Curriculum Vitae

Patrick Colin Tamburo

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Employment

Sep 2023–Present	*Tierras* Postdoctoral Fellow *Center for Astrophysics | Harvard & Smithsonian* Supervisor: David Charbonneau

Education

May 2019–Aug 2023	Ph.D. in Astronomy *Boston University* Adviser: Philip Muirhead "A Search for Transiting Satellites around L and T Dwarfs"
Sep 2017–May 2019	M.A. in Astronomy *Boston University* Adviser: Philip Muirhead
Sep 2012–May 2016	B.S. in Astronomy and Physics *University of Maryland, College Park* Adviser: Drake Deming

Teaching Appointments

Teaching Fellow *Boston University*	AS105: Alien Worlds, Spring 2021
Teaching Assistant *University of Maryland*	ASTR340: Origins of the Universe, Spring 2016 ASTR398b: Special Topics in Astro.–Black Holes, Fall 2015 ASTR330: The Solar System, Spring 2015 ASTR310: Observational Astronomy, Fall 2014

Honors and Awards

Sep 2017–Aug 2018	Dean's Fellowship, *Boston University*
May 2016	High Honors in Astronomy, *University of Maryland*
Jun 2015–Aug 2015	Summer Scholars Research Grant, *University of Maryland*
Sep 2014–May 2016	Maryland Space Grant Consortium Scholarship, *Maryland Space Grant*
Sep 2012–May 2014	Dean's Scholarship, *University of Maryland*

Publications

As first author, refereed (7)

1. Tamburo, P., Yee, S. W., García-Mejía, J., Stefánsson, G., Charbonneau, D., Bieryla, A., Howard, A. W., Isaacson, H., Fulton, B. J., and Householder, A. "The True Stellar Obliquity of a Sub-Saturn Planet from the Tierras Observatory and KPF", 2025, arXiv e-prints, arXiv:2505.03628. https://ui.adsabs.harvard.edu/abs/2025arXiv250503628T

2. Tamburo, P., Muirhead, P. S., and Dressing, C. D. "Predicting the Yield of Small Transiting Exoplanets around Mid-M and Ultra-Cool Dwarfs in the Nancy Grace Roman Space Telescope Galactic Bulge Time Domain Survey", 2023, The Astronomical Journal, 165, 251. https://ui.adsabs.harvard.edu/abs/2023AJ....165..251T/abstract

3. Tamburo, P., Withers, P., Dalba, P. A., Moore, L., and Koskinen, T. "Cassini Radio Occultation Observations of Saturn's Ionosphere: Electron Density Profiles From 2005 to 2013", 2023, Journal of Geophysical Research (Space Physics), 128, e2023JA031310. https://ui.adsabs.harvard.edu/abs/2023JGRA..12831310T

4. Tamburo, P., Muirhead, P. S., McCarthy, A. M., Hart, M., Vos, J. M., Agol, E., Theissen, C., Gracia, D., Bardalez Gagliuffi, D. C., Faherty, J. "The Perkins INfrared Exosatellite Survey (PINES) II. Transit Candidates and Implications for Planet Occurrence around L and T Dwarfs", 2022, The Astronomical Journal, 164, 252. https://ui.adsabs.harvard.edu/abs/2022AJ....164..252T/abstract

5. Tamburo, P., Muirhead, P. S., McCarthy, A. M., Hart, M., Gracia, D., Vos, J. M., Bardalez Gagliuffi, D. C., Faherty, J., Theissen, C., Agol, E., Skinner, J. N., and Sagear, S. "The Perkins INfrared Exosatellite Survey (PINES) I. Survey Overview, Reduction Pipeline, and Early Results", 2022, The Astronomical Journal, 163, 253. https://ui.adsabs.harvard.edu/abs/2022AJ....163..253T/abstract

6. Tamburo, P. and Muirhead, P. S. "Design Considerations for a Ground-based Search for Transiting Planets around L and T Dwarfs", 2019, Publications of the Astronomical Society of the Pacific, 131, 114401. https://ui.adsabs.harvard.edu/abs/2019PASP..131k4401T

7. Tamburo, P., Mandell, A., Deming, D., and Garhart, E. "Confirming Variability in the Secondary Eclipse Depth of the Super-Earth 55 Cancri e", 2018, The Astronomical Journal, 155, 221. https://ui.adsabs.harvard.edu/abs/2018AJ....155..221T

As coauthor, refereed (6)

1. McCarthy, A. M., Muirhead, P. S., Tamburo, P., Vos, J. M., Morley, C. V., Faherty, J., Bardalez Gagliuffi, D. C., Agol, E., and Theissen, C. "Multiple Patchy Cloud Layers in the Planetary-mass Object SIMP 0136+0933", 2024, The Astrophysical Journal, 965, 83. https://ui.adsabs.harvard.edu/abs/2024ApJ...965...83M

2. Lincowski, A. P., Meadows, V. S., Zieba, S., Kreidberg, L., Morley, C., Gillon, M., Selsis, F., Agol, E., Bolmont, E., Ducrot, E., Hu, R., Koll, D. D. B., Lyu, X., Mandell, A., Suissa, G., and **Tamburo, P.** "Potential Atmospheric Compositions of TRAPPIST-1 c constrained by JWST/MIRI Observations at 15 μm", 2023, ApJL, accepted. https://ui.adsabs.harvard.edu/abs/2023arXiv230805899L

3. Zieba, S., Kreidberg, L., Ducrot, E., Gillon, M., Morley, C., Schaefer, L., **Tamburo, P.**, Koll, D. D. B., Lyu, X., Acuña, L., Agol, E., Iyer, A. R., Hu, R., Lincowski, A. P., Meadows, V. S., Selsis, F., Bolmont, E., Mandell, A. M., and Suissa, G. "No thick carbon dioxide atmosphere on the rocky exoplanet TRAPPIST-1 c", 2023, Nature, 620, 746. https://ui.adsabs.harvard.edu/abs/2023Natur.620..746Z

4. Colón, K. D., Kreidberg, L., Welbanks, L., Line, M. R., Madhusudhan, N., Beatty, T., **Tamburo, P.**, Stevenson, K. B., Mandell, A., Rodriguez, J. E., Barclay, T., Lopez, E. D., Stassun, K. G., Angerhausen, D., Fortney, J. J., James, D. J., Pepper, J., Ahlers, J. P., Plavchan, P., Awiphan, S., Kotnik, C., McLeod, K. K., Murawski, G., Chotani, H., LeBrun, D., Matzko, W., Rea, D., Vidaurri, M., Webster, S., Williams, J. K., Cox, L. S., Tan, N., and Gilbert, E. A. "An Unusual Transmission Spectrum for the Sub-Saturn KELT-11b Suggestive of a Subsolar Water Abundance", 2020, The Astronomical Journal, 160, 280. https://ui.adsabs.harvard.edu/abs/2020AJ....160..280C

5. Dalba, P. A. and **Tamburo, P.** "Spitzer Detection of the Transiting Jupiter-analog Exoplanet Kepler-167e", 2019, The Astrophysical Journal, 873, L17. https://ui.adsabs.harvard.edu/abs/2019ApJ...873L..17D

6. Sheppard, K. B., Mandell, A. M., **Tamburo, P.**, Gandhi, S., Pinhas, A., Madhusudhan, N., and Deming, D. "Evidence for a Dayside Thermal Inversion and High Metallicity for the Hot Jupiter WASP-18b", 2017, The Astrophysical Journal, 850, L32. https://ui.adsabs.harvard.edu/abs/2017ApJ...850L..32S

Unrefereed papers, conference abstracts, and datasets (18)

1. McCarthy, A. M., Muirhead, P. S., **Tamburo, P.**, Vos, J. M., Hart, M., Gracia, D., Bardalez Gagliuffi, D. C., Faherty, J., Theissen, C., and Agol, E. "Modeling the Surface Features of SIMP 0136", 2022, Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun, 102. https://ui.adsabs.harvard.edu/abs/2022csss.confE.102M

2. **Tamburo, P.**, Muirhead, P. S., McCarthy, A. M., Hart, M., Gracia, D., Vos, J. M., Bardalez Gagliuffi, D. C., Faherty, J., Theissen, C., Agol, E., Skinner, J. N., and Sagear, S. "The Perkins INfrared Exosatellite Survey (PINES): Investigating L and T Dwarf Planet Occurrence with Context from M Dwarfs", 2022, Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun, 10. https://ui.adsabs.harvard.edu/abs/2022csss.confE..10T

3. **Tamburo, P.**, Muirhead, P. S., McCarthy, A. M., Hart, M., Gracia, D., Vos, J. M., Bardalez Gagliuffi, D. C., Faherty, J., Theissen, C., Agol, E., Skinner, J. N., and Sagear, S. "The Perkins INfrared Exosatellite Survey (PINES): Survey Overview and Early Results", 2022, Bulletin of the American Astronomical Society, 54, 102.116. https://ui.adsabs.harvard.edu/abs/2022BAAS...54e.116T

4. **Tamburo, P.**, Muirhead, P. S., Agol, E., Hart, M., and Thakar, B. "Confirmation of a Dynamical Model for the TRAPPIST-1 Exoplanetary System", 2021, Research Notes of the American Astronomical Society, 5, 219. https://ui.adsabs.harvard.edu/abs/2021RNAAS...5..219T

5. **Tamburo, P.**, Muirhead, P., McCarthy, A., Hart, M., Skinner, J., Vos, J., Bardalez Gagliuffi, D., Faherty, J., Agol, E., and Theissen, C. "The Perkins Infrared Exosatellite Survey (PINES): First Year Operations And Photometric Performance", 2021, American Astronomical Society Meeting Abstracts, 53, 108.05. https://ui.adsabs.harvard.edu/abs/2021AAS...23810805T

6. **Tamburo, P.**, Muirhead, P. S., McCarthy, A., Hart, M., Skinner, J., Vos, J., Bardalez Gagliuffi, D., Faherty, J., Agol, E., and Theissen, C. "PINES: First Year Operations and Photometric Performance", 2021, Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun, 171. https://ui.adsabs.harvard.edu/abs/2021csss.confE.171T

7. Colon, K., Kreidberg, L., Welbanks, L., Line, M., Madhusudhan, N., Beatty, T., **Tamburo, P.**, Stevenson, K., Mandell, A., Rodriguez, J., Barclay, T., and KELT-11 Team "Atmospheric Characterization of the Extremely Inflated Sub-Saturn KELT-11b with TESS, HST, and Spitzer", 2021, American Astronomical Society Meeting Abstracts, 53, 302.06. https://ui.adsabs.harvard.edu/abs/2021AAS...23730206C

8. Dalba, P. A. and **Tamburo, P.** "A Transiting Outer Giant Exoplanet Poised for Comparative Planetology with Jupiter and Saturn", 2020, Exoplanets in Our Backyard: Solar System and Exoplanet Synergies on Planetary Formation, Evolution, and Habitability, 2195, 3007. https://ui.adsabs.harvard.edu/abs/2020LPICo2195.3007D
9. Dalba, P. A. and **Tamburo, P.** "Spitzer Detection of Kepler-167e, a cold Jovian exoplanet poised for atmospheric characterization", 2020, American Astronomical Society Meeting Abstracts #235, 235, 349.01. https://ui.adsabs.harvard.edu/abs/2020AAS...23534901D
10. **Tamburo, P.**, Withers, P., Moore, L., Dalba, P. A., and Koskinen, T. "Reanalysis of Cassini Radio Occultation Data and Electron Density Profiles for Saturn", 2019, AGU Fall Meeting Abstracts, 2019, P13B-3509. https://ui.adsabs.harvard.edu/abs/2019AGUFM.P13B3509T
11. Colon, K., Kreidberg, L., Line, M., Madhusudhan, N., Beatty, T., **Tamburo, P.**, Stevenson, K., Mandell, A., Welbanks, L., Rodriguez, J., Barclay, T., Angerhausen, D., Fortney, J., James, D., Lopez, E., and Stassun, K. "Atmospheric Characterization of Extremely Inflated Exoplanets: The Curious Case of KELT-11b", 2019, AAS/Division for Extreme Solar Systems Abstracts, 51, 326.25. https://ui.adsabs.harvard.edu/abs/2019ESS.....432625C
12. Dalba, P. A. and **Tamburo, P.** "Transit Timing Variation Refinement of the Long-period Exoplanet Kepler-167e", 2019, AAS/Division for Extreme Solar Systems Abstracts, 51, 307.02. https://ui.adsabs.harvard.edu/abs/2019ESS.....430702D
13. Muirhead, P., Skinner, J. N., Radigan, J., Triaud, A., Theissen, C., Bardalez Gagliuffi, D., **Tamburo, P.**, Burgasser, A., Faherty, J., and Stephens, D. "Searching for Exosatellites Orbiting L and T Dwarfs: Connecting Planet Formation to Moon Formation and Finding New Temperate Worlds", 2019, Astro2020 White Paper, 51, 169. https://ui.adsabs.harvard.edu/abs/2019BAAS...51c.169M
14. Colon, K., Kreidberg, L., Line, M. R., Madhusudhan, N., Beatty, T., **Tamburo, P.**, Stevenson, K., Mandell, A. M., Welbanks, L., Angerhausen, D., Fortney, J., James, D., Johnson, J., Lopez, E. D., Morris, B. M., Pepper, J., Rodriguez, J., and Stassun, K. G. "An Investigation of the Atmosphere of the Extremely Inflated Exoplanet KELT-11b with HST and Spitzer", 2019, American Astronomical Society Meeting Abstracts #233, 233, 205.01. https://ui.adsabs.harvard.edu/abs/2019AAS...23320501C
15. **Tamburo, P.** "Observational Evidence of Possible Volcanic Activity on an Extrasolar Planet", 2018, AGU Fall Meeting Abstracts, 2018, P44A-07B. https://ui.adsabs.harvard.edu/abs/2018AGUFM.P44A..07T
16. Dalba, P., Muirhead, P., and **Tamburo, P.** "Transit Recovery of Kepler-167e: Providing JWST with an Unprecedented Jupiter-analog Exoplanet Target", 2018, Spitzer Proposal, 14047. https://ui.adsabs.harvard.edu/abs/2018sptz.prop14047D
17. Sheppard, K., Mandell, A. M., **Tamburo, P.**, Gandhi, S., Pinhas, A., Madhusudhan, N., and Deming, D. "Evidence for a Dayside Thermal Inversion and High Metallicity for the Hot Jupiter WASP-18b", 2018, American Astronomical Society Meeting Abstracts #231, 231, 211.03. https://ui.adsabs.harvard.edu/abs/2018AAS...23121103S
18. **Tamburo, P.**, Mandell, A., Deming, D., and Garhart, E. "Confirming Variability in the Secondary Eclipse Depth of the Rocky Super-Earth 55 Cancri e", 2017, American Astronomical Society Meeting Abstracts #229, 229, 219.04. https://ui.adsabs.harvard.edu/abs/2017AAS...22921904T

Invited Talks

Oct 2023	CfA Seminar, Harvard University, Cambridge, MA

Contributed Talks

Oct 2022	L'université de Liège STAR Institute Department Seminar, Liège, Belgium
Sep 2022	MPIA/APEx ExoCoffee, Heidelberg, Germany
Jun 2021	AAS 238, virtual
Apr 2021	Remote Boston Area Exoplanet Science Meeting 8, virtual
Jan 2019	Boston Area Exoplanet Science Meeting 5, Boston University, Boston, MA
Dec 2018	AGU Fall Meeting, Washington, D.C.
Jan 2017	AAS 229, Grapevine, TX

Posters

Jun 2024	Exoplanets 5, Leiden, Netherlands
Jul 2022	Cool Stars 21, Toulouse, France
May 2022	Exoplanets 4, Las Vegas, NV
Mar 2021	Cool Stars 20.5, virtual
Dec 2019	AGU Fall Meeting, San Francisco, CA
Jul 2018	Cool Stars 20, Boston University, Boston, MA
Jul 2018	Sagan Exoplanet Summer Workshop, California Institute of Technology, Pasadena, CA
Jun 2018	Emerging Researchers in Exoplanet Science IV, Penn State University, State College, PA
Jul 2017	Enabling Transiting Exoplanet Observations with *JWST*, Space Telescope Science Institute, Baltimore, MD

Outreach Activity

BU Astronomy Public Open Night, Sep 2017–Feb 2020

Media Coverage

"Planets around Not-Quite-Planets", *Astrobites*, Oct 2022

"A step by step guide to finding planets around ultracool dwarfs", *Astrobites*, Aug 2019

Professional Service

Referee for The Astronomical Journal and Monthly Notices of the Royal Astronomical Society. Verified reviews are available on my Web of Science account with article titles and author names redacted: https://www.webofscience.com/wos/author/record/CAJ-5816-2022.

2024	Subject-matter expert reviewer in a NASA peer review
Nov 2019–Jun 2022	Graduate Student Reviewer *Perkins Telescope Observatory Time Allocation Committee*

Academic Service

Aug 2024–Present	Co-organizer of Exoplanet Pizza Lunch *Center for Astrophysics | Harvard & Smithsonian*
Sep 2020–Aug 2021	Graduate student representative to the faculty *Boston University Department of Astronomy*