

## ADALYN GIBSON

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### EDUCATION

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**University of Colorado Boulder**, Boulder, Colorado  
B.A., Astrophysical and Planetary Sciences - Physics Emphasis  
Minor in Evolutionary Biology and Ecology  
*Magna Cum Laude* — Thesis Title: “Probing Non-Thermal Processes in Stellar Flares on AU Mic”

August 2022 | Expected: May 2026

### RESEARCH INTERESTS

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I am interested in pursuing further research on the impact of stellar activity on planet formation and habitability, as well as the characterization and modeling of exoplanet atmospheres. My goal is to pursue research that bridges my knowledge of stellar activity and astrobiology, exploring how stellar phenomena impact the atmospheres of exoplanets. I intend to pursue further complementary modeling and observational astronomy.

### RESEARCH EXPERIENCE (\* denotes projects which resulted in a refereed publication)

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#### Undergraduate Research Assistant

Michigan State University, Remote  
September 2025 - Present

*Observations of 3I/ATLAS*  
Advisor: Dr. Adina Feinstein

- Using Las Cumbres Observatory multi-band data to perform photometric characterization of interstellar object 3I/ATLAS

#### Undergraduate Research Assistant

Michigan State University, East Lansing, MI

*Characterization of starspots and young planetary atmospheres in the NIR*  
May 2025 - August 2025  
Advisor: Dr. Adina Feinstein

- Using Gemini-S/IGRINS data to perform high-resolution-spectroscopy of planet DS Tuc Ab
- Applying the blaže package to remove stellar and telluric components

#### Undergraduate Research Assistant \*

LASP/University of Colorado Boulder, Boulder, CO

*Detailed analysis of emission lines in a young star in the FUV*  
April 2024 - June 2025  
Advisors: Dr. Adam Kowalski, Dr. Adina Feinstein

- Utilizing *Hubble Space Telescope*/Cosmic Origins Spectrograph data to characterize the stellar flare atmosphere of AU Mic
- Comparing available M-Dwarf stellar flare models to *Hubble Space Telescope*/Cosmic Origins Spectrograph observations in an effort to better understand gaps in current modeling abilities

#### Undergraduate Research Assistant \*

University of Colorado Boulder, Boulder, CO

*Explored TESS Photometry of Extreme Debris Disk RZ Psc*  
May 2023 - September 2025  
Advisors: Dr. Meredith MacGregor, Dr. Ward Howard

- Utilizing Transiting Exoplanet Survey Satellite (TESS) data to create light curves for the analysis of the exocometary activity of extreme debris disk RZ Psc, and characterising present exocomets
- Using the python packages eleanor and LightKurve to analyze TESS data

### REFEREED PUBLICATIONS

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#### “*TESS Detects Exocomets in the Extreme Debris Disk RZ Psc*”

Adalyn Gibson et al, published in The Astrophysical Journal Letters ([DOI:10.3847/2041-8213/ae11a1](https://doi.org/10.3847/2041-8213/ae11a1))

#### “*Far-Ultraviolet Emission Line Investigation of Flares on AU Mic*”

Adalyn Gibson, Adam F. Kowalski, Adina D. Feinstein, published in The Astrophysical Journal ([DOI:10.3847/1538-4357/ae1691](https://doi.org/10.3847/1538-4357/ae1691))

### RESEARCH PRESENTATIONS

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High-Resolution Spectroscopy for Exoplanet Atmospheres Workshop (poster), Arizona State University December 2025  
Exoplanet Journal Club (talk), University of Michigan July 2025

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|---------------------------------------------------------------------------------------------------|--------------|
| Mid-Michigan Symposium for Undergraduate Research Experiences (poster), Michigan State University | July 2025    |
| Astro Coffee (talk), Michigan State University                                                    | June 2025    |
| Undergraduate Research Expo (poster), University of Colorado Boulder                              | April 2025   |
| 245th AAS Meeting ( <a href="#">iposter</a> ), National Harbor, MD                                | January 2025 |
| Conference for Undergraduate Women and Gender Minorities in Physics (poster), Boulder, CO         | January 2025 |
| Undergraduate Research Expo (poster), University of Colorado Boulder                              | April 2024   |
| Conference for Undergraduate Women in Physics (poster), Tucson, AZ                                | January 2024 |

## MEDIA APPEARANCES

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"A host of 'exocomets' swarms a distant star" see the [Nature Research Highlight](#) (Adalyn Gibson et al. 2025)

"Alien Comets Swarm around Other Stars" see the [Scientific American Article](#) (Adalyn Gibson et al. 2025)

## GRANTS & AWARDS

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|----------------------------------------------------------------------------------------|-------------------------|
| Dean's List                                                                            | Spring 2025             |
| Special CU Physics Award for Outstanding Service                                       | January 2025            |
| Undergraduate Research Opportunities individual grant (\$3,000)                        | Summer 2024             |
| Award for Excellent Poster Presentation, Conference for Undergraduate Women in Physics | January 2024            |
| Dean's List                                                                            | Fall 2024               |
| Undergraduate Research Opportunities individual grant (\$1,500)                        | Academic Year 2023-2024 |
| STEM Routes   Uplift Research Program (\$3,000)                                        | Academic Year 2022-2023 |

## LEADERSHIP

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### CU Astronomy Club

*Social Media Content Lead*

Boulder, Colorado  
October 2022 – Present

- Advertising club events on social media and on campus
- Organizing astronomy outreach and education for college students

### The Conference for Undergraduate Women and Gender Minorities in Physics 2025

*Local Organizing Committee - Advertising & Outreach Subcommittee*

Boulder, Colorado

September 2024 – January 2025

- Using multiple social media platforms to advertise The Conference for Undergraduate Women and Gender Minorities in Physics
- Designing and creating social media posts and videos
- Outreach to the greater academic community through designing physical advertising, email outreach, and social media outreach

## TEACHING EXPERIENCE

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### University of Colorado Boulder

Grader for ASTR 1020 - Introductory Astronomy: Stars & Galaxies w/Lab  
 Grader for ASTR 1010 - Introductory Astronomy: The Solar System w/Lab  
 Grader for ASTR 2600 - Introduction to Scientific Programming  
 Learning Assistant for ASTR 2600 - Introduction to Scientific Programming

September 2025 - December 2025  
 April 2025 - May 2025  
 June 2024 - August 2024  
 January 2024 - May 2024

## SKILLS & TRAINING

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- **Programming:** Python, RStudio, Mathematica.
- **Packages:** `AstroPy`, `CalCos`, `ChiantiPy`, `costools`, `eleanor`, `LightKurve`, `Matplotlib`, `NumPy`, `SciPy`, `blaze`
- **Research Skills:** Managing and Analyzing Data sets, Scientific Writing, Project Management, Data Visualization.
- **Relavent Coursework:**
  - ASTR 5140 - Astrophysical and Space Plasmas
  - ASTR 3830 - Astrophysics 2 - Galactic and Extragalactic (*in progress*)
  - ASTR 3800 - Astronomical Data Analysis
  - ASTR 3750 - Solar and Space Physics
  - PHYS 4230 - Thermodynamics and Statistical Mechanics
  - PHYS 3320 - Principles of Electricity and Magnetism 2
  - PHYS 3220 - Quantum Mechanics 1

- PHYS 3210 - Classical Mechanics and Mathematical Methods 2
- EBIO 4140 - Plant Ecology (*in progress*)
- EBIO 3180 - Global Ecology
- EBIO 3080 - Evolutionary Biology

**STEM Routes | Uplift Research Program, University of Colorado Boulder**  
*Uplift Research Mentee*  
*Advisor: Dr. Meredith MacGregor*

Boulder, Colorado  
October 2022 – May 2023

- Attended weekly workshops on technical research skills
- Learned essential research skills through hands on training and my own research project

## Professional Experience

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**Village Dining Center**  
*Student Assistant at Dining Hall*

Boulder, Colorado  
August 2025 – December 2025

- Food service and food preparation.

**Fiske Planetarium**  
*Outreach Specialist*

Boulder, Colorado  
August 2023 – April 2024

- Conducting public astronomy outreach and k-12 science education
- Leading outreach trips for Fiske Planetarium, and training volunteers

**DoorDash**  
*Delivery Driver*

Boulder, Colorado  
March 2023 – June 2024

- Handled customer interactions and resolved technical issues efficiently, developed communication and multitasking skills.