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 and Awards

- **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** Announced in DOI:10.1115/1.4041528 Oct 18, 2018
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)

7. Saeid Bayat, Yong Hoon Lee ✉, and James T. Allison, "Nested control co-design of a spar buoy horizontal-axis floating offshore wind turbine", **Applied Energy**, in review.
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**, in review.
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)

16. 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) [FULL PROCEEDING PAPER]
15. 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. (accepted) [FULL PROCEEDING PAPER]
14. 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]
13. 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* (San Diego, CA), June 12–16, 2023. (accepted) [FULL PROCEEDING PAPER]
12. 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 [FULL PROCEEDING PAPER]

11. 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. [EXTENDED ABSTRACT]

10. 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. [EXTENDED ABSTRACT]

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 [FULL PROCEEDING PAPER]

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 [FULL PROCEEDING PAPER]

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. [FULL PROCEEDING PAPER]

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 [FULL PROCEEDING PAPER]

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 [FULL PROCEEDING PAPER]

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 [FULL PROCEEDING PAPER]

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 [FULL PROCEEDING PAPER]

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. [FULL PROCEEDING PAPER]

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. [FULL PROCEEDING PAPER]

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

17. 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**)

16. 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.

15. 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.

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

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.)**

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.

Technical Report, Computer Codes, and Others

11. Yong Hoon Lee, "Fluid Mechanics Laboratory: Lab Manual", The University of Memphis, Jul 2023.

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 nonlinear 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

5. **MECH 2311 Thermodynamics I** (primary) Fall 2023

4. **MECH 3335 Fluid Mechanics Laboratory** (primary) — Spring 2023, Fall 2023
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

3. Mohammad Shahab Vafadaran, Ph.D. student (Director of Dissertation Research) — tentatively starting Fall 2023
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

1. Energy harvester design utilizing fluid flow phenomena Sep 2022 – May 2023
   Devin Allen, Brooke Calvo, Josh Foster, and Cecil Shipley*

External Grants

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

Internal Grants

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

Services

Services to the University of Memphis

□ **Doctoral Dissertation Committee**

- Mr. Apratim Dasgupta (Committee Member) June 2023 – present
- Mr. Venkata Srinuvas Sai Kiran Madugula (Committee Member) December 2022 – present

□ **Qualifying Exam Committee**

- Fluid Mechanics Spring 2023

□ **Comprehensive Exam Committee**

- Mr. Apratim Dasgupta (Committee Member) Aug 8, 2023
- Mr. Venkata Srinuvas Sai Kiran Madugula (Committee Member) Jul 7, 2023
- Mr. Daniel Hrvoich (Committee Chair) Feb 8, 2023

□ **Department of Mechanical Engineering Graduate Process Team** Aug 15, 2022 – present

Services to the Profession

□ **Technical Sessions in Conferences**

- Session Co-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**

- Fluid Applications & Systems Technical Committee (FASTC) Nov 6, 2022 – present
  ASME Fluid Engineering Division (FED)

□ **Peer Review**

- AIAA SciTech Forum and Exposition 2023(1)
- Journal of Mechanical Design (Journal) 2020(2), 2022(1), 2023(1)
- Structural and Multidisciplinary Optimization (Journal) 2019(1), 2020(5), 2021(2), 2022(5), 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 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

□ Tennessee Valley Authority 2023 – present

- TVA HQ and Racoon 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