

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](#)