

# Alyssa Bulatek

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## Education

- 2020 – Present **PhD Candidate**, University of Florida, *Gainesville, FL*  
Astronomy  
Advisor: Adam Ginsburg
- 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

## 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 McMurtry), *University of Rochester*
- 2017 – 2018 **Research Assistant** (under Dr. John Cannon), *Macalester College*
- Summer 2017 **NSF REU Student** (under Dr. Kevin Flaherty), *Wesleyan University*

## 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

- in prep. [2] [BLS I: A molecular line survey of a warm core and the medium around it in G0.253+0.016](#)  
**A. Bulatek**, A. Ginsburg, M. G. Santa-Maria, K. Immer, D. Jeff, P. Lansing
- 2308.08665 [1] [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 [6] [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 [5] *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 [4] *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 [3] *\*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 [2] *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 [1] *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

### Software Development

- [1] *pyspeckit/pyspeckit: Version 1.0.0 - First full release w/ paper*  
Zenodo (2022)  
A. Ginsburg, J. Mirocha, V. Sokolov, J. Pineda, M. de Val-Borro, B. Sipőcz, E. Rosolowsky, A. Youngblood, I. Petrashkevich, M. Craig, and 6 additional authors, including **A. Bulatek**

### Conference Proceedings

- [3] *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
- [2] *An Ultra-wideband Feed Horn for the Green Bank Telescope*  
URSI GASS 2023, 1299 (2023)  
S. White, R. Simon, J. Nelson, G. Watts, R. Lynch, L. Jensen, **A. Bulatek**, M. Harris, S. Ransom
- [1] *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

- [1] *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**

## Certificates

Dec. 2024 Center for the Integration of Research, Teaching and Learning (CIRTL) Associate [Certificate](#)

## 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

## Presentations

### Science Presentations

- Oct. 2024 [Poster](#), Astraeus Institute Launch Event, *Gainesville, FL*
- Aug. 2024 [Talk](#), ACES Boston Workshop, *Cambridge, MA*
- 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

- Oct. 2024 Presentation, Radio Astronomy Q&A (11th/12th grade), [SEFS](#) ([virtual](#), [recording](#))
- 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*

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### **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*

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### **Conferences and Workshops**

- Aug. 2024 [ACES Boston Workshop](#), *Cambridge, MA*
- 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*

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### **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 – 2024 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 (summer) outreach  
2022 – Present Organizer/Volunteer, *UF Astro Mobile Planetarium*; N. central FL el./middle school visits  
12 school visits, 32+ individual shows  
2022 – 2024 Volunteer, *UF Campus Teaching Observatory, Gainesville, FL*

### Extracurricular Activities

- 2022 – 2024 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*

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## Supervision and Mentoring

- 2023 – Present P. Lansing (high school student)

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## Observing Experience

- 2024 – Present **Rosemary Hill Observatory**, *Remote Experimental Team at RHO (RETRHO)*  
9 nights in 24C, 4 nights in 25A (2 as senior operator)  
2024 **GBT Semester 24A**, *From ACES to TENS: The Central Molecular Zone with MUSTANG*  
6 hours on MUSTANG-2

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## 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 (Co-PI)  
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

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### 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