Cosan (Joe-Sean) Daskiran, PhD

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APPOINTMENTS

Assistant Professor of Mechanical Engineering — *Fall 2022 - Present*
Binghamton University

Postdoctoral Research Associate — *2018-2022*
New Jersey Institute of Technology (NJIT)

EDUCATION

Lehigh University — *Bethlehem, PA*
Ph.D. in Mechanical Engineering — *2016 - 2018*
Dissertation title: Large-eddy simulations of ventilated micro-hydrokinetic turbine and pump-turbines

Lehigh University — *Bethlehem, PA*
M.S. in Mechanical Engineering — *2014 - 2016*
Thesis title: Steady-State and Transient Computational Study of Multiple Hydrokinetic Turbines

Istanbul Technical University — *Istanbul, Turkey*
B.S. in Mechanical Engineering — *2008 - 2012*
Thesis title: Hand-Pumped Auto-Discharged Exhibit Design

RESEARCH INTERESTS

Experiments and computational fluid dynamics (CFD) simulations of multiphase flows, mass/heat transport phenomena, turbulent flows, unsteady swirling and shearing flows, flows in a porous medium, free-surface flows, and jet flow.

PATENTS

- **Daskiran, C.** and Usta, M., 2024. Off-Grid Tidal Turbine-Driven Centrifugal Reverse Osmosis System, And Applications Thereof. U.S. Patent Application No. 18/900,088, filed April 3, 2025.

PEER-REVIEWED JOURNAL PUBLICATIONS

- Prince, H.A., Usta, M. and **Daskiran, C**., 2025. Energy-Efficient Multi-Stage Reverse Osmosis Modules: A Viable Competitor to Centrifugal Reverse Osmosis?. ***Desalination, 119035***.
- Prince, H.A., Usta, M. and **Daskiran, C**., 2025. Centrifugal reverse osmosis: A novel energy-efficient desalination approach with mass transfer-controlled analysis. ***Separation and Purification Technology*** **(In Review)**.
- Turkyilmaz, A., Prince, H.A., Usta, M., Banerjee, A. and **Daskiran, C**., 2025. Impact of a Downstream Cylinder on Tidal Turbine Performance and Wake Recovery. ***Renewable Energy*** **(In Review)**.
- Liu, R., **Daskiran, C.**, Ji, W., Abou Khalil, C., Li, J., Dhulia, A., Boufadel, M., Gupta, S., Katz, J.,

Zhang, B., Lee, K. The behavior of weathered and/or photo-oxidized crude oil with/without application of dispersant under breaking wave conditions. ***Chemical Engineering Journal*** **(In Review).**

- Liu, R., **Daskiran, C.**, Mukherjee, A., Xin, Q., Cui, F., Marras, S., Farooqi, H., Dettman, H. and Boufadel, M., 2023. Characterization and modelling of water mixing energies and particle behavior during wave generation in CanmetENERGY Devon spill test tank. ***Ocean Engineering***, *278*, p.114237.
- **Daskiran, C.,** Cui, F., Boufadel, M. C., Liu, R., Zhao, L., Ozgokmen, T., Socolofsky, S. A. and Lee, K., 2022. Computational and experimental study of an oil jet in crossflow: Coupling population balance model with multifluid large eddy simulation. ***Journal of Fluid Mechanics,*** *932*, A15. doi:10.1017/jfm.2021.1002
- **Daskiran, C.**, Liu, R., Lee, K., Katz, J. and Boufadel, M.C., 2022. Estimation of overall droplet size distribution from a local droplet size distribution for a jet in crossflow: Experiment and multiphase large eddy simulations. ***International Journal of Multiphase Flow***, *156,* p.104205.
- **Daskiran, C**., Xue, X., Cui, F., Katz, J. and Boufadel, M. C., 2022. Impact of a jet orifice on the hydrodynamics and the oil droplet size distribution. ***International Journal of Multiphase Flow,*** *147,* p.103921.
- Zhao, L., **Daskiran, C.**, Mitchell, D., Panetta, P., Boufadel, M. and Nedwed, T., 2022. Proof of concept study for in-situ burn application using conventional containment booms – Design of Burning Tongue. *Journal of Hazardous Materials*, *439*, p.129403.
- Ji, W., Khalil, C. A., Boufadel, M. C., Coelho, G., ***Daskiran, C.***, Robinson, B., King, T., Lee, K. and Galus, M., 2022. Impact of mixing and resting times on the droplet size distribution and the petroleum hydrocarbons' concentration in diluted bitumen-based water-accommodated fractions (WAFs). ***Chemosphere,*** *296,* p.133807.
- **Daskiran, C**., Xue, X., Cui, F., Katz, J. and Boufadel, M.C., 2021. Large eddy simulation and experiment of shear breakup in liquid-liquid jet: Formation of ligaments and droplets. ***International Journal of Heat and Fluid Flow***, *89*, p.108810.
- **Daskiran, C.,** Cui, F., Boufadel, M.C., Socolofsky, S.A., Katz, J., Zhao, L., Ozgokmen, T., Robinson, B. and King, T., 2021. Transport of oil droplets from a jet in crossflow: Dispersion coefficients and Vortex trapping. ***Ocean Modelling***, *158*, p.101736.
- Liu, R., **Daskiran, C.,** Cui, F., Ji, F., Zhao, L., Robinson, B., King, B., Lee, K. and Boufadel, M.C., 2021. Experimental investigation of oil droplet size distribution in underwater oil and oil-air jet. ***Marine Technology Society Journal****, 55(5),* pp.196-209.
- Cui, F., **Daskiran, C.**, Lee, K. and Boufadel, M.C., 2021. Transport and Formation of OPAs in Rivers. ***Journal of Environmental Engineering***, *147*(5), p.04021012.
- **Daskiran, C.**, Cui, F., Boufadel, M.C., Zhao, L., Socolofsky, S.A., Ozgokmen, T., Robinson, B. and King, T., 2020. Hydrodynamics and dilution of an oil jet in crossflow: The role of small-scale motions from laboratory experiment and large eddy simulations. ***International Journal of Heat and Fluid Flow***, *85*, p.108634.
- **Daskiran, C.**, Ji, W., Zhao, L., Lee, K., Coelho, G., Nedwed, T.J. and Boufadel, M.C., 2020. Hydrodynamics and Mixing Characteristics in Different-Size Aspirator Bottles for Water-Accommodated Fraction Tests. ***Journal of Environmental Engineering***, *146*(3), p.04019119.
- Cui, F., **Daskiran, C.**, King, T., Robinson, B., Lee, K., Katz, J. and Boufadel, M.C., 2020. Modeling oil dispersion under breaking waves. Part I: wave hydrodynamics. ***Environmental Fluid Mechanics***, *20*(6), pp.1527-1551.
- Cui, F., Zhao, L., **Daskiran, C.**, King, T., Lee, K., Katz, J. and Boufadel, M.C., 2020. Modeling oil dispersion under breaking waves. Part II: Coupling Lagrangian particle tracking with population balance model. ***Environmental Fluid Mechanics***, *20*(6), pp.1553-1578.
- Boufadel, M.C., Socolofsky, S., Katz, J., Yang, D., **Daskiran, C.** and Dewar, W., 2020. A review on multiphase underwater jets and plumes: Droplets, hydrodynamics, and chemistry. ***Reviews of Geophysics*****,** *58*(3),

p.e2020RG000703.

- **Daskiran, C.**, Attiya, B., Altimemy, M., Liu, I.H. and Oztekin, A., 2019. Oxygen dissolution via pump-turbine–Application to wastewater treatment. ***International Journal of Heat and Mass Transfer***, *131*, pp.1052-1063.
- Attiya, B., Altimemy, M., Caspar, J., **Daskiran, C.,** Liu, I.H. and Oztekin, A., 2019. Large eddy simulations of multiphase flows past a finite plate near a free surface. ***Ocean Engineering*****,** *188*, p.106342.
- Altimemy, M., Attiya, B., **Daskiran, C.**, Liu, I.H. and Oztekin, A., 2019. Mitigation of flow-induced pressure fluctuations in a Francis turbine operating at the design and partial load regimes—LES simulations. ***International Journal of Heat and Fluid Flow***, *79*, p.108444.
- Attiya, B., Liu, I.H., Altimemy, M., **Daskiran, C.** and Oztekin, A., 2019. Vortex identification in turbulent flows past plates using the Lagrangian method. ***Canadian Journal of Physics***, *97*(8), pp.895-910.
- **Daskiran, C.**, Riglin, J., Schleicher, W.C. and Oztekin, A., 2018. Computational study of aeration for wastewater treatment via ventilated pump-turbine. ***International Journal of Heat and Fluid Flow***, *69*, pp.43-54.
- **Daskiran, C.**, Attiya, B., Riglin, J. and Oztekin, A., 2018. Large eddy simulations of ventilated micro hydrokinetic turbine at design and off-design operating conditions. ***Ocean Engineering***, *169*, pp.1-18.
- **Daskiran, C.**, Riglin, J., Schleicher, W. and Oztekin, A., 2017. Transient analysis of micro-hydrokinetic turbines for river applications. ***Ocean Engineering***, *129*, pp.291-300.
- **Daskiran, C.**, Liu, I.H. and Oztekin, A., 2017. Computational study of multiphase flows over ventilated translating blades. ***International Journal of Heat and Mass Transfer***, *110*, pp.262-275.
- Riglin, J., Carter III, F., Oblas, N., Schleicher, W.C., **Daskiran, C.** and Oztekin, A., 2016. Experimental and numerical characterization of a full-scale portable hydrokinetic turbine prototype for river applications. ***Renewable Energy***, *99*, pp.772-783.
- Riglin, J., **Daskiran, C.**, Jonas, J., Schleicher, W.C. and Oztekin, A., 2016. Hydrokinetic turbine array characteristics for river applications and spatially restricted flows. ***Renewable energy***, *97*, pp.274-283.

CONFERENCE PROCEEDINGS, PRESENTATIONS, AND POSTERS (*the presenter is shown in italic*)

- *Prince, H.A.,* Usta, M., **Daskiran, C.**, 2025. Water Desalination via Centrifugal Reverse Osmosis: Thermodynamic Equilibrium and Mass Transfer-Controlled Methods. American Society of Thermal and Fluids Engineers (ASTFE), Washington, DC.
- *Turkyilmaz, A.,* Prince, H.A., Usta, M., Banerjee, A. and **Daskiran, C.,** 2025. Shape Optimization of a Cylindrical Centrifugal Reverse Osmosis Module within a Turbine Wake. American Society of Thermal and Fluids Engineers (ASTFE), Washington, DC.
- *Baker M.,* Turkyilmaz, A., Prince, H.A., and **Daskiran, C.,** 2025. Evaluating Turbulence Models for the Actuator Disk Approach at Optimal Turbine Efficiency. American Society of Thermal and Fluids Engineers (ASTFE), Washington, DC.
- *Samgar, M.*, Daskiran, C., Usta, M., 2025. Characterizing flow and mass transfer dynamics in annular flow between two rotating permeable discs. American Society of Thermal and Fluids Engineers (ASTFE), Washington, DC.
- *Prince, H.A.*, Turkyilmaz, A., Usta, M. and **Daskiran, C.,** 2024. Evaluation of Drinkable Water Permeation through the Membrane of a Centrifugal Reverse Osmosis Module. Bulletin of the American Physical Society, Division of Fluid Dynamics Meeting, Salt Lake City, UT.
- *Turkyilmaz, A.,* Prince, H.A., Usta, M., Banerjee, A. and **Daskiran, C.,** 2024. Impact of Downstream

Centrifugal Reverse Osmosis Module on Tidal Turbine Performance. Bulletin of the American Physical Society, Division of Fluid Dynamics Meeting, Salt Lake City, UT.

- *Samgar, M.,* **Daskiran, C.**, Usta, M., 2024. Characterizing flow and pressure dynamics of annulus flow between two rotating permeable discs. Bulletin of the American Physical Society, Division of Fluid Dynamics Meeting, Salt Lake City, UT.

- *Mirchin, B., Baker, M., Vecchio, J., Renauld, E., Penny-Kosser, C.* and **Daskiran, C.,** 2024. Drag Reduction System for Binghamton Motorsports Electric Formula 1 Car. Research Days at Binghamton University (Poster).

- *Liu, R.,* Gupta, S., **Daskiran, C.**, Muriel, D., Katz, J. and Boufadel, M. C., 2024. Experiments of oil jets in churn flow without and with dispersant: Measurements of hydrodynamics and the oil droplet size distribution. International Oil Spill Conference (IOSC) Proceedings (Poster).

- *Prince, H.A.,* Turkyilmaz, A., Usta, M. and **Daskiran, C.**, 2024. Design and Development of Centrifugal Reverse Osmosis Module: A Device that uses Ocean Tidal Energy for Sustainable Desalination. ME Graduate Student Symposium at Binghamton University (Poster).

- *Turkyilmaz, A.,* Prince, H.A., Usta, M. and **Daskiran, C.**, 2024. Large Eddy Simulations of Tidal Turbine: Turbulence Resolution Analysis. ME Graduate Student Symposium at Binghamton University (Poster).

- Prince, H.A., Turkyilmaz, A., **Daskiran, C.**, *Usta, M.* and Banerjee, A., 2024. Hydrodynamic Effects on Tidal Turbine Performance in Proximity to a Downstream Centrifugal Reverse Osmosis Module. American Society of Thermal and Fluids Engineers (ASTFE), Corvallis, OR.

- *Prince, H.A.*, Turkyilmaz, A., **Daskiran, C.**, Usta, M. and Banerjee, A., 2023. Near-Wake Interaction of a Tidal Turbine with an Integrated Downstream Centrifugal Reverse Osmosis Module. Bulletin of the American Physical Society, Division of Fluid Dynamics Meeting, Washington, DC.

- *Esses, D., Gilbert, M., Grabowski, L., McGowan, W*. and **Daskiran, C.,** 2023. Designing a Rear Wing for Binghamton's Formula EV Car: From Small-Scale Simulations and Experiments to Full-Scale Manufacturing. Research Days at Binghamton University (Poster).

- *Prince, H.A.* and **Daskiran, C.**, 2023. Innovation for Sustainable Desalination: A Centrifugal Reverse Osmosis System driven by Off-Grid Tidal Turbine. ME Graduate Student Symposium at Binghamton University (Poster).

- ***Daskiran, C.,*** Xue, X., Cui, F., Katz, J. and Boufadel, M. C., 2022. Experiments and large eddy simulations of shear breakup: Impact of a jet orifice on the oil droplet size. International Oil Spill Science Conference (IOSCC). Halifax, Canada.

- ***Daskiran, C.,*** Cui, F., Zhao, L., Liu, R., Ozgokmen, T., Socolofsky, S. A., Robinson, B., King, T., Lee, K. and Boufadel, M. C., 2022. Oil jet in crossflow: Coupling population balance model with large eddy simulation. International Oil Spill Science Conference (IOSCC). Halifax, Canada.

- Alameda, J., Stirm, C., …, **Daskiran, C.** et al., 2022. The Delta Gateway: Exploring Community Use of GPU Resources through a Science Gateway. Gateways 2022 Proceedings.

- *Cui, F.,* **Daskiran, C.**, Zhao, L., Boufadel, M. C., Robinson B., King, T. and Lee, K., 2021. Oil droplets dispersion under a deep-water plunging breaker: Experimental measurements and numerical modeling. International Oil Spill Conference (IOSC) Proceedings.

- ***Daskiran, C.,*** Cui, F., Zhao, L., Socolofsky, S. A., Lee, K. and Boufadel, M. C., 2021. Experimental and computational study of oil jet in crossflow. International Oil Spill Conference (IOSC) Proceedings.

- ***Daskiran, C.,*** Ji, W., Behzad, H., Zhao, L., Lee, K., Coelho, G., Nedwed, T. J. and Boufadel, M.C., 2021. Hydrodynamics and Mixing Characteristics in Different Size Aspirator Bottles for the Water Accommodated

Fraction (WAF) Tests. International Oil Spill Conference (IOSC) Proceedings (Poster).

- Attiya, B., Altimemy, M., **Daskiran, C.**, Liu, I.H. and Oztekin, A., 2019, November. Micro-Hydrokinetic Turbine Operating in the Vicinity of a Free Surface: Multiphase Large Eddy Simulations. In *ASME International Mechanical Engineering Congress and Exposition* (Vol. 59445, p. V007T08A040). American Society of Mechanical Engineers.
- Altimemy, M., Attiya, B., **Daskiran, C.**, Liu, I.H. and Oztekin, A., 2019, July. Stabilizing Pump-Turbine Operations Using Water Injection Passive Control. In *Fluids Engineering Division Summer Meeting* (Vol. 59056, p. V03BT03A010). American Society of Mechanical Engineers.
- Altimemy, M., Attiya, B., **Daskiran, C.**, Liu, I.H. and Oztekin, A., 2019, July. Mitigation of Flow-Induced Pressure Fluctuations in a Francis Turbine Using Water Injection. In *Fluids Engineering Division Summer Meeting* (Vol. 59056, p. V03BT03A062). American Society of Mechanical Engineers.
- **Daskiran, C.**, *Attiya, B.,* Altimemy, M., Liu, I.H. and Oztekin, A., 2018, November. Large Eddy Simulation of Ventilated Pump-Turbine for Wastewater Treatment. In *ASME International Mechanical Engineering Congress and Exposition* (Vol. 52101, p. V007T09A006). American Society of Mechanical Engineers.
- *Attiya, B.*, Liu, I.H., Altimemy, M., **Daskiran, C.** and Oztekin, A., 2018, November. Investigation of Three-Dimensional Lagrangian Coherent Structures in Flow Past Single and Arrays of Plate: Linear Energy Harvesting Applications. In *ASME International Mechanical Engineering Congress and Exposition* (Vol. 52101, p. V007T09A069). American Society of Mechanical Engineers.
- Altimemy, M., **Daskiran, C.**, Attiya, B., Liu, I.H. and Oztekin, A., 2018, November. Pressure fluctuation mitigation in a Francis turbine with water injection: Computational study. In *ASME International Mechanical Engineering Congress and Exposition* (Vol. 52101, p. V007T09A047). American Society of Mechanical Engineers.
- ***Daskiran, C.***, Attiya, B., Liu, I.H., Riglin, J. and Oztekin, A., 2017, November. Large Eddy Simulations of Ventilated Micro Hydrokinetic Turbine. In *ASME International Mechanical Engineering Congress and Exposition* (Vol. 58424, p. V007T09A003). American Society of Mechanical Engineers.
- Attiya, B., Liu, I.H., ***Daskiran, C.***, Riglin, J. and Oztekin, A., 2017, November. Computational Fluid Dynamics Simulations in Flow Past Arrays of Finite Plate: Marine Current Energy Harvesting Applications. In *ASME International Mechanical Engineering Congress and Exposition* (Vol. 58424, p. V007T09A064). American Society of Mechanical Engineers.
- **Daskiran, C.**, *Riglin, J.* and Oztekin, A., 2016, November. Numerical analysis of blockage ratio effect on a portable hydrokinetic turbine. In *ASME International Mechanical Engineering Congress and Exposition* (Vol. 50619, p. V007T09A064). American Society of Mechanical Engineers.
- ***Daskiran, C.***, Riglin, J. and Oztekin, A., 2015, November. Computational study of multiple hydrokinetic turbines: the effect of wake. In *ASME International Mechanical Engineering Congress and Exposition* (Vol. 57465, p. V07AT09A021). American Society of Mechanical Engineers.
- Riglin, J., ***Daskiran, C.***, Oblas, N., Schleicher, W.C. and Oztekin, A., 2015, November. Design and Characteristics of the Micro-Hydrokinetic Turbine System. In *ASME International Mechanical Engineering Congress and Exposition* (Vol. 57434, p. V06AT07A053). American Society of Mechanical Engineers.
- ***Daskiran, C.,*** Cui, F., Socolofsky, S. A., Katz, J., Lee, K. and Boufadel, M. C., 2020. Investigation of Turbulent Mixing and Primary Breakup for Turbulent Oil Jets. Gulf of Mexico Oil Spill & Ecosystem Science Conference (GoMOSES), Tampa, FL (Presentation).
- Gao, F., ***Daskiran, C.,*** Ji, W., Zhao, L., Cui, F., Ozgokmen, T., Lee, K. and Boufadel, M.C., 2019. Experimental and Numerical Characterization of Multiphase Flow from Underwater Blowout: A Combined Particle Imaging Velocimetry and Computational Fluid Dynamics Approach. Gulf of Mexico Oil Spill & Ecosystem Science

Conference (GoMOSES), Tampa, FL (Presentation).

- *Ji, W.,* **Daskiran, C.**, Zhao, L., Lee, K., Coelho, G., Nedwed, T. J. and Boufadel, M.C., 2019. Hydrodynamics and Mixing Characteristics in Different Size Aspirator Bottles for the Water Accommodated Fraction (WAF) Tests. Gulf of Mexico Oil Spill & Ecosystem Science Conference (GoMOSES), Tampa, FL (Poster).

INVITED SEMINARS/TALKS

- *Cleveland State University,* Department of Mechanical Engineering, Cleveland, OH, September 2023.
- *NSF S-STEM Smart Energy Scholarship at Binghamton University,* Binghamton, NY, November 2022.
- *Washington State University Vancouver,* Department of Mechanical Engineering, Vancouver, WA, March 2022.
- *Binghamton University,* Department of Mechanical Engineering, Binghamton, NY, May 2022.
- *Fluids ECR Forum by University of Leeds*, Leeds, England (Virtual talk), May 2022.

TEACHING

Mechanical Engineering Department, Binghamton University

ME 351 – Fluid Mechanics (Spring 2024, Spring 2025)

ME 550 – Introduction to Fluid Dynamics (Fall 2022, Fall 2023, Fall 2024)

ME 541 – Computational Fluid Dynamics (Spring 2023, Spring 2025)

ME 498 – Senior Project I lab (Fall 2022, Fall 2023, Fall 2024)

ME 499 – Senior Project II lab (Spring 2023, Spring 2024, Spring 2025)

Mechanical Engineering Department, Lehigh University

Teaching Assistant for:

MECH 312 – Finite Element Analysis

ME 104 – Thermodynamics I

ME 413 – Numerical Methods in Mechanical Engineering (Graduate class)

GRANTS

- PI for the proposal awarded by the Water Power Technologies Office (WPTO) under the Department of Energy (DOE). **The project officially started on March 1st, 2024.**

  Project Title: Off-grid tidal turbine-driven centrifugal reverse osmosis system
  Project Duration: 03/01/2024 – 02/28/2027. There are two budget periods (BP). The BP1 is two years and BP2 is one year.
  Award Number: DE-EE0010984
  Total Award Amount: **$607,819 Fed (no cost share)**

- Co-PI for the project funded by the Advanced Manufacturing Office under DOE that is led by Dr. Jingzhou (Frank) Zhao and transferred to Binghamton University from Western New England University.

  Project Title: Machine Learning Accelerated Process Development for Scalable Manufacturing of Silica-based Glass Encapsulated Phase Change Materials Using Flow Mold Casting
  Project Duration: 06/01/2020 - 05/31/2022 with No-cost extension (NCE) to 6/30/2025. There are two BPs. We have not passed the Go/No-Go of BP1 yet, which is expected to happen by 6/30/2025.
  Award Number: DE-EE0009095
  Total Award Amount: $710,535 ($498,159 Fed + $212,376 cost share)

- PI and Co-PI for the proposals submitted for the ACCESS Allocations on high-performance supercomputers. The ACCESS (formerly XSEDE) is supported by the National Science Foundation (NSF). Annual proposals have been submitted since 2019 and all have been approved. We are currently using these clusters with my role as a PI.

- Student Employment Grant Funding from the Fleishman Center for Career and Professional Development at Binghamton University.

  Project Title: Innovative Solution for Water Scarcity: Centrifugal Reverse Osmosis
  Project Duration: 2024-2025 Academic Year
  Total Award Amount: $2,745.00 (to support an undergraduate student, Mr. Deron Boniface, for 6 hrs/week during Fall 2024 and Spring 2025).

- EXCEED Inclusive Innovation Internship by The Office of Entrepreneurship and Innovation Partnerships at BU funded by the NSF's Accelerating Research Translation (ART) grant for underrepresented students in STEM translational research.

  Project Title: Innovative Solution Water Scarcity: Integrated Tidal Turbine and Centrifugal Reverse Osmosis Module
  Project Duration: Spring 2025 (12 weeks)

Total Award Amount: $2,400.00 (to support an undergraduate student, Mr. Robel Kebede, for 10 hrs/week during Spring 2025).

- **Submitted** a proposal to the Petroleum Research Foundation (ACS-PRF) in March 2025; a funding decision is expected in October 2025.

  Proposal Title: Turbulence Generation and Size Distribution of Small Dispersed Bubbles in the Wake of a Taylor Bubble
  Duration: 2 years
  Proposal Budget: $110,000.

SERVICES

Proposal Reviewer

- NSF Panel Reviewer for the Fluid Dynamics program in 2025.
- Reviewed five proposals as part of the University at Albany's biweekly Proposal Writing Course, held from September 2022 to April 2023.

Session Chair

- American Physical Society – Division of Fluid Dynamics (APS-DFD), *Energy: Water Power III* session, November 20, 2023.

Journal Reviewer

Scientific Reports, Renewable Energy, Ocean Engineering, International Journal of Multiphase Flow, Energy, Chemical Engineering Science, Environmental Fluid Mechanics, Energy Science and Engineering, Water, Energies, Journal of Environmental Engineering.

Committee member (Watson College, Binghamton University)

- Communications and Marketing (C&M) Committee: Fall 2024, Spring 2025.

Committee member (Department of Mechanical Engineering, Binghamton University)

- Undergraduate Studies Committee: Fall 2022, Spring 2023.
- Graduate Studies Committee: Fall 2023-2024, Spring 2024-2025.
- Seminar and Awards Committee: Fall 2022-2023-2024, Spring 2023-2024-2025.

STUDENT SUPERVISION

- **Graduate student advisor**
  - Hasib Prince, **Advisor: Dr. Daskiran**, Ph.D. student, Mechanical Engineering, Binghamton University, Spring 2023 – Present.
  - Alperen Turkyilmaz, **Advisor: Dr. Daskiran**, Ph.D. student, Mechanical Engineering, Binghamton University, Fall 2023 – Present.
  - Mohammad Hosseini, Advisor: Dr. Jingzhou Zhao, **Co-Advisor: Dr. Daskiran**, Ph.D. student, Mechanical Engineering, Binghamton University, Fall 2023 – Present.
  - Jiaqi Yang, Advisor: Dehao Liu, **Co-Advisor: Dr. Daskiran**, Ph.D. student, Mechanical Engineering, Binghamton University, Fall 2023 – Present.
  - Matthew Baker, **Advisor: Dr. Daskiran**, Master's 4+1 student, Mechanical Engineering, Binghamton University, Summer 2024 – Spring 2025.
  - Charles Simonsen, **Advisor: Dr. Daskiran**, Master's 4+1 student, Mechanical Engineering, Binghamton University, Spring 2025 – Present.

- **PhD Dissertation and Master Thesis Committee member**

  PhD students:
  - Emma Pawliczak, Mechanical Engineering, Advisor: P. Chiarot
  - Jiaqi Yang, Mechanical Engineering, Advisor: Dehao Liu
  - Katherine O'Keeffe, Mechanical Engineering, Advisor: P. Huang
  - Bojian Qu, , Mechanical Engineering, Advisor: Jifu Tan

  Master students: Mohamed Khalil Elhachimi, Mechanical Engineering, Advisor: M. J. Razavi

- **Undergraduate student research advisor**
  - Kevin Polanco, Junior student, Mechanical Engineering, Binghamton University, 7-week program (30 hours per week) during Summer 2024.
  - Samuel Estroff-Liberti, Sophomore student, Mechanical Engineering, Binghamton University, monthly meetings during Spring 2024.
  - Deron Boniface, Sophomore student, Mechanical Engineering, Binghamton University, Fall 2024 and Spring 2025 (6 hrs per week).
  - Robel Kebede, Senior student, Mechanical Engineering, Binghamton University, 12-week program (10 hrs per week) during Spring 2025.
- **Senior design faculty advisor**
  - "Pedal Powered Water Filtration System" (Thomas Britt, Tucker Carney, Cody Edwards, Evan Kirkpatrick, Charles Simonsen), 2024/2025.
  - "Rear wing design for Binghamton Formula SAE car with a drag reduction system (DRS)" (Brian Mirchin, Evan Renauld, Matthew Baker, Jake Vecchio, Caleb Penny-Kosser), 2023/2024.
  - "Rear wing design for Binghamton Formula SAE car" (David Esses, Mason Gilbert, Lucas Grabowski, William McGowan), 2022/2023.

- **Sophomore and Junior Advising**
  - Sophomore Advising in Fall 2022 for four students.
  - Junior Advising in Spring 2023 for four students.
  - Sophomore Advising in Fall 2023 for eight students.
  - Junior Advising in Spring 2024 for five students.
  - Sophomore Advising in Fall 2024 for nine students.
  - Junior Advising in Spring 2023 for eight students.

AWARDS & CERTIFICATE

2024 – Presidential Discretionary Award (salary increase) due to outstanding performance, Binghamton University, NY.

2024 – Certificate of Participation in the Dispersed Multiphase Flow Fundamentals online workshop by Prof. S. Balachandar, University of Florida, FL (coordinated by IIT Madras).

2021 – The International Oil Spill Conference (IOSC) Scholarship.

2018 – J. David A Walker and M. Elizabeth Walker Fellowship, Lehigh University, PA (declined due to graduation).

2018 – Certificate of Achievement, U.S. Department of Energy's Industrial Assessment Center Program at Lehigh University, PA.

2017 – Ph.D. Fellowship, Lehigh University, PA.

2014 – Certificate of Participation in the Teacher Development Program, Lehigh University, PA.