Briley L. Lewis
PhD Candidate and NSF Fellow, Astronomy and Astrophysics
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September 2022
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Education

- **University of California, Los Angeles** — Los Angeles, CA, USA
  Ph.D Astronomy and Astrophysics — *2020 - Present*
  - Advanced to Candidacy: November 2021
  - Thesis Title: Applications of High-Contrast Imaging Techniques and Polarimetry to (Exo-)Planetary Science
- **University of California, Los Angeles** — Los Angeles, CA, USA
  Graduate Certificate in Writing Pedagogy — *2020 - 2022*
- **University of California, Los Angeles** — Los Angeles, CA, USA
  M.S. Astronomy and Astrophysics — *2018 - 2020*
- **Columbia University (Columbia College)** — New York, NY, USA
  B.A. Astrophysics — *2014 - 2018*
  - Cumulative GPA: 3.70
  - Senior Thesis: Direct Imaging of Exoplanets with Project 1640

Research Experience

- **University of California, Los Angeles** — Los Angeles, CA, USA
  Graduate Student Researcher — *2018 - Present*
  - Advisor: Dr. Michael Fitzgerald
  - Investigating a theoretical framework for statistics of speckle noise in the high-contrast imaging regime, and using models to explore how we can exploit these statistics to improve contrast in observations based on PCA/KLIP.
  - Modeling and characterization of debris disks observed with the Gemini Planet Imager.
  - Applying of high contrast imaging techniques and polarimetry to solar system science and planetary science
- **American Museum of Natural History** — New York, NY, USA
  REU Student and Undergraduate Researcher — *2016 - 2018*
  - Advisor: Dr. Rebecca Oppenheimer
  - Worked as a part of Project 1640 focused on direct imaging of exoplanets as a part of the AMNH Summer 2016 National Science Foundation Research Experience for Undergraduates program.
  - Participated in three observing runs with the Project 1640 team at Palomar Observatory in California.
  - Processed infrared images using Python to suppress speckles and detect exoplanets, created lists of targets and assisted in planning for observing runs, and assisted in confirmation of new companion discoveries using astrometry and spectral modeling.

- **Space Telescope Science Institute** Baltimore, MD, USA
  Summer Student and Undergraduate Researcher *2017 - 2018*
  - Advisors: Drs. John Stansberry and Bryan Holler
  - Analyzed hyperspectral images and other data products from the New Horizons missions 2015 flyby of Pluto, with the goal of investigating the relationship between topographic factors (albedo, elevation) and the distribution of volatiles on its surface.
  - Created insolation models and maps of surface slopes/gradients for Pluto, based on data from New Horizons MVIC and LEISA instruments.

Awards, Grants & Honours

UCLA Sonia Maasik Memorial Prize for Graduate Instructors of Writing 2022
UCLA Senate Distinguished TA Award Nominee – Writing Programs 2022
UCLA Grad Slam Finalist 2022
APS History of Physics Essay Contest Winner 2021
Joan and Arnold Seidel Griffith Observer Science Writing Contest (3rd place) . 2020
UCLA Department Outstanding Teaching Award – Physics and Astronomy . . 2019
National Science Foundation (NSF) Graduate Research Fellow 2018
UCLA Graduate Dean's Fellowship 2018
AAS Chambliss Undergraduate Honorable Mention 2018
Astronomical Society of New York (ASNY) Undergraduate Research Prize . . . 2017
Universities Space Research Association (USRA) Scholarship Honorable Mention 2017
Division for Planetary Sciences Hartmann Student Travel Grant Recipient . . . 2017

Successful Grants/Proposals as PI:

Project Title: "Exploring the Impacts of Astrobites on Astronomy Education"
PI: Briley Lewis
American Astronomical Society Education and Professional Development Mini-Grants
Cycle 2022.02
Amount Awarded: $5,640

Successful Grants/Proposals as Co-I:

Project Title: "Discovering Substellar Companions to Accelerating Stars"
Keck NIRC2
PIs: Tim Brandt, Ben Mazin, Rebecca Jensen-Clem, Michael Fitzgerald
Semester 2022A
Time Awarded: 2.5 Nights

Project Title: "Discovering Substellar Companions to Accelerating Stars"
Keck NIRC2
PIs: Tim Brandt, Ben Mazin, Rebecca Jensen-Clem, Michael Fitzgerald
Semester 2022B
Time Awarded: 2.5 Nights

Professional Memberships

- American Astronomical Society (AAS) Member
- AAS Division for Planetary Sciences Member
- American Physical Society (APS) Member
- Massive Science Consortium Certified Member
- National Association of Science Writers (NASW) Member
- Center for the Integration of Research, Teaching, and Learning (CIRTL) Scholar [Level 4/4]
- NASA Exoplanet Explorers (ExoExplorers) 2022 Cohort
- Network for Life Detection (NfoLD) Early Career Member

Languages

English (fluent, native speaker), Spanish (intermediate/conversational), Russian (beginner)

Computational Experience

LaTeX, Git, Bash (command line), Python, IDL, Mathematica, SQL, Microsoft Office Products

Teaching, Outreach, and Mentoring Experience

- **UCLA Collegium of University Teaching Fellows (CUTF)** — Los Angeles, CA
  2022-2023 Fellow and Seminar Instructor — *2022-2023*
- **UCLA Center for the Advancement of Teaching (CAT)** — Los Angeles, CA
  Graduate Educational Developer – Writing Programs — *Summer 2022*
- **NASA Pandora Mission** — Pasadena, CA
  Lead Outreach Blog Writer — *2022-Present*
- **Code/Astro** — Pasadena, CA
  Workshop TA — *Summer 2022*
- **American Astronomical Society** — Pasadena, CA
  AAS 240 Media Fellow — *Summer 2022*
- **University of California, Los Angeles** — Los Angeles, CA, USA
  Various teaching roles — *2018-Present*
  - Instructor / Course Creator Collegium of University Teaching Fellows (CUTF) Seminar – Hands-On Exoplanet Astronomy: Citizen Science, SciComm, and Beyond (Spring 2023)
  - Teaching Assistant Coordinator ENGCOMP 495N – Writing Intensive Seminar Development (Winter 2022, Winter 2023)
  - Teaching Assistant Coordinator ENGCOMP 495M – TA Preparation for Clusters (Fall 2021, Fall 2022)
  - Instructor / Course Creator Cluster 70 Seminar – Astrobiology in Science Journalism (Spring 2021 and Spring 2022)

- Teaching Fellow Cluster 70 – Evolution of Life and the Universe (Fall 2020, Winter 2021)
- TA Training Workshop Lead – Active Learning in Labs / STEM Discussions, Teaching Scientific Writing (Fall 2020, Fall 2021, Winter 2022)
- Teaching Assistant Coordinator PHYS 495 – Teaching College Physics (Fall 2019)
- Teaching Assistant ASTR 5 – Life in the Universe (Spring 2019)
- Teaching Assistant ASTR 3 – Nature of the Universe (Winter 2019)
- Teaching Assistant PHYS 5AL – Physics Lab for Life Sciences Majors: Mechanics and Energy (Fall 2018)

- **UCLA Planetarium** — Los Angeles, CA, USA
  Planetarium Coordinator — *2019 - Present*
- **Astrobites** — Online
  Author and Collaboration Member — *2018 - Present*
  - Admin Vice Chair (2022 - Present)
  - Education Committee Co-Chair (2022 - Present)
  - Ombudsperson (2020 - 2021, 2022 - Present)
  - Editorial Committee Member (2022 - Present)
  - Admin Committee Member (2021 - Present)
  - Education Committee Member (2019 - Present)
  - Author (2018 - Present)
  - Editorial Committee Co-Chair (2022)
  - AAS Liaison (2021-2022)
  - SciBites Liaison (2020-2021)
  - Undergraduate Committee Chair (2019-2020)
- **Skype a Scientist** — Online
  Scientist Volunteer — *2019 - Present*
- **Letters to a Pre-Scientist** — USA
  Scientist Pen-Pal/Mentor — *2018 - Present*
- **BiteScis** — Online
  Lesson Author - Newton's 2nd Law And Acceleration: Finding Planets Using Physics — *2020*
- **Canyon High School Science Olympiad** — Anaheim, CA, USA
  Divisions B/C Physical Science Event Coach — *2018 - 2020*
- **Columbia University, Department of Astronomy** — New York, NY, USA
  Grader, Public Outreach Volunteer — *2016 - 2018*
- **Columbia University Splash** — New York, NY, USA
  Volunteer Instructor / Course Designer — *2018*

Students Advised:
Eulrika Wu, UCLA Undergraduate (Summer 2022)

Pedagogy/Mentorship Training:

UCLA Collegium of University Teaching Fellows (CUTF) Training (2022-2023)

UCLA Entering Mentoring Training (Spring 2022)

UCLA Graduate Certificate in Writing Pedagogy (2020-2022)

CIRTL@UCLA Scholars of Teaching as Research (STAR) Program (2021-2022)

UCLA GRAD PD 496C – Teaching as Research Implementation (Spring 2022)

UCLA ENGCOMP 402 – Writing in the Disciplines (Winter 2022)

UCLA GRAD PD 496B – Teaching as Research (Winter 2022)

CIRTL Writing an Effective Teaching Philosophy Statement Workshop (September 2021)

UCLA Teaching Assistant Consultant Summer Academy 2019 and 2021

UCLA ENGCOMP 495M/N/O – Clusters TA Preparation and Writing-Intensive Seminar Development (2020-2021)

CIRTL MOOC – An Introduction to Evidence-Based Undergraduate STEM Teaching (Fall 2019)

UCLA PHYS 495 – Introductory TA Training for Physics/Astronomy (Fall 2018)

UCLA TA Conference 2018

Other Community Activities

- **STARtorialist** — New York City, USA
  Designer and Marketing Assistant — *2020 - Present*
- **Astrobriles** — Los Angeles, CA, USA
  Artist / Shop Owner — *2018 - Present*
- **NASA Exoplanet Explorers** — Virtual
  Cohort #2 Member — *2022*
- **ComSciCon Leadership Team** — National
  Regional Liaison — *2021 - 2022*
- **UC Analytical Writing Placement Exam** — Virtual
  Grader — *2021, 2022*
- **ComSciCon-Los Angeles** — Los Angeles, CA, USA
  Organizing Committee Chair / Founder — *2020 - 2021*
- **Icarus (Elsevier Journal, Planetary Science)** — Virtual
  Reviewer — *2020*
- **ComSciCon National Flagship 2020** — Virtual
  Program Organizing Committee Member — *2019 - 2020*
- **UCLA Womxn in Physics and Astronomy (WiPA)** — Los Angeles, CA, USA
  Co-Chair — *2019 - 2020*
- **Columbia Alumni Representative Committee** — Los Angeles, CA, USA
  Prospective Student Interviewer — *2018 - 2019*
- **Columbia University Undergraduate Astronomy Club (BlueShift)** — New York, NY, USA
  Co-founder, President, and Senior Advisor — *2015 - 2018*

Publications

Research Publications:

B.L. Lewis, M.P. Fitzgerald, T. Esposito, et al. "GPI Observations of a Face-On Debris Disk." In prep.

B.L. Lewis. "Bringing WAC/WiD Back to Physics and Astronomy Departments." In prep.

B.L. Lewis, Astrobites Collaboration, et al. "Investigating the Efficacy of Astrobites in the Higher Education Classroom." In prep.

Y. Li, T. Brandt... **B.L. Lewis** et al. "Surveying Nearby Brown Dwarfs with HGCA: Direct Imaging Discovery of a High Mass T Dwarf." In prep.

B.L. Lewis, K. Supriya, et al. "Effects of Popular Science Writing Instruction on General Education Student Attitudes Towards Science: A Case Study in Astronomy." Submitted to Astronomy Education Journal.

B.L. Lewis, M.P. Fitzgerald, R. Dodkins, et al. "Speckle Space-Time Covariance in High-Contrast Imaging." Submitted to AJ.

N.T. Young, **B.L. Lewis**, E. Kerr, P. Nair. "Using blogs to make peer-reviewed research more accessible." Physics Education Research Conference Proceedings 2022. 512-518 of PER Conference. 15 Sep. 2022.

C. Lisse, L.A. Young, D.P. Cruikshank, S.A. Sandford, S.A. Stern, **B.L. Lewis**, et. al. "A Predicted Dearth of Majority Hypervolatile Ices in Oort Cloud Comets." PSJ (2022): 112.

B.L. Lewis, J. Stansberry, B. Holler, et al. and the New Horizons Science Team. "Distribution and Energy Balance of Pluto's Nitrogen Ice, as seen by New Horizons in 2015." Icarus Special Issue (2021): 113633.

R. Dodkins, K. Davis, **B.L. Lewis**, et al. "First Principle Simulator of a Stochastically Varying Image Plane for Photon-Counting High Contrast Applications." Publications of the Astronomical Society of the Pacific (2020): 132 (1016), 104503.

P. Johnson, K. Mandt, J. Stansberry, L. Young, S. Protopapa, **B.L. Lewis**, et. al. "Modeling Pluto's Minimum Pressure: Implications for Haze Production." Icarus (2020): 114070.

C. Lisse, L.A. Young, D.P. Cruikshank, S.A. Sandford, S.A. Stern, **B.L. Lewis**, et. al. "On the Stability of KBO 2014 MU69s and Plutos Ices." Icarus (2020): 114072.

M. Vidaurri, et al. "Environmental Considerations in the Age of Space Exploration: The Conservation and Protection of Non-Earth Environments." [Planetary Science Decadal White Paper, Co-Signer]

M. Vidaurri, et al. "Absolute Prioritization of Planetary Protection, Ethics, and Avoiding Imperialism in All Future Science Missions: A Policy Perspective." [Astro2020 and Planetary Decadal White Paper, Co-Signer]

G. Khullar, et al. "Astrobites as a Community-led Model for Education, Science Communication, and Accessibility in Astrophysics." arXiv preprint arXiv:1907.09496 (2019). [Astro2020 White Paper]

J.L. Margot, et al. "A Search for Technosignatures Around 31 Sun-like Stars with the Green Bank Telescope at 1.151.73 GHz." Astronomical Journal (2020): 161 55.

J. Aguilar, R. Nilsson, R. Oppenheimer, **B.L. Lewis**, L. Pueyo, et. al. "Discovery of a New Companion Object through High-Contrast Imaging." Submitted to ApJ.

B.L. Lewis, R. Oppenheimer (2017). "Direct Imaging of Exoplanets with Project 1640." Columbia Undergraduate Science Journal, Volume 11, Spring 2017. New York, NY.

Popular Science / Journalism Publications:

⋆ **B.L. Lewis**. "Oceans and Exoplanets" *OCEANS*, edited by Shana Mabari, Montabonel for Alaska Press, Coming Soon.

B.L. Lewis. "Book Review: The Milky Way" New Humanist. Coming Soon, Winter 2022 Issue.

B.L. Lewis. "NASAs New Horizons mission begins again at the edge of the solar system." Popular Science. 6 Nov 2022.

B.L. Lewis. "Russian aggression leaves Arctic science at risk." CASW New Horizons Newsroom. 28 Oct 2022.

B.L. Lewis. "Two NASA missions combined forces to analyze a new kind of marsquake." Popular Science. 27 Oct 2022.

⋆ **B.L. Lewis**. "Dark horses in the cosmos: Could primordial black holes from the beginning of time explain dark matter, the mysterious missing mass in the Universe?" Aeon. 16 Aug 2022.

⋆ **B.L. Lewis**. "Planetary Debris Disks Discovered with Citizen Scientists and Virtual Reality." Scientific American. 4 Aug 2022.

⋆ **B.L. Lewis**. "Striving to see the high-energy sky with STROBE-X." SPIE Photonics Focus. May-June 2022 Issue.

⋆ **B.L. Lewis**. "Ukrainian Astronomers Discover Exocomets around Another Star." Scientific American. 14 Apr 2022.

⋆ **B.L. Lewis**. "Where are the moons that orbit exoplanets?" The Planetary Society. 21 Mar 2022.

⋆ **B.L. Lewis**. "Historical records reveal major space weather events." NASW Newsroom. 10 Mar 2022.

⋆ **B.L. Lewis**. "Record-Breaking Supernova Is Part of a New Class of Objects." Scientific American. 21 Feb 2022.

⋆ **B.L. Lewis**. "An Unusual Orbit: The Life and Discoveries of Carolyn Shoemaker." APS News Back Page – APS History of Physics Essay Contest Winner 2021. January 2022, Volume 31, Number 1.

B.L. Lewis. "Using Zines for SciComm.' Fancy Comma. 15 Jan 2022.

B.L. Lewis. "UCLA Astronomers Discover More Than 300 Possible New Exoplanets." UCLA Newsroom. (Republished on phys.org and others.) 23 Nov 2021.

⋆ **B.L. Lewis**. "Feature Article: Andrea Ghez" UCLA Physics and Astronomy Reflections. November

2021.

B.L. Lewis. "Astrobites: Making Research Accessible Through Bite-Sized Summaries." AAS Education Committee Blog. 26 Oct 2021.

B.L. Lewis. "How (and Why) to Pitch a Story that Happened 100 Years Ago." NASW Newsroom. 18 Oct 2021.

⋆ **B.L. Lewis**. "Stellar Impostors Could be Revealed by LIGO." NASW Newsroom. 5 Oct 2021.

B.L. Lewis. "Virtual reality boosts and retunes brain rhythms crucial for learning and memory." UCLA Physical Sciences. July 2021.

B.L. Lewis. "A SciGal Guide to the NSF GRFP." SciGal Collective. 1 July 2021.

⋆ **B.L. Lewis**. "Finding Life in the Universe (Within Our Lifetimes)" Griffith Observer - 3rd Prize Piece for the Eighth Annual Joan and Arnold Seidel Griffith Observer Science Writing Contest. July 2021.

⋆ **B.L. Lewis**. "Home is Wherever I Am." The Xylom. 28 May 2020.

B.L. Lewis. "Where is Everyone?" ORBITER Magazine Online. 8 November 2019.

B.L. Lewis. "How TAs Make a Difference in the Classroom." PERBites. 16 October 2019.

B.L. Lewis. "Thinking Beyond ADA Compliance: How to Make Astronomy Accessible." PERBites. 29 July 2019.

B.L. Lewis, J. Marcinik, A. Desai. "Op-ed: The physical sciences curriculum at UCLA needs to be revamped." UCLA Daily Bruin. 14 July 2019.

B.L. Lewis, H. Yang, A. Seetharaman. (2015). "Our Future in the Stars." Columbia Undergraduate Science Journal, Volume 9, Spring 2015. New York, NY.

Massive Science:

B.L. Lewis. "A failed star known as The Accident is changing the way we look at the galaxy." Massive Science. 18 Nov 2021.

B.L. Lewis. "What would photosynthesis look like around other stars?" Massive Science. 26 Oct 2021.

B.L. Lewis. "Distance and our eyes distort the true colors of stars." Massive Science. 11 Oct 2021.

B.L. Lewis. "Earths oxygen is projected to run out in a billion years." Massive Science. 15 September 2021.

B.L. Lewis. "Meet Nancy Grace Roman, the mother of the Hubble Space Telescope." Massive Science. 9 September 2021.

B.L. Lewis. "Rocks on Venus's surface are on the move." Massive Science. 31 July 2021.

B.L. Lewis. "Dust is the surprisingly ordinary culprit behind a supergiant stars unusual dimming." Massive Science. 17 July 2021.

B.L. Lewis. "Richard Branson is officially the first billionaire to take off for space." Massive Science. 13 July 2021.

B.L. Lewis. "NASA releases the most detailed photo of Jupiters largest moon to date." Massive Science. 10 July 2021.

B.L. Lewis. "Let's Go to Venus!" Massive Science. 21 June 2021.

⋆ **B.L. Lewis**. "The Last Stargazer takes an intimate view of the world through telescopes." Massive Science. 14 June 2021.

B.L. Lewis. "China lands its first rover on Mars, becoming the second country to do so." Massive Science. 21 May 2021.

B.L. Lewis. "It's not just Gamestop: Elon Musk wants to send Dogecoin to the moon." Massive Science. 21 May 2021.

B.L. Lewis. "Community scientists have discovered an unusual brown dwarf star." Massive Science. 20 May 2021.

B.L. Lewis. "NASAs Perseverance rover can make oxygen out of Martian air." Massive Science. 13 May 2021.

B.L. Lewis. "The first ever image of a black holes swirling magnetic field is released." Massive Science. 14 Apr 2021.

B.L. Lewis. "Uranus emits extra x-rays, and scientists dont know why." Massive Science. 4 Apr 2021.

B.L. Lewis. "Space travel is now open to the public." Massive Science. 2 Apr 2021.

B.L. Lewis. "How dark is outer space? The New Horizons spacecraft is helping astronomers find out." Massive Science. 9 Mar 2021.

B.L. Lewis. "A new tweak to an old model explains the existence of primordial black holes." Massive Science. 3 Mar 2021.

B.L. Lewis. "The Perseverance rover sends back the first photos and sounds from Mars." Massive Science. 25 Feb 2021.

⋆ **B.L. Lewis**. "NASA's Perseverance Rover has landed on Mars." Massive Science. 18 Feb 2021.

B.L. Lewis. "#BlackInAstro founder Ashley Walker is fighting for equality in the space sciences." Massive Science. 16 Feb 2021.

Astrobites:

B.L. Lewis. "Book Review: *The First Astronomers*" Astrobites. 11 Nov 2022.

B.L. Lewis. "Astrobites Guide to Polarimetry" Astrobites. 23 Oct 2022.

B.L. Lewis. "JWSTs First Directly Imaged Exoplanet." Astrobites. 1 Sept 2022.

M. Popinchalk, **B.L. Lewis**, S. Sagynbayeva. "Three Astronomers Thoughts on The Milky Way by Dr. Moiya McTier." Astrobites. 16 Aug 2022.

B.L. Lewis. "Deaf Astronomers Throughout History." Astrobites. 25 July 2022.

⋆**B.L. Lewis**. "Interview with Prof. Alicia Aarnio, Assistant Professor and AAS WGAD Founding Member." Astrobites. 15 July 2022.

⋆**B.L. Lewis**, et al. "Astrobites at AAS 240: Live-blogging Coverage" Astrobites. 12-16 June 2022.

⋆**B.L. Lewis**. "Pride Month: An Interview with Dr. Kaitlin Rasmussen." Astrobites. 8 June 2022.

B.L. Lewis. "AAPI Heritage Month: Historic Star Navigation in Indonesia." Astrobites. 17 May 2022.

B.L. Lewis. "Astrobites at APS April 2022: Ukraine Plenary Session." Astrobites. 16 Apr 2022.

⋆H. Sears, **B.L. Lewis**, S. Kulkarni. "Astrobites' First APS April Meeting: Live-blogging Coverage" Astrobites. 9-12 Apr 2022.

⋆**B.L. Lewis**. "Understanding the 2021 Columbia GWC-UAW Strike." Astrobites. 15 Jan 2022.

L. Alderson, A. Crisp, G. Doskoch, K. Gozman, M. Huston, **B.L. Lewis**, H. Sears, Z. Shen. "Astrobites at AAS 239: Live-blogging Coverage." Astrobites. 10-14 Jan 2022.

B.L. Lewis. "JWST has finally launched!" Astrobites. 25 Dec 2021.

B.L. Lewis. "Mission: AstroAccess is Making Space Accessible for All." Astrobites. 24 Dec 2021.

⋆**B.L. Lewis**. "Getting Ready for Launch: The History, Design, and Science of JWST." Astrobites. 20 Dec 2021.

B.L. Lewis. "Astrobites at SciAccess 2021." Astrobites. 7 Dec 2021.

⋆**B.L. Lewis**. "Bringing Together Art and The Cosmos." Astrobites. 3 Dec 2021.

B.L. Lewis. "The 2021 Nobel Prize in Physics." Astrobites. 19 Oct 2021.

A. Crisp, K. Hensley, M. Huston, **B.L. Lewis**, S. Sagynbayeva, S. Warren. "Astrobites at DPS 2021: Liveblogging Coverage." Astrobites. 4-8 Oct 2021.

E. Avallone, M. de los Reyes, M. Hammer, S. Kohler, G. Khullar, T. Konchady, **B.L. Lewis**, H. Wahl, A. Waggoner, J. Weaver, L. Zagorac. "Astrobites at AAS 237: Daily Liveblogging Coverage." Astrobites. 11-15 January 2021.

B.L. Lewis. "Meet the AAS Keynote Speakers: Dr. Caroline Morley" Astrobites. 11 Jan 2021.

⋆ **B.L. Lewis**. "Meet the AAS Keynote Speakers: Dr. Smadar Naoz" Astrobites. 8 Jan 2021.

B.L. Lewis. "The Very Hungry White Dwarf." Astrobites. 7 Jan 2021.

B.L. Lewis. "Taking better astronomical images, with machine learning!" Astrobites. 2 Dec 2020.

B.L. Lewis. "Another Strike Against the Physics GRE." Astrobites. 27 Nov 2020.

B.L. Lewis. "Getting to Know the Neighborhood: Who Can See Earth Transit?" Astrobites. 31 Oct 2020.

B.L. Lewis. "#BlackInAstro Experiences: Dr. Sian Proctor." Astrobites. 28 Oct 2020.

B.L. Lewis. "#BlackInAstro Experiences: Dr. Greg Mosby." Astrobites. 26 Oct 2020.

⋆ **B.L. Lewis**. "The Nobel Prize in Physics 2020: Prof. Andrea Ghez and the Mysteries of the Galactic Center." Astrobites. 13 October 2020.

B.L. Lewis. "Life Finds a Way (Even on M Dwarfs?)." Astrobites. 17 September 2020.

⋆ **B.L. Lewis**. "#BlackInAstro: A Glimpse Into African Cultural Astronomy." Astrobites. 28 August 2020. (Translated into Spanish on Astrobitos)

⋆ **B.L. Lewis**. "COVID-19 in Fall 2020: A Concerning Situation for Students." Astrobites. 17 July 2020.

B.L. Lewis. "Todays forecast? Gusty winds on a brown dwarf." Astrobites. 2 July 2020.

B.L. Lewis. "Outreach for Astronomers: Letters to a Pre-Scientist and MIT Astrogazers." Astrobites. 6 March 2020.

B.L. Lewis. "Making a Mega-Telescope for Exoplanets." Astrobites. 17 February 2020.

B.L. Lewis. "What happens when you throw a satellite at the Sun?" Astrobites. 13 February 2020.

B.L. Lewis. "Where the Solar System Ends." Astrobites. 6 February 2020.

B.L. Lewis. "You should get Twitter for science!" Astrobites. 17 January 2020.

E. Avallone, M. de los Reyes, S. Kohler, T. Konchady, **B.L. Lewis**, A. Pearlman, K. Storey-Fisher, M. Zevin. "Astrobites at AAS 235: Daily Liveblogging Coverage." Astrobites. 5-9 January 2020.

B.L. Lewis. "Meet the AAS Keynote Speakers: Dr. Ted Bergin." Astrobites. 31 December 2019.

B.L. Lewis. "Meet the AAS Keynote Speakers: Dr. Brian Metzger." Astrobites. 31 December 2019.

B.L. Lewis. "Another interstellar interloper." Astrobites. 12 December 2019.

⋆ **B.L. Lewis**. "All Genders Are Statistically Significant: Expanding Gender Equity Studies in Astronomy." Astrobites. 7 November 2019.

B.L. Lewis. "The Nobel-Winning Discovery of 51 Pegasi b." Astrobites. 16 October 2019.

B.L. Lewis. "Adventure to an Asteroid: JAXAs Hayabusa2 visits Ryugu." Astrobites. 5 August 2019.

B.L. Lewis. "First Photos of a Baby Planet." Astrobites. 26 July 2019.

B.L. Lewis. "Meet the AAS Keynote Speakers: Dr. Philip Scherrer." Astrobites. 9 June 2019.

B.L. Lewis. "How to Find Exoplanet Oceans." Astrobites. 10 May 2019.

B.L. Lewis. "A Study in Stereotypes: What People Think of Physicists vs. Biologists." Astrobites. 5 April 2019.

B.L. Lewis. "A New Job for a Neural Net: Identifying Craters." Astrobites. 25 February 2019.

B.L. Lewis. "Wheres Lucy Going? Studying Asteroid Mission Targets." Astrobites. 16 January 2019.

The Particle / Medium:

B.L. Lewis. "Snack-Sized Science: A New Way to Find Life?" The Particle, Medium. 7 September 2021.

B.L. Lewis. "12 Astronomical Artists You Should Know." Science and Art, Medium. 22 July 2021.

B.L. Lewis. "12 Ways to Get More Involved with SciComm" The Particle, Medium. 19 July 2021.

B.L. Lewis. "The Hubble Space Telescope: 1996-2021?" The Particle, Medium. 14 July 2021.

B.L. Lewis. "The Good Scissors." Vocal Media. 10 June 2021.

B.L. Lewis. "Radical Futures Reading List." Medium. 19 Mar 2021.

B.L. Lewis. "Meet Your Friendly Neighborhood Astronomer." The Particle, Medium. 27 Jan 2021.

B.L. Lewis. "Whats it like to be an astronomer? A comedy set from ReclaimingSTEM 2020." Medium. 15 Oct 2020.

Student Publications:

These publications were written by students under my advisement as part of the Spring 2021 and Spring 2022 offerings of my undergraduate course at UCLA, CLUSTER 70CW Astrobiology in Science Journalism.

Carolyn Wang. "Another one bites the dust: What dust devils tell us about Mars." Astrobites. 7 Sept 2022.

Cecilia Fisher. "Our Icy Planetary Relatives: Special Slushies?" Astrobites. 2 Sept 2022.

Rio Wakura. "Life Can Travel Through Space! But Only Under Certain Conditions..." Astrobites. 9

Aug 2022.

Martin Sevcik. "Finding young exoplanets with machine learning." Astrobites. 30 July 2022.

Neha Krishnakumar. "Solar Storms? Oh Whale, that's a Problem!" Astrobites. 29 July 2022.

Madison Lee. "Finding Life around TRAPPIST-1." Astrobites. 3 Nov 2021.

Ashleigh Chase. "Does This Mean War? Ruminations from an Astronaut of the Future" SciGal Collective. 8 July 2021.

Featured News Coverage:

Astrobites – Michael Hammer. "Writing Astrobites in Your Courses!" 3 June 2022.

UCLA Daily Bruin – Keya Jonnalagadda. "UCLA Planetarium hosts virtual show, plans for in-person relaunch" 18 Oct 2021.

STARtorialist – Emily Rice. "#WCW with Briley Lewis." 15 July 2020.

Gaius J. Augustus. "Feature: Briley Lewis, Zine Maker" 2019.

Columbia College Today. "Take Five with Briley Lewis '18." 2019.

NYC AAA Eyepiece – Stanley Fertig. "A Rising Star Reveals Pluto." 1 Jun 2018.

Bwog. "CU Women in STEM: Briley Lewis." 24 Apr 2018.

Presentations

Invited Talks:

- *APS History of Physics Essay Contest 2021 Prize Lecture* (APS Annual Meeting, invited prize talk, TBD, Spring 2023) (Planned)
- *Speckle Space-Time Covariance in High-Contrast Imaging* (JPL Exoplanet Group, Virtual, June 2022)
- *Small Pieces of the Solar System: From Pluto to Science Writing* (CIERA Northwestern, Virtual, May 2022)
- *Small Pieces of the Solar System: Dust, Ice, Pluto, and More – ExoExplorers Science Series* (ExoExplorers 2022 Science Series, April 2022)
- *Finding Planets in a Forest of Speckles* (UCLA Grad Slam Finals 2022)
- *Make Your Own Zine for SciComm* ("Riot Starrs" at University of Delaware Departments of Geography and Physics, invited workshop, Virtual, October 2021)
- *Nitrogen ice on Pluto, as seen by New Horizons* (IPAC Science Talk, invited seminar, Pasadena, CA, March 2019)

- *Direct Imaging of Exoplanets with Project 1640* (Astronomical Society of New York meeting invited prize lecture, November 2017)

Contributed Talks:

- *Effects of Popular Science Writing Instruction on General Education Student Attitudes Towards Science: A Case Study in Astronomy* (AAS 241 Education Contributed Presentation, Seattle, WA, January 2023) (Planned)
- *The ExoExplorers: Early-Career Perspectives on the Intersection of Exoplanet Science and DEI in Astronomy – Disability and Accessibility in Astronomy* (AAS 241 Special Session, Seattle, WA, January 2023) (Planned)
- *Supporting Your Introductory Astronomy Courses: Integrating Astrobites, Sky & Telescope, and Other Digital and Hands-On Resources into your Courses* (AAS 241 Special Session, Virtual and Seattle, WA, January 2023) (Planned)
- *Speckle Space-Time Covariance in High-Contrast Imaging* (AAS 240 Research Contributed Talk, Pasadena, CA, June 2022)
- *Introducing Current Research Into Your Classroom With Astrobites* (AAS 240 Splinter Session, Pasadena, CA, June 2022)
- *Astrobites: A Tool for Scientists, Educators, Journalists, Students, and More* (AAS 240 Webinar, Pasadena, CA, June 2022)
- *Best Practices for Accessible Presentations* (UCLA ASTR 297 Guest Lecture, Los Angeles, CA, April 2022)
- *Science Communication Through the Lens of Astrobites* (AAS 235 workshop, Honolulu, HI, January 2020)
- *Topographic Influences on Plutos Nitrogen Ice* (New Horizons Science Team Meeting (STM), JHU APL, Laurel, MD, January 2018)
- *Topographic and other influences on Pluto's volatile ices.* (Space Astronomy Summer Program Symposium, Space Telescope Science Institute, August 2017)
- *Direct Imaging of Exoplanets with Project 1640* (Summer 2016 REU Symposium Presentation, American Museum of Natural History, August 2016)

Poster Presentations:

- UCLA CEILS Happy Hour: **B.L. Lewis**, K. Supriya, et al. *Effects of Popular Science Writing Instruction on General Education Student Attitudes Towards Science: A Case Study in Astronomy*, September 2022, Los Angeles, CA.
- In the Spirit of Lyot: **B.L. Lewis**, M.P. Fitzgerald, R. Dodkins, K. Davis. *Speckle Space-Time Covariance in High-Contrast Imaging*, June 2022, Leiden, Netherlands.
- AAS 240: **B.L. Lewis** and the Astrobites Collaboration. *Expanding Astrobites to Cover Climate Change, DEI, Astronomy Education, and More*, June 2022, Pasadena, CA.
- AAS 240: A. Gibbs, **B.L. Lewis**, et al. *Local Outreach during COVID-19 with the UCLA Planetarium*, June 2022, Pasadena, CA.

- ExSoCal 2020: **B.L. Lewis**, A. Gautam, P. Arriaga, J. Salas, P. Williams, R. Lopez, M. MacDougall, A. Gibbs, R. Bentley (2020) *Local Outreach with the UCLA Planetarium* September 2020, Virtual.
- ComSciCon Flagship 2019: **B.L. Lewis**, A. Gautam, P. Arriaga, J. Salas, P. Williams, R. Lopez, M. MacDougall (2019) *The UCLA Planetarium: Educating the West Los Angeles Community about the Universe* July 2019, San Diego, CA.
- AAS 233: **B.L. Lewis**, J. Stansberry, W. Grundy, B. Schmitt, S. Protopapa, L. Trafton, B. Holler, W.B. McKinnon, L. Young, A. Stern, H. Weaver, C. Olkin, K. Ennico, and the New Horizons Science Team. (2019) *Distribution and Energy Balance of Plutos Nitrogen Ice, as seen by New Horizons in 2015.* January 2019, American Astronomical Society Winter Meeting, Seattle, WA.
- Columbia Undergraduate Research Symposium 2018: **B.L. Lewis**, J. Stansberry, W. Grundy, B. Schmitt, S. Protopapa, L. Trafton, B. Holler, W.B. McKinnon, L. Young, A. Stern, H. Weaver, C. Olkin, K. Ennico, P. Schenk and the New Horizons Science Team. (2018) Spring 2018, Columbia University, New York, NY. *Topographic and other influences on Pluto's volatile ices.*
- AAS 231: **B.L. Lewis**, J. Stansberry, W. Grundy, B. Schmitt, S. Protopapa, L. Trafton, B. Holler, W.B. McKinnon, L. Young, A. Stern, H. Weaver, C. Olkin, K. Ennico, P. Schenk and the New Horizons Science Team. (2018) *Topographic and other influences on Pluto's volatile ices.* January 2018, American Astronomical Society Winter Meeting, National Harbor, MD.
- DPS 2017: **B.L. Lewis**, J. Stansberry, W. Grundy, B. Schmitt, S. Protopapa, L. Trafton, B. Holler, W.B. McKinnon, L. Young, A. Stern, H. Weaver, C. Olkin, K. Ennico, P. Schenk and the New Horizons Science Team. (2017) *Topographic and other influences on Pluto's volatile ices.* October 2017, Division for Planetary Sciences, Provo, UT.
- CUWiP 2017: **B.L. Lewis**, R. Oppenheimer (2017). *Direct Imaging of Exoplanets with Project 1640.* January 2017, Conference for Undergraduate Women in Physics, Princeton University, Princeton, NJ.
- Columbia Undergraduate Research Symposium 2016: **B.L. Lewis**, R. Oppenheimer (2016). *Direct Imaging of Exoplanets with Project 1640.* Fall 2016, Columbia Undergraduate Research Symposium, Columbia University, New York, NY.
- Columbia University AstroFest 2016: **B.L. Lewis**, R. Oppenheimer (2016). *Direct Imaging of Exoplanets with Project 1640.* AstroFest 2016, Columbia University Department of Astronomy, New York, NY.

Media Appearances:

- Young Scientists Journal StemZ Perspectives, featured podcast guest, July 2022 (Episode 10, *The Intersection Between Teaching and Research – An Interview with Briley Lewis*)
- Being Giants, featured podcast guest, March 2021 (Episode 17, *Building a better world by Being Giants*)
- StarBites Podcast, guest host, Spring 2018

Outreach Talks:

- iTelescope, Virtual / Worldwide, November 2022 (*Direct Imaging of Exoplanets and Debris Disks*) (Planned)
- UCLA Planetarium, Los Angeles, CA, November 2022 (*Special Event for Blind Audiences: The Birth, Life, and Death of Stars through Touch and Sound*)

- Kern Astronomical Society, Bakersfield, CA, November 2022 (*What We've Learned from New Horizons*)
- UCLA Planetarium, Los Angeles, CA, November 2022 (*Special Event for Deaf/Hard-of-Hearing Audiences: How to Image an Exoplanet, with ASL Interpretation*)
- Science Olympiad EXPO Talks, Virtual, May 2022 (*From Science Olympiad Astronomy to Real Photos of Exoplanets*)
- California Academy of Sciences NightSchool: Earth to Astronomy, May 2022 (*The Story of Planets, and How to Tell It*)
- Santa Barbara Astronomical Unit (SBAU), March 2022 (*How to Image an Exoplanet*)
- San Joaquin Geological Society, invited public lecture, Bakersfield, CA, January 2022 (*Pluto: A Geologically Exciting Ice-Ball*)
- NASA JWST Community Events, UCLA Planetarium, December 2021 (*Infrared Eyes on the Universe: The Science and Engineering of the James Webb Space Telescope*)
- Cut and Paste: Zines for Science Communication, October 2021 (*Ways to Share Your Science Zines*)
- Riverside Astronomical Society, April 2021 (*How to Image an Exoplanet*)
- Los Angeles Astronomical Society, February 2021 (*How to Image an Exoplanet*)
- UCLA Planetarium Virtual Show, February 2021 (*How to Image an Exoplanet*)
- Astronomy on Tap West LA, October 2020 (*New Horizons and Pluto: Adventures to the Outer Solar System*)
- ReclaimingSTEM2020 Comedy Show, October 2020
- ComSciCon Virtual Flagship workshop, June 2020 (*Zines and Comics in SciComm*)
- Conference for Undergraduate Women in Physics (CUWiP) at UC Irvine, invited panelist, January 2020
- Santa Barbara Astronomical Unit (SBAU) Monthly Meeting, October 2019 (*Finding Life in the Universe (in our Lifetimes)*)
- Astronomy on Tap Los Angeles, June 2019 (*Summer Vacation Spots (in Space): Real Exoplanets and their Stories*)
- Columbia University Public Outreach, invited public lecture, April 2018 (*New Horizons: Understanding Pluto*)
- Conference for Undergraduate Women in Physics (CUWiP) at Columbia/CCNY/Barnard, invited panelist, January 2018
- Columbia Undergraduate Science Journal Speaker Series, April 2017 (*Direct Imaging of Exoplanets with Project 1640*)
- Columbia University Arts and Astro, March 2017 (*Direct Imaging of Exoplanets: Extreme Astrophotography*)

Conferences and Workshops Attended:

- 241st American Astronomical Society Meeting, January 2023, Seattle, WA. (Planned)
- NASW ScienceWriters2022, October 2022, Memphis, TN. (Planned)
- 2022 AAS Division for Planetary Sciences Meeting, October 2022, Virtual.
- In the Spirit of Lyot, June 2022, Leiden, Netherlands / Virtual.
- Code/Astro Workshop (TA), June 2022, Virtual and Pasadena, CA.
- 240th American Astronomical Society Meeting, June 2022, Pasadena, CA.
- APS April Meeting, April 2022, New York City, NY (Virtual). [Press]
- 2022 AAAS Annual Meeting, February 2022, Virtual. [Press]
- NASW/AAAS Mentorship Program, February 2022, Virtual.
- SciAccess 2021, November 2021, Virtual.
- 2021 AAS Division for Planetary Sciences Meeting, October 2021, Virtual. [Press]
- NASW ScienceWriters2021, October 2021, Virtual. [Press]
- Center for Adaptive Optics (CfAO) Summer School, August 2021, Virtual.
- NASW Perlman Mentoring Program, Summer 2021, Virtual.
- Sagan Summer School (Circumstellar Disks and Young Planets), July 2021, Virtual.
- Code/Astro Workshop, June 2021, Virtual.
- ComSciCon-Los Angeles, April 2021, Virtual. (Organizing Committee Chair)
- 237th American Astronomical Society Meeting, January 2021, Virtual. [Press]
- ReclaimingSTEM 2020, September 2020, Virtual.
- ExSoCal, September 2020, Virtual.
- ComSciCon Flagship, June 2020, Virtual. (Program Organizing Committee)
- APS Conference for Undergraduate Women in Physics (CUWiP), UCI, Irvine, CA, January 2020.
- 235th American Astronomical Society Meeting, Honolulu, HI, January 2020. [Press]
- ComSciCon Flagship, June 2019, San Diego, CA.
- 233rd American Astronomical Society Meeting, January 2019, Seattle, WA.
- Center for Adaptive Optics Fall Science Retreat, Workshop on High Contrast Exoplanet Imaging Performance, November 2018.
- UCLA Annual TA Conference, September 2018.
- 2018 Dunlap Institute Summer School for Astronomical Instrumentation, Toronto, Canada, July 2018.
- APS Conference for Undergraduate Women in Physics (CUWiP), Columbia/Barnard/CCNY, New York, NY, January 2018.

- New Horizons Science Team Meeting, Johns Hopkins Applied Physics Laboratory, Laurel, MD, January 2018.
- 231st American Astronomical Society Meeting, January 2018, National Harbor, MD.
- Astronomical Society of New York (ASNY), Union College, Schenectady, NY, November 2017.
- 2017 AAS Division for Planetary Sciences Meeting, Provo, UT, October 2017.
- APS Conference for Undergraduate Women in Physics (CUWiP), Princeton University, Princeton, NJ, January 2017.
- SAMSI Astrostatistics Workshop for Undergraduates, Research Triangle Park, NC, October 2016
- CoolStars19, Uppsala, Sweden, June 2016.
- APS Conference for Undergraduate Women in Physics (CUWiP), Wesleyan College, Middletown, CT, January 2016.