

CURRICULUM VITAE

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EDUCATION

UNIVERSITY OF NORTH CAROLINA – CHAPEL HILL

Chapel Hill, North Carolina

PhD, Physics and Astronomy

May 2030

Advisor: Dr. Andrew Mann

B.S., Computer Science.

May 2025

Undergraduate Thesis: Searching for Transit Timing Variations in Young Transiting Systems

Advisor: Dr. Andrew Mann

AWARDS AND HONORS

NC Space Grant Graduate Research Fellowship (NC State, NASA)

2025

Robert Shelton Award for Outstanding Research (UNC Chapel Hill)

2025

Chancellor's Science Scholar (UNC Chapel Hill)

2021 – 2025

Highly selective merit-based STEM scholarship program

Honors Carolina (UNC Chapel Hill)

2021 – 2025

Competitive, four-year academic program enrolling 10% of each class

Dean's List (UNC Chapel Hill)

2021 – 2025

Renwick Scholar Academic Award (UNC Chapel Hill)

2022, 2023

RESEARCH EXPERIENCE

University of North Carolina – Chapel Hill

Chapel Hill, North Carolina

Research Assistant, Department of Physics and Astronomy

January 2023 – present

Applying algorithmic statistics and Python packages to optimize transit data analysis, uncover transit timing variations (TTVs) of over exoplanets through statistical modeling and Gaussian Process machine learning.

RESEARCH INTERESTS

Exoplanet discovery and characterization, machine learning and data mining, transit timing variation analysis, stellar activity

PROFESSIONAL EXPERIENCE

Wells Fargo

Charlotte, North Carolina

FC-Ops Intern Analyst

June 2024 – August 2024

Proposed and developed a native Windows application to accelerate ILQC review process by over 10% using WinUI, .NET, and Windows App SDK Frameworks.

Coordinated independent documentation system rehaul proposal to optimize process and cost reduction.

Reviewed over 100 customer data profiles for fraud prevention and to accurately capture onboarded customers.

TECHNICAL SKILLS

Python, Java, JavaScript, Typescript, RxJS, AngularJS, HTML/CSS, Git, HTTP, Full-Stack Engineering, Docker, SQL, MCMC Analysis, Algorithmic Analysis, Statistical Optimization, BATMAN, Pandas.

PUBLICATIONS

Barber, M.G., Mann, A.W., et al. TESS Investigation—Demographics of Young Exoplanets (TI-DYE). III. An Inner Super-Earth in TOI 2076. *AJ* 170, 32 (2025). <https://doi.org/10.3847/1538-3881/add7db>

Barber, M.G., [...], Lopez Murillo, A. I. *et al.* A giant planet transiting a 3-Myr protostar with a misaligned disk. *Nature* **635**, 574–577 (2024). <https://doi.org/10.1038/s41586-024-08123-3>.

Thao, P.C., [...], Lopez Murillo, A.I. *et al.* TESS Hunt for Young and Maturing Exoplanets (THYME). X. A Two-

Ana Isabel Lopez Murillo

planet System in the 210 Myr MELANGE-5 Association. *AJ* **168**, 41 (2024).
<https://doi.org/10.48550/arXiv.2406.05234>.

Lopez Murillo, A.I., Mann, A.W., Barber, M.G. *et al.* Searching for Transit Timing Variations in Young Transiting Systems (Manuscript submitted). <https://github.com/AnaLopezMurillo/TTV-Search>.

PRESENTATIONS

UNC Celebration of Undergraduate Research Symposium – Spring 2024
Chancellor's Science Scholars Research Symposium – Fall 2023

LEADERSHIP AND SERVICE

Tutor, University of North Carolina at Chapel Hill, Math Department, 2022-2024
Director of Design, Pearl Hacks, Marketing Team, 2023-2024
Wiki Lead, UNC iGEM, University of North Carolina at Chapel Hill, 2023-2024
Teaching Assistant, ISLA Los Sábados Program, Weekend Program, 2022