

PROFESSIONAL SUMMARY

Solar physicist and passionate educator seeking a position where I can express my love of science and astronomy to the next generation. Bringing funding of around 0.75 FTE to jumpstart research while teaching. Extensive leadership, teaching, and outreach experience and training.

EDUCATION

- **2022 PhD in Astrophysical and Planetary Sciences:** University of Colorado, Boulder.
 - *“Spectroscopic Analysis and Image Processing of the Optically-Thin Solar Corona”*
- *Heliophysics Summer School (2017), Space Weather Workshop (2021)*
- **2018 MS in Astrophysical and Planetary Sciences:** University of Colorado, Boulder.
- **2015 BS in Physics (Astrophysics Concentration):** Georgia Institute of Technology, ΣΠΣ.

TEACHING EXPERIENCE

- **Instructor of Record** - *ASTR 1000 The Solar System*, CU Boulder (Summer 2018)
- **Instructor & Facilitator** - *ISEE Professional Develop. Program* (2017, 2018)
- **Instructor** - *CU Boulder Junior Astronauts: Elementary Afterschool Program* (2018)
- **Teaching Assistant** - *ASTR 2000 Ancient Astronomies*, CU Boulder (Spring 2018)
- **Teaching Assistant** - *Accel. Intro Astronomy I + II w/ Lab*, CU Boulder (Fall 2015, Spring 2016)
- **Teaching Assistant** - *Modern Optics*, GA Tech (Fall 2014)
- **Lead Camp Counselor** - *Roller Coaster Physics Summer Camp*, GT Physics (Summer 2015)
- **Tutor** - *Physics + Matlab*, Center for Academic Success, GA Tech (2013, 2015)

CERTIFICATIONS AND AWARDS

- **Nominated for Graduate Student Leader of the Year Award** – U. Colorado (2021)
- **Certificate in College Teaching** – University of Colorado (In Progress)
- **Completion of Professional Development Program** – ISEE (2017,2018)
- **TA of the Year Award** – Astrophysics Department, University of Colorado (2016)
- **Letter of Commendation for SSF Outreach** – Physics Department, Georgia Tech (2015)

LEADERSHIP & SERVICE

- **Member** of **AAS/SPD** and **AGU/SPA** professional societies (2014–Present)
- **Webmaster** for AGU Space Physics and Aeronomy Section (2020–Present)
- **Member of Early Career Committee** for the *AGU SPA Executive Committee* (2023–Present)
- **Student Representative/Committee Member** to the *AGU SPA Exec. Committee* (2020–2023)
- **Student Representative** to the *SHINE Conference Steering Committee* (2020–2022)
- **Graduate Event Planner + Coordinator** for the *SHINE Conference* (2017–2022)
- **Graduate Admissions Committee Member** at *CU Boulder* (2018–2019)
- **Comprehensive Exam Committee Member** at *CU Boulder* (2017–2018)

OUTREACH AND VOLUNTEER WORK

- **Production Manager and Public Talk Facilitator** at *Fiske Planetarium* (2018-2022)
- **Public Speaker** (2018-2022)
 - *Fiske Planetarium*; Boulder, CO (2018-2022)
 - *WesterCon / Myths and Legends Convention*; Denver, CO (2018-2019)
- **Public Observatory Host** (2013-2022)
 - *Sommers-Bausch Observatory*; Univ. of Colorado (2015-2022)
 - *Observatory Committee Chair* at *CU Boulder* (2016-2017)
 - *GT Observatory*; Georgia Tech (2013-2015)
- **Public Outreach Author, Host, Trainer** (2013-2022)
 - *Elementary/ Middle School Invited Lectures* (2021)
 - *Boulder Jr Astronauts* (2018-2019)
 - *Spark, Spin, and Freeze*; Georgia Tech (2013-2015)

OTHER SKILLS AND EXPERIENCE:

- **Theatrical Experience** (15+ years)
 - Performed in 27 plays, half of them musicals.
 - Designed and ran stage sound and lights.
- **Music Production Experience** (10+ years)
 - Fluent in Ableton, FL Studio, and Audacity.
 - Piano, Alto Sax, Harmonica, Guitar, Bass, and Ukulele, plus Vocals.
- **Data/Programming:** Python, SunPy, IDL, MATLAB, C, LaTeX, Git, HTML, Generative AI
- **Languages**
 - English (First), Spanish (Conversational), German (New Student)

SELECTED RESEARCH EXPERIENCE

- **PUNCH Mission Co-Investigator** with *Dr. Craig Deforest, SwRI* (01/2025-now)
 - Funded to work on a new project for about 1/3 time for a year.
- **Postdoctoral Research Scientist** with *Dr. Chris Lowder, SwRI* (01/2023-01/2026)
 - Won grant to analyze DKIST data, about ½ FTE remaining funds.
 - Simulated coronal magnetic topology with the Fluxon framework; explored solar wind acceleration along field lines, model plasma parameters throughout the heliosphere.
- **PUNCH Mission Associate Investigator** with *Dr. Sarah Gibson, HAO* (01/2021-01/2025)
 - Built forward models in IDL to simulate heliospheric white-light imagery and processing steps.

SELECTED PUBLICATIONS

- **Gilly, C.** & Molnar, M. (2026, in prep), *Frontiers in Astronomy and Space Science* “*Characterization of Coronal Alfvén Waves with DKIST Cryo-NIRSP.*”
- **Gilly, C.** & Lowder, C. (2025, in prep), *Solar Physics*, “*Fluxons as scaffolding for solar wind velocity models*”
- **Gilly, C.** & Cranmer, S. R. (2025, in revisions), *Solar Physics*, “*Visualization of High Dynamic Range Solar Imagery and the Radial Histogram Equalizing Filter.*”