Megan Taylor Tillman

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Megan Tillman | megantillman | ORCiD

PhD Candidate at Rutgers University NJ

Education

Rutgers University *2020 - present*
PhD Candidate Piscataway, NJ

Texas A&M University *Class of 2020*
Bachelor of Science in Physics (Honors, Magna Cum Laude) - Minors in Math and Astrophysics College Station, TX

Research Programs and Service

Habitable Worlds Observatory CGM/IGM Working Group *2024*
Science Case Lead - Working Group Co-Chairs: Joe Burchett and Sanchayeeta Borthakur
◦ Led the development of a science case regarding observations of the Lyman-α forest for HWO

Center for Interdisciplinary Exploration and Research in Astrophysics *2019 & 2020*
Northwestern University
◦ Research fellow funded for 10-weeks per summer, PI: Claude-André Faucher-Giguère

Center for Interdisciplinary Exploration and Research in Astrophysics *2018*
Northwestern University
◦ NSF funded Research Experience for Undergraduates

Honors and Awards

Graduate Research Fellowship Program - Honorable Mention *2022*
National Science Foundation

Faculty Student Achievement Award *2020*
Department of Physics and Astronomy Texas A&M University

Grants and Scholarships

Phillip and Doris Moses Ranch Fund - Travel Grant *2019*
Department of Physics and Astronomy Texas A&M University - $500

Mitchell Institute for Aerospace Studies - Travel Grant *2019*
Department of Physics and Astronomy Texas A&M University - $500

Philip and Doris Moses Fund - Honors Scholarship *2018 & 2019*
Department of Physics and Astronomy Texas A&M University - $2000

Student Mentoring

Megan Pirecki - Undergraduate Researcher *2022 - present*
Rutgers University

Teaching

Graduate Teaching Assistant *2020 - 2022*
Rutgers University
◦ Computational Astrophysics - Fall 2023 & 2024
◦ Introductory Physics Mechanics Lab - Spring 2022
◦ Introductory Physics E&M Recitation - Spring 2021
◦ Introductory Physics E&M Lab - Fall 2020

Undergraduate Teaching Fellow *2019 - 2020*
Texas A&M University
◦ Introductory Mechanics for Engineers Lab - Fall 2019
◦ Introductory E&M for Engineers Lab - Spring 2020

Outreach and Non-Research Service

Minorities in Physics and Astronomy - Leadership Roles *2023 - 2025*

Rutgers University

- Communications Officer: 2024-2025
- Equity and Inclusion Journal Club Co-Organizer: 2024-2025
- Web Master: 2023-2024

Discover, Explore, and Enjoy Physics and Engineering - Physics Education and Outreach *2017 - 2019*

Texas A&M University

- Outreach Demonstrator
- Demonstration Designer

Talks

C=Conference, P=Poster, O=Other

[C] **UCSC Galaxy Workshop -** UCSC, CA *July 2024*

[C] **STScI Spring Symposium -** STScI, Baltimore, MD *April 2024*

[C] **Baryons in the Universe -** Kavli IPMU, Kashiwa Japan *April 2024*

[C] **Black Holes on Broadway -** Simons Foundation: Flatiron Institute, NYC, NY *December 2023*

[O] **Max Planck Institute for Astrophysics Cosmology Seminar -** MPA, Garching, Germany *June 2023*

[C] **Modeling Multiphase Astrophysical Media -** Aspenstein Castle, Bavaria, Germany *May 2023*

[C] **Simba Collaboration Workshop -** Simons Foundation: Flatiron Institute, NYC, NY *May 2023*

[C] **Galaxy Formation and Evolution in the Data Science Era -** KITP UCSB, CA *March 2023*

[C] **Joint KITP-CCA Workshop -** Simons Foundation: Flatiron Institute, NYC, NY *January 2023*

[C] **CAMELS Workshop -** Simons Foundation: Flatiron Institute, NYC, NY *December 2022*

[P] **APS Mid-Atlantic Section Meeting -** Rutgers, NJ *December 2021*

[C] **AAS Meeting 235 -** Honolulu, HI *January 2020*

[O] **Society of Physics Students Meeting -** Texas A&M University, College Station, TX *February 2019*

[P] **CUWiP -** Texas A&M University, Corpus Christi, TX *January 2019*

[P] **AAS Meeting 233 -** Seattle, WA *January 2019*

[C] **Texas Astronomy Undergraduate Research Symposium -** UT Austin, TX *October 2018*

[P] **CIERA REU -** Northwestern University & Adler Planetarium, Chicago, IL *August 2018*

Publications

F=First Authored [4], C=Co-authored [4]

[F] **Tillman, et al. 2024.** The Effects of AGN Feedback on the Lyman-α Forest Flux Power Spectrum. ApJ, 980, 72, arXiv:2410.05383

[F] **Tillman, et al. 2023b.** An Exploration of AGN and Stellar Feedback Effects in the Intergalactic Medium via the Low-redshift Lyman-α Forest. ApJ, 166, 6, arXiv:2307.06360

[F] **Tillman, et al. 2023a.** Efficient Long-range Active Galactic Nuclei Feedback Affects the Low-redshift Lyman-α Forest. ApJL, 945, L17, arXiv:2210.02467

[C] **Butler Contreras, et al. 2023.** X-ray absorption lines in the warm-hot intergalactic medium: probing Chandra observations with the CAMEL simulations. MNRAS, Volume 519, Issue 2, Pages 2251-2261, arXiv:2211.15675

[C] **Francisco Villaescusa-Navarro, et al. 2023.** The CAMELS Project: Public Data Release. ApJS, 265, 54, arXiv:2201.01300

[C] **Burkhart, et al. 2022.** The Low-redshift Lyman-α Forest as a Constraint for Models of AGN Feedback. ApJL, 933, L46, arXiv:2204.09712

[F] **Tillman, et al. 2022.** Running late: testing delayed supermassive black hole growth models against the quasar luminosity function. MNRAS, Volume 511, Issue 4, Pages 5756–5767, arXiv:2109.14647

[C] **Cohn, et al. 2018.** ZFOURGE Extreme 5007Å Emission May Be a Common Early-lifetime Phase for Star-forming Galaxies at z >2.5. ApJ, 86, 141C, arXiv:1811.00025