

EDUCATION

- **PhD Candidate in Astrophysical and Planetary Sciences:** University of Colorado, Boulder
- **2018 MS in Astrophysical and Planetary Sciences :** University of Colorado, Boulder
- **2015 BS in Physics, Astrophysics Concentration:** Georgia Institute of Technology, ΣΠΣ.

SCIENTIFIC INTEREST

- The Middle Corona. Solar wind acceleration and heating. Space Weather Prediction. Non-equilibrium ionization in the Corona.
- Imaging and spectroscopy of faint sources in optically thin media. Understanding systemic measurement errors. Working on mission teams to analyze fresh data.

RESEARCH EXPERIENCE

- **PUNCH Mission Associate Investigator** with *Dr. Sarah Gibson, HAO* (6mo+, 2021 - Present)
 - Wrote forward model in IDL to simulate image data
- **Graduate Research Assistant** for *Dr. Steven Cranmer, CU Boulder* (5yrs+, Sum2016 - Present)
 - Line of Sight Effects in the Corona, Employed by LASP
- **Undergraduate Research Assistant** for *Dr. Rick Trebino, GA Tech* (2yrs, Sp2013 - Sum2015)
 - Ultrafast laser pulse measurement and characterization.
- **Researcher at Heliophysics REU** at *University of Alabama in Huntsville* (3mo, Summer 2014)
 - Reduced Voyager UV Spectrometer Data in C.

PUBLICATIONS

- “*The Effect of Solar Wind Expansion and Nonequilibrium Ionization on the Broadening of Coronal Emission Lines*”, **The Astrophysical Journal**, vol. 901, no. 2, (2020).
doi:10.3847/1538-4357/abb1ad. (Gilly, C. R. and Cranmer, S. R.)
- “*Lyman-alpha radiation pressure in the Heliosphere: Results from a 3D Monte Carlo radiative transfer simulation.*” **Journal of Physics: Conference Series**, Volume 642 , Issue 1, article id. 012007 (2015). (B. Fayock, G.P. Zank, J. Heerikhuisen, C. Gilbert, K. Scherer.)

PROPOSAL EXPERIENCE

- **Hale Fellowship** (2017)
Proposed that I become a local expert on a space instrument.
- **PI for Mock Proposal** for *Space Mission Design Class Project, CU Boulder* (Fa2015)
Defended a NASA proposal for a CubeSat mission to study terrestrial electron precipitation.
- **PI for Mock Proposal** for *Physics of Planets Class Project, GA Tech* (Fa2014)
Wrote and presented a mission proposal to study the dynamics of lightning on titan

CONFERENCE ATTENDANCE

➤ 2021

- *AGU Fall Meeting (Virtual)
- PUNCH Meeting 2 (Virtual)
- SHINE (Virtual)
- AAS SPD (Virtual)
- Heliophysics 2050 (Virtual)
- Space Weather Workshop (Virtual)
- SDO Science Workshop (Virtual)

➤ 2020

- AGU Fall Meeting (Virtual)
- AAS SPD (Virtual)
- NSRC Suborbital (Broomfield, CO)
- Michael Knoelker Symp. (Boulder, CO)
- DKIST Data Workshop (Los Angeles, CA)

➤ 2019

- AGU Fall Meeting (San Francisco, CA)
- SHINE (Boulder, CO)
- AAS + SPD (St. Louis, MO)

2018

- AGU Fall Meeting (Washington, DC)
- Polar Perspectives (Boulder, CO)
- SHINE (Cocoa Beach, FL)
- AAS (Denver, CO)
- ISEE PDP (Monterey, CA/ Houston, TX)

➤ 2017

- UCAR Helio Sum. School (Boulder, CO)
- SHINE (Saint-Sauveur, Quebec)
- ISEE PDP (Monterey, CA/ Maui, HI)

➤ 2016

- Solarnet 5 (Belfast, N. Ireland)
- SHINE (Santa Fe, NM)
- AAS SPD (Boulder, CO)

➤ 2014

- AGU Fall Meeting (San Francisco, CA)
- REU, NSSTC (Huntsville, AL)
- APS April Meeting (Savannah, GA)

** indicates upcoming meeting*

CONFERENCE ACTIVITIES

➤ Invited Talks

- *"Forward Modelling as a Tool for Analyzing PUNCH Data."*
PUNCH Meeting 2. 2021, Aug 9-11; Virtual. (C. Gilly, S. Cranmer, S. Gibson)
- *"Introduction to the GHOSTS Research"*
Middle Corona Monthly. 2021, July 30th; Virtual. (C. Gilly)

➤ Invited Panels

- *"Community in Heliophysics"* Session Panelist.
Helio2050 Conference. 2021; Virtual. (C. Gilly)
- *"Diversity, Equity, and Inclusion in NASA Helio"* Participant.
NASA Early Career Roundtable w/ Nicky Fox. 2021; Virtual. (C. Gilly)

➤ Submitted Talks

- *"Space Weather Education at the University of Colorado Boulder."*
NSRC Conference. 2020 March 2-4; Broomfield, CO. (C. Gilly, S. Cranmer, T. Berger, D. Knipp, J. Thayer)
- *"Line of Sight Effects of Non-Equilibrium Ionization on Coronal Spectral Lines."*
SHINE Conference. 2019 August 11; Boulder, CO. (C. Gilbert, S. Cranmer)
- *"Quantifying line-of-sight effects for spectroscopic measurements of Alfvén waves and turbulence in the solar corona."* Aug 23-31; Belfast, Northern Ireland.
SOLARNET 5. 2016 summer school and workshop. (C. Gilbert, S. Cranmer.)

➤ Poster Presentations

- “Middle Corona Poster Title” at Helio2050
Helio2050. 2021 May 3-7; (D.B. Seaton et. al., C.R. Gilly)
- “The PUNCH Associate Investigator (AI) Program.”
Helio2050. 2021 May 3-7; (R. Attie et. al., C.R. Gilly)
- “Solar Wind and Line of Sight Effects Broaden Coronal Spectral Lines.”
AAS SPD 51. 2020 Aug 20; Virtual. (C. Gilly, S. Cranmer)
- “The Effect of Non-Equilibrium Ionization, Resonant Scattering, and the Solar Wind on the Broadening of Coronal Emission Lines”.
AGU Conference. 2019 Dec 8-13; Washington, D.C. (C. Gilbert, S. Cranmer)
- “Interpreting Off-Limb Emission Lines from Polar Coronal Holes. ”
SHINE Conference. 2019 Aug 8-11; Boulder, CO. (C. Gilbert, S. Cranmer)
- “Forward Models of Off-Limb Emission Lines in Solar Coronal Holes.”
AAS Conference. 2019 Jun 9-13; St. Louis, MO. (C. Gilbert, S. Cranmer)
- “Refinement of a Semi-Empirical Model to Understand Spectroscopic Indications of Alfvén Waves in the Solar Corona.”
AGU Conference. 2018 Dec 10-14; Washington, D.C. (C. Gilbert, S. Cranmer)
- “Modeling Spectroscopy to Understand Alfvén Waves and Turbulence in the Solar Corona.”
SHINE Conference. 2018 Jul 29- Aug 3; Cocoa Beach, FL. (C. Gilbert, S. Cranmer)
- “Relating Spectroscopic Measurements of the Solar Corona to Alfvén Waves & Turbulence.”
SHINE Conference. 2017 Jul 24-28; Saint-Sauveur, Quebec. (C. Gilbert, S. Cranmer)
- “The reduction of Lyman alpha data from Voyager.” (REU Project)
AGU Conference. 2014 Dec 15-19; San Francisco, CA. (B. Fayock, J. Heerikhuisen, C. Gilbert)

LEADERSHIP AND SERVICE

- **Student Representative** for the *AGU Fall Meeting* (2yrs, 2020-Present), SPA Section
- **Student Representative** for the *SHINE Conference* (2yrs ,2020- Present)
- **Graduate Event Coordinator** for the *SHINE Conference* (4+yrs, 2017-Present)
- **Graduate Admissions Committee Member** at *CU Boulder* (1yr, AY2018)
- **Comprehensive Exam Committee Member** at *CU Boulder* (1yr, AY2017)
- **Observatory Committee Chair** at *CU Boulder* (1yr, AY2016)
- **Secretary + Event Planner** of the *Society of Physics Students* at *GA Tech* (1yr, AY2014)
- **FIRST Robotics Team Captain** at *Lumpkin County High* (4yrs, 2006-2009)

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)
- **Completion of Heliophysics Summer School** - UCAR (2017)
- **TA of the Year Award** – Astrophysics Department, University of Colorado (2016)
- **Letter of Commendation for SSF Outreach** – Physics Department, Georgia Tech (2015)

PROFESSIONAL MEMBERSHIPS

- Lifetime, ΣΠΣ: Sigma Pi Sigma Honor Society
- 2017-21, AAS: American Astronomical Society
- 2014-21, AGU: American Geophysical Union
- 2014-16, SPS: Society of Physics Students
- 2014-15, APS: American Physical Society
- 2015, OSA: The Optical Society

OUTREACH AND VOLUNTEER WORK

- **Production Manager and Public Talk Facilitator** at *Fiske Planetarium* (4yrs, 2018 – 2022)
- **Public Speaker** (3yrs+, 2018 – Present)
 - Fiske Planetarium (Boulder, CO; 3yrs+, 2018-Present)
 - WesterCon, Myths and Legends Convention (Denver, CO; 2yrs, 2018-2019)
- **Public Observatory Host** (8yrs+, 2013 – Present)
 - Sommers-Bausch Observatory at CU (6yrs+, 2015-Present)
 - GA Tech Observatory (2yrs, 2013-2015)
- **Public Outreach Author, Host, Trainer** (8yrs+, 2013-Present)
 - *Boulder Jr Astronauts* (2yrs, 2018-2019)
 - *Spark, Spin, and Freeze*, Georgia Tech (2yrs, 2013-2015)

TEACHING EXPERIENCE

- **Instructor of Record** - *ASTR 1000 The Solar System*, CU Boulder (Summer 2018)
- **Instructor, Design Team Leader, Facilitator** - *ISEE Professional Develop. Program* (2017, 2018)
- **Instructor** - *CU Boulder Junior Astronauts: Elementary Afterschool Program* (2018)
- **Teacher's Assistant** - *ASTR 2000 Ancient Astronomies*, CU Boulder (Sp2018)
- **Teacher's Assistant** - *Accel. Intro Astronomy I + II w/ Lab*, CU Boulder (Fa2015, Sp2016)
- **Teacher's Assistant** - *Modern Optics*, GA Tech (Fa2014)
- **Lead Camp Counselor** - *Roller Coaster Physics Summer Camp*, GT Physics (Summer 2015)
- **Tutor** - *Physics + Matlab*, Center for Academic Success, GA Tech (2013, 2015)

SKILLS

ELECTIVE COURSEWORK