

Alyssa Bulatek

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Appointments

2020 – Present **Graduate Student** (under Dr. Adam Ginsburg), *University of Florida*
Summer 2019 **Summer Student** (under Steve White), *Green Bank Observatory*
Summer 2018 **NSF REU Student** (under Dr. Judy Pipher and Craig McMurry), *University of Rochester*
2017 – 2018 **Research Assistant** (under Dr. John Cannon), *Macalester College*
Summer 2017 **NSF REU Student** (under Dr. Kevin Flaherty), *Wesleyan University*

Education

2020 – Present **PhD Candidate**, University of Florida, *Gainesville, FL*
Astronomy
2020 – 2022 **Master of Science**, University of Florida, *Gainesville, FL*
Astronomy
2016 – 2020 **Bachelor of Arts**, Macalester College, *St. Paul, MN*
Physics (Honors; Astronomy emphasis) and Applied Mathematics/Statistics, cum laude
Design and Modal Analysis of an Ultra-wideband Receiver for Green Bank Observatory
Advisor: Steve White

Fellowships, Scholarships, and Awards

Dec. 2022 Astro Award for Distinguished Service and Citizenship, *UF Astronomy Department*
Dec. 2022 Astro Award for Distinguished Teaching by a Graduate Student, *UF Astronomy Department*
2020 – 2025 Graduate School Fellowship, *University of Florida*
May 2020 Russell B. Hastings Award, *Macalester College Physics and Astronomy Department*
2016 – 2020 DeWitt Wallace Distinguished Scholarship, *Macalester College*
2017 – 2018 Minnesota Space Grant Consortium Scholarship, *MnSGC*

Publications

First Author

2308.08665 *The 107 GHz methanol transition is a dasar in G0.253+0.016*
The Astrophysical Journal, Volume 956, Issue 2 (2023)
A. Bulatek, A. Ginsburg, J. Darling, C. Henkel, K. Menten

Contributing Author

2401.09749 *Thermal Properties of the Hot Core Population in Sagittarius B2 Deep South*
The Astrophysical Journal, Volume 962, Issue 1 (2024)
D. Jeff, A. Ginsburg, **A. Bulatek**, N. Budaiev, Á. Sánchez-Monge, M. Bonfand, C. Battersby, F. Meng, P. Schilke, A. Schmiedeke
2308.16050 *JWST reveals widespread CO ice and gas absorption in the Galactic Center cloud G0.253+0.016*
The Astrophysical Journal, Volume 959, Issue 1 (2023)
A. Ginsburg, A. T. Barnes, C. D. Battersby, **A. Bulatek**, S. Gramze, J. D. Henshaw, D. Jeff, X. Lu, E. A. C. Mills, D. L. Walker

- 2110.11367 *A wind-blown bubble in the Central Molecular Zone cloud G0.253+0.016*
Monthly Notices of the Royal Astronomical Society, Volume 509, Issue 4 (2021)
J. D. Henshaw, M. R. Krumholz, N. O. Butterfield, J. Mackey, A. Ginsburg, T. J. Haworth, F. Nogueras-Lara, A. T. Barnes, and 11 additional authors, including **A. Bulatek**
- 2004.12176 **Measuring Turbulent Motion in Planet-forming Disks with ALMA: A Detection around DM Tau and Nondetections around MWC 480 and V4046 Sgr*
The Astrophysical Journal, Volume 895, Issue 2 (2020)
K. Flaherty, A. M. Hughes, J. B. Simon, C. Qi, X.-N. Bai, **A. Bulatek**, S. M. Andrews, D. J. Wilner, Á. Kóspál
**Received an IOP Publishing Top Cited Paper Award in 2023.*
- 1808.07108 *Delayed Stellar Mass Assembly in the Low Surface Brightness Dwarf Galaxy KDG 215*
The Astrophysical Journal Letters, Volume 864, Issue 1 (2018)
J. M. Cannon, Z. Shen, K. B. W. McQuinn, J. Bartz, L. Bralts-Kelly, **A. M. Bulatek**, S. Chinski, R. N. Ford, A. J. R. Gordon, G. Helmel, S. Hollenbach, and 9 additional authors
- 1709.10161 *First Characterization of the Neutral ISM in Two Local Volume Dwarf Galaxies*
The Astrophysical Journal Letters, Volume 848, Issue 1 (2017)
L. Bralts-Kelly, **A. M. Bulatek**, S. Chinski, R. N. Ford, H. E. Gilbonio, G. Helmel, R. McGlasson, A. Mizener, J. M. Cannon, S. Kaisin, I. Karachentsev, G. Denn

Conference Proceedings

- Lunar PAD Vacuum Flow Visualization Experiment for 3D Lunar/Planetary Landing Pads*
AIAA SciTech 2024 Forum, AIAA 2024-2542 (2024)
P. J. Albrecht, **A. Bulatek**, A. I. Campbell, H. Carson, V. Murai, A. Nicola, K. Schang, K. Smith
- 3D Printed Lunar Landing Pad Design Iteration and Analysis*
AIAA SciTech 2023 Forum, AIAA 2023-0068 (2023)
P. J. Albrecht, H. Carson, **A. Bulatek**, A. I. Campbell, L. Martin, M. Oswalt, V. Murai, K. Schang, A. Nicola, E. Romo, K. Smith

Non-Refereed Publications

- Design and Modal Analysis of an Ultra-wideband Receiver for Green Bank Observatory*
Macalester Journal of Physics and Astronomy, Volume 8, Issue 1 (2020)
A. Bulatek

Teaching

- Apr. 2024 *Guest Lecture, Macalester College*
PHYS 440: Observational Astronomy
- 2021 – 2022 Teaching Assistant, *University of Florida*
AST 3018: Astronomy and Astrophysics I (Spring 2022)
AST 3018: Astronomy and Astrophysics I (Fall 2021)
- 2018 – 2020 Astronomy Preceptor, *Macalester College*
PHYS 440: Observational Astronomy (Spring 2020)
PHYS 460: Astrophysics (Spring 2019)
PHYS 113: Modern Astronomy I (Spring 2018)
- 2018 – 2020 Physics Tutor, *Macalester College*

- '20, '17 – '18 Physics Grader, *Macalester College*
 PHYS 468: Statistical Mechanics (Spring 2020)
 PHYS 113: Modern Astronomy I (Spring 2018)
 PHYS 227: Principles of Physics II (Spring 2018)
 PHYS 226: Principles of Physics I (Fall 2017)
 PHYS 331: Modern Physics (Fall 2017)
- Fall 2019 Public Night Telescope Operator, *Macalester College Observatory*
- Fall 2018 Writing Assistant, *Macalester College*
 PHYS 194: The Cosmos
- Fall 2017 Physics Laboratory Assistant, *Macalester College*
 PHYS 331: Modern Physics

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Science Presentations

- May 2024 [Invited colloquium](#), Green Bank Observatory, *Green Bank, WV*
- Sept. 2023 [Candidacy talk](#), *University of Florida, Gainesville, FL* ([recording](#))
- May 2023 [Poster](#), *New Eyes on the Universe: SKA and ngVLA, Vancouver, Canada* ([flash talk](#))
- Apr. 2023 [Poster](#), *Protostars and Planets VII, Kyoto, Japan*
- Oct. 2022 [Talk](#), *UF Astronomy Graduate Symposium, Gainesville, FL*
- June 2022 [Poster](#), *From Stars to Galaxies II, Gothenburg, Sweden*
- Mar. 2022 [Masters thesis defense](#), *University of Florida (virtual)* ([recording](#))
- Oct. 2021 [Talk](#), *UF Astronomy Graduate Symposium, virtual*
- May 2021 [Contributed talk](#), *ISM 2021, Beirut (virtual)* ([recording](#))
- Jan. 2021 [iPoster Plus](#), *AAS 237, virtual* ([recording](#))

Outreach Presentations

- Jan. 2024 [Presentation](#), *Objects in the Sky (first grade), SEFS (virtual)*
- May 2023 [Social media interview](#), *@skaobservatory*
- Dec. 2022 [Presentation](#), *GEMS Light Up the Night, SEFS (virtual)*
- July 2022 [Podcast interview](#), *The Up & Coming Show*
- Oct. 2021 [Presentation](#), *Objects in the Sky (first grade), SEFS (virtual)*
- Aug. 2021 [Presentation](#), *Spectral Detective Work (eighth grade), SEFS (virtual)*
- Nov. 2019 [Host](#), *Statewide Star Party, Macalester College Observatory*
- Apr. 2019 [Radio interview](#), *"Radio Astronomy," WMCN 91.7 FM (Macalester College Radio)*
- Nov. 2017 [Radio interview](#), *"Radio Astronomy," WMCN 91.7 FM (Macalester College Radio)*

Undergraduate Presentations

- Apr. 2020 [Honors thesis defense](#), *Macalester College (virtual)* ([recording](#))
- Jan. 2020 [Poster](#), *CUWiP 2020 Minnesota, Minneapolis, MN*
- Jan. 2020 [Poster](#), *AAS 235, Honolulu, HI*
- Aug. 2019 [Lunch talk](#), *Green Bank Observatory, Green Bank, WV*
- Jan. 2019 [Poster](#), *AAS 233, Seattle, WA*
- Sept. 2018 [Poster](#), *Macalester College Student Research Showcase, St. Paul, MN*
- Aug. 2018 [Talk](#), *University of Rochester Physics REU Symposium, Rochester, NY*
- Oct. 2017 [Talk](#), *KNAC Student Research Symposium at Colgate University, Hamilton, NY*

Sept. 2017 [Poster](#), Macalester College Student Research Showcase, *St. Paul, MN*

Panels

July 2023 Graduate School, UF Astro REU, *Gainesville, FL*
Apr. 2023 Celebrating Today's Female Astronomers, Hippodrome Theatre, *Gainesville, FL*
Dec. 2022 [AL1GN STEM Cohort](#), *virtual*
Nov. 2022 Graduate School, UF Astronomy and Astrophysics Society, *Gainesville, FL*
Oct. 2022 Women in Astronomy, UF Astronomy and Astrophysics Society, *Gainesville, FL*
Jan. 2020 Undergraduate Research Opportunities, [CUWiP 2020 Minnesota](#), *Minneapolis, MN*

Conferences and Workshops

May 2023 [New Eyes on the Universe: SKA and ngVLA](#), *Vancouver, Canada*
Apr. 2023 [Protostars and Planets VII](#), *Kyoto, Japan*
Sept. 2022 [From Cells to Galaxies \(Radio Astronomy/Medical Imaging\) Workshop](#), *St. Paul, MN*
June 2022 [From Stars to Galaxies II](#), *Gothenburg, Sweden*
Nov. 2021 [IAA Severo Ochoa Advanced School on Star Formation](#), *Granada, Spain*
May 2021 [ISM 2021](#), *Beirut (virtual)*
Jan. 2021 [237th Meeting of the American Astronomical Society](#), *virtual*
Jan. 2020 [Conferences for Undergraduate Women in Physics \(CUWiP\) 2020](#), *Minneapolis, MN*
Jan. 2020 [235th Meeting of the American Astronomical Society](#), *Honolulu, HI*
Oct. 2019 [Alda Center for Communicating Science Workshop](#) at Macalester, *St. Paul, MN*
Jan. 2019 [233rd Meeting of the American Astronomical Society](#), *Seattle, WA*

Professional Society Memberships

2018 – Present American Astronomical Society
2020 – 2022 American Association for the Advancement of Science
2018 – 2020 Macalester College Society of Physics Students
2018 – 2019 American Physical Society

Service, Public Outreach, and Extracurriculars

National Level

2023 – Present Board Member, Secretary, [Alliance for the Low-Income and First-Generation Narrative](#)
2020 – 2021 Pen pal, [Letters to a Pre-Scientist](#)

State Level

2021 – Present Volunteer, [Scientist in Every Florida School \(SEFS\)](#), *Florida Museum*

University Level

2022 – Present Member, [LGBTQ+ Presidential Advisory Committee](#), *University of Florida*

Department Level

2023 – Present Executive Board Officer, Graduate Astronomy Organization, *University of Florida*
2022 – 2024 Outreach Coordinator, Graduate Astronomy Organization, *University of Florida*
Co-coordinator for 2023 – 2024

- 2022 – 2023 Graduate Student Council Representative, Astronomy Department, *University of Florida*
2021 – 2022 Secretary, Graduate Astronomy Organization, *University of Florida*

Local Community Level

- 2023 – 2024 Organizer, *UF Shines Solar, Gainesville, FL*; middle/high school outreach
2022 – Present Volunteer, *UF Astro Mobile Planetarium, Gainesville, FL*; el./middle school visits
2022 – Present Volunteer, *UF Campus Teaching Observatory, Gainesville, FL*

Extracurricular Activities

- 2022 – Present Administrative Assistant, *Lunar Plume Alleviation Device Team*
2019 – 2020 Stitcher, Theatre and Dance Department, *Macalester College*
2018 – 2020 Chief Operator, WMCN 91.7 FM (*Macalester College Radio*)
2017 – 2020 Cofounder/President/Treasurer/team member, High Power Rocketry at Macalester
Fall 2019 Member, Women in Physics and Astronomy Reading Group, *Macalester College*

Supervision and Mentoring

- 2023 – Present Peter Lansing (high school student)

Observing Experience

- 2024 **GBT Semester 24A**, *From ACES to TENS: The Central Molecular Zone with MUSTANG*
6 hours on MUSTANG-2 (in progress)

Awarded Telescope Time

Principle Investigator

- 2022 – 2023 **JWST Cycle 1**, *Star Formation along the Galactic Dust Ridge: The Brick and Cloud C*
8.6 hours prime, 1.6 hours parallel
2022 **GTC 2022A**, *OB Candidates in The Brick with EMIR*
2 hours
2021 **GTC 2021A**, *OB Candidates in The Brick with EMIR*
2 hours (not observed)

Co-Investigator

- 2021 **ALMA Cycle 8**, *Star Formation in the Brick & Cloud C: Combining JWST with ALMA*
15.6 hours