

# JAMES NEGUS

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## Professional Affiliation

Solar Physics Research Scientist  
University of Colorado Boulder  
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## EDUCATION

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- 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  
Department of Physics  
Dean's List: 2009 - 2010

## EDUCATIONAL PROGRAMS

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- Astronomical Society of the Pacific** November 2023  
Eclipse Stars Program
- Completed professional training in public science communication and engagement strategies, with a focus on preparing for the April 2024 total solar eclipse across North America.
- Developed interactive techniques to effectively communicate complex scientific concepts to diverse audiences during large-scale public outreach events.
- 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.
- 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

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### Science Writers Association of the Rocky Mountains

#### Board of Directors Member

Boulder, CO  
September 2024 - Present

Strategize and implement 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.

### Mercury Magazine

#### Advisory Board Member

San Francisco, CA  
January 2024 - Present

Advise on 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.

### 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

Collaborate on managing a \$3 million operational budget to support educational programs that foster curiosity and equitable access to STEM opportunities.

Advise on long-term strategies to enhance business growth, expand outreach initiatives, and improve operational efficiency for the organization.

Contribute to shaping initiatives that bridge gaps in STEM education for underserved communities.

### 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 graduate teaching assistant instructor 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 road map for Radiometrics' sodar product line.

Approved all changes to the sodar product line bill of materials 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**

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.

**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**

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**University of Colorado Boulder**  
**Graduate Research Assistant**

Boulder, CO  
July 2017 - August 2023

Analyzed a dataset of over 29 million galactic spectra from the Sloan Digital Sky Survey's Mapping Nearby Galaxies at APO (MaNGA) catalog, encompassing 10,000 galaxies observed using Integral Field Unit spectroscopy.

Developed a custom Python pipeline and utilized CU Boulder's Summit supercomputer to process and analyze large-scale spectroscopic data efficiently.

Identified high-ionization and broad-line emission signatures of Active Galactic Nuclei (AGN), characterizing their physical properties and estimating their population within the MaNGA catalog.

Contributed to advancements in understanding galaxy evolution by refining AGN detection methods.

**The University of Chicago**  
**Exoplanet Student Researcher**

Chicago, IL  
March - June 2013

Explored transit spectroscopy techniques to detect exoplanets using data from the Kepler Space Telescope in a research-focused course.

Presented research on exoplanet detection methodologies to faculty at The University of Chicago.

Gained foundational experience in data analysis, transit photometry, and scientific communication.

**Laboratory for Atmospheric and Space Physics**  
**Solar Physics REU Research Assistant**

Boulder, CO  
June - August 2012

Analyzed live streams of solar data from the Geostationary Operational Environmental Satellite and instruments on NASA's Solar Dynamics Observatory 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.

Enhanced understanding of space weather phenomena and their impact on Earth through interdisciplinary collaboration.

**National Radio Astronomy Observatory, Green Bank**  
**Radio Astronomy Research Assistant**

Green Bank, WV  
July 2010

Mapped regions of the galactic plane, along with extragalactic zones, using data acquisition software linked to the University of North Carolina's SKYNET robotic telescope operation, an internationally distributed network of radio telescopes in Chile and several areas 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, demonstrating early experience in scientific communication and collaborative research.

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**OUTREACH, EDUCATION, AND LEADERSHIP EXPERIENCE**

**White House National Space Council**  
**"Find Your Place in Space Week" Event Organizer**

National  
April 2024

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

Organized public-facing activities, including keynote talks, hands-on space science demonstrations, and prize-driven engagement to connect participants with the relevance of space science in their lives.

Facilitated collaboration between federal agencies, academic institutions, and the public to promote awareness of space-related opportunities and innovations.

**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.

Contribute to initiatives aimed at humanizing diverse scientists, fostering inclusive representation, and inspiring future generations of STEM professionals.

**Astronomers Without Borders**  
**Member**

National  
February 2024 - Present

Actively support a global community that celebrates and studies the wonders of the universe, promoting cross-cultural dialogue and collaboration.

Contribute to initiatives that transcend borders, using astronomy to broaden perspectives and improve lives through education and outreach.

## **NOAA's Boulder Outreach Coordinating Committee**

**Member**

Boulder, CO  
November 2023 - Present

Develop, design, and promote outreach and educational 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 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, Writer, Editor, and Narrator**

Boulder, CO  
August 2022 - Present

Serve as an advisor, actor, writer, editor, and narrator for heliophysics and asteroid-related content that has been presented to hundreds of thousands of individuals through: (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

Regularly receive the quarterly Mercury magazine, staying informed on the latest advancements in astronomical research and education.

Actively participate in the society's annual conference, attending and chairing sessions focused on leading U.S. astronomical outreach and educational programs.

Engage with the community to promote best practices in STEM outreach and foster connections within the field.

## **"The Clock Tower Project"**

**Outreach Advisor**

Boulder, CO  
April 2022 - August 2023

Advised on the development of a modern, digital, and three-dimensional "clock tower model" to provide a new perspective on coordinating global climate action.

Contributed to strategies that enhance public engagement and understanding of climate issues, encouraging long-term action through educational outreach.

## **Fiske Planetarium: "Science Under the Dome" Talk Series**

**Public Talk Coordinator**

Boulder, CO  
August 2019 - August 2023

Interviewed and evaluated speakers for the talk series, ensuring diverse and high-quality candidates.

Assisted selected speakers in developing professional, jargon-free, and engaging science presentations tailored for the CU community and the general public.

Collaborated with the planetarium staff to create a welcoming, educational environment for audiences of all backgrounds.

**President**

August 2020 - August 2022

Advised members on the strategic direction of the organization, refining outreach and education initiatives to better serve the community.

Managed key formal documentation, including bylaws, university proceedings, and financial statements, ensuring organizational compliance and transparency.

Led recruitment efforts, interviewing and evaluating potential new members to strengthen the organization's membership base.

Coordinated and facilitated speaker talks, ensuring high-quality, engaging presentations that aligned with the organization's educational goals.

### **Mercury Magazine**

**Writer**

San Francisco, CA  
July 2019 - August 2023

Worked closely with editors to craft engaging content that aligns with the magazine's mission of fostering public interest and understanding of astronomy.

Conducted in-depth research, ensuring accuracy and clarity in each article to communicate complex scientific concepts to a broad audience.

### **American Astronomical Society**

**Member**

National  
February 2018 - August 2023

Attended and presented at annual conferences, contributing to the dissemination of pioneering research within the field of astronomy.

Engaged with cutting-edge developments in astronomical research and networked with professionals to advance scientific discourse.

### **Sommers-Bausch Observatory**

**Outreach Volunteer**

Boulder, CO  
August 2017 - August 2023

Hosted observing nights that featured the observatory's two 20" Cassegrain telescopes.

Enthusiastically advocated for student, faculty, and public participation in open-house observing nights.

Volunteered for the observatory's annual "Astronomy Day" event, which typically hosted over 1,000 local K-12 students each year.

### **Astrobites**

**Writer**

National  
July 2019 - February 2022

Wrote accessible summaries of current astronomical peer-reviewed publications, translating complex research into digestible articles for a broad audience of students and early-career scientists.

Edited and provided constructive feedback on articles written by fellow Astrobites authors, ensuring clarity, accuracy, and adherence to editorial standards.

Contributed to the growth of the platform as a key resource for astronomy students and the general public interested in the latest research developments.

### **Scale Model Solar System Campaign**

**Director**

Boulder, CO  
April 2018 - January 2022

Spearheaded a \$112,000 fundraising effort to build a new scale model solar system at CU Boulder.

Worked with the director of the Fiske Planetarium and Sommers Bausch Observatory to develop, write, and edit 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, translating scientific topics into accessible, engaging content for a general audience.

Focused on writing clear, concise summaries of current scientific developments and trends, encouraging public interest in STEM fields.

## **“Astropals” Peer Mentoring - University of Colorado Boulder**

### **Co-Founder & Board Member**

Boulder, CO  
August 2018 - August 2020

Co-founded the peer mentoring organization and helped strategize its roadmap, focusing on graduate student success and well-being.

Designed and led workshops addressing the academic and personal challenges of graduate school, providing resources and support for fellow students.

Recruited a diverse group of participants to foster a sense of community, mentorship, and inclusivity within the CU Boulder graduate student body.

## **Fiske Planetarium**

### **Fiske Oversight Committee Member**

Boulder, CO  
August 2017 - August 2020

Advised the committee on strategies to increase planetarium revenue and boost visitor attendance, ensuring a broad and diverse audience.

Provided guidance on hardware upgrades to enhance the planetarium’s technical capabilities and improve the visitor experience.

Contributed to optimizing both new and existing outreach and education projects, aligning them with the planetarium’s mission to inspire curiosity in science and space exploration.

## **“CU Cafe” Diversity Initiative - University of Colorado Boulder**

### **Outreach Director**

Boulder, CO  
August 2017 - May 2018

Promoted STEM scholarship and racial and ethnic diversity by recruiting a diverse group of members to the organization.

Coordinated public talks for underrepresented visiting scientists, fostering an inclusive environment for learning and collaboration.

Collaborated with similar organizations on campus to build a sense of community and enhance mentorship opportunities for underrepresented students in STEM.

## **American Meteorological Society**

### **Member**

National  
November 2015 - November 2017

Attended and presented at annual conferences, showcasing pioneering research and engaging with the meteorological community.

Contributed to discussions on advancements in meteorology, exchanging ideas with professionals and researchers in the field.

## **Boulder Astronomy and Space Society**

### **Member**

Boulder, CO  
October 2014 - October 2017

Attended monthly lectures delivered by astronomers and space industry experts, staying informed on the latest developments in astronomy and space science.

Participated in local outreach efforts by connecting with fellow astronomers to facilitate public stargazing events and night-sky viewings at the Sommers-Bausch Observatory in Boulder, CO.

Actively engaged with the community to foster interest in astronomy and space exploration.

**The Planetary Society**  
**Member**

International  
April 2014 - April 2017

Received the quarterly The Planetary Report, providing updates from leading engineers and scientists in planetary science.

Contributed funding to support innovative outreach, education, science, and technology projects aimed at advancing space exploration and public engagement.

Actively supported initiatives to inspire and educate the public about the wonders of space science and planetary exploration.

**Association of Lunar and Planetary Observers**  
**Member**

National  
February 2014 - February 2017

Received the quarterly publication The Journal, which highlights astronomical work conducted by both professional and amateur astronomers, advancing the field of lunar and planetary observations.

Stayed informed on the latest trends and discoveries in lunar and planetary science, contributing to a broader understanding of space exploration.

**NASA Night Sky Network/ Astronomical League**  
**Member**

National  
December 2013 - December 2016

Received the quarterly newsletter The Reflector, which provided the latest updates on astronomical discoveries and developments in the field.

Actively participated in outreach efforts, organizing and leading stargazing sessions to bring the wonders of the universe to the public, fostering a greater appreciation for astronomy and space science.

**Atlanta Astronomy Club**  
**Member**

Atlanta, GA  
December 2013 - December 2015

Attended monthly astronomy lectures to deepen knowledge of celestial phenomena and the latest astronomical discoveries.

Participated in dark sky observing outreach events, guiding the public in viewing constellations, planetary events, and other significant celestial occurrences.

**Ryerson Astronomical Society - The University of Chicago**  
**Vice-President**

Chicago, IL  
September 2012 - June 2013

Assisted in organizing and running weekly meetings, fostering an engaging environment for society members.

Helped plan and execute quarterly outreach trips, providing opportunities for the community to engage with astronomy.

Secured guest speakers to enhance the educational experience and broaden the society's exposure to various astronomical topics.



**Student Dome Engineer**

March 2012 - June 2013

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

**Society for Physics Students - The University of Chicago  
Outreach Officer**Chicago, IL  
March 2012 - June 2013

Collaborated with physical science organizations on campus to plan and execute outreach events, enhancing community engagement with physics.

Recruited new members to the organization by organizing and promoting events.

Secured guest speakers from the field of physics to broaden the learning experience and bring diverse perspectives to the society.

**AWARDS & GRANTS**

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**NASA Chandra X-Ray Observatory**

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

July 2022

**Department of Astrophysical and Planetary Sciences - University of Colorado Boulder**

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

**Department of Astrophysical and Planetary Sciences - University of Colorado Boulder**

Travel Grant  
\$1,000

April 2020

**Graduate and Professional Student Government - University of Colorado Boulder**

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**

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[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, "[Total Eclipse Of The Sun](#)", May 17, 2023.

[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**

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### **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”](#), Randolph Ware, Don Berchoff, James Negus, et al., American Meteorological Society, January, 2017.

Conference Abstract: [“Integrated Wind and Thermodynamic Profiling for High-Impact Nowcasting”](#), Randolph Ware, Jyoti Bhate, James Negus, et al., American Meteorological Society, January, 2017.

Conference Abstract: [“Boundary Layer Thermodynamic and Wind Observations for Improved Fog and Marine Layer Modeling and Forecasting”](#), Randolph Ware, Levi Blanchette, James Negus, et al., American Meteorological Society, January, 2016.

### **Outreach and Education**

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**

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

Book Science Editor/ Reviewer: [“Earth & Space Science”](#), Dr. Jeffrey Bennett, Big Kid Science, Boulder, Colorado, 2020.

## **PRESENTATIONS & PODCASTS**

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### **Research**

Presentation (Invited): [“From Black Holes to Sunspots: Our Active Universe”](#), Colorado Science Conference, Colorado State University - Spur, October 25, 2024.

Presentation (Invited): [“Tracing Solar Features With GOES”](#), SpaceVision Conference, University of Denver, October 5, 2024.

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”, 232<sup>nd</sup> American Astronomical Society Conference, Denver, CO, June 4 - 6, 2018.

### **Outreach and Education**

Presentation: “Space Weather!”, Nederland Elementary School, NOAA’s Space Weather Prediction Center, Boulder, CO, November 12, 2024.

Presentation: Introduced the Arthur B.C Walker II Award Recipient, Dr. Gibor Basri, University of California, Berkeley, The Astronomical Society of the Pacific Awards Gala, November 09, 2024.

Presentation: Introduced the Richard H. Emmons Award Recipient, Dr. Daniel Reichart, University of North Carolina, The Astronomical Society of the Pacific Awards Gala, November 09, 2024.

Presentation: “A Solar Journey: Peering Into The Nature of Our Active Sun”, Longmont Rotary Club, Longmont, CO, October 8, 2024.

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’s Space Weather Prediction Center, 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 Conference, March 21 - March 23, 2024.

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

Presentation: “Astronomy!”, Cherry Drive Elementary School, May 23, 2023.

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**

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

## **SKILLS & TRAINING**

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Skills: outreach, education, research, physics, astrophysics, astronomy, data analysis, Python, L<sup>A</sup>T<sub>E</sub>X, 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](#).