

University of Maryland
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Education **University of Maryland**

Ph.D., Astronomy, degree expected summer 2021.
Thesis: “Broadband Observations of GRBs and other Transients:
Energetics, Afterglows, and Physical Origins”
Advisor: Dr. Brad Cenko

University of Maryland

M.S., Astronomy, December 2017.
Thesis: “A Search for High-Energy Counterparts to Fast Radio Bursts”
Advisor: Dr. Brad Cenko

West Virginia University

B.S., Physics, May 2015.
Thesis: “The Clustering of Galactic HII Regions”
Advisor: Dr. Loren Anderson

Additional **Astronomy, Harvard-Smithsonian Center for Astrophysics**

Research Experience for Undergrads (REU), Summer 2014
Project: “An Investigation of Quasar Variability as a Damped Random
Walk in the Pan-STARRS1 Medium Deep Fields”
Advisor: Dr. Paul Green

Astronomy, Anton Pannekoek Institute, Amsterdam

NANOGrav-PIRE Summer Research Internship, summer 2013
Project: “A Study of the Properties of Millisecond Pulsars”
Advisor: Dr. Jason Hessels

Teaching **Astronomy, University of Maryland**

Experience Teaching Assistant, Introductory Astronomy with Lab
Fall 2015 & Spring 2016

Awards and
Fellowships

Outstanding Graduate Teaching Assistant

Department of Astronomy, 2016

Goldwater Scholar

National scholarship awarded to undergrads who intend to pursue a career in STEM research.

Physics & Astronomy 2014

Invited Talks

Flatiron Fast Radio Bursts Workshop

Center for Computational Astrophysics, Flatiron Institute

New York City, NY; February 2020

Talk: “Prompt Counterpart Searches”

NASA/GSFC CRESST II Retreat

UMBC; Baltimore, USA; November 2018

Talk: “A Search for High-Energy Counterparts to Fast Radio Bursts”

Conference
Talks and
Posters

American Astronomical Society Meetings

1. Honolulu HI; January 2020

Talk: “A Search for High-Energy Counterparts to Fast Radio Bursts”

2. Washington D.C.; January 2018

Poster: “A Search for High-Energy Counterparts to Fast Radio Bursts”

3. Seattle WA; January 2015

Poster: “An Investigation of Quasar Variability as a Damped Random Walk”

Zwicky Transient Facility Team Meeting

Weissman Institute; Rehovot, Israel; March 2018,

Talk: “Updates from the MMA SWG: Plans for ToO Follow-up of LIGO Triggers with ZTF”

GROWTH Annual Meeting

IIT Bombay; Mumbai, India; December 2018

Talk: “ZTF Follow-up of *Fermi* Short GRBs”

Fermi Symposium

Baltimore, MD; October 2018

Poster: “A Search for High-Energy Counterparts to Fast Radio Bursts”

Zwicky Transient Facility Team Meeting

Caltech; Pasadena, USA; March 2018

Talk: “Summary of the Nonlinearity and Ghosting Results from ZTF’s Engineering Commissioning”

Other Workshops
and Meetings

7th VLA Data Reduction Workshop

Two week advanced workshop
Very Large Array (VLA)
Socorro, New Mexico; October 2019

Zwicky Transient Facility Team Meeting

Oskar Klein Center; Stockholm, Sweden; August 2018

Intermediate Palomar Transient Factory

Student Data Reduction Workshop
Caltech; Pasadena, USA; June 2016

International Pulsar Timing Array Meeting

Student Workshop and Conference
Krabi, Thailand; June 2013

Public Outreach
and Mentoring

Better Astronomy for the Next Generation Committee Member

I help plan weekly discussions on issues of diversity and equity, career paths,
and soft skills for astronomers.
Spring 2019 - Present

Collaboration with Anne Arundel Public Libraries

I help create astronomy-based content to enrich their youth programs
as well as visit various branches throughout the summer and at special events.
February 2019 - Present

Guest Speaker for Special Film Showing at UMD

I presented an introduction on the science behind the Interstellar Movie.
November 2019

Nerd Nite DC

General Public Talk: "Gamma-Ray Bursts: The Universe's Cosmic Death Lasers"
January 2019

Member of Project ASTRO

I partner with a K-12 classroom and teach astronomy-specific courses
a few times throughout the school year.
Spring 2017 - Present

GRAD-MAP Winter Workshop

GRAD-MAP is a program to help under-represented minority students gain
experience in astronomy research.
I mentored undergrad student Tulika Srivastava.
January 2017

WV 4-H Summer Camps

Science course instructor

Summer 2015

WV Space Public Outreach Team

Perform astronomy-specific outreach to various K-12 schools throughout WV

2014-2015

Key Peer-
Reviewed

1. *GRB 160625B: Evidence for a Gaussian-Shaped Jet*
Cunningham, V.; Cenko, S. B.; Ryan, G., et al. 2020, ApJ, 904, 166
2. *A Search for High-Energy Counterparts to Fast Radio Bursts*
Cunningham, V.; Cenko, S. B.; Burns, E., et al. 2019, ApJ, 879, 40
3. *FRB131104 Swift BAT data revisited: No evidence of a gamma-ray counterpart*
Takanori, S.; et al. including **Cunningham, V.** (*accepted by ApJ, pending publication*)
4. *2900 Square Degree Search for the Optical Counterpart of Short Gamma-Ray Burst GRB 180523B with the Zwicky Transient Facility*
Coughlin, M.; Ahumada, T.; Cenko, S. B.; **Cunningham, V.**, et al. 2019, PASP, 131, 8001
5. *GROWTH on S190425z: Searching Thousands of Square Degrees to Identify an Optical or Infrared Counterpart to a Binary Neutron Star Merger with the Zwicky Transient Facility and Palomar Gattini-IR*
Coughlin, Michael W., et al. including **Cunningham, V.** 2019, ApJ, 885, 1
6. *Finding Distant Galactic HII Regions*
Anderson, L. D.; Armentrout, W. P.; Johnstone, B. M.; Bania, T. M.; Balser, Dana S.; Wenger, Trey V.; **Cunningham, V.**, 2015, ApJ, 221, 26
7. *The WISE Catalog of Galactic HII Regions*
Anderson, L. D.; Bania, T. M.; Balser, Dana S.; **Cunningham, V.**, et al. 2014, ApJ, 212, 1

In Prep.
Publications

8. *Ab Whiskey: Identification of the Afterglow of the Short-Duration Gamma-Ray Burst GRB 200826A with the Zwicky Transient Facility*
Ahumada, T., et al. including **Cunningham, V.** (*in prep. for ApJ submission*)

Other Co-
Authored
Publications

9. *Candidate Electromagnetic Counterpart to the Binary Black Hole Merger Gravitational Wave Event S190521g*
Graham, M. J.; Ford, K. E. S.; McKernan, B.; et al. 2020, PhRvL, 124, 25

10. *Cataclysmic Variables in the First Year of the Zwicky Transient Facility*
Szkody, P.; Diczynski, B.; Ho, A. Y. Q.; et al. 2020, AJ, 159, 198
11. *Evidence for Late-stage Eruptive Mass Loss in the Progenitor to SN2018gep, a Broad-lined Ic Supernova: Pre-explosion Emission and a Rapidly Rising Luminous Transient*
Ho, A. Y. Q.; Goldstein, D. A.; Schulze, S., et al. 2019, ApJ, 887, 2
12. *The Zwicky Transient Facility: Science Objectives*
Graham, M. J.; Kulkarni, S. R.; Bellm, E. C., et al. 2019, PASP, 131, 1001
13. *The Zwicky Transient Facility: Data Processing, Products, and Archive*
Masci, F. J.; Laher, R. R.; Rusholme, B., et al. 2019, PASP, 131, 8003
14. *The Zwicky Transient Facility: System Overview, Performance, and First Results*
Bellm, E. C.; Kulkarni, S. R.; Graham, M. J., et al. 2019, PASP, 131, 8002

References

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Dr. Geoff Ryan
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