

JAMES NEGUS

Professional Affiliation

Solar Physics Research Scientist
University of Colorado Boulder
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EDUCATION

- [University of Colorado Boulder](#) August 2023
[Ph.D., Astrophysics](#)
Department of Astrophysical and Planetary Sciences
- [University of Colorado Boulder](#) December 2019
[M.S., Astrophysics](#)
Department of Astrophysical and Planetary Sciences
- [The University of Chicago](#) June 2013
[B.A., Physics with a Specialization in Astrophysics](#) Dean's List: 2009 - 2010
Department of Physics

EDUCATIONAL PROGRAMS

- [Astronomical Society of the Pacific](#) November 2023
Eclipse Stars Program

Received professional development through an interactive workshop. The program provided tactics to improve public science communication and engagement skills, particularly for the April 2024 total solar eclipse across North America.

- [University of California Berkeley](#) July 2021
AstroTech Summer School

Participated in an immersive astronomical instrumentation program, which required building, testing, and data processing for an astronomical spectrograph.

Led the design and programming of an electronic motor that was used to align optics onboard the table-mounted spectrograph, which included optomechanical, detector, and calibration setup for the spectrograph.

- [The Pennsylvania State University](#) June 2021
AstroStats Summer School

Participated in an intensive program in statistical inference that covered: principles of probability, regression and model selection, bootstrap resampling, multivariate clustering and classification, Bayesian analysis, Markov chain Monte Carlo methods, time series analysis, spatial statistics, deep learning neural networks, and machine learning with random forest.

Received extensive training for the public domain statistical software, *R*, using Jupyter notebooks.

WORK EXPERIENCE

Science Writers Association of the Rocky Mountains

Board of Directors Member

Boulder, CO

September 2024 - Present

Strategize efforts to create a diverse, equitable, and inclusive community among science writers, communicators, educators, students, and others in the Rocky Mountain region who are interested in writing about science for the public.

University of Colorado Boulder (CIRES/ NOAA Affiliate)

Solar Physics Research Scientist

Boulder, CO

July 2023 - Present

Develop and improve calibration methods for the Extreme Ultraviolet and X-ray Irradiance Sensor instruments on the Geostationary Operational Environmental Satellite Series-R satellite.

Analyze inter-calibrations between solar instruments to validate data, find and resolve anomalies, and enhance data quality.

Participate in the development, implementation, and maintenance of operational and scientific space weather products.

Research and develop new methods for real-time satellite operations.

Conduct research with solar irradiance data and present results in peer-reviewed publications and at scientific meetings.

Astronomical Society of the Pacific

Board of Directors Member

San Francisco, CA

May 2021 - Present

Advise the Board on strategies to optimize long term business growth, outreach development opportunities, and operational efficiency for the organization.

Board of Directors Junior Fellow

February 2019 - May 2021

Added the voice of an early career professional astronomer to the Board.

University of Colorado Boulder

Graduate Teaching Assistant

Boulder, CO

August 2017 - April 2020

Served as a teaching assistant for the following undergraduate courses:

- Astronomical Observations and Instrumentation (14+ student classroom)
- Black Holes (160+ student classroom)
- Introductory Astronomy (two 20+ student labs and a 200+ student classroom)

Evaluated lab reports, demonstrated lab procedures, conducted exam reviews, and hosted office hours.

Radiometrics Corporation

Sodar Product Line Manager

Boulder, CO

April 2016 - July 2017

Subject matter and engineering design expert on Sonic Detection And Ranging Systems (SoDARS).

Managed documentation, business growth, software development, product improvements, and roadmap for Radiometrics' sodar product line.

Approved all changes to the sodar product line BOM and software/firmware; ensured change control documents were created and properly completed.

Vetted all customer-facing sodar technical documentation, including technical specifications, operator manuals, and TechNotes/Service Bulletins.

Participated in customer training and installation support as needed to meet customer commitments.

RMA Manager/ Project Analyst/ IT

April 2015 - April 2016

Analyzed boundary layer physics for microwave retrievals of thermodynamic atmospheric profiles utilizing Python routines.

Worked closely with NASA's JPL and the National Radio Astronomy Observatory to improve observations of boundary layer physics.

Generated operating and procedural manuals for instrument production, testing, quality control, engineering, and administration.

Managed in-house IT support for local servers, virtual machines, network firewalls, user PCs, printers, and employee devices.

Engineering Intern

November 2014 - April 2015

Aided in the development of an artificial neural network to deliver boundary layer thermodynamic data vital for accurate high-impact local weather forecasting and atmospheric remote microwave sensing retrievals.

RESEARCH EXPERIENCE

[University of Colorado Boulder](#)

Boulder, CO

Graduate Research Assistant

July 2017 - August 2023

Analyzed galactic spectra in the SDSS's Mapping Nearby Galaxies at APO (MaNGA) catalog, which consists of 10,000 galaxies observed with Integral Field Unit (IFU) spectroscopy.

Identified high ionization and broad lines emission signatures of Active Galactic Nuclei in MaNGA to determine their physical characteristics and population size within the catalog.

[The University of Chicago](#)

Chicago, IL

Exoplanet Student Researcher

March - June 2013

Used transit spectroscopy techniques to detect exomoons around exoplanets using the Kepler Space Telescope.

[Laboratory for Atmospheric and Space Physics](#)

Boulder, CO

Solar Physics REU Research Assistant

June - August 2012

Analyzed live streams of solar data from the Geostationary Operational Environmental Satellite (GOES) and instruments on NASA's Solar Dynamics Observatory (SDO) using IDL programming language.

Worked on the development of an artificial neural network to better classify and predict solar flares.

Presented research results to scientists from the Laboratory for Atmospheric and Space Physics, National Center for Atmospheric Research, High Altitude Observatory, and the Space Weather Prediction Center.

[National Radio Astronomy Observatory, Green Bank](#)
Radio Astronomy Research Assistant

Green Bank, WV
July 2010

Mapped the galactic plane along with extragalactic regions using data acquisition software linked to the University of North Carolina's SKYNET operation, an internationally distributed network of radio telescopes in Chile and several regions in the US and Europe.

Assisted in the construction of a ground-based antenna to detect radio emission from Jupiter.

Presented research results to scientists and graduate students from UNC-Chapel Hill.

ORGANIZATIONS & LEADERSHIP

[White House National Space Council](#)
"Find Your Place in Space Week" Event Organizer

National
April 2024

Led a coordinated NOAA-NIST-CU event for the White House National Space Council's "Find Your Place in Space Week", hosted at the University of Colorado Boulder.

This event was open to the public, included keynote talks and other hands-on space related activities and prizes to engage participants in how space science relates to them.

[SciAll](#)
Member Scientist

National
April 2024 - Present

Foster STEM identity development in underrepresented groups by humanizing diverse scientists through honest online dialogue about personal relationships with STEM.

[Mercury Magazine](#)
Advisory Board Member

San Francisco, CA
January 2024 - Present

Help strategize the content, business model, and marketing for Mercury Magazine, a magazine focusing on the various ways astronomy intersects with science, education, culture, history, and art.

[NOAA's Boulder Outreach Coordinating Committee](#)
Member

Boulder, CO
November 2023 - Present

Strategize, develop, and design outreach programs, activities, and resources at NOAA's David Skaggs Research Center in Boulder, CO.

Convey NOAA's extensive portfolio of data collection and dissemination programs, space weather research, and operational weather forecasts of Earth's atmosphere and the space environment to the broader public and K-12 students through conference talks, public tours, and [Science on a Sphere](#) presentations.

[Science Through Shadows](#) (\$2 Million NASA Funded Grant)
Advisor, Actor, and Narrator

Boulder, CO
August 2022 - Present

Serve as an advisor, actor, and narrator for heliophysics and asteroid-related content

that will be presented to: (1) the NASA Solar System Ambassadors Program, (2) the Night Sky Network, (3) 200+ planetariums, (4) 300+ portable planetariums, (5) the NASA@MyLibrary network, and (6) the NASA Community College Network.

[Astronomical Society of the Pacific](#)
Member

San Francisco, CA
February 2019 - Present

Receive the quarterly magazine, “Mercury”, which provides updates on the latest astronomical research.

[“The Clock Tower Project”](#)
Advisor

Boulder, CO
April 2022 - August 2023

Served as an advisor to help build a modern, digital, and three-dimensional “clock tower model” that displays a new perspective to coordinate climate action, by offering a long view of the past, present, and future of our global community.

[Fiske Planetarium : “Science Under the Dome” Talk Series](#)
Public Talk Coordinator

Boulder, CO
August 2019 - August 2023

Interviewed and evaluated speaker applicants.

Helped accepted speakers develop a professional-quality presentation to deliver to the CU community and general public.

President

August 2020 - August 2022

Advised members on the direction of the organization, managed formal documentation (e.g., the bylaws, university proceedings, and financial statements), recruited new members, interviewed and evaluated speaker applicants, and facilitated presenter talks.

[Mercury Magazine](#)
Writer

San Francisco, CA
July 2019 - August 2023

Contributed research based articles to the magazine.

[American Astronomical Society](#)
Member

National
February 2018 - August 2023

Attended annual conferences designed to showcase pioneering research within the astronomical research community.

[Sommers-Bausch Observatory](#)
Outreach Volunteer

Boulder, CO
August 2017 - August 2023

Hosted observing nights utilizing the observatory’s two 20” Cassegrain telescopes.

Advocated for public participation in open-house observing nights.

Volunteer for the annual “Astronomy Day” event at the observatory, which hosts over 1,000 local K-12 students.

[Astrobites](#)
Writer

National
July 2019 - February 2022

Wrote articles for the site summarizing current astronomical peer reviewed publications.

Provided edits for pieces written by fellow Astrobites authors.

[Scale Model Solar System Campaign](#)

Director

Boulder, CO

April 2018 - January 2022

Supervised the fundraising effort to build a new scale model solar system on CU Boulder's campus - \$112,000 was successfully raised.

Worked with the director of the Fiske Planetarium and Sommers Bausch Observatory to develop pedagogical content for the model (e.g., lesson plans and labs).

Assisted in the development of the scientific content for the "Wanderers CU" mobile application that pairs with the model.

[Science Buffs](#)

Writer

Boulder, CO

June 2018 - June 2021

Contributed research based articles to the site.

["Astropals" Peer Mentoring \(University of Colorado Boulder\)](#)

Co-Founder & Board Member

Boulder, CO

August 2018 - August 2020

Strategized the roadmap for the organization, designed workshops to help graduate students navigate the challenges of graduate school, and recruited a diverse group of participants to help promote a sense of community at CU Boulder.

[Fiske Planetarium](#)

Fiske Oversight Committee Member

Boulder, CO

August 2017 - August 2020

Advised the committee on strategies to increase planetarium revenue, the volume of planetarium visitors, upgrade existing hardware, and conduct outreach projects.

["CU Cafe" Diversity Initiative \(University of Colorado Boulder\)](#)

Outreach Director

Boulder, CO

August 2017 - May 2018

Promoted STEM scholarship, racial and ethnic diversity, community building, and mentorship by recruiting a diverse group of members, coordinating public talks for under-represented visiting scientists, and collaborating with similar organizations on campus.

[American Meteorological Society](#)

Member

National

November 2015 - November 2017

Attended annual conferences showcasing pioneering research in the meteorological research community.

[Boulder Astronomy and Space Society](#)

Member

Boulder, CO

October 2014 - October 2017

Attended monthly lectures delivered by astronomers and space industry experts.

Connected with local astronomers to view the night sky from the Sommers-Bausch Observatory in Boulder, CO.

[The Planetary Society](#)

Member

International

April 2014 - April 2017

Received the quarterly magazine, "The Planetary Report", which offers astronomical

updates from leading engineers and scientists in the field of planetary science.

Association of Lunar and Planetary Observers

Member

National
February 2014 - February 2017

Received the quarterly publication, “The Journal”, which serves as a medium for advancing astronomical work performed by professional and amateur astronomers.

NASA Night Sky Network/ Astronomical League

Member

National
December 2013 - December 2016

Received the quarterly newsletter, “The Reflector”, which provides the latest information on new astronomical discoveries.

Atlanta Astronomy Club

Member

Atlanta, GA
December 2013 - December 2015

Attended monthly astronomy lectures and participated in dark sky observing events to view neighboring constellations, planetary events, and varying celestial phenomena.

Ryerson Astronomical Society (The University of Chicago)

Vice-President

Chicago, IL
September 2012 - June 2013

Assisted in running weekly meetings, planning quarterly trips, and securing guest speakers.

Dome Engineer

March 2012 - June 2013

Maintained the functionality and integrity of the dome on the Ryerson rooftop observatory.

Society for Physics Students (The University of Chicago)

Outreach Officer

Chicago, IL
March 2012 - June 2013

Networked with physical science organizations on campus to coordinate collaborative events, acquire guest speakers, and recruit new members.

AWARDS & GRANTS

NASA Chandra X-Ray Observatory

“AGN Identification in MaNGA Coronal Line Galaxies” (PI)
\$83,550

July 2022

CU Boulder Department of Astrophysical and Planetary Sciences

Chance Irick Cooke Graduate Fellowship (Excellence in Graduate Research)
\$3,000

October 2021

Astrophysical Research Consortium/Sloan Digital Sky Survey Collaboration

Early Career Astronomer Award
\$1,200

March 2020

CU Boulder Department of Astrophysical and Planetary Sciences

Travel Grant
\$1,000

April 2020

CU Boulder United Government of Graduate Students

Travel Grant
\$300

February 2020

Astrophysical Research Consortium/Sloan Digital Sky Survey Collaboration

Early Career Astronomer Award
\$1,200

February 2019

The University of Chicago

[Odyssey Scholarship](#)

October 2008 - June 2013

PRESS & MEDIA

[The Upcoming Solar Eclipse is a Rare Event. Some Colorado Schools Won't Let Students Watch](#), CPR News, Jenny Brundin, April 5, 2024.

[Jacksonville: Into The Darkness Video — What to Expect During Total Eclipse](#), My Journal Courier, David C.L. Bauer, April 5, 2024.

Total Solar Eclipse Interview, [KVCU 1190 Radio](#), Boulder, CO, April 9, 2024.

[What To Expect in Boulder County With Monday's Solar Eclipse](#), Olivia Doak, Boulder Daily Camera, April 6, 2024.

[Tips For Viewing The Upcoming Solar Eclipse Safely](#), Daniel Strain, CU Boulder Today, April 1, 2024.

NOAA Employee Showcase, Boulder Outreach Coordinating Council's Featured Employee, March 2024.

Humans of CIRES Spotlight, ["Stargazer On Two Wheels"](#), November 29, 2023.

NewsNation Live Interview, ["Where are UFO Hotspots Around The Globe?"](#), September 8, 2023.

Consulting Producer, Astrophysics, ["Behind The Sun"](#), Directed by Dr. Bentley Brown, 2023. Screened at the Hot Docs Canadian International Film Festival, Toronto, Canada (2023), Camden International Film Festival, Camden, USA (2023), Mimesis Documentary Festival, Boulder, USA (2023), Minikino Film Week, Bali, Indonesia (2023), MESA Film Fest (Middle Eastern Studies Association Annual Meeting), Montréal, Canada (2023), Forum Film Dokumenter, Jakarta, Indonesia (2023), Labocine, New York, USA (2024), Dallas International Film Festival, Dallas, USA (2024), and Prismatic Ground, New York, USA (2024).

[Science Through Shadows](#) (\$2 Million NASA Funded Grant), ["Ring of Fire Eclipse"](#), March 8, 2023.

["CU Fiske Planetarium Scale Model Solar System Ribbon Cutting Ceremony"](#), Chancellor's Office/ Fiske Planetarium, December 8, 2021.

["CU Boulder's Fiske Planetarium Installs Updated Version of Solar System on Campus"](#), Mackenzie Eldred, Boulder Daily Camera, December 8, 2021.

["Hear Planets Sing As You 'Walk' Through Space In New Solar System Model "](#), Daniel Strain, CU Boulder Today, December 7, 2021.

[“CU Boulder Grad Student Aims To Update Campus’ Scale Model Solar System”](#), Amy Bounds, Boulder Daily Camera, June 21, 2019.

PUBLICATIONS & ABSTRACTS

Research

Publication: [“A Catalog of Broad H \$\alpha\$ and H \$\beta\$ Active Galactic Nuclei in MaNGA”](#), James Negus, Julia M. Comerford, and Francisco Müller Sánchez, 2024, ApJ, 971, 92.

Publication: [“An Excess of AGNs Triggered by Galaxy Mergers in MaNGA Galaxies of Stellar Mass \$\sim 10^{11} M_{\odot}\$ ”](#), Julia M. Comerford, Rebecca Nevin, James Negus, et al., 2024, ApJ, 963, 1.

Publication: [“A Catalog of 71 Coronal Line Galaxies in MaNGA: \[NeV\] is an Effective AGN Tracer”](#), James Negus, Julia M. Comerford, et al., 2023, ApJ, 945, 2.

Publication: [“Toward a More Complete Optical Census of Active Galactic Nuclei, Via Spatially-Resolved Spectroscopy”](#), Julia M. Comerford, James Negus, et al. 2022, ApJ, 927, 1.

Publication: [“The Physics of the Coronal Line Region for Galaxies in MaNGA”](#), James Negus, Julia M. Comerford, et al. 2021, ApJ, 920, 62.

Publication: [“A Catalog of 406 AGNs in MaNGA: A Connection between Radio-mode AGNs and Star Formation Quenching”](#), Julia M. Comerford, James Negus, et al. 2020, ApJ, 901, 159.

Conference Abstract: [“Studying AGN Activation in Galaxy Mergers”](#), James Negus and Laura Blecha, American Astronomical Society, June, 2018.

Publication: [“A New Narrow Beam, Multi-Frequency Scanning Radiometer and Its Application to In-Flight Icing Detection”](#), David Serke, James Negus, et al., 2017, Atmospheric Research, Volume 185, Pages 84-91.

Conference Abstract: [“Icing Characterization Based on In-Situ Aircraft and Remote Sensing Platform Observations”](#), R. Ware, D. Berchoff, E. Campos, R. Carpenter, N. Cimini, J. Fisher, M. Freer, I. Gulpepe, J. Henrie, P. Holbrook, M. Klein, G. Kok, S. McLaughlin, M. Murakami, J. Negus, S. Nesbitt, M. Nelson, S. Parkinson, K. Reed, L. Sankey, D. Serke, M. Sharkey, S. Tessendorf, R. Stone, and B. Williams, American Meteorological Society, January, 2017.

Conference Abstract: [“Integrated Wind and Thermodynamic Profiling for High-Impact Nowcasting”](#), R. Baxter, J. Bhate, L. Blanchette, D. Berchoff, C. B. Clements, B. Demoz, P. Drewniak, M. D. Eilts, J. M. Freedman, D. M. Holland, K. R. Knupp, E. Lau, S. A. McLaughlin, J. Negus, M. Nelson, G. Pandithurai, R. Parmentier, M. Rajeevan, K. Reed, P. Roller, N. Sette, L. Thobois, S. Vandenburg, P. Wiker, and T. Wilfong, American Meteorological Society, January, 2017.

Conference Abstract: [“Boundary Layer Thermodynamic and Wind Observations for Improved Fog and Marine Layer Modeling and Forecasting”](#), R. Ware, L. Blanchette, D. Berchoff, W. Callahan, C. Clements, P. Croft, M. Eilts, P. Flatau, I. Gulpepe, R. Hip-schman, D. Holland, J. Kleissl, B. Koch, S. McLaughlin, M. Nelson, J. Negus, E. Osler, R. Parmentier, K. Reed, P. Roller, N. Sette, L. Thobois, S. Vandenburg, Y. Xie, and J. Zack, American Meteorological Society, January, 2016.

Outreach

Publication: “[The Solar System to Scale](#)”, James Negus, Mercury Magazine, Winter 2022.

Publication: “[A New Scale-Model Solar System](#)”, James Negus, Sky & Telescope, January 20, 2022.

Publication: “[Bringing a Scale Model Solar System to CU Boulder](#)”, James Negus, Astrobites, January 19, 2022.

Publication: “[Uncovering Hidden Active Galactic Nuclei in Dwarf Galaxies](#)”, James Negus, Astrobites, September 25, 2021.

Publication: “[Unidentified Flaring Object](#)”, James Negus, Astrobites, September 7, 2021.

Publication: “[Shine On You Crazy Outflow!](#)”, James Negus, Astrobites, August 9, 2021.

Publication: “[ALMA’s Glimpse Into Protoplanetary Disk Evolution](#)”, James Negus, Mercury Magazine, Winter 2021.

Publication: “[Gas and Dust Evolution Near a Cosmic Engine](#)”, James Negus, Astrobites, March 1, 2021.

Publication: “[The Eyes of GAIA: Peering Into Our Galaxy’s Variable Nature](#)”, James Negus, Astrobites, December 12, 2020.

Publication: “[AGN Ionization: A Dance Between Photoionization and Shocks](#)”, James Negus, Astrobites, October 24, 2020.

Publication: “[Active Galactic Bulbs: Tracking Glowing Quasars](#)”, James Negus, Astrobites, September 9, 2020.

Publication: “[The Impact of Polar Ice on Our Planet’s Evolution](#)”, James Negus, Science Buffs, July 28, 2020.

Publication: “[Faint Jewels: Discovering The Brilliance of Dwarf Galaxies](#)”, James Negus, Astrobites, July 27, 2020.

Publication: “[Remnant Tales: Uncovering the Link Between Type Ia Supernova Ejecta and Planetary Nebulae](#)”, James Negus, Astrobites, May 14, 2020.

Publication: “[Can Nuclear Star Clusters Help Trace Galactic Evolution?](#)”, James Negus, Mercury Magazine, Winter 2020.

Publication: “[Galactic Outflows: A Stellar Matter?](#)”, James Negus, Astrobites, March 4, 2020.

Publication: “[Uncovering a Cosmic Matter Reservoir](#)”, James Negus, Astrobites, February 3, 2020.

Publication: “[Are Supermassive Black Holes Galactic Regulators?](#)”, James Negus, Mercury Magazine, Summer 2019.

Publication: “[Are Supermassive Black Holes Galactic Regulators?](#)”, James Negus, Mercury Magazine, Summer 2019.

Publication: “[Ten-Hundred Word Challenge](#)”, James Negus, Science Buffs, February 4, 2019.

Publication: “[The Mysteries of Space: Supernovas Explained](#)”, James Negus, Enslow Publishing, New York, NY, 2018.

Publication: [“The Mysteries of Space: Black Holes Explained”](#), James Negus, Enslow Publishing, New York, NY, 2018.

Other

Science Editor/ Reviewer: [“Totality! An Eclipse Guide in Rhyme and Science”](#), Dr. Jeffrey Bennett, Big Kid Science, Boulder, Colorado, 2021.

PRESENTATIONS & PODCASTS

Research

Presentation: [“GOES EUV Real-Time Products for WAM-IPE: Operational GOES Products”](#), Cooperative Institute for Research in Environmental Sciences, University of Colorado Boulder, September 18, 2024.

Presentation: [“From Solar Flares to Eclipses: Exploring Our Dynamic Star Through Science and Outreach”](#), NOAA’s NCEI Seminar, University of Colorado Boulder, July 30, 2024.

Presentation: [“Finding Accurate Solar Flare Locations with Geostationary Satellites”](#), Cooperative Institute for Research in Environmental Sciences, University of Colorado Boulder, November 15, 2023.

Presentation (Invited): [“Tracing AGN in MaNGA With Coronal Lines”](#), NASA Jet Propulsion Laboratory, Pasadena, CA, October 11, 2022.

Presentation (Invited): [“Tracing AGN in MaNGA With Coronal Lines”](#), California Institute of Technology, October 12, 2022.

Presentation (Invited): [“Investigating Coronal Line Emission for Galaxies in MaNGA”](#), Astrocoffee, Institute for Astronomy, University of Hawai’i at Mānoa, September 23, 2022.

Presentation: [“Uncovering Active Galactic Nuclei in Large Spectroscopic Surveys”](#), Black Holes Across Space and Time Workshop, Harvard University (Black Hole Initiative), July 28, 2022.

Presentation (Invited): [“Using Coronal and Broad Line Detections to Investigate AGN in MaNGA”](#), Galaxies and AGN Seminar and Journal Club, Space Telescope Science Institute, June 09, 2022.

Lightning Talk + Poster: [“Leveraging Integral Field Spectroscopy to Detect AGN in MaNGA”](#), Large-Volume Spectroscopic Analyses of AGN and Star Forming Galaxies in The Era of JWST Conference, Space Telescope Science Institute, March 30, 2022.

Presentation (Invited): [“Coronal Lines: An Ideal Tracer for AGN Activity?”](#), Astronomy and Space Physics Seminar, University of Kansas, December 10, 2021.

Presentation (Invited): [“Coronal Line Emission: A New Tool for Identifying AGN Activity?”](#), The University of California Santa Cruz, October 26, 2021.

Presentation: [“Can Coronal Line Emission Effectively Trace AGNs in MaNGA?”](#), SDSS-IV/ SDSS-V Collaboration Meeting, August 12, 2021.

Presentation: [“The Physics of the Coronal Line Region for Galaxies in MaNGA”](#), SDSS-IV/ SDSS-V Collaboration Meeting, June 22, 2020.

Presentation (Master’s Defense: High Pass): [“The Physics of the Coronal Line Region for Galaxies in MaNGA”](#), University of Colorado Boulder, October 16, 2019.

Presentation: “Discovering AGN in MaNGA Through Coronal Line Observations”, SDSS-IV/ MaNGA Collaboration Meeting, University of Oxford, April 1, 2019.

Presentation: “Tackling Galactic and Black Hole Coevolution”, Speak Easy: A Science Communication Workshop for Researchers, University of Colorado Boulder, February 24, 2019.

Presentation: “Tracing AGN in MaNGA Using Coronal Line Observations”, 232nd American Astronomical Society Conference, Denver, CO, June 4 - 6, 2018.

Outreach

Presentation (Invited Keynote): “[Pathways to Success in STEM](#)”, SMART Program, University of Colorado Boulder, August 8, 2024.

Presentation: “Space Weather!”, Bring Your Kids to Work Day, NOAA, Boulder, CO, April 25, 2024.

Presentation: [Science on a Sphere](#) lecture to local high school CubeSat team, White House National Space Council’s “Find Your Place in Space Week”, NOAA, Boulder, CO, April 10, 2024.

Presentation (Invited Keynote): Live Commentary With Astronaut Alvin Drew For ~ 1,000 Total Solar Eclipse Attendees, Dallas Arboretum (Concert Stage), April 8, 2024.

Presentation: “[From Totality to Space Exploration](#)”, Rosine Hall, Dallas Arboretum, April 8, 2024.

Presentation: “Ask An Astronomer”, Big Kid Science Booth, National Science Teaching Association National Conference, March 21 - March 23, 2024.

Podcast: “[Solar Flares and Deep Space Nine with Dr. Jimmy Negus](#)”, The LIUniverse, February 28, 2024.

Presentation: “Cosmic Mirror: Earth’s Reflection in Space Exploration”, Fiske Planetarium - Science Under the Dome, March 16, 2023.

Planetarium Host: Anneke Kakebeen (Featured Speaker), “Journey to the Center of the Embryo”, Fiske Planetarium - Science Under the Dome, December 9, 2022.

Presentation: Introduced the Arthur B.C. Walker II Award Recipient, Dr. Jedidah C. Isler - Principal Assistant Director for STEM Opportunity and Engagement at the White House Office of Science and Technology Policy, The Astronomical Society of the Pacific Awards Gala, November 19, 2022.

Panelist: “[The Clock Tower Project: A New Perspective to Coordinate Climate Action](#)”, Fiske Planetarium, April 08, 2022.

Podcast: “[Black Holes, Galaxies, and The Expanse with Jimmy Negus](#)”, The LIUniverse, March 26, 2022.

Planetarium Host: Corey Trujillo (Featured Speaker), “Arches: The Ancient Bones of Modern Architecture”, Fiske Planetarium - Science Under the Dome, February 17, 2022.

Podcast: “[A View From Earth 2021 Holiday Special \(The Colorado Scale Model Solar System\)](#)”, Fiske Planetarium - A View From Earth, December 14, 2021.

Presentation (Ribbon Cutting Ceremony): “Upgrading The Colorado Scale Model Solar System”, Fiske Planetarium, December 8, 2021.

Presentation (Invited Keynote): “[A Career in Academia: Overcoming Barriers to Success](#)”, Bruin Brains Research Conference, Salt Lake City Community College, December 3, 2021.

Presentation: Introduced the Robert J. Trumpler Award Recipient, Dr. Gudmundur Kári Stefánsson - Princeton University, The Astronomical Society of the Pacific Awards Gala, November 19, 2021.

Planetarium Host: Catherine Blume (Featured Speaker), “[Penrose Tilings, Quasicrystals, and Islamic Architecture](#)”, Fiske Planetarium - Science Under the Dome, October 21, 2021.

Presentation: “The Evolution of Space Instrumentation: Where Do We Go From Here?”, Brookdale Senior Living, Boulder, CO, July 15, 2021.

Presentation: “[A Crowded Orbit: The Co-Evolution of Satellites and Space Junk](#)”, Fiske Planetarium - Science Under the Dome, April 15, 2021.

Presentation Host: Prasanth Prahladan (Featured Speaker), “[Future of the Autonomous Self: Personal Autonomy, Social Oppression and Social-Media](#)”, Fiske Planetarium - Science Under the Dome, February 11, 2021.

Presentation Host: Erika Schreiber (Featured Speaker), “[Fires, Flooding, Heat Waves, Drought: Extreme Events in a Changing Climate](#)”, Fiske Planetarium - Science Under the Dome, November 19, 2020.

Presentation Host: Will Holsclaw (Featured Speaker), “[Black Marble: Exploring the Earth’s Dark Side](#)”, Fiske Planetarium - Science Under the Dome, September 17, 2020.

Podcast: “[Ep 56: The Fowl Ward](#)”, Buffs Talk Science, June 16, 2020.

Presentation: “[Ep 1: Supermassive Black Holes and Where to Find Them](#)”, Fiske Planetarium - A View From Earth, June 21, 2020.

Presentation: “Re-Envisioning The Colorado Scale Model Solar System”, [ComSciCon20](#), June 11, 2020.

Presentation: “The Future of NASA and Space Exploration”, King Adult Day Enrichment Program for Multiple Sclerosis Patients, Westminster, CO, January 31, 2020.

Presentation: Introduced the Richard H. Emmons Award Recipient, Dr. Nick Schneider - University of Colorado Boulder, The Astronomical Society of the Pacific Awards Gala, San Francisco, CA, November 19, 2019.

Presentation: “Topics in Astronomy”, Brookdale Senior Living, Boulder, CO, August 15, 2019.

Presentation: “Black Holes!”, King Adult Day Enrichment Program for Multiple Sclerosis Patients, Westminster, CO, May 3, 2019.

Other

Session Chair: The Astronomical Society of the Pacific Annual Conference, December 5, 2020.

MENTORSHIP

Kalin Landry, University of Colorado Boulder, BA (Astrophysics), graduated Spring 2023.

SKILLS & TRAINING

Skills: research, physics, astrophysics, astronomy, data analysis, Python, L^AT_EX, public speaking, team leadership, organizational effectiveness, creative writing, event management/ planning, proposal writing/ editing, project management, analytics, nonprofit organizations, remote sensing, spectral analysis, IDL programming, GitHub, bash, Linux, instrumentation, atmospheric remote sensing, and statistics.

Formally trained to conduct remote observations at [The Apache Point Observatory](#).

Proficient in French.