

Phoebe Mahlin

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EDUCATION

The University of Texas at Austin, Austin, TX

May 2025

Bachelor of Science, Physics

Bachelor of Science and Arts, Astronomy

Certificate in Business Spanish

3.84 GPA

Relevant Coursework: Quantum Physics I and II, Classical Electrodynamics, Atomic Physics, Thermodynamics and Statistical Mechanics, Cosmology, Planetary Systems, Stellar Astronomy, Galaxies, Differential Equations and Linear Algebra, Multivariable Calculus, Discrete Mathematics, Building a Scientific Apparatus

Korea University, Seoul, South Korea

Aug - Dec 2024

UT Austin Student Exchange Program

University of Seville, Seville, Spain

May - June 2022

UT Austin Faculty-Led Maymester Program

RESEARCH EXPERIENCE

NASA Langley Research Center, Hampton, VA

Jun - Aug 2025

Analytical Mechanics Associates, Inc. – *NASA DEVELOP Participant*

- Collaborated with a team to model the Aurora Borealis and predict the probability of auroral occurrence at specific locations and times for the next three years.
- Partnered with Polar Adventure to plan the best ports for viewing the Aurora on their cruise voyages.
- Utilized GIS, VIIRS data, Kp/AE indices, Ovation Prime model, and ArcGIS to model ionized particles for prediction.

Boulder Solar Alliance REU, Southwest Research Institute, Boulder, CO

May - August 2024

Undergraduate Summer Research Intern

- Successfully converted over 100 years of white light data from the Kodaikanal Solar Observatory into magnetic data for future solar surface flux transport simulations.
- Conducted analysis of historical data using machine learning and presented results through a 20-minute oral presentation and poster session.
- Attended seminars on solar physics and professional development.
- Currently writing a paper for publication in the *Astrophysical Journal*.

PRESENTATIONS

Conference for Undergraduate * in Physics (CU*iP), January 24-26, 2025

- “Creating a Historical Tilt Catalog for Magnetic Flux Simulation,” Poster.

The 245th American Astronomical Society Meeting (AAS), January 12-16, 2025

- “Creating a Historical Tilt Catalog for Magnetic Flux Simulation,” iPoster.

Boulder Solar Alliance REU Symposium, July 31, 2024

- “Historical Simulations of Magnetic Flux Data,” Talk. [View Presentation](#) (starts at 2:10:52).

AWARDS AND GRANTS

The University of Texas at Austin

- CNS, Nancy Francis and William Arnold McMinn Endowed Presidential Scholarship in Physics
- Texas Global, International Education Fee Scholarship
- University Co-op Course Material Scholarship
- UT Award University Tuition Grant
- Department of Astronomy, Acceptance and funds to attend CU*iP and the 245th AAS Meeting

Korea University

- Vice President for International Affairs, Language Exchange Program Certificate

Boulder Solar Alliance REU

- National Science Foundation REU program, Award #1950911
- COFFIES Phase II Grant #80NSSC22M0162; Funds to attend the 56th Meeting of the SPD

WORK EXPERIENCE

Space Sciences Laboratory, University of California, Berkeley, Berkeley, CA May - Aug 2025

COFFIES Heliophysics REU Program Coordinator

- Managing *HelioHub*, COFFIES' Discord-based, ongoing community platform for undergraduate students and recent graduates interested in heliophysics research.
- Planning topics, preparing speakers, and directing *HelioHub's* summer seminar series, *Solar Circuit*, providing attendees with knowledge of various heliophysics aspects and opportunities.

UT Astronomy Department, University of Texas at Austin, Austin, TX May 2025

Research Assistant

- Curriculum development for Stellar Astronomy and Introduction to Astronomy courses.
- Completed work on Ally Project, finalizing updates to make Stellar Astronomy course fully accessible.

UT Astronomy Department, University of Texas at Austin, Austin, TX Jan - May 2025

Undergraduate Assistant for Introduction to Astronomy

- Hosted office hours and guide students in learning on in-class activities.
- Assisted the professor and TA in grading assignments and exams.
- Worked on Ally Project to make class documents meet Canvas accessibility standards.

Texas Athletics, University of Texas at Austin, Austin, TX Jan - May 2025

Undergraduate Student Tutor

- Worked one-on-one on a weekly basis with UT athletes, helping them improve their understanding of material and computational skills for their physics and calculus courses throughout the semester.

Sanger Learning Center, University of Texas at Austin, Austin, TX Jan - May 2024

STEM Tutor

- Hosted 8 weekly tutoring sessions in physics, astronomy, mathematics, and Spanish.
- Enhanced problem-solving skills and helped improve peer's grades on weekly quizzes and homework assignments.
- Attended weekly tutor cohort training to refine tutoring techniques and receive feedback.

Target, Amarillo, TX Jun 2023 - Apr 2024 (Seasonal)

Guest Advocate

- Assisted customers and resolved issues in a fast-paced retail environment, developing strong communication and interpersonal skills.
- Worked efficiently in a team to ensure smooth operations and customer satisfaction.

Amarillo Protective Services, Amarillo, TX Jun 2021 - Aug 2022 (Seasonal)

Secretarial Assistant

- Printed and filed documents to keep clientele information orderly and easily findable.
- Emailed forms to customers through DocuSign for efficient and accessible agreement to documentation.

LEADERSHIP & COMMUNITY INVOLVEMENT

Consequences of Fields and Flows in the Interior and Exterior of the Sun (COFFIES) May 2024 - Present

- Member of the Summer REU group, and integrated into a full-time member. [View Profile](#).
- Attended virtual seminars (i.e. solar science seminars, Polar Science Workshop, Journal Club, Python Bootcamp) to learn from and network with other members of the community.
- Received funding to attend the upcoming Solar Physics Division (SPD) conference.

Texas Global, University of Texas at Austin, Austin, TX Aug 2024 - May 2025

Student Exchange Ambassador

- Worked on a team to plan and execute monthly events for exchange students at UT.
- Created a welcoming community for exchange students to help them acclimate to a new environment.
- Wrote a blog post for the [Texas Global Education Abroad Blog](#) and posted a “Takeover” on the Texas Global Instagram account ([@texasglobalabroad](#)).

Gender Matters in Physics, University of Texas at Austin, Austin, TX

Aug 2023 - May 2025

- Traveled with other members to Cu*ip.
- Attended weekly meetings to promote an inclusive physics community at UT Austin.

Astronomy Students Association, University of Texas at Austin, Austin, TX

Aug 2021 - May 2025

- Attended weekly seminars with faculty presentations discussing opportunities for Astronomy students.

Korean Music Association, University of Texas at Austin, Austin, TX

Aug 2021 - May 2025

Social Media Officer, Dancer, Member

- Ran the KMA Instagram page ([@ut.kma](#)) for the 2022 academic year: made posts for meetings, socials, dance workshops, and worked with the officer team to plan meetings/events.
- Emceed and helped organize KMA's K-Pop dance showcase: Dance the Night Away for two consecutive years.
- Performed for numerous events around campus and the Austin area for KMA's dance team, KM8.

SKILLS

Programming

- Proficient in Python and LaTeX; experience with ArcGIS, QGIS, Google Earth Engine, and IDL.

Technical

- Skilled in Microsoft 365 and Google Workspace for scientific and research data analysis.

Research & Experimentation

- Experienced in conducting and analyzing experiments in academic and professional settings, with a focus on solar physics and space weather.
- Efficient in analyzing various sources of data (satellite, ground-based, historical).

Media

- Adept at using Canva, Instagram, Facebook, and YouTube for science communication and content creation.

Writing

- Skilled in technical writing (code, reports, proposals), and communication (social media, blogs, presentations).

Languages

- Fluent in English, advanced in Spanish, and intermediate in Korean.