AMANDA FARAH

NSF Graduate Research Fellow ⋄ University of Chicago Department of Physics
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EDUCATION

University of Chicago October 2018 - Present
PhD Candidate
Department of Physics
Advisor: Professor Daniel Holz

University of Pennsylvania August 2014 - May 2018
Major: Physics
Concentration: Astrophysics
Departmental honors, *magna cum laude*

FELLOWSHIPS

NSF Graduate Research Fellowship 2020-2025
National Science Foundation

Data Science for Energy and Environmental Research Fellowship 2019-2022
National Science Foundation Research Traineeship Program

McCormick Graduate Fellowship 2018-2019
University of Chicago

PUBLICATIONS

Papers with short author lists

- **Farah, Amanda M.**, Maya Fishbach, Reed Essick, Daniel E. Holz, and Shanika Galaudage. 2022. "Bridging the Gap: Categorizing Gravitational-Wave Events at the Transition Between Neutron Stars and Black Holes." The Astrophysical Journal 931 (2): 108 https://doi.org/10.3847/1538-4357/ac5f03.

- Essick, Reed, **Amanda Farah**, Shanika Galaudage, Colm Talbot, Maya Fishbach, Eric Thrane, and Daniel E. Holz. 2021. "Probing Extremal Gravitational-wave Events with Coarse-grained Likelihoods." The Astrophysical Journal 926 (1): 34 https://doi.org/10.3847/1538-4357/ac3978

- **Farah, Amanda M.**, Reed Essick, Zoheyr Doctor, Maya Fishbach, and Daniel E. Holz. 2020. "Counting on Short Gamma-Ray Bursts: Gravitational-Wave Constraints of Jet Geometry." The Astrophysical Journal 895 (2): 108. https://doi.org/10.3847/1538-4357/ab8d26.

- Secco, Lucas F., **Amanda Farah**, Bhuvnesh Jain, Susmita Adhikari, Arka Banerjee, and Neal Dalal. 2018. "Probing Self-Interacting Dark Matter with Disk Galaxies in Cluster Environments." The Astrophysical Journal 860 (June): 32. https://doi.org/10.3847/1538-4357/aac271.

- CMS CI and ADD groups, internal note *AN-16-466* (2017)

LIGO-Virgo-KAGRA Collaboration Papers to which I have made significant contribution

· The LIGO Scientific Collaboration, the Virgo Collaboration, the KAGRA Collaboration, R. Abbott, T. D. Abbott, F. Acernese, K. Ackley, et al. 2021. "The Population of Merging Compact Binaries Inferred Using Gravitational Waves through GWTC-3." ArXiv:2111.03634 [Astro-Ph, Physics:Gr-Qc], November. `http://arxiv.org/abs/2111.03634`.
Member of paper writing and analyst teams

· The LIGO Scientific Collaboration, the Virgo Collaboration, the KAGRA Collaboration, 2021 "Search for Gravitational Waves Associated with Gamma-Ray Bursts Detected by Fermi and Swift during the LIGO-Virgo Run O3a." The Astrophysical Journal 915 (2): 86. https://doi.org/10.3847/1538-4357/abee15. **Member of paper writing team**

PUBLIC TALKS AND OUTREACH

Guest Lecture for Undergraduate Astronomy Course University of Chicago, June 2022

Astrophysics with Gravitational Waves

Lifelong Learning talk series Chicago Public Library, April 2022

What to do when Gravity Waves

Invited Speaker for 5th Grade Classrooms John Stanford Elementary School, March 2022

Introduction to Black Holes

ACADEMIC TALKS AND POSTERS

American Physical Society April Meeting April 2020

Astrophysical lessons from the population of merging compact binaries in GWTC-3

LIGO-Virgo-KAGRA Paper Webinar December 2021

The population of merging compact binaries inferred from GWTC-3

KICP Special Seminar November 2021

The population of merging compact binaries inferred from GWTC-3

Midwest Relativity Meeting November 2021

Bridging the Gap: Categorizing Gravitational-Wave Events at the Transition Between Neutron Stars and Black Holes

Environmental Data Science Lunch April 2021

Don't Just Leave-One-Out: Probing Extremal Gravitational-Wave Events with Coarse-Grained Likelihoods

Midwest Relativity Meeting October 2020

Counting on Short Gamma-Ray Bursts: Gravitational-Wave Constraints of Jet Geometry

American Physical Society April Meeting April 2020

Counting on Short Gamma-Ray Bursts: Gravitational-Wave Constraints of Jet Geometry

University of Chicago Department of Geophysical Sciences Annual Talk Series June 2020

The Wrath of the Jet Stream: Thermodynamic Effects Dominate Reduction of Projected Wintertime Temperature Variability

Conference for Undergraduate Women in Physics January 2018

The Morphology of Disk Galaxies in Galaxy Clusters with Dark Matter Self-Interactions (Poster)
· *Awarded first prize in poster competition*

Undergraduate Astrophysics Research Symposium August 2017

Self-Interacting Dark Matter and Galaxy Morphologies

TEACHING EXPERIENCE

Lead Instructor and Program Coordinator Summer 2020, 2021, and 2022
Introduction to Scientific Programming Workshop *DSEER Bootcamps*

Instructor Fall 2018 - Summer 2020
Weekly class and twice-annual institutes for high school students *Space Explorers Program*

Teaching Assistant Fall 2018 and Spring 2019
Introductory Physics Sequence *University of Chicago*

Teaching Assistant Winter 2019
Modern Physics in the Everyday World *University of Chicago*

Active Learning Teaching Assistant August 2017 - June 2018
Introductory Physics Sequence *University of Pennsylvania*

Observatory Instructor August 2016 - June 2018
Observatory lab for all undergraduate astronomy courses *University of Pennsylvania*

MENTORSHIP

GradInfluences October 2019 - June 2020
Peer Mentor *University of Chicago*

· Formally mentor first-year graduate students through weekly hour-long conversations

Technology Student Association January 2015 - June 2017
Chapter Advisor *Philadelphia CAPA High School*

· Advise high school students on competitive events related to STEM and leadership
· Mentor four teams, three of which became regional finalists
· Coached the school to the state competition for the first time in their history