

# CAELEY PITTMAN

Boston University Department of Astronomy, 725 Commonwealth Avenue, Boston, MA 02115

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## EDUCATION

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**Boston University**, Boston, MA  
Ph.D. Candidate in Astronomy (Supervisor: Professor Catherine Espaillat) July 2020-Present  
M.A. in Astronomy (Supervisor: Professor Catherine Espaillat) January 2023  
**William Jewell College**, Liberty, MO  
B.A. in Physics and Oxbridge Honors Literature & Theory, *summa cum laude* May 2020  
**University of Oxford**, Oxford, UK  
Visiting Student in Physics and English Language & Literature Oct 2018-June 2019

## HONORS, AWARDS, AND SCHOLARSHIPS

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**NSF Graduate Research Fellowship**, National Science Foundation March 2021  
**Phi Epsilon Honor Society**, William Jewell College April 2020  
**Faculty Award Finalist**, William Jewell College April 2020  
**Outstanding Senior Physics Major Award**, William Jewell College April 2020  
**Barry Goldwater Scholarship**, National award April 2019  
**James R. Eaton Scholarship for Achievement in Physics**, WJC April 2018 & 2019  
**Chambliss Astronomy Achievement Student Award**, AAS January 2019  
**Pritchard Award for Humanitarian Service**, William Jewell College April 2017  
**Dean's List**, William Jewell College 2016-2020

## RESEARCH EXPERIENCE

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**Visiting Researcher**, Berkeley SETI / NASA Ames (Supervisor: Dr. Uma Gorti) Sept 2023 - Present  
**Graduate Research Fellow**, Boston University (Supervisor: Prof. C. Espaillat) July 2020 - Present  
**Fluid Dynamics Research Assistant**, WJC (Supervisor: Prof. P. Bunton) Fall 2019-Spring 2020  
**UM-CERN NSF-REU** (Supervisors: Prof. H. Kagan, Dr. S. Roe, Dr. S. Shrestha) June-August 2019  
**Galaxy Cluster Project**, University of Oxford (Supervisor: Prof. C. Lintott) Fall 2018-Spring 2019  
**Maria Mitchell Observatory NSF-REU** (Supervisor: Prof. S. Gezari) May-August 2018  
**Pillsbury Research Scholar**, William Jewell College (Supervisor: Prof. M. Sherer) June-July 2017

## INVITED TALKS

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**Pittman, C.** “The significance of HST to accretion studies in classical T Tauri stars.” Talk given at: ULLYSES: Continuing the Voyage of Discovery; 2024 March 12; Space Telescope Science Institute (Baltimore, MD).  
**Pittman, C.** “Characterizing magnetospheric accretion and extinction in Orion OB1b with ULLYSES.” Talk given at: Exoplanets/Star & Planet Formation Seminar Series, Space Telescope Science Institute; 2022 October 31; virtual meeting.

## CONTRIBUTED RESEARCH PRESENTATIONS

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**Pittman, C.** “Characterizing the inner regions of classical T Tauri stars using HST, JWST, and ground-based observations.” Talk given at: Northeast Star and Planet Formation Meeting; 2023 June 28; Harvard CfA (Cambridge, MA).  
**Pittman, C.** “Measuring the Propensity for Planet Formation in Classical T Tauri Stars using JWST/MIRI and SMARTS/CHIRON.” Talk given at: Emerging Researchers in Exoplanet Science Symposium; 2023 June 19; Yale (New Haven, CT).

- Pittman, C.** “Characterizing magnetospheric accretion and extinction in Orion OB1b with the ODYSSEUS Survey.” Talk given at: Cool Stars 21, Accretion in Young and Cool Stars splinter session; 2022 July 7; Toulouse, France.
- Pittman, C.** “Explaining NUV-NIR continuum excesses in T Tauri stars with magnetospheric accretion.” Poster presented at: Cool Stars 21; 2022 July 7; Toulouse, France.
- Pittman, C.** “Multi-column accretion shock modeling in T Tauri stars.” Topical Interest Room presentation given at: Cool Stars 20.5; 2021 March 2; virtual conference.
- Pittman, C.** “Improving trigger efficiency for the ATLAS di-Higgs search.” Poster presented at: Conference for Undergraduate Women in Physics; 2020 January 18; The University of Oklahoma (Norman, Oklahoma).
- Pittman, C.** “Improving trigger efficiency for the ATLAS di-Higgs search.” Poster presented at: 2019 Physics Congress; 2019 November 16; Providence, Rhode Island.
- Pittman, C.** “Improving trigger efficiency for the ATLAS di-Higgs search.” Talk given at: University of Michigan-CERN REU Program final talks; 2019 August 15; CERN (Meyrin, Switzerland).
- Sherer, M. and **Pittman, C.** “Odds of Habitable Planets: Linking Data and Simulations in the Classroom.” Poster presented at: American Association of Physics Teachers Summer Conference; 2019 July 22; Provo, Utah.
- Pittman, C.** “Searching for Intermediate Mass Black Holes Using Optical Variability.” Poster presented at: 233rd American Astronomical Society Meeting; 2019 January 9; Seattle, WA. *Received Chambliss Award for this presentation (see above).*
- Pittman, C.** “Searching for Intermediate Mass Black Holes.” Talk given at: Society of Physics Students Meeting; 2018 September 11; William Jewell College (Liberty, MO).
- Pittman, C.** “Searching for Intermediate Mass Black Holes in the Optical Time Domain.” Talk given at: Science Speaker Series; 2018 August 8; Maria Mitchell Association (Nantucket, MA).
- Pittman, C.** “Determining the Pulsation Periods of Sub-Dwarf B Variable Stars.” Poster presented at: 2018 SPS Zone 12 Meeting; 2018 February 17; Truman State University (Kirksville, MO).

## RELEVANT EMPLOYMENT + TEACHING

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| <b>Graduate Teaching Fellow</b> , The Solar System (AS 101), Boston University | Fall 2020             |
| <b>Physics, Math, and Writing Tutor</b> , William Jewell College               | Fall 2017-Spring 2018 |
| <b>Physics Lab Assistant</b> , William Jewell College                          | Fall 2017-Spring 2018 |

## SERVICE ACTIVITIES

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**ODYSSEUS Database Management:** Maintain the ODYSSEUS collaboration’s website to ensure access to meeting materials, in-progress work, and data archives (2020-Present)

## SCIENCE OUTREACH

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- 2024 Total Eclipse Outreach:** Won a grant from the BU Graduate Women in Science & Engineering group to be the resident astronomer for the Choctaw Nation’s total solar eclipse event in Millerton, OK (8 April 2024)
- Skype a Scientist:** Gave a talk on the science of eclipses for the Pamunkey Regional Library in Atlee, VA (Remote presentation; 5 April 2024)
- Invited talk at the North Shore Amateur Astronomy Club:** Presented a public talk on planet formation research in the era of *JWST*. (1 Dec 2023)
- AAS Congressional Visit Day:** Advocated for the priorities of the Astro2020 Decadal Survey by meeting with the White House Office of Science and Technology Policy and US congressional representatives from the northeast (19 April 2023)
- GBH Education Content Advisor:** Performed content review for middle and high school educational resources accompanying the NOVA show *Ultimate Space Telescope* being published for free on PBS LearningMedia for classroom use (August 2022)
- Skype a Scientist:** Met with a third- through sixth-grade girls astronomy club to discuss my research and

answer their questions about the field (19 November 2020)

**Preparing and teaching interactive physics lessons:** Led weekly sessions with William Jewell College's physics department at Schumacher Elementary School in Liberty, MO; Primitivo Garcia Elementary School in Kansas City, MO (Fall 2019-Spring 2020); and the Freedom Institute in Kansas City, MO, a summer school program for underprivileged students (Summer 2017)

**Future Teacher's Conference** (William Jewell College): Taught physics demonstrations to regional high school students who intend to become teachers (16 September 2019)

**Observatory open nights and tours about the history of astronomy:** Led public open nights at Boston University Observatory (2022) and William Jewell College Observatory (2019-2020), and led both tours and open nights at the Maria Mitchell Observatory (2018)

**2017 Total Eclipse Outreach:** Presented a public talk to approximately 125 people on the science of lunar and solar eclipses and helped individuals understand and safely view the total solar eclipse (21 August 2017)

## PUBLICATIONS

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ATLAS Collaboration. "Search for non-resonant Higgs boson pair production in the  $2b + 2l + E_T^{\text{miss}}$  final state in  $pp$  collisions  $\sqrt{s} = 13$  TeV with the ATLAS detector." *J. High Energ. Phys.*, 37. 2024.

**Contribution:** performed trigger efficiency studies for the analysis as a CERN summer student.

C. Espaillat, T. Thanathibodee, **C. Pittman** et al. "JWST Detects Neon Line Variability in a Protoplanetary Disk." *ApJL*, 958, 4. 2023.

M. Nelissen, A. Natta, P. McGinnis, **C. Pittman** et al. "Correlation between the optical veiling and accretion properties: A case study of the classical T Tauri star DK Tau." *A&A*, 677, 64. 2023.

**C. Pittman**, C. Espaillat, C. Robinson et al. "Towards a comprehensive view of accretion, inner disks, and extinction in classical T Tauri stars: an ODYSSEUS study of the Orion OB1b association." *AJ*, 164, 201. 2022.

C. Espaillat, G. Herczeg, T. Thanathibodee, **C. Pittman** et al. "The ODYSSEUS Survey. Motivation and First Results: Accretion, Ejection, and Disk Irradiation of CVSO 109." *AJ*, 163, 114. 2022.

## ACCEPTED PROPOSALS AND OBSERVING EXPERIENCE

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| <b>NOIRLab 2024A</b>               | Awarded 15.7 hours on WIYN/NEID  |
| <b>Infrared Telescope Facility</b> | Remotely observed for 4.7 hours using IRTF/SpeX, Mauna Kea, HI & Boston, MA, August-September 2022 |
| <b>Maria Mitchell Observatory</b>  | Operated 17" and 24" telescopes solo and with a team, Nantucket, MA, June-August 2018              |
| <b>Palomar Observatory</b>         | Shadowed postdoc performing spectroscopy using the 200" Hale Telescope, Pasadena, CA, 20 July 2018 |
| <b>Lowell Observatory</b>          | Operated 31" telescope with three fellow research students, Flagstaff, AZ, 8-12 June 2017          |

## WORKSHOPS

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| <b>Building Successful Collaborative Relationships with Policymakers, BU</b> | 11 April 2023          |
| <b>17th Synthesis Imaging Workshop, NRAO</b>                                 | 29 June - 17 July 2020 |
| <b>Zwicky Transient Facility Summer School, Caltech</b>                      | July 2018              |

## LANGUAGES

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**French**, Intermediate  
**Spanish**, Intermediate  
**Turkish**, Beginner  
**Russian**, Beginner