

EDUCATION

Harvard University	2023 – Present
– Ph.D., Astronomy & Astrophysics	
University of Virginia	2022
– B.S. Astronomy-Physics (with high distinction) & Statistics	
– <i>Thesis</i> : Star Formation and Feedback in Low-metallicity Environments: From Molecular Clouds to Protostars	

EXPERIENCE

Graduate Researcher, Center for Astrophysics Harvard & Smithsonian	2023 –
<i>Advisors: Prof. Alyssa Goodman & Dr. Catherine Zucker</i>	
Undergraduate Researcher, University of Virginia	2019 – 2022
<i>Advisor: Prof. Rémy Indebetouw</i>	
NSF REU, Smithsonian Astrophysical Observatory	2022
<i>Advisor: Prof. Alyssa Goodman</i>	
Undergraduate Research Fellow, Chalmers Initiative on Cosmic Origins	2020 – 2021
<i>Advisors: Prof. Jonathan Tan & Dr. Giuliana Cosentino</i>	

AWARDS

NSF Graduate Research Fellowship	2023
Goldwater Scholarship	2022
Astronaut Scholarship	2022
Universities Space Research Association Distinguished Undergraduate Award	2022
D. Nelson Limber Award, UVA Dept. of Astronomy (<i>Outstanding 4th year undergraduate</i>)	2023
Vysotsky Prize, UVA Dept. of Astronomy (<i>Outstanding 3rd year undergraduate</i>)	2022
McCullough Scholarship, UVA Dept. of Astronomy (<i>Outstanding 2nd year undergraduate</i>)	2021
Echols Scholar & College Science Scholar, UVA	2018

PUBLICATIONS

7. O'Neill, T. J.; Goodman, A. A.; Soler, J. D.; Zucker, C.; Han, J. J. *A 3D Model of the Local Bubble's Magnetic Field: Insights from Dust and Starlight Polarization*. 2024, arXiv:2410.17341, submitted to ApJ.
6. O'Neill, T. J.; Zucker, C.; Goodman, A. A.; Edenhofer, G. *The Local Bubble is a Local Chimney: A New Model from 3D Dust Mapping*. 2024, ApJ, 973, 136.
5. Hsu, C.; Tan, J. C.; Christie, D.; Cheng, Y.; O'Neill, T. J. *GMC Collisions As Triggers of Star Formation. VIII. The Core Mass Function*. 2023, MNRAS, 552, 700.
4. O'Neill, T. J.; Indebetouw, R.; Sandstrom, K. M.; Bolatto, A. D.; Jameson, K. E.; Carlson, L. R.; Finn, M. K.; Meixner, M.; Sabbi, E.; Sewilo, M. *Sequential Star Formation in the Young SMC Region NGC 602: Insights from ALMA*. 2022, ApJ, 938, 82.

3. O'Neill, T. J.; Indebetouw, R.; Bolatto, A. D.; Madden, S. C.; Wong, T. *Effects of CO-dark Gas on Measurements of Molecular Cloud Stability and the Size-Linewidth Relationship*. 2022, ApJ, 933, 179.
2. Swift, J. J.; and forty other authors including O'Neill, T. J. *The Renovated Thacher Observatory and First Science Results*. 2022, PASP, 134, 1033.
1. O'Neill, T. J.; Cosentino, G.; Tan, J. C.; Cheng, Y.; Liu, M. *The Core Mass Function across Galactic Environments. III. Massive Protoclusters*. 2021, ApJ, 916, 45.

Non-refereed:

2. Rasmussen, K.; Chen, J.; Colquhoun, R. L.; Frentz, S.; Hiatt, L.; Kosciesza, A. J.; Olsen, C.; O'Neill, T. J.; Zamloot, V.; Strauss, B. E. *Gender Inclusive Methods in Studies of STEM Practitioners*. 2023, arXiv:2307.15802.
1. Strauss, B. E.; Borges, S. R.; Faridani, T.; Grier, J. A.; Kiihne, A.; Maier, E. R.; Olsen, C.; O'Neill, T.; Rivera-Valentín, E. G.; Sneed, E. L.; Waller, D.; Zamloot, V. *Nonbinary Systems: Looking Towards the Future of Gender Equity in Planetary Science*. 2020, State of the Profession White Paper for the Planetary Science and Astrobiology Decadal Survey 2023–2032.

PRESENTATIONS

Talks:

Multiphase Madness: Resolving the CGM in Theory and Observations; Cambridge, MA. <i>The Topology of the Local Disk-Halo Interface</i>	2024
New Computational Methods in Milky Way Dynamics and Structure; Ringberg Castle, Germany. <i>Mapping Galactic Bubbles, Shells, and Clouds with Persistent Homology</i>	2024
Northeast Star & Planet Formation Meeting; MIT Haystack Observatory. <i>Mapping Galactic Bubbles, Shells, and Clouds with Persistent Homology</i>	2024
244 th Meeting of the AAS; Madison, WI. <i>Mapping Galactic Bubbles, Shells, and Clouds with Persistent Homology</i>	2024
Fields, Flows, & Filaments in the Magnetic ISM; Stanford KIPAC. <i>A 3D Map of the Local Bubble's Magnetic Field: Insights from Dust & Starlight Polarization</i>	2024
Surveying the Milky Way: the Universe in Our Own Backyard; Caltech IPAC. <i>The 3D Structure of Bubbles & Clouds in the Solar Neighborhood, identified with Persistent Homology</i>	2023
Harvard-Heidelberg Star Formation Workshop; Cambridge, MA. <i>The 3D Structure of Bubbles & Clouds in the Solar Neighborhood, identified with Persistent Homology</i>	2023
Colloquium, UVA Physics Department; Charlottesville, VA. <i>Mapping the Local Bubble's Magnetic Field in 3D</i>	2023
Press Conference at 241 st Meeting of the AAS; Seattle, WA. <i>A 3D Map of the Local Bubble's Magnetic Field</i>	2023
241 st Meeting of the AAS; Seattle, WA. <i>A 3D Map of the Local Bubble's Magnetic Field</i>	2023
Max Planck Institute for Extraterrestrial Physics CAS Star & Planet Formation Journal Club; remote. <i>Sequential Star Formation in the Young SMC Region NGC 602</i>	2022
Michigan State University Astro Coffee; remote. <i>The Core Mass Function Across Galactic Environments</i>	2021

237 th Meeting of the AAS; remote. <i>The Core Mass Function in Massive, Dense Protoclusters</i>	2021
VICO-CICO Fall Science Workshop; remote. <i>The Core Mass Function in Massive Protoclusters</i>	2020

Posters:

229 th meeting of the AAS; Grapevine, TX. <i>First Light of the Renovated Thacher Observatory</i>	2017
227 th meeting of the AAS; Kissimmee, FL. <i>The Renovation and Future Capabilities of the Thacher Observatory</i>	2016

Public Talks:

Gloucester Area Astronomy Club; Gloucester, MA. <i>The Local Bubble & Beyond: Mapping the Bubbly Milky Way in 3D</i>	2024
Thacher High School; Ojai, CA. <i>Mapping the Bubbly 3D Milky Way</i>	2023

OBSERVING TIME

PI: ALMA Cycle 9, “CO-dark gas in the Low-metallicity Star-forming region NGC 602.” 11 hrs.
 Co-I: ALMA Cycle 10 (PI: E. Koch).
 Co-I: ALMA Cycle 10 (PI: S. Madden).
 Co-I: JWST Cycle 3 (PI: E. Sabbi).
 Co-I: VLA, DDT (PI: J. Han).

ADVISING

Abigail Bohl: Smithsonian Astrophysical Observatory REU Student	2024 –
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SERVICE & OUTREACH

Mentor, Harvard Physics Polaris Mentoring Program	2023 –
Organizing Committee, Harvard-Heidelberg Star Formation Workshop	2023, 2024
Organizing Committee, Multiphase Madness: Resolving the CGM in Theory and Observations	2024
Diversity, Equity, and Inclusion Committee, UVA Dept. of Astronomy	2021 – 2022
Graduate-Undergraduate Astronomy Committee, UVA Dept. of Astronomy	2020 – 2022
Undergraduate Peer Mentoring Program, UVA Dept. of Astronomy	2020 – 2022

October 2024