

# Patrick Colin Tamburo

Boston University  
725 Commonwealth Ave.  
Boston, MA 02215

tamburop@bu.edu  
patricktamburo.github.io  
Updated October 23, 2022

## EDUCATION

MAY 2019 - PRESENT	Ph.D. Candidate in Astronomy <i>Boston University</i> Adviser: Philip Muirhead “A Search for Transiting Satellites around L and T Dwarfs” Anticipated defense date: Jun 2023
SEP 2017 - MAY 2019	M.A. in Astronomy <i>Boston University</i> Adviser: Philip Muirhead
SEP 2012 - MAY 2016	B.S. in Astronomy and Physics <i>University of Maryland, College Park</i> Adviser: Drake Deming

## RESEARCH APPOINTMENTS

SEP 2018 - PRESENT	Research Fellow <i>Boston University</i> , Prof. Philip Muirhead
SEP 2017 - SEP 2018	Dean’s Fellow <i>Boston University</i> , Prof. Philip Muirhead
JUL 2016 - JUL 2017	Research Assistant <i>NASA Goddard Spaceflight Center</i> , Dr. Avi Mandell
JAN 2015 - JUL 2016	Undergraduate Student Researcher <i>University of Maryland, College Park</i> , Prof. Drake Deming
JUN 2015 - AUG 2015	Undergraduate Research Intern <i>NASA Goddard Spaceflight Center</i> , Dr. Avi Mandell

## TEACHING APPOINTMENTS

Teaching Fellow <i>Boston University</i>	AS105: Alien Worlds, Spring 2021.
Teaching Assistant <i>University of Maryland</i>	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 (4)

1. **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, accepted. <https://arxiv.org/abs/2210.04462>
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 Sagar, 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>
3. **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>
4. **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 (3)

1. 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>
2. 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>
3. 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 (16)

1. **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 Sagar, 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>
2. **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>
3. **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>
4. **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>
5. 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>
6. 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>
7. 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>
8. **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>
9. 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>
10. 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>
11. 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>

12. 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>
13. **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>
14. 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>
15. 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>
16. **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>

## 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

---

JUL 2022	Cool Stars 21, Toulouse, France
MAY 2022	Exoplanets IV, 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 <i>JWST</i> , Space Telescope Science Institute, Baltimore, MD

## WORKSHOPS ATTENDED

---

TESS Data Workshop, *Space Telescope Science Institute*, Feb 2019

Sagan Exoplanet Summer Workshop, *California Institute of Technology*, Jul 2018

Enabling Transiting Exoplanet Observations with JWST, *Space Telescope Science Institute*,  
Jul 2017

## 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/3966232/>.

NOV 2019 - JUN 2022	Graduate Student Reviewer <i>Perkins Telescope Observatory Time Allocation Committee</i>
---------------------	---

## ACADEMIC SERVICE

---

SEP 2020 - AUG 2021	Graduate student representative to the faculty <i>Boston University Department of Astronomy</i>
---------------------	--