

ELENA GONZÁLEZ PRIETO

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RESEARCH INTERESTS

Theoretical and Computational Astrophysics: dynamics of dense star clusters (globular clusters and galactic nuclei), including the formation and growth of massive black holes, gravitational-wave source populations, hydrodynamic stellar interactions, and machine learning methods for simulating stellar collisions.

EDUCATION

Northwestern University

Astronomy PhD Candidate – Advisor: Fred Rasio

Expected Graduation: June 2027

Evanston, IL

Northwestern University

Astronomy MS

May 2023

Evanston, IL

University of Florida

Bachelor of Science in Astrophysics – Summa Cum Laude, GPA: 3.9/4.0

May 2021

Gainesville, FL

Miami-Dade College – North Campus

Associate of Arts in Physics – Magna Cum Laude, GPA: 4.0/4.0

May 2018

Miami, FL

PUBLICATIONS

First–Author

1. **González Prieto, E.**, et al., 2026, “*Machine Learning Methods for Stellar Collisions. I. Predicting Outcomes of SPH Simulations*”, ApJ, 1005, 131
2. **González Prieto, E.**, Rodriguez, C. L., Cabrera, T., 2025, “*Growing the Intermediate-mass Black Hole in Omega Centauri*”, ApJL, 990, L69
3. **González Prieto, E.**, et al., 2024, “*Intermediate-mass Black Hole Progenitors from Stellar Collisions in Dense Star Clusters*”, ApJ, 969, 29
4. **González Prieto, E.**, et al., 2022, “*Intermediate-mass Black Holes on the Run from Young Star Clusters*”, ApJ, 940, 131
5. **González, E.**, et al., 2021, “*Intermediate-mass Black Holes from High Massive-star Binary Fractions in Young Star Clusters*”, ApJL, 908, L29 – **115 citations**

Significant Author

6. Martinez, M. A. S., **González Prieto, E.**, Rasio, F. A., 2026, “*Survival Analysis of Intermediate-Mass Black Holes in Dense Star Clusters*”, arXiv e-prints
7. Rose, S. C., Lombardi, Jr., J. C., **González Prieto, E.**, et al., 2026, “*Modeling Stellar Collisions in Galactic Nuclei Using Hydrodynamic Simulations and Machine Learning*”, ApJ, 1000, 162

Co–Author

8. O’Connor, C. E., Kremer, K., Agrawal, S., **González Prieto, E.**, et al., 2026, “*Black Hole Mergers from Dense Star Clusters with Realistic Binary Populations*”, arXiv e-prints
9. Agrawal, S., Kremer, K., Zevin, M., et al., incl. **González Prieto, E.**, 2026, “*Red vs. Blue: How Metallicity Shapes Black Hole Dynamics and Mergers in Dense Star Clusters*”, arXiv e-prints
10. Whitaker, M., Kerr, E., Seth, A., et al., incl. **González Prieto, E.**, 2026, “*A Long Period Stellar-mass Black Hole Binary in ω Centauri*”, ApJL
11. Kiroğlu, F., et al., incl. **González Prieto, E.**, 2025, “*Black Hole Accretion and Spin-up through Stellar Collisions in Dense Star Clusters*”, ApJ, 979, 237

FELLOWSHIPS AND AWARDS

Northwestern University Presidential Fellowship	<i>Fall 2026 – Present</i>
• The most prestigious fellowship awarded to graduate students by Northwestern University.	
National Science Foundation Graduate Research Fellowship	<i>Fall 2023 – Summer 2026</i>
Northwestern University Data Science Fellowship	<i>Fall 2021</i>
• Supports graduate students dedicated to the exploration of fundamental and applied advancement in data science.	
University of Florida Outstanding Senior Thesis Award	<i>Spring 2021</i>
University of Florida Dean’s List	<i>Spring 2019 – Spring 2020</i>
Dr. Donald W. Schuerman Memorial Fund Award for Undergrad. Research in Astronomy	<i>Spring 2019</i>
• Award supporting undergraduate students conducting research in astronomy.	
Bright Futures Florida Academic Scholarship	<i>Fall 2018 – Spring 2021</i>
• Merit-based scholarship supporting high-achieving Florida students pursuing higher education.	

CONFERENCES AND INVITED TALKS

1 Invited Talk, 8 Conference Talks

Open SkAI 2026 Conference	<i>September 2026</i>
<i>Chicago, USA (Poster)</i>	
International Conference on Machine Learning for Astrophysics (ML4ASTRO3)	<i>September 2026</i>
<i>Valletta, Malta (Talk)</i>	
Cosmic Horizons Conference	<i>July 2026</i>
<i>Charlottesville, VA (Talk)</i>	
International Tee Seminar	<i>October 2025</i>
<i>Virtual (Invited Talk)</i>	
MODEST-25: Compact Stars and Binaries in Dense Star Clusters	<i>June 2025</i>
<i>Seoul, South Korea (Talk)</i>	
CIERA Theory Group Meeting	<i>June 2025</i>
<i>Northwestern University, Evanston, USA (Talk)</i>	
P&A Early Career Research Seminar	<i>October 2024</i>
<i>Northwestern University, Evanston, USA (Talk)</i>	
Latin American Conference on Astrophysics and Relativity	<i>June 2024</i>
<i>Bogotá, Medellín (Talk)</i>	
CIERA Theory Group Meeting	<i>February 2024</i>
<i>Northwestern University, Evanston, USA (Talk)</i>	
Intermediate-Mass Black Holes: The Dawn of a Revolutionary Era	<i>December 2023</i>
<i>Northwestern University – San Pedro, Belize (Talk)</i>	
MODEST-23: Star Clusters in the Post-Pandemic Era	<i>August 2023</i>
<i>Northwestern University, Evanston, USA (Talk)</i>	
High Energy Astrophysics Division of the AAS Meeting	<i>March 2023</i>
<i>AAS, Waikōloa, Hawai’i (Poster)</i>	
Northwestern REU Research Seminar	<i>July 2022</i>
<i>Northwestern University, Evanston, USA (Talk)</i>	
Intermediate-Mass Black Holes: New Science from Stellar Evolution to Cosmology	<i>May 2022</i>
<i>Northwestern University – COFI, San Juan, Puerto Rico (Talk)</i>	
Dynamical Formation of Gravitational Wave Sources	<i>January 2022</i>
<i>Aspen Center for Physics, Aspen, USA (Talk)</i>	

LEADERSHIP

CIERA Connections Committee

April 2024 – Present

- Member of the committee responsible for organizing a speaker series that exposes junior researchers to diverse career opportunities outside academia.

Graduate Womxn in Physics (GWIP) Mentorship Committee Chair

Fall 2024 – Fall 2026

- Established and chaired the GWIP Mentorship Committee, providing additional mentorship support for gender minorities in the Physics and Astronomy Department.

GWIP Advocacy Committee Chair

May 2023 – Fall 2024

- Spearheaded initiatives to promote gender equity, support, and advancement for womxn in physics graduate programs.

Co-Chair of Local Organizing Committee of MODEST-23 Conference

August 2023

- Collaboratively organized a conference of ~150 participants, ensuring a successful and impactful scientific gathering that facilitated collaboration among international experts.

Research Experiences at CIERA for High School Students Mentor Lead

Summer 2023

- Advised graduate mentors on effective mentorship and research project design, and checked in with REACH mentees to support their progress and learning throughout a three-week research project.

PROFESSIONAL SERVICE

Search committee for the dean of the Weinberg College of Arts and Sciences

Fall 2026

Referee for *Astrophysical Journal Letters*

TEACHING AND MENTORING EXPERIENCE

Physics & Astronomy Department Graduate Mentor

Fall 2022 - Present

CIERA Graduate Mentor

Fall 2024 - Present

LAMAT Program

Summer 2024

- Co-mentored Tadashi Lewis, an undergraduate at UC Santa Cruz, on a project focused on the formation of black hole–star binaries in globular clusters, like those detected by Gaia.

Research Experience for Undergraduates

Summer 2023

- Co-mentored Dana Kullgren on a study to constrain the initial mass function of star clusters with gravitational wave event data.

Graduate Teaching Assistant

Fall 2022 – Spring 2023

- General Physics (135–2) and General Physics (135–3)

Research Experiences at CIERA for High Schoolers

Summer 2022

- Mentored Isabella Deutsch on a project to model neutron star merger progenitors and their merger afterglows.

OUTREACH

Adler Planetarium In the Field Day

April 2025

- Served as a panelist at Adler Planetarium In the Field Day, engaging in small-group conversations with teens about STEM and technology career paths.

GirlCon 2022 Conference

June 2022

- Represented CIERA in a booth to advertise career pathways in STEM, summer research opportunities in astronomy for high school students, and college advice.

Baxter Center for Science Education (BCSE) Astronomy Day

June 2022

- Organized an astronomy activity for female high school students from underrepresented groups and informed them about careers in STEM.

Physics and Astronomy Department Outreach Committee

Sep. 2022 – May 2023

- Organized opportunities for graduate students to share their research with and provide science education to the community.

Dearborn Observatory Brochure Series

Fall 2022

- Translated brochures at the Dearborn Observatory to Spanish in order to remove language barriers and increase astronomy literacy in the Chicago Hispanic Community.

Not listed are several graduate school panels for the summer Research Experience for Undergraduates (REU) and REACH Programs.

SUMMER SCHOOLS & WORKSHOPS ATTENDED

Black Holes Across Mass Scales

Aspen Center for Physics, CO

June-July 2026

MESA Summer School

KU Leuven, Belgium

July 2025

NBIA Summer School on Astrophysical Dynamics of Gravitating Systems

Niels Bohr Institute, University of Copenhagen

August 2024

Code Astro Workshop

Northwestern University, Evanston

July 2024

NBIA Summer School on Gravitational Wave Astrophysics

Niels Bohr Institute, University of Copenhagen

August 2021