Natasha E. Batalha

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Studies planetary atmospheres at the nexus of observation and theory, with planets within the Solar System and beyond. Leverages and develops open science theoretical models (climate, spectroscopic, cloud) to determine atmospheric properties from spectroscopic observations of exoplanets and Brown Dwarfs.

Appointments

- **NASA Ames Research Center** — **Moffett Field, CA**
  Research Scientist | TOPS Center Champion | OpenCore Project Scientist — *Oct 2019 – present*
- **University of California Santa Cruz** — **Santa Cruz, CA**
  UC President's Postdoctoral Fellow — *Sep 2018 – Sep 2019*
- **Space Telescope Science Institute** — **Baltimore, MD**
  Postdoc Science Mission Office — *Aug 2017 - Aug 2018*

Education

- **The Pennsylvania State University** — **State College, PA**
  Dual PhD, Astronomy/Astrophysics & Astrobiology — *2017*
  Dissertation: A Synergistic Approach to Interpreting Planetary Atmospheres
- **Cornell University** — **Ithaca, NY**
  B.A., Physics — *2013*

Awards, Fellowships

- **2021**: NASA Ames Early Career Award
- **2020**: Evans Visiting Lectureship in Exoplanet Science, UC Irvine
- **2018**: University California Postdoctoral Fellowship
- **2017**: Ford Foundation Fellow, Honorable Mention
- **2017**: Alfred P. Sloan Foundation Minority Graudate Scholarship
- **2016**: Kavli Student Fellow
- **2015**: National Astrobiology Early Career Collaboration Award
- **2015**: Stephen B. Brumback Graduate Fellowship in Astrophysics
- **2014**: National Science Foundation Graduate Research Fellowship
- **2013**: STEM Scholar Graduate Fellow

Open Science Projects | GitHub: ☆95 ⑂67 ⬇3,811 | Zenodo: ⬇5,309

- `PICASO`: `https://natashabatalha.github.io/picaso`
  Enables computation of reflected light, thermal, and transmission spectroscopy for exoplanets and Brown

Dwarfs.

- **PandExo**: `https://natashabatalha.github.io/PandExo`
  Enables simulations of JWST and HST observations.
- **Virga**: `https://natashabatalha.github.io/Virga`
  Enables theoretical modeling of exoplanet and Brown Dwarf clouds.
- **MAESTRO**: `https://science.data.nasa.gov/opacities/`
  Enables broad access to critical opacity data needed for analysis of substellar atmospheres.

Awarded Grants & Observing Time

- **2023**: **Co-I** | JWST-AR-3245
  Up to the Task? A New Generation of Atmospheric and Interior Models of Brown Dwarfs for the JWST Era. PI: Mukherjee, S.
- **2023**: **Co-I** | JWST-AR-3207
  Lifting the Veil: An Open Source Haze Model for Exoplanet Atmospheric Characterization. PI: Gao, P.
- **2023**: **Co-I** | JWST-AR-3201
  The Utility of Self-Consistent Models and Photochemistry in Understanding Transiting Planet Atmospheres. PI: Fortney, J.
- **2023**: **Co-I** | Chandra-DDT
  A Chandra JWST View of M-Dwarf Rocky Planet Atmospheres. PI: Howard, W.
- **2023**: **Co-I** | 22-XRP22-2-0083
  Estimating pi with PIE: Constraining the Population Proportion of M-Dwarf Planetary Atmospheres with Planetary Infrared Excess. PI: Stevenson, K.
- **2022**: **Co-I** | HST-GO-17183| 122 orbits
  Hubble Ultraviolet-optical Survey of Transiting Legacy Exoplanets (HUSTLE) treasury program. PI: Wakeford, H.
- **2021**: **PI** | 21-XRP21-0182
  Towards High Metallicity: Integrated Composition-Dependent Molecular Opacities for Modeling Super-Earth to Neptunian Atmospheres. Science PI: Gharib-Nezhad, Ehsan
- **2021**: **PI** | JWST-GO-2512 | 142 hours
  Seeing the Forest and the Trees: Unveiling Small Planet Atmospheres with a Population-Level Framework. Co-PI: Teske, Johanna
- **2021**: Co-I | JWST-GO-2358 | 13.1 hours
  Under the Light of a Dead Star: Revealing the Atmospheric Composition of a White Dwarf Planet. PI: MacDonald, Ryan
- **2021**: Co-I | JWST-GO-2358 | 75.6 hours
  Tell Me How I'm Supposed To Breathe With No Air: Measuring the Prevalence and Diversity of M-Dwarf Planet Atmospheres. PI: Stevenson, Kevin
- **2021**: Co-I | JWST-GO-2667 | 9.2 hours
  Good vibrations: Directly measuring Exoplanet aerosol compositions with MIRI spectroscopy. PI: Wakeford, Hannah
- **2021**: Co-I | JWST-AR-1977
  Glows in the Dark: New Models for the Atmospheric Structure and Evolution of High Metallicity and. PI: Marley, Mark
- **2021**: Subject Level Member | JWST-GTO-1353 | 74.9 hours
  Transit and Eclipse Spectroscopy of a Hot Jupiter. PI: Lewis, N.
- **2020**: Subject Level Member | JWST-GTO-1312 | 34.1 hours
  Transiting and Eclipse Spectroscopy of a Warm Neptune. PI: Lewis, N.

- **2020**: Subject Level Member | JWST-GTO-1331 | 22 hours

  Transit Spectroscopy of TRAPPIST-1e. PI: Lewis, N.
- **2020**: Co-I | Interdisciplinary Consortia for Astrobiology Research

  Follow the Volatiles: Tracing chemical species relevant to habitability from proto-planetary disks to exoplanet atmospheres. PI: Batalha, N.M.
- **2020**: Co-I | HST-GO-16180

  Constructing the First Spectroscopic, Multi-Dimensional Map of a Hot Jupiter. PI: Kataria, T
- **2020**: Co-I | Gemini 2020-LP

  A high-resolution survey of molecular abundances in transiting exoplanet atmospheres. PI: Mansfield, M.
- **2019**: Co-I | HST-GO-15836

  A deep look into the atmosphere of an exoplanet around a pre-main sequence star. PI: Newton, E.
- **2019**: Collaborator | Planetary Data Archiving, Restoration, and Tools

  Enhancing capabilities of the HITRAN and HITEMP molecular spectroscopic databases for planetary research. PI:Gordon, I.
- **2019**: **Science PI** | NASA Unsolicited Proposal

  Community Tool for Computing, Manipulating and Visualizing Molecular and Atomic Opacities. PI:Lewis, N.K.
- **2017**: Co-I | JWST-ERS-1366

  The Transiting Exoplanet Community Early Release Science Program. PI: Batalha, N.M.
- **2017**: Co-I | HST-GO-14918

  Definitive Measurement of WASP-17b's Water Abundance in Preparation of JWST. PI: Wakeford, H.R.

Professional Service

REFEREE: AAS, MNRAS
PANELIST:TESS, HST, ROSES
MEMBER: AAS, DPS, SACNAS

COMMITTEES:	2020-p:	Planetary Data System User Committee
	2019-p:	ExoPAG Executive Committee
ORGANIZER:	2021:	Division of Planetary Science Meeting
	2020:	ExoExplorers Program
	2015:	AbGradCon
	2014:	Emerging Researchers in Exoplanet Symposium
CHAIR:	2021-p:	Bay Area Exoplanet Meeting
LEAD:	2022-2023:	Open Source Science Community Building: Module Lead for Open Results

Broader Impacts

- **2021-p**: Subject Matter Expert, Chabot Space Science Center

  Regular speaker on topics related to NASA's search for life beyond year, women in STEM, and diversity, equity and inclusion within STEM
- **2021-p**: Subject Matter Expert, NASA Community College Network

  An initiative to bring NASA Subject Matter Experts (SMEs), research findings, and science resources into the nation's community college system
- **2018-p**: Advisor/Instructor, Evergreen Valley Community College - Citizen Science Initiative

  501(c)3 with the goal of increasing BIPOC students in STEM.
- **2017**: Instructor, Project Favela

  501(c)3 with the goal of providing education to students in Rocinha, one of Brazil's largest favelas.
- **2014-2017**: Instructor, Centre County Prison Society Education Program

501(c)3 with the goal of providing education within the prison system.

- **2015-2017**: Director of Programs, Learn to Be Foundation

  501(c)3 with the goal of providing underserved K-12 students with free 1-on-1 online tutoring

Research in Media

- **Nature Career | Feb. 2023** : Mother–daughter duo work together to find new worlds `https://www.nature.com/articles/d41586-023-00580-6`
- **Clear+Vivid with Alan Alda | Mar. 2022** : Podcast Interview, "Natalie and Natasha Batalha: Looking for Life on Alien Worlds" `https://www.youtube.com/watch?v=EKfHnNWo9hc`
- **Vice News | Dec. 2021 | 15k+ views**: The World's Largest Telescope is Leaving Earth `https://www.youtube.com/watch?v=aqI_HXo_Ogs`
- **Quanta Magazine Mini-Documentary | Dec. 2021 | 1.9M+ views**: "The Webb Space Telescope Will Rewrite Cosmic History" `https://www.youtube.com/watch?v=shPwW11MEHg`
- **Quanta Magazine Feature | Dec. 2021**: "The Webb Space Telescope Will Rewrite Cosmic History. If It Works." `https://www.quantamagazine.org/why-nasas-james-webb-space-telescope-matters-so-much-2`
- **Emmy Winning CNN Documentary | 2021**: "The Hunt for Planet B" Directed by Nathaniel Kan `https://www.imdb.com/title/tt13848014/`
- **UCSC Press | 2021**: "Meet the NASA scientist opening up exoplanet research" `https://ucscsciencenotes.com/feature/meet-the-nasa-scientist-opening-up-exoplanet-research/`
- **NBC News | Dec. 2021 | 15k+ views**: "Silicon Valley Scientists Tout Historic Launch of James Webb Space Telescope" `https://www.youtube.com/watch?v=EKfHnNWo9hc`
- **AirTalk with KPCC NPR | Dec. 2021** : "NASA Prepares to Launch Its Most Complicated Telescope to Date: The James Webb" `https://www.kpcc.org/show/airtalk/2021-12-07/a-look-into-retail-and-prop`
- **National Geographic | Dec. 2021** : "The James Webb Space Telescope Will Transform our Understanding of Alien Worlds" `https://www.nationalgeographic.com/science/article/the-james-webb-space-tele`
- **Canadian Broadcast Corporation, The Current with Matt Galloway | Dec. 2021**: "The James Webb Space Telescope Gets Ready for Lift-Off" `https://www.nationalgeographic.com/science/article/the-james-webb-space-telescope-will-transform-our-understanding-of-alien-worlds/`
- **NPR KQED News | Apr. 2021 | 1k+ views**: "Search for Exoplanets" `https://www.youtube.com/watch?v=HD_02wsYlyU&t=921s`

Publications | h-index:22 | i10-index: 35 | Citations:2314

1. **2023**: Mukherjee, S., Batalha, N. E., Fortney, J. J., & Marley, M. S. 2023, ApJ, 942, 71, 10.3847/1538-4357/ac9f48
2. **2023**: He, C., Radke, M., Moran, S. E., et al. 2023, Nature Astronomy, in review, arXiv:2301.02745, 10.48550/arXiv.2301.02745
3. **2023**: Lustig-Yaeger, J., Fu, G., May, E. M., et al. 2023, Nature Astronomy, in press, arXiv:2301.04191, 10.48550/arXiv.2301.04191
4. **2023**: Rustamkulov, Z., Sing, D. K., Mukherjee, S., et al. 2023, Nature, 614, 659, 10.1038/s41586-022-05677-y
5. **2023**: Ahrer, E.-M., Stevenson, K. B., Mansfield, M., et al. 2023, Nature, 614, 653, 10.1038/s41586-022-05590-4
6. **2023**: Alderson, L., Wakeford, H. R., Alam, M. K., et al. 2023, Nature, 614, 664, 10.1038/s41586-022-05591-3
7. **2023**: Feinstein, A. D., Radica, M., Welbanks, L., et al. 2023, Nature, 614, 670, 10.1038/s41586-022-

05674-1

8. **2023**: JWST Transiting Exoplanet Community Early Release Science Team, Ahrer, E.-M., Alderson, L., et al. 2023, Nature, 614, 649, 10.1038/s41586-022-05269-w
9. **2023**: MacDonald, R. J., & Batalha, N. E. 2023, Research Notes of the American Astronomical Society, 7, 54, 10.3847/2515-5172/acc46a
10. **2023**: Rooney, C. M., Batalha, N. E., & Marley, M. S. 2023a, arXiv e-prints
11. **2023**: —. 2023b, submitted ApJ, arXiv:2304.04830, 10.48550/arXiv.2304.04830
12. **2023**: Moran, S. E., Stevenson, K. B., Sing, D. K., et al. 2023, ApJL, 948, L11, 10.3847/2041-8213/accb9c
13. **2023**: Tsai, S.-M., Lee, E. K. H., Powell, D., et al. 2023, Nature, 617, 483, 10.1038/s41586-023-05902-2
14. **2023**: Gao, P., Piette, A. A. A., Steinrueck, M. E., et al. 2023, in press ApJL, arXiv:2305.05697, 10.48550/arXiv.2305.05697
15. **2023**: Radica, M., Welbanks, L., Espinoza, N., et al. 2023, in press MNRAS, arXiv:2305.17001, 10.48550/arXiv.2305.17001
16. **2023**: Madurowicz, A., Mukherjee, S., Batalha, N., et al. 2023, Astronomical Journal, 165, 238, 10.3847/1538-3881/acca7a
17. **2023**: Batalha, N. E., Wolfgang, A., Teske, J., et al. 2022, The Astronomical Journal, 165, 14, 10.3847/1538-3881/ac9f45
18. **2022**: Lipatov, M., Brandt, T. D., & Batalha, N. E. 2022, MNRAS, arXiv:2209.15058. 2209.15058
19. **2022**: Sallum, S., Millar-Blanchaer, M. A., Batalha, N., et al. 2022, in Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, Vol. 12184, Ground-based and Airborne Instrumentation for Astronomy IX, ed. C. J. Evans, J. J. Bryant, & K. Motohara, 1218446, 10.1117/12.2630423
20. **2022**: Skemer, A. J., Stelter, R. D., Sallum, S., et al. 2022, in Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, Vol. 12184, Ground-based and Airborne Instrumentation for Astronomy IX, ed. C. J. Evans, J. J. Bryant, & K. Motohara, 121840I, 10.1117/12.2630577
21. **2022**: Mukherjee, S., Fortney, J. J., Batalha, N. E., et al. 2022, The Astrophysical Journal, 938, 107, 10.3847/1538-4357/ac8dfb
22. **2022**: Robbins-Blanch, N., Kataria, T., Batalha, N. E., & Adams, D. J. 2022, ApJ, 930, 93, 10.3847/1538-4357/ac658c
23. **2022**: Alderson, L., Wakeford, H. R., MacDonald, R. J., et al. 2022, MNRAS, 512, 4185, 10.1093/mnras/stac661
24. **2022**: Mang, J., Gao, P., Hood, C. E., et al. 2022, ApJ, 927, 184, 10.3847/1538-4357/ac51d3
25. **2022**: Rooney, C. M., Batalha, N. E., Gao, P., & Marley, M. S. 2022, ApJ, 925, 33, 10.3847/1538-4357/ac307a
26. **2022**: Adams, D. J., Kataria, T., Batalha, N. E., Gao, P., & Knutson, H. A. 2022, ApJ, 926, 157, 10.3847/1538-4357/ac3d32
27. **2022**: Harman, C. E., Kopparapu, R. K., Stefánsson, G., et al. 2022, PSJ, 3, 45, 10.3847/PSJ/ac38ac
28. **2021**: Gharib-Nezhad, E., Marley, M. S., Batalha, N. E., et al. 2021b, ApJ, 919, 21, 10.3847/1538-4357/ac0a7d
29. **2021**: Tang, S.-Y., Robinson, T. D., Marley, M. S., et al. 2021, ApJ, 922, 26, 10.3847/1538-4357/ac1e90
30. **2021**: Sotzen, K. S., Stevenson, K. B., May, E. M., et al. 2021, The Astronomical Journal, 162, 168, 10.3847/1538-3881/ac0e2c
31. **2021**: Briesemeister, Z., Sallum, S., Skemer, A., & Batalha, N. 2021, in Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, Vol. 11823, Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series, 1182308, 10.1117/12.2594880
32. **2021**: Mukherjee, S., Fortney, J. J., Jensen-Clem, R., et al. 2021b, ApJ, 923, 113, 10.3847/1538-4357/ac2d92

33. **2021**: Gharib-Nezhad, E., Iyer, A. R., Line, M. R., et al. 2021a, ApJs, 254, 34, 10.3847/1538-4365/abf504
34. **2021**: Mukherjee, S., Batalha, N. E., & Marley, M. S. 2021a, ApJ, 910, 158, 10.3847/1538-4357/abe53b
35. **2021**: Gan, T., Wang, S. X., Teske, J. K., et al. 2021, MNRAS, 501, 6042, 10.1093/mnras/staa3886
36. **2020**: Lewis, N. K., Wakeford, H. R., MacDonald, R. J., et al. 2020, ApJL, 902, L19, 10.3847/2041-8213/abb77f
37. **2020**: Hayworth, B. P. C., Kopparapu, R. K., Haqq-Misra, J., et al. 2020, Icarus, 345, 113770, 10.1016/j.icarus.2020.113770
38. **2019**: Wakeford, H. R., Lewis, N. K., Fowler, J., et al. 2019, AJ, 157, 11, 10.3847/1538-3881/aaf04d
39. **2019**: Mayorga, L. C., Batalha, N. E., Lewis, N. K., & Marley, M. S. 2019, AJ, 158, 66, 10.3847/1538-3881/ab29fa
40. **2019**: Batalha, N. E., Marley, M. S., Lewis, N. K., & Fortney, J. J. 2019b, ApJ, 878, 70, 10.3847/1538-4357/ab1b51
41. **2019**: Batalha, N. E., Lewis, T., Fortney, J. J., et al. 2019a, ApJL, 885, L25, 10.3847/2041-8213/ab4909
42. **2019**: Batalha, N. E., Smith, A. J. R. W., Lewis, N. K., et al. 2018c, AJ, 156, 158, 10.3847/1538-3881/aad59d
43. **2018**: Moran, S. E., Hörst, S. M., Batalha, N. E., Lewis, N. K., & Wakeford, H. R. 2018, AJ, 156, 252, 10.3847/1538-3881/aae83a
44. **2018**: Blumenthal, S. D., Mandell, A. M., Hébrard, E., et al. 2018, ApJ, 853, 138, 10.3847/1538-4357/aa9e51
45. **2018**: Batalha, N. E., Lewis, N. K., Line, M. R., Valenti, J., & Stevenson, K. 2018b, ApJL, 856, L34, 10.3847/2041-8213/aab896
46. **2018**: —. 2018a, EPSL, 484, 415, 10.1016/j.epsl.2017.12.018
47. **2018**: Kempton, E. M. R., Bean, J. L., Louie, D. R., et al. 2018, PASP, 130, 114401, 10.1088/1538-3873/aadf6f
48. **2018**: Bean, J. L., Stevenson, K. B., Batalha, N. M., et al. 2018, PASP, 130, 114402, 10.1088/1538-3873/aadbf3
49. **2017**: Batalha, N. E., & Line, M. R. 2017, AJ, 153, 151, 10.3847/1538-3881/aa5faa
50. **2017**: Christiansen, J. L., Vanderburg, A., Burt, J., et al. 2017, AJ, 154, 122, 10.3847/1538-3881/aa832d
51. **2017**: Batalha, N. E., Kempton, E. M. R., & Mbarek, R. 2017a, ApJL, 836, L5, 10.3847/2041-8213/aa5c7d
52. **2017**: Batalha, N. E., Mandell, A., Pontoppidan, K., et al. 2017b, PASP, 129, 064501, 10.1088/1538-3873/aa65b0
53. **2016**: Haqq-Misra, J., Kopparapu, R. K., Batalha, N. E., Harman, C. E., & Kasting, J. F. 2016, ApJ, 827, 120, 10.3847/0004-637X/827/2/120
54. **2016**: Batalha, N. E., Kopparapu, R. K., Haqq-Misra, J., & Kasting, J. F. 2016, Earth and Planetary Science Letters, 455, 7, 10.1016/j.epsl.2016.08.044
55. **2015**: Batalha, N., Kalirai, J., Lunine, J., Clampin, M., & Lindler, D. 2015b, arXiv e-prints, arXiv:1507.02655. 1507.02655
56. **2015**: Batalha, N., Domagal-Goldman, S. D., Ramirez, R., & Kasting, J. F. 2015a, Icarus, 258, 337, 10.1016/j.icarus.2015.06.016
57. **2015**: Cowan, N. B., Greene, T., Angerhausen, D., et al. 2015, PASP, 127, 311, 10.1086/680855
58. **2011**: Agüeros, M. A., Covey, K. R., Lemonias, J. J., et al. 2011, ApJ, 740, 110, 10.1088/0004-637X/740/2/110

Invited Talks, Seminars, Panels & Colloquia

- **Jul. 2023**: Sagan Summer Workshop `PICASO` hands on session and speaker

- **Jun. 2023**: ExoClimes Keynote
- **Apr. 2023**: Department of Astrobiology Colloquium, University of Washington
- **Feb. 2023**: EMAC Workshop: Open Access Exoplanet Modeling & Analysis Tools
- **Dec. 2022**: AGU Fall Meeting: The Future is Open Panel
- **Oct. 2022**: Bay Area Open Science Meeting
- **Aug. 2022**: ASA-HITRAN
- **May 2022**: Exoplanets IV Splinter Session: Enabling Future Comparative Exoplanetology
- **Dec. 2021**: UC Berkeley Center for Integrative Planetary Science Seminar
- **Nov. 2021**: Department of Astrophysics Colloquium, University of California Santa Cruz
- **Oct. 2021**: SACNAS: Exploring the Universe with NASA Astrophysics
- **Aug. 2021**: European Southern Observatory: Atmospheres, Atmospheres! Do I look like I care about atmospheres?
- **Aug. 2021**: NASA Ames Summer Series
- **July 2021**: Sagan Summer Workshop
- **June 2021**: Scialog: Signatures of Life in the Universe
- **Apr. 2021**: College of Science Seminar Series, San Jose State University
- **Nov. 2020**: Astronomy & Astrophysics Colloquium, Caltech Institute of Technology
- **July 2020**: Sagan Summer Workshop
- **Dec. 2019**: OWL @ ETH - paving the way to the atmospheric characterization of terrestrial exoplanets
- **Dec. 2019**: Department of Astronomy Colloquium, University of Michigan
- **Nov. 2019**: Carnegie Observatory Colloquium, Pasadena, CA
- **Jul. 2019**: Moonshots and Earthshots in the Search for Life Beyond Earth, Green Bank, WV
- **Dec. 2018**: Department of Astrobiology Colloquium, University of Washington
- **Nov. 2018**: Department of Space Sciences Planetary Lunch Seminar, Cornell University
- **Nov. 2018**: Stars and Planets Seminar Series, Harvard Center for Astrophysics
- **Oct. 2018**: Department of Astronomy & Astrophysics, University of California Santa Cruz
- **Oct. 2018**: Department of Physics Colloquium, University of California Merced
- **Jun. 2018**: Panelist at Emerging Researchers in Exoplanets Symposium
- **Jun. 2018**: Planetary Exploration Group Seminar, JHU Applied Physics Lab
- **Feb. 2018**: George Mason University Observatory Public Lecture, Fairfax, VA
- **Jul. 2017**: Enabling Transiting Exoplanet Observations with JWST Workshop, Space Telescope Science Institute
- **Feb. 2017**: School of Earth and Space Exploration Seminar, Arizona State University
- **Aug. 2016**: Planetary Systems: A Synergistic View, Quy Nhon, Vietnam
- **Aug. 2016**: Department of Terrestrial Magnetism Colloquium, Carnegie Institute
- **Mar. 2016**: Planetary Lunch Seminar, Goddard Space Flight Center
- **Mar. 2016**: Planetary Lunch Seminar, Center for Exoplanets and Habitable Worlds, The Pennsylvania State University
- **Feb. 2016**: Seminar, Jet Propulsion Laboratory
- **May 2015**: Special Seminar to The Pennsylvania State Board of Visitors
- **May 2015**: Special Seminar to The Pennsylvania State Dean of Eberly College of Science Advisory Committee

Contributed Talks

- **Sept. 2019**: Bay Area Exoplanet Meeting, NASA Ames, CA
- **Aug. 2019**: Extreme Solar Systems IV, Reykjavik, Iceland
- **Dec. 2018** : Bay Area Exoplanet Meeting, NASA Ames, CA
- **Sept. 2018**: Bay Area Exoplanet Meeting, NASA Ames, CA
- **Jul. 2018**: Exoplanets II, Cambridge, UK
- **May. 2018**: Chesapeake Bay Area Exoplanet Meeting, Carnegie DTM, MD
- **Jan. 2018**: Winter AAS Conference, Washington DC
- **Jan. 2017**: Winter AAS Conference, Grapevine, Texas
- **Oct. 2016**: Division of Planetary Sciences Conference, Pasadena, CA
- **Jan. 2014** : Winter AAS Conference, Washington, DC