

# Brian D. Iverson

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## EDUCATION

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2008 Ph.D. Purdue University, West Lafayette, IN  
2004 M.S. Purdue University, West Lafayette, IN  
2002 B.S. Brigham Young University, Provo, UT, Magna Cum Laude

## PROFESSIONAL POSITIONS

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2024 – **Professor**, Brigham Young University, Provo UT  
2021 – 2022 **U.S. Fulbright Scholar**, Technische Universität Darmstadt, Germany  
2020 – **Associate Editor**, ASME Journal of Heat Transfer  
2019 – 2024 **Associate Professor**, Brigham Young University, Provo UT  
2012 – 2019 **Assistant Professor**, Brigham Young University, Provo UT  
2009 – 2012 **Senior Member of Technical Staff**, Sandia National Laboratories, Albuquerque NM  
2009 **Post-Doctoral Researcher**, NSF Cooling Technologies Research Center, Purdue University  
2002 – 2008 **Research Assistant**, NSF Cooling Technologies Research Center, Purdue University  
2007 **Visiting Researcher**, Research Triangle Institute International, NC  
2000 – 2001 **Engineering Intern**, Geneva Steel, Vineyard UT

## HONORS AND AWARDS

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### Professional

2025 Mechanical Engineering Department Research Professorship  
2022 U.S. Fulbright Scholar, Technische Universität Darmstadt, Germany  
2020 University Early Career Scholarship Award, Brigham Young University  
2018 Outstanding Research Award for the BYU Mechanical Engineering Department  
2018 National Science Foundation CAREER Award  
2012 New Mexico Small Business Assistance Program, Outstanding Innovation Award (SAVSU)  
2011 Top 5 Cited Articles, Microfluidics & Nanofluidics during 2008-2009, [doi: 10.1007/s10404-008-0266-8](https://doi.org/10.1007/s10404-008-0266-8)  
2010 Spot Performance Award, Sandia National Laboratories  
2007 Best Paper/Presentation of Session, Indiana Chapter of International Microelectronics & Packaging Society Vendor's Day and Mini-Symposium, April 30, 2007

### Academic

2007 – 2005 Winkelman Fellowship, PhD, Purdue University  
2002 – 2004 Ingersoll Rand Fellowship, Graduate Studies, Purdue University  
2002 Magna Cum Laude, Brigham Young University  
2001 – 2002 Karl G. Maeser Scholarship, Brigham Young University  
2000 – 2001 Alvina S. Barrett Scholarship, Brigham Young University  
1996 & 1999 University Scholarship, Brigham Young University

## PUBLICATIONS

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- Links to citation metrics: [Google Scholar Profile](#), [Research Gate Profile](#), [ORCID](#)
- Author designations: advised BYU graduate student\*, advised BYU undergraduate student<sup>†</sup>, non-BYU student<sup>‡</sup>, and corresponding author<sup>§</sup>

## Books

1. [Iverson, B. D.<sup>§</sup>](#) and Garimella, S. V., Integrated Micropumping: Traveling-wave electrohydrodynamics induced in a temperature gradient, Saarbrücken, LAP Lambert Academic Publishing, 2010.

## Published Journal Articles

1. Mofidipour, E.\* , Jones, M. R., and [Iverson, B. D.<sup>§</sup>](#), 2026, "In-plane spectral, directional radiative properties of flat and corrugated polished copper surfaces between 550 and 1100 nm," *Journal of Quantitative Spectroscopy and Radiative Transfer*, Vol. 353, p. 109855.
2. Butterfield, J., [Iverson, B. D.](#), Maynes, D., and Crockett, J.<sup>§</sup>, 2026 "Influence of superhydrophobic surface microstructure on transient jet impingement cooling," *ASME Journal of Heat and Mass Transfer*, Vol. 148, p. 022301. [DOI: 10.1115/1.4070102](#)
3. Humayun, S.\* , Maynes, R. D., Crockett, J., and [Iverson, B. D.<sup>§</sup>](#), 2026, "Influence of surface features on heat transfer during dropwise condensation over superhydrophobic surfaces in shear flow," *International Journal of Heat and Mass Transfer*, Vol. 254, p. 127689. [DOI: 10.1016/j.ijheatmasstransfer.2025.127689](#)
4. Stearns, N. C.<sup>†</sup>, Roy, R., Schooff, B., Chiodo, A., Fry, A.<sup>§</sup>, and [Iverson B. D.<sup>§</sup>](#), 2025, "Integration of sCO<sub>2</sub> Brayton cycles with carbon capture systems," *ASME Journal of Energy Resources Technology, Part B: Subsurface Energy and Carbon Capture*, October 2025, Vol. 1, p. 051003. [DOI: 10.1115/1.4068772](#)
5. Cannon, J. R.\* , Havey, K. N.<sup>†</sup>, Housley, N. S.<sup>†</sup>, Mulford, R. B., [Iverson, B. D.<sup>§</sup>](#), 2025, "Internally stowed, radially deployed radiator panels for passive CubeSat thermal control," *Applied Thermal Engineering*, Vol. 270, p. 126281. [DOI: 10.1016/j.applthermaleng.2025.126281](#)
6. Mofidipour, E.\* , Jones, M. R., and [Iverson, B. D.<sup>§</sup>](#), 2025, "Impact of non-uniform surface temperature on the apparent radiative properties of cavity receivers," *Journal of Solar Energy Engineering*, Vol. 147(4), p. 041004. [DOI: 10.1115/1.4067971](#)
7. Humayun, S.\* , Maynes, R. D., Crockett, J., and [Iverson, B. D.<sup>§</sup>](#), 2025, "Drop dynamics during condensation on superhydrophobic surfaces in vapor shear flow," *Langmuir*, Vol. 41, pp. 2806-2820. [DOI: 10.1021/acs.langmuir.4c04683](#)
8. Schooff, B.\* , Rajarshi, R., Kuttler, R.<sup>†</sup>, LaTour, P., Montgomery, S., Tuttle, J., Bennett, G., [Iverson, B. D.](#), & Fry, A.<sup>§</sup>, 2025, "Mill power consumption and fuel particle size distribution while co-milling bituminous coal with steam exploded woody biomass in a conventional bowl mill," *Powder Technology*, Vol. 453, p. 120678. [DOI: 10.1016/j.powtec.2025.120678](#)
9. Lyons, B.\* , Maynes, D., Crockett, J., [Iverson, B. D.<sup>§</sup>](#), 2024, "Drop retention and departure in adiabatic shear flow on structured superhydrophobic surfaces," *Langmuir*, Vol. 40, pp. 18882–18895. [DOI: 10.1021/acs.langmuir.4c00777](#)
10. Roy, R.\* , Hewetson, B., Schooff, B.\* , Bandi, S., LaTour, P., [Iverson, B. D.](#), and Fry, A.<sup>§</sup> 2024, "Steam explosion treated biomass as a renewable fuel source: a review from collection to combustion," *Fuel*, Vol. 378, p. 132883. [DOI: 10.1016/j.fuel.2024.132883](#)
11. Ding, S., Brownlee, B. J.\* , Parate, K., Pola, C. C., Chen, B., Hostetter, J. M., Jones, D., Jackman, J., [Iverson, B. D.](#), and Claussen, J. C.<sup>§</sup>, 2024, "IFN- $\gamma$  and IL-10 Immuosensor with Vertically Aligned Carbon Nanotube Interdigitated Electrodes Towards Pen-Side Cattle Paratuberculosis Monitoring," *Global Challenges*, Vol. 8, p. 2400021. [DOI: 10.1002/gch2.202400021](#)
12. Furner, J.\* , Maynes, D.<sup>§</sup>, [Iverson, B. D.](#), and Crockett, J., 2024 "Transient heat transfer to rolling or sliding drops on inclined heated superhydrophobic surfaces," *ASME Journal of Heat and Mass Transfer*, Vol. 146, p. 083701. [DOI: 10.1115/1.4065353](#)
13. Mofidipour, E.\* , Jones, M. R., and [Iverson, B. D.<sup>§</sup>](#), 2024, "Review of the cavity effect: Modeling and impact of cavity shape on apparent radiative surface properties," *Advances in Heat Transfer*, Vol. 57, pp. 1-70. [DOI: 10.1016/bs.aiht.2023.12.002](#)
14. Cannon, J.\* , Mulford, R. B., and [Iverson, B. D.<sup>§</sup>](#), 2024, "Triangular fin array passively actuated by bimetallic coils for CubeSat thermal control," *Applied Thermal Engineering*, Vol. 240, p. 122239. [DOI: 10.1016/j.applthermaleng.2023.122239](#)
15. Roy, R.\* , Bandi, S., Li, X., Schooff, B.\* , Kuttler, R.<sup>†</sup>, Aichele, M., Montgomery, S., Tuttle, J., Smith, S. J., Wendt, J. O. L., [Iverson, B. D.](#), and Fry, A.<sup>§</sup>, 2024, "Synergistic reduction of SO<sub>2</sub> emissions while co-firing biomass with coal in pilot-scale (1.5 MW<sub>th</sub>) and full-scale (471 MW<sub>e</sub>) combustors," *Fuel*, Vol. 358, p. 130191. [DOI: 10.1016/j.fuel.2023.130191](#)

16. Lee, E.\*, Maynes, D.<sup>§</sup>, Crockett, J., and Iverson, B. D., 2023, "Thermal atomization on superhydrophobic surfaces of varying temperature jump length," *International Journal of Heat and Mass Transfer*, Vol. 216, p. 124587. DOI: [10.1016/j.ijheatmasstransfer.2023.124587](https://doi.org/10.1016/j.ijheatmasstransfer.2023.124587)
17. Roy, R.\*, Schooff, B.\*, Li, X., Montgomery, S., Tuttle, J., Wendt, J. O. L., Dickson, K., Iverson, B., and Fry, A.<sup>§</sup>, 2023, "Ash aerosol particle size distribution, composition, and deposition behavior while co-firing coal and steam-exploded biomass in a 1.5 MWth combustor," *Fuel Processing Technology*, Vol. 243, p. 107674. DOI: [10.1016/j.fuproc.2023.107674](https://doi.org/10.1016/j.fuproc.2023.107674)
18. Meaker, K. S.\*, Mofidipour, E.\*, Jones, M. R., and Iverson, B. D.<sup>§</sup>, 2023, "Measured spectral, directional radiative behavior of corrugated surfaces," *International Journal of Heat and Mass Transfer*. Vol. 202, p. 123745. DOI: [10.1016/j.ijheatmasstransfer.2022.123745](https://doi.org/10.1016/j.ijheatmasstransfer.2022.123745)
19. Humayun, S.\*, Maynes, R. D., Crockett, J., and Iverson, B. D.<sup>§</sup>, 2022, "Retention forces for drops on microstructured superhydrophobic surfaces," *Langmuir*, 38, 15960–15972. DOI: [10.1021/acs.langmuir.2c02290](https://doi.org/10.1021/acs.langmuir.2c02290)
20. Bame, A. T.\*, Furner, J.<sup>†</sup>, Hoag, I., Mohammadi, K., Powell, K., and Iverson, B. D.<sup>§</sup>, 2022, "Optimization of solar-coal hybridization for low solar augmentation," *Applied Energy*, Vol. 319, pp. 119225. DOI: [10.1016/j.apenergy.2022.119225](https://doi.org/10.1016/j.apenergy.2022.119225)
21. Avila, S.\*, Tolley, H. D.<sup>§</sup>, Iverson, B. D.<sup>§</sup>, Hawkins, A. R., Johnson, S. L., and Lee, M. L., 2021, "Comparison of the dynamic thermal gradient to temperature-programmed conditions in gas chromatography using a stochastic transport model," *Analytical Chemistry*, Vol. 93, pp. 11785–11791. DOI: [10.1021/acs.analchem.1c02210](https://doi.org/10.1021/acs.analchem.1c02210)
22. Avila, S.\*, Tolley, H. D.<sup>§</sup>, Iverson, B. D.<sup>§</sup>, Hawkins, A. R., Porter, N. L., Johnson, S. L., Lee, E. D., and Lee, M. L., 2021, "Comparison of static thermal gradient to isothermal conditions in gas chromatography using a stochastic transport model," *Analytical Chemistry*, Vol. 93, pp. 6793–6745. DOI: [10.1021/acs.analchem.1c00438](https://doi.org/10.1021/acs.analchem.1c00438)
23. Butterfield, D. J.\*, Iverson, B. D., Maynes, R. D., and Crockett, J.<sup>§</sup>, 2021, "Transient heat transfer of impinging jets on superheated wetting and non-wetting surfaces," *International Journal of Heat and Mass Transfer*, Vol. 175, p. 121056. DOI: [10.1016/j.ijheatmasstransfer.2021.121056](https://doi.org/10.1016/j.ijheatmasstransfer.2021.121056)
24. Tolley, H. D.<sup>§</sup>, Avila, S.\*, Iverson, B. D.<sup>§</sup>, Foster, A. R.<sup>†</sup>, Hawkins, A. R., Tolley, S. E., and Lee, M. L., 2021, "Simulating capillary gas chromatographic separations including thermal gradient conditions," *Analytical Chemistry*, 93, pp. 2291–2298. DOI: [10.1021/acs.analchem.0c04160](https://doi.org/10.1021/acs.analchem.0c04160)
25. Brownlee, B. J.\*, Claussen, J. C., and Iverson, B. D.<sup>§</sup>, 2020, "3D Interdigitated vertically aligned carbon nanotube electrodes for electrochemical impedimetric biosensing," *ACS Applied Nano Materials*, Vol. 3, pp. 10166–10175. DOI: [10.1021/acsnam.0c02121](https://doi.org/10.1021/acsnam.0c02121)
26. Brownlee, B. J.\*, Tsui, L.<sup>§</sup>, Vempati, K., Plumley, J. B., Iverson, B. D., Peng, T. L., and Garzon, F. H., 2020, "Additive manufacturing and characterization of AgI and AgI – Al<sub>2</sub>O<sub>3</sub> composite electrolytes for resistive switching devices," *Journal of Applied Physics*, Vol. 128, p. 035103. DOI: [10.1063/5.0004120](https://doi.org/10.1063/5.0004120)
27. Mulford, R. B.\*, Salt, S. D.<sup>†</sup>, Hyatt, L.<sup>†</sup>, Meaker, K. S.<sup>†</sup>, Dwivedi, V. H., Jones, M. R., and Iverson, B. D.<sup>§</sup>, 2020, "Experimental demonstration of heat loss and turn-down ratio for a multi-panel, actively deployed radiator," *Applied Thermal Engineering*, Vol. 178, p. 115658. DOI: [10.1016/j.applthermaleng.2020.115658](https://doi.org/10.1016/j.applthermaleng.2020.115658)
28. Syme, D. B.\*, Lund, J. M.\*, Jensen, B. D., Davis, R. C., Vanfleet, R. R., and Iverson, B. D.<sup>§</sup>, 2020, "Thermally insulating, porous silica nanotube thin films," *ACS Applied Nano Materials*, Vol. 3, pp. 3168–3173. DOI: [10.1021/acsnam.0c00596](https://doi.org/10.1021/acsnam.0c00596)
29. Schnepf, P. D.\*<sup>§</sup>, Davis, A.<sup>†</sup>, Iverson, B. D., Vanfleet, R., Davis, R. C., and Jensen, B. D., 2020, "Closed-loop, axial temperature control of etched silicon microcolumn for tunable thermal gradient gas chromatography," *Journal of Microelectromechanical Systems*, Vol. 29, pp. 76–85. DOI: [10.1109/JMEMS.2019.2953152](https://doi.org/10.1109/JMEMS.2019.2953152)
30. Stevens, K. A.\*, Crockett, J., Maynes, D., and Iverson, B. D.<sup>§</sup>, 2019, "Simulation of drop-size distribution during dropwise and jumping drop condensation on a vertical surface: Implications for heat transfer modeling," *Langmuir*, 35, pp. 12858–12875. DOI: [10.1021/acs.langmuir.9b02232](https://doi.org/10.1021/acs.langmuir.9b02232)
31. Mulford, R. B.\*, Jones, M. R., and Iverson, B. D.<sup>§</sup>, 2019, "Heat transfer, efficiency and turn-down ratio of a dynamic radiative heat exchanger," *International Journal of Heat and Mass Transfer*, Vol. 143, pp. 118441. DOI: [10.1016/j.ijheatmasstransfer.2019.118441](https://doi.org/10.1016/j.ijheatmasstransfer.2019.118441)
32. Walton, P.<sup>§</sup>, Cannon, J.<sup>†</sup>, Damitz, B., Downs, T.<sup>†</sup>, Glick, D., Holtom, J., Kohls, N., Laraway, A.<sup>†</sup>, Matheson, I.<sup>†</sup>, Redding, J.<sup>†</sup>, Robinson, C.<sup>†</sup>, Ryan, J., Stoddard, N., Willis, J., Warnick, K., Wirthlin, M., Wilde, D., Iverson, B.,

- and Long, D., 2019, "Passive CubeSats for remote inspection of space vehicles," *Journal of Applied Remote Sensing*, Vol. 13, pp. 032505. DOI: [10.1117/1.JRS.13.032505](https://doi.org/10.1117/1.JRS.13.032505)
33. Ghosh, A.\*, Foster, A. R.\*, Johnson, J. C., Vilorio, C. R., Tolley, L. T., Iverson, B. D., Hawkins, A. R., Tolley, H. D., and Lee, M. L.<sup>§</sup>, 2019, "Stainless-steel column for robust high temperature microchip gas chromatography," *Analytical Chemistry*, Vol. 91, pp. 792-796. DOI: [10.1021/acs.analchem.8b04174](https://doi.org/10.1021/acs.analchem.8b04174)
  34. Mulford, R. B.\*, Dwivedi, V. H., Jones, M. R., and Iverson, B. D.<sup>§</sup>, 2019, "Control of net radiative heat transfer with a variable-emissivity accordion tessellation," *Journal of Heat Transfer*, Vol. 141, pp. 032702. DOI: [10.1115/1.4042442](https://doi.org/10.1115/1.4042442)
  35. Cowley, A.\*, Maynes, D.<sup>§</sup>, Crockett, J., and Iverson, B. D., 2019, "Influence of micro-structured superhydrophobic surfaces on nucleation and natural convection in a heated pool," *International Journal of Heat and Mass Transfer*, Vol. 129, pp. 1095-1109. DOI: [10.1016/j.ijheatmasstransfer.2018.10.030](https://doi.org/10.1016/j.ijheatmasstransfer.2018.10.030)
  36. Brownlee, B. J.\*, Bahari, M., Harb, J. N., Claussen, J. C., and Iverson, B. D.<sup>§</sup>, 2018, "Electrochemical glucose sensors enhanced by methyl viologen and vertically aligned carbon nanotube channels," *ACS Applied Materials & Interfaces*, Vol. 10, pp. 28351-28360. DOI: [10.1021/acsami.8b08997](https://doi.org/10.1021/acsami.8b08997)
  37. Stevens, K. A.\*, Esplin, C. D.<sup>†</sup>, Davis, T. M.<sup>†</sup>, Butterfield, D. J.<sup>†</sup>, Ng, P. S., Bowden, A. E., Jensen, B. D., and Iverson, B. D.<sup>§</sup>, 2018, "Superhydrophobic, carbon-infiltrated carbon nanotubes on Si and 316L stainless steel with tunable geometry," *Applied Physics Letters*, Vol. 112, pp. 211602. DOI: [10.1063/1.5034471](https://doi.org/10.1063/1.5034471)
  38. Ding, S.<sup>‡</sup>, Das, S. R.<sup>‡</sup>, Brownlee, B. J.\*, Parate, K., Davis, T. M.<sup>†</sup>, Stromberg, L. R., Chan, E. K. L., Katz, J., Iverson, B. D.<sup>§</sup>, and Claussen, J.<sup>§</sup>, 2018, "CIP2A immunosensor comprised of vertically-aligned carbon nanotube interdigitated electrodes towards point-of-care oral cancer screening," *Biosensors and Bioelectronics*, Vol. 117, pp. 68-74. DOI: [10.1016/j.bios.2018.04.016](https://doi.org/10.1016/j.bios.2018.04.016)
  39. Mulford, R. B.\*, Collins, N. S.<sup>†</sup>, Farnsworth, M. S.<sup>†</sup>, Jones, M. R., and Iverson, B. D.<sup>§</sup>, 2018, "Total hemispherical apparent radiative properties of the infinite V-groove with specular reflection," *International Journal of Heat and Mass Transfer*, Vol. 124, pp. 168-176. DOI: [10.1016/j.ijheatmasstransfer.2018.03.041](https://doi.org/10.1016/j.ijheatmasstransfer.2018.03.041)
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  41. Cowley, A.\*, Maynes, D.<sup>§</sup>, Crockett, J., and Iverson, B. D., 2018, "Bubble nucleation in superhydrophobic microchannels due to subcritical heating," *International Journal of Heat and Mass Transfer*, Vol. 121, pp. 196-206. DOI: [10.1016/j.ijheatmasstransfer.2017.12.113](https://doi.org/10.1016/j.ijheatmasstransfer.2017.12.113)
  42. Ghosh, A.\*, Johnson, J. E., Nuss, J. G., Stark, B. A., Hawkins, A. R., Tolley, L. T., Iverson, B. D., Tolley, H. D., and Lee, M. L.<sup>§</sup>, 2017, "Extending the upper temperature range of microchip gas chromatography using a heater/clamp assembly," *Journal of Chromatography A*, Vol. 1517, pp. 134-141. DOI: [10.1016/j.chroma.2017.08.036](https://doi.org/10.1016/j.chroma.2017.08.036)
  43. Powell, K. M., Rashid, K., Ellingwood, K., Tuttle, J., and Iverson, B. D.<sup>§</sup>, 2017, "Hybrid concentrated solar thermal power systems: a review," *Renewable and Sustainable Energy Reviews*, Vol. 80, pp. 215-237. DOI: [10.1016/j.rser.2017.05.067](https://doi.org/10.1016/j.rser.2017.05.067)
  44. Stevens, K.\*, Crockett, J., Maynes, R. D., and Iverson, B. D.<sup>§</sup>, 2017, "Two-phase flow pressure drop in superhydrophobic channels," *International Journal of Heat and Mass Transfer*, Vol. 110, pp. 515-522. DOI: [10.1016/j.ijheatmasstransfer.2017.03.055](https://doi.org/10.1016/j.ijheatmasstransfer.2017.03.055)
  45. Brownlee, B. J.\*, Marr, K. M.\*, Claussen, J. C., and Iverson, B. D.<sup>§</sup>, 2017, "Improving sensitivity of electrochemical sensors with convective transport in free-standing, carbon nanotube structures," *Sensors and Actuators B: Chemical*, Vol. 246, pp. 20-28. DOI: [10.1016/j.snb.2017.02.037](https://doi.org/10.1016/j.snb.2017.02.037)
  46. Boyer, N.\*, Pei, L., Rowley, J.\*, Syme, D.\*, Liddiard, S., Abbott, J., Larsen, K., Liang, R., Iverson, B., Vanfleet, R., and Davis, R.<sup>§</sup>, 2017, "Microfabrication with smooth thin carbon nanotube composite sheets," *Materials Research Express*, Vol. 4, pp. 035032. DOI: [10.1088/2053-1591/aa55a4](https://doi.org/10.1088/2053-1591/aa55a4)
  47. Blanc, M. J.<sup>†</sup>, Mulford, R. B.\*, Jones, M. R., and Iverson, B. D.<sup>§</sup>, 2016, "Infrared visualization of the cavity effect using origami-inspired surfaces," *Journal of Heat Transfer*, Vol. 138, pp. 020901. DOI: [10.1115/1.4032229](https://doi.org/10.1115/1.4032229)
  48. Mulford, R. B.\*, Jones, M. R., and Iverson, B. D.<sup>§</sup>, 2016, "Dynamic control of radiative surface properties with origami-inspired design," *Journal of Heat Transfer*, Vol. 138, pp. 032701. DOI: [10.1115/1.4031749](https://doi.org/10.1115/1.4031749)
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  51. Ho, C. K.<sup>§</sup> and Iverson, B. D., 2014, "Review of high-temperature central receiver designs for concentrating solar power," *Renewable & Sustainable Energy Reviews*, Vol. 29, pp. 835-846. DOI: [10.1016/j.ser.2013.08.099](https://doi.org/10.1016/j.ser.2013.08.099)
  52. Flueckiger, S. M.<sup>‡</sup>, Iverson, B. D., Garimella, S. V.<sup>§</sup>, and Pacheco, J. E., 2014, "System-level simulation of a solar power tower plant with thermocline thermal energy storage," *Applied Energy*, Vol. 113, pp. 86-96. DOI: [10.1016/j.apenergy.2013.07.004](https://doi.org/10.1016/j.apenergy.2013.07.004)
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  54. Dunham, M. T.<sup>‡</sup> and Iverson, B. D.<sup>§</sup>, 2014, "High-efficiency thermodynamic power cycles for concentrated solar power systems," *Renewable and Sustainable Energy Reviews*, Vol. 30, pp. 758-770. DOI: [10.1016/j.rser.2013.11.010](https://doi.org/10.1016/j.rser.2013.11.010)
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  59. Iverson, B. D. and Garimella, S. V.<sup>§</sup>, 2009, "Experimental characterization of induction electrohydrodynamics for integrated microchannel pumping," *Journal of Micromechanics and Microengineering*, Vol. 19. DOI: [10.1088/0960-1317-19-5-055015](https://doi.org/10.1088/0960-1317-19-5-055015)
  60. Icoz, K., Iverson, B. D., and Savran, C.<sup>§</sup>, 2008, "Noise analysis and sensitivity enhancement in immunomagnetic nanomechanical biosensors," *Applied Physics Letters*, Vol. 93. DOI: [10.1063/1.2980036](https://doi.org/10.1063/1.2980036)
  61. Iverson, B. D. and Garimella, S. V.<sup>§</sup>, 2008, "Recent advances in microscale pumping technologies: A review and evaluation," *Microfluidics and Nanofluidics*, Vol. 5, pp. 145-174 (one of **5 Most Cited Papers** for this journal from 2008 and 2009) DOI: [10.1007/s10404-008-0266-8](https://doi.org/10.1007/s10404-008-0266-8)
  62. Iverson, B. D., Davis, T. W., Garimella, S. V.<sup>§</sup>, North, M. T., and Kang, S. S., 2007, "Heat and mass transport in heat pipe wick structures," *Journal of Thermophysics and Heat Transfer*, Vol. 21, pp. 392-404. DOI: [10.2514/1.25809](https://doi.org/10.2514/1.25809)
  63. Iverson, B. D., Maynes, D.<sup>§</sup>, and Webb, B. W., 2004, "Thermally developing electroosmotic convection in rectangular microchannels with vanishing Debye-layer thickness," *Journal of Thermophysics and Heat Transfer*, Vol. 18, pp. 486-493. DOI: [10.2514/1.3769](https://doi.org/10.2514/1.3769)

#### Refereed Conference Papers

1. Schooff, B.\* , Roy, R., Smith, F., Tree, D., Iverson, B. D., Chiodo, A., Held, T., Miller, J., Bowan, B., Sedlacko, K., Johnson, M., Montgomery, S., and Fry, A., 2024, "Performance and control of the primary heat exchanger in a closed-loop sCO2 Brayton cycle with solid fuel combustion," *ASME 2024 Turbomachinery Technical Conference & Exposition (GT2024)*, June 24-28, 2024, London, England.
2. Lee, E. T.\* , Mofidipour, E.\* , Jones, M. R., & Iverson, B. D., 2023, "Efficient Monte Carlo ray tracing for apparent angular cavity behavior," *Proceedings of the 17th International Heat Transfer Conference*, August 14-18, 2023, Cape Town, South Africa.
3. Debortoli, N.<sup>‡</sup>, Douglass, N.<sup>‡</sup>, Warburton, D.<sup>‡</sup>, Price, J.<sup>‡</sup>, Cannon, J.\* , Iverson, B. D., and Mulford, R., 2022, "A novel dynamic cubesat radiator design with annular geometry and varied thickness profiles," *ASME 2022 Heat Transfer Summer Conference*, July 11-13, 2022, Virtual Conference.
4. Cannon, J.\* , Song, W.<sup>‡</sup>, Mulford, R. B., and Iverson, B. D., 2020, "Passively actuated, triangular radiator fin array," *NASA Thermal & Fluids Analysis Workshop*, August 18-20, 2020, Virtual Meeting.

5. Iverson, B. D., Mulford, R. B.\*, Lee, E. T., and Jones, M. R., 2018, "Adaptive net radiative heat transfer and thermal management with origami-structured surfaces," 16th International Heat Transfer Conference, August 10-15, 2018, Beijing, China.
6. Searle, M.\*, Maynes, D., Crockett, J., and Iverson, B. D., 2017, "Influence of microstructure geometry on pool boiling at superhydrophobic surfaces," ASTFE Thermal and Fluid Engineering Conference, April 2-5, 2017, Las Vegas, NV.
7. Miller, D.\*, Crockett, J., Lane, F., Maynes, D., and Iverson, B. D., 2017, "Self-cleaning properties via condensation on superhydrophobic surfaces," ASTFE Thermal and Fluid Engineering Conference, April 2-5, 2017, Las Vegas, NV.
8. Cowley, A.\*, Maynes, D., Crockett, J., and Iverson, B., 2017, "Sub-boiling nucleation in superhydrophobic microchannels," ASTFE Thermal and Fluid Engineering Conference, April 2-5, 2017, Las Vegas, NV.
9. Blanc, M. J.<sup>†</sup>, Mulford, R. B.\*, Jones, M. R., and Iverson, B. D., 2015, "Visualization of the cavity effect present for origami-inspired surfaces with IR imaging," Heat Transfer Gallery, ASTFE Thermal and Fluids Engineering Summer Conference, August 15-20, 2015, New York, NY.
10. Mulford, R. B.\*, Jones, M. R., and Iverson, B. D., 2015, "Net radiative heat exchange of an origami-inspired, variable emissivity surface," ASTFE Thermal and Fluids Engineering Summer Conference, August 9-12, 2015, New York, NY.
11. Mulford, R. B.\*, Christensen, L. M.<sup>†</sup>, Jones, M. R., and Iverson, B. D., "Dynamic control of radiative surface properties with origami-inspired design," ASME International Mechanical Engineering Congress and Exposition, Montreal, Canada, November 14-20, 2014.
12. Flueckiger, S. M.<sup>‡</sup>, Iverson, B. D., and Garimella, S. G., "Simulation of a concentrating solar power plant with molten-salt thermocline storage for optimized annual performance," Energy Sustainability, Minneapolis, MN, July 14-19, 2013.
13. Iverson, B. D., Flueckiger, S. M.<sup>‡</sup>, and Ehrhart, B. D.<sup>‡</sup>, 2011, "Trough heat collection element deformation and solar intercept impact," SolarPACES, Granada, Spain, September 20-23, 2011.
14. Iverson, B. D., Cordaro, J. G., and Kruizenga, A. M., 2011, "Thermal property testing of nitrate thermal storage salts in the solid-phase," ASME International Conference on Energy Sustainability, Washington D.C., August 7-10, 2011.
15. Iverson, B. D., Broome, S.T., and Siegel, N. P., 2010, "Temperature dependent mechanical property testing of nitrate thermal storage salts," SolarPACES, Perpignan, France, September 21-24, 2010.
16. Iverson, B. D., Andraka, C. E., Yellowhair, J. and Ho, C. K., 2010, "Optical error impacts on flux distribution for a dish concentrator using probabilistic modeling," SolarPACES, Perpignan, France, September 21-24, 2010.
17. Ho, C. K., Mancini, T. R., Kolb, G. J., Siegel, N. P., Iverson, B. D. and Gary, J., 2010, "Development of a power-tower technology roadmap for DOE," SolarPACES, Perpignan, France, September 21-24, 2010.
18. Andraka, C. E., Yellowhair, J. and Iverson, B. D., 2010, "A parametric study of the impact of various error contributions on the flux distribution of a solar dish concentrator," ASME International Conference on Energy Sustainability, Phoenix, AZ, May 17-22, 2010.
19. Kolb, G., Ho, C., Iverson, B. D., Moss, T., and Siegel, N., 2010, "Freeze-thaw tests of trough receivers employing a molten salt working fluid," ASME International Conference on Energy Sustainability, Phoenix, AZ, May 17-22, 2010.
20. Iverson, B. D. and Garimella, S. V., 2008 "Performance characterization of a traveling-wave electrohydrodynamic micropump," ASME International Mechanical Engineering Congress and Exposition, Boston, MA, October 31 – November 6, 2008.
21. Cremaschi, L., Iverson, B. D., Garimella, S. V., 2006, "Enhanced electrohydrodynamic pumping for the microscale," ASME International Mechanical Engineering Congress and Exposition, Chicago, IL, November 5-10, 2006.
22. Iverson, B. D., Singhal, V., and Garimella, S. V., 2006, "Micropumping technologies for electronics cooling," Electronics Cooling, Vol. 12, No. 2.
23. Acikalin, T., Iverson, B. D., Garimella, S. V., Raman, A. and Petroski, J., 2004, "Numerical investigation of the flow and heat transfer due to a miniature piezoelectric fan," ASME International Mechanical Engineering Congress and Exposition, Anaheim, CA, November 2004.
24. Iverson, B. D. and Garimella, S.V., 2004, "Experimental measurements of heat and mass transport in heat pipe wicks," ASME Heat Transfer/Fluids Engineering Summer Conference, Charlotte, NC, July 11-15, 2004.

## Abstract Reviewed Conference Presentation

1. Jurges, R.\* , Maynes, D., Iverson, B. D., and Crockett, J., "Heat transfer to stationary and rolling droplets on carbon nanotube superhydrophobic surfaces," *78th Annual Meeting of the Division of Fluid Dynamics*, November 23-25, 2025, Houston, TX.
2. Mofidipour, E.\* , Jones, M. R., and Iverson, B. D., "Far-field, apparent directional radiative properties of complex angular cavities," *ASME International Mechanical Engineering Congress and Exposition*, November 16-20, 2025, Memphis, TN.
3. Cannon, J.\* , Brown, E.† , Creighton, B.† , Linnell, M.† , Benefan, O., Mulford, R., and Iverson, B. D., "Two-way shape memory alloy heat pipes for passive radiator actuation," *SmallSat*, August 11-13, 2025, Salt Lake City, UT (Poster).
4. Taylor, J. H.\* , Lococo, A.‡ , Mulford, R., and Iverson, B. D., "Passively deployed PCM radiator panels for CubeSat thermal management," *SmallSat*, August 11-13, 2025, Salt Lake City, UT (Poster).
5. Lococo, A.‡ , Boyer, A.‡ , Gabriel, A.‡ , Taylor, J.\* , Iverson, B. D., Mulford, R. B., "Thermal management of electronic components via Nitinol-based dynamic radiator fins," *ASME Summer Heat Transfer Conference*, July 8-10, 2025, Denver, CO.
6. Stearns, N.† , Iverson, B., Roy, R., Schooff, B., Chiodo, A., and Fry, A., "Integration of sCO<sub>2</sub> Brayton Cycles with Carbon Capture Systems," *Clearwater Clean Energy Conference*, June 16-19, 2024, Clearwater, FL.
7. Humayun, S.\* , Maynes, R. D., Crockett, J., and Iverson, B. D., 2024, "Drop distribution tuning and dynamics during flow condensation on superhydrophobic surfaces," *77th Annual Meeting of the Division of Fluid Dynamics*, November 24-26, 2024, Salt Lake City, UT.
8. Ostergaard, B., Crockett, J., Maynes, R. D., and Iverson, B. D., 2024, "Oblique impact of droplets on heated superhydrophobic surfaces," *77th Annual Meeting of the Division of Fluid Dynamics*, November 24-26, 2024, Salt Lake City, UT.
9. Mofidipour, E.\* , Jones, M. R., and Iverson, B. D., 2024, "Modeling and geometric control of apparent radiative surface properties," *ASME Summer Heat Transfer Conference*, July 15-17, 2024, Anaheim, CA.
10. Mofidipour, E.\* , Jones, M. R., and Iverson, B. D., 2024, "Modeling emission from a cavity with a non-uniform surface temperature profile," *ASME Summer Heat Transfer Conference*, July 15-17, 2024, Anaheim, CA.
11. Cannon, J. R.\* , Mulford, R. B., and Iverson, B. D., 2023, "Passive, radially deployed, concealable, radiator panels for CubeSat thermal control," *NASA Thermal and Fluid Analysis Workshop*, August 6-9, 2023, Greenbelt MD.
12. Iverson, B. D., Cannon, J.\* , and Mulford, R. B., 2023, "Deployable radiator arrays for spacecraft thermal management," *Spacecraft Thermal Control Workshop*, May 22-25, 2023, Torrance, CA.
13. Humayun, S.\* , Maynes, D., Crockett, J., and Iverson, B. D., 2022, "Condensation on Superhydrophobic Surfaces in Vapor Shear Flow," *75th Annual Meeting of the Division of Fluid Dynamics*, November 20-22, 2022, Indianapolis, IN.
14. Hubbard, C. M.\* , Maynes, D., Iverson, B. D., and Crockett, J., 2022, "Condensation on CICNT Structured Superhydrophobic Surfaces," *75th Annual Meeting of the Division of Fluid Dynamics*, November 20-22, 2022, Indianapolis, IN.
15. Furner, J.\* , Crockett, J., Iverson, B. D., and Maynes, D., 2022, "Rolling Drops on Heated Superhydrophobic Surfaces," *75th Annual Meeting of the Division of Fluid Dynamics*, November 20-22, 2022, Indianapolis, IN.
16. Lyons, B.\* , Iverson, B. D., Maynes, D., and Crockett, J., 2022, "Drop Retention and Departure in Shear Flow on Structured Superhydrophobic Surfaces," *75th Annual Meeting of the Division of Fluid Dynamics*, November 20-22, 2022, Indianapolis, IN.
17. Cannon, J. R.\* , Mulford, R. B., and Iverson, B. D., 2022, "Passively Deployed, Unfolding Radiator Panels for Small Satellite Thermal Management," *Thermal and Fluid Analysis Workshop*, September 6-9, 2022, Virtual Conference.
18. Debortoli, N.‡ , Cannon, J.\* , Iverson, B. D., and Mulford, R. B., 2022, "Optimization of radiative fin planar geometry and thickness profile for maximum heat rate, tip temperature and fin efficiency," *ASME International Mechanical Engineering Congress and Exposition*, October 30 – November 3, 2022, Columbus, OH.
19. Humayun, S.\* , Iverson, B. D., Maynes, D., and Crockett, J., 2021, "Droplet adhesion forces on microstructured superhydrophobic surfaces," *74th Annual Meeting of the APS Division of Fluid Dynamics*, November 21-23,

- 2021, Phoenix, AZ.
20. Hubbard, C. M.\* ,Crockett, J., Iverson, B. D., and Maynes, D., 2021, "Condensation on CICNT structured superhydrophobic surfaces," *74th Annual Meeting of the APS Division of Fluid Dynamics*, November 21-23, 2021, Phoenix, AZ.
  21. Furner, J.\* ,Crockett, J., Iverson, B. D., and Maynes, D., 2021, "Rolling drops on heated superhydrophobic surfaces," *74th Annual Meeting of the APS Division of Fluid Dynamics*, November 21-23, 2021, Phoenix, AZ.
  22. Hubbard, C. M.\* ,Crockett, J., Iverson, B. D., and Maynes, D., 2021, "Condensation on CICNT structured superhydrophobic surfaces," *Conference on Micro Flow and Interfacial Phenomena ( $\mu$ FIP)*, June 7-9, 2021, Virtual.
  23. Humayun, S.\* ,Maynes, D., Crockett, J., and Iverson, B. D., 2021, "Droplet retention forces on micro-structured superhydrophobic surfaces," *Conference on Micro Flow and Interfacial Phenomena ( $\mu$ FIP)*, June 7-9, 2021, Virtual.
  24. Butterfield, J.\* ,Iverson, B. D., Maynes, D. R., and Crockett, J., 2019, "Liquid jet impingement cooling on superheated superhydrophobic surfaces," *72nd Annual Meeting of the APS Division of Fluid Dynamics*, November 23-26, 2019, Seattle, WA.
  25. Bame, A. T.\* ,Furner, J.<sup>†</sup>, Hoag, I., Mohammadi, K., Powell, K., and Iverson, B. D., 2019, "Evaluation of solar augmentation effectiveness in a hybrid concentrated solar power / fossil fuel power plant," *ASME International Mechanical Engineering Congress and Exposition*, November 8-14, 2019, Salt Lake City, UT.
  26. Meaker, K. S.\* ,Lee, E. T.\* ,Mulford, R. B.\* ,Jones, M. R., and Iverson, B. D., 2019, "System for measuring directional radiative properties of surfaces representing cavities in the visible and infrared regions," *ASME International Mechanical Engineering Congress and Exposition*, November 8-14, 2019, Salt Lake City, UT.
  27. Lee, E. T.\* ,Mulford, R. B.\* ,Jones, M. R., and Iverson, B. D., 2019, "Conditions for equivalence of apparent total directional absorptivity and emissivity for surfaces representing cavities," *ASME International Mechanical Engineering Congress and Exposition*, November 8-14, 2019, Salt Lake City, UT.
  28. Brownlee, B. J.\* ,Claussen, J. C., and Iverson, B. D., 2019, "Optimization of porous, 3D vertically aligned carbon nanotube electrodes for electrochemical biosensing," *ASME International Mechanical Engineering Congress and Exposition*, November 8-14, 2019, Salt Lake City, UT.
  29. Avila, S.\* ,Foster, A. R.\* ,Vilorio, C., Green, J., Hawkins, A. R., Tolley, H. D., Iverson, B. D., and Lee, M. L., 2019, "Thermal Gradient Gas Chromatography System for Narrowing and Improving Peak Shapes," *ASME International Mechanical Engineering Congress and Exposition*, November 8-14, 2019, Salt Lake City, UT.
  30. Foster, A. R.\* ,Avila, S.<sup>†</sup>, Tolley, H. D., Ghosh, A., Vilorio, C. R., Johnson, J. C., Hawkins, A. R., Iverson, B. D., and Lee, M. L., 2019, "Influence of temporally and spatially varying temperature profile in thermal gradient gas chromatography," *PittCon, March 18, 2019*, Philadelphia, PA.
  31. Hubbard, C. M.\* ,Seamons, J.<sup>†</sup>, Stevens, K. A.\* ,Crockett, J., Maynes, D., and Iverson, B. D., 2018, "Jumping to sticking transition for condensing droplets," *71th Annual Meeting of the APS Division of Fluid Dynamics*, Fluid Gallery Submission, November 18-20, 2018, Atlanta, GA.
  32. Stevens, K.\* ,Crockett, J., Maynes, D., Iverson, B. D., 2018, "Drop size distribution during condensation on superhydrophobic surfaces," *71st Annual Meeting of the APS Division of Fluid Dynamics*, November 18-20, 2018, Atlanta, GA.
  33. Mulford, R. B.\* ,Hyatt, L.<sup>†</sup>, Salt, S.<sup>†</sup>, Lee, E.<sup>†</sup>, Dwivedi, V. H., Jones, M. R., and Iverson, B. D., 2018, "Dynamic temperature control via actuation of a deployable/retractable radiator," *ASME International Mechanical Engineering Congress and Exposition*, November 9-15, 2018, Pittsburgh, PA.
  34. Ghosh, A., Foster, A. R.\* ,Vilorio, C. R., Johnson, J. C., Xie, X., Patil, L. M., Tolley, L. T., Farnsworth, P. B., Tolley, H. D., Hawkins, A. R., Iverson, B. D., and Lee, M. L., 2018, "Portable gas and liquid chromatographic techniques," *19th Brazilian Meeting on Analytical Chemistry*, September 16-19, 2018, Caldas Nova, Brazil.
  35. Brownlee, B. J.\* ,Bahari, M., Harb, J. N., Claussen, J. C., and Iverson, B. D., 2018, "Methyl viologen enhanced glucose oxidation with flow-through, carbon nanotube arrays," *Biosensors 2018*, June 12-15, 2018, Miami, FL.
  36. (Invited Talk) Brownlee, B. J.\* ,Ding, S.<sup>‡</sup>, Claussen, J. C., and Iverson, B. D., 2018, "Oral cancer detection with 3D carbon nanotube interdigitated electrodes," *Biosensors 2018*, June 12-15, 2018, Miami, FL.
  37. Lee, M. L., Ghosh, A., Foster, A. R.\* ,Vilorio, C. R., Johnson, J. C., Xie, X., Patil, L. M., Tolley, L. T., Tolley, H. D., Hawkins, A. R., and Iverson, B. D., 2018, "Novel column technologies for portable capillary chromatography," *42nd International Symposium on Capillary Chromatography*, May 14-18, 2018, Riva del Garda, Italy.
  38. Ghosh, A., Foster, A. R.\* ,Vilorio, C. R., Tolley, L. T., Hawkins, A. R., Iverson, B. D., Tolley, H. D., and Lee, M. L.,

- "Effect of thermal gradient control in microchip thermal gradient gas chromatography," *PittCon 2018*, February 26 - March 1, 2018, Orlando, FL.
39. Cowley, A.\* , Maynes, D., Crockett, J., and Iverson, B., 2017, "The effect of channel height on bubble nucleation in superhydrophobic microchannels due to subcritical heating," *70th Annual Meeting of the APS Division of Fluid Dynamics*, November 19-21, 2017, Denver, CO.
  40. Stevens, K. A.\* , Crockett, J., Maynes, D. R., and Iverson, B. D., 2017, "An optical-based aggregate approach to measuring condensation heat transfer," *70th Annual Meeting of the APS Division of Fluid Dynamics*, November 19-21, 2017, Denver, CO.
  41. Mulford, R. B.\* , Collins, N.† , Jones, M. R., and Iverson, B. D., 2017, "The apparent absorptivity of the infinite V-groove," *ASME International Mechanical Engineering Congress and Exposition*, November 3-9, 2017, Tampa, FL.
  42. Mulford, R. B.\* , Jones, M. R., and Iverson, B. D., 2017, "Origami tessellations as variable radiative heat transfer devices," *NASA Thermal & Fluids Analysis Workshop*, August 21-25, 2017, Huntsville, AL.
  43. Farnsworth, M.† , Mulford, R. B.\* , Jones, M. R., and Iverson, B. D., 2016, "Variable radiative heat exchange with three-dimensional origami surfaces," *ASME International Mechanical Engineering Congress and Exposition*, November 11-17, 2016, Phoenix, AZ.
  44. Stevens, K.\* , Crockett, J., Maynes, D., and Iverson, B. D., 2016, "Two-phase flow hydrodynamics in superhydrophobic channels," *69th Annual Meeting of the APS Division of Fluid Dynamics*, November 20–22, 2016, Portland, OR.
  45. Cowley, A.\* , Maynes, D., Crockett, J., and Iverson, B., 2016, "Bubble nucleation in superhydrophobic microchannels due to subcritical heating," *American Physical Society, 69th Annual DFD Meeting*, November 20-22, 2016, Portland, OR.
  46. Brownlee, B. J.\* , Marr, K. M.\* , Claussen, J. C., and Iverson, B. D., 2016, "Enhancement of transport-limited chemical reactions via functionalized carbon nanotube microarray membranes," *ASME International Conference on Nanochannels, Microchannels and Minichannels*, July 10-14, 2016, Washington, DC.
  47. Lee, M. L., Ghosh, A., Tolley, L. T., Hawkins, A. R., Iverson, B. D., and Tolley, H. D., 2016, "Microchip thermal gradient gas chromatography," *40th International Symposium on Capillary Chromatography*, May 29-June 3, 2016, Riva del Garda, Italy.
  48. Mulford, R. B.\* , Blanc, M. J.† , Jones, M. R., and Iverson, B. D., 2015, "Total heat emission from an origami-inspired variable emissivity device," *ASME International Mechanical Engineering Congress and Exposition*, Houston, TX, November 13-19, 2015 (Poster).
  49. Stevens, K. A.\* , Maynes, D. R., Crockett, J., Iverson, B. D., "The effect of superhydrophobicity on two-phase channel flow," *American Physical Society, 68th Annual DFD Meeting*, Boston, MA, November 22-24, 2015.
  50. Cowley, A.\* , Maynes, D., Crockett, J., Iverson, B. D., "Inertial effects on heat transfer in superhydrophobic microchannels," *American Physical Society, 68th Annual DFD Meeting*, Boston, MA, November 22-24, 2015.
  51. Lund, J. M.\* , Syme, D. B.\* , Vanfleet, R. R., Davis, R., Jensen, B. D., and Iverson, B. D., "Carbon Nanotube-Templated, Porous Films for Thermal Isolation," *AVS 62nd International Symposium and Exhibition*, October 18-23, 2015, San Jose, CA.
  52. Boyer, N.\* , Syme, D.\* , Rowley, J.\* , Davis, R., Vanfleet, R., Iverson, B. D., Harker, M., and Creighton, R., "Carbon Nanotube Sheets from Horizontally Aligned Carbon Nanotubes," *AVS 62nd International Symposium and Exhibition*, October 18-23, 2015, San Jose, CA.
  53. Mulford, R. B.\* , Jones, M. R., and Iverson, B. D., 2015, "Dynamic radiative surface properties with origami-inspired topography," *NASA Thermal & Fluids Analysis Workshop*, August 3-7, 2015, Silver Spring, MD.
  54. Marr, K. M.\* , Claussen, J. C., and Iverson, B. D., "Enhanced Monopropellant Fuel Decomposition by High Aspect Ratio, Catalytic CNT Structures for Propulsion of Small Scale Underwater Vehicles," *American Physical Society, 67th Annual DFD Meeting*, San Francisco, CA, November 23-25, 2014, DFD14-2014-002818.
  55. Mulford, R. B.\* , Christensen, L. G.† , Iverson, B. D., Jones, M. R., and Howell, L. L., "Dynamic Thermal Management of Radiation through Origami-Inspired Design," *Spacecraft Thermal Control Workshop, Aerospace Corporation*, El Segundo, CA. March 25-27, 2014.
  56. Park, J.† , Delimont, I.† , Mulford, R.\* , Christensen, L.† , Howell, L., Iverson, B. D., and Jones, M., "Dynamic control of radiation-based thermal management through origami-inspired design," *International Mechanical Engineering Congress and Exposition*, November 15-21, 2013 (Poster).
  57. Marr, K. M.\* , and Iverson, B. D., "High aspect ratio sensing platforms for flowing environments," *International*

*Mechanical Engineering Congress and Exposition*, November 15-21, 2013 (Poster).

58. Iverson, B. D., and Garimella, S. G., "Induction Electrohydrodynamic Pumping in a Temperature Field," *Frontiers in Scalable Nanostructured Materials and Interfaces*, West Lafayette, IN, March 10-12, 2009 (Poster).

#### Invited Talks

1. Humayun, S.\* and Maynes, R. D., Crockett, J., and Iverson, B. D., "Flow Condensation on Superhydrophobic Surfaces," University of Utah, Mechanical Engineering, October 15, 2025, Salt Lake City, UT.
2. Iverson, B. D., "Career Paths: Academic Panelist," *ASME Summer Heat Transfer Conference*, July 8-10, 2025, Denver, CO.
3. Iverson, B. D., "Spacecraft Thermal Management," Space Dynamics Laboratory, July 14, 2025, Logan UT.
4. Iverson, B. D., Mulford, R. B., Cannon, J.\* and Taylor, J.\* , "Spacecraft Thermal Management, Panel Discussion," CubeSat Developers Workshop, April 23, 2025, San Luis Obispo, CA.
5. Humayun, S.\* and Maynes, R.D., Crockett, J., and Iverson, B. D., "Drop Distribution Tuning and Dynamics during Flow Condensation on Superhydrophobic Surfaces," Max Planck Institute for Polymer Research, December 19, 2024, Mainz, Germany.
6. Humayun, S.\* and Iverson, B. D., "Drop Dynamics & Heat Transfer during Dropwise Condensation on Superhydrophobic Surfaces," Technische Universität Darmstadt, July 1, 2024, (remote group presentation).
7. Iverson, B. D., 2022 "Wetting Influence on Condensation," Max Planck Institute for Polymer Research, July 6, 2022, Mainz, Germany.
8. Iverson, B. D., 2022 "Higher Education and Student Life in the U.S.," Panel Member, Fulbright Germany, June 14, 2022, Berlin, Germany.
9. Iverson, B. D., 2022 "Interface effects in drop behavior," Technische Universität Darmstadt, Max Planck Institute for Polymer Research Mainz and the Leibniz Institute of Polymer Research Dresden, May 6, 2022, Darmstadt, Germany.
10. Iverson, B. D., 2020 "Education for Life," Brigham Young University – Idaho, June 4, 2020.
11. Iverson, B. D., Stevens, K. A.\* , 2019, "Dropwise condensation: Drop size distribution and the effects of surface structure", Technische Universität Darmstadt, August 23, 2019, Darmstadt, Germany.
12. Iverson, B. D., Stevens, K. A.\* , 2019, "Dropwise condensation: Drop size distribution and the effects of surface structure", University of Illinois, Urbana-Champaign, May 8, 2019, Urbana-Champaign, IL.
13. Brownlee, B. J.\* , Ding, S.† , Claussen, J. C., and Iverson, B. D., 2018, "Oral cancer detection with 3D carbon nanotube interdigitated electrodes," *Biosensors 2018*, June 12-15, 2018, Miami, FL.
14. Mulford, R. B.\* , Jones, M. R., Dwivedi, V. and Iverson, B. D., "Origami Tessellations as Variable Radiative Heat Transfer Devices," Air Force Research Lab, Albuquerque, NM, August 2017.
15. Iverson, B. D., "Exploiting flux: Transport enhancement and control with surface topography," Duke University, March 28, 2017
16. Mulford, R. B.\* , Iverson, B. D., Jones, M. R. and Dwivedi, V., "Origami-Inspired Variable Emissivity Surfaces: Models and Applications," NASA Webinar, November 10, 2016.
17. Iverson, B. D., "Surface Topology: Influence and Control of Heat Transfer," NASA Goddard, Greenbelt MD, July 15, 2016.
18. Iverson, B. D., "Transport Enhancement of Rate-Limited Chemical Reactions *via* Pt-Decorated, Carbon Nanotube Microarray Membranes," Utah State University, December 3, 2015.
19. Iverson, B. D., "Transport Enhancement of Rate-Limited Chemical Reactions *via* Pt-Decorated, Carbon Nanotube Microarray Membranes," Purdue University, October 5, 2015.
20. Iverson, B. D., "Solving Proximity Challenges of Sensor Miniaturization through High Aspect Ratio, Carbon Nanotube Scaffolds," NASA Goddard, Greenbelt MD, October 8, 2014.
21. Iverson, B. D., "Solving Proximity Challenges of Sensor Miniaturization through High Aspect Ratio, Carbon Nanotube Scaffolds," Army Research Lab, Adelphi MD, October 8, 2014.
22. Iverson, B. D., Garimella, S. G., and Blendell, J. "Thermal Contact Resistance at Silicon-Organic Material Interfaces," Intel Thermal Work Group, July 28, 2009, Chandler, AZ.
23. Iverson, B. D., "Integrated Micropumping for Thermal Management and Microfluidic Biodevices," Sandia National Laboratories, Solar Thermal Test Facility, February 17, 2009, Albuquerque, NM.
24. Iverson, B. D., "Enhanced Electrohydrodynamic Micropumping," Research Triangle Institute International,

- Group Seminar, August 8, 2007, Durham, NC.
25. Iverson, B. D. and Garimella, S. G., “Enhanced Electrohydrodynamic Micropumping,” Indiana Chapter of International Microelectronics and Packaging Society (IMAPS) Vendor’s Day and Mini-Symposium, April 30, 2007, Indianapolis, IN.
  26. Iverson, B. D., and Garimella, S.G., “Heat Pipes for Heat Spreading,” Japan Society of Mechanical Engineering Project Meeting 2003, October 13-17, 2003, Tokyo, Japan. Heat sink conference fostering international thermal management interaction.

**Intellectual Property Submissions**

1. Mulford, R. B., Iverson, B. D., and Cannon, J. R., Shape Memory Alloy Heat Pipe Actuator, US Patent Provisional Application, filed March 2025.
2. Mulford, R. B.\*, Iverson, B. D., and Jones, M. R., Dynamic Radiative Thermal Management of Spacecraft, US Patent Application No. 17/447,358 filed on September 10, 2021.
3. Claussen, J. C., Das, S. ‡, and Iverson, B. D., 3D Carbon Nanotube, Interdigitated Electrode Architectures for Electrochemical Sensing, Patent Application No. 18/24375, pending, March 2018.
4. Vanfleet, R. R., Davis, R. C., Syme, D.\*, and Iverson, B. D., Aligned and laterally oriented, carbon nanotube thin films, provisional application 62/310,311, pending, March 2016.
5. Claussen, J. C., and Iverson, B. D., Propulsion mechanism utilizing chemical decomposition in a catalytic microchannel array, Patent Application No. 14/877,594, pending, October 2015.
6. Iverson, B. D., Marr, K. M.\*, Convective Enhanced Sensing with High Surface Area Flow Structures, Patent No. 9,897,600, issued, November 2015.

**FUNDING ACTIVITIES**

**Externally Awarded Funding \$3,514,630 (\$2,672,745 as PI)**

Primary Investigators	Funding Agency	Total Amount (BYU Amount)	Dates	Title
<b>PI:</b> Walton <b>Co-PI(s):</b> Bourassa, Iverson, Lang, Laraway, Long, Whelan	NASA Instrument Incubator Program	\$4,405,494 (\$381,205)	1/1/2025 12/31/2027	Veery: Flat-panel Scatterometer for Hourly Ocean Surface Vector Winds
<b>PI:</b> Mulford <b>Co-PI(s):</b> Iverson	NASA University SmallSat Technology Partnership (USTP)	\$450,000 (\$203,832)	10/01/2023 09/30/2025	Passively Deployed Radial Radiator for Transfer and Rejection of CubeSat Waste Heat
<b>PI:</b> Iverson	NASA NSTGRO	\$148,000	07/01/2023 06/30/2025	Oscillating Heat Pipe Thermal Hinge for Passive Thermal Management
<b>PI:</b> Iverson	Fulbright U.S. Scholar	\$25,000	04/10/2022 08/31/2021	BYU and TU Darmstadt Collaboration to Explore Wetting Behavior During Condensation Heat Transfer
<b>PI:</b> Iverson <b>Co-PI(s):</b> Claussen	Xenon Health	\$37,500	06/01/2021 02/31/2022	License Agreement: Cancer Biosensor
<b>PI:</b> Iverson	NASA NSTGRO	\$139,000	07/01/2021 06/30/2023	Passively Actuated, Triangular Fin Array for CubeSat Thermal Control
<b>PI:</b> Iverson <b>Co-PI(s):</b> Mulford	Utah NASA Space Grant Consortium	\$22,000	05/01/2020 05/17/2021	Passive Actuation of a Dynamic Radiator for CubeSat Thermal Management

Primary Investigators	Funding Agency	Total Amount (BYU Amount)	Dates	Title
<b>PI:</b> Iverson <b>Co-PI(s):</b> Hawkins, Tolley, Chiang	PerkinElmer Corporation	\$89,950	01/01/2020 12/31/2020	Compact Next-generation GC and MS Instrumentation
<b>PI:</b> Iverson <b>Co-PI(s):</b> Maynes	REU Supplement, NSF-CBET-Particulate and Multiphase Processes	\$12,000	05/01/2019 04/30/2020	Condensation and Droplet Dynamics Under Shear at Superhydrophobic Surfaces
<b>PI:</b> Iverson <b>Co-PI(s):</b> Powell	PacifiCorp, State of UT	\$186,443	01/01/2019 12/31/2020	Solar Augmentation of Coal-Fired Power Plant
<b>PI:</b> Iverson <b>Co-PI(s):</b> Hawkins, Tolley, Chiang	PerkinElmer Corporation	\$199,983	01/01/2019 12/31/2019	Compact Next-generation GC and MS Instrumentation
<b>PI:</b> Iverson <b>Co-PI(s):</b> Maynes	NSF-CBET-1805805 Particulate and Multiphase Processes	\$359,961	05/01/2018 04/30/2021	Condensation and Droplet Dynamics Under Shear at Superhydrophobic Surfaces
<b>PI:</b> Iverson <b>Co-PI(s):</b> Jones	NASA Goddard	\$5,000	01/01/2018 09/30/2018	Dynamic Thermal Control of a Collapsible Radiator
<b>PI:</b> Iverson <b>Co-PI(s):</b> Hawkins, Tolley, Chiang, Ghosh	PerkinElmer Corporation	\$346,648	01/01/2018 12/31/2018	Compact Next-generation GC and MS Instrumentation
<b>PI:</b> Iverson	NSF-CBET-1749395 Thermal Transport Processes	\$504,750	05/01/2018 04/30/2023	CAREER: Origami-Inspired Reconfigurable Surfaces that Enable Controllable Radiative Properties
<b>PI:</b> Iverson <b>Co-PI(s):</b> Hawkins, Tolley, Chiang	PerkinElmer Corporation	\$317,759	01/01/2017 12/31/2017	Compact Next-generation GC and MS Instrumentation
<b>PI:</b> Long <b>Co-PI(s):</b> Iverson, Warnick, Wilde, Wirthlin	NASA Undergraduate Student Instrument Project (USIP) Student Flight Research	\$200,000	01/01/2016 12/31/2017	Passive Inspection CubeSat (PIC)
<b>PI:</b> Iverson	Iowa State University	\$7,000	10/01/2015 05/31/2016	High Aspect Ratio CNT Structures for Electrode Sensors
<b>PI:</b> Iverson	NASA Space Technology Research Fellowship (NSTRF)	\$246,900	08/01/2015 04/30/2019	Dynamic Control of Radiative Surface Properties with Origami-Inspired Design
<b>PI:</b> Crockett <b>Co-PI(s):</b> Iverson, Maynes	Moxtek	\$35,348	07/01/2015 06/30/2016	Droplet Formation and Removal Characteristics on Superhydrophobic Nano and Microstructured Surfaces

Primary Investigators	Funding Agency	Total Amount (BYU Amount)	Dates	Title
<b>PI:</b> Iverson <b>Co-PI(s):</b> Jones	NASA EPSCoR of Utah	\$24,851	10/18/2014 10/17/2015	Dynamic Control of Surface Radiative Properties through Actuation of Origami-Inspired Surface Topographies
<b>PI:</b> Crockett <b>Co-PI(s):</b> Iverson, Maynes	Utah NASA Space Grant Consortium, Faculty Research Infrastructure Award Program	\$21,500	05/01/2014 04/15/2015	Droplet Mobility in Superhydrophobic Channels

**Internally Awarded Funding: \$134,950 (\$70,000 as PI)**

Primary Investigators	Funding Agency	Total Amount (BYU Amount)	Dates	Title
<b>PI:</b> Iverson	College of Engineering: Seed Funding Award	\$12,500	03/01/23 12/31/23	3D Printing Enabled, Multi-tiered Dropwise Condensation
<b>PI:</b> Iverson	BYU Mechanical Engineering, Experiential Learning	\$4,000	03/01/23 12/31/23	Nanofabrication Templates
<b>PI:</b> Long <b>Co-I(s)</b> Iverson, Colton	Mentored Research Grant, BYU College of Engineering	\$25,000	02/08/2019 12/31/2020	The BYU Spacecraft Program: a Mentored Research Grant (MRG) Project
<b>PI:</b> Iverson	BYU Mechanical Engineering, Experiential Learning	\$4,000	03/30/2019 12/31/2019	Spacecraft Assembly and Sensor Development
<b>PI:</b> Iverson	BYU Mechanical Engineering, Experiential Learning	\$4,000	03/22/2018 12/31/2018	CubeSat Assembly and Testing
<b>PI:</b> Iverson	BYU Mechanical Engineering, Experiential Learning	\$4,000	03/22/2018 12/31/2018	3D Carbon Nanostructures
<b>PI:</b> Iverson	BYU, College of Engineering and Technology, International Travel	\$1,000	08/2018	2018 International Heat Transfer Conference, Beijing, China
<b>PI:</b> Iverson	BYU, College of Engineering and Technology, Seed Funding Award	\$12,500	08/01/2017 08/01/2018	3D Carbon Nanotube Architectures for Point-of-Care Electrochemical Sensing
<b>PI:</b> Iverson	BYU, Mechanical Eng Department, Undergraduate Funds	\$4,000	05/01/2017 12/31/2017	Porous CNT Electrodes and Surfaces
<b>PI:</b> Iverson	BYU, Mechanical Eng Department, Undergraduate Funds	\$4,000	02/01/2016 12/31/2016	Transport Control with Carbon Nanotubes

Primary Investigators	Funding Agency	Total Amount (BYU Amount)	Dates	Title
<b>PI:</b> Jensen <b>Co-PI(s):</b> Iverson, Vanfleet	BYU Mentoring Environment Grant (MEG)	\$20,000	01/01/2016 12/31/2017	Carbon Nanotube Fabrication Approaches Enabling Portable Gas Chromatography Systems
<b>PI:</b> Crockett <b>Co-PI(s):</b> Iverson, Maynes	BYU Mentoring Environment Grant (MEG)	\$19,950	01/01/2016 12/31/2017	Experimental Analysis of Fluid and Thermal Transport on Superhydrophobic Surfaces
<b>PI:</b> Iverson	BYU, College of Engineering and Technology, Research Initiation Grant	\$10,000	09/10/2014 08/30/2015	Increasing Sensor Signal Strength of Glucose Detection in Amperometric Sensors
<b>PI:</b> Iverson	BYU, College of Engineering and Technology, New Faculty Research Proposal	\$10,000	01/01/2014 12/31/2014	Dynamic Control of Radiative Absorption and Emission through Tunable, Origami-Based Geometries

## TEACHING AND MENTORING

### Graduate Courses Taught

- Convective Heat Transfer ME EN 643 (W14, W16, W18, W20, W22, W24, W26)
- Intermediate Heat Transfer ME EN 540 (W15, W17, W19, W21, W23, W25)

### Undergraduate Courses Taught

- University 101 (F24, F25)
- Global Perspectives on Energy and the Environment (Sp24, Sp26)
- Heat Transfer ME EN 340 (W13, F13, Sp14, F14, Sp15, F15, Sp16, F16, Sp17, F17, F18, F19, F20, F21, F23, F25)
- Fluid Mechanics ME EN 312 (F23, F24)
- Mentored Project ME EN 497R (W13, F13, W14, F14, W15, Sp15, F15, W16, F16, W17, W18, W23, F24)
- Capstone Senior Design Coach ME EN 475/476
  - 2020-2021 Los Alamos National Laboratories, insulation removal
  - 2018-2019 IEEE AP-S Antenna Design Competition
  - 2017-2018 Stryker Extravasation Fixture
  - 2016-2017 OC Tanner Induction Heating Station
  - 2015-2016 Stryker Plasma Stability Fixture
  - 2014-2015 Union Pacific Refrigerated Boxcar Airflow Distribution

### Current Graduate Students Advised (as committee chair)

1. Joseph Morrell, MS Thesis in progress, Brigham Young University, 2025 – present.
2. Josh Taylor, MS Thesis in progress, Brigham Young University, 2024 – present.
3. Josh Cannon, PhD Dissertation in progress, Brigham Young University, 2020 – present.

### Past Graduate Students Advised (as committee chair unless otherwise noted)

1. Ehsan Mofidipour, PhD Dissertation, “Characterization and Modeling of Apparent Radiative Surface Properties for Complex Surfaces in Thermal Management Systems,” Brigham Young University, 2022 – 2025.

2. Shaur Humayun, PhD Dissertation, “Drop Dynamics and Heat Transfer during Dropwise Condensation on Superhydrophobic Surfaces,” Brigham Young University, 2019 – 2024.
3. Blake Lyons, MS Thesis, “Drop Retention and Departure in Shear Flow on Structured Superhydrophobic Surfaces,” Brigham Young University, 2021 – 2023.
4. Joseph Furner, MS Thesis, “Heat Transfer to Rolling or Sliding Drops on Inclined Heated Superhydrophobic Surfaces,” Brigham Young University, 2021 – 2023 (co-advised with Dan Maynes).
5. Kyle Meaker, MS Thesis, “Measured Spectral, Directional Radiative Behavior of Corrugated Surfaces,” Brigham Young University, 2020 – 2022.
6. Sam Avila, MS Thesis, “Effects of Static and Dynamic Thermal Gradients in Gas Chromatography,” Brigham Young University, 2019 – 2021.
7. Aaron Bame, MS Thesis, “Optimization of Solar-Coal Hybridization for Low Solar Augmentation,” Brigham Young University, 2018 – 2021.
8. Ben Brownlee, PhD Dissertation, “Electrochemical Sensors Enhanced by Convection and by 3D Arrays of Vertically Aligned Carbon Nanotubes,” Brigham Young University, 2015 – 2020.
9. Austin Foster, MS Thesis, “Thermal Gradient Characterization and Control in Micro-Fabricated Gas Chromatography Systems,” Brigham Young University, 2017 – 2019.
10. Rydge Mulford, PhD Dissertation, “Dynamic Radiation Heat Transfer Control Through Geometric Manipulation,” Brigham Young University, 2014 – 2019.
11. Kimberly Stevens, PhD Dissertation, “Two-Phase Interactions on Superhydrophobic Surfaces,” Brigham Young University, 2014 – 2018.
12. Derric Syme, MS/MBA Thesis, “Microfabrication and Characterization of Freestanding and Integrated Carbon Nanotube Thin Films,” Brigham Young University, 2014 – 2019.
13. Kevin Marr, MS Thesis, “Transport Enhancement of Rate-Limited Chemical Reactions via Pt-Decorated, Carbon Nanotube Microarray Membranes,” Brigham Young University, 2013 – 2015.

#### National Graduate Fellowships Advised

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|-------------|--|
| 2023 – 2025 | Cannon, J., NASA Space Technology Graduate Research Opportunity, “Oscillating Heat Pipe Thermal Hinge for Passive Thermal Management,” NASA Grant No. (80NSSC23K1209), April 2023. |
| 2021 – 2023 | Cannon, J., NASA Space Technology Graduate Research Opportunity, “Passively Actuated, Triangular Fin Array for CubeSat Thermal Control,” NASA Grant No. 80NSSC21K1291, April 2021. |
| 2015 – 2019 | Mulford, R., NASA Space Technology Research Fellowship, “Dynamic Control of Radiative Surface Properties with Origami-Inspired Design,” NASA Grant No. NNX15AP49H, April 2021.     |

#### Project-Related Student Advisement

- Marc T. Dunham, “High-efficiency thermodynamic power cycles for concentrated solar power systems” Graduate Student Intern, Stanford University, 2012-2013.
- Scott M. Flueckiger, Freeze event recovery in parabolic trough, thermocline-bed property characterization and thermocline storage, Graduate Student Intern, Purdue University, 2011-2013.
- Brian D. Ehrhart, Critical Skills Master’s Program, Sandia National Laboratories, 2011.

#### Undergraduate Student Mentoring

I have advised 61 undergraduate students as research assistants. Of these, 38 are attending or have completed a graduate degree and 28 have authored/co-authored a journal publication or conference publication/presentation. This experience has facilitated at least 6 high impact scholarships or fellowships for these undergraduates. Students listed in this table are those for whom I have been the primary advisor. I have advised additional students through collaborative efforts.

UG Student	Duration	Topic	Published	Grad School	Fellowship/Scholarship
Joshua King	2025	Satellite thermal management			
Will Godfrey	2025	Deployable SMA radiator			
Barry Creighton	2025	Shape memory alloy training		•	

Matt Linnell	2024-2025	Shape memory alloy training			•
Noah Housley	2024	Deployable Radiators	•		•
Ethan Brown	2024 – present	Shape memory characterization			
Joseph Morrell	2023 – 2024	Two-way shape memory alloy training			•
Isaac Murri	2023 – 2024	3D printed architectures for condensation			•
Kyle Havey	2023 – 2024	Deployable radiators for spacecraft	•		
Ricky Kelsey	2023 – 2025	Nanofabrication for wetting control	•		•
Nathan Stearns	2022 – 2024	CO2 Brayton cycle working fluid supply	•		•
Brent Edgerton	2022	Spacecraft radiators			•
Jared Awerkamp	2021 – 2022	Thermal gradient gas chromatography			•
Javin Gudmundsen	2021 – 2024	Electrochemical biosensors	•		•
David Phair	2021 – 2022	Electrochemical biosensors			•
Luke Gardner	2021 – 2022	Deployable satellite radiator			
Blake Lyons	2021	Drops in shear flow	•		•
Joseph Heal	2021	Electrochemical biosensors			•
Matthew Christian	2019 – 2021	Flow condensation			•
Ryan Merrell	2019 – 2021	Flow condensation			•
Joseph Furner	2019 – 2021	Solar-augmentation financial study	•		•
Kyle Meaker	2019 – 2020	Radiative behavior of structured surfaces	•		•
Clint Hubbard	2018 – 2019	Condensation at SH surfaces	•		•
Sierra Smith	2018 – 2019	Drops in shear flow			
Joseph Seamons	2018 – 2020	CNT-based nanofabrication	•		•
David Christensen	2018 – 2018	Temperature gradient GC			•
Jason Redding	2018	Passive inspection CubeSat –integration	•		•
Josh Cannon	2017 – 2020	Passive inspection CubeSat –integration	•		•
Ernest Lee	2017 – 2018	Origami-structured surfaces	•		•
Lance Hyatt	2017 – 2018	Compliant surface positioner	•		•
Rebecca Prymak	2017 – 2018	Electrochemical sensor design			
Jacob Butterfield	2017 – 2018	Superhydrophobic condensation	•		•
Sam Smith	2017	Electrochemical sensor design			•
Caleb Smith	2017	Passive inspection CubeSat – structural			
Alex Laraway	2017 – 2018	Passive inspection CubeSat – structural	•		
Mark Moomey	2017	Passive inspection CubeSat – structural			
Sam Salt	2017 – 2018	Actuation of origami surfaces	•		
Blake Goodfellow	2017	Passive inspection CubeSat – structural			
Stephen Hills	2017	Passive inspection CubeSat – thermal			
Zach Brock	2016 – 2017	Passive inspection CubeSat – structural			•
Riley Creer	2016 – 2017	Passive inspection CubeSat – structural			•
Cory Robinson	2016 – 2018	Passive inspection CubeSat – thermal	•		
David Lambert	2016	Passive inspection CubeSat – thermal			
Austin Foster	2016 – 2017	Thermal gradient gas chromatography			•
Nathan Collins	2016 – 2017	Monte Carlo ray-tracing analysis	•		
Taylor Davis	2016 – 2017	Microfabrication and device construction	•		•
Chad Gudmundsen	2016	Electrodeposition and functionalization			

Courtney Nordgran	2015 – 2016	Superhydrophobic two-phase flow			
Michael Farnsworth	2015 – 2016	3D control of origami surfaces	•	•	•
Shane Rahrle	2015 – 2016	3-omega thin-film measurement			
Mitchell Blanc	2015 – 2016	Origami radiative surface properties	•		
Jonathan Erickson	2014 – 2015	Two-phase flow visualization		•	
Ben Brownlee	2014 – 2015	Detection of low H <sub>2</sub> O <sub>2</sub> concentrations	•	•	•
Carson Storey	2014 – 2015	Chemical sensing with through flow			•
Bennett Myers	2014	Thermal conductivity detectors for GC			
Derric Syme	2013 – 2014	Aligned CNT composites		•	
Luke Christensen	2013 – 2014	Dynamic radiation control with origami	•		
Rydge Mulford	2013 – 2014	Dynamic radiation control with origami	•	•	•
Isaac Delimont	2013	Dynamic radiation control with origami	•	•	
Jared Park	2013	Dynamic radiation control with origami	•	•	
Kevin Marr	2013	Porous anodic alumina templates	•	•	

## PROFESSIONAL SERVICE

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### Appointed Positions

2020 – present Associate Editor, ASME Journal of Heat and Mass Transfer

### Memberships

- American Physical Society
- American Society of Mechanical Engineers
  - HTD Committee Member of Heat Transfer in Energy Systems (K-6)
  - HTD Committee Member of Nanoscale Transport Phenomena (K-9)
- American Society of Thermal and Fluid Engineers
- Golden Key National Honor Society
- Tau Beta Pi, Engineering Honor Society
- Simmons Center for Cancer Research, Affiliate Faculty

### Conference Organization

- Conference Technical Program Co-Chair, ASME Summer Heat Transfer Conference, Bellevue WA, July 2026.
- Track Co-Chair, Heat Transfer, ASME International Mechanical Engineering Congress and Exposition, Memphis TN, November 2025.
- Gallery of Fluid Motion and Poster Session Organizer, APS 77th Annual Meeting of the Division of Fluid Dynamics, Salt Lake City UT, November 2024.
- Topic Organizer
  - ASME Summer Heat Transfer Conference, Anaheim CA, July 2024.
  - ASME International Mechanical Engineering Congress and Exposition, Virtual Meeting, Nov. 2020.
  - ASME International Mechanical Engineering Congress and Exposition, Salt Lake City UT, Nov. 2019.
- Session Chair/Co-Chair
  - ASME Summer Heat Transfer Conference, Denver CO, July 8-10, 2025.
  - APS 77th Annual Meeting of the Division of Fluid Dynamics, Salt Lake City UT, November 2024.
  - APS 74th Annual Meeting of the Division of Fluid Dynamics, Phoenix AZ, November 2021.
  - ASME International Mechanical Engineering Congress and Exposition, Virtual Meeting, Nov. 2020.
  - ASME Summer Heat Transfer Conference, virtual meeting, July 2020.
  - ASME International Mechanical Engineering Congress and Exposition, Salt Lake City UT, Nov. 2019.
  - ASTFE Thermal and Fluids Engineering Conference, Las Vegas, NV, April 2019.
  - ASME Summer Heat Transfer Conference, Bellevue WA, July 2017.
  - ASME International Mechanical Engineering Congress and Exposition, Phoenix AZ, Nov. 2016.

- ASTFE Thermal and Fluids Engineering Summer Conference (2 sessions), Aug. 2015.
- ASME Energy Sustainability, Minneapolis MN, July 2013.
- ASME Energy Sustainability, Washington DC, August 2011.
- Made from Concentrate, CSP seminar chair, Sandia National Laboratories, 2012.
- Conference paper reviews
  - International Heat Transfer Conference: 2018, 2023
  - ASME Summer Heat Transfer Conference: 2013, 2017, 2020-2025
  - ASME International Mechanical Engineering Congress and Exposition: 2005, 2013, 2014, 2020-2023
  - ASME Turbo Expo: 2013, 2014
  - ASME Energy Sustainability: 2011, 2012
  - ASTFE Thermal Fluids Engineering Summer Conference: 2015, 2016, 2019, 2020
  - Electronics Packaging Technology Conference: 2008
  - ITherm Conference: 2008

**Funding Agency Reviews**

- National Science Foundation
  - Thermal Transport Processes: 2018, 2019, 2022
  - CAREER Panel Review, Thermal Transport Processes: 2020, 2024
  - Multiphase Transport Processes: 2020
  - Fluid Dynamics: 2017
- The National Academies of Sciences, Engineering and Medicine
  - U.S. - Egypt Science and Technology Joint Fund: 2020
- Department of Energy
  - SBIR/STTR Grant Applications: 2011, 2013, 2015

**External Tenure Reviews**

- Tenure review case, Associate Professor, Big 10 University, 2021
- Tenure review case, Associate Professor, Big 12 University, 2025

**Journal Reviews (96 total in 26 venues)\***

# of Reviews	Journal	2022 IF	2022 Quartile	5-Yr IF
12	International Journal of Heat and Mass Transfer	5.2	Q1	5.3
12	ASME Journal of Heat Transfer	1.9	Q2	2.0
15	Applied Thermal Engineering	6.4	Q1	5.9
8	ACS Applied Materials and Interfaces	9.5	Q1	9.6
5	Journal of Solar Energy Engineering	2.3	Q2	2.5
6	Solar Energy	6.7	Q2	6.3
4	Langmuir	3.9	Q2	3.8
4	Journal of Fluids Engineering	2.0	Q2	2.0
4	Journal of Thermal Science and Engineering Applications	2.1	Q2	1.9
3	Journal of Electronic Packaging	1.6	Q3	1.8
3	Applied Energy	11.2	Q1	11.0
2	Energy	9.0	Q1	8.3
2	IEEE Trans. on Components Packaging and Manufacturing Tech.	2.2	Q3	2.2
2	Journal of Micromechanics and Microengineering	2.3	Q3	2.1
2	Microfluidics and Nanofluidics	2.8	Q2	2.7
1	Nanoscale	6.7	Q1	6.8
2	Applied Physics Letters	4.0	Q2	3.7
1	Sensors and Actuators A: Physical	4.6	Q1	4.1
1	Materials Science and Engineering: B	3.6	Q2	4.0
1	Journal of Chemical Physics	4.4	Q1	3.5

1	Renewable and Sustainable Energy Reviews	15.9	Q1	16.9
1	Energy Conversion and Management	10.4	Q1	10.3
1	International Journal of Refrigeration	3.9	Q1	3.8
1	Experimental Heat Transfer	3.5	Q2	3.1
1	International Journal of Electrical Power and Energy Systems	5.2	Q1	4.9
1	International Journal of Thermofluids	-	-	-

\*Journal impact as determined by Journal Citation Reports, Clarivate: <https://jcr.clarivate.com/jcr/home>

### Consulting Activities

- PerkinElmer, American Fork UT, thermal management, 2017 – 2021.
- Infinia Corporation, Ogden UT, May 2013. Reviewed thermal energy storage proposal and identified concerns using mineral oil as a heat transfer fluid and highly conductive materials in thermocline beds.

### UNIVERSITY SERVICE

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#### University Level

- Graduate Faculty Training Panelist, “Advising graduate students,” Brigham Young University, April 10, 2025.
- Faculty Advisory Council, Brigham Young University, 2023 – present
- Fulbright Faculty Panelist, March 31, 2023 and August 9, 2024
- Fulbright Meet and Greet Panelist, September 1, 2023
- International Leave Faculty Panelist, March 15, 2023
- Internal Reviewer, NSF CAREER Application, Blake Barker, 2021
- Seminar Presenter, NSF CAREER Applications, November 5, 2020
- Seminar Panelist, NSF CAREER Awards, January 14, 2020

#### College Level

- Spacecraft Group, Faculty Affiliate, 2016 – present
- NASA Space Grant Consortium Fellowship Reviewer, 2018

#### Department Level

- Rank and Status Committee Member, 2020 – present  
Rank and status document revision: 2021, 2023
- Interim Graduate Coordinator, January – September 2017
- Graduate Committee Member, 2013 – 2020  
Recruiting Lead, 2019 – 2020  
Standardized graduate student candidacy and evaluation process, 2018  
Organized graduate information banquet, March 7, 2017  
Organized graduate seminar series, 2014 – 2017
- Seminars  
BYU ME Graduate Student Recruiting Seminar, November 2021  
Yearly Graduate Seminar, “Context is Everything - Literature Reviews and Writing,” 2014 – 2021, 2025
- Qualifying Exam Committee, Heat Transfer, 2013 – present
- Course Committee Chair, Heat Transfer, 2015-present
- BYU Mechanical Engineering Department, 3-Minute Thesis Competition, 2013 – 2017
- BYU ORCA Grant Reviewer, 2014 – 2018

### EXTERNAL ACTIVITIES

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#### Outreach

- Transatlantic Alumni Conference, Erfurt Germany, June 23-25, 2023
- U.S. Embassy, Ambassador Amy Gutmann, Berlin Germany, June 26, 2023
- Summer of Academic Refinement (SOAR) outreach to multi-cultural students, 2019

- Utah STEM Fest, hands on experiences with science and technology to encourage young interest, February 2-4, 2016.
- Wasatch Elementary, Provo School District, “Why is that bugs can stand on water? – surface tension and hydrophobicity,” November 17, 2014.

### Community

- Darmstädter Kinderkliniken Prinzessin Margaret service organizer, Darmstadt, Germany (2022)
- Provo Fury Soccer Assistant Coach, Provo, UT (2019-2021)
- AYSO Soccer Coach, Provo, UT (2017-2018)
- AYSO Soccer Coach, Albuquerque, NM (2011-2012)
- AYSO Referee, Albuquerque, NM (2010-2011)
- Webelos Den Leader, Boy Scouts of America (2010-2011)
- Premier Soccer Academy Coach, Albuquerque, NM (Spring 2010)
- English Conversation Facilitator, Daily Dose Program, NC (Summer 2007)
- Volunteer missionary, Okayama, Japan, The Church of Jesus Christ of Latter-Day Saints (1997-1999)

### Visibility

- BYU Engineering Launches Two CubeSats into Orbit, Launch Vehicle: Virgin Orbit, Jan. 17, 2021
  - <https://www.youtube.com/watch?v=GKXnaR1GIQ8>
  - <https://www.youtube.com/watch?v=MbyKURSPXrg>
  - <https://ksltv.com/454127/byu-selfie-satellites-successfully-deployed-into-space/>
  - <https://www.abc4.com/news/wasatch-front/byus-spacecraft-selfie-cams-reach-space-history-making-cube-satellites-deployed/>
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  - <https://www.fox13now.com/news/local-news/byu-launches-first-satellites-after-years-of-hard-work-from-students>
  - <https://universe.byu.edu/2020/12/15/byu-students-launch-an-idea-into-space-with-help-from-nasa/>
- Guest on “Top of the Mind,” with Julie Rose, BYU Radio, February 24, 2020.
  - <http://www.byuradio.org/episode/6a616daa-49d7-4f41-b44e-665991dc0cb1/top-of-mind-with-julie-rose-criminal-reform-allergens-in-meds-islam-and-social-media?playhead=4914&autoplay=true>
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  - <https://www.nasa.gov/feature/goddard/2017/nasa-s-new-shape-shifting-radiator-inspired-by-origami>
  - <https://phys.org/news/2017-01-nasa-shape-shifting-origami.html>
  - <https://scienmag.com/nasas-new-shape-shifting-radiator-inspired-by-origami/>
  - <https://www.engadget.com/2017/02/01/nasa-origami-satellite-radiator/>
  - <https://www.inverse.com/article/27284-nasa-origami-smart-radiator>
  - <https://techcrunch.com/2017/01/31/origami-inspired-radiator-from-nasa-could-change-shape-to-warm-or-cool-tiny-satellites/>
- California Energy Markets publication, “Rocky Mountain Power Seeks Studies on CO<sub>2</sub> Storage, Solar-Coal Plants,” January 27, 2017, No. 1421, Page 15, <http://www.newsdata.com/cem/index.html>
- ACS Nano podcast, August 20, 2015, Topic: Micro Underwater Vehicle Propulsion
  - Link: <http://pubs.acs.org/subscribe/journals/ancac3/audio/ancac3-0815.mp3>
- Guest on “Top of the Mind,” with Julie Rose, BYU Radio, July 13, 2015. Topic: Micro Underwater Vehicle Propulsion.
  - Link: <http://www.byuradio.org/episode/b980e1ac-e5d0-4619-b3e0-f4d2cee375f3?playhead=5189&autoplay=true>
- Advances in Engineering featured our work as a key scientific article (September 2014), from: Iverson *et al.*, 2014, *Journal of Solar Energy Engineering*, Vol. 136, pp. 041002. <https://advanceseng.com/mechanical-engineering/thermocline-bed-properties-deformation-analysis/>

- Renewable Energy Global Innovation Series featured our work as a key scientific article (January 2014), from: Iverson, B. D., Conboy, T. M., Pasch, J. J., and Kruizenga, A. M., 2013, "Supercritical CO<sub>2</sub> Brayton cycles for solar-thermal energy," *Applied Energy*, Vol. 111, pp. 957-970.  
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