

Dr. Weisong Wang

Electrical Engineering
Wright State University
U.S. Citizen

weisong.wang@wright.edu
Work: (419)586-0370

- Education**
- ◇ Ph.D., Engineering, Louisiana Tech University 2004
M.Sc., Electrical Engineering (Microelectronics and MEMS)
 - ◇ M.Eng., *with honors*, Mechatronics 2000
Donghua University, Shanghai, China
 - ◇ B.Eng., *summa cum laude*, Mechatronics 1997
Donghua University (formerly China Textile University), Shanghai, China
- Professional Experience**
- ◇ Associate Professor (tenured), Electrical Engineering, Wright State University - Lake Campus (jointly with Dayton Campus) 8/2022–present
 - ◇ Assistant Professor (tenure track), Electrical Engineering, Wright State University - Lake Campus (jointly with Dayton Campus) 1/2018–7/2022
 - ◇ Research Engineer, Lecturer and Graduate Faculty, Department of Electrical and Computer Engineering, Center of Excellence for Thin-Film Research and Surface Engineering (CETRASE), University of Dayton, Dayton, OH 5/2013–12/2017
 - ◇ Senior Engineer, Wafer level packaging and MEMS, Maxim Integrated Products, Dallas, TX 7/2011–4/2013
 - ◇ Research Scientist, Department of Astronomy/McDonald Observatory, University of Texas at Austin, Austin, TX 10/2007–7/2011
 - ◇ Postdoctoral Research Associate, Dept. of Electrical Engineering & Dept. of Materials Science and Engineering, Lehigh University, Bethlehem, PA 10/2005–9/2007
 - ◇ Research Assistant/Associate, Institute for Micromanufacturing, Louisiana Tech University, Ruston, LA 9/2000–8/2005
- Academic Awards**
- ◇ U.S. Air Force Research Lab Summer Faculty Fellowship Program summer 2024
 - ◇ Outstanding Faculty Service Award, Wright State University - Lake Campus 2022
 - ◇ Presidential Award for Faculty Excellence: Early Career Achievement, Wright State University 2021
 - ◇ U.S. Air Force Research Lab Summer Faculty Fellowship Program summer 2021
 - ◇ Faculty of the Year Award, Wright State University - Lake Campus 2020
 - ◇ U.S. Air Force Research Lab Summer Faculty Fellowship Program summer 2020
 - ◇ Outstanding Faculty Teaching Award, Wright State University - Lake Campus 2019
 - ◇ Best Poster Award, *IEEE National Aerospace & Electronics Conference (NAECON)*, Dayton, OH USA 2019
 - ◇ Kern Entrepreneurial Engineering Network (KEEN) Fellow 2017
 - ◇ Innovation Award for MEMS gyro technology transfer, product development and production release, Maxim Integrated Inc. 2013
 - ◇ Best Student Paper Award, *IEEE SENSORS 2005: the 4th IEEE conference on sensors*, Irvine, CA, USA 2005

- ◇ Outstanding Graduate Student Award of Donghua University (top 2%) 2000
- ◇ Outstanding Undergraduate Student Award of Shanghai (top 1%) 1997
- ◇ College Academic Excellence Awards 1993-2000

Grants

- ◇ PI, "Dielectric integration in ultra-wide band gap transistors for high temperature applications", AFRL Regional Network - Midwest, \$200,000 2024-2026
- ◇ PI, "Electronic-grade dielectric integration for high-power and high frequency electronic devices", Defense Associated Graduate Student Innovators (DAGSI) funded by Ohio Department of Higher Education, \$117,881 2024-2026
- ◇ PI, "Integration of AlScN-based dielectric in high-power GaN-based radio frequency transistors", KBR (continuous renewal from Air Force Research Lab), \$130,000 2022-2025
- ◇ Co-PI, "In-road electric vehicle charging system for parked vehicles", Ohio Department of Transportation, \$50,000 2023
- ◇ Co-PI, "Ohio-southwest Alliance on Semiconductors and Integrated Scalable Manufacturing (OASIS)", Intel, \$620,366 2022-2025
- ◇ PI, "Design and build a robot for First Robotics League Competition", Lake campus professional development grant, \$1250 2022
- ◇ PI, "Outreach to Wapakoneta High School Robotics Club", Western Ohio Educational Foundation Grant, \$750 2022
- ◇ PI, "Development of HfO₂ based ferroelectric materials for β -Ga₂O₃ transistors", Defense Associated Graduate Student Innovators (DAGSI) funded by Ohio Department of Higher Education, \$45,218 2021
- ◇ PI, "High-*k* dielectric materials for ultra wide band gap transistors", Lake campus professional development grant, \$1200 2020
- ◇ PI, "2020 engineering study abroad program", Western Ohio Educational Foundation Grant, \$3000 2019-2020
- ◇ PI, "Water quality monitoring buoy for Grand Lake St. Marys", Western Ohio Educational Foundation Grant, \$1500 2019
- ◇ Co-PI, "Regional schools and university collaboration with STEM research and competitions", Lake campus professional development grant, \$1200 2018
- ◇ PI, "Design and development of a customizable and low-cost water quality monitoring platform for Grand Lake St. Marys", Lake campus professional development grant, \$2000 2018
- ◇ PI, "Autonomous vehicles for multi-vehicle team competition", Western Ohio Educational Foundation grant, \$1500 2018
- ◇ PI, "Autonomous material handling vehicle", Lake campus student research grant, \$500 2018
- ◇ Co-I, "Optimizing the performance and manufacturability of silicon diffractive optics", NASA Astronomy and Physics Research and Analysis, \$670K 2009-2012
- ◇ Co-I, "Design study for the high resolution near-IR spectrograph for the Giant Magellan Telescope (GMT)", GMT project 2010-2011

Scholarship

◇ Refereed Journals

1. K.J. Liddy, **W.S. Wang**, S. Nikodemski, C. Chae, K.D. Leedy, J.P. Bega, N. Hendricks, E. Sowers, J. Hwang, S. Rajan, and A.J. Green, "Ultra-high Permittivity BaTiO₃ ($\epsilon=230$) on Al₂O₃/AlGa_N/Ga_N MISHEMTs for Field-Management in High-Voltage RF Applications," *APL Electronic Devices*, submitted, 2024
2. J. Williams, **W.S. Wang**, N. Hendricks, A. Adams, J. Piel, D. Dryden, K.J. Liddy, N.P. Seplak, B. Morell, A. Miesle, A.E. Islam, and A.J. Green, "Experimental Study of Ni/TiO₂/ β -Ga₂O₃ Metal-Dielectric-Semiconductor Diodes using p-NiO Junction Termination Extension," *Journal of Vacuum Science & Technology A*, 24, 033405, 2024
3. G. Salcedo, A.E. Islam, E. Reichley, M. Dietz, C.M. Schubert-Kabban, K.D. Leedy, T.C. Back, **W.S. Wang**, A.J. Green, T. Wolfe, and J.M. Sattler, "Effect of Fabrication Parameters on the Ferroelectricity of Hafnium Zirconium Oxide Films: A Statistical Study," *Journal of Applied Physics*, 135, 124101, 2024.
4. N. Hendricks, A.E. Islam, E. Sowers, J. Williams, D. Dryden, K. Liddy, **W.S. Wang**, J. Speck, and A.J. Green, "Current transport mechanisms of Metal/TiO₂/ β -Ga₂O₃ Diodes," *Journal of Applied Physics*, 135, 095705, 2024
5. B. Abdulhamed, H. Alavizadeh, T. Ricketts, B. Schneider, H. Attariani, **W.S. Wang** and M. Saville, "STAR In-Road Electric Vehicle Charging for Parked Vehicles," *Office of Statewide Planning and Research, Ohio Department of Transportation*, 2023
6. A.E. Islam, N.P. Sepelak, K.J. Liddy, R. Kahler, D.M. Dryden, J. Williams, H. Lee, K. Cann, A. Popp, K. Leedy, N.S. Hendricks, J.L. Brown, E.R. Heller, **W.S. Wang**, W.J. Zhu, M.O. Thompson, K.D. Chabak and A.J. Green, "500 °C operation of β -Ga₂O₃ field-effect transistors," *Applied Physics Letters*, vol. 121, 2022.
7. L. Li, E. Shin, H. Attariani, **W.S. Wang**, and G. Subramanyam, "Experimental demonstration of vanadium dioxide phase change thin film based tunable spiral inductors," *ECS Journal of Solid State Science and Technology*, 9, 2020
8. H. Attariani, **W.S. Wang**, and R. Galek, "A thermodynamically-consistent multi-physics framework for crystallization of phase change material," *Journal of Crystal Growth*, April, 2020
9. L. Li, **W.S. Wang**, E.S. Shin, and G. Subramanyam, "Tunable inductors using integrated vanadium dioxide phase change thin films," *Advances in Condensed Matter Physics*, 2018:1-7, 2018.
10. E.S. Shin, K.C. Pan, **W.S. Wang**, G. Subramanyam, V. Vasilyev, K. Leedy, and T. Quach, "Tungsten-doped vanadium dioxide thin film based tunable antenna," *Materials Research Bulletin*, vol. 101, 2018.
11. C. Yakopcic, S. Wang, **W.S. Wang**, E.S. Shin, J. Boeckl, G. Subramanyam and T.M. Taha, "Filament formation in lithium niobate memristors supports neuromorphic programming capability," *Neural Computing and Applications*, vol. 30, no. 12, 2018.
12. C.P. Deen, M. Gully-Santiago, **W.S. Wang**, J. Pozderac, D.J. Mar and D.T. Jaffe, "A grism design review and the as-built performance of the silicon grisms for JWST-NIRCam," *Publications of the Astronomical Society of the Pacific*, vol. 129, no. 976, 2017.
13. S. Wang, **W.S. Wang**, E.S. Shin, Tony Quach and G. Subramanyam, "Tunable inductors using vanadium dioxide as the control material," *Microwave and optical technology letters*, vol. 59, no. 5, 2017.
14. S. Wang, **W.S. Wang**, C. Yakopcic, E.S. Shin, G. Subramanyam and T.M. Taha, "Experimental study of LiNbO₃ memristor for use in neuromorphic computing," *Microelectronic Engineering*, vol. 168, 2017.

15. S. Wang, **W.S. Wang**, C. Yakopcic, E.S. Shin, G. Subramanyam and T.M. Taha, "Reconfigurable neuromorphic crossbars based on titanium oxide memristors," *Electronics Letters*, vol. 53, no. 20, 2016.
 16. K.C. Pan, **W.S. Wang**, E.S. Shin, K. Freeman, G. Subramanyam, "Vanadium oxide thin film variable resistor based RF switches," *IEEE Transactions on Electron Devices*, vol. 62, no. 9, 2015.
 17. **W.S. Wang**, S. Tatic-Lucic, W. Brown, and R. Vinci, "Design of a bidirectional MEMS actuator with high actuation resolution, large driving force and power-free latching," *Microelectronic Engineering*, vol. 85, no. 3, 2008.
 18. **W.S. Wang**, S. Tatic-Lucic, W. Brown, J. Iceman, S. Hyun, and R. Vinci, "Precision in-package positioning with a thermal inchworm," *Sensors and Actuators A*, vol. 142, no. 1, 2008.
 19. **W.S. Wang** and J. Fang, "Variable focusing microlens chip for potential sensing applications," *IEEE Sensors Journal*, vol. 7, no. 1-2, 2007.
 20. **W.S. Wang** and J. Fang, "Design, fabrication, and testing of micromachined tunable microlens," *Journal of Micromechanics and Microengineering*, vol. 16, no. 7, 2006.
 21. **W.S. Wang**, J. Fang, and K. Varahramyan, "Compact variable-focusing microlens with integrated thermal actuator and sensor," *IEEE Photonics Technology Letters*, vol. 17, no. 12, 2005.
 22. **W.S. Wang**, Z.M. Yao, J. Chen, and J. Fang, "Composite Elastic Magnet Film with Hard Magnetic Feature," *Journal of Micromechanics and Microengineering*, vol. 14, no. 10, 2004.
 23. J. Chen, **W.S. Wang**, J. Fang, and K. Varahramyan, "Variable-focusing microlens with microfluidic chip," *Journal of Micromechanics and Microengineering*, vol. 14, no. 5, 2004.
- ◇ **Refereed Conferences**
24. A. Adams, N. Hendricks, **W.S. Wang**, P. Shah, A. Geiger, K.D. Leedy, and A.J. Green, "Growth, characterization, and reliability of NiO thin films for β -Ga₂O₃ heterojunction devices," *International Workshop on Gallium Oxide and Related Materials (IWGO)*, May 2024
 25. A.E. Islam, K.D. Leedy, K.J. Liddy, D. Dryden, K.D. Chabak, A.J. Green, A. Arehart, S. Rajan, G. Subramanyam, **W.S. Wang**, "Dielectric integration and interface defect engineering for β -Ga₂O₃ MOS devices," *GOMACTech (Government Microcircuit Applications & Critical Technology Conference)*, March 2024
 26. A.E. Islam, A. Miesle, A. Dheenana, E. Shin, **W.S. Wang**, K.D. Leedy, S. Ganguly, K.J. Liddy, D. Dryden, G. Subramanyam, A. Arehart, S. Rajan, K.D. Chabak, and A.J. Green, "Dielectric Integration and interface defect engineering for β -Ga₂O₃ MOS devices," *54th IEEE Semiconductor Interface Specialists Conference*, December 2023
 27. J. Williams, N. Hendricks, **W.S. Wang**, A. Adams, J. Piel, D. Dryden, K. Liddy, N.P. Seplak, B. Morell, A. Miesle, A.E. Islam, and A.J. Green, "Ni/TiO₂/ β -Ga₂O₃ Heterojunction Diodes with NiO Guard Ring Simultaneously Increasing Breakdown Voltage and Reducing Turn-on Voltage," *IEEE Device Research Conference*, June 2023
 28. N.P. Sepelak, J. Williams, D.M. Dryden, R. Kahler, K.J. Liddy, **W.S. Wang**, K.D. Chabak, A.J. Green, and A.E. Islam, "First demonstration of 500 °C operation of β -Ga₂O₃ MOSFET in air," *Compound Semiconductor Week (CSW)*, June 2022.
 29. N. Sepelak, K. Liddy, A. Islam, J. Brown, E. Heller, D. Dryden, E. Werner, **W.S. Wang**, A. Green, and K. Chabak, "High temperature operation of β -Ga₂O₃ self-aligned gate MOSFET in air," *Les Eastman Conference on High Performance Devices*, South Bend, Indiana, August 2021

30. G. Salcedo, A. Islam, M. Dietz, S. Cheema, K. Leedy, K. Liddy, A. Green, **W.S. Wang**, S. Salabuddin, K. Chabak, J. Sattler, "Towards the integration of $\text{Hf}_{0.8}\text{Zr}_{0.2}\text{O}_2$ -based negative capacitance dielectric on $\beta\text{-Ga}_2\text{O}_3$ substrates," *IEEE National Aerospace & Electronics Conference (NAECON)*, Dayton, OH, 2021
31. A. Zaman, C. Yakopcic, S. Wang, E. Shin, **W.S. Wang**, T. Taha, G. Subramanyam, "Analysis of Lithium Niobate Memristor Devices for Neuromorphic Programability," *IEEE National Aerospace & Electronics Conference (NAECON)*, Dayton, OH, 2019 (Best Poster Award)
32. A. Zaman, **W.S. Wang**, and G. Subramanyam, "Modeling of memristor device & analysis of stability issues," *IEEE National Aerospace & Electronics Conference (NAECON)*, Dayton, OH, 2017.
33. L.Y. Li, **W.S. Wang**, E.S. Shin, T. Quach, and G. Subramanyam, "Design of tunable shunt and series interdigital capacitors based on vanadium dioxide thin film," *IEEE National Aerospace & Electronics Conference (NAECON)*, Dayton, OH, 2017.
34. C. Yakopcic, S. Wang, **W.S. Wang**, E.S. Shin, G. Subramanyam and T.M. Taha, "Methods for high resolution programming in lithium niobate memristors for neuromorphic hardware," *International Joint Conference on Neural Networks (IJCNN)*, Anchorage, AK, 2017.
35. E.S. Shin, K.C. Pan, **W.S. Wang**, G. Subramanyam, V. Vasilyev, K. Leedy and T. Quach, "Tungsten-doped vanadium oxide thin film based tunable antenna," *2nd International Conference on Advances in Functional Materials*, South Korea, 2016.
36. S. Wang, **W.S. Wang**, C. Yakopcic, E.S. Shin, R.S. Kim, G. Subramanyam and T.M. Taha, "Lithium based memristive device," *IEEE National Aerospace & Electronics Conference (NAECON)*, Dayton, OH, 2015.
37. **W.S. Wang**, M. Patterson, and G. Subramanyam, "Passive wireless platforms for chemical-biological sensors," *IEEE Engineering in Medicine & Biology Society Conference 2014*, Chicago, IL, Aug 26-30, 2014.
38. K.C. Pan, D. Brown, **W.S. Wang**, and G. Subramanyam, "Vanadium dioxide thin film series single-pole single throw switch," *IEEE National Aerospace & Electronics Conference (NAECON)*, Dayton, OH, Jun 25-27, 2014.
39. **W.S. Wang**, C. Yakopcic, E.S. Shin, T.M. Taha and G. Subramanyam, "Fabrication, characterization, and modeling of memristor devices," *IEEE National Aerospace & Electronics Conference (NAECON)*, Dayton, OH, Jun 25-27, 2014.
40. B. Moon, **W.S. Wang**, C. Park, I. Yuk, M. Chun, and D. Jaffe, "Immersion grating mount design for IGRINS and GMTNIRS," *SPIE Modern Technologies in Space- and Ground-based Telescopes and Instrumentation*, 845048, Amsterdam, Denmark, July 2012.
41. M. Gully-Santiago, **W.S. Wang**, C. Deen and D. Jaffe, "Near-infrared metrology of high-performance silicon immersion gratings," *SPIE Modern Technologies in Space- and Ground-based Telescopes and Instrumentation*, 84502S, Amsterdam, Denmark, July 2012.
42. **W.S. Wang**, M. Gully-Santiago, C. Deen, D. Mar and D. Jaffe, "Manufacturing of silicon immersion gratings for infrared spectrometers," *SPIE Astronomical Telescopes and Instrumentation*, 7739-172, San Diego, CA, Jun 28-July 2, 2010.
43. M. Gully-Santiago, **W.S. Wang**, C. Deen, D. Kelly, T. P. Greene, J. Bacon, D. T. Jaffe, "High-performance silicon grisms for 1.2-8.0 μm : detailed results from the JWST-NIRCam device," *SPIE Astronomical Telescopes and Instrumentation*, 7739-173, San Diego, CA, Jun 28-July 2, 2010.

44. I.S. Yuk, D. T. Jaffe, S. Barnes, M.Y. Chun, C. Park, S. Lee, H. Lee, **W.S. Wang**, K.J. Park, S. Pak, J. Strubhar, C. Deen, H. Oh, et al., "Preliminary design of IGRINS (Immersion GRating INfrared Spectrograph)," *SPIE Astronomical Telescopes and Instrumentation*, 7735, San Diego, CA, Jun 28-July 2, 2010.
 45. S. Lee, I.S. Yuk, H. Lee, **W.S. Wang**, D. T. Jaffe, S. Barnes, M.Y. Chun, C. Park, S. Pak, J. Strubhar, C. Deen, M. Gully-Santiago, et al., "GMTNIRS (Giant Magellan Telescope near-infrared spectrograph): design concept," *SPIE Astronomical Telescopes and Instrumentation*, 7735, San Diego, CA, Jun 28-July 2, 2010.
 46. D. Jaffe, **W.S. Wang**, J. Marsh, C. Deen, D. Kelly, and T. Greene, "Fabrication and test of silicon grisms for JWST-NIRCam," *SPIE Space Telescopes and Instrumentation I: Optical, Infrared, and Millimeter*, Marseille, France, Jun 23-28, 2008.
 47. **W.S. Wang**, S. Tatic-Lucic, W. Brown, J. Iceman, S. Hyun, and R. Vinci, "Thermal inchworm for precision in-package positioning," *EuroSensors*, Sweden, 2006.
 48. **W.S. Wang**, J. Fang, and K. Varahramyan, "Auto-tunable microlens chip for sensing applications," *IEEE Sensors*, Irvine, CA, Nov. 2005 (Best Paper Award).
 49. **W.S. Wang**, J. Fang, and K. Varahramyan, "Controlling nanoparticle distribution in hydrogel by electrophoresis for gradient refractive index lens applications," *SPIE Photonics West*, San Jose, CA, Jan. 2005.
 50. **W.S. Wang**, J. Chen, J. Fang, and K. Varahramyan, "Novel process to fabricate 3D microstructure joined with micro-channel for microfluidic applications," *SPIE Optics East*, Philadelphia, PA, Oct. 2004.
 51. J. Chen, **W.S. Wang**, and J. Fang, "Design and fabrication of a variable-focusing microlens," *Texas MEMS Workshop V.*, Arlington, TX, May. 2003.
 52. Z.M. Yao, J. Fang, J. Chen, and **W.S. Wang**, "The Investigation of Hard Magnetic Silicone Elastomer Thin Films," *Microfluidics, BioMEMS, and Medical Microsystems at SPIE Photonics West*, San Jose, CA, Jan. 2003.
- ◇ **Book Chapters**
53. J. Fang, **W.S. Wang**, and S.H. Zhao, "Fabrication of 3D microfluidic structures," *Encyclopedia of Microfluidics and Nanofluidics*, Springer, August 2008. ISBN 0387324682

Patents

- ◇ A.E. Islam, **W.S. Wang**, K.D. Leedy, "Tungsten-nitride based high temperature diffusion barrier for the metal-dielectric interface in MOS devices," US Patent Application # 63/554,974, Feb 17, 2024.
- ◇ J. Fang, **W.S. Wang**, J. Chen, K. Varahramyan, R.A. Gunasekaran and M. Agarwal, "Wide-angle variable focus length lens system," US patent 7,359,124 and US patent 7,440,193, 2008 (Licensed by HoloChip Corp. for lens product commercialization)

Services

- ◇ Panel member, Vacuum Systems CTAG Alignment Panel, Ohio Department of Higher Education
2023-present
- ◇ Committee member, International Education Advisory Committee, Wright State University
2023-present
- ◇ Committee member, Governance and Bylaws committee, Wright State University - Lake Campus
2023-present
- ◇ Committee member (elected), Promotion and Tenure committee, Wright State University - Lake Campus
2023-present
- ◇ Committee member, Graduate study committee, Electrical Engineering Department, Wright State University
2024-present

- ◇ Committee member, Undergraduate Curriculum committee, Electrical Engineering Department, Wright State University 2023-2024
- ◇ Faculty Senate President, Wright State University - Lake Campus 2022-2023
- ◇ Committee chair, Mechanical engineering faculty search committee, Wright State University Lake Campus 2020
- ◇ Committee co-chair, Electrical engineering faculty search committee, Wright State University - Lake Campus 2020
- ◇ Committee chair, Governance and Bylaws committee, Wright State University - Lake Campus 2019-2022
- ◇ Committee member, Lake Campus Ad-Hoc International Education Committee 2020
- ◇ Committee member, Library advisory committee, Wright State University since 2019
- ◇ Committee member, Library and IT committee, Wright State University - Lake Campus 2018-2019
- ◇ Active Reviewer for *Scientific Reports*, *IEEE Electron Device Letters*, *IEEE Transactions on Electron Devices*, *Journal of Applied Physics*, *Sensors and Actuators, B*, *IEEE Sensors Journal*, *IEEE Transactions on Nanotechnology*, *IEEE Journal of Microelectromechanical Systems*, *ECS Journal of Solid State Science and Technology*, *Sensors and Electronics* 2007-present
- ◇ Organizing committee member for International Workshop on Thin Films for Electronics, Electro-Optics, Energy & Sensors (TFE3S) 2015 (Suzhou, China), 2017 (Dayton, USA)
- ◇ ABET review coordinator for ECE senior capstone classes, University of Dayton 2016
- ◇ Mentor of Air Force Research Lab (AFRL) Minority Leaders Research Collaboration Program, University of Dayton 2013-2017
- ◇ Committee chair for IEEE Sensors Council Early Career (Young Professional) Award 2014
- ◇ Committee member for IEEE Sensors Council Early Career GOLD (Graduates of the Last Decade) Award 2009-2014
- ◇ Volunteer judge for Spirit of Innovation Awards - Conrad Foundation (aerospace exploration subcategory) 2011
- ◇ Volunteer tutor for middle school students whose both parents are visually impaired 1994-1996

Teaching and Advising

- ◇ Wright State University - Lake Campus and Dayton Campus
 - EGR 1010 Intro Math for Engineering Applications (1 time)
 - EE 2000 Digital Electronics (5 times)
 - EE 2000L Digital Electronics Lab (6 times)
 - EE 2010 Circuit Analysis (13 times)
 - EE 2010L Circuit Analysis Lab (14 times)
 - EE 3210 Linear Systems I (7 times)
 - EE 3310 Devices and Circuits (4 times)
 - EE 3310L Devices and Circuits Lab (4 times)
 - EE 4000 Linear Systems II (4 times)
 - EE 4120 Industrial Control and Automation (9 times)
 - EE 4120L Industrial Control and Automation Lab (9 times)
 - EE 4470 Antenna Design and Analysis (1 time)

- EE 4470L Antenna Design and Analysis Lab (1 time)
 - EE 4210L Digital Communication Lab (1 time)
 - EE 4130 Continuous Control Systems (1 time)
 - EE 4130L Continuous Control Systems Lab (1 time)
 - EE 4620L Digital Integrated Circuit Design Lab (1 time)
 - EE 4910 Senior projects (1 time)
 - ME 4910 Capstone Design I (1 time)
- ◇ University of Dayton, Department of Electrical and Computer Engineering
- EGR 103 Engineering Innovation (5 times)
 - EGR 203 Electrical and Electronic Circuits (2 times)
 - EGR 311 Principles of Nanotechnology (2 times)
 - ECE 431 Multidisciplinary Design (senior capstones) I (8 times)
 - ECE 432 Multidisciplinary Design (senior capstones) II (8 times)
 - ECE 595 Micro-Electro-Mechanical Systems (MEMS) (3 times)
- ◇ Course/Program Development
- Developed Associate of Applied Science in Information and Cybersecurity program, approved by ODHE. 2022
 - Developed Associate of Applied Science in Mechatronics and Industrial Engineering program, approved by ODHE. 2022
 - Developed Associate of Applied Science in Electrical and Computer Engineering Technology program, approved by ODHE. 2021
 - Developed labs for EE4120L - Industrial Control and Automation Lab 2021
 - Developed online labs for EE4130L - Continuous Control Systems Lab 2020
 - Developed the study abroad program with Shanghai Normal University, MOU signed. 2019
 - Revised the course content and developed the twelve labs for EE 2010L – Circuit Analysis I Lab. Fall 2019
- ◇ Advising Students
- 3 graduate research assistants: ultra-wide band gap transistor development for high power and high frequency applications, AFRL 2022-present
 - 5 undergraduate research assistants: ultra-wide band gap transistor development for high power and high frequency applications, AFRL 2022-present
 - 2 undergraduate students and 2 graduate students: In-road electric vehicle charging system for parked vehicles, Ohio Department of Transportation 2023
 - 4 undergraduate students: Senior design project - Test bench for vertical launched drone 2021-2022
 - 5 undergraduate students: Senior design project - Water quality monitoring buoy for Great Lake St. Marys 2020-2021
 - 5 undergraduate students: Senior design project - Water quality monitoring buoy for Great Lake St. Marys 2019-2020
 - 4 undergraduate students: Senior design project - Autonomous material handling vehicle 2018-2019
 - Mentored 5 minority undergraduate students in AFRL Minority Leadership program, University of Dayton 2016-2018

- ◇ Graduate Committee
 - 3 M.S., Wright State University 2024
 - 1 M.S., Wright State University 2022
 - 1 Ph.D., University of Dayton 2021
 - 1 Ph.D., University of Dayton 2020
 - 1 Ph.D., University of Dayton 2018
 - 1 M.S., University of Dayton 2017
 - 1 Ph.D., University of Dayton 2016

References

AVAILABLE UPON REQUEST