THEO O'NEILL

EDUCATION

University of Virginia December 2022

- B.S. Astronomy-Physics (with high distinction) & Statistics
- Thesis: Star Formation and Feedback in Low-metallicity Environments: From Molecular Clouds to Protostars

EXPERIENCE

Research Assistant, Harvard-Smithsonian Center for Astrophysics Advisor: Prof. Alyssa Goodman	2023 –
Undergraduate Researcher, UVA Advisor: Prof. Rémy Indebetouw	2019 - 2022
NSF REU, Smithsonian Astrophysical Observatory Advisor: Prof. Alyssa Goodman	2022
Undergraduate Research Fellow, Chalmers Initiative on Cosmic Origins Advisors: Prof. Jonathan Tan & Dr. Giuliana Cosentino	2020 - 2021
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 (Outstanding 4 th year undergraduate)	2023
Vyssotsky Prize, UVA Dept. of Astronomy (Outstanding 3 rd year undergraduate)	2022
McCullough Scholarship, UVA Dept. of Astronomy (Outstanding 2 nd year undergraduate)	2021
Echols Scholar, UVA	2018
College Science Scholar, UVA	2018

Publications

- O'Neill, T. J.; Goodman, A. A.; Soler, J. D.; Han, J. J.; Zucker, C. Mapping the Local Bubble's Magnetic Field in 3D. 2023, available on Authorea preprint server (DOI: 10.22541/au.167303779.92162611).
- 6. 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.
- 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.
- 4. 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.
- 3. Swift, J. J; and forty other authors including O'Neill, T. J. The Renovated Thacher Observatory and First Science Results. 2022, PASP, 134, 1033.

- 2. 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.
- 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:	
Colloquium, UVA Physics Department. Mapping the Local Bubble's Magnetic Field in 3D	2023
Press Conference at 241 st Meeting of the AAS. A 3D Map of the Local Bubble's Magnetic Field	2023
241 st Meeting of the AAS. A 3D Map of the Local Bubble's Magnetic Field	2023
Max Planck Institute for Extraterrestrial Physics CAS Star & Planet Formation Journal Club. Sequential Star Formation in the Young SMC Region NGC 602	2022
UVA Sigma Pi Sigma Research Symposium. Mapping the Local Bubble's Magnetic Field in 3D	2022
Smithsonian Astrophysical Observatory REU Symposium. Mapping the Local Bubble's Magnetic Field in 3D	2022
Michigan State University Astro Coffee. The Core Mass Function Across Galactic Environments	2021
237 th Meeting of the AAS. The Core Mass Function in Massive, Dense Protoclusters	2021
VICO-CICO Fall Science Workshop. The Core Mass Function in Massive Protoclusters	2020
VICO-CICO Summer Symposium. Searching for the Peak of the Core Mass Function with ALMA	2020
Posters:	
241 st Meeting of the AAS. (Costa et al.) Complete Confusion: Photometry of Extended Sources in Interferometric Radio Data	2023
52 nd Lunar and Planetary Science Conference. (Strauss et al.) Nonbinary Systems: Gender-inclusive Study Methods in Planetary Science	2021
American Geophysical Union Fall Meeting. (Strauss et al.) Nonbinary Systems: Looking Toward the Future of Gender Equity in Planetary Science	2020
232 nd meeting of the AAS. (Swift et al.) Nearby Type Ia Supernova Follow-up at the Thacher Observatory	2018
229 th meeting of the AAS. First Light of the Renovated Thacher Observatory	2017
229 th meeting of the AAS. (Swift et al.) Does the Eclipsing Binary KIC 10935310 Contain a Massively Inflated M Dwarf?	2017
229 th meeting of the AAS. (Edwards et al.) A Search for Planet 9 at the Thacher Observatory	2017

2016

Observing Time

PI: ALMA Cycle 9 "CO-dark gas in the Low-metallicity Star-forming region NGC 602." 11 hrs Co-I: Las Cumbres Observatory Education Program, FLOYDS spectrograph (PI: J. Swift). 2 hrs

SERVICE & OUTREACH

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
UVA Astronomy Club	
• Vice President	2022
• Outreach Chair & Event Manager	2020 - 2022
Astronomy Undergraduate Council (Chair), UVA Dept. of Astronomy	2020 - 2021

SKILLS

Programming Python, R, SAS, SQL
Applications CASA, glue, DS9, OpenSpace, CARTA, MESA

 $April\ 2023$