

Curriculum Vitæ, Dylan Folsom

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Updated May 7, 2026

Education	Princeton University, Princeton, NJ Ph.D. in Physics, advised by Mariangela Lisanti	Expected 2027
	Vanderbilt University, Nashville, TN B.A. <i>cum laude</i> with Highest Honors in Physics Majors in Physics, Mathematics, and Classical Studies Minor in Computer Science	2020
Teaching, Mentorship, & Service	Scientific Thought and Practice Assistant Coding Foundations of Resarch Internship Program <ul style="list-style-type: none">• Will lead interns to discover the practices of scientific inquiry, to design and conduct experiments, and to develop skills of observation and critical thinking	Summer 2026
	Teaching Assistantship Department of Physics, Princeton University <ul style="list-style-type: none">• Focusing specifically on introductory sequence labs, I worked closely with the lab director to emphasize enquiry-based mentoring methods• PHY 105 Lab (Advanced Physics, Mechanics) Fall 2023, 2024, 2025• PHY 104 Lab (General Physics II, Electricity and Magnetism) Spring 2023• Additionally assisted in PHY 115 (Fall 2022), PHY 110 (Summer 2022), PHY 109 (Spring 2022), PHY 105 (Fall 2021)	2021 – present
	Undergraduate Advising <ul style="list-style-type: none">• Worked with Princeton Undergraduate student Tal Shpigel on summer project <i>Stellar Tracers of Dark Matter Kinematics in GSE-like Mergers from the IllustrisTNG Simulation</i>• Continued to advise Tal on Princeton Junior Paper research, culminating in arXiv:2510.21914	2024 – 2026
	Resident Graduate Student Butler College, Princeton University <ul style="list-style-type: none">• Coordinated monthly community-building creative activities• Mentored a group of sixteen first-year students	2021 – 2022

Publications 6 • *Semi-analytic Inference of Dwarf Galaxy Densities and Implications for Dark Matter Searches*

K. Raman, **DF**, M. Kaplinghat, M. Lisanti, B. Safdi
In preparation, expected early 2026

5 • *Galactic Amnesia: The Information Washout of the Milky Way Merger History*
L. Necib, **DF**, E. Davies, N. Starkman, A. Thoyas
arXiv:2605.04138, to submit to *Astrophys. J.*

4 • *How to Build an Empirical Speed Distribution for Dark Matter in the Solar Neighborhood*
T. Shpigel, **DF**, M. Lisanti, L. Necib, M. Vogelsberger, L. Hernquist
arXiv:2510.21914, Accepted to *Astrophys. J.*

3 • *Dark Matter Velocity Distributions for Direct Detection: Astrophysical Uncertainties are Smaller Than They Appear*
DF, C. Blanco, M. Lisanti, L. Necib, M. Vogelsberger, L. Hernquist
arXiv:2505.07924, *Phys. Rev. Lett.* **135**, 211004 (2025)

2 • *Cosmological Simulations of Stellar Halos with Gaia Sausage–Enceladus Analogues: Two Sausages, One Bun?*
DF, M. Lisanti, L. Necib, D. Horta, M. Vogelsberger, L. Hernquist
arXiv:2408.02723, *Astrophys. J.* **983**, 119 (2025)

1 • *Probabilistic Inference of the Structure and Orbit of Milky Way Satellites with Semi-Analytic Modeling*
DF, O. Slone, M. Lisanti, F. Jiang, M. Kaplinghat
arXiv:2311.05676, *Mon. Not. R. Astron. Soc.* **536**, 2891 (2025)

Talks

Ubiquitous Corotation of Dark Matter Halos: Implications for Direct Detection
Phenomenology Symposium – PHENO26
University of Pittsburgh, May 2026

The Dark Matter Around the Milky Way
TIPOTS Graduate Student Colloquium
Princeton University, May 2026

Diversity in Ultra-faint Dwarf Densities and Implications for Indirect Detection
Particle Astrophysics and Cosmology Meeting Around NYC – PACMAN
Center for Computational Astrophysics, January 2026

Halo-to-Halo Similarity in IllustrisTNG Dark Matter Velocity Distributions (poster)
Dark Matter Symposium – UCLA DM
University of California, Los Angeles, March 2025

Probabilistic Inference of the Structure and Orbit of Milky Way Satellites with Semi-Analytic Modeling

TeV Particle Astrophysics – TeVPA
University of Chicago, August 2024

Two Sausages, One Bun? GSEs in TNG (poster)

Small Galaxies, Cosmic Questions II
Durham University, July 2024

Probabilistic Inference of the Structure and Orbit of Milky Way Satellites with Semi-Analytic Modeling

Local Local Group Group – L2G2
Columbia University, December 2023

Semi-Analytic Inference of the Dark Matter Structure of Satellite Galaxies

Galactic Frontiers: Dwarf Galaxies in the Local Volume and Beyond
Flatiron Institute, June 2023

**Honors
& Awards**

Kusaka Memorial Prize in Physics Princeton University Department of Physics, Princeton, NJ	2025
Joseph H. Taylor Graduate Student Fellowship Princeton University Department of Physics, Princeton, NJ	2024
President’s Fellowship Princeton University Graduate School, Princeton, NJ	2021 & 2022
Joseph Henry Merit Prize Princeton University Department of Physics, Princeton, NJ	2020
Pi Mu Epsilon Mathematics Honors Society	Inducted 2019
Sigma Pi Sigma Physics Honors Society	Inducted 2019
Nancy and William McMinn Scholarship for Physics Vanderbilt University, Nashville, TN	2017 – 2020
STEM and Business Scholarship Scarlett Family Foundation, Nashville, TN	2016 – 2020