


Giannina Guzmán Caloca

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Education

Villanova University

Degree: **Bachelor of Science, *cum laude***
Major: Astrophysics and Planetary Science
Minor(s): Communication, Physics

GPA: 3.55

Graduation Date: May 2019

University of Maryland

Degree: **M.S., Astronomy**
Degree: Ph.D., Astronomy

Graduation Date: January 2023

Graduation Date: *Expected 2026*

Professional Work Experience

★ Public Observatory Supervisor

August 2015-May 2017

Villanova University

★ NASA GSFC URAA Intern

June 2018-August 2018

Goddard Space Flight Center

★ NASA PDART-funded ‘sbpy’- developer

August 2018-June 2019

Villanova University

★ Software Engineer

June 2019-August 2019

Lowell Observatory

Teaching

★ Teaching Assistant

August 2016-May 2018

Villanova University

★ Teaching Assistant

August 2020-Present

University of Maryland

ASTR 101 - “Introduction to Astronomy”

ASTR 220 - “Collisions in Space – The Threat of Asteroid Impacts”

Awards and Honoraries

★ First place in Villanova's 2018 Sigma Xi CRF Poster Symposium

Spring 2018

★ Jason A. Cardelli Memorial Award for Undergraduate Research

Spring 2019

“The Jason A. Cardelli Memorial Award for Undergraduate Research is presented to a graduating Astronomy & Astrophysics major whose body of undergraduate research work exhibits particularly high standards of independence, originality, and quality.” (Villanova University Website)

Publications

[1] **Guzman, G.**, Sion, E., & Godon, P. (2019). FUSE and IUE Spectroscopy of the Prototype Dwarf Nova ERUrs

Majoris during Quiescence. *Astronomical Journal*. DOI: 10.3847/1538-3881/ab322f and ARXIV LINK

[2] Bell, T., **et al.** (2022). Eureka!: An End-to-End Pipeline for JWST Time-Series Observations. *JOSS*.

DOI:<https://doi.org/10.48550/arXiv.2207.03585> (in review)

[3] Ginsburg, A., **et al.** (2019). astroquery: An Astronomical Web-querying Package in Python. *Astronomical*

Journal. DOI: 10.3847/1538-3881/aafc33

- [4] Mommert, M., **et al.** (2019). sbpy: A Python module for small-body planetary astronomy. JOSS. DOI: 10.21105/joss.01426
- [5] van Belle, G.T., Collins, M., **Guzman, G.**, Mommert, M. (2020). Improved ASCOM Dome Following. Research Notes of the AAS. DOI: 10.3847/2515-5172/abb29b
- [6] Campbell, H., Sheldon, Z., Gibson, J., **Guzman, G.** (2020). Technological and Mediated Identity in American Multisite Churches. Ecclesial Practices. DOI: 10.1163/22144417-bja10002

Presentations

★ Digitizing Villanova University's Eclipsing Binary Card Catalogue <i>AAS Meeting #231 Poster</i>	January 2018
★ Designing a Python Module for the Calculation of [..] in Comets <i>AAS Meeting #233 Poster</i>	January 2019
★ The Red Thumbs: Growing Plants on Martian Regolith Simulant <i>AAS Meeting #233 Poster - Education Category</i>	January 2019
★ Accurate (Exo)planetary Retrievals via High Dimensional Bayesian Samplers <i>NASA GSFC Planetary Science Division Symposium</i>	August 2020
★ Eureka! An End-to-End Pipeline for JWST Time Series Observations <i>First EMAC Workshop on Open-Access Exoplanet Modeling & Analysis Tools</i>	February 2023
★ Gridtrievals? A Comparative Study of Retrieval Techniques <i>ExoClimes 2023 Poster</i>	June 2023
★ Eureka! An End-to-End Pipeline for JWST Time Series Observations <i>ExoVAST (Virtual Astronomy Talks) seminar talk</i>	December 2023
★ Early Career Science Forum Talk <i>@ NASA GSFC - Looking at Giant Exoplanets around M-dwarfs (GEMS) with JWST</i>	October 2024
★ AAS Accepted Talk <i>Looking at Giant Exoplanets around M-dwarfs (GEMS) with JWST: NIRSpec Transmission Spectroscopy of the Warm Saturn HATS-6 b</i>	January 2025

Community Service

★ All Hands-On Science <i>Volunteering</i>	May 2017-May 2018
★ Villanova Astronomical Society <i>Position of leadership (2017-2018): Treasurer</i>	August 2015-May 2019
★ The Superlative <i>Position of leadership (2016-2019): Public Relations and media representative</i>	January 2016-May 2019
★ GSMI Cientifico Latino Volunteer <i>Student Mentor</i>	August 2020-May 2021
★ Executive Secretary <i>NASA Review Panel</i>	April 2020
★ AbGradCon2022 Organizing Committee <i>Position of leadership: Public and Media Relations</i>	Fall 2021-Fall 2022
★ Mental Health Task Force <i>Co-authored the mental health report for UMD's Astronomy Department; based on a dedicated mental health survey done in 2020</i>	Spring 2021
★ UMD Astronomy Undergraduate Mentorship Program Mentor <i>Mentor for undergraduate students, helps with professional development</i>	Fall 2021-Fall 2023
★ UMD Astronomy EDI Committee Member	Fall 2021-Fall 2024

- ★ **#MathGals Special Guest** **Fall 2022**
Invited special guest for Pasadena ISD school district #mathgals club
- ★ **Workshops in Applying to Astronomy Graduate School co-lead** **Fall 2023**
Helped establish and lead a workshop series at UMD for astronomy graduate school applications directed at local undergraduates
- ★ **Prospective Visit Organizer** **Fall 2022-Spring 2024**
Organized the graduate prospective visit for the Department of Astronomy
- ★ **Being Stardust Workshop @ Library of Congress** **April 2024**
Participant in an art meets astrobiology collaboration outreach workshop
- ★ **NASA Funded Taller Futur@ Astronom@** **July 2024**
Taught a 2.5 hour intro to Astrobiology lecture in Spanish + designed homework
- ★ **NASA JWST x Minecraft Education Collaboration Interviewee** **September 2024**
Participant in a NASA JWST x Minecraft Education collaboration
- ★ **Class Representative** **January 2021-Present**
Graduate Council, University of Maryland Department of Astronomy
- ★ **Space Sciences Outreach Cooperative Co-founder and Co-chair** **May 2023-Present**
Co-founder and co-chair of the University of Maryland space sciences outreach coop (SSOC) + lead in several outreach activities throughout each year

Awarded Proposals

- ★ **Co-I and Target lead: JWST (Cycle 2 GO #3171; 132.39 hrs)**
Red Dwarfs and the Seven Giants: First Insights into the Atmospheres of Giant Exoplanets around M-dwarf Stars
- ★ **Co-I and Target lead: HST (Cycle 30 #17192; 116 orbits)**
The SPACE Program: a Sub-neptune Planetary Atmosphere Characterization Experiment
- ★ **Co-I: JWST (Cycle 3 GO #6284; 13.68 hrs)**
Searching for Signatures of Surface-Atmosphere Interaction on a Small Planet in its Magma Era
- ★ **Co-I: JWST (Cycle 3 GO #5959; 129.96 hrs)**
KRONOS: Keys to Revealing the Origin and Nature Of sub-neptune Systems