MARIA ACEVEDO

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PROFILE

I develop tools and pipelines to enable precision cosmological measurements with low-redshift Type Ia supernovae, focusing on survey design, image processing, and photometric calibration. I am committed to improving low-redshift supernovae datasets to better constrain cosmic expansion and the local universe's structure.

EDUCATION

Duke University 2021-Present
Ph.D. Candidate in Physics
Advisor: Prof. Daniel Scolnic

University of Pennsylvania 2017-2021
B.A. in Physics — Concentration Astrophysics, Honors

RESEARCH POSITIONS

Research Assistant, Duke University 2021-Present
Advisor: Prof. Daniel Scolnic *Durham, NC*

Research Assistant, Loyola University 2020-2025
Advisor: Prof. Demitri Morgan *Chicago, IL*

Research Student, University of Pennsylvania 2020-2021
Advisors: Prof. Masao Sako *Philadelphia, PA*

FELLOWSHIPS AND AWARDS

NSF Graduate Research Fellowship Program (NSF GRFP) Fellow 2023
Duke University, Sloan Scholar 2021

SELECTED PUBLICATIONS

First Author:

3. **Acevedo, M.**, Scolnic, D., Carreres, B., Peterson, E. R., Sánchez, B. O., Riess, A. et al., The Weighing Haloes Accurately, Locally, and Efficiently with Supernovae Survey Overview and Initial Data Release, arXiv:2510.26731, submitted to *ApJ* (2025).
2. **Acevedo, M.**, Sherman, N. F., Brout, D., Scolnic, D., Carreres, B., Popovic, B., Chen, R. et al., The Dark Energy Bedrock All-Sky Supernova Program: Cross Calibration, Simulations, and Cosmology Forecasts, arXiv:2508.10877, submitted to *ApJ* (2025).
1. Lee, J., & **Acevedo, M.**, Sako, M. Vincenzi, M., Brout, D., Sánchez, B. O., Chen, R., Davis, T. M., Jarvis, M., Scolnic, D., Qu, H., et al., The Dark Energy Survey Supernova Program: Corrections on Photometry Due to Wavelength-dependent Atmospheric Effects, *AJ*, 165, 22 (2023).

Second Author:

2. Sherman, N. F., **Acevedo, M.**, Brout, D., Martin, B., Scolnic, D., Cao, D., Lidman, C. et al., The Dark Energy Bedrock All-Sky Supernova Program: Motivation, Design, Implementation, and Preliminary Data Release, arXiv:2508.10878, submitted to *ApJ* (2025).
1. Morgan, D. L., **Acevedo, M.**, Davis, K. B., Velazquez, I., Responsive Placemaking in an Urban STEM Higher Education Ecosystem During a Pandemic: Considerations for Strengthening Resilience in STEM Education, *Urban Education*, 0(0) (2025).

Selected Co-Author:

8. Carreres, B., Chen, R. C., Peterson, E. R., Scolnic, D., Ravoux, C., Rosselli, D., **Acevedo, M.** et al., Type Ia supernova growth-rate measurement with LSST simulations: intrinsic scatter systematics, arXiv:2505.13290, submitted to *ApJ* (2025).
7. Rose, B. M., Vincenzi, M., Hounsell, R., Qu, H., Aldoroty, L., Scolnic, D., et al. [**incl. Acevedo, M.**], The Hourglass Simulation: A Catalog for the Roman High-Latitude Time-Domain Core Community Survey, *ApJ*, 988, 65 (2025).
6. Fernandes, M.B., Scolnic, D., Peterson, E. R., Zhai, C., Linder, T., Scolnic, D., **Acevedo, M.** et al., Measuring the Distances to Asteroids from One Observatory in One Night with Upcoming All-Sky Telescopes, *Qeios* (2025).
5. Scolnic, D., Riess, A., Murakami, Y. S., Peterson, E. R., Brout, D., **Acevedo, M.**, Carreres, B., Jones, D. O., Said, K., Howlett, C., et al., The Hubble Tension in Our Own Backyard: DESI and the Nearness of the Coma Cluster, *ApJL*, 979, L9 (2025).
4. Sánchez, B. O., Brout, D., Vincenzi, M., Sako, M., Herner, K., Kessler, R., Davis, T. M., Scolnic, D., **Acevedo, M.**, Lee, J., et al., The Dark Energy Survey Supernova Program: Light curves and 5-Year data release, *ApJ*, 975, 5 (2024).
3. DES Collaboration, Abbott, T. M. C., **Acevedo, M.**, Aguena, M., Alarcon, A., Allam, S., Alves, O., Amon, A., Andrade-Oliveira, F., Annis, J., et al., The Dark Energy Survey: Cosmology Results With 1500 New High-redshift Type Ia Supernovae Using The Full 5-year Dataset, *ApJL*, 973, L14 (2024).
2. Vincenzi, M., Brout, D., Armstrong, P., Popovic, B., Taylor, G., **Acevedo, M.**, Camilleri, R., Chen, R. C., Davis, T. M., Hinton, S. R., et al., The Dark Energy Survey Supernova Program: Cosmological Analysis and Systematic Uncertainties, *ApJ*, 975, 86 (2024).
1. Morgan, D. L., Callais, V. E., **Acevedo, M.**, Davis, K. B., A Potential Canary in the Coal Mine: A Critical Policy Analysis of the Illinois LSAMP During the COVID-19 Pandemic, *Frontiers in Education*, Volume 6, SSN 2504-284X (2021).

TALKS

Princeton University Survey Science Seminar, *invited* (Princeton, NJ)	Apr 2025
CPPM Marseille Journal Club, *invited* (Marseille, France)	Jun 2023
DES Collaboration Meeting Talk, *invited* (virtual)	Jan 2023

POSTERS

Cosmic Lighthouses (Cambridge, UK)	June 2025
245th AAS Winter Meeting (National Harbor, MD)	Jan 2025
243rd AAS Winter Meeting (New Orleans, LA)	Jan 2024
241st AAS Winter Meeting (Seattle, WA)	Jan 2023

LEADERSHIP AND SERVICE

Roman SN Project Infrastructure Team, *Early Career Scientist Representative* 2024-Present
Organize events for early career scientists (ECS), including industry/academic career panels at collaboration meetings, town halls, and ECS social events.

Duke Physics Graduate Student Organization, *President* 2024-2025

Duke Physics Graduate Student Organization, *Recruitment Committee* 2024-2025

Duke Graduate Women in Physics Committee, *Co-chair* 2023-2025
Organized graduate/undergraduate mentorship program for gender minorities in physics (15 participants).

Duke Physics Graduate Student Organization, *Secretary/Treasurer* 2023-2024

TEACHING EXPERIENCE

Teaching Assistant and Lab Coordinator, PHYS 134 Intro to Astronomy — Spring 2022, 2023
Teaching Assistant, PHYS 152 Intro to Astronomy — Fall 2021, 2022

MENTORING

Graduate Students:

Duke Physics Grad Mentorship Program: 2024-2025
Courtney Martin

Undergraduate Students:

Duke Women in Physics Mentorship Program: 2022-2023
Arianna Dwomoh

ACTIVE COLLABORATIONS

Dark Energy Survey Collaboration (Member) · LSST-DESC Collaboration (Member) · Roman Space Telescope Supernova Project Infrastructure Team