

# Thomas E. Steinberger

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## EDUCATION

### West Virginia University, Morgantown, West Virginia, USA

- Ph.D. in Experimental Plasma Physics 2017 – 2020
  - Thesis: Single and Multi-photon Laser Induced Fluorescence for Electric Propulsion and Fusion Applications
  - Adviser: Prof. Earl E. Scime
- M.S. in Experimental Plasma Physics 2014 – 2017

### Ohio Northern University, Ada, Ohio, USA

- B.S. in Mathematics, Applied Physics, Education 2010 – 2014
  - Minor: Astronomy
  - State of Ohio Department of Education 4 year Resident Educator License: AYA Mathematics

## POSITIONS HELD

- West Virginia University, Assistant Professor 2025 – Present
- West Virginia University, Adjunct Professor 2025
- Riverside Research, Scientist III-Plasma Physicist 2024 – 2025
- Scime Scientific, Co-founder 2023 – Present
- Scime Scientific, Chief Technology Officer 2023 – 2024
- West Virginia University, Research Assistant Professor 2022 – 2024
- West Virginia University, Postdoctoral Researcher 2021 – 2022
- Oak Ridge National Laboratory, Visiting Researcher 2018 – 2020
  - Prototype Material Plasma Exposure eXperiment
- Stanford Linear Accelerator Center, Visiting Researcher 2015
  - Matter Under Extreme Conditions

## GRANTSMANSHIP

- [7] “Measurements of magnetic and electric fields during magnetic reconnection,” Department of Energy 2025 – 2028, (PI: Earl Scime). Amount to WVU: \$518,000.00. Total Amount \$518,000.00.
- [6] “A Rapid-Frequency-Scanning Laser Induced Fluorescence Diagnostic for High Enthalpy Plasmas,” NASA 2026 – 2028, (PI: Thomas E. Steinberger). *Under Review*.
- [5] “Decoupled Control of an Atmospheric Plasma Jet Using Multi-Harmonic Waveform Tailoring,” Department of Energy 2025 – 2028, (PI: Thomas E. Steinberger). *Under Review*.
- [4] “Development of a Fast-scanning, High-temporal-resolution Laser Induced Fluorescence Diagnostic for Space Plasmas and Spacecraft Applications,” FY 2024 Congressionally Directed Spending Request 2024 – 2025, (PI: Thomas E. Steinberger). Amount to WVU: \$465,000.00. Total Amount \$465,000.00.  
*Recused PI role due to change in institutional affiliation.*
- [3] “Center for KINetic Experiment, Theory, and Integrated Computation (KINETIC) Physics,” Department of Energy Experimental Program to Stimulate Competitive Research (EPSCoR), 2023 – 2025, (PI: Earl E. Scime). Amount to WVU: \$4,500,000.00. Total Amount: \$4,500,000.00.  
*Recused Co-I role due to change in institutional affiliation.*
- [2] “CAREER: A laboratory test of radiation belt electron acceleration and diffusion by whistler chorus,” National Science Foundation Faculty Early Career Development Program (CAREER), 2023 – 2028, (PI: James Schroeder). Amount to WVU: \$68,245.00. Total Amount: \$498,520.00.  
*Recused Subcontracting role due to change in institutional affiliation.*
- [1] “Advanced Diagnostic Development Facility for Space Propulsion,” NASA West Virginia Experimental Program to Stimulate Competitive Research (EPSCoR), 2023 – 2026, (PI: Earl E. Scime). Amount to WVU: \$748,564.00. Total Amount: \$748,564.00.  
*Recused Co-I role due to change in institutional affiliation.*

## TEACHING EXPERIENCE

### Post-secondary Education

- West Virginia University
  - PHYS 341 Advanced Physics Laboratory 1
  - PHYS 101 Introductory Lab

• **PHYS 102 Introductory Lab**

**MENTORSHIP**

**Graduate Students**

▪ Gabriela Himmele (Committee Member)	2025
▪ Shane Cupp (Co-mentor)	2022 – 2024
▪ Ripudaman Singh Nirwan (Co-mentor)	2021 – 2024
▪ Matthew Lazo (Co-mentor)	2021 – 2023
▪ Katey Stevenson (Co-mentor)	2020 – 2024
▪ Tyler Gilbert (Co-mentor)	2020 – 2024

**Undergraduate Students**

▪ Logan Stewart (Mentor)	2025 – Present
▪ Samuel Stalnaker (Co-mentor)	2022 – 2024
▪ Jacob Freeze (Co-mentor)	2021 – 2024
• Graduated with B.S. in Physics	
▪ Mayley Guitard (Co-mentor)	2021 – 2023
• NASA Scholar	
▪ Michael Moran (Co-mentor)	2020 – 2022
• Graduated with B.S. in Physics	
▪ Matthew Lazo (Co-mentor)	2020 – 2021
• Graduated with B.S. in Physics	

**PEER REVIEWED  
PUBLICATIONS**

**JOURNALS**

- [22] Gilbert, T., E. Scime, and T.E. Steinberger, “Non-intrusive Measurement of Magnetic Field Strengths in a Low Pressure Argon Plasma using Quantum Beat Spectroscopy,” *Plasma Sources Science and Technology*, vol. 34, no. 2, pp. 025020, 2025.
- [21] T. Gilbert, T.E. Steinberger, and E. Scime, “Laser Induced Fluorescence Using Frequency Modulated Light,” *Rev. Sci. Instr.*, vol. 95, no. 8, pp. 083550, 2024.
- [20] Gilbert, T., T.E. Steinberger, E. Scime, “Improving pulsed laser induced fluorescence signal-to-noise through matched filter signal processing,” *Rev. Sci. Instr.*, vol. 95, no. 8, pp. 083521, 2024
- [19] K.J. Stevenson, T.J. Gilbert, P. Srivastava, T.N. Good, M. Paul, P. Shi, T.E. Steinberger, R. S. Nirwan, and E.E. Scime, “Field Direction Dependent Particle Heating in a Helicon Source,” *Plasma Sources Science and Technology*, vol. 33, no. 4, pp. 045009, 2024.
- [18] G.A. Riggs, M.E. Koepke, T.S. Lane, T.E. Steinberger, P.M. Kozlowski, and I.E. Golovkin, “Role of Simple Spatial Gradient in Reinforcing the Accuracy of Temperature Determination of HED Plasma via Spectral Line-Area Ratios,” *Atoms*, vol. 92, 2023.
- [17] D. Caron, R. John, E.E. Scime, and T.E. Steinberger “Ion velocity distribution functions across a plasma meniscus,” *Journal of Vacuum Science and Technology*, vol. 41, no. 3, pp. 033001, 2023.
- [16] T.S. Lane, M.E. Koepke, P.M. Kozlowski, G.A. Riggs, T.E. Steinberger, I. Golovkin, “Establishing an isoelectronic line ratio temperature diagnostic for soft X-ray absorption spectroscopy,” *High Energy Density Physics*, vol. 45, pp. 101019, 2022.
- [15] P. Shi, P. Srivastav, M.H. Barbhuiya, P.A. Cassak, E.E. Scime, M. Swisdak, C. Beatty, T. Gilbert, R. John, M. Lazo, R.S. Nirwan, M. Paul, E.E. Scime, K. Stevenson, and T.E. Steinberger, “Electron-only reconnection and associated electron heating and acceleration in PHASMA,” *Physics of Plasmas*, vol. 29, no. 3, pp. 03210, 2022.
- [14] M. Lazo, T.E. Steinberger, T. Good, and E.E. Scime, “Measurements of Singly Ionized Atomic Iodine Hyperfine Coupling Coefficients Using Intermodulated Laser Induced Fluorescence,” *Journal of Quantitative Spectroscopy and Radiative Transfer*, vol. 92, no. 1, pp. 013502, 2021.
- [13] T.E. Steinberger, J.W. McLaughlin, T.M. Biewer, and E.E. Scime, “Two-photon absorption laser induced fluorescence measurements of absolute neutral deuterium density, temperature, and bulk flow in Proto-MPEX,” *Physics of Plasmas*, vol. 28, no. 8, pp. 082501, 2021.

- [12] S. Chakraborty Thakur, Mitchell Paul, Eric M. Hollmann, E. Lister, Earl E. Scime, Thomas E. Steinberger, and George R. Tynan, "Ion heating in PISCES-RF: a liquid-cooled high-power, steady-state, helicon plasma device," *Physics of Plasmas*, vol. 30, no. 6, pp. 065010, 2021.
- [11] Tyler Gilbert, Katey Stevenson, Mitchell Paul, Thomas Steinberger, and Earl Scime, "Magnetic field imaging in a laboratory plasma," *AIP Advances*, vol. 11, no. 5, pp. 055314, 2021.
- [10] P. Shi, P. Srivastav, C. Beatty, R. John, M. Lazo, J. McKee, J. McLaughlin, M. Moran, M. Paul, E.E. Scime, E.E. Scime, D.S. Thompson, and T.E. Steinberger, "Alfvénic modes excited by the kink instability in PHASMA," *Physics of Plasmas*, vol. 28, no. 3, pp. 032101, 2021.
- [9] M. Paul, T.E. Steinberger, E. Lister, S. Chakraborty Thakur, D. Artis, I. Arnold, E. Thomas, E.E. Scime, and G. Tynan, "Compact, Portable Laser Induced Fluorescence Diagnostic for Laboratory Plasma Sources," *Review of Scientific Instruments*, vol. 92, no. 1, pp. 013502, 2021.
- [8] C.B. Beatty, T.E. Steinberger, E.M. Aguirre, R.A. Beatty, K.G. Kline, J.W. McLaughlin, L. Neal, and E.E. Scime, "Creation of large temperature anisotropies in a laboratory plasma," *Physics of Plasmas*, vol. 27, no. 12, pp. 122101, 2020.
- [7] T.E. Steinberger, M.F. Dufor, D.S. Thompson, and E.E. Scime, "Zeeman Splitting Measurements of Magnetic Fields in Iodine Plasma," *Review of Scientific Instruments*, vol. 89, no. 10, Oct 2018
- [6] T.E. Steinberger and E.E. Scime, "Laser Induced Fluorescence of Singly-Ionized Iodine," *Journal of Propulsion and Power*, vol. 34, no. 5, pp. 1235–1239, Jun 2018.
- [5] D.S. Thompson, T.E. Steinberger, A.M. Keese, and E.E. Scime, "Laser induced fluorescence of Ar-I metastables in the presence of a magnetic field," *Plasma Sources Science and Technology*, vol. 27, no. 6, pp. 065007, Jun 2018.
- [4] T.E. Sheridan, and T.E. Steinberger, "Measurement of Plasma Sheath Overlap Above a Trench," *Journal of Applied Physics*, vol. 121, no. 23, pp. 233301, Jun 2017.
- [3] B. Berger, T.E. Steinberger, E. Schüngel, M. Koepke, T. Mussenbrock, P. Awakowicz, and J. Schulze, "Enhanced Power Coupling Efficiency in Inductive Discharges with RF Substrate Bias Driven at Consecutive Harmonics with Adjustable Phase," *Applied Physics Letters*, vol. 111, no. 20, pp. 201601, Nov 2017.
- [2] T.E. Sheridan, N.R. Weiner, and T.E. Steinberger, "Dust and Plasma Properties Measured Using Two Confined Particles," *Journal of Plasma Physics*, vol. 82, no. 3, pp. 615820304, May 2016.
- [1] T.E. Steinberger, A. Zaharescu, M. Zaki, "Arithmetic Functions on Gaussian Integers," *International Journal of Number Theory*, vol. 09, no. 08, pp. 1923-1932, Dec 2013.

#### CONFERENCE PROCEEDINGS

- [2] E. Scime, E. Aguirre, C. Beatty, R. Beatty, T. Good, J. McLaughlin, E. Scime, T.E. Steinberger, "Structure of Spontaneous Ion Acceleration Regions in Expanding Plasmas," *Proceedings of the IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications*, 2019.
- [1] T.E. Steinberger, and E. Scime, "Iodine Fluorescence for Thruster Diagnosis," *Proceedings of the 35th International Electric Propulsion Conference*, 2017.

#### SELECT PRESENTATIONS

#### INVITED TALKS

- [6] "Shedding New Light on Spectroscopy: Expanding the Boundaries of Laser Spectroscopy for Plasma Diagnostics," Colloquium Series at *Department of Physics and Astronomy, West Virginia University*, Morgantown, WV, USA, 2025.
- [5] "Investigating Singly Ionized Atomic Iodine using Laser Induced Fluorescence," Invited Technical Presentation at *Riverside Research*, Remote, 2024.
- [4] "Shining a Light on Plasmas: Exploring Ionized Gases through Laser Induced Fluorescence," Invited Technical Presentation at *Helion*, Everett, WA, USA, 2023.
- [3] "Multi-photon Laser Induced Fluorescence for Ions and Neutrals," Invited Technical Presentation at *Leidos*, Remote, 2022.
- [2] "Single and Multi-photon Laser Induced Fluorescence for Electric Thruster and Fusion Applications," Invited Technical Presentation at *The Naval Research Laboratory*, Remote, 2021.
- [1] "The Fourth State of Matter and How I Study Plasmas," Invited Lecture Series at *Defiance Middle School*, Remote, 2021.

#### CONTRIBUTED TALKS

- [3] “Plasma and quantum information sciences: Entanglement Enhanced Laser absorption and stimulated emission,” Contributed Talk in *65th Annual Meeting of the American Physical Society Division of Plasma Physics*, Denver, CO, USA, 2023.
- [2] “Ion Velocity Distribution Functions in an Inductively Coupled Plasma’s Meniscus,” Contributed Talk in *63rd Annual Meeting of the American Physical Society Division of Plasma Physics*, Pittsburgh, PA, USA, 2021.
- [1] “On Bernoulli’s Inequality,” Contributed Talk in *Michigan Undergraduate Mathematics Conference*, Adrian, MI, USA, 2012.

#### CONTRIBUTED POSTERS

- [45] “Two-photon Absorption Laser Induced Florescence of Krypton Fueled Resistojet Thruster - Interactions with Ambient Neutrals,” Contributed Poster in *66th American Physical Society Division of Plasma Physics*, Atlanta, GA, USA, 2024.
- [44] “A phased array for laboratory testing of radiation belt whistler-mode wave dynamics,” Contributed Poster in *66th American Physical Society Division of Plasma Physics*, Atlanta, GA, USA, 2024.
- [43] “Riverside Research Plasma Lab: preliminary lab capabilities and results,” Contributed Poster in *66th American Physical Society Division of Plasma Physics*, Atlanta, GA, USA, 2024.
- [42] “Preliminary Results from the Riverside Research Plasma-Materials Interaction Experiment,” Contributed Poster in *66th American Physical Society Division of Plasma Physics*, Atlanta, GA, USA, 2024.
- [41] “Measuring magnetic fields in plasma gun generated flux ropes with quantum beat spectroscopy,” Contributed Poster in *66th American Physical Society Division of Plasma Physics*, Atlanta, GA, USA, 2024.
- [40] “An Introduction to the Wheaton Space Plasma Physics Laboratory (WSPPL),” Contributed Poster in *66th American Physical Society Division of Plasma Physics*, Atlanta, GA, USA, 2024.
- [39] “Plasma and quantum information sciences: Entanglement Enhanced Laser absorption and stimulated emission,” Contributed Talk in *65th American Physical Society Division of Plasma Physics*, Denver, CO, USA, 2023.
- [38] “Ion Dynamics During Magnetic Reconnection in the PHase Space MApping Experiment,” Contributed Poster in *65th American Physical Society Division of Plasma Physics*, Denver, CO, USA, 2023.
- [37] “Two-photon Laser Induced Fluorescence of Krypton Fueled Resistojet Thruster Interaction with Ambient Neutrals,” Contributed Poster in *65th American Physical Society Division of Plasma Physics*, Denver, CO, USA, 2023.
- [36] “Improving Pulsed Laser Induced Fluorescence Signal-to-Noise Through Matched Filter Signal Processing,” Contributed Poster in *65th American Physical Society Division of Plasma Physics*, Denver, CO, USA, 2023.
- [35] “Characterization of a wave-launching plasma source with LIF techniques,” Contributed Poster in *65th American Physical Society Division of Plasma Physics*, Denver, CO, USA, 2023.
- [34] “Neutral Krypton Three-photon Laser Induced Fluorescence and 3+1 Photoionization Spectroscopy Measurements on Allowed and Forbidden Transitions,” Contributed Poster in *65th American Physical Society Division of Plasma Physics*, Denver, CO, USA, 2023.
- [33] “Improving pulsed laser induced fluorescence signal-to-noise through matched filter signal processing,” Contributed Poster in *20th International Symposium on Laser-Aided Plasma Diagnostics*, Kyoto, Japan, 2023.
- [32] “Field Direction Dependent Particle Heating and Plasma Production in a Helicon Source,” Contributed Poster in *65th American Physical Society Division of Plasma Physics*, Denver, CO, USA, 2023.
- [31] “Improving pulsed laser induced fluorescence signal-to-noise through matched filter signal processing,” Contributed Poster in *65th American Physical Society Division of Plasma Physics*, Denver, CO, USA, 2023.
- [30] “Exploring Two Photon Absorption Laser-induced Fluorescence Techniques For Diagnosing Processing-relevant Chlorine Plasmas ,” Contributed Poster in *50th International Conference on Plasma Science*, Santa Fe, NM, USA, 2023.
- [29] “Three Photon Laser Induced Fluorescence in a Cold Krypton Gas,” Contributed Poster in *50th International Conference on Plasma Science*, Santa Fe, NM, USA, 2023.

- [28] “Argon Ion Temperature Evolution in Magnetic Reconnection,” Contributed Poster in *64th Annual Meeting of the American Physical Society Division of Plasma Physics*, Spokane, WA, USA, 2022.
- [27] “Preliminary Results from a Three Photon Laser Induced Fluorescence Diagnostic in a Cold Krypton Gas,” Contributed Poster in *64th Annual Meeting of the American Physical Society Division of Plasma Physics*, Spokane, WA, USA, 2022.
- [26] “Preliminary Results from a Three Photon Laser Induced Fluorescence Diagnostic in a Cold Krypton Gas,” Contributed Poster in *High Temperature Plasma Diagnostics Conference*, Rochester, NY, USA, May 2022.
- [25] “Laser Induced Fluorescence Measurements of Ion Velocity Distribution Functions in a Flux Rope,” Contributed Poster in *High Temperature Plasma Diagnostics Conference*, Rochester, NY, USA, 2022.
- [24] “Intermodulated LIF Measurements of Singly Ionized Iodine,” Contributed Poster in *63rd Annual Meeting of the American Physical Society Division of Plasma Physics*, Pittsburgh, PA, USA, 2021.
- [23] “Electron-collision Helium Ion State Enhancement from Electron Beam for He II Two-photon Absorption Laser Induced Fluorescence,” Contributed Poster in *63rd Annual Meeting of the American Physical Society Division of Plasma Physics*, Pittsburgh, PA, USA, 2021.
- [22] “Measurements of Ion Velocity Distribution Functions in a Flux Rope,” Contributed Poster in *63rd Annual Meeting of the American Physical Society Division of Plasma Physics*, Pittsburgh, PA, USA, 2021.
- [21] “Construction of a Retarding Field Energy Analyzer for the PHase Space MApping Experiment,” Contributed Poster in *63rd Annual Meeting of the American Physical Society Division of Plasma Physics*, Pittsburgh, PA, USA, 2021.
- [20] “Two-photon Absorption Laser Induced Fluorescence Measurements of Neutral Density in the Prototype Material Plasma Exposure eXperiment,” Contributed Poster in *23rd Topical Conference on High Temperature Plasma Diagnostics*, 2020.
- [19] “Two-photon Absorption Laser Induced Fluorescence Measurements of Neutral Density in the Prototype Material Plasma Exposure eXperiment,” Contributed Poster in *62nd Annual Meeting of the American Physical Society Division of Plasma Physics*, 2020.
- [18] “Magnetic Field Measurements through Argon Neutral Laser Induced Fluorescence,” Contributed Poster in *62nd Annual Meeting of the American Physical Society Division of Plasma Physics*, 2020.
- [17] “Two-photon Absorption Laser Induced Fluorescence on Proto-MPEX,” Contributed Poster in *61st Annual Meeting of the American Physical Society Division of Plasma Physics*, Ft Lauderdale, FL, USA, 2019.
- [16] “Confocal Measurements of the Plasma Meniscus,” Contributed Poster in *61st Annual Meeting of the American Physical Society Division of Plasma Physics*, Ft Lauderdale, FL, USA, 2019.
- [15] “Temperature Anisotropy in an Expanding Magnetized Plasma,” Contributed Poster in *61st Annual Meeting of the American Physical Society Division of Plasma Physics*, Ft Lauderdale, FL, USA, 2019.
- [14] “Two-photon Absorption Laser Induced Fluorescence on Proto-MPEX,” Contributed Poster in *19th International Symposium on Laser Aided Plasma Diagnostics*, Whitefish, MT, USA, 2019.
- [13] “Two-photon absorption laser induced fluorescence flow measurements of neutral krypton in the flow from a resistojet thruster,” Contributed Poster in *19th International Symposium on Laser Aided Plasma Diagnostics*, Whitefish, MT, USA, 2019.
- [12] “Development of Two-photon Absorption Laser Induced Fluorescence Diagnostic for Proto-MPEX,” Contributed Poster in *60th Annual Meeting of the American Physical Society Division of Plasma Physics*, San Diego, CA, USA, 2018.
- [11] “High Resolution Ion Velocity Distribution Map Downstream of Expanding Magnetic Field,” Contributed Poster in *60th Annual Meeting of the American Physical Society Division of Plasma Physics*, Portland, OR, USA, 2018.
- [10] “Laser Induced Fluorescence for Singly Ionized Atomic Iodine,” Contributed Poster in *High Temperature Plasma Diagnostics*, San Diego, CA, USA, 2018.
- [9] “Laser Induced Fluorescence for Singly Ionized Atomic Iodine,” Contributed Poster in *70th Annual Gaseous Electronics Conference*, Pittsburgh, PA, USA, 2017.
- [8] “Laser Induced Fluorescence for Singly Ionized Atomic Iodine,” Contributed Poster in *59th Annual American Physical Society Division of Plasma Physics*, Milwaukee, WI, USA, 2017.

- [7] “Simulation of an expanding plasma using the Boris algorithm,” Contributed Poster in *59th Annual American Physical Society Division of Plasma Physics*, Milwaukee, WI, USA, 2017.
- [6] “Coupling Mechanisms in Inductive Discharges with RF Substrate Bias Driven at Consecutive Harmonics with Adjustable Relative Phase,” Contributed Poster in *Gaseous Electronics Conference*, Bochum, Germany, 2016.
- [5] “Corroborating Iso-electronic and Iso-element Spectral Line Diagnostics for Determining Density and Temperature with Refined Certainty,” Contributed Poster in *Omega Laser Facility Users Group 2016 Workshop*, Rochester, NY, USA, 2016.
- [4] “Corroborating Iso-electronic and Iso-element Spectral Line Diagnostics for Determining Density and Temperature with Refined Certainty,” Contributed Poster in *Omega Laser Facility User Group 2016 Workshop*, Rochester, NY, USA, 2016.
- [3] “Properties of the Plasma Sheath Over a Rectangular Depression,” Contributed Poster in *66th Annual American Physical Society Division of Fluid Dynamics*, Pittsburgh, PA, USA, 2013.
- [2] “Peculiar Velocity of Wide Angle Tailed Radio Galaxies,” Contributed Poster in *Ohio Section of the American Physical Society*, Cincinnati, OH, USA, 2013.
- [1] “Preliminary Investigation of the Plasma Sheath,” Contributed Poster in *Ohio Section of the American Physical Society*, Athens, OH, USA, 2013.

## AWARDS AND HONORS

### Carl A. Rotter Graduate Teaching Award

- **West Virginia University**, Morgantown, WV, USA 2016
  - Prestigious teaching award presented by the West Virginia University Department of Physics and Astronomy to a graduate student for excellence in classroom or laboratory instruction. Selected by a faculty committee and awarded in honor of Dr. Carl A. Rotter, longtime professor and champion of physics education.

### Eberly College Outstanding Teaching Assistant Award

- **West Virginia University**, Morgantown, WV, USA 2016
  - Departmental award recognizing outstanding contributions to undergraduate instruction by a graduate teaching assistant in physics and astronomy. Recipients are selected based on faculty or Laboratory Manager nominations and are honored with their names displayed on a plaque in the department’s main office.

## CONSULTING

**Laser Spectroscopy Diagnostic Development**, Scime Scientific 2023 – Present

## SYNERGISTIC ACTIVITIES

### Physics and Astronomy Lecture Demonstration Coordinator

- **West Virginia University**, Morgantown, WV, USA 2015– 2017
  - Organized, maintained, and developed physics lecture demonstrations for undergraduate courses. Designed and constructed new demonstrations to support faculty instruction and improve student engagement. Collaborated closely with faculty to enhance the effectiveness of in-class teaching materials

## PROFESSIONAL SERVICE

**WVU Physics and Astronomy Chapter of Society of Physics Students Faculty Adviser** 2025 – Present

**Make-A-Wish Foundation Volunteer** 2025

**WVU Physics and Astronomy Colloquium Planning Committee** 2022 – 2024, 2025

**WVU Physics and Astronomy Merit Review Committee** 2023

**Journal Referee** 2021 – 2025

- Applied Physics Letters, Engineering Research Express, Journal of Applied Physics, Journal of Propulsion and Power, Nature Scientific Reports, Physics of Fluids, Plasma Sources Science and Technology, Review of Scientific Instruments

**Proposal Reviewer** 2022 – 2025

- US Department of Energy, NASA EPSCoR, National Science Foundation

## MEMBERSHIPS

**MagNet US**, member 2023 – Present

**WVU Center for KINETIC Plasma Physics**, Investigator 2022 – 2024

**American Physical Society Division of Plasma Physics**, member 2017 – Present

## LICENSES AND CERTIFICATIONS

**State of Ohio Department of Education 4 year Resident Educator License** 2014 – 2018