

Yong Hoon Lee, Ph.D.

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Assistant Professor
Department of Mechanical Engineering
The University of Memphis

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EDUCATION

- **Ph.D.** Mechanical Engineering Aug 10, 2020
University of Illinois at Urbana-Champaign, Urbana, IL, USA
Dissertation: “Methods for the integrated design of viscoelastic materials and structural geometry”
Advisors: Dr. James T. Allison and Dr. Randy H. Ewoldt
- **M.S.** Mechanical Engineering Aug 20, 2010
Ajou University, Suwon, South Korea
Thesis: “A study on the application of Navier-Stokes equations to the unstructured grid system”
Advisor: Dr. Yun-Ho Choi
- **B.S.** Mechanical Engineering Aug 21, 2008
Ajou University, Suwon, South Korea
Top Graduate in the College of Engineering

PROFESSIONAL APPOINTMENTS AND EXPERIENCES

- **Assistant Professor** Dept. of Mechanical Engineering Aug 15, 2022 – present
The University of Memphis, Memphis, TN
- **Postdoctoral Research Associate** Engineering System Design Laboratory Jul 27, 2020 – Aug 14, 2022
Research Assistant Engineering System Design Laboratory Aug 16, 2015 – Jul 20, 2020
Teaching Assistant Dept. of Industrial and Enterprise Systems Engineering Aug 16, 2019 – Dec 31, 2019
Teaching Assistant Dept. of Mechanical Science and Engineering Jan 1, 2019 – May 15, 2019
University of Illinois at Urbana-Champaign, Urbana, IL
- **Instructor** Dept. of Mechanical and Automotive Engineering Mar 11, 2014 – Jun 29, 2014
Masan University, Changwon, South Korea
- **CAE/CFD Research Engineer** Nuclear Energy Division Jun 28, 2010 – Aug 26, 2013
Korea Nuclear Engineering and Services Corp., Seoul, South Korea
- **Research Assistant** Computational Fluid Dynamics Laboratory Sep 1, 2008 – Aug 20, 2010
Teaching Assistant Dept. of Mechanical Engineering Sep 1, 2008 – Aug 20, 2010
Ajou University, Suwon, South Korea
- **Student Researcher** Thermal Hydraulic Safety Research Division Sep 1, 2008 – Sep 1, 2009
Korea Atomic Energy Research Institute, Daejeon, South Korea

HONORS

- **Outstanding Lecture Award** Jan 21, 2023
“Enabling Design of Floating Offshore Wind Energy Systems” *Ygnite 2023*, Jan 2023.
Korean-American Scientists and Engineers Association, Vienna, VA
- **Mavis Future Faculty Fellows Academy: Mavis Fellow** Aug 2019 – May 2020
Grainger College of Engineering, University of Illinois at Urbana-Champaign, Urbana, IL
- **List of Teachers Ranked as Excellent by their Students** Dec 2019
University of Illinois at Urbana-Champaign, Urbana, IL

- **2017 Journal of Mechanical Design Editor’s Choice Award: Honorable Mention** Oct 18, 2018
Announced in DOI:10.1115/1.4041528
Yong Hoon Lee et al., *J. Mech. Design*, 139(5):053401, May 2017. DOI:10.1115/1.4036133
American Society of Mechanical Engineers (ASME)
- **2009 ATES Paper Contest for ANSYS Fluent Academic Users: Finalist Award** Aug 18, 2009
Yong Hoon Lee et al., In *ATES Paper Contest for ANSYS Fluent Academic Users*
Advanced Technology Engineering Service (ATES)

PUBLICATIONS

REFEREED JOURNAL ARTICLES










(✉ : corresponding author)

6. Athul K. Sundarrajan, Yong Hoon Lee, James T. Allison, Daniel S. Zalkind, Daniel R. Herber, “Open-loop control co-design of semisubmersible floating offshore wind turbines using linear parameter-varying models,” **Journal of Mechanical Design**, 146(4), April 2024, pp. 041704. DOI:10.1115/1.4063969
5. Albert Patterson, Yong Hoon Lee, and James T. Allison, “Generation and enforcement of process-driven manufacturability constraints: A survey of methods and perspectives for product design,” **Journal of Mechanical Design**, 143(11), November 2021, pp. 110801. DOI:10.1115/1.4050740
4. Yong Hoon Lee ✉, Jonathon K. Schuh, Randy H. Ewoldt, and James T. Allison, “Simultaneous design of non-Newtonian lubricant and surface texture using surrogate-based multiobjective optimization,” **Structural and Multidisciplinary Optimization**, 60(1), July 2019, pp. 99–116. DOI:10.1007/s00158-019-02201-1
3. Jonathon K. Schuh, Yong Hoon Lee, James T. Allison, and Randy H. Ewoldt, “Design-driven modeling of surface-textured full-film lubricated sliding: Validation and rationale of nonstandard thrust observations,” **Tribology Letters**, 65(2), June 2017, pp. 35. DOI:10.1007/s11249-017-0818-8
2. Yong Hoon Lee, Jonathon K. Schuh, Randy H. Ewoldt, and James T. Allison, “Enhancing full-film lubrication performance via arbitrary surface texture design,” **Journal of Mechanical Design**, 139(5), May 2017, pp. 053401. DOI:10.1115/1.4036133 (**2017 Journal of Mechanical Design Editors’ Choice Award - Honorable Mention**)
1. Dong-Gyu Lee, Jea-Ho Park, Yong Hoon Lee, Chang-Yeol Baeg, and Hyung-Jin Kim, “Natural convection heat transfer characteristics in the canister with horizontal installation of dual purpose cask for spent nuclear fuel,” **Nuclear Engineering and Technology**, 45(7), December 2013, pp. 969–978. DOI:10.5516/NET.06.2012.092



REFEREED CONFERENCE PROCEEDINGS ARTICLES

(👤 : presenting author, ✉ : corresponding author)



13. Nowsheen Sharmili, Yong Hoon Lee ✉, and James T. Allison, “Battery thermal management systems design considering model fidelity levels and design optimization utility,” In *AIAA SciTech Forum* (Orlando, FL), AIAA 2024-2363, January 8–12, 2024, pp. 1–10. DOI:10.2514/6.2024-2363
12. Prajwal K. Chinthoju, Yong Hoon Lee, Ghanendra K. Das, Kai A. James, and James T. Allison, “Optimal design of eVTOLs for urban mobility using analytical target cascading (ATC),” In *AIAA SciTech Forum* (Orlando, FL), AIAA 2024-2235, January 8–12, 2024, pp. 1–13. DOI:10.2514/6.2024-2235
11. Chandler S. Cain and Yong Hoon Lee ✉, “Hydro-structural design exploration of floating platform for offshore energy systems,” In *ASME IMECE* (New Orleans, LA), IMECE2023-112479, October 29 – November 2, 2023, pp. 1–8. DOI:10.1115/IMECE2023-112479
10. Athul K. Sundarrajan, Yong Hoon Lee, James T. Allison, and Daniel R. Herber, “Open-loop control co-design of floating offshore wind turbines using linear parameter-varying models,” In *47th Design Automation Conference, ASME IDETC/CIE* (online), DETC2021-67573, August 2021, pp. 1–13. DOI: 10.1115/DETC2021-67573
9. Yong Hoon Lee 👤✉, Vedant, Randy H. Ewoldt, and James T. Allison, “Strain-actuated solar arrays for spacecraft attitude control assisted by viscoelastic damping,” In *Advances in Structural and Multidisciplinary Optimization, Proceedings of the 13th World Congress of Structural and Multidisciplinary Optimization* (Beijing, China), X. Guo, H. Huang, Eds., Dalian: DUT E&AV Press, January 2020, pp. 149–155. ISBN:978-7-89437-207-9

8. Albert E. Patterson, Yong Hoon Lee , and James T. Allison, “Overview of the development and enforcement of process-driven manufacturability constraints in product design,” In *24th Design for Manufacturing and the Life Cycle Conference, ASME IDETC/CIE* (Anaheim, CA, USA), DETC2019-97384, August 2019, pp. 1–11. DOI:10.1115/DETC2019-97384
7. Chendi Lin, Daniel R. Herber, Vedant, Yong Hoon Lee, Alexander R. M. Ghosh, Randy H. Ewoldt, and James T. Allison, “Attitude control system complexity reduction via tailored viscoelastic damping co-design,” In *Guidance, Navigation, and Control 2018, PTS I-II: Advances in the Astronautical Sciences*, Ed. C.A.H. Walker, February 2018, pp. 731–744.
6. Yong Hoon Lee  , Jonathon K. Schuh, Randy H. Ewoldt, and James T. Allison, “Simultaneous design of non-Newtonian lubricant and surface texture using surrogate-based optimization,” In *AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, AIAA SciTech Forum* (Kissimmee, FL, USA), AIAA 2018-1906, January 2018, pp. 1–14. DOI:10.2514/6.2018-1906
5. Chendi Lin, Yong Hoon Lee, Jonathon K. Schuh, Randy H. Ewoldt, and James T. Allison, “Efficient optimal surface texture design using linearization,” In *Advances in Structural and Multidisciplinary Optimization, Proceedings of the 12th World Congress of Structural and Multidisciplinary Optimization* (Braunschweig, Germany), A. Schumacher, T. Vietor, S. Fiebig, K. U. Bletzinger, K. Maute, Eds., Cham: Springer, January 2018, pp. 632–647. DOI:10.1007/978-3-319-67988-4_48
4. Yong Hoon Lee  , R. E. Corman, Randy H. Ewoldt, and James T. Allison, “A multiobjective adaptive surrogate modeling-based optimization (MO-ASMO) framework using efficient sampling strategies,” In *43rd Design Automation Conference, ASME IDETC/CIE* (Cleveland, OH, USA), DETC2017-67541, August 2017, pp.V02BT03A023. DOI:10.1115/DETC2017-67541
3. Yong Hoon Lee  , Jonathon K. Schuh, Randy H. Ewoldt, and James T. Allison, “Shape parameterization comparison for full-film lubrication texture design,” In *42nd Design Automation Conference, ASME IDETC/CIE* (Charlotte, NC, USA), DETC2016-60168, August 2016, pp. V02BT03A037. DOI:10.1115/DETC2016-60168
2. Dong-Gyu Lee, Yong Hoon Lee, Wi-Soo Jeong, and Jea-Ho Park, “Heat transfer analysis around transport cask under transport hood,” In *8th International Symposium on Radiation Safety Management* (Gyeongju, South Korea), November 2011, pp. 1–8.
1. Yong Hoon Lee  , Jin-Won Seo, Jae-Hong Park, and Yun-Ho Choi, “Numerical study on performance assessment and installation conditions of an automotive air cleaner,” In *Korean Society for Computational Fluids Engineering Spring Conference* (Jeju, South Korea), 60115923, May 2010, pp. 263–270.

INVITED TALK IN CONFERENCE AND WORKSHOP











2. Yong Hoon Lee , “Design of floating offshore wind turbines using OpenMDAO and Dymos,” In OpenMDAO Workshop, NASA Glenn Research Center, Cleveland, OH, October 24-25, 2022.
1. Jonathon K. Schuh, Yong Hoon Lee , James T. Allison, and Randy H. Ewoldt, “Rheological design for efficient fluid power,” In CCEFP Webinar Series, February 2016. *Schuh and Lee contributed equally and co-presented.*





INVITED LECTURE IN UNIVERSITY AND INDUSTRY

2. Yong Hoon Lee , “Multidisciplinary Design Optimization in Floating Offshore Wind Turbines,” In MAE 5350: Multidisciplinary Design Optimization (Invited Guest Lecture), Cornell University, Ithaca, NY, April 25, 2023.
1. Yong Hoon Lee , “System-level integrated and multidisciplinary design on floating offshore wind turbine and engineered materials applications,” In Engineering Technology & Industrial Distribution Seminar Series (Departmental Seminar for Graduate Students), Texas A&M University, College Station, TX, October 15, 2021. [ABSTRACT FLYER]

ABSTRACT-ONLY PRESENTATIONS AND POSTERS

21. Austin L. Griffin and Yong Hoon Lee  , “Experimental identification of reduced order model parameters for hydrokinetic energy system design,” In *ASME IMECE* (New Orleans, LA), IMECE2023-113489, October 29 – November 2, 2023. (accepted) [EXTENDED ABSTRACT]

20. Yong Hoon Lee   and Yue Guan, “Multi-body modeling for conceptual design of co-located ocean renewable energy and aquaculture systems,” In *19th International Conference on Multibody Systems, Nonlinear Dynamics, and Control, ASME IDETC/CIE* (Boston, MA), August 20–23, 2023. (accepted) [EXTENDED ABSTRACT]
19. Yong Hoon Lee , “Enabling Design of Floating Offshore Wind Energy Systems” (Lecture), In *Korean-American Scientists and Engineers Association, 19th Young Generation Technical and Leadership Conference* (San Jose, CA, USA), January 21, 2023. (**Outstanding Lecture Award in Science, Engineering, and Business**) [SHORT ABSTRACT]
18. Yong Hoon Lee , Saeid Bayat, and James T. Allison, “Control co-design using a nonlinear wind turbine dynamic model based on OpenFAST linearization,” In *Applied Energy Symposium: MIT A+B* (Cambridge, MA, USA), July 5, 2022. [SHORT ABSTRACT]
17. Saeid Bayat, Yong Hoon Lee, and James T. Allison, “Nested control co-design of a spar buoy horizontal-axis floating offshore wind turbine,” In *Applied Energy Symposium: MIT A+B* (Cambridge, MA, USA), July 5, 2022. [SHORT ABSTRACT]
16. Yong Hoon Lee  , Sung Youn Boo, and James T. Allison, “A framework for integrating hydrostatics, hydrodynamics, and rigid-body dynamics for the control co-design of floating offshore vertical-axis wind turbine systems,” In *Wind Energy Science Conference* (Hannover, Germany), May 2021. [SHORT ABSTRACT]
15. Saeid Bayat, Yong Hoon Lee , and James T. Allison, “Control co-design of horizontal floating offshore wind turbines using a simplified low order model,” In *Wind Energy Science Conference* (Hannover, Germany), May 2021. [SHORT ABSTRACT]
14. Yong Hoon Lee , Vedant, and James T. Allison, “Computationally-efficient modeling and optimization of strain-actuated solar arrays with tailored viscoelastic damping for spacecraft attitude control,” In *AAS Guidance and Control Conference* (Breckenridge, CO, USA), February 2020. LINK: <http://hdl.handle.net/2142/106101> [POSTER PRESENTATION]
13. Yong Hoon Lee , R. E. Corman, Randy H. Ewoldt, and James T. Allison, “Continuous relaxation spectra and its reduced-dimensionality descriptions for engineering design with linear viscoelasticity,” In *26th Symposium on Fluid Mechanics and Rheology of Nonlinear Materials and Complex Fluids, ASME 2019 IMECE* (Salt Lake City, UT, USA), IMECE2019-13370, November 2019. [EXTENDED ABSTRACT]
12. Jonathon K. Schuh, Yong Hoon Lee, James T. Allison, and Randy H. Ewoldt, “Designing with non-linear viscoelastic fluids,” In *The 70th Annual Meeting of the American Physical Society - Division of Fluid Dynamics* (Denver, CO, USA), November 2017. [SHORT ABSTRACT]
11. Jonathon K. Schuh, Yong Hoon Lee, James T. Allison, and Randy H. Ewoldt, “Toward co-design of surface textures and non-Newtonian fluids for decreased friction in lubricated viscous sliding,” In *The Society of Rheology 89th Annual Meeting* (Denver, CO, USA), October 2017. [SHORT ABSTRACT]
10. R. E. Corman, Yong Hoon Lee, James T. Allison, and Randy H. Ewoldt, “Selecting design-appropriate material descriptions for linear viscoelastic materials,” In *The Society of Rheology 89th Annual Meeting* (Denver, CO, USA), October 2017. [SHORT ABSTRACT]
9. Jonathon K. Schuh, Yong Hoon Lee, James T. Allison, and Randy H. Ewoldt, “A validated computational model for the design of surface textures in full-film lubricated sliding,” In *The 69th Annual Meeting of the American Physical Society - Division of Fluid Dynamics* (Portland, OR, USA), November 2016. [SHORT ABSTRACT]
8. Jonathon K. Schuh, Yong Hoon Lee, James T. Allison, and Randy H. Ewoldt, “Design appropriate modeling for determining optimal friction reduction with surface textures,” In *CCEFP Fluid Power Innovation & Research Conference* (Minneapolis, MN, USA), October 2016. [SHORT ABSTRACT]
7. Yong Hoon Lee , Jonathon K. Schuh, Randy H. Ewoldt, and James T. Allison, “Generalization of surface texture shape reduces friction and increases load capacity simultaneously in sliding contact with full-film lubrication,” In *CCEFP Fluid Power Innovation & Research Conference* (Minneapolis, MN, USA), October 2016. [SHORT ABSTRACT]

6. Jonathon K. Schuh, Yong Hoon Lee, James T. Allison, and Randy H. Ewoldt, "Surface textures and non-Newtonian fluids for decreasing friction in lubricated sliding contact," In *CCEFP Fluid Power Innovation & Research Conference* (Minneapolis, MN, USA), October 2015. [SHORT ABSTRACT]
5. Yong Hoon Lee , Duk Woon Jeong, and Jea Ho Park, "Preliminary design of a transport package for fresh fuels using LS-DYNA," In *LS-DYNA Korea User Conference* (Seoul, South Korea), November 2012. [SHORT ABSTRACT]
4. Yong Hoon Lee , "Thermal design technology for casks considering spent fuel burnup credit," In *International Technical Seminar on SNF Storage and Transportation* (Daejeon, South Korea), November 2010. [SHORT ABSTRACT]
3. Yong Hoon Lee , Dong-Gyu Lee, Jea-Ho Park, Tae-Man Kim, and Hyung-Jin Kim, "Thermal design technology for spent nuclear fuel transport cask," In *Korea ANSYS User Conference* (Gyeongju, South Korea), September 2010. [EXTENDED ABSTRACT]
2. Yong Hoon Lee , Jin-Won Seo, and Yun-Ho Choi, "A study of the assessment process of the performance of automotive HVAC system using FLUENT," In *ATES Paper Contest for ANSYS Fluent Academic Users* (Seoul, South Korea), September 2009. (**Finalist Award.**) [EXTENDED ABSTRACT]
1. Jin-Won Seo, Ji-Yeon Kim, Yong Hoon Lee, Yun-Ho Choi, Bongha Song, and Jongpaek Ha, "Numerical study for efficient air distribution in automotive HVAC system," In *The Korean Society of Automotive Engineers (KSAE) Annual Conference and Exhibition* (Daejeon, South Korea), 76306949, November 2008, pp. 594.

TECH REPORTS, COMPUTER CODES, MANUALS, AND OTHERS

11. Yong Hoon Lee, "Fluid Mechanics Laboratory: Lab Manual," The University of Memphis, Jul 2023, (updated every semester).
10. Yong Hoon Lee, "Thesis and Dissertation LaTeX Template for the University of Memphis," 2023. <https://github.com/yonghoonlee/UofM-thesis-template>
9. Yong Hoon Lee and Saeid Bayat, "Derivative function surrogate model-based control co-design of non-linear floating offshore wind turbine models," 2021. <https://github.com/WEIS-UIUC-CSU/WEIS/tree/uiuc-dfsm>
8. Saeid Bayat and Yong Hoon Lee, "Simplified low-order floating offshore wind turbine model-based control co-design implementation for WEIS," 2021. <https://github.com/WEIS-UIUC-CSU/WEIS/tree/uiuc-proxy>
7. Yong Hoon Lee, "Integrated design analysis and optimization tool for floating offshore vertical-axis wind turbines," 2020-2021. <https://github.com/FloatVAWT/FloatVAWT-CapytaineDriver>
6. Yong Hoon Lee, Daniel R. Herber, and Athul Krishna Sundarrajan, "Control co-design driver for linear OpenFAST wind turbine model," 2020. https://github.com/WEIS-UIUC-CSU/FASTLin_DTQP_Driver
5. Tais Rocha Pereira, Albert Patterson, Yong Hoon Lee, and Sherri L. Messimer, "Critical buckling load of thin-walled plastic cylinders in axial and radial loading: overview and FEA case study," engrXiv, August 2019. DOI:10.31224/osf.io/2mtfu
4. Yong Hoon Lee, "Multiobjective adaptive surrogate modeling-based optimization (MO-ASMO) toolbox II," 2018. <https://github.com/yonghoonlee/MO-ASMO-II>
3. Yong Hoon Lee, "Multiobjective adaptive surrogate modeling-based optimization (MO-ASMO) toolbox I," 2017. <https://github.com/yonghoonlee/MO-ASMO-I>
2. Daniel R. Herber, Yong Hoon Lee, and James T. Allison, "DT QP Project," 2017. <https://github.com/danielrherber/dt-qp-project>
1. Yong Hoon Lee, "A Modular Code for Teaching Surrogate Modeling-Based Optimization," 2017. https://github.com/yonghoonlee/SMBO_TeachingTool

INSTRUCTION

UNIVERSITY OF MEMPHIS

6. **MECH 7901/8901 ST: Design Optimization** (primary) Spring 2024
5. **MECH 7341/8341 Engineering Analysis I** (primary) Fall 2023
4. **MECH 3335 Fluid Mechanics Laboratory** (primary) Spring 2023, Fall 2023, Spring 2024
3. **MECH 4305/6305 Fluid Mechanics II** (primary) Spring 2023
2. **MECH 3331 Fluid Mechanics I** (primary) Fall 2022
1. **MECH 4314 Senior Design I** (guest lecture) Fall 2022
November 8, 2022: guest lecture on engineering design optimization: practical tutorial

CORNELL UNIVERSITY

1. **Multidisciplinary Design Optimization** (guest lecture) Spring 2023
April 25, 2023: guest lecture on multidisciplinary design optimization and control co-design in renewable energy systems design

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

3. **SE 413 Engineering Design Optimization** (guest lecture) Spring 2017, Spring 2020
Spring 2020: guest lecture on surrogate-based optimization
Spring 2017: assisted curriculum development + guest lecture on surrogate-based optimization
2. **SE 320 Control Systems** (teaching assistant) Fall 2019
1. **ME 310 Fundamentals of Fluid Dynamics** (teaching assistant) Spring 2019

MASAN UNIVERSITY

1. **Machine Component Design** (primary) Spring 2014

AJOU UNIVERSITY

3. **Numerical Analysis** (teaching assistant) Spring 2009, Spring 2010
2. **Computational Fluid Dynamics** (teaching assistant) Fall 2009
1. **Engineering Drawing and Computer Aided Design** (teaching assistant) Fall 2008

STUDENT RESEARCH SUPERVISION

UNIVERSITY OF MEMPHIS

5. Josh Polk, B.S. student (Undergraduate Research Advisor) Sep 2023 – present
4. Mohammad Shahab Vafadaran, Ph.D. student (Director of Dissertation Research) Aug 2023 – present
3. Hamza Dahkalalah, M.S. student (Director of Thesis Research) Aug 2023 – present
2. Austin L. Griffin, M.S. student (Director of Thesis Research) Oct 2022 – present
1. Chandler S. Cain, M.S. student (Director of Thesis Research) Aug 2022 – present

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

16. Yu Wang and Dhritiman Roy, M.S. student (non-thesis project mentoring) Mar 2023 – present
15. Nowsheen Sharmili, Ph.D. student (Co-Director of Dissertation Research) December 2022 – present
14. Nowsheen Sharmili, Ph.D. student (dissertation research mentoring) May 2022 – Aug 2022
13. Prerna Rathi, M.S. student (non-thesis project mentoring) Jan 2022 – Aug 2022
12. Mika Lew, Undergraduate student (undergraduate research mentoring) Sep 2021 – May 2022
11. Dario Rodriguez Claudio, M.S. student (thesis research mentoring) Jun 2021 – Aug 2022

10. Annabella Console, Undergraduate student (undergraduate research mentoring)	Jun 2021 – Sep 2021
9. Jane Li, Undergraduate student (undergraduate research mentoring)	Jan 2021 – May 2021
8. Sagar Sachdev, Undergraduate student (undergraduate research mentoring)	May 2020 – Apr 2021
7. Daniel Moreno, Undergraduate student (undergraduate research mentoring)	May 2020 – Aug 2020
6. Kinga Wrobel, Undergraduate student (undergraduate research mentoring)	Dec 2019 – May 2020
5. Gayatri Dandu, Undergraduate student (undergraduate research mentoring)	Jan 2019 – Dec 2019
4. Abbey Merges, Undergraduate student (undergraduate research mentoring)	Jan 2019 – Dec 2019
3. Angad Paintal, M.S. student (thesis research mentoring)	May 2017 – Aug 2018
2. Chendi Lin, Undergraduate student (undergraduate research mentoring)	May 2016 – May 2018
1. Abhinab Choudhury, M.S. student (non-thesis project mentoring)	Jan 2016 – Dec 2016

SENIOR DESIGN PROJECT TEAM SUPERVISION

3. Aerodynamic Design of Offshore Wind Turbine as a part of Collegiate Wind Competition 2024 Student lead: Aleks Vincent	Sep 2023 – present
2. Mechanical and Control Design of Offshore Wind Turbine as a part of Collegiate Wind Competition 2024 Student lead: Nihar Patel	Sep 2023 – present
1. Energy harvester design utilizing fluid flow phenomena Student lead: Cecil Shipley Members: Devin Allen, Brooke Calvo, Josh Foster	Sep 2022 – May 2023

EXTERNAL GRANTS

2. ARPA-E ATLANTIS (in negotiation) “Wind Energy with Integrated Servo-control (WEIS): Phase II” contract awarded to <i>National Renewable Energy Laboratory</i> , subawarded to <i>The University of Memphis</i> PI: Yong Hoon Lee <i>US DOE Advanced Research Programs Agency–Energy (ARPA-E)</i> , Washington, DC	Oct 1, 2023 – Sep 30, 2025
1. ARPA-E ATLANTIS “H-CCD Development” under “A Low-Cost Floating Offshore Vertical Axis Wind System” contract awarded to <i>University of Texas at Dallas</i> , subawarded to <i>The University of Memphis</i> PI: Yong Hoon Lee <i>US DOE Advanced Research Programs Agency–Energy (ARPA-E)</i> , Washington, DC	Jan 1, 2023 – Apr 15, 2023

INTERNAL GRANTS

1. Community of Research Scholars (CoRS) Grant “Exploring Synergies in Astrophysical and Engineering Simulation,” PI: Benjamin Keller, Co-PI: Yong Hoon Lee Division of Research and Innovation, <i>The University of Memphis</i> , Memphis, TN	Nov 30, 2022 – Jun 30, 2023
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SERVICES

SERVICES TO THE UNIVERSITY OF MEMPHIS

□ Departmental Committee – Mechanical Engineering Graduate Process Team	Aug 15, 2022 – present
□ Thesis and Dissertation Committee – Mr. Mohammad Shahab Vafadaran (Dissertation Committee Chair)	Aug 2023 – present

- Mr. Apratim Dasgupta (Dissertation Committee Member) Jun 1, 2023 – present
- Mr. Venkata Srinivas Sai Kiran Madugula (Thesis Committee Member) Dec 12, 2022 – present
- Mr. Austin Griffin (Thesis Committee Chair) Oct 14, 2022 – present
- Mr. Chandler S. Cain (Thesis Committee Chair) Aug 15, 2022 – Dec 5, 2024

□ **Exam Committee**

- Fluid Mechanics Qualifying Exam Spring 2023
- M.S. Comprehensive Exam for Mr. Daniel Hrvoich Feb 8, 2023

SERVICES TO THE PROFESSION

□ **Academic and Professional Conferences**

- Session Organizer Nov 5, 2022 - Aug 23, 2023
 DFMLC-2 Modeling and Optimization for Sustainable Design and Manufacturing
 Design for Manufacturing and the Life Cycle Conference (DFMLC)
ASME Design Engineering Division (DED)

□ **Technical Committee**

- Renewable Energy and Energy Conversion (REEC TC) Nov 1, 2023 – present
ASME Advanced Energy System Division
- Design Automation Conference (DAC TC) Aug 22, 2023 – present
ASME Design Engineering Division (DED)
- Fluid Applications & Systems Technical Committee (FASTC) Nov 6, 2022 – present
ASME Fluid Engineering Division (FED)

□ **Peer Review**

- Wind Energy Science (Journal) 2023(2)
- Journal of Mechanical Design (Journal) 2020(2), 2022(1), 2023(4)
- Structural and Multidisciplinary Optimization (Journal) 2019(1), 2020(5), 2021(2), 2022(5), 2023(2)
- AIAA SciTech Forum and Exposition 2023(1)
- ASME International Design Engineering Technical Conferences 2017(4), 2018(3), 2023(5)
- ASME International Mechanical Engineering Congress and Exposition 2023(3)
- AIAA AVIATION Forum and Exposition 2022(11)
- Wind Energy (Journal) 2021(1), 2022(4)
- Advances in Tribology (Journal) 2020(1)
- Engineering Optimization (Journal) 2020(1)
- ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems 2019(1)
- Engineering Computations (Journal) 2015(1)

OUTREACH TO THE COMMUNITY

- **Community Outreach** *Yankee Ridge Elementary School, Urbana, IL* Apr 2017
 Presented a hands-on demonstration of trebuchets with simulation and experimentation as a part of the Urbana School District Junior Scientist Day.

PROFESSIONAL DEVELOPMENT ACTIVITIES

□ **Grant Writing Training**

- National Science Foundation Virtual Grants Conference Jun 5-8, 2023

- National Science Foundation CAREER Program Webinar May 15, 2023
- National Science Foundation Virtual Grants Conference Nov 14-17, 2022
- **Teaching Effectiveness Training**
 - Teaching and Leadership Seminar Series Spring 2019
Center for Innovation in Teaching & Learning, University of Illinois at Urbana-Champaign
 - Graduate Academy for College Teaching Jan 9-11, 2019
Graduate College, University of Illinois at Urbana-Champaign
- **Other Scholarly Training**
 - Mavis Future Faculty Fellows (MF3) Academy Aug 2019 – May 2020
A series of workshops, seminars, and activities that cover three main components of the MF3 program: research, teaching, and mentoring.
Grainger College of Engineering, University of Illinois at Urbana-Champaign

PROFESSIONAL SOCIETY MEMBERSHIPS

- Member, International Society for Structural and Multidisciplinary Optimization (ISSMO) 2019 – present
- Member, American Institute of Aeronautics and Astronautics (AIAA) 2017 – present
- Member, American Society of Mechanical Engineers (ASME) 2015 – present
- Member, Korean-American Scientists and Engineers Association (KSEA) 2022 – present

EXTERNAL COLLABORATIONS

- Ecobee 2023 – present
- CCL Label Memphis 2023 – present
 - CCL Label Specialty Plant, Collierville, TN Sep 25, 2023
Visited for establishing partnership with the ME department and the CCL Label to promote student internship, job placement, student senior design project, and potential research collaboration.
- Tennessee Valley Authority 2023 – present
 - TVA HQ and Raccoon Mountain Power Plant, Chattanooga, TN May-Jun 2023
Visited TVA Raccoon Mountain Pumped-Storage Plant and TVA Chattanooga Headquarter (System Operations Center, Asset Performance Center, Monitoring & Diagnostics Center, etc.) to learn their facilities while scheduled maintenance, and discuss about potential collaborative research and educational opportunities.
 - TVA Combined Cycle Power Plant, Southhaven, MS May 2023
Visited TVA Southhaven Combined-Cycle Power Plant to learn their facilities while scheduled maintenance, and discuss about potential collaborative research and educational opportunities.
- Sandia National Laboratories (Dr. Reed Wittman) 2023 – present
- Aquantis, Inc. (Henry Swales) 2023 – present
- Christian Brothers University (Dr. Deepa Kodali) 2023 – present
- University of Illinois at Urbana-Champaign (Dr. James T. Allison) 2022 – present
- Colorado State University (Dr. Daniel R. Herber) 2020 – present
- National Renewable Energy Laboratory (Dr. Daniel Zalkind, Dr. Alan D. Wright) 2020 – present
- VL Offshore, LLC (Dr. Sung Youn Boo) 2020 – present
- University of Texas at Dallas (Dr. Todd Griffith) 2020 – present