

September 2026

Ahmad Vaselbehagh

Associate Professor of Mechanical and Aerospace Engineering,
University of South Florida¹

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EDUCATION

Postdoc	Ocean Engineering	University of Delaware	US	2015-2017
Ph.D.	Mechanical Engineering	University of Windsor	Canada	2011-2015
M.Sc.	Mechanical Engineering	Ferdowsi University	Iran	2008-2011
B.Sc.	Mechanical Engineering	Ferdowsi University	Iran	2004-2008

PROFESSIONAL APPOINTMENTS

Aerospace Engineering Program Director, University of South Florida, 2025–

Associate Professor, Mechanical & Aerospace Engineering, University of South Florida, 2024–

Associate Professor, Mechanical & Nuclear Engineering, Tennessee Tech University, 2023

Assistant Professor, Mechanical & Nuclear Engineering, Tennessee Tech University, 2017–2023

Adjunct Professor, Engineering, East Tennessee State University, 2019–2020, and 2022

GRANTS AWARDED (\$2,915,394 of \$15,123,007)

Current (\$1,838,981)

University of South Florida

1. PI (Co-PIs: Tansel Yucelen, Arman Sargolzaei, Sonya Tiomkin), "The First AI-Controlled Gust Wind Tunnel for Testing in Challenging Environments," 07/2026-06/2028, Emil Buehler Perpetual Trust, \$500,000.
2. PI (Co-PIs: Yogi Goswami, Arman Sargolzaei), "Management of Unwanted Vegetation at Solar Power Plants: A Feasibility Study," 07/01/2025-06/30/2026, Tampa Electric Company (TECO) and Florida High Tech Corridor, \$202,006.
3. PI, "Deicing Condensers using Robot-Operated CO₂ Lasers," 01/2024- 01/2026, Tennessee Valley Authority (TVA), \$338,450.
4. Co-PI (PI: Rory Roberts at Tennessee Tech University, Other Co-PIs: Bruce Jo, Michael Sumption, John Hull, Don Cao, Mohammed Akbar, John Kim, Roland Dixon, and Mike Ikeda), "CarbonLess Electric Aviation (CLEAN)," 05/2023-04/2027, NASA, \$7,999,452 (5.56% share).
5. PI, "NSF CAREER: CAS-Climate: Understanding Thermal Transport Processes in Atmospheric Boundary Layer with Utility-Scale Solar Photovoltaic Plants," 07/2022-06/2027, National Science Foundation (NSF), \$380,442.

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Past (\$1,076,413)

Tennessee Tech University

6. PI, "NSF CAREER: CAS-Climate: Understanding Thermal Transport Processes in Atmospheric Boundary Layer with Utility-Scale Solar Photovoltaic Plants," 07/2022-06/2027, National Science Foundation (NSF), \$500,493 (76% transferred to USF).
7. Co-PI (PI: Rory Roberts at Tennessee Tech University, co-PIs: Bruce Jo, Michael Sumption, John Hull, Don Cao, Mohammed Akbar, John Kim, Roland Dixon, and Mike Ikeda), "CarbonLess Electric Aviation (CLEAN)," 05/2023-04/2027, NASA, \$7,999,452 (5.56% share) (94% transferred to USF).
8. Senior Personnel (PI: Holly Stretz), "Fiber Reactor Extraction Simulations," 08/2022- 07/2024, Visionary Fiber Technologies, \$75,051 (6% share)
9. Senior Personnel (PI: Ping Chen, co-PIs: Joseph Ojo, Jie Cui, Steven Anton, and Nan Chen), "Second-life Battery in Mobile E.V. Charging Application for Rural Transportation (SMART)," 05/2023-04/2027, U.S. Department of Energy (DOE), \$4,531,642 (3% share)
10. Principal Investigator (co-PI: Charles Van Neste), "High-Precision Heat Delivery to Partly Melt Inaccessible Ice at a Nuclear Plant's Condenser," 01/2023-10/2023, Tennessee Valley Authorities (TVA), \$277,975.
11. Principal Investigator (co-PI: Satish Mahajan), "Thermal Treatment of Nuclear Plants' Ice Condensers using CO2 Lasers," 01/2022-12/2022, TVA, \$250,000.
12. Principal Investigator, "Developing an Experimental Setup to Demonstrate the First and Second Laws of Thermodynamics," 06/2021-05/2022, Tennessee Tech's College of Engineering, \$11,000.
13. Principal Investigator, "Faculty Research Award: Understanding and Modeling of Thermal Transport Processes within Near-Ground Atmosphere in the Presence of Utility-Scale Solar," 06/2020-06/2021, Tennessee Tech University's Research Office, \$10,000.
14. Principal Investigator (co-PI: Satish Mahajan), "Development of a Laser-Based System for the Maintenance of Ice Condensers," 09/2020-12/2021, TVA, \$185,000.
15. Co-PI (PI: Cristina Archer), "Advanced Wake Loss Modeling for Large Wind Farms with Variable Wind Speed and Direction," 2019-2020, U.S. Department of Interior, \$186,244 (11% share)
16. Principal Investigator, "Investigating the Impact of Wind Turbines on Surface Fluxes using Computational Fluid Dynamics," 2019-2020, HKF Technologies LLC, \$10,619.

University of Delaware

17. Principal Investigator, "Investigating the Impact of Wind Turbines on Surface Fluxes using Computational Fluid Dynamics," 2016, First State Marine Wind LLC, \$45,076.

SELECTED AWARDS, HONORS

University of South Florida

- 2026 Excellence in Research and Entrepreneurship Award, College of Engineering
- 2026 Engineering Expo Most Valuable Player Award, College of Engineering

Tennessee Tech University

- 2024 Wings Up 100

- 2023 Brown-Henderson Outstanding Faculty Award
- 2023 Wings Up 100
- 2022 Wings Up 100
- 2021 ASME Distinguished Researcher, ASME Student Chapter, Tennessee Tech University
- 2021 Wings Up 100
- 2020: ASME Outstanding Advisor

University of Windsor

- 2016 T&E Theorist, Turbulence and Energy Laboratory, University of Windsor
- 2015 Mitacs-Accelerate Internship Award (\$21,000), Mitacs, Canada
- 2015 Innovative Researcher, Turbulence and Energy Laboratory, University of Windsor
- 2014 Prolific Scientific Writer, Turbulence and Energy Laboratory, University of Windsor
- 2013 Graduate Student Award, 24th Canadian Congress of Applied Mechanics, Saskatoon, Canada
- (2011–2015) Ontario Trillium Scholarship (\$160,000), Government of Ontario, Canada
- 2011 Doctoral Entrance Scholarship (\$6,000), University of Windsor, Canada

Ferdowsi University

- 2009 Outstanding Mechanical Engineering Researcher, Ferdowsi University Research Foundation

AREAS OF EXPERTISE

Research

Energy, Aerodynamics, Computational Fluid Dynamics, Atmospheric Fluid Mechanics,
Computational and Experimental Thermal Transport Processes

Teaching

University of South Florida

Thermodynamics – Fall 2026

Aerospace Engineering Laboratory – Spring 2026

Turbulence – Fall 2025

Propulsion – Spring 2025, Spring 2024

Fluid Systems – Fall 2024

Tennessee Technological University

Turbulence – Fall 2023, Fall 2021

Atmospheric Fluid Mechanics – Fall 2022, Spring 2021

Fluid Mechanics – Spring 2022, Fall 2021, Fall 2020, Spring 2020, Spring 2019, Fall 2018 (two sections), Spring 2018, Fall 2017

Intermediate Fluid Mechanics – Fall 2023, Fall 2020

Aerodynamics of Damaged Wings – Spring 2020 and Fall 2021

Modeling Atmospheric Flows – Spring 2023

Atmospheric Measurements – Fall 2022

Thermodynamics I – Spring 2023, Fall 2022, Spring 2021, Spring 2020, and Fall 2019

Conduction Heat Transfer – Spring 2022 and Fall 2019

Phase Change Flows – Spring 2023 and Spring 2021

Integrated Storage Technologies – Fall 2019

East Tennessee State University

Thermodynamics I – Fall 2022 and Fall 2019

Fluid Mechanics – Spring 2022 and Spring 2020

PUBLICATIONS

Graduate students are indicated by an **asterisk ***.

Undergraduate students are indicated by a **dagger †**.

The corresponding author's name is underlined.

Thesis/Dissertation

David S.-K. Ting and Rupp Carriveau (Advisors). "Hydrodynamics of an Underwater Compressed Air Energy Storage Plant," Doctoral dissertation, University of Windsor (Canada), May 2015.

Javad Abolfazli Esfahani (Advisor). "Lattice Boltzmann Simulation of Flow over Circular Bluff Bodies," Master of Science thesis, Ferdowsi University (Iran), August 2011.

Books

1. Vassel-Be-Hagh, A., & Ting, D. (Editors). 2021. "Utility-scale Wind Turbines and Wind Farms," The Institution of Engineering and Technology (IET), London, UK. [10.1049/PBPO171E](https://doi.org/10.1049/PBPO171E)
2. Vassel-Be-Hagh, A., & Ting, D. (Editors). 2020. "Environmental Management of Air, Water, Agriculture, and Energy," Routledge, Taylor and Francis, FL, USA. <https://doi.org/10.1201/9780429196607>
3. Vassel-Be-Hagh, A., & Ting, D. (Editors). 2019. "Advances in Sustainable Energy," Springer, Switzerland. <https://doi.org/10.1007/978-3-030-05636-0>

Published Chapters

4. Roland*, D., & Vassel-Be-Hagh, A. (2025). Chapter 9: A Prerequisite to Computational Fluid Dynamics of Airplane Condensation Trials. In: Stagner, J., Ting, D.S.-K. (Eds.), *Renewable Energy Systems: The Way Forward*. IOP Publishing. <https://dx.doi.org/10.1088/978-0-7503-6179-8ch9>
5. Cannon*, T., & Vassel-Be-Hagh, A. (2025). Chapter 4: Measuring Heat Flux at Solar Photovoltaic Plants. In: Stagner, J., Ting, D.S.-K. (Eds.), *Renewable Energy Systems: The Way Forward*. IOP Publishing. <https://dx.doi.org/10.1088/978-0-7503-6179-8ch4>
6. Hagan*, T., & Vassel-Be-Hagh, A. (2024). Chapter 5: A Preliminary Investigation of Three-Phase Homogeneous Boiling. In: Ting, D.S.-K., Vassel-Be-Hagh, A. (Eds.), *Brightening Tomorrow Together 2024: Springer Proceedings in Energy* (pp. 93-102). Cham, USA: Springer.

https://doi.org/10.1007/978-3-031-73486-1_5

7. Hosseini*, A., Cannon*, D.T., Vasel-Be-Hagh, A. (2023). Chapter 11: Real-Time Optimization of Yaw Angle and Tip-Speed Ratio for a Six-Turbine Plant of NREL 5-MW Wind Turbine. In: Ting, D.S.-K., Vasel-Be-Hagh, A. (Eds.), *Engineering to Adapt: Springer Proceedings in Energy* (pp.217-226). Cham, USA: Springer. https://doi.org/10.1007/978-3-031-47237-4_11
8. Hackler*, M., Vasel-Be-Hagh, A., & Ting, D. (2021). Chapter 1: The Current Status of Wind Power. In: A. Vasel-Be-Hagh & D. Ting (Eds.), *Utility-Scale Wind Turbines and Wind Farms* (pp. 1-15). London, UK: The Institute of Engineering and Technology. [10.1049/pbpo171e_ch1](https://doi.org/10.1049/pbpo171e_ch1)
9. Unser†, L., & Vasel-Be-Hagh, A. (2021). Chapter 3: Scaling Utility-Scale Wind Turbines. In: A. Vasel-Be-Hagh & D. Ting (Eds.), *Utility-Scale Wind Turbines and Wind Farms* (pp. 39- 47). London, UK: The Institute of Engineering and Technology. [10.1049/PBPO171E_ch3](https://doi.org/10.1049/PBPO171E_ch3)
10. Unser†, L., & Vasel-Be-Hagh, A. (2020). Chapter 10: A Preliminary Evaluation on the Performance of Diffuser-augmented Vertical Axis Wind Turbines. In: A. Vasel-Be-Hagh & D. Ting (Eds.), *Complementary Resources for Tomorrow* (pp. 163-174). Switzerland: Springer Nature. [10.1007/978-3-030-38804-1_10](https://doi.org/10.1007/978-3-030-38804-1_10)
11. Long*, C.S., & Vasel-Be-Hagh, A. (2020). Chapter 6: Storage-Integrated Energy Harvesters. In: A. Vasel-Be-Hagh & D. Ting (Eds.), *Environmental Management of Air, Water, Agriculture, and Energy* (pp. 119-140). Boca Raton, FL, USA: Routledge. [10.1201/9780429196607](https://doi.org/10.1201/9780429196607)
12. Vasel-Be-Hagh, A. (2017). Chapter 3: Optimization of wind farms for communities. In: A. Vasel-Be-Hagh & D. Ting (Eds.), *Wind and Solar Based Energy Systems for Communities* (pp. 27-61), London, UK: The Institute of Engineering and Technology. [10.1049/PBPO130E_ch3](https://doi.org/10.1049/PBPO130E_ch3)

Published Peer-Reviewed Journal Articles

13. Bohlken*, T., Hagan, T., Vasel-Be-Hagh, A., & Takshi, A. (2026). "Photovoltaic Plant Losses: Spectral Mismatch," *Energy Materials*, 6 (3), 600030. <https://doi.org/10.20517/energymater.2025.156>
14. Shahrouri†, K., Tolba*, A., Doranehgard, M.H., & Vaselbehagh, A. (2026). "Optical Losses in Photovoltaic Solar Panels: Mechanisms, Modeling Approaches, and Mitigation Strategies," *Thermal Science and Engineering Progress*, 71, 104557, <https://doi.org/10.1016/j.tsep.2026.104557>.
15. Roland*, D. & Vasel-Be-Hagh, A., (2026). "The Effect of Air Moisture on the Energy Transfer Rate via a 10.6-m Infrared Laser Beam," *Applied Thermal Engineering*, 289, 129871. <https://doi.org/10.1016/j.applthermaleng.2026.129871>
16. Ayeni*, O.O., Stretz, H.A., & Vasel-Be-Hagh, A., (2025). "Effects of Fiber Arrangement on Flow Characteristics Along a Four-Fiber Element of Fiber Extractors," *Micromachines*, 16 (4), 425, 2025. <https://doi.org/10.3390/mi16040425>
17. Medlin†, R., Meeks†, S., Vasel-Be-Hagh, A., Damazo, J., & Roberts, R. (2025). "Ammonia versus Kerosene Contrails: A Review," *Progress in Aerospace Sciences*, 153, 101074. <https://doi.org/10.1016/j.paerosci.2024.101074>

18. Hagan*, T. & Vassel-Be-Hagh, A. (2025). "Homogeneous boiling over melting ice," *Scientific Reports* 15 (1): 198. <https://doi.org/10.1038/s41598-024-84470-5>
19. Hosseini*, A., Cannon*, D.T., & Vassel-Be-Hagh, A., (2025). "Wind farm active wake control via concurrent yaw and tip-speed ratio optimization," *Applied Energy*, 377:124625. <https://doi.org/10.1016/j.apenergy.2024.124625>
20. Cannon*, T., Hagan*, T., Kramer, T., Schafer, D., Meekst†, S., Medlint†, R., Roland*, D., Vassel-Be-Hagh, A., & Roberts, R. (2024). "Thermodynamic evaluation of contrail formation from a conventional jet fuel and an ammonia-based aviation propulsion system," *Communications Engineering*, 3, 165. <https://doi.org/10.1038/s44172-024-00312-2>
21. Cannon*, D.T., Vassel-Be-Hagh, A. (2024). "Daytime thermal effects of solar photovoltaic systems: Field measurements," *Journal of Renewable and Sustainable Energy*, 16: 056501. <https://doi.org/10.1063/5.0219179>
22. Ayeni*, O.O., Stretz, H.A., & Vassel-Be-Hagh, A., (2024). "A Core Element CFD Model for a Two-Phase Microfluidic Fiber Extractor," *Chemical Engineering and Processing: Process Intensification*, 202: 109842. <https://doi.org/10.1016/j.cep.2024.109842>
23. Nouri*, R., Vassel-Be-Hagh, A. (2024). "Deciphering unknown upstream conditions and downstream turbulent flow evolution via neural networks," *Ocean Engineering*, 297, 116977. <https://doi.org/10.1016/j.oceaneng.2024.116977>
24. Ma, Y., Archer, C.L., & Vassel-Be-Hagh, A. (2022). "The Jensen wind farm parameterization," *Wind Energy Science*, 7, 2407–2431. [10.5194/wes-7-2407-2022](https://doi.org/10.5194/wes-7-2407-2022)
25. Ma, Y., Archer, C.L., & Vassel-Be-Hagh, A. (2022). "Comparison of individual versus ensemble wind farm parameterizations inclusive of sub-grid wakes for the WRF model," *Wind Energy*, 25(9), 1573–1595. [10.1002/we.2758](https://doi.org/10.1002/we.2758)
26. Hosseini*, A., Cannon*, D.T., & Vassel-Be-Hagh, A. (2022). Tip Speed Ratio Optimization: More Energy Production with Reduced Rotor Speed. *Wind*. 2(4), 691 – 710. [10.3390/wind2040036](https://doi.org/10.3390/wind2040036)
27. Hackler*, M., Vassel-Be-Hagh, A., & Pardue, B. (2022). On the Effect of Reynolds number and Structural Parameters on Vortex-Induced Vibrations. *International Journal of Fluid Mechanics Research*, 49(4), 17–30. [10.1615/InterJFluidMechRes.2022042820](https://doi.org/10.1615/InterJFluidMechRes.2022042820)
28. Nash*, R., Nouri*, R., & Vassel-Be-Hagh, A. (2021). "Wind Turbine Wake Control Strategies: A Review and Concept Proposal," *Energy Conversion and Management*, 245, 114581. [10.1016/j.enconman.2021.114581](https://doi.org/10.1016/j.enconman.2021.114581)
29. Nouri*, R., Vassel-Be-Hagh, A., & Archer, C. (2020). "The Coriolis Force and the Direction of Rotation of the Blades Significantly Affect the Wake of Wind Turbines," *Applied Energy*, 277, 115511. [10.1016/j.apenergy.2020.115511](https://doi.org/10.1016/j.apenergy.2020.115511)
30. Archer, C.L., & Vassel-Be-Hagh, A. (2020). Corrigendum to "Review and Evaluation of Wake Loss Models for Wind Energy Applications," [*Applied Energy* 226 (2018) 1187–1207].
31. Archer, C.L., & Vassel-Be-Hagh, A. (2019). "Wake Steering via Yaw Control in Multi-Turbine Wind Farms: Recommendations based on Large-Eddy Simulation," *Sustainable Energy Technologies and*

- Assessments*, 33, 34-43. [10.1016/j.seta.2019.03.002](https://doi.org/10.1016/j.seta.2019.03.002)
32. Dittner*, M.E., & Vassel-Be-Hagh, A. (2019). "Advances in Wind Power Forecasting," *Lecture Notes in Energy*, 70, 37-57. [10.1007/978-3-030-05636-0_3](https://doi.org/10.1007/978-3-030-05636-0_3)
 33. Archer, C.L., Wu, S., Vassel-Be-Hagh, A., Brodie, J.F., Delgado, R., St. Pe, A., Oncley, S., & Semmer, S. (2019). "The VERTEX field campaign: observations of near-ground effects of wind turbine wakes," *Journal of Turbulence*, 20, 64-92. [10.1080/14685248.2019.1572161](https://doi.org/10.1080/14685248.2019.1572161)
 34. Zhang, W., Maleki, A., Gholipour Khajeh, M., Zhang, Y., Mortazavi, S.M., & Vassel-Be-Hagh, A. (2019). "A Novel Framework for Integrated Energy Optimization of a Cement Plant: An Industrial Case Study," *Sustainable Energy Technologies and Assessments*, 35, 245-256. [10.1016/j.seta.2019.06.001](https://doi.org/10.1016/j.seta.2019.06.001)
 35. Archer, C.L., Vassel-Be-Hagh, A., Wu, S., Pan, Y., Yan, C., Brodie, J.F., & Maguire, E. (2018). "Review and Evaluation of Wake Loss Models for Wind Energy Applications," *Applied Energy*, 226, 1187-1207. [10.1016/j.apenergy.2018.05.085](https://doi.org/10.1016/j.apenergy.2018.05.085)
 36. Vassel-Be-Hagh, A., & Iakovidis, F. (2017). "The Effect of Wind Direction on the Performance of Solar PV Plants," *Energy Conversion and Management*, 153, 455-461. [10.1016/j.enconman.2017.09.077](https://doi.org/10.1016/j.enconman.2017.09.077)
 37. Vassel-Be-Hagh, A., & Archer, C. (2017). "Wind Farm Hub Height Optimization," *Applied Energy*, 195C, 905-921. [10.1016/j.apenergy.2017.03.089](https://doi.org/10.1016/j.apenergy.2017.03.089)
 38. Vassel-Be-Hagh, A., & Archer, C. (2017). "Wind Farms with Counter-Rotating Wind Turbines," *Sustainable Energy Technologies and Assessments*, 24, 19-30. [10.1016/j.seta.2016.10.004](https://doi.org/10.1016/j.seta.2016.10.004)
 39. Vassel-Be-Hagh, A., Carriveau, R., Ting, D.S.-K., & Turner, J.S. (2015). "Drag of Buoyant Vortex Rings," *Physical Review E*, 92(4), 1-5. [10.1103/PhysRevE.92.043024](https://doi.org/10.1103/PhysRevE.92.043024)
 40. Vassel-Be-Hagh, A., Carriveau, R., & Ting, D.S.-K. (2015). "A Balloon Bursting Underwater," *Journal of Fluid Mechanics*, 769, 522 – 540. [10.1017/jfm.2015.126](https://doi.org/10.1017/jfm.2015.126)
 41. Vassel-Be-Hagh, A., Carriveau, R., & Ting, D.S.-K. (2015). "Flow over Submerged Energy Storage Balloons in Closely and Widely Spaced Floral Configurations," *Ocean Engineering*, 95, 59 – 77. [10.1016/j.oceaneng.2014.11.030](https://doi.org/10.1016/j.oceaneng.2014.11.030)
 42. Vassel-Be-Hagh, A., Carriveau, R., & Ting, D.S.-K. (2015). "Structural Analysis of an Underwater Energy Storage Accumulator," *Sustainable Energy Technologies and Assessments*, 11, 165 - 172. [10.1016/j.seta.2014.11.004](https://doi.org/10.1016/j.seta.2014.11.004)
 43. Vassel-Be-Hagh, A., Carriveau, R., & Ting, D.S.-K. (2014). "Flow past an Accumulator Unit of an Underwater Energy Storage System: Three Touching Balloons in Floral Configuration," *Journal of Marine Science and Application*, 13(4): 467 – 476. [10.1007/s11804-014-1277-3](https://doi.org/10.1007/s11804-014-1277-3)
 44. Vassel-Be-Hagh, A., Carriveau, R., & Ting, D.S.-K. (2014). "Underwater Compressed Air Energy Storage Improved through Vortex Hydro Energy," *Sustainable Energy Technologies and Assessments*, 7, 1 – 5. [10.1016/j.seta.2014.02.001](https://doi.org/10.1016/j.seta.2014.02.001)
 45. Vassel-Be-Hagh, A., Carriveau, R., & Ting, D.S.-K. (2013). "Numerical Simulation of Flow past an Underwater Energy Storage Balloon," *Computers and Fluids*, 88, 272 – 286. [10.1016/j.compfluid.2013.09.017](https://doi.org/10.1016/j.compfluid.2013.09.017)

46. Vassel-Be-Hagh, A., Carriveau, R., & Ting, D.S.-K. (2013). "Energy Storage using Weights Hydraulically Lifted above Ground," *International Journal of Environmental Studies*, 70(5), 792 – 799. [10.1080/00207233.2013.810043](https://doi.org/10.1080/00207233.2013.810043)
47. Vassel-Be-Hagh, A., Ting, D.S.-K., & Carriveau, R. (2013). "Correlating Flow Pattern with Force Coefficients in Air Flow past a Tandem Unit of Three Circular Cylinders," *International Journal of Fluid Mechanics Research*, 40(3), 235–253. [10.1615/InterJFluidMechRes.v40.i3.40](https://doi.org/10.1615/InterJFluidMechRes.v40.i3.40)
48. Esfahani, J.A., & Vassel-Be-Hagh, A. (2013). "A Numerical Study on Shear Layer Behavior in Flow over a Square Unit of Four Cylinders at Reynolds Number of 200 using the Lattice Boltzmann Method," *Progress in Computational Fluid Dynamics*, 13(4), 103 – 119. [10.1504/PCFD.2013.052425](https://doi.org/10.1504/PCFD.2013.052425)
49. Esfahani, J.A., & Vassel-Be-Hagh, A. (2012). "LB Simulation of Heat Transfer in Flow past a Square Unit of Four Isothermal Cylinders," *Comptes Rendus Mecanique*, 340(7), 526 – 535. [10.1016/j.crme.2012.03.011](https://doi.org/10.1016/j.crme.2012.03.011)

Conferences

50. Keisi, Y., Abassi, M., Vasselbehagh, A., Roberts, R. (2026, January 11-15). Lift-to-Drag Enhancement of NACA 2412 via Emergent Trailing-Edge Surface Oscillations: A CFD–Genetic Algorithm Study [paper presentation]. SCITECH: Orlando, FL, USF.
51. Abassi, M.A., Rahman, M.M., Abdelrady, A., Akbar, M., Vasselbehagh, A., Roberts, R. (2026, January 11-15). Aerodynamic Investigation and Optimization of the 3D SUGAR Volt BACJ-IL wing using Genetic Algorithm [paper presentation]. SCITECH: Orlando, FL, USF
52. Rahman, M.M., Abdelrady, A., Abassi, M., Akbar, M., Vasselbehagh, A., Jo, B., Roberts, R. (2026, January 11-15). Aerodynamic Optimization of Truss-Braced Wing Aircraft Using CFD Simulation for Sustainable High-Efficiency Aviation Applications [paper presentation]. SCITECH: Orlando, FL, USF
53. Vanderlan*, S., Vassel-Be-Hagh, A., & Cui, J. (2025, March 9-12). *Computational Fluid Dynamics Model of Heat Transfer in the Vicinity of Photovoltaic Panels* [paper presentation]. 10th Thermal and Fluids Engineering Conference: Washington, DC, USA.
54. Hagan*, T. & Vassel-Be-Hagh, A. (2024, June 20). *Homogenous Boiling Above-Ice-Liquid Interface* [paper presentation]. Brightening Tomorrow Together: Windsor, Canada.
55. Medlin†, R., Meeks†, S., & Vassel-Be-Hagh, A. (2024, June 20). *On the Contrails of Hydrogen-Powered Airplanes* [paper presentation]. Brightening Tomorrow Together: Windsor, Canada.
56. Jo, B., Saha, A., Akbar, M., Rahman, M.M., Barrit*, E., Vassel-Be-Hagh, A., & Kim, T. (2024, July 29 – August 2). *Towards the Conversion to Electrified Commercial Aircraft, the Boeing 737 Max 800 Field Data Analysis* [paper presentation]. AIAA Aviation Forum: Las Vegas, NV, United States.
57. Gong, M., Vassel-Be-Hagh, A., Tharpe, A. & Roberts, R. (2024, July 29 – August 2). *Preliminary Hazard Identification and Risk Assessment for Liquid Ammonia Fuel Safety in Zero-Emission Fuel-Cell-Hybrid Electric Aircraft* [paper presentation]. AIAA Aviation Forum: Las Vegas, NV, United States.
58. Nouri*, R., Vassel-Be-Hagh, A., Foti, D. (2024, April 21-24). *The Effect of Latitude on Wind Farm*

- Power Generation* [paper presentation]. 9th Thermal and Fluids Engineering Conference: Corvallis, OR, USA.
59. Roland*, D. & Vassel-Be-Hagh, A. (2024, April 21-24). *Exploring the Influence of Relative Humidity and Temperature on CO2 Laser Beams* [paper presentation]. 9th Thermal and Fluids Engineering Conference: Corvallis, OR, USA.
60. Hagan*, T. & Vassel-Be-Hagh, A. (2024, April 21-24). *Enhanced Thermocavitation via Impeded Convection and Instabilities Induced by Temperature and Pressure Gradients* [paper presentation]. 9th Thermal and Fluids Engineering Conference: Corvallis, OR, USA.
61. Cannon*, D.T. & Vassel-Be-Hagh, A. (2024, April 21-24). *Improving Heat Flux Measurement Accuracy in Solar Farm Environmental Studies: A Corrective Equation Approach* [paper presentation]. 9th Thermal and Fluids Engineering Conference: Corvallis, OR, USA.
62. Sims*, W. & Vassel-Be-Hagh, A. (2024, April 21-24). *Exploring the Thermal Effects of Utility-Scale Photovoltaic Integration on Atmospheric Boundary Layer: Insights from a Field Campaign* [paper presentation]. 9th Thermal and Fluids Engineering Conference: Corvallis, OR, USA.
63. Hosseini, A. & Vassel-Be-Hagh, A.R. (2023, June 22-23). *Instantaneous Real-Time Control of Tip Speed Ratio and Yaw for Wind Farms* [paper presentation]. Engineering to Adapt: Windsor, Ontario, Canada.
64. Hagan*, T., Roland*, D., Hill, T., & Vassel-Be-Hagh, A. (2023, June 22-23). *Precise Remote Heat Delivery for Thermal Treatment of a Nuclear Plant's Condensers*. Engineering to Adapt: Windsor, Ontario, Canada.
65. Hosseini, A., Cannon*, T., & Vassel-Be-Hagh, A.R. (2022, September). *Active Tip Speed Ratio Control Can Significantly Increase Annual Energy Production* [paper presentation]. The North American Wind Energy Academy Conference: Delaware, USA.
66. Nouri*, R., Nash*, R., & Vassel-Be-Hagh, A.R. (2022, June 23-24). *Wind Turbine Wake Redirection via External Vanes* [paper presentation]. Responsible Engineering & Living Symposium: Windsor, Canada.
67. Nouri*, R. & Vassel-Be-Hagh*, A.R. (2019, June 20-21). *Negative yaw versus positive yaw: the impact of Coriolis or the direction of rotation of the blades* [paper presentation]. Energy and Resources for Tomorrow: Windsor, Ontario, Canada.
68. Vassel-Be-Hagh, A. & Archer, C. (2016, December). *Hub Height Optimization to Increase Energy Production of Wind Farms*. American Geophysical Union (AGU) Fall Meetings: San Francisco, California, USA.
69. Vassel-Be-Hagh, A., Carriveau, R., & Ting, D. S.-K. (2014, July). *Flow-Induced Vibrations of an Underwater Energy Storage Accumulator*. Offshore Energy and Storage Symposium (OSES): Windsor, Ontario, Canada.
70. Vassel-Be-Hagh, A., Carriveau, R., & Ting, D. S.-K. (2013, June 2-6). *Flow past an Isolated Underwater Balloon* [paper presentation]. Canadian Congress of Applied Mechanics (CANCAM): Saskatoon, Canada.
71. Abolfazli Esfahani, J. & Vassel-Be-Hagh, A. (2011). *Employment of Lattice Boltzmann Method in*

Simulating Flow past Two Equal Diameter Cylinders [paper presentation]. Saudi Engineering Conference (SEC 8): Buraydah, Saudi Arabia.

72. Abolfazli Esfahani, J. & Vassel-Be-Hagh, A. (2011, March). *A Lattice Boltzmann Study of Flow Past Moderately and Widely Spaced Units of Four Cylinders: Flow Structure Simulation* [paper presentation]. Iranian Aerospace Society International Conference: Tehran, Iran.

73. Abolfazli Esfahani, J. & Vassel-Be-Hagh, A. (2010, July 12-14). *A Lattice Boltzmann Simulation of Crossflow Around Four Cylinders in a Square Arrangement* [paper presentation]. Proceedings of the ASME 2010 10th Biennial Conference on Engineering Systems Design and Analysis: Istanbul, Turkey.

74. Abolfazli Esfahani, J. & Vassel-Be-Hagh, A. (2009, March). *Studying the Lattice Boltzmann Method by Simulating Couette Flow* [paper presentation]. Iranian Aerospace Society International Conference: Isfahan, Iran.

OTHER INVITED TALKS/SEMINARS

(2026) "Engineering a Sustainable Decarbonization," Keynote Speaker at the Cleaner Earth & Atmosphere Conference, Canada

(2023) "Atmospheric Thermo-Fluids: Unraveling Aerospace and Renewable Energy Effects," Department of Mechanical and Aerospace Engineering, University of South Florida

(2023) "Clean Energy: Our Commitment to a Sustainable Future," Department of Mechanical and Aerospace Engineering, University at Buffalo

(2023) "Modeling Atmospheric Thermal and Momentum Transport Processes using Computational Fluid Dynamics," CEE Distinguished Seminar Series, Northeastern University

(2017) "Wind Farm Layout Optimization," University of Windsor

(2016) "Wind Energy Conversion and Storage," Northern Illinois University

(2016) "Wind Energy Conversion and Storage," Tennessee Tech University

RESEARCH PROFESSORS

1. Mohammad Hossein Doranehgard, 2026–

POST-DOCTORAL RESEARCH ASSOCIATES

2. Mohamed Abbasi, University of South Florida, 2025–, Sponsor: NASA

3. Ty Hagan, 2024–2026, Sponsor: TVA

4. Mohammad Hossein Doranehgard, 2025–2026, Sponsor: TECO

STUDENTS ADVISED/EVALUATED

Clubs

Advisor, AIAA Student Chapter, University of South Florida, 2025 – present

Advisor, ASHRAE Student Chapter, University of South Florida, 2025 – present

Advisor, Men's Soccer Club, Tennessee Tech University, 2018 - 2023

Ph.D. Dissertation in Progress

1. **Dexter Limcangco**, Fall 2026, GSS Fellowship Recipient
2. **Sara Arroyave**, Fall 2026
3. **Yoseph Keisi**, Fall 2026
4. **Torge Bohlken**, Fall 2025, Sponsor: NASA
5. **Abdo Abdelrady**, Fall 2025, Sponsor: NASA
6. **Ahmed Gamal Tolba**, Fall 2024, Sponsor: NSF
7. **Michael Edgemon**, Fall 2024, Sponsor: NSF
8. **Devin Roland**, Spring 2024, Sponsor: NASA
9. **Elijah Barritt**, Fall 2023, Sponsor: NASA

M.S. Student in Progress

10. **Mian Fazal**, Fall 2024, Sponsor: TECO

Ph.D. Dissertations Directed

Tennessee Tech University

11. **Scott Vanderlan** (2022–2025, Co-advisor: Jie Cui)
Sponsor: ORNL
Dissertation: "Computational Fluid Dynamics Model of Heat Transfer in the Vicinity of Photovoltaic Panels."
Employed at the Oak Ridge National Laboratory (Scientist)
12. **Ty Hagan** (2021–2024)
Sponsor: TVA
Dissertation: "Thermal Cavitation Induced by Extreme Temperature Gradients."
Employed at the University of South Florida (Postdoctoral Researcher)
13. **Daniel T Cannon** (2020–2024)
Sponsor: NSF
Dissertation: "Understanding the Impact of Photovoltaic Solar Panels on the Near-Ground Atmosphere: A Pilot Study"
Employed at Tennessee Tech University (Postdoctoral Researcher)
14. **Reza Nouri** (2019–2023)
Dissertation: "The Need to Go Deeper: The Employment of Convolutional Neural Networks to Analyze Turbulent Flows Frequency Content,"
Employed at the University of Memphis (Postdoctoral Researcher)
15. **Doug Clark** (2018–2021)
Sponsor: ORNL
Dissertation: "Multiphysics-Modeling of Fire-Induced Uranium Aerosol Formation – A-Posteriori Benchmarking of Experiments,"
Employed at Oak Ridge National Laboratory (Scientist)

M.S. Theses Directed

16. **Warren Sims**, 2022–2024, “Design, Engineering, and Fabrication of a Weather Tower,” employed at Oak Ridge National Laboratory.
17. **Devin Roland**, 2022–2023, “Understanding the Impact of Humidity and Turbulence Intensity on the Direction and Intensity of an Infrared Beam,” employed at the University of South Florida (Ph.D. graduate assistant).
18. **Michael Hackler**, 2020–2021, “On the Effect of Reynolds Number and Structural Parameters on Vortex-Induced Vibrations of Circular Cylinders,” employed at Y-12 National Security Complex.
19. **Hollee Sadler**, 2020–2021, “Aerodynamics of a Damaged Wing,” employed at the University of Central Florida (Ph.D. graduate assistant).
20. **Cody Long**, 2018–2020, “Vortex-Induced Vibrations of Oscillating Bluff Bodies for Energy Storage/Conversion Applications,” employed at Y12 National Security Complex.
21. **Ryan R Nash**, 2018–2020, “Wind Farm Wake Control,” employed at Arnold Air Force Base.
22. **Madison Dittner**, 2018–2020, “Development of a Geometry Optimization Platform Using an In-House Developed Genetic Algorithm: Case of a Bladeless Wind Turbine,” employed at the U.S. Patent Office.

Service on Advisory Committees Other than Own Advisees

University of South Florida

23. Majid Torof, Ph.D. Student in Civil Engineering, Advisor: Jeff Cunningham

Tennessee Tech University

24. Miles Nevills, Ph.D. in Mechanical Engineering, Advisor: Ethan Languri
25. Christopher Johnson, Ph.D. in Electrical Engineering, Advisor: Dr. Charles Van Neste
26. Musayyibi Shuaibu, Ph.D. in Electrical Engineering, Advisor: Dr. Joseph Ojo
27. Sainand Jadhav, Ph.D. in Manufacturing, Advisor: Dr. DuckBong Kim
28. Jimmy Meacham, M.S. in Mechanical Engineering, Advisor: Dr. Rory Roberts
29. Trevor Kramer, Ph.D. in Mechanical Engineering, Advisor: Dr. Rory Roberts
30. Saiful Islam, Ph.D. in Manufacturing, Advisor: Dr. DuckBong Kim
31. Seyi Ayeni, Ph.D. in Chemical Engineering, Advisor: Dr. Holly Stretz
32. Saanyol Igbax, Ph.D. in Mechanical Engineering, Advisor: Dr. Steve Idem
33. Chaitanya Kodali, Ph.D. in Mechanical Engineering, Advisor: Dr. Steve Idem
34. Jason Cook, Ph.D. in Mechanical Engineering, Advisor: Dr. Ping Chen
35. Zhicheng Zhang, Ph.D. in Manufacturing, Advisor: Dr. Ismail Fidan
36. Mushrif Choudhury, Ph.D. in Mechanical Engineering, Advisor: Dr. Jie Cui
37. Mahdi Mohammadzade, Ph.D. in Manufacturing, Advisor: Dr. Ismail Fidan
38. Drew E. Winder, Ph.D. in Mechanical Engineering, Advisor: Dr. Sally Pardue
39. Tyler R. Qualls, M.S. in Mechanical Engineering, Advisor: Dr. Ping Chen
40. Joseph Staller, M.S. in Mechanical Engineering, Advisor: Dr. Steve Idem

41. Byron Harrington, M.S. in Mechanical Engineering, Advisor: Dr. Rory Roberts
42. Michael Tidwell, M.S. in Mechanical Engineering, Advisor: Dr. Van Neste

University of Rhode Island

43. Boma Kresning, Ph.D. in Ocean Engineering, Advisor: Dr. Reza Hashemi

Undergraduate Research Assistants

University of South Florida

1. Zachary Tephford (2026–present)
2. Kevin Ferrer Sanchez (2025–present)
3. Sara Arroyave (2025–2026)
4. Yoseph Keisi (2025–2026)
5. Dexter Limcangco (2025–2026). "Verifying TSR Optimization's Effectiveness on Wind Farm Energy Generation via Scaled Laboratory Experiments."
6. Mateo Acosta (2025). "A Literature Survey on Aerodynamics Concepts for Enhancing Hybrid-Electric Propulsion Systems Performance"
7. Benjamin Mannino (2025). "Simulating the drag coefficient of a low Earth orbit satellite using START-CCM."
8. Andrew Drysdale (2025). "Simulating the drag coefficient of a low Earth orbit satellite using ANSYS Fluent."
9. Natalie Geer (2024–2025). "Laboratory Experiments to Understand Hydrogen vs. Kerosene Contrails."
10. Isabella Ribaldo (2024). "Verifying TSR Optimization's Effectiveness on Wind Farm Energy Generation via Scaled Laboratory Experiments."
11. Ebert Brits (2024). "Setting up EULAG for simulating contrail effects."
12. Karam Shahrouri (2024–2025). "Solar Photovoltaic Losses."
13. Stephanie Lue (Spring 2025). "A Literature Survey on Aerodynamics Concepts for Enhancing Hybrid-Electric Propulsion Systems Performance."
14. Torge Bohlken (2024–2025) "Solar Photovoltaic Losses."
15. Chiara Deangelis (2024). "Developing an Educational Mobile Application: ATMOSPORT."

Tennessee Tech University

16. Ryan Medlin (2023 – 2024). "Condensation Trails of Hydrogen versus Kerosene: A Literature Review," currently employed by Westinghouse.
17. Spencer Meeks (2023 – 2024), "Condensation Trails of Hydrogen versus Kerosene: A Literature Review," currently employed by Oak Ridge National Lab.
18. Jordan Frerichs (2022–2023). "Contributing to the Design of a Vertical Traverse System."
19. Brian Hawkins (2021–2022). "Wind Tunnel Laboratory Maintenance."
20. Pierce Wooten (2021–2023). "Investigating the Impact of Turbulence and Humidity on Infrared Beam Power Transmission: A Literature Review," currently employed by Oak Ridge National Lab.
21. Luke Olson (2021–2023). "Designing and Fabricating a Wind Turbine Speed Controller," currently employed by Oak Ridge National Lab.
22. Koltar Houser (2021–2022). "Constructing a Steam Engine Setup for Investigating the First Law of

Thermodynamics," currently employed by Designed Conveyor Systems, LLC.

23. Nathaniel Lee (2022). "Wind Tunnel Traverse Maintenance and Collaborating with the GSET R&D Team."
24. Olivia Cline (2021). "Designing a Wind Turbine Speed Controller."
25. William McCarty (2020–2021). "Designing an Interface for Simultaneous Visualization of CFD Simulations Conducted on an HPC Cluster."
26. Wesley Upshur (2020–2021). "Harvesting Electricity from a Vehicle's Suspension System," currently employed by GE Aerospace.
27. Caleb Dunlap (2020–2021). "Harvesting Electricity from a Vehicle's Suspension System," currently a Ph.D. student at TN Tech.
28. Christophe Blair (2020–2021). "Harvesting Electricity from a Vehicle's Suspension System."
29. Ty Hagan (2020–2021). "Generating CAD Files and 3D Printing Essential Components for Various Projects," currently a Ph.D. student at TN Tech.
30. Henry Pace (2020). "Modeling Linear-to-Rotary Conversion Mechanism using ANSYS," currently a Ph.D. student at Georgia Tech.
31. Stephen Foltz (2020). "Engineering an Underwater Energy Storage System," currently employed by National Aerospace Solutions.
32. Adam Becklehimer (2020). "Developing an AI-based Signal Classifier using Python," currently employed by Fast Enterprises, LLC.
33. Andrew Davis (2019 – 2020). "Performing a Comprehensive Literature Review on the Aerodynamics of Damaged Wings," currently a graduate student at Colorado State University.
34. Logan Unser (2019 – 2020). "Scaling Wind Turbines for Wind Tunnel Testing," currently employed at QuEST Global.
35. Josh Nichols (2019 – 2020). "Aided in the Development of an Algorithm to Identify, Curve-fit, and Calculate Area under Peaks within Irregular Signals," employed at ProviderTrust.
36. John Stephenson (2018). "Contributed to the Fabrication of the Wind Tunnel's Traverse System."
37. Trenton Preston (2018). "Designing and Fabricating a Vortex Gun."
38. Yixing Wang (2021 – 2022). "Exploring the Aerodynamics of a Scaled Aircraft Under Damage Conditions," currently a graduate student at Tennessee Tech University.
39. Benjamin Cooper (2019 and 2021). "Wind Turbine Speed Control."

Special Achievements of Graduate Students

University of South Florida

Torge Bohlken	2026 Exceptional Eco-Friendly Paper/Poster Award, 9 th Cleaner Earth and Atmosphere Conference, Windsor, ON, Canada
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Tennessee Tech University

Michael Hackler	2023 Eminence Award for the M.Sc. Best Paper
Reza Nouri	2022 Best Mechanical Engineering Ph.D. Student Poster Award, Tennessee Tech's Research and Creative Inquiry Day

William McCarty	2021 Creative Inquiry Summer Experience (CISE) award, \$4,000
Reza Nouri	2021 Eminence Award for the Doctor of Philosophy Best Paper
Stephen Foltz	2020 Creative Inquiry Summer Experience (CISE) award, \$4,000
Logan Unser	2020 Creative Inquiry Summer Experience (CISE) award, \$4,000
Logan Unser	2019 Creative Inquiry Summer Experience (CISE) award, \$4,000
Trenton Preston	2018 Creative Inquiry Summer Experience (CISE) award, \$4,000

SERVICE

Guest Editor, Special Issues

"Advances in Photovoltaics," *Sustainable Energy Technologies and Assessments* (Elsevier), 2023

"Tomorrow Energy & Resources," *Sustainable Energy Technologies and Assessments* (Elsevier), 2021

"Future and Sustainability," *International Journal of Sustainable Energy* (Taylor & Francis), 2018 – 2020

"Further Integration and Advancement of Sustainability," *Sustainable Energy Technologies and Assessments* (Elsevier), 2018 – 2019

"Natural Resources and Energy Usage," *Sustainable Energy Technologies and Assessments* (Elsevier), 2017 – 2018

Editor, Conference Proceedings (Springer, AIP)

A Multi-pronged Approach to Bettering Tomorrow (with David S.-K. Ting), Springer Proceedings in Energy, 2026

Sustaining Tomorrow with Minimal Entropy Generation (with David S.-K. Ting), Springer Proceedings in Energy, 2025

Brightening Tomorrow Together (with David S.-K. Ting), Springer Proceedings in Energy, 2024

Engineering to Adapt (with David S.-K. Ting), Springer Proceedings in Energy, 2023

Responsible Engineering and Living (with David S.-K. Ting), Springer Proceedings in Energy, 2022

Mitigating Climate Change (with David S.-K. Ting), Springer Proceedings in Energy, 2022

Sustaining Tomorrow (with David S.-K. Ting), Springer Proceedings in Energy, 2021

Complementary Resources for Tomorrow (with David S.-K. Ting), Springer Proceedings in Energy, 2020

The Energy Mix for Sustaining Our Future: Selected Papers from Energy and Sustainability (with David S.-K. Ting), Springer Proceedings in Energy, 2018

Proceedings of the International Conference on Numerical Analysis and Applied Mathematics, AIP, 2017

Committees

National / State

Member, Fluid Dynamics Technical Committee, American Society of Thermal and Fluid Engineers (ASTFE), 2026–present

Member, Florida University Space Research Consortium, Working Group, 2025–present

University of South Florida (2024–present)

University-Level

Member, Graduate Council, 2025–present

College of Engineering

Member, Space Committee, 2026–present

Champion, Strategic Plan Development (Discovery Pillar), 2025–2026

Department of Mechanical and Aerospace Engineering

Chair, Aerospace Engineering Committee, 2024–present

Member, Undergraduate Laboratory Development Committee, 2026–

Chair, Tenure/Tenure-Track Faculty Search Committee, 2025–2026

Chair, Tenure/Tenure-Track Faculty Search Committee, 2024–2025

Member, Department Chair Search Committee, 2025–2026

Member, Faculty of Instruction Search Committee, 2024–2025

Tennessee Tech University (2017–2024)

Department of Mechanical Engineering

Member, Goals and Assessment Committee, 2021–2024

Member, Tenure/Tenure-Track Search Committee, 2021–2022

Member, Graduate Committee, 2018–2021

Member, Curriculum Committee, 2018

Member, Lecturer Search Committee, 2017–2018

College of Engineering

Member, Planning Committee, New Engineering Building Fluids Laboratory, 2020–2021

Outreach

University of South Florida (2024–present)

Camp Director, Week-long Aerospace Engineering Summer Camp, USF Youth Experiences (2026)

Organizer, Aerospace Engineering Booth, Engineering Expo (2025, 2026)

Organizer, Aerospace Engineering Booth, Bulls Family Fest (2026)

Speaker, Foundations of Engineering Course (Aerospace Engineering) (Fall 2025)

Speaker, Monthly Aerospace Information Sessions (2025–present)

Speaker, Admitted Student Events (Aerospace Engineering) (2025–present)

Participant, USF Open House Events (Fall 2024, Fall 2025)

Tennessee Tech University (2017–2023)

Organizer, Explorations in Engineering and Computing Camp (Mechanical Engineering) (2023)

R&D Team Leader, Governor's School for Emerging Technologies (Wind Energy) (2023)
Co-Organizer, Explorations in Engineering and Computing Camp (Mechanical Engineering) (2022)
R&D Team Leader, Governor's School for Emerging Technologies (Wind Energy), 2022
Co-Organizer, Explorations in Engineering and Computing Camp (Mechanical Engineering) (2021)
Speaker, Governor's School for Emerging Technologies (Wind Energy) (2020)
Participant, Explorations in Engineering and Computing Camp (2020)
Speaker, Governor's School for Emerging Technologies (2018)
Participant, University Open House Events: Wind Tunnel Lab Demonstrations (2017–2023)

University of Windsor, Canada (2011–2015)

Communication Chair, Natural Gas and Hydrogen Storage Symposium (2015)
Logistics Coordinator, Offshore Energy and Storage Symposium (2014)
Logistics Coordinator, Canadian Science Writers Association Annual Conference (2014)

Reviewer

National Science Foundation

Panelist, Thermal Transport Processes Program (x2)
Ad Hoc Reviewer, Thermal Transport Processes Program (x1)
Ad Hoc Reviewer, Environmental Sustainability Program (x1)
Panelist, Fluid Dynamics Program (x2)
Ad Hoc Reviewer, Fluid Dynamics Program (x1)
Panelist, Major Research Instrumentation (MRI) (x1)

Conferences

Technical Program Chair, Cleaner Earth and Atmosphere Conference, 2018–present
Session Chair, 9th American Society of Thermal and Fluids Engineers Conference, OR, USA, 2024
Session Chair, AIAA Aviation Forum, Las Vegas, NV, 2024
Symposium organizer, International Conference of Numerical Analysis and Applied Mathematics, Thessaloniki, Greece, 2017
Session Chair, Natural Gas and Hydrogen Storage, Windsor, Canada, 2015

Journals

Journal of Testing and Evaluation (x1)
Wind Energy Science (x2)
Atmosphere (x1)
Applied Energy (x10)
Sustainable Energy Technologies and Assessments (x10)
Energy Conversion and Management (x10)

Fluid Dynamics Research (x1)

Energies (x5)

International Journal of Numerical Methods for Heat & Fluid Flow (x1)

AIMS Energy (x1)

International Journal of Engineering and Technology Innovation (x1)

Journal of Energy Resources Technology (Transactions of the ASME) (x1)

International Journal of Energy Research (x1)

Judge

Tennessee's FIRST LEGO League Tournament, 2022

Tennessee Tech University's Research and Creative Inquiry Day, 2022

Tennessee Tech University's Research and Creative Inquiry Day, 2018