

Aidan Gardner-O'Kearny

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Education

PhD	Univeristy Of Tennessee, Knoxville , Physics	Aug 2025 - Present
	• Adivsor: Tova Holmes	
MS	Univeristy Of Tennessee, Knoxville , Physics	Aug 2025 - Present
BS	University of Oregon , Physics - Clark Honors College	Sept 2021 – Jun 2025
	• Honors Thesis: Combinatorial fake discriminatory selections for combined dE/dx and disappearing track search with the ATLAS detector	

Research Experience

Holmes Group - Graduate Research Assistant	Knoxville, TN
• Worked as a part of the MAIA detector group	May 2026 - Present
• Characterized photon reconstruction within PandoraPFA framework and optimized tagging criteria	
Jeanty Group - Undergraduate Research Assistant	Eugene, OR
• Worked with Laura Jeanty as a part of the ATLAS Collaboration	Jun 2023 – Jun 2025
• Part of upcoming dE/dx and disappearing track signature analysis for long-lived, massive, charged particles	
Brookhaven National Lab - SULI Intern	Upton, NY
• Worked with Abraham Tishelman-Charny as a part of the ATLAS Collaboration	Jun 2024 – Aug 2024
• Member of upcoming $SH \rightarrow b\bar{b}\gamma\gamma$ analysis searching for beyond Standard Model scalar bosons	

Teaching Experience

UTK Physics Department - Graduate Teaching Assistant	Knoxville, TN
• Instructor for general physics for engineers	Sept 2025 - Present
UO Tutoring and Academic Engagement Center - Class Encore Mentor	Eugene, OR
• Leadership role within the Class Encore program	Jun 2024 - Jun 2025
UO Tutoring and Academic Engagement Center - Class Encore Leader	Eugene, OR
• Support students in introductory courses in order to increase confidence in lecture material	Sept 2022 - Jun 2025
Oregon Pathways to Industry Research Careers - OPIRC Tutor	Eugene, OR
• Multivariable calculus tutor	Apr 2025 - Jun 2025
UO Physics Department - Introductory Physics Learning Assistant	Eugene, OR
• Member of the general physics educational team	Apr 2024 - Jun 2024

Presentations

Electromagnetic object reconstruction in MAIA	July 2026
• Fermilab LPC Physics Forum	
• Oral presentation	
• Aidan Gardner-O'Kearny , Jullian Watts	

Understanding photon shower behavior at the MAIA detector	July 2026
- Fermilab User's and Affiliates Meeting - Poster presentation Aidan Gardner-O'Kearny, Tova Holmes, Lawrence Lee, The MAIA Collaboration	
Combinatorial fake discriminatory selections for combined dE/dx and disappearing track search	May 2025
- UO Undergraduate Research Symposium - Oral presentation - Poster presentation Aidan Gardner-O'Kearny	
dE/dx and disappearing track background discrimination studies	April 2025
- UO Clark Honors College Three Minute Thesis - Oral presentation Aidan Gardner-O'Kearny	
Background ionization behavior for combined dE/dx and disappearing track analysis in the ATLAS detector	March 2025
- APS Global Summit - Oral Presentation Aidan Gardner-O'Kearny, Laura Jeanty, Nathan Young	
Comparing resolved and boosted jet identification algorithms to search for beyond the Standard Model scalar bosons with the ATLAS detector	August 2024
- Brookhaven SULI Intern Research Fair - Poster Presentation Aidan Gardner-O'Kearny, Abraham Tishelman-Charny, Elizabeth Brost	
Background ionization behavior for combined dE/dx and disappearing track analysis	May 2024
- UO Undergraduate Research Symposium - Poster Presentation Aidan Gardner-O'Kearny, Laura Jeanty, Nathan Young	

Awards

Fermilab User's and Affiliates Meeting Poster Award	July 2026
UO Physics Department Weiser Research Award	June 2025
UO Physics Department Poster Award - 2nd Place	June 2025
Combinatorial fake discriminatory selections for combined dE/dx and disappearing track search	
UTK Graduate Fellowship	Feb 2025
UO CURE Travel Grant Awardee	Nov 2024
Award given to support undergraduates presenting their research at a relevant conference	

Outreach

Eugene Science Center	Nov 2024
- Organized an outreach event for elementary school students - Provided undergraduate students opportunity to perform demos	

Membership

Phi Beta Kappa

June 2025

American Physical Society

Oct 2024 - Present

- Student Member

Society Of Physics Students

Jun 2023 - Jun 2025

- UO Chapter Treasurer

Skills

Languages: Python, C++, JULIA, Bash, $\text{\TeX}$ /Markdown, Mathematica

Technologies: Linux, Windows, ROOT, Matplotlib/MPLHEP, Git, PandoraPFA, Google And Microsoft Office Suite