Curriculum Vitae

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Curriculum vitae

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RESEARCH INTEREST

Computational and data-enabled science and engineering (CDS&E) and its applications in multiphysics and multiscale systems engineering, including thermal and fluid, energy, aeroservoelasticity, autonomous vehicle/systems, biomedical, and others.

- Physics-based adaptive modeling, from high-fidelity multiphysics CFD/FEM analysis to reduced order modeling and closed-form modeling for real-time simulation, trade space exploration, and process control

- Data-driven multi-fidelity surrogate modeling for multidisciplinary analysis and optimization, large-scale system-level simulation, adaptive model integration, etc.

- Massive and real-time data analytics, discovery, and management, including engineering data mining, parameter estimation, uncertainty quantification, machine learning, and green computing & visualization

- Cyberphysical and autonomous systems, including model development, AI, system design, control synthesis, hardware development, and experimentation with the long-term goal towards autonomous systems and engineering intelligence

EDUCATION

Ph.D., Mechanical Engineering, **Carnegie Mellon University**, *U.S.A*, Dec. 2005

M.S., Refrigeration and Cryogenics, **Shanghai Jiao Tong University**, *China*, Dec. 2000

B.S., Refrigeration and Cryogenics, **Shanghai Jiao Tong University**, *China*, Jul. 1998

EMPLOYMENT HISTORY

University of South Carolina   Columbia, South Carolina
Department of Mechanical Engineering
  Herty Endowed Chair   Oct. 2025 – Present
  Professor   Jan. 2024 – Present
  Associate Professor   Aug. 2017 – Dec. 2023

CFD Research Corporation   Huntsville, Alabama
  Director   Aug. 2014 – Aug. 2017
  Manager   Dec. 2011 – Aug. 2014
  Group Leader   Dec. 2009 – Dec. 2011
  Senior Engineer   Dec. 2007 – Dec. 2009
  Engineer   Oct. 2005 – Dec. 2007

HONORS AND AWARDS

- **Herty Endowed Chair** in Engineering, University of South Carolina, October 2025.
- **2021 Breakthrough Stars** Award of University of South Carolina, Jan. 2021.
- **2023 Research Progress Award** of Molinaroli College of Engineering and Computing, University of South Carolina, Feb. 2024.
- **2021-2025 Dean's Excellence Award for Research and Scholarship,** Molinaroli College of Engineering and Computing, University of South Carolina.
- **AIAA Senior Member**, Mar. 2022.
- **Special Issue Editor** for "Artificial Intelligence and Its Application in Robotics", 2024-2025
- **Editorial Board Member** of Discover Applied Sciences (**Springer Nature**), Jan. 2023.
- **Editorial Board Member** of SN Applied Sciences (**Springer Nature**), Sept. 2022.
- **Topical Advisory Panel Member** of Aerospace journal (MDPI), 2021.
- Chair for Track 5: Advances in Aerospace Technology (co-organizing 19 topics), International Mechanical Engineering Congress and Exposition (IMECE), ASME, 2023-2024
- Co-chair for Track 5: Advances in Aerospace Technology (co-organizing 17 topics), International Mechanical Engineering Congress and Exposition (IMECE), ASME, 2022-2023
- Co-chair for Structural Dynamics Track, ASME Aerospace Structures, Structural Dynamics, and Materials (SSDM) Conference, ASME, 2024-2025
- **Secretary of Technical Committee (TC)** of Structure Dynamics, Aerospace Division, ASME, 2024- Present.
- **Technical Committee (TC) Member** of Structures and Materials, Aerospace Division, ASME, 2019- 2024.
- **Technical Committee (TC) Member** of Non-deterministic Approaches, AIAA, 2023- Present.
- First author recipient of **"Best Paper Award"** of the Modeling Simulation & Software Technical Session in the 13th Ground Vehicle Systems Engineering & Technology Symposium organized by National Defense Industrial Association (NDIA)
- Coauthor for **"Best Industry Paper Award"**, The 2020 IEEE International Conference on Prognostics and Health Management.
- Awards to students/postdocs under my supervision:
  - Dr. Junlin Ou (Postdoc): Second Place in the **Poster Presentation Competition** in Discover USC 2024.
  - Mr. Ge Song (Ph.D. Candidate): Third Place in **Graduate Student Competition** in 2023 IEEE Southeast Conference.
  - Mr. Junlin Ou (Ph.D. Candidate): Award of **SPARC Graduate Research Grant** in the University of South Carolina for the project entitled "Autonomous Multi-Robot Cooperation and Real-time Planning for Intelligent Manufacturing and Warehousing".
  - Mr. Benjamin Albia (MS Student): 2020 **Army Research Laboratory Student Summer Fellowship**
  - Dr. Jung Il Shu (Postdoc): The second place in **Postdoctoral Poster Session Competition** in the DiscoverUofSC 2022 Technology Showcase.
  - Dr. Jung Il Shu (Postdoc): **ASPIRE-I Award** in the University of South Carolina for the project entitled "A Framework based on Parametric Reduced Order Modeling and Large Computational Data Analytics for Hypersonic Flow Analysis ".
  - Dr. Seong Hyeon Hong (Postdoc): **ASPIRE-I Award** in the University of South Carolina for the project entitled "Embedded Machine Learning Platform for Automated Fault Detection and Mitigation in Dynamic Systems".

- **Cover Story** of Analytical Methods (Royal Society of Chemistry), "Identification of Mesenchymal Stem Cell Differentiation State Using Dual-Micropore Microfluidic Impedance Flow Cytometry", Nov. 2016.
- **Cover Story** of Analytical Methods (Royal Society of Chemistry), "Concurrent DNA Preconcentration and Separation in Bipolar Electrode-Based Microfluidic Device", Feb. 2015.
- **NASA Technical Innovation Brief Awards**: "Method and Apparatus for Automated Isolation of Nucleic Acids from Small Cell Samples" MSC-24375-1, 2012.
- **Hot Article** of *Lab on a chip* (Royal Society of Chemistry), "System-Oriented Dispersion Models of General Shaped Electrophoresis Channels". The paper has been recognized as "**very significant**" to the field of integrated biological and chemical microsystems. July 2004
- **Best Poster Award**, Microfluidic/Biosensor Workshop at University of Pennsylvania, June 2003
- **National Excellence Scholarship**, Shanghai Jiao Tong University, P.R. China, Oct. 2000
- **National Excellence Scholarship**, Shanghai Jiao Tong University, P.R. China, Oct. 1999
- **Excellent Graduate**, Shanghai Jiao Tong University, P.R. China, June 1998
- **First Prize of Wanbang & Cao Wenjin Scholarship**, Shanghai Jiao Tong University, Mar. 1998
- **Excellent Student**, Shanghai Jiao Tong University, P.R. China, Oct. 1997
- **Second Prize of the Excellence Scholarship** of Shanghai Jiao Tong University, Sep.1997
- **Third Prize of the Excellence Scholarship** of Shanghai Jiao Tong University, Sep. 1996
- **Excellent Student**, Shanghai Jiao Tong University, P.R. China, Oct. 1995
- **Second Prize of the Excellence Scholarship** of Shanghai Jiao Tong University, Sep. 1995

RESEARCH SUPERVISION

A. Research Faculty, Postdoctoral Fellow, and Project Manager

1. Dr. Doug Cahl (05/2023 – **Present**). Topic: EO/IR and Radar Data Acquisition in Littorals
2. Dr. Chad Sevart (08/2022 – **Present**). Topic: Multifidelity Optimization and Controller Design
3. Christopher Papageorgiou (10/2024-– **Present**). Topic: Autonomous Maritime Systems
4. Bradley Huffman (07/2025 – **Present**). Topic: Maritime Multi-Utility Perception Platform (M^{2}UP^2) Development.
5. Nicholas Liger (09/2025– **Present**). Projects Coordination and Management.
6. Dr. Junlin Ou (01/2024 – 07/25). Topic: Real-time Edge Computing for Autonomous Systems
7. Dr. Jinhyuk Kim (08/2022 – 12/2024). Topic: Aeroelastic Reduced Order Modeling and Energy and Health Monitoring of Manufacturing Systems
8. Dr. Xianzhang Xu (09/2023 – 08/2023). Topic: Aeroelastic Reduced Order Modeling and Synthesis for Aerostructural Control
9. Dr. Jaechan Lim (07/2022 – 07/2023). Topic: Signal Processing of EO/IR Sensor Data in Littoral Environments and data assimilation of numerical weather prediction.
10. Dr. Jung Shu (09/2019 – 03/2023). Topic: Multiphysics CFD Analysis and Reduced Order Modeling
11. Dr. Seong Hyeon Hong (08/2018–06/2022). Topic: Data driven modeling and online machine learning and model predictive control
12. Dr. Jin Pyo Lee (09/2021-10/2021). Topic: Deep learning modeling and optimization for guided weapons
13. Dr. Zhuocheng Jiang (07/2020–10/2021). Topic: Deep learning and computer vision for intelligent traffic systems.
14. Dr. Roozbeh Golshan (01/2019–05/2019). Topic: Nonlinear reduced order modeling for ground vehicle thermal analysis
15. Dr. Shengwei Zhu (11/2017–02/2019). Topic: Data driven modeling, data analytics, and multiphysics simulation.

B. Ph.D. Students

1. Feng Bai (08/2017 – 08/2021: **Completed**). Topic: Reduced order modeling based on hybrid snapshot simulation
2. Haizhou Yang (08/2018 – 05/2022: **Completed**). Topic: Multi-Fidelity Surrogate and Reduced-Order Model-Based Microfluidic Concentration Gradient Generator Design
3. Feng Guo (08/2018 – 12/2021: co-advise with his major advisor, Prof. Yu Qian in Civil and Environmental Engineering, **Completed**). Topic: Computer Vision-Based Automatic Railroad Crossing Monitoring and Track Inspection
4. Junlin Ou (01/2020 – 12/2023: **Completed**). Topic: Real-time Edge Computing for Autonomous Systems
5. Fatemeh Hashemian (01/2020-08/2024: **Completed**. I became her dissertation research advisor starting in May 2022). Topic: Structural Dynamics Reduced Order Models.
6. Ge Song (08/2021–12/2025: **Completed**). Topic: Recognizing the Unexpected: Deep Learning across Complex Environments
7. Jacob Rains (05/2021–**present**). Topic: Non-intrusive Nonlinear Thermal Reduced Order Modeling of Ground Vehicles.
8. Md Asfiqur Rahman (08/2021–**present: Passed PhD Comprehensive Exam**). Topic: Multiphase CFD Investigation on Transport Behavior of Ballast Drainage
9. Jiawei Guo (01/2022–**present: Passed PhD Comprehensive Exam**). Topic: Image Processing and Computer Vision for Rail Track Inspection

10. Md Amanullah Kabir Tonmoy (08/2022–**present**). Topic: Multifidelity surrogate modeling and optimization of track-vehicle interaction

11. Yichuan Cao (08/2022 – **Present**). Topic: Modeling and Optimization of Energy Consumption of Robotic Systems

12. Luke Bagan (01/2022 – **Present**). Topic: Reliable Perception for Unmanned Maritime Systems

13. Jacob Whisenant (08/2025 – **Present**). Topic: Data Acquisition and Sensor Fusion in Littoral Environments

14. Boshi Chen (08/2024– **Present**). Topic: Autonomous UAV through Congested Environments

15. Bijay Paudel (08/2025– **Present**). Topic: Anomaly Detection for Structural Non-Destructive Testing

16. William Krolick (08/2019–08/2021). Topic: State-consistent parametric aeroelastic reduced order model database

C. <u>M.S. Students</u>

1. Colby Weeks (08/2024-12/2025: **Completed**). Topic: Surface Characterization in Littoral Environments

2. Jacob Whisenant (08/2023 – 08/2025: **Completed**). Topic: Database Development for Reliable Small Object Detection in Maritime Environments

3. Luke Bagan (01/2022– 12/2023: **Completed**). Topic: Wide View And Line Filter For Enhanced Image Gradient Computation And Edge Determination

4. Yichuan Chao (01/2022– 08/2023: **Completed**). Topic: GPU-Enabled Genetic Algorithm Optimization and Path Planning of Robotic Arm for Minimizing Energy Consumption

5. Tristan Kyzer (08/2019– 05/2021: **Completed**). Topic: Instrumentation and Experimentation Development for Robotic Systems

6. Benjamin Albia (08/2019– 12/2021: **Completed**). Topic: Nonlinear Intelligent Model Predictive Control of Mobile Robots

7. Devon Goshorn (08/2025-**Present**). Topic: An Integrated Surface Current Measurement System

8. James Zhan (08/2025-**Present**). Topic: Temporal Weather Prediction and Small Object Detection

9. James Cutler (05/2025-**Present**). Topic: Environmental Characterization and Perception in Littorals

10. Jackie Wang (08/2025-**Present**). Topic: Perception Sensor Instrumentation in Littorals

11. Jacob Vaught (08/2025-**Present**). Topic: Radar Signal Analysis in Littoral Environment

12. James Hale (01/2025-**Present**). Topic: Short-term Weather Pattern Prediction in Littoral Environments

13. Ty Dangerfield (08/2024-**Present**). Topic: Subsurface Characterization in Littoral Environments

14. Christian Turner (08/2020– 1/2022, co-advised with his major advisor, Prof. Bin Zhang at Electrical Engineering). Topic: Leader-Follower Formation Control based on Computer Vision and Lidar Sensing

TEACHING ACTIVITIES

University of South Carolina:

1. ASEP 466 – **Flight Dynamics and Control** (S 2021 - S2024)

2. EMCH 501– **Engineering Analysis I**: Graduate-level course (F 2019 – F 2024)

3. EMCH 201– **Introduction to Applied Numerical Methods**: Undergraduate-level course (S 2018, F 2018, S 2019, F 2019, S 2020)

4. EMCH 427– **Mechanical Engineering Senior Design**: Serving as Advisor on Senior Design Project (F 2017, F 2018, F 2019, F 2021, F2022, F2023)

5. EMCH 428– **Mechanical Engineering Senior Design**: Serving as Advisor on Senior Design Project and Competition (S 2018, S 2019, S 2020, S 2022, S 2023, S 2024)

PUBLICATIONS

#. Group members under my supervision
*** Corresponding author(s)**

A. Book Chapters

1. **Y. Wang**, Q. Lin* and T. Mukherjee, "Composable Behavioral Models and Schematic-Based Simulation of Electrokinetic Lab-on-a-Chip Systems," *Design Automation Methods and Tools for Microfluidics-Based Biochips*, 2006, pp. 109-142, K. Chakrabarty and J. Zeng, Eds. Norwell, MA: Springer.

2. A.S. Bedekar, **Y. Wang**, S. Krishanamoorthy*, S. S. Siddhaye, and S. Sundaram, "System-Level Simulation of Flow-Induced Dispersion in Lab-on-a-Chip Systems," *Design Automation Methods and Tools for Microfluidics-Based Biochips*, 2006, pp. 189-214, K. Chakrabarty and J. Zeng, Eds. Norwell, MA: Springer.

B. Book Reviews

1. H. Song#, **Y. Wang***, K. Pant, "Model Order Reduction," *Encyclopedia of Micro-and Nano-fluidics*, 2014, pp. 1-16, DOI: 10.1007/978-3-642-27758-0_1047-3, D. Li, Eds. Springer.

2. **Y. Wang***, A.S. Bedekar, S. Krishanamoorthy, S. Sundaram, A. K. Singhal, "Model Order Reduction," *Encyclopedia of Micro-and Nano-fluidics*, 2008, pp. 1382-1391, D. Li, Eds. Springer.

C. Refereed Journal Articles (104 in total)

2026:

1. Md Asfiqur Rahman#, Y. Qian, **Y Wang***, "Investigation of Particle Migration and Drainage Behavior in Railway Ballast Induced by Multiphase Flow Using a Coupled VOF-DEM Approach", Transportation Geotechnics, Vol. 57, Art. No. 101886, 2026, https://doi.org/10.1016/j.trgeo.2025.101886.

2. J. Guo#, G. Song#, **Y. Wang***, "A Memory and Retrieval Transformer-based Unsupervised Learning Model for Anomaly Detection and Segmentation", Pattern Recognition, Vol. 174, Art. No. 113004, 2026, https://doi.org/10.1016/j.patcog.2025.113004.

3. J. Rains#, D. Huang*, Y. Wang*, "Residual Dynamic Mode Decomposition with Control for Nonlinear Dynamic Systems", Structural and Multidisciplinary Optimization, Vol. 69, Art. No. 30, 2026, https://doi.org/10.1007/s00158-025-04205-6.

4. H. Yang#, A. Wold, J. Ou#, J.J. Rech, W. You*, **Y. Wang***, "OSC-Net: A Multi-fidelity Machine Learning Model for Organic Solar Cell", Journal of Materials Chemistry A, Vol. 14, 1208, 2026, https://doi.org/10.1039/D5TA08724D.

2025:

5. X.P. Truong, H. Jeon, **Y. Wang**, S.H. Hong*, "Monitoring Energy Consumption for Cyberattack Detection in Additive Manufacturing Systems", The International Journal of Advanced Manufacturing Technology, Vol. 140, 5637-5653, 2025, https://doi.org/10.1007/s00170-025-16551-2.

6. J. Guo#, Y. Qian, **Y. Wang***, "A Transfer-learning TNet for Multitask Railroad Inspection", Computers and Electrical Engineering, Vol. 127, Part B, Art. No. 110606, 2025, https://doi.org/10.1016/j.compeleceng.2025.110606.

7. G. Song#, J. Ou#, Y. Cao#, **Y. Wang***, "An Energy Auditing System based on Learnable Positional Embedding and Edge Computing for in-situ Monitoring of 3D Printing Processes", The International Journal of Advanced Manufacturing Technology, Vol. 139, 3493-3509, 2025, https://doi.org/10.1007/s00170-025-16098-2.

8. C. Sevart#, J. Kim#, **Y. Wang***, J. Simac, A. Kaminsky, "Optimal Sensor Placement and Parametric Aerostructural Control based on State-Consistent Reduced-Order Models", AIAA Journal, 2025, https://doi.org/10.2514/1.J065110.

9. J. Ou[#], X. Wu, Y. Qian, **Y. Wang***, "GPU-enabled Evolutionary Dynamic Programming for Rapid Route and Rescue Planning for First Responders", Journal of Traffic and Transportation Engineering (English Edition) , https://jtte.chd.edu.cn/article/id/550f304d-63e2-454b-a63b-e9d32669864a.

10. J. Ou[#], G. Song[#], **Y. Wang***, "GPU-enabled Path Planning based on Global Evolutionary Dynamic Programming and Local Genetic Algorithm Optimization", Applied Soft Computing, Vol. 176, No. 113167, 2025, https://doi.org/10.1016/j.asoc.2025.113167.

11. J. Guo[#], S. Zhang[#], N. Amiri, L. Yu, **Y. Wang***, "An Adversarial Transformer for Anomalous Lamb Wave Pattern Detection", Neural Network, Vol. 185, Art. No. 107153, 2025, https://doi.org/10.1016/j.neunet.2025.107153.

12. J. Kim[#], J.I. Shu[#], **Y. Wang***, J. Simac, and A. Kaminsky, "Configurable Parametric AeroServoElastic-Gust Reduced-Order Models with State Consistence Enforcement", AIAA Journal, 2025, https://arc.aiaa.org/doi/10.2514/1.J064665.

13. G. Song[#], Y. Qian, **Y. Wang***, "STGCN-PAD: A Spatial-Temporal Graph Convolutional Network for Detecting Abnormal Pedestrian Behaviors at Grade Crossings", Pattern Analysis and Applications, Vol. 28, Art. No. 2, 2025, https://doi.org/10.1007/s10044-024-01382-w.

2024:

14. M.A.K. Tonmoy[#], T. Mahmood, C. Sevart[#], Y. Ling, **Y. Wang***, "Explainable and Reduced-Feature Machine Learning Models for a Freely Moving Drop in the Sub-critical Weber Number Regime", Chemical Engineering Journal, Vol. 501, Art. No. 157476, 2024, https://doi.org/10.1016/j.cej.2024.157476.

15. G. Song[#], S.H. Hong[#], T. Kyzer[#], **Y. Wang***, "U-TFF: A U-Net-based Anomaly Detection Framework for Robotic Manipulators Energy Consumption Auditing Using Fast Fourier Transform", Applied Sciences, Vol. 14(14), Art. No. 6202, 2024, https://doi.org/10.3390/app14146202.

16. T. Mahmood, A. Tonmoy[#], C. Sevart[#], **Y Wang**, Y. Ling, "Data-driven modeling of the aerodynamic deformation and drag for a freely moving drop in the sub-critical Weber number regime", International Journal of Multiphase Flow, Vol. 177, Art. No. 104859, 2024, https://doi.org/10.1016/j.ijmultiphaseflow.2024.104859.

17. S.H. Hong[#], B. Albia[#], T. Kyzer[#], J. Cornelius, E.R. Mark, A.J. Hall, and **Y Wang***, "Artificial Neural Network-based Model Predictive Visual Servoing for Mobile Robots", Robotica, Vol. 42(8), 2825-2847, 2024, https://doi.org/10.1017/S0263574724001176.

18. Y. Tang, **Y. Wang**, Y. Qian, "Railroad missing components detection via cascade region-based convolutional neural network with predefined proposal templates", Computer-Aided Civil and Infrastructure Engineering, Vol. 39(20), 3083-3102, https://onlinelibrary.wiley.com/doi/10.1111/mice.13279.

19. F. Hashemian[#], H. Yang[#], **Y Wang***, X Deng, S. Kim, R. Vaidhyanathan, "Parametric Dynamic Simulation and Bayesian Design Optimization of a Front-Loading Washing Machine", Journal of Vibration Engineering & Technologies, Vol. 12, 41-62, 2024, https://doi.org/10.1007/s42417-024-01401-4.

20. A.J. Wang, J. Deng, D. Westbury, A. R. J. Downey, **Y Wang***, G. Wang***, "Travel time after photobleaching velocimetry", Experiments in Fluids, Vol. 65, Art. No. 71, 2024, https://doi.org/10.1007/s00348-024-03806-z.

21. Md Asfiqur Rahman[#], J. I. Shu[#], Y. Qian, **Y Wang***, J. A. Khan, "Multi-Phase Flow Simulation for Transient Analysis of Ballast Drainage Behavior and Shoulder Cleaning Effect", Transportation Geotechnics, Vol. 46, Art. No. 101258, 2024, https://doi.org/10.1016/j.trgeo.2024.101258.

22. J. I. Shu[#], **Y. Wang***, "Droplet Injection for Multiphase Rainfall Simulations on Dynamically Refined Mesh for Effective Interface Capturing", International Journal of Computational Fluid Dynamics, Vol. 37(7), 607–636, 2024, https://doi.org/10.1080/10618562.2024.2339286.

23. X. Wei, D. Ma, J. Ou[#], G. Song[#], J. Guo[#], J. Robertson, **Y. Wang**, Q. Wang, C. Liu, "Narrowing Signal Distribution by Adamantane Derivatization for Amino Acid Identification Using α-Hemolysin Nanopore", Nan Letters, Vol. 24/5, pp. 1494–1501, 2024, https://doi.org/10.1021/acs.nanolett.3c03593.

24. Y. Tang, **Y. Wang**, Y. Qian, "Edge-computing Oriented Real-Time Missing Track Components Detection", Transportation Research Record, Vol. 2678(9), 670-682, 2024, https://doi.org/10.1177/03611981241230546.

25. J. Rains[#], **Y. Wang***, A. House, A.L. Kaminsky, N.A. Tison, V.M. Korivi, "Constrained Optimized Dynamic Mode Decomposition with Control for Physically Stable Systems with Exogeneous Inputs", Journal of Computational Physics, 496, Art. No. 112604, https://doi.org/10.1016/j.jcp.2023.112604.

2023:

26. J. Guo[#], S. Zhang[#], Y. Qian, and **Y. Wang***, "An Adaptively Weighted Loss-enabled Lightweight Teacher-Student Model for Real-time Railroad Inspection on Edge Devices", Neural Computing and Applications, Vol. 35, pp 24455-24472, 2023, https://doi.org/10.1007/s00521-023-09038-2.

27. J. Ou[#], S.H. Hong[#], G. Song[#], **Y. Wang***, "Hybrid Path Planning based on Adaptive Visibility Graph Initialization and Edge Computing for Mobile Robots", Engineering Applications of Artificial Intelligence, Vol. 126, Art. No. 107110, 2023, https://doi.org/10.1016/j.engappai.2023.107110.

28. H. Yang[#], J. Ou[#], and **Y. Wang***, "Neural-physics Multi-fidelity Model with Active Learning and Uncertainty Quantification for GPU-enabled Microfluidic Concentration Gradient Generator Design", Computer Methods in Applied Mechanics and Engineering, Vol. 417, Art. No. 116434, 2023, https://doi.org/10.1016/j.cma.2023.116434.

29. G. Song[#], S.H. Hong[#], T. Kyzer[#], and **Y. Wang***, "Energy Consumption Auditing based on a Generative Adversarial Network for Anomaly Detection of Robotic Manipulators", Future Generation Computer Systems, Vol. 149, pp. 376-389, 2023, https://doi.org/10.1016/j.future.2023.07.034.

30. F. Hashemian[#], X. Deng, **Y. Wang**, S. Kim, R. Vaidhyanathan, "A Comprehensive Study of the Effects of Various Design Variables on the Dynamic Behavior and Vibration Characteristics of a Front-Loading Washing Machine", Noise & Vibration Worldwide, Vol. 54, pp. 477-491, 2023, https://doi.org/10.1177/09574565231194312.

31. G. Song[#], Y. Qian, and **Y. Wang***, "Analysis of Abnormal Pedestrian Behaviors at Grade Crossings based on Semi-supervised Generative Adversarial Networks.", Applied Intelligence, Vol. 53, pp. 21676-21691, 2023, https://doi.org/10.1007/s10489-023-04639-9.

32. J. Ou[#], S.H. Hong[#], T. Kyzer[#], H. Yang[#], X. Zhou, **Y. Wang***, "A Low-cost Indoor Positioning System based on Data-driven Modeling for Robotics Research and Education", Robotica, 41, pp. 2648-2667, 2023, https://doi.org/10.1017/S0263574723000589.

33. H. Yang[#], S.H. Hong[#], Y. Qian, **Y. Wang***, "Multi-fidelity Surrogate-based Optimization for Microfluidic Concentration Gradient Generator Design", Engineering Computations, Vol. 40, pp. 772-792, 2023, https://doi.org/10.1108/EC-01-2022-0037.

34. J.I Shu[#], **Y. Wang***, A. Brown, and A. Kaminsky, "Genetic Algorithm-Guided Development of Parametric Aeroelastic Reduced-Order Models with State-Consistence Enforcement", AIAA Journal, Vol. 61, pp. 3976-3994, 2023, https://doi.org/10.2514/1.J062918.

35. L.M. Lee[#], G.J. Klarmann, D.W. Haithcock, **Y. Wang**, K.H. Bhatt, B. Prabhakarpandian, K. Pant, L.M. Alvarez, and E. Lai, "Label-free Enrichment of Human Adipose-Derived Stem Cells using a Continuous Microfluidic Sorting Cascade", Lab on a Chip, Vol. 23, pp. 2131-2140, 2023, https://doi.org/10.1039/D2LC01138G.

36. E.A. Ogunniyi, C. Drnek, S.H. Hong[#], A. Downey, **Y. Wang**, J. Bakos, P. Avitabile, J. Dodson, "Real-time Structural Model Updating using Local Eigenvalue Modification Procedure for Applications in High-Rate Dynamic Events", Mechanical Systems and Signal Processing, Vol. 31, Art. No., 100427, 2023, https://doi.org/10.1016/j.jiii.2022.100427.

37. Y. Tang, **Y. Wang**, and Y. Qian*, "Railroad Crossing Surveillance and Foreground Extraction Network: Weakly Supervised Artificial Intelligence Approach" Transportation Research Record: Journal of the Transportation Research Board, Transportation Research Board of the National Academies, Vol. 2677, pp. 525-538, https://doi.org/10.1177/03611981231159406.

38. F. Guo[#], **Y. Wang**, and Y. Qian, "Real-Time Dense Traffic Detection Using Lightweight Backbone and Improved Path Aggregation Feature Pyramid Network." Journal of Industrial Information Integration, Vol. 31, Art. No., 100427, 2023, https://doi.org/10.1016/j.jii.2022.100427.

39. S.H. Hong[#], J. Ou[#], **Y. Wang***, "Physics-guided Neural Network and GPU-Accelerated Nonlinear Model Predictive Control for Quadcopter ", *Neural Computing and Applications*, Vol. 35, pp. 393-413, https://doi.org/10.1007/s00521-022-07783-4, 2023.

2022:

40. J.I. Shu[#], **Y. Wang***, W. Krolick[#], K. Pant, "Aeroelastic Reduced Order Model with State Consistence Enforcement", AIAA Journal, Vol. 61, pp. 1109-1128, https://doi.org/10.2514/1.J062274, 2022.

41. H. Yang[#], **Y. Wang***, "A Sparse Multi-fidelity Surrogate-based Optimization method with Computational Awareness", Engineering with Computers, Vol. 39, pp. 3473-3489, https://doi.org/10.1007/s00366-022-01766-8, 2022.

42. Z. Jiang[#], S. H. Hong[#], B. Albia[#]; A. A. Hood, A. J. Hall, J. Cornelius, **Y. Wang***, "A Multi-feature Fusion Network Model for Bearings Condition Assessment in Accelerated Aging Experiments", *Neural Computing and Applications*, 35, 5923-5937, https://doi.org/10.1007/s00521-022-07982-z, 2022.

43. J.I. Shu[#], **Y. Wang**, Y. Qian, J.A Khan, "Analysis of the Effect of Shoulder Cleaning on Particle Migration within Ballast Based on a Coupled CFD-DEM Approach", *Transportation Geotechnics*, Vol. 37, Art. No., 100855, https://doi.org/10.1016/j.trgeo.2022.100855, 2022.

44. Z. Jiang[#], G. Song[#], Y. Qian, **Y. Wang***, "A deep learning framework for detecting and localizing abnormal pedestrian behaviors at grade crossing", *Neural Computing and Applications*, Vol. 34, pp. 22099-22113, https://doi.org/10.1007/s00521-022-07660-0, 2022.

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E. Presentations (103 in total)

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2018:

1. "Surrogate Modeling and Data Analytics for Flight Load Analysis" at *the 49th International Symposium of Society of Flight Test Engineers (SFTE)*, 2018.

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1. A. Campbell, J. Guo[#], B. Chen[#], J. Ferdausi, **Y. Wang**, V. Giurgiutiu, L. Yu, "Inspection of cladding coating with wideband laser induced guided ultrasonic waves", TopFuel 2025: Nuclear Reactor Fuel Performance Conference, Paper No. 48592, 2025.

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2018:

49. S. Zhu[#], **Y. Wang***, "Flight Load Analysis and Prediction Based on Scaled Sequential Threshold Least-Squares (S^2TLS) Algorithm", *ASME/IMECE*, 2018.

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51. Y. Qian, S. Zhu[#], **Y. Wang** and Dimitris C. Rizos, Simulating Fouling Material Transport in Ballast, *2018 Joint Rail Conference*, Paper No. JRC2018-6187, 2018.

52. **Y. Wang***, K. Pant, M.J. Brenner, J.A. Ouellette, "Greedy Sampling and Incremental Surrogate Model-based Tailoring of Aeroservoelastic Model Database for Flexible Aircraft", *59th AIAA Structures, Structural Dynamics, and Material Conference*, Paper ID AIAA 2018-1210, 2018.

53. L.M. Lee[#], **Y. Wang**, C.J. Garson, et. al., "Enrichment of Human Adipose-Derived Stem Cells by a Spiral-shaped Inertial Microfluidic Sorter", The 21st International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2017), Paper No. M188h.

54. J. Zhu[#], **Y. Wang***, K. Pant, P.M. Suh, M.J. Brenner, "Genetic Algorithm-Guided, Adaptive Model Order Reduction of Flexible Aircrafts", *58th AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Material Conference*, Paper ID AIAA 2017-1598, 2017.

55. **Y. Wang***, H. Song, K. Pant, M.J. Brenner, P. Suh, "Model Order Reduction of Aeroservoelastic Model of Flexible Aircraft", *57th AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Material Conference*, Paper ID. AIAA 2016-1222, 2016.

56. H. Song[#], J.M. Rosano[#], G.J. Klarmann, C.J. Garson, B. Prabhakarpandian, L.M. Alvarez, E. Lai, **Y. Wang***, Kapil Pant, "High Throughput Enrichment of iPSC-Derived Neural Stem Cells using Spiral-shaped Inertial Microfluidic Devices", *International Conference of Microfluidics, Nanofluidics and Lab-on-a-Chip*, Paper ID. 11-437, 2016.

57. **Y. Wang***, K. Pant, P. Suh, M. Brenner, "Genetic Algorithm-based Model Order Reduction of Aeroservoelastic Systems with Consistent States for X-56A MUTT", *Aerospace Flutter and Dynamics Council Meeting*, 2016.

58. H. Song[#], J.M. Rosano[#], **Y. Wang***, et al. "A Continuous-Flow Microfluidic Device for The Separation of Stem Cells and Their Differentiation Progency Based On Dielectrophoresis", *MicroTAS 2015*, pp. 361-363, 2015.

59. H. Song[#], J. Qian[#], **Y. Wang*** et al. "Development of Aeroelastic and Aeroservoelastic Reduced Order Models for Active Structural Control", *56th AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Material Conference*, paper ID: 2015-2055, 2015.

60. **Y. Wang***, "Parameter-Varying AeroServoElastic Reduced Order Model for X-56A", *Aerospace Flutter and Dynamics Council Meeting*, 2015.

61. **Y. Wang***, H. Song[#], K. Pant, "An Accurate Real-Time Simulation Tool for Generating Missile Hardbody Thermal Histories", *National Space & Missile Materials Symposium (NSMMS)*, 2014.

62. H. Song[#], **Y. Wang***, C. Garson, K. Pant, "Nafion film based nanofluidic device for concurrent DNA preconcentration and separation", *IEEE NANO*, 549-552, 2013.

63. H. Song[#], **Y. Wang***, K. Pant, "Three-Dimensional Analytical Model for Pressure-Driven Cross-Stream Diffusion in Microchannels with Arbitrary Aspect Ratios", *ASME 3rd International Conference on Micro/Nanoscale Heat and Mass Transfer (MNHMT)*, pp. 27-37, 2012

64. **Y. Wang***, H. Song[#], K. Pant, H. Peabody, J. Ku, and C.D.Butler, "A Projection-Based Model Order Reduction Simulation Tool for Spacecraft Thermal Analysis", *2011 Thermal & Fluids Analysis Workshop (TFAWS)*, Paper ID: TFAWS2011-PT-001, 2011

65. **Y. Wang***, H. Song[#], K. Bhatt[#], K. Pant, "Electrokinetics Models for Micro and Nano Fluidic Impedance Sensors", *27th Annual Army Science Conference*, Paper ID: AP-009, 2010

66. **Y. Wang***, H. Song[#], K. Bhatt[#], J. Rosano[#], K. Pant, "An Integrated, Electrokinetics-Augmented Microfluidic Device for Forensic DNA Analysis", *Sci. Conf. Chem. Bio. Defense Res.*, 2010.

67. H. Song[#], **Y. Wang***, K. Pant, "System-level Simulation of Liquid Filling in Microfluidic Chips", *Lab on a Chip World Congress*, 2010.

68. **Y. Wang***, K. Pant, "System-Level Modeling of Surface-Immobilized Biomolecular Concentration Gradient Generation", *ASME 1st International Conference on Micro/Nanoscale Heat and Mass Transfer (MNHMT)*, 179-186, 2009.

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70. **Y. Wang***, K. Pant ZJ Chen, W. Diffey, P. Ashley, and S. Sundaram. "Numerical Analysis of Electrokinetic Transport at Micro-Nanofluidic Interfaces in Hydrodynamic Flow and Applications in Sample Preconcentration", *Eighth International Electrokinetic Conference*, 2008.

71. **Y. Wang***, K. Pant, J. Grover, S. Sundaram, "Multi-physics Simulational Analysis of a Novel PCR Micro-Device", *10th International Conference on Modeling and Simulation of Microsystems*, Vol. 3, pp. 456-459, 2007.

72. **Y. Wang**, Q. Lin* and T. Mukherjee, "System-Level Modeling and Design of Microfluidic Concentration Gradient Generators". *1st IEEE International Conference on Nano/Micro Engineered and Molecular Systems*, pp. 1368-1373, 2006.

73. **Y. Wang***, A.S. Bedekar, S. Krishnamoorthy *et. al*. "Mixed methodology-based system level simulation of biochemical assays in integrated microfluidic systems", *9th International Conference on Modeling and Simulation of Microsystems*, pp. 546-549, 2006.

74. **Y. Wang**, R. Magargle, Q. Lin, J.F. Hoburg and T. Mukherjee, "System-Oriented Modeling and Simulation of Biofluidic Lab-on-a-chip", *The 13th International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers'05)*, pp. 1280-1283, 2005.

75. **Y. Wang***, Q. Lin and T. Mukherjee, "System Simulations of Complex Electrokinetic Passive Micromixers", *8th International Conference on Modeling and Simulation of Microsystems*, pp. 579-582, 2005.

76. **Y. Wang***, Q. Lin and T. Mukherjee, "Applications of Behavioral Modeling and Simulation on Lab-on-a-chip: Micro-Mixer and Separation System", *2004 IEEE International Behavioral Modeling and Simulation Conference*, pp. 1-6, 2004.

77. **Y. Wang***, Q. Lin and T. Mukherjee, "Models for Joule Heating Dispersion in Complex Electrophoretic Separation Microchannels", *2004 ASME International Mechanical Engineering Congress and Exposition*, No. 60970, 2004.

78. **Y. Wang***, Q. Lin and T. Mukherjee, "Analytical Models for Complex Electrokinetic Passive Micromixers", *The 8th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS)* , pp. 596-598, 2004.

79. **Y. Wang***, Q. Lin and T. Mukherjee, "Composable System Simulation of Dispersion in Complex Electrophoretic Separation Microchips", *7th International Conference on Modeling and Simulation of Microsystems*, pp. 59-62, 2004.

80. **Y. Wang***, Q. Lin and T. Mukherjee, "Analytical Dispersion Models for Efficient Simulation of Complex Microchip Electrophoresis Systems", *The 7th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS)*, pp. 135-138, 2003.

81. **Y. Wang***, Q. Lin and T. Mukherjee, "Universal Joule Heating Model in Electrophoretic Separation Microchips", *The 6th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS)*, pp. 82-84, 2002.

82. **Y. Wang***, Q. Lin, J. Hoburg and T. Mukherjee, "Modeling of Joule Heating in Electrophoretic Separation Microchips", *5th International Conference on Modeling and Simulation of Microsystems*, pp. 80-83, 2002.

83. X. Zhou*, **Y. Wang**, J. Xia, B. Shen, "*Research* on Dynamic Characteristics of Double Evaporators in VRV Air Conditioner", *2000 International Conference of Air Conditioning in High Rise Buildings (ACHRB)*, pp. 279-283, 2000.

Seminars

1. "Autonomous Systems", ROTC Leadership Symposium, February 22th, 2025.
2. "State Consistency-Enforced Parametric Reduced-order Models for Multiphysics Simulation", Virginia Tech, April 12th, 2024.

3. "Perception, Control, and Computation toward Unmanned Aerial Systems Applications", Army Research Laboratory, March 21st, 2024.

4. "Configurable Parametric Aeroservoelastic Reduced-order Models for Aerostructural Sensing and Control", Oklahoma State University, April 21st, 2023.

5. "Automated Development of Parametric Aeroelastic Reduced Order Models Across Broad Flight Regimes", Worcester Polytechnic Institute (WPI), February 3rd, 2023.

6. "Genetic Algorithm-guided Parametric Aeroelastic Reduced Order Models with State Consistence Enforcement", North Carolina State University, September 23, 2022.

7. "Reduced-Order Modeling Approaches for Thermal and Flow Simulation and Signature Analysis", Ground Vehicle Systems Center, US Army, June 6, 2022.

8. "Intelligent Multi-fidelity Surrogate-based Optimization Framework for Microfluidic Concentration Gradient Generator Design", New Jersey Institute of Technology, April 22, 2022.

9. "Parametric Aeroelastic Reduced Order Models with State Consistence Enforcement (SCE)", Penn State University, April 4, 2022.

10. "DEIM Reduced Order Model Constructed by Hybrid Snapshot Simulation", SN Applied Sciences Webinar, Springer Nature, June 17th, 2021.

11. "An Intelligent Framework for State-consistent Model Order Reduction and Control Synthesis of Flexible Aircraft", Arizona State University, March 26, 2021.

12. "Computational and Data-enabled Science and Engineering for Engineering Applications", Invited Seminar at the School of Mechanical Engineering, Hefei University of Technology, July 17th, 2019

13. "A Flow Feature Detection Framework for Massive Computational Data Analytics", Invited Seminar at the Computer Science & Engineering Department, University of South Carolina, December 7th, 2018

14. "Computational and Data-enabled Science and Engineering for Complex Multiphysics Systems", Invited Seminar at the Mathematics Department, University of South Carolina, October 23rd, 2017

15. "Computational and Data-Enabled Science and Engineering for Multiphysics Systems", Invited Seminar at the Iowa State University, March 9th, 2017

16. "Computational and Data-Enabled Science and Engineering for Multiphysics Systems", Invited Seminar at the University of Cincinnati, January 27th, 2017

17. "A Review of Reduced Order Modeling (ROM) and Real-Time Simulation Techniques for Engineering Applications", Invited Seminar at the Hunan University of Science and Technology (HNUST), July 1st, 2016, Hunan, PR China.

18. "Reduced Order Modeling (ROM) Techniques for Aerospace Applications", Invited Seminar at the University of Alabama, March 10th, 2016, Tuscaloosa, Alabama.

19. "Multiphysics Variable-Fidelity Modeling and Simulation (MVF-M&S) for Biomedical Devices", Invited Seminar at Novartis Co., Sept. 16th, 2015, East Hanover, New Jersey.

PATENTS

1. "GPU-enabled Evolutionary Dynamic Programming", USC Invention Disclosure; Filed on October 24, 2025.
2. "Configurable, Platform-Independent Computer Vision Module for Coordinated Infrastructure Inspection", US Provisional Application No. 63/840,955; Filed on July 9, 2025.
3. "Low-cost Indoor Positioning System for Robotics Research and Education", US Provisional Application No. 63/631682, 2024.
4. "Filters for Enhanced Image Gradient Computation and Edge Detection", US Provisional Application No. 63/712,589, Filed on Oct. 28, 2024.
5. "Portable Railroad Track Component Inspection System", U.S. Provisional Patent Application No. 63/561,898; Filed on Mar. 6, 2024
6. "Autonomous Drone for Railroad Track Inspection", US Application No. 18/179,691, 2023.

7. "Miniaturized Electrothermal Flow Induced Infusion Pump", U.S. Patent No. 9,283,597, **Non-provisional Patent** Filed on Sept. 6, 2006

8. "Electrostatic Aerosol Concentrator", U.S. Patent No. 8,246,720 B2, **Non-provisional Patent** Filed on Jul. 31, 2007

9. "Microfluidic Biological Extraction Chip", U.S. Patent No. 8,435,465 B2, **Non-provisional Patent** Filed on Nov.3, 2008

10. "Method and Apparatus for Separating Particles by Dielectrophoresis", U.S. Patent No. 8,778,160 B2, **Non-provisional Patent** Filed on Jul.26, 2011

11. "Bipolar Electrode Sample Preparation Devices", U.S. Appl. No. 14/202,105, **Non-provisional Patent** Filed on Mar. 10, 2014

PROFESSIONAL ACTIVITIES AND SERVICES

A. <u>Membership of Professional Societies</u>

Senior Member, American Institute of Aeronautics and Astronautics (AIAA)

Member, American Society of Mechanical Engineers (ASME)

B. <u>Conference Organization</u>

- **2023-2024**: Track Chair: Advances in Aerospace Technology, organizing 19 topics, IMECE/ASME
- **2022-2023**: Track Co-chair: Advances in Aerospace Technology, Co-organizing 17 topics, IMECE/ASME
- **2024-Present**: Co-chair for Structural Dynamics Track, ASME Aerospace Structures, Structural Dynamics, and Materials (SSDM) Conference, ASME, 2024-2025
- **2024-Present**: Topic organizer of "Computer Methods and Reduced Order Modeling" and co-organizer of "Model Uncertainties and Uncertainty Quantification in Structures and Structural Dynamics" for ASME Structures, Structural Dynamics, and Materials (SSDM) Conference, 2025.
- **2023-2024**: Topic co-organizer and session co-chair of "Operator-Theoretic Methods for Reduced-Order Modeling in Structural Dynamics and Aeroelasticity" for AIAA/SciTech Conference, 2024
- **2022-2024**: Topic organizer and session chair of "Computer Methods and Reduced Order Modeling" for ASME Structures, Structural Dynamics, and Materials (SSDM) Conference, 2023 and 2024
- **2018-Present**: Member of Structures and Materials Technical Committee (TC) of the Aerospace Division, ASME
- **2024-Present**: Secretary of Structures and Materials Technical Committee (TC) of the Aerospace Division, ASME
- **2023-Present**: Member of Non-deterministic Approaches Technical Committee (TC), AIAA
- **2020-2022**: Topic organizer/co-organizer for Track 4 "Advances in Aerospace Technology" in ASME/IMECE
- **2019**: Session Chair for the 2nd International Conference on Algorithms, Computing, and Artificial Intelligence
- **2019-2020**: Session Chair/Co-session Chair for the topic "Computational Aerospace Structural Dynamics and Aeroelasticity" in ASME/IMECE
- **2022**: Session Chair/Co-session Chair for topic "General Aerospace" in ASME/IMECE
- **2022**: Session Chair/Co-Chair for topic "Application of Artificial Intelligence/Machine Learning in Aerospace Engineering I'.
- 2009: Session Co-chair for 2019 Micro/Nanoscale Heat and Mass Transfer International Conference

C. Reviewer of Journals and Conferences

- **2024**: Reviewed 6 journal papers (Structural and Multidisciplinary Optimization, Aerospace Science and Technology, The Aeronautical Journal, Measurement, and Mechanical Systems and Signal Processing).
- **2024**: Reviewed 3 journal papers (Discover Applied Sciences, Engineering Applications of Artificial Intelligence, Transportation Geotechnics), and 15 papers for the Best Paper Award in ASME/SSDM conference.
- **2023**: Reviewed 3 journal papers (Journal of Heat and Mass Transfer, Structural Health Monitoring, AIAA Journal).
- **2022**: Reviewed 5 journal papers (Journal of Mechanical Design, Structural Health Monitoring, Lab on a Chip, Fluids, The Aeronautical Journal), 7 papers for ASME/IMECE conference, and 11 papers for AIAA/SciTech conference).
- **2021**: Reviewed 6 journal papers (ISA Transactions, Applied Mathematical Modeling, Journal of Mechanical Design, Chemical Engineering and Technology, Engineering Computations, and Computer Modeling in Engineering and Sciences) and 7 papers for AIAA/SciTech Best Paper Award.
- **2020**: Reviewed 7 journal papers (SN Applied Sciences, Scientific Reports, Aerospace Science and Technology, PLOS ONE, The Aeronautic Journal, Biophysics Review, Journal of Mechanical Design) and 16 papers for ASME/IMECE conference.
- **2019**: Reviewed 3 journal papers (SN Applied Sciences, Journal of Nanoparticle Research, and Biomicrofluidics) and 7 papers for ASME/IMECE conference
- **2018**: Reviewed 2 journal paper (Engineering Applications of Computational Fluid Mechanics and Annals of Biomedical Engineering) and 9 papers for ASME/IMECE Conference

D. Reviewer of Research Proposals

- Review 6, 1, 5, and 6 proposals for NSF in 2024, 2023, 2022, and 2018, respectively.
- Reviewed 1 proposal for DoE in 2022 and 1 pre-proposal for DoE in 2024.
- Reviewed 1 proposal for Oak Ridge Associated Universities (ORAU) – Nazarbayev University Commercialization Review in 2020.
- Reviewed 1 proposal for DoD HBCU proposals of the University of Texas at San Antonio in 2019.

CAMPUS ACTIVITIES AND SERVICES

A. University

- 2024: USC's SPARC Proposal Review
- 09/2019-03/2020: The member of Faculty Search Committee for UofSC AI Institute
- 2018: Panel reviewer for USC's ASPIRE program

B. Department of Mechanical Engineering

- 01/2019-Present: Member, Aerospace Engineering Program
- 10/2019-Present: Course coordinator of EMCH201 for ABET review
- 08/2022-08/2024: Committee Chair, Departmental Award Committee
- 08/2024-present: Committee Member, Departmental Award Committee
- 08/2019-Present: Committee member, Departmental Award Committee
- 01/2019-Present: Committee member, Department Graduate Studies Committee
- 01/2019-Present: Committee member, Department Seminar Committee
- 12/2020-Present: Faculty Search Committee, Mechanical/Aerospace Engineering

- 2018-2019:   Judge for poster presentation of ME undergraduate sensor design projects
- 04/2019: Organized and hosted presentation and visit of invited speaker for ME's seminar series.
- 2018-Present: Face-to-face Interview with multiple faculty candidates
- 2018-Present: Advisor for ME Undergraduate Senior Design project
- 2018-Present: Committee Member for Ph.D. Comprehensive Exam and/or Defense: Emmanuel Abiodun Ogunniyi (ME), Puja Chowdhury (ME), Alex Vereen (ME), Kai Luo (ME), Wei Chang (ME), Jiaxuan Ma (ME), Yueyang Zhao (ME), Guanghuan Huang (ME), and Shuai Yuan (Math), Shuai Wang (EE), Yuankai Teng (Math), Yuwei Geng (Math).
- 2018-Present: Committee Member for MS Defense: Ben Francise (ME), Claire Drnek (ME), Nate Cooper (ME), Travis Stewart (ME), and Ben Francis (ME).