Giannina Guzmán Caloca

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Education

Villanova University **GPA: 3.55**
Degree: **Bachelor of Science, *cum laude*** Graduation Date: May 2019
Major: Astrophysics and Planetary Science
Minor(s): Communication, Physics

University of Maryland
Degree: **M.S., Astronomy** Graduation Date: January 2023
Degree: Ph.D., Astronomy Graduation Date: *2026*

Professional Work Experience

★ **Software Engineer** **June 2019-August 2019**
Lowell Observatory

★ **NASA PDART-funded 'sbpy'- developer** **August 2018-June 2019**
Villanova University

★ **NASA GSFC URAA Intern** **June 2018-August 2018**
Goddard Space Flight Center

★ **Public Observatory Supervisor** **August 2015-May 2017**
Villanova University

Teaching

★ **Teaching Assistant** **August 2020-Present**
ASTR 101 - "Introduction to Astronomy" *University of Maryland*
ASTR 220 - "Collisions in Space – The Threat of Asteroid Impacts"

★ **Teaching Assistant** **August 2016-May 2018**
Villanova University

Awards and Honoraries

★ **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)

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

Publications

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

★ **AAS Accepted Talk** **January 2025**
Looking at Giant Exoplanets around M-dwarfs (GEMS) with JWST: NIRSpec Transmission Spectroscopy of the Warm Saturn HATS-6 b

★ **Early Career Science Forum Talk** **October 2024**
@ NASA GSFC - Looking at Giant Exoplanets around M-dwarfs (GEMS) with JWST

★ **Eureka! An End-to-End Pipeline for JWST Time Series Observations** **December 2023**
ExoVAST (Virtual Astronomy Talks) seminar talk

★ **Gridtrievals? A Comparative Study of Retrieval Techniques** **June 2023**
ExoClimes 2023 Poster

★ **Eureka! An End-to-End Pipeline for JWST Time Series Observations** **February 2023**
First EMAC Workshop on Open-Access Exoplanet Modeling & Analysis Tools

★ **Accurate (Exo)planetary Retrievals via High Dimensional Bayesian Samplers** **August 2020**
NASA GSFC Planetary Science Division Symposium

★ **The Red Thumbs: Growing Plants on Martian Regolith Simulant** **January 2019**
AAS Meeting #233 Poster - Education Category

★ **Designing a Python Module for the Calculation of [..] in Comets** **January 2019**
AAS Meeting #233 Poster

★ **Digitizing Villanova University's Eclipsing Binary Card Catalogue** **January 2018**
AAS Meeting #231 Poster

Community Service

★ **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

★ **Class Representative** **January 2021-Present**
Graduate Council, University of Maryland Department of Astronomy

★ **NASA JWST x Minecraft Education Collaboration Interviewee** **September 2024**
Participant in a NASA JWST x Minecraft Education collaboration

★ **NASA Funded Taller Futur@ Astronom@** **July 2024**
Taught a 2.5 hour intro to Astrobiology lecture in Spanish + designed homework

★ **Being Stardust Workshop @ Library of Congress** **April 2024**
Participant in an art meets astrobiology collaboration outreach workshop

★ **Prospective Visit Organizer** **Fall 2022-Spring 2024**
Organized the graduate prospective visit for the Department of Astronomy

★ **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

★ **#MathGals Special Guest** **Fall 2022**
Invited special guest for Pasadena ISD school district #mathgals club

★ **UMD Astronomy EDI Committee Member** **Fall 2021-Fall 2024**

★ **UMD Astronomy Undergraduate Mentorship Program Mentor** **Fall 2021-Fall 2023**

Mentor for undergraduate students, helps with professional development

★ **Mental Health Task Force** **Spring 2021**

Co-authored the mental health report for UMD's Astronomy Department; based on a dedicated mental health survey done in 2020

★ **AbGradCon2022 Organizing Committee** **Fall 2021-Fall 2022**

Position of leadership: Public and Media Relations

★ **Executive Secretary** **April 2020**

NASA Review Panel

★ **GSMI Cientifico Latino Volunteer** **August 2020-May 2021**

Student Mentor

★ **The Superlative** **January 2016-May 2019**

Position of leadership (2016-2019): Public Relations and media representative

★ **Villanova Astronomical Society** **August 2015-May 2019**

Position of leadership (2017-2018): Treasurer

★ **All Hands-On Science** **May 2017-May 2018**

Volunteering

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