

# Fabrizio Vassallo

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## Education

2024 – Present: **PhD in Physics**  
University of Wisconsin–Madison

2020 – 2024: **BS in Physics and BA in Mathematics**  
Denison University  
GPA: 4.00/4.00

## Research experience

Jun 2023 – May 2024: **Summer Research & Senior Thesis (HEP Theory)**  
*Advisor: Christopher Verhaaren*  
*Brigham Young University and Denison University*  
Worked with Prof. Christopher Verhaaren on theoretical high energy physics. Our work focused on Q-balls—objects that appear in candidate theories of dark matter and baryogenesis—and helped to characterize their behavior under rotation.

May 2021 – May 2023: **Undergraduate Research Assistant (AMO Experiment)**  
*Advisor: Wesley Walter*  
*Denison University*  
Worked with Prof. Wesley Walter on negative-ion spectroscopy. We measured lead electron affinities with the threshold photodetachment spectroscopy apparatus at Denison and traveled to Sweden to study lanthanum at the DESIREE experiment in Stockholm University.

## Teaching experience

Aug 2024 – Present: **Graduate Teaching Assistant**  
*University of Wisconsin–Madison*  
Leading two discussion and two laboratory sessions for [Physics 207](#), a calculus-based course for biology students that introduces classical mechanics and thermodynamics.

Aug 2021 – Dec 2023: **Undergraduate Teaching Assistant**  
*Denison University*  
Served as a teaching assistant and tutor for seven different courses, from introductory physics and math to intermediate classes like Modern Physics, Applied Mathematical Methods, and Introduction to Proofs.

## Publications

Physics research:

1. [Measurement of the electron affinity of lead and its isotope shifts.](#)  
Walter, C. W., Vassallo, F. E., & Gibson, N. D.  
Physical Review A, Volume 106, Issue 1, 2022.
2. Measurement of lanthanum anion excited-state lifetimes.  
Walter, C. W., Vassallo, F. E., Gibson, N. D., *et al.*  
Manuscript in preparation.

History of science research:

3. [Powerful math: What biology’s modern synthesis reveals about the twofold influence of numbers.](#)  
Vassallo, F. E.  
*Synthesis*, Harvard University, Volume 1, Issue 7, 2023.

- Others:
4. [Science comes to life at PhysCon: Scholarly adventures in Washington, DC.](#)  
Vassallo, F. E.  
*Radiations*, American Institute of Physics, Volume 29, Issue 2, 2023.
  5. [The calm amidst the storm: A literary nonfiction tale.](#)  
Vassallo, F. E.  
*Exile Magazine*, Denison University, Volume 68, Issue 1, 2022.

## Presentations at scientific conferences

- 2023:
1. *Slowly-Rotating Q-Balls*.  
Speaker. APS Eastern Great Lakes Meeting. Cleveland, Ohio, USA.
  2. *Slowly-Rotating Q-Balls*.  
Poster presentation. Denison University Symposium. Granville, Ohio, USA.
- 2022:
3. *Lifetime measurements of excited states of  $La^-$* .  
Poster presentation. Optica FiO+LS Symposium. Rochester, New York, USA.
  4. *Lifetime measurements of excited states of  $La^-$* .  
Poster presentation. PhysCon 2022. Washington DC, USA.
  5. *Lifetime of excited states of  $La^-$  at DESIREE*.  
Poster presentation. Denison University Symposium. Granville, Ohio, USA.
- 2021:
6. *Measurement of the isotope shifts in the electron affinity of lead*.  
Speaker. Optica FiO+LS Symposium. Online.
  7. *Measurement of the isotope shifts in the electron affinity of lead*.  
Poster presentation. Denison University Symposium. Granville, Ohio, USA.

## Leadership and Involvement

- 2021 – 2022:
- Society of Physics Students**  
*Co-president, Denison University*  
Organized events to bring the physics community together with fun activities, from decorating the building for Halloween to coordinating a stargazing night with faculty. Recognized by the American Institute of Physics as a Distinguished Chapter.

## Honors and Awards

- 2024:
- Valedictorian of the Class of 2024  
[Provost's Academic Excellence Award](#)  
[John L. Gilpatrick Award in Mathematics](#)  
[Mike Michelson Research Award in Physics](#)  
[Ronald R. Winters Graduate School Award in Physics](#)
- 2023:
- [Membership of the Phi Beta Kappa Honor Society \(Junior Early Inductee\)](#)  
[Membership of the Pi Mu Epsilon Honor Society](#)  
[Membership of the Sigma Xi Honor Society](#)  
[Ben Leslie Experimentalist Award](#)  
[Senior Fellow of the Mathematics Department](#)  
[Senior Fellow of the Physics Department](#)
- 2022:
- [Chosaburo Kato Memorial Award](#)  
[Forbes B. Wiley Award](#)  
[Junior Fellow of the Physics Department](#)  
[Membership of the Sigma Pi Sigma Honor Society](#)
- 2021:
- [Membership of the Phi Honor Society](#)  
[Forbes B. Wiley Award](#)  
[Introductory Physics Award](#)