Canada.
- 20 Li, P.E., Eckels, Steven; Mann, Garrett; Zhang, Ning, *Experimental Measurements in Near-Wall Regions by Particle Image Velocimetry (PIV)*, in *FEDSM2014-21918. 4th Joint US-European Fluids Engineering*. 2014: Chicago IL.
- 19 Elson, J.C., E.A. McCullough, and S. Eckels, *Evaluation of personal cooling systems for military use*, in *International Conference on Environmental Ergonomics (ICEE)*, S.J.L.a.T.M. James D Cotter, Editor. 2013: Queenstown, New Zealand. p. 280.
- 18 Wei, Z., Z. Zheng, X. Sun, and S.J. Eckels, *Flow and Heat Transfer of a Stationary and Oscillating Cylinder*, in *ASME Proceedings of the 3rd Joint US-European Fluids Engineering Summer Meeting*. 2010, ASME: Montreal Canada.
- 17 McCullough, E.A., S. Eckels, and M. Schlabach. *Evaluation of Personal Cooling Systems for Soldiers Using a Sweating Manikin*. in *International Textile and Apparel Association (ITAA) Proceedings*. 2008.
- 16 McCullough, E.A. and S. Eckels. *Evaluation of Personal Cooling Systems for Soldiers Using a Human Subjects*. in *International Textile and Apparel Association (ITAA) Proceedings*. 2008.
- 15 Jokar, A., M.H. Hosni, and S.J. Eckels, *Mesochannel Compact Heat Exchangers for Automotive Air Conditioning Applications*, in *Proceedings of the Sixth International ASME Conference on Nanochannels, Microchannels and Minichannels*. 2008: Darmstadt, Germany.
- 14 O'Halloran, S.P., B.T. Beck, M.H. Hosni, and S.J. Eckels, *Fluorescent Particle Injection Technique for Two-Phase Flow Measurement Using Particle Image Velocimetry*, in *ASME Joint U.S.-European Fluids Engineering Summer Meeting FEDSM 2006*. 2006.
- 13 O'Halloran, S.P., M. Hosni, B. Beck, and S.J. Eckels, *Experimental measurements and numerical simulations of two-phase stratified, wavy and slug flow in a narrow rectangular channel*, in *ASME Proceedings of FEDSM2005-77091*. 2005: Houston, TX. p. 19-23.
- 12 Jokar, A., M.H. Hosni, and S.J. Eckels, *New Generation Integrated Automotive Thermal System*, in *SAE Future Transportation Technology*. 2005: Chicago, IL.
- 11 Jokar, A., M.H. Hosni, and S.J. Eckels, *Thermal-Fluid Characteristics of an Automotive Radiator Used as the External Heat Exchanger in an Auto Air Conditioning System*, in *ASME Proceedings of HT2005-72061*. 2005: San Francisco, CA.
- 10 Zheng, Z.C., N. Zhang, and S.J. Eckels, *Validations of Particle/Fluid Interaction Models*, in *ASME Proceedings of IMECE-2004* 2004, ASME: Anaheim, CA.
- 9 O'Halloran, S.P., M. Hosni, B. Beck, and S.J. Eckels, *Three dimensional velocity measurements in an automotive-size evaporator using particle image velocimetry*, in *Proc. ASME Heat Transfer/Fluids Engineering Summer Conference 2004, HT/FED 2004*. 2004.

- 8 Mackinze, P.T., S.J. Eckels, P.A. Lebbin, and M.H. Hosni, *The effects of Oil in Circulation of the Performance of an Automotive Air-Conditioning System*, in *Proceedings of ASME Heat Transfer/Fluids Engineering Summer Conference 2004, HT/FED 2004*. 2004, ASME.
- 7 Kargar, A., M.H. Hosni, and S.J. Eckels, *Numerical Simulation of Brayton Cycle using Moist Air as the Working Fluid*, in *Proceedings of ASME Heat Transfer/Fluids Engineering Summer Conference 2004, HT/FED 2004*. 2004, ASME.
- 6 Jokar, A., S.J. Eckels, and M.H. Hosni, *A heat pump for automotive applications*, in *IEA Heat Pump Newsletter*. 2004. p. 23-25.
- 5 Jokar, A., S.J. Eckels, and M.H. Hosni, *Evaluation of Heat Transfer and Pressure Drop for the Heater-Core in an Automotive Heat Pump System*, in *Proceedings of IMECE-2004*. 2004, ASME: Anaheim, CA.
- 4 Eckels, S. and B. Tesene, *Forced convective condensation of refrigerants R-502 and R-507 in smooth and enhanced tubes*. ASHRAE Transactions, 2002. **108**(2): p. 627-640.
- 3 Eckels, S.J., M.B. Pate, and C.H. Bemisderfer, *Evaporation heat transfer coefficients for R-22 in micro-fin tubes of different configurations.*, in *Enhanced heat Transfer HTD-202*. 1992, ASME. p. 117-125.
- 2 S.J., E., M.B. Pate, and D.B. Bivens, *Evaporation and condensation heat transfer coefficients and pressure drops of a ternary blend of HCFC-124/HCFC-22/HFC-152a and oil mixtures*, in *XVIIIth International Congress of Refrigeration 1991*.
- 1 Eckels, S.J. and M.B. Pate, *Evaporation and Condensation Heat Transfer Coefficients for a HCFC-124/HCFC-22/HFC-152a Blend and CFC-12*, in *USNC/IIR-Purdue Refrigeration Conference*. 1990: Lafayette, In. p. 234-241.

### Other Publications and Scholarly activities

1. Unruh, B.J., and S.J Eckels. 1995. In-tube condensation of R-22 and R-32/R-125 mixtures. *Final Report to DuPont*.
2. Tesene, B., and S.J. Eckels. 1997. In-tube condensation of alternate refrigerants in smooth and enhanced tubes. *ASHRAE Final Report New Investigator Award*. ASHRAE: Atlanta GA.
3. Kelly, J.E., S.J. Eckels. and D.L. Fenton. 2000. Evaporation of Ammonia with and without a miscible lubricant in smooth and enhanced tubes. *ASHRAE Final Report RP-866*. ASHRAE: Atlanta Ga
4. Randall, D.L., T. Xie, and S.J. Eckels. 2002. Effect on Inundation and Miscible Oil Upon the Condensation Heat Transfer Performance of R-134a. *ASHRAE Final Report RP 984* ASHRAE: Atlanta Ga
5. Eckels, S.J., G. Holthaus, and K. Hildenbrand. 2003. Single-Phase Refrigerant Heat Transfer and Pressure Drop Characterization of High Reynolds Number Flow for Internally Finned Tubes Including the Effects of Miscible Oils. *ASHRAE Final Report RP-1067* ASHRAE: Atlanta Ga.
6. Gorgy, E. and Eckels, S.J. 2011. Experimental Evaluation of the Heat Transfer Impacts of Tube Pitch In a Highly Enhanced Surface Tube (RP-1316) *ASHRAE Final Report RP-1316* ASHRAE: Atlanta Ga.
7. Asher, W. and Eckels, S.J. 2017. Characterization of Liquid Refrigerant Flow Emerging From a Flooded Evaporator Tube Bundle (RP-1556). *ASHRAE Final Report RP-1556* ASHRAE: Atlanta Ga.
8. Eckels, S.J., O. Koper, L. Erickson, and L. Vera, *Nanoscale Catalysts and In Room Devices to Improve Indoor Air Quality and Sustainability*, in *Nanoscale Materials in Chemistry: Environmental Applications*, L. Erickson, Editor. 2010, American Chemical Society: Washington, DC 20036.
9. Huber, J., S. Eckels, James Schaefer, T. Carter, L. Cremaschi, J. Kauffman, . . . U. Surani, *ANSI/ASHRAE 181-2014 - Methods of Testing for Rating Liquid-to-Liquid Heat Exchangers*. ASHRAE 2014, ANSI/ASHRAE.

10. Huber, J., S. Eckels, James Schaefer, T. Carter, L. Cremaschi, and K. Schultz, *BSR/ASHRAE Standard 22-2014 Methods of Testing for Rating Liquid Cooled Refrigerant Condensers*. 2014, ASHRAE.
11. Eckels, S., B. Beck, C. Sorensen, M. Hosni, and D. Tomasi, *Metastable critical flow refrigeration cycle No. 62/415,722*, S.P.P. Application, Editor. 2016.