

Yong Hoon Lee, Ph.D.

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Assistant Professor
Department of Mechanical Engineering
Herff College of Engineering
The University of Memphis

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Google Scholar: <https://scholar.google.com/citations?user=t-F0slQAAAAJ>



Education

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

Professional Appointments and Experiences

- **Assistant Professor** Department of Mechanical Engineering Aug 15, 2022 – present
The University of Memphis, Memphis, TN, USA
- **Postdoctoral Research Associate** Engineering System Design Laboratory Jul 27, 2020 – Aug 14, 2022
University of Illinois at Urbana-Champaign, Urbana, IL, USA
- **Research Assistant** Engineering System Design Laboratory Aug 16, 2015 – Jul 20, 2020
• **Teaching Assistant** Dept. of Industrial & Enterprise Systems Engineering Aug 16, 2019 – Dec 31, 2019
• **Teaching Assistant** Dept. of Mechanical Science & Engineering Jan 1, 2019 – May 15, 2019
University of Illinois at Urbana-Champaign, Urbana, IL, USA
- **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 Hydraulics Safety Research Division Sep 1, 2008 – Sep 1, 2009
Korea Atomic Energy Research Institute, Daejeon, South Korea

Honors, Awards, and Media Coverage

- **ASME 50th Design Automation Conference Papers of Distinction** Aug 28, 2024
Announced in: 2024 ASME IDETC/CIE Conference Final Program (pp. 12–13)
American Society of Mechanical Engineers (ASME), New York, NY, USA
- **UofM Research+Innovation Newsletter Coverage in News and Impact Section** Apr 1, 2024
Title: “Wind Energy with Integrated Servo-Control: Floating offshore wind turbines, innovative renewable energy systems”
The University of Memphis, Memphis, TN, USA
- **Outstanding Lecture Award** Jan 21, 2023
“Enabling Design of Floating Offshore Wind Energy Systems” in *Ygnite 2023*
Korean-American Scientists and Engineers Association, Vienna, VA, USA
- **Mavis Fellowship** Mavis Future Faculty Fellows Program Aug 2019 – May 2020
Grainger College of Engineering,
University of Illinois at Urbana-Champaign, Urbana, IL, USA
- **List of Teachers Ranked as Excellent by their Students** Dec 2019
University of Illinois at Urbana-Champaign, Urbana, IL, USA
- **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), New York, NY, USA
- **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), Seoul, South Korea

Publications

Refereed Journal Articles

(†: corresponding author)

10. Saeid Bayat, Chad Peterson, Yong Hoon Lee[†], Jenna Iori, and James T. Allison. “Advancing wind turbines through control co-design: An integrative review”. *Applied Energy* 416 (Aug. 2026): 127951. <https://doi.org/10.1016/j.apenergy.2026.127951>. (SCIE, JCR/SJR Q1, IF 11.2)
9. Yong Hoon Lee[†], Saeid Bayat, and James T. Allison. “Wind turbine control co-design using dynamic system derivative function surrogate model (DFSM) based on OpenFAST linearization”. *Applied Energy* 396 (Oct. 2025): 126203. <https://doi.org/10.1016/j.apenergy.2025.126203>. (SCIE, JCR/SJR Q1, IF 11.2)
8. Saeid Bayat, Yong Hoon Lee, and James T. Allison. “Nested control co-design of a spar buoy horizontal-axis floating offshore wind turbine”. *Ocean Engineering* 328 (June 2025): 121037. <https://doi.org/10.1016/j.oceaneng.2025.121037>. (SCIE, JCR/SJR Q1, IF 5.5)
7. Yong Hoon Lee[†], Saeid Bayat, James T. Allison, Md Sanower Hossain, and D. Todd Griffith. “Multi-disciplinary modeling and control co-design of a floating offshore vertical-axis wind turbine system”. *Journal of Mechanical Design* 147, no. 6 (June 2025): 061702. <https://doi.org/10.1115/1.4068072>. (SCIE, SJR Q1, IF 3.3)
6. Athul K. Sundarrajan, Yong Hoon Lee, James T. Allison, Daniel S. Zalkind, and Daniel R. Herber. “Open-loop control co-design of semisubmersible floating offshore wind turbines using linear

parameter-varying models”. *Journal of Mechanical Design* 146, no. 4 (Apr. 2024): 041704. <https://doi.org/10.1115/1.4063969>. (SCIE, SJR Q1, IF 3.3)

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, no. 11 (Apr. 2021): 110801. <https://doi.org/10.1115/1.4050740>. (SCIE, SJR Q1, IF 3.3)
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, no. 1 (July 2019): 99–116. <https://doi.org/10.1007/s00158-019-02201-1>. (SCIE, JCR/SJR Q1, IF 4.4)
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, no. 2 (June 2017): 35. <https://doi.org/10.1007/s11249-017-0818-8>. (SCIE, JCR/SJR Q2, IF 3.3)
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, no. 5 (May 2017): 053401. <https://doi.org/10.1115/1.4036133>. Presetned with the Honorable Mention of the 2017 Journal of Mechanical Design Editor’s Choice Award. (SCIE, SJR Q1, IF 3.3)
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, no. 7 (Dec. 2013): 969–978. <https://doi.org/10.5516/NET.06.2012.092>. (SCIE, JCR/SJR Q2, IF 2.7)

Preprints

(ArXiv, in review, in preparation, etc.)

Elena Fernandez Bravo, Sunil Tamang, Yong Hoon Lee[†], and James T. Allison. *Surrogate based co-design coupling analysis for floating offshore wind turbines*. ArXiv e-prints. Apr. 2026. <https://doi.org/10.48550/arXiv.2604.22969>

Sunil Tamang and Yong Hoon Lee. *A review on disciplinary and design couplings in engineering design and optimization*. In preparation

Books and Book Chapters

1. Albert E. Patterson and Yong Hoon Lee. “Design for manufacturability with fused deposition modeling”. Chap. 2 in *Fused Deposition Modeling: Technology, Applications, and Developments*, 1st ed., ed. by Anshuman Kumar Sahu and Siba Sankar Mahapatra. CRC Press, Dec. 2025. ISBN: 978-1-032-79839-4. <https://doi.org/10.1201/9781003686941-2>. <https://www.routledge.com/Fused-Deposition-Modeling-Technology-Applications-and-Developments/Sahu-Mahapatra/p/book/9781032798394>

Refereed Conference Proceedings Papers

([†]: corresponding, [‡]: presenting author)

15. Yong Hoon Lee^{†‡}, Saeid Bayat, James T. Allison, Md. Sanower Hossain, and D. Todd Griffith. “Modeling and control co-design of a floating offshore vertical-axis wind turbine system”. In *ASME IDETC/CIE Conference*, 1–10. DETC2024-143495. Washington, DC, USA, Aug. 2024. <https://doi.org/10.1115/DETC2024-143495>
14. Austin L. Griffin and Yong Hoon Lee[†]. “Experimentally supported design optimization of marine hydrokinetic turbine systems with adaptive duct contraction control”. In *ASME IDETC/CIE Confer-*

- ence, 1–10. DETC2024-143861. Washington, DC, USA, Aug. 2024. <https://doi.org/10.1115/DETC2024-143861>
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 and Exposition*, 1–10. AIAA 2024-2363. Orlando, FL, USA, Jan. 2024. <https://doi.org/10.2514/6.2024-2363>
 12. Prajwal 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 and Exposition*, 1–13. AIAA 2024-2235. Orlando, FL, USA, Jan. 2024. <https://doi.org/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 International Mechanical Engineering Congress and Exposition (IMECE)*, 1–8. IMECE2023-112479. New Orleans, LA, USA, Oct. 2023. <https://doi.org/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 *ASME IDETC/CIE Conference*, 1–13. DETC2021-67573. Virtual Conference, Aug. 2021. <https://doi.org/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)*, 149–155. Dalian: Dalian University of Technology Electronic & Audio-Visual Press, Dec. 2019
 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 *ASME IDETC/CIE Conference*, 1–11. DETC2019-97384. Anaheim, CA, USA, Aug. 2019. <https://doi.org/10.1115/DETC2019-97384>
 7. Chendi Lin, Daniel R. Herber, Vedant, Yong Hoon Lee, Alexander Robin Mercantini Ghosh, Randy H. Ewoldt, and James T. Allison. “Attitude control system complexity reduction via tailored viscoelastic damping co-design”. In *AAS Guidance and Control Conference*. AAS 18-103. Breckenridge, CO, USA, Feb. 2018
 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*, 1–14. AIAA 2018-1906. Kissimmee, FL, USA, Jan. 2018. <https://doi.org/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)*, ed. by A. Schumacher, T. Vietor, S. Fiebig, K. U. Bletzinger, and K. Maute, 632–647. Cham: Springer, Jan. 2018. https://doi.org/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 *ASME IDETC/CIE Conference, Volume 2B: 43rd Design Automation Conference*, V02BT03A023.

DETC2017-67541. Cleveland, OH, USA, Aug. 2017. <https://doi.org/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 *ASME IDETC/CIE Conference, Volume 2B: 42nd Design Automation Conference*, V02BT03A037. DETC2016-60168. Charlotte, NC, USA, Aug. 2016. <https://doi.org/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 *The 8th International Symposium on Radiation Safety Management*, 1–6. Gyeongju, Korea, Nov. 2011
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*, 263–270. 60115923. Jeju, Korea, May 2010. <http://www.riss.kr/link?id=A60115923>

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, USA, Oct. 2022. <https://openmdao.org/2022-workshop-proceedings/>. Invited
1. Jonathon K. Schuh, Yong Hoon Lee, James T. Allison, and Randy H. Ewoldt. “1G.3 Rheological design for efficient fluid power”. In *CCEFP Webinar Series*. Feb. 2016. Schuh and Lee contributed equally. Schuh presented part I and Lee presented part II. Invited

Invited Talk in University and Industry

2. Yong Hoon Lee. “Multidisciplinary design optimization in floating offshore wind turbines”. In *MAE 5350: Multidisciplinary Design Optimization*. Ithaca, NY, USA: Cornell University, Apr. 2023. Invited
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, USA, Oct. 2021. Invited

Abstract-Only Presentations and Posters

([†]: corresponding, [‡]: presenting author)

23. Sunil Tamang and Yong Hoon Lee. “Formulating a sequence of compact optimization problems for floating offshore wind turbine based on design coupling information”. In *ASME International Mechanical Engineering Congress and Exposition (IMECE)*. IMECE2025-173460. Memphis, TN, USA, Nov. 2025. Presentation
22. Nowsheen Sharmili, Yong Hoon Lee[†], and James T. Allison. “Enhancing collaborative multidisciplinary optimization through surrogate modeling”. In *ASME IDETC/CIE Conference*, 1–4. DETC2024-148473. Washington, DC, USA, Aug. 2024. Extended Abstract
21. Austin L. Griffin and Yong Hoon Lee[†]. “Experimental identification of reduced order model parameters for hydrokinetic energy system design”. In *ASME International Mechanical Engineering Congress and Exposition (IMECE)*, 1–6. IMECE2023-113489. New Orleans, LA, USA, Oct. 2023. 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 *ASME IDETC/CIE Conference*, 1–4. DETC2023-117954. Boston, MA, USA, Aug. 2023. Extended Abstract
19. Yong Hoon Lee^{†‡}. “Enabling design of floating offshore wind energy systems”. In *Korean-American Scientists and Engineers Association, 19th Young Generation Technical and Leadership Conference*. San Jose, CA, USA, Jan. 2023. Presented with the Outstanding Lecture Award
 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 2022. Presentation
 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 2022. Presentation
 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*, 9.80. 1345. Hannover, Germany, May 2021. Presentation
 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*, 9.78. Hannover, Germany, May 2021. Presentation
 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, Feb. 2020. 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 *ASME 2019 International Mechanical Engineering Congress and Exposition*. IMECE2019-13370. Salt Lake City, UT, USA, Nov. 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, Nov. 2017. Presentation
 11. 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, Oct. 2017. Presentation
 10. 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, Oct. 2017. Presentation
 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, Nov. 2016. Presentation
 8. 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, Oct. 2016. Presentation
 7. 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, Oct. 2016. Presentation

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, Oct. 2015. Presentation
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, Korea, Nov. 2012. Presentation
4. Yong Hoon Lee^{†‡}. “Thermal design technology for casks considering spent fuel burnup credit”. In *International Technical Seminar on SNF Storage and Transportation*. Daejeon, Korea, Nov. 2010. Extended 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, Korea, Sept. 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 *Advanced Technology Engineering Service (ATES) Paper Contest for Academic Users*. Seoul, Korea, Sept. 2009. Extended Abstract, Nominated for the Best Paper Award and presented with the 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*, 594. 76306949. Daejeon, Korea, Nov. 2008. <http://www.riss.kr/link?id=A76306949>. Poster Presentation

Tech Reports, Computer Codes, and Others

15. Elena Fernandez Bravo, Sunil Tamang, Yong Hoon Lee[†], and James T. Allison. *Surrogate based co-design coupling analysis for floating offshore wind turbines*. ArXiv e-prints. Apr. 2026. <https://doi.org/10.48550/arXiv.2604.22969>
14. Nikhar J. Abbas, Daniel Zalkind, Pietro Bortolotti, John Jasa, Rafael M. Mudafort, Jake Nunemaker, Mayank Chetan, Eliot Quon, Yingqian Liao, Dakota Sky Ramos, Cory Frontin, Garrett Barter, Sora Ryu, Yong Hoon Lee, Athul Krishna Sundarajan, Evan Gaertner, E. Branlard, Sebastiaan Mulders, Alicia Key, David Heffernan, Gerrit Motes, Jenni Rinker, Paul-Emile Meunier, Xianping Du, and amoratoc. *NLRWindSystems/WEIS*. Computer Code. Zenodo, Mar. 2026. <https://doi.org/10.5281/zenodo.6321430>. <https://github.com/NLRWindSystems/WEIS>
13. Joshua A. Polk. *MECH 4391 Mechanical Engineering Project: Optimizing wind farm design: Leveraging FLORIS for wake steering and flow control*. Technical Report. The University of Memphis, May 2024. Project supervised by Dr. Yong Hoon Lee
12. Saeid Bayat, Yong Hoon Lee, and James T. Allison. *Nested control co-design of a spar buoy horizontal-axis floating offshore wind turbine*. ArXiv e-prints. Oct. 2023. <https://doi.org/10.48550/arXiv.2310.15463>
11. Yong Hoon Lee. *Fluid Mechanics Laboratory: Lab Manual*. Technical Manual. The University of Memphis, July 2023
10. Yong Hoon Lee. *Thesis and Dissertation LaTeX Template for the University of Memphis*. Computer Code. The University of Memphis, Feb. 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*. Computer Code. Feb. 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*. Computer Code. Jan. 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*. Computer Code. Dec. 2020. <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*. Computer Code. Oct. 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 e-prints. Aug. 2019. <https://doi.org/10.31224/osf.io/2mtfu>
4. Yong Hoon Lee. *Multiobjective adaptive surrogate modeling-based optimization (MO-ASMO) toolbox II*. Computer Code. Aug. 2018. <https://github.com/yonghoonlee/MO-ASMO-II>
3. Yong Hoon Lee. *Multiobjective adaptive surrogate modeling-based optimization (MO-ASMO) toolbox I*. Computer Code. Aug. 2017. <https://github.com/yonghoonlee/MO-ASMO-I>
2. Daniel R. Herber, Yong Hoon Lee, and James T. Allison. *DTQP Project*. Computer Code. June 2017. <https://github.com/danielrherber/dt-qp-project>
1. Yong Hoon Lee. *A modular code for teaching surrogate modeling-based optimization*. Computer Code. Apr. 2017. https://github.com/yonghoonlee/SMB0_TeachingTool

Instruction

Primary Instructions

- | | |
|---|--|
| 9. MECH 7355/8355 Engineering Optimization | Spring 2026 |
| 8. MECH 3335 Fluid Mechanics Lab | Spring 2026, Fall 2025,
Spring 2025, Fall 2024, Spring 2024, Fall 2023, Spring 2023 |
| 7. MECH 3319 Engineering Econ and Project Mgmt | Fall 2025, Spring 2025 |
| 6. MECH 4316/6316 Energy Systems/Optimization | Fall 2024 |
| 5. MECH 7901/8901 ST: Multidisciplinary Design Optimization | Spring 2024 |
| 4. MECH 7341/8341 Engineering Analysis I | Fall 2023 |
| 3. MECH 4305/6305 Fluid Mechanics II | Spring 2023 |
| 2. MECH 3331 Fluid Mechanics I | Fall 2022 |
| 1. Machine Component Design (Masan University, Changwon, South Korea) | Spring 2014 |

Guest Lectures and Other Instructions

8. **MECH 4314** Senior Design I Fall 2023, Fall 2022
 Oct 26, 2023: Engineering design optimization: practical tutorial
 Nov 8, 2022: Engineering design optimization: practical tutorial
7. **MAE 5350** Multidisciplinary Design Optimization (at Cornell University, Ithaca, NY) Spring 2023
 Apr 25, 2023: Multidisciplinary design optimization and control co-design in renewable energy systems design
6. **SE 413** Engineering Design Optimization Spring 2017, Spring 2020
 Spring 2020: guest lecture on surrogate-based optimization
 Spring 2017: assisted curriculum development + guest lecture on surrogate-based optimization (University of Illinois at Urbana-Champaign, Urbana, IL)
5. **SE 320** Control Systems Fall 2019
 (Laboratory teaching assistant, University of Illinois at Urbana-Champaign, Urbana, IL)
4. **ME 310** Fundamentals of Fluid Dynamics Spring 2019
 (Laboratory teaching assistant, University of Illinois at Urbana-Champaign, Urbana, IL)
3. Numerical Analysis Spring 2009, Spring 2010
 (Teaching assistant, Ajou University, Suwon, South Korea)
2. Computational Fluid Dynamics Fall 2009
 (Co-Instructor, Teaching assistant, Ajou University, Suwon, South Korea)
1. Engineering Drawing and Computer Aided Design Fall 2008
 (Laboratory teaching assistant, Ajou University, Suwon, South Korea)

Student Research Supervision

Advisees and Mentees (and My Role)

27. Jackson J. Pittman, B.S. Student (Undergraduate Research Supervisor) May 2026 – present
26. Sophia Naweed, B.S. Student (Undergraduate Research Supervisor) Jan 2026 – present
25. Jayce A. Fiene, B.S. Student (NSF InteGRATE Research Supervisor) Oct 2025 – present
24. Madison T. Galloway, B.S. Student (NSF InteGRATE Research Supervisor) Oct 2025 - present
23. Aileen Catalina Zavala, M.S. Student (Director of Thesis Research) Aug 2025 – present
22. Sunil Tamang, Ph.D. Student (Director of Dissertation Research) Aug 2024 – present
21. Nowsheen Sharmili, Ph.D. Student (Co-Director of Dissertation Research) Dec 2022 – present
20. Hamza Dakhalalah, Non-Thesis M.S. Student (Project Supervisor) Aug 2023 - May 2024
19. Josh A. Polk, B.S. Student (Undergraduate Research Supervisor) Spe 2023 – May 2024
18. Austin L. Griffin, M.S. Student (Director of Thesis Research) Oct 2022 – May 2024
17. Chandler S. Cain, M.S. ABM Student (Director of Thesis Research) Aug 2022 – May 2024
16. Dhritiman Roy, M.S. Student (Thesis Research Mentor) Mar 2023 – Apr 2025
15. Yu Wang, Non-Thesis M.S. Student (Project Mentor) Mar 2023 – Dec 2023

14. Nowsheen Sharmili, Ph.D. Student (Dissertation Research Mentor)	May 2022 – Aug 2022
13. Prerna Rathi, Non-Thesis M.S. Student (Project Mentor)	Jan 2022 – Aug 2022
12. Mika Lew, B.S. Student (Undergraduate Research Mentor)	Sep 2021 – May 2022
11. Dario Rodriguez Claudio, M.S. Student (Thesis Research Mentor)	Jun 2021 – Aug 2022
10. Annabella Console, B.S. Student (Undergraduate Research Mentor)	Jun 2021 – Sep 2021
9. Jane Li, B.S. Student (Undergraduate Research Mentor)	Jan 2021 – May 2021
8. Sagar Sachdev, B.S. Student (Undergraduate Research Mentor)	May 2020 – Apr 2021
7. Daniel Moreno, B.S. Student (Undergraduate Research Mentor)	May 2020 – Aug 2020
6. Kinga Wrobel, B.S. Student (Undergraduate Research Mentor)	Dec 2019 – May 2020
5. Gayatri Dandu, B.S. Student (Undergraduate Research Mentor)	Jan 2019 – Dec 2019
4. Abbey Merges, B.S. Student (Undergraduate Research Mentor)	Jan 2019 – Dec 2019
3. Angad Paintal, M.S. Student (Thesis Research Mentor)	May 2017 – Aug 2018
2. Chendi Lin, B.S. Student (Undergraduate Research Mentor)	May 2016 – May 2018
1. Abhinab Choudhury, Non-Thesis M.S. Student (Project Mentor)	Jan 2016 – Dec 2016

Senior Design Team Supervision

6. Pipe Inner Diameter Painting External Support: Donation of \$10,000 from ABB, Ltd. Student Lead: Michael Bowen Team Members: Evan Klement, Banu Seelam	Sep 2025 – May 2026
5. Wave Generating Pool Student Lead: Saylor Price Team Members: Elizabeth Lumsdaine, Timothy Warburton, Parker Ruffin	Sep 2024 – May 2025
4. Fill'er Up! Soap Manufacturing Process Improvement External Support: Donation of \$10,000 from Vanguard Soap Company Student Lead: Karston Salsbury Team Members: Daquala Butler, Zaid Mohamad, Nathan Kleiser	Sep 2024 – May 2025
Best Senior Design Award Department of Mechanical Engineering Presented at the Mechanical Engineering Pi Tau Sigma Banquet	Apr 30, 2025
3. Aerodynamic Design of Offshore Wind Turbine External Support: US DOE Collegiate Wind Competition 2024 (Phase II Prize of \$2,000) Student Lead: Aleks Vincent Team Members: Blake Acree, Daveren Coburn, Joseph Saucier	Sep 2023 – May 2024
2. Mechanical and Control Design of Offshore Wind Turbine External Support: US DOE Collegiate Wind Competition 2024 (Phase II Prize of \$2,000) Student Lead: Nihar Patel Team Members: Marlon Young, Adrian Lewis	Sep 2023 – May 2024
1. Energy Harvester Design Utilizing Fluid Flow Phenomena Student Lead: Cecil Shipley Team Members: Devin Allen, Brooke Calvo, Josh Foster	Sep 2022 – May 2023

Grants

External Research Grants

3. **NSF 2505397** Sep 1, 2025 – Aug 31, 2028
Project: “IRES: International Grid Research and Advanced Training in Energy (InteGRATE)”
PI: Alexander J. Headley
Co-PI: Yong Hoon Lee
Co-PI: Mohammadreza Davoodi
National Science Foundation (NSF), Alexandria, VA, USA
2. **US DOE ARPA-E DE-AR-0001766** Sep 5, 2023 – Sep 4, 2026
Project: “Wind Energy with Integrated Servo-control (WEIS): A Toolset to Enable Controls Co-Design of Floating Offshore Wind Energy Systems (Phase 2)”
Prime: National Renewable Energy Laboratory
UofM PI: Yong Hoon Lee
US DOE Advanced Research Programs Agency–Energy (ARPA-E), Washington, DC, USA
1. **US DOE ARPA-E DE-AR-0001179** Jan 1, 2023 – Oct 15, 2023
Project: “A Low-Cost Floating Offshore Vertical Axis Wind System”
Prime: University of Texas at Dallas
UofM PI: Yong Hoon Lee
US DOE Advanced Research Programs Agency–Energy (ARPA-E), Washington, DC, USA

Internal Research Grants

1. **Community of Research Scholar** Nov 30, 2022 – Jun 30, 2023
Project: “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

External Educational Grants

1. **US DOE Collegiate Wind Competition (CWC) 2024** Phase II Award Sep 1, 2023 – May 31, 2024
Project: Student educational activities in learning wind turbine technologies and designing prototype toward Phase III competition.
Senior/Key Personnel: Yong Hoon Lee
US Department of Energy, Washington, DC, USA

Service to the University

Departmental Committee

1. Department of Mechanical Engineering Graduate Process Team Aug 15, 2022 – present

Thesis and Dissertation Committee

19. Omar Haitham Alyousef (Dissertation Committee Member) Aug 03, 2026 – present
Service Started: Aug 03, 2026 / Proposal Defense: TBD /
Final Defense: TBD / Graduation: TBD
18. Ayush Gupta (Dissertation Committee Member) Jul 01, 2026 – present
Service Started: Jul 01, 2026 / Proposal Defense: Aug 6, 2026 /

	Final Defense: TBD / Graduation: TBD	
17.	Javier Mauricio Zaraza Espinosa (Dissertation Committee Member) Service Started: Jul 01, 2026 / Proposal Defense: Jul 23, 2026 / Final Defense: TBD / Graduation: TBD	Jul 01, 2026 – present
16.	Mahtab Rahmati (Dissertation Committee Member) Service Started: Jun 22, 2026 / Proposal Defense: Aug 6, 2026 / Final Defense: TBD / Graduation: TBD	Jun 22, 2026 – present
15.	Md Al Imran Hasan Sharker (Dissertation Committee Member) Service Started: Apr 13, 2026 / Proposal Defense: May 12, 2026 / Final Defense: TBD / Graduation: TBD	Apr 13, 2026 – present
14.	Nowsheen Sharmili (Dissertation Committee Member) Service Started: Oct 21, 2025 / Preliminary Exam: Nov 12, 2025 / Final Defense: TBD / Graduation: TBD	Oct 21, 2025 – present
13.	Jennifer Elizabeth Farler (Thesis/Dissertation Committee Member) Service Started: Sep 2, 2025 / MS Proposal Defense: Sep 26, 2025 / MS Thesis Final Defense: May 5, 2026 / PhD Proposal Defense: TBD / PhD Dissertation Final Defense: TBD / Graduation: TBD	Sep 2, 2025 – present
12.	David Thomas Braese (Thesis Committee Member) Service Started: Aug 18, 2025 / Proposal Defense: Sep 26, 2025 / Final Defense: May 5, 2026 / Graduation: August 2026	Aug 18, 2025 – Aug 2026
11.	Aileen Catalina Zavala (Thesis Committee Chair) Service Started: Aug 18, 2025 / Proposal Defense: TBD / Final Defense: TBD / Graduation: TBD	Aug 18, 2025 – present
10.	Zachary David Wyatt (Dissertation Committee Member) Service Started: Jun 13, 2025 / Proposal Defense: Jul 10, 2025 / Final Defense: TBD / Graduation: TBD	Jun 13, 2025 – present
9.	Sunil Tamang (Dissertation Committee Chair) Service Started: Aug 26, 2024 / Proposal Defense: Aug 5, 2026 / Final Defense: TBD / Graduation: TBD	Aug 26, 2024 – present
8.	Hamid Hafezi (Dissertation Committee Member) Service Started: Aug 26, 2024 / Proposal Defense: Aug 21, 2025 / Final Defense: TBD / Graduation: TBD	Aug 26, 2024 – present
7.	Apratim Dasgupta (Dissertation Committee Member) Service Started: Jun 2, 2023 / Proposal Defense: Aug 4, 2023 / Final Defense: Aug 4, 2026 / Graduation: TBD	Jun 2, 2023 – present
6.	Efat Mohammadi (Dissertation Committee Member) Service Started: Oct 3, 2023 / Proposal Defense: Dec 11, 2023 / Final Defense: Oct 20, 2025 / Graduation: December 2025	Oct 3, 2023 – Dec 2025
5.	Sravan Kumar Dumpeti (Thesis Committee Member) Service Started: Feb 6, 2025 / Final Defense: Mar 28, 2025 / Graduation: May 2025	Feb 6, 2025 – May 2025
4.	Sophie Abigail Wood (Thesis Committee Member) Service started: Nov 24, 2024 / Proposal defense: Dec 10, 2024 / Final defense: Mar 26, 2025 / Graduation: May 2025	Nov 24, 2024 – May 2025

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| 3. Venkata Srinuvas Sai Kiran Madugula (Thesis Committee Member)
Service Started: Dec 12, 2022 / Proposal Defense: Jul 7, 2023 /
Final Defense: Feb 21, 2024 / Graduation: May 2024 | Dec 12, 2022 – May 2024 |
| 2. Austin Griffin (Thesis Committee Chair)
Service Started: Oct 14, 2022 / Proposal Defense: Dec 8, 2023 /
Final Defense: Mar 15, 2024 / Graduation: May 2024 | Oct 14, 2022 – May 2024 |
| 1. Chandler S. Cain (Thesis Committee Chair)
Service Started: Aug 15, 2022 / Proposal Defense: Sep 7, 2023 /
Final Defense: Dec 5, 2023 / Graduation: May 2024 | Aug 15, 2022 – May 2024 |

Exam Committee

- | | |
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| 4. Qualifying Exam Fluid Mechanics | Spring 2026, Fall 2025, Fall 2024, Spring 2023 |
| 3. Qualifying Exam Engineering Analysis I/II | Spring 2025, Spring 2024 |
| 2. M.S. Comprehensive Exam Gowthami Lakshmi Prasanna Dasari | Apr 25, 2024 |
| 1. M.S. Comprehensive Exam Daniel Hrvoich | Feb 8, 2023 |

New Graduate Program Proposal Development

- | | |
|---|-----------------------------|
| 2. Proposal: Graduate Certificate Program in Nuclear Engineering | Sep 19, 2024 – Nov 19, 2024 |
| 1. Proposal: Graduate Degree/Certificate Program in Systems Engineering | Nov 2, 2023 – Nov 19, 2024 |

Service to the Profession

Review Panelist

- | | |
|---|----------------------------|
| 4. National Defense Science and Engineering Graduate Fellowship Program | Dec 2, 2025 - Jan 26, 2026 |
| 3. ASEE Engineering Postdoctoral Fellowship (eFellows) Program | Nov 2, 2025 - Dec 31, 2025 |
| 2. National Defense Science and Engineering Graduate Fellowship Program | Dec 2, 2024 - Jan 20, 2025 |
| 1. Dutch Research Council NWO Talent Programme: Veni 2023 | Feb 12, 2023 - Mar 2, 2023 |

Academic and Professional Society

[Conferences]

- | | |
|---|-----------------------------|
| 5. Review Coordinator, Session Organizer & Chair
DFMLC-11/DAC-17: Joint Session: Modeling and Optimization for Sustainable Design and Manufacturing
<i>Design for Manufacturing and the Life Cycle Conference,</i>
<i>Design Automation Conference,</i>
<i>ASME International Design Engineering Technical Conferences, Houston, TX, USA</i> | Mar 19, 2026 – Aug 26, 2026 |
| 4. Session Organizer & Chair
Session 9-1: Data Driven Design
<i>Track 2: Advanced Design and Information Technologies,</i>
<i>ASME International Mechanical Engineering Congress & Exposition, Memphis, TN, USA</i> | Sep 01, 2025 – Nov 20, 2025 |

3. **Review Coordinator, Session Organizer** Mar 17, 2025 – Aug 20, 2025
DFMLC-3 Modeling and Optimization for Sustainable Design and Manufacturing
Design for Manufacturing and the Life Cycle Conference,
ASME International Design Engineering Technical Conferences, Anaheim, CA, USA
2. **Review Coordinator, Session Organizer & Chair** Mar 15, 2024 – Aug 28, 2024
DFMLC-8 Modeling and Optimization for Sustainable Design and Manufacturing
Design for Manufacturing and the Life Cycle Conference,
ASME International Design Engineering Technical Conferences, Washington, DC, USA
1. **Review Coordinator, Session Organizer & Co-Chair** Nov 5, 2022 – Aug 23, 2023
DFMLC-2 Modeling and Optimization for Sustainable Design and Manufacturing
Design for Manufacturing and the Life Cycle Conference,
ASME International Design Engineering Technical Conferences, Boston, MA, USA

[Technical Committee]

4. Renewable Energy and Energy Conversion Technical Committee (REEC TC) Nov 1, 2023 – present
ASME Advanced Energy System Division, New York, NY, USA
3. Design Automation Conference Technical Committee (DAC TC) Aug 22, 2023 – present
ASME Design Engineering Division (DED), New York, NY, USA
2. Design for Manufacturing and the Life Cycle Technical Committee (DFMLC TC) Aug 21, 2023 – present
ASME Design Engineering Division (DED), New York, NY, USA
1. Fluid Applications & Systems Technical Committee (FASTC) Nov 6, 2022 – Dec 31, 2025
ASME Fluid Engineering Division (FED), New York, NY, USA

Manuscript Peer Review

[Journal Manuscripts]

13. Proceedings of the Institution of Mechanical Engineers,
Part C: Journal of Mechanical Engineering Science 2026(1)
12. Journal of Mechanical Design 2020(2), 2022(1), 2023(4), 2025(6), 2026(4)
11. IEEE Transactions on Control Systems Technology 2026(1)
10. Scientific Reports 2025(1), 2026(1)
9. Structural and Multidisciplinary Optimization 2019(1), 2020(5), 2021(2), 2022(5), 2023(2)
2024(1), 2025(1), 2026(2)
8. Wind Energy 2021(1), 2022(4), 2025(1), 2026(1)
7. Optimization and Engineering 2024(2), 2025(1)
6. Aviation 2025(1)
5. Journal of Dynamic Systems, Measurement, and Control 2025(1)
4. Wind Energy Science 2023(2)
3. Advances in Tribology 2020(1)
2. Engineering Optimization 2020(1)
1. Engineering Computations 2015(1)

[Conference Proceedings Manuscripts]

5. ASME International Design Engineering Technical Conferences 2017(4), 2018(3), 2023(5), 2024(7), 2025(9)
2026(13)
4. ASME International Mechanical Engineering Congress and Exposition 2023(3), 2025(3)
3. AIAA SciTech Forum and Exposition 2023(1), 2024(1), 2025(4)
2. AIAA AVIATION Forum and Exposition 2022(11), 2023(8)
1. ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems 2019(1)

Service to the Community

Educational Outreach

4. **TVA Allen Combined-Cycle Power Plant Tour** Organizing Apr 24, 2025
Organized a tour to TVA Southaven Combined-Cycle Power Plant to provide student learning experience on the power plant facilities during scheduled maintenance.
Tennessee Valley Authority Allen Combined Cycle Plant, Memphis, TN, USA
3. **Mini-Conference** Hosting/Organizing Jun 27, 2023
Topic: Fluid Dynamics in Astrophysics and Engineering Domains
Hosted a mini-conference as a part of Community of Research Scholars (CoRS) grant research activity.
Approximately 10 students from both Mechanical Engineering and Physics departments attended.
The University of Memphis, Memphis, TN, USA
2. **TVA Southaven Combined-Cycle Power Plant Tour** Organizing May 2023
Organized a tour to TVA Southaven Combined-Cycle Power Plant to provide student learning experience on the power plant facilities during scheduled maintenance. Potential collaborative research and educational opportunities discussed.
Tennessee Valley Authority Southaven Combined Cycle Plant, Southaven, MS, USA
1. **Junior Scientist Day** K-12 STEM Outreach Apr 2017
Topic: Dynamics of reconfigurable trebuchet demonstration
Presented a hands-on demonstration of trebuchets with simulation and experimentation as a part of the Urbana School District Junior Scientist Day.
Yankee Ridge Elementary School, Urbana, IL, USA

Other Outreach

2. **CCL Label Specialty Plant** 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.
CCL Label Memphis, Specialty Plant, Collierville, TN, USA
1. **TVA HQ and TVA Raccoon Mountain Pumped-Storage Plant** 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.
Tennessee Valley Authority Headquarter, Chattanooga, TN, USA

Professional Memberships, Activities, and Collaboration

Professional Development Activities

[Grant Writing Training]

4. UofM NSF CAREER Grant Writing Cohort
*Division of Research & Innovation,
The University of Memphis, Memphis, TN* Apr 2 – Jul 23, 2025
3. NSF Virtual Grants Conference
National Science Foundation, Alexandria, VA, USA Jun 5-8, 2023
2. NSF CAREER Program Webinar
National Science Foundation, Alexandria, VA, USA May 15, 2023
1. NSF Virtual Grants Conference
National Science Foundation, Alexandria, VA, USA Nov 14-17, 2022

[Teaching Effectiveness Training]

2. Teaching and Leadership Seminar Series
*Center for Innovation in Teaching & Learning,
University of Illinois at Urbana-Champaign, Urbana, IL, USA* Spring 2019
1. Graduate Academy for College Teaching
*Graduate College,
University of Illinois at Urbana-Champaign, Urbana, IL, USA* Jan 9-11, 2019

[Other Scholarly Training]

1. Mavis Future Faculty Fellows (MF3) Academy
A series of workshops, seminars, and activities that cover three main components of the Mavis Future Faculty Fellows (MF3) program: research, teaching, and mentoring.
*Grainger College of Engineering,
University of Illinois at Urbana-Champaign, Urbana, IL, USA* Aug 2019 – May 2020

Professional Society Memberships

5. **Member** International Society for Structural and Multidisciplinary Optimization (ISSMO) 2019 – present
4. **Member** American Institute of Aeronautics and Astronautics (AIAA) 2017 – present
3. **Member** American Society of Mechanical Engineers (ASME) 2015 – present
2. **Member** Korean-American Scientists and Engineers Association (KSEA) 2022 – present
1. **Student Member** Korean Society for Computational Fluids Engineering (KSCFE) 2010 – 2013

Collaborations

[Active External Collaborations]

3. Samara Aerospace (Dr. Vedant, CTO, and Dr. Ryan Noe, Director of ME) 2025 – present
2. Christian Brothers University (Dr. Deepa Kodali) 2023 – present
1. University of Illinois at Urbana-Champaign (Dr. James T. Allison) 2022 – present

[Active Internal Collaborations]

- | | |
|---|----------------|
| 4. Dynamics and Controls Lab (Dr. Vipin Agarwal) | 2023 – present |
| 3. Autonomous & Complex Systems Lab (Dr. Mohammadreza Davoodi) | 2023 – present |
| 2. Fluid Dynamics + Computational Science Lab (Dr. Daniel Foti) | 2022 – present |
| 1. Energy System Control and Optimization Lab (Dr. Alexander Headley) | 2022 – present |

[Past Collaborations]

- | | |
|---|-------------|
| 16. National Laboratory of the Rockies (Dr. Daniel Zalkind, Dr. Alan D. Wright) | 2020 – 2025 |
| 15. Tennessee Valley Authority (TVA) | 2023 – 2025 |
| 14. Florida Institute of Technology (Dr. Anand Nellippallil) | 2024 – 2025 |
| 13. Vanguard Soap LLC (Chris Buzard, CEO) | 2024 – 2025 |
| 12. University of Arkansas (Dr. Jenn Campbell) | 2024 – 2025 |
| 11. University of North Carolina at Charlotte (Dr. John Hall) | 2024 – 2025 |
| 10. American Bureau of Shipping (ABS, Dr. Xi-Ying Zhang) | 2024 – 2025 |
| 9. Artimus Robotics (Dr. Shane Mitchell, CTO) | 2024 – 2025 |
| 8. Ecobee | 2023 – 2024 |
| 7. Aquantis, Inc. (Henry Swales, Chief Engineer) | 2023 – 2024 |
| 6. University of Texas at Dallas (Dr. Todd Griffith) | 2020 – 2024 |
| 5. CCL Label Memphis, Specialty Plant, Collierville, TN | 2023 |
| 4. Sandia National Laboratories (Dr. Reed Wittman) | 2023 |
| 3. UofM Physics and Materials Science (Dr. Benjamin Keller) | 2022 – 2023 |
| 2. Colorado State University (Dr. Daniel R. Herber) | 2020 – 2022 |
| 1. VL Offshore, LLC (Dr. Sung Youn Boo) | 2020 – 2022 |