

Dr. Allison P. M. Towner

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- EMPLOYMENT** **University of Florida, Gainesville, FL**
Postdoctoral Associate August 2020 - present
Supervisor: Dr. Adam Ginsburg
- North American ALMA Science Center**
ALMA Ambassador February 2022 - November 2022
Contract position held simultaneously with UF Postdoc
Supervisor: Dr. George Privon
- EDUCATION** **University of Virginia, Charlottesville, VA**
Ph.D. Astronomy May 2016 - August 2020
M.S. Astronomy August 2014 - May 2016
Advisor: Dr. Crystal Brogan
- University of Arizona, Tucson, AZ**
B.S. Astronomy and Physics January 2010 - May 2013
Advisor: Dr. Christopher Walker
- Wellesley College, Wellesley, MA**
B.A. Astrophysics program August 2008 - January 2010
- FELLOWSHIPS & AWARDS** Grote Reber Doctoral Fellowship September 2018 - August 2020
VLA SOS Award December 2018 - January 2020
NRAO Graduate Student Research Assistantship May - August 2016
NRAO Graduate Student Research Assistantship May - August 2015
Galileo Circle Scholarship (U. Arizona) August 2011 - May 2012
Galileo Circle Scholarship (U. Arizona) August 2010 - May 2011
- REFEREED PUBLICATIONS (15 Total, 5 First-author, 10 Contributing author)** **Towner, A. P. M.**, Ginsburg, A., Bally, J., et al., “ALMA-IMF VIII – Investigating the origin of stellar masses: Catalog and Physical Properties of 319 SiO Outflow Candidates in the ALMA-IMF Large Program,” **2023**, under internal revision
- Nony, T., Galván-Madrid, R., Motte, F., et al., “ALMA-IMF VI – Prestellar and protostellar core populations in the W43 cloud complex,” **2023**, *A&A*, accepted. [Link](#)
- Pouteau, Y., Motte, F., Nony, T., et al., “ALMA-IMF VII – Investigating the origin of stellar masses: CMF evolution in the W43-MM2&MM3 mini-starburst,” **2022**, *A&A*, accepted. [Link](#)
- Pouteau Y., Motte F., Nony T., et al., “ALMA-IMF III – Investigating the origin of stellar masses: top-heavy core mass function in the W43-MM2&MM3 mini-starburst,” **2022**, *A&A* 664, A26. [Link](#)
- Ginsburg, A., Csengeri, T., Galvan-Madrid, R., et al., “ALMA-IMF II – Investigating the Origin of Stellar Masses: Continuum Images and Data Processing,” **2021**, *A&A* 662, A9. [Link](#)
- Motte, F., Bontemps, S., Csengeri, T. et al., “ALMA-IMF I – Investigating the Origin

of Stellar Masses: Introduction to the Large Program and First Results,” **2021**, *A&A*, 662, A8. [Link](#)

Towner, A. P. M., Brogan, C. L., Hunter, T. R., Cyganowski, C. J., “VLA Observations of 9 Extended Green Objects in the Milky Way: Ubiquitous Weak, Compact Continuum Emission, and Multi-epoch Emission from CH₃OH, H₂O, and NH₃ Masers,” **2021**, *ApJ*, 923, 263. [Link](#)

Hunter, T. R., Brogan, C. L., De Buizer, J. M., **Towner, A. P. M.** et al., “The Extraordinary Outburst in the Massive Protostellar System NGC 6334 I-MM1: Strong Increase in Mid-Infrared Continuum Emission,” **2021**, *ApJL*, 912, L17. [Link](#)

Towner, A. P. M., “Investigating the Early Stages of Massive Star Formation in Protocluster Environments: Multiwavelength Studies of Extended Green Objects,” **2020**, Ph.D. Thesis. [Link](#)

Brogan, C. L., Hunter, T. R., **Towner, A. P. M.**, et al., “Sub-arcsecond (sub)millimeter imaging of the massive protocluster G358.93-0.03: Discovery of 14 new methanol maser lines associated with a hot core,” **2019**, *ApJL*, 881, L35. [Link](#)

Towner, A. P. M., Brogan, C. L., Hunter, T. R., Cyganowski, C. J., Friesen, R. K., “SOFIA FORCAST Photometry of 12 Extended Green Objects in the Milky Way,” **2019**, *ApJ*, 875, 135. [Link](#)

Towner, A. P. M., Brogan, C. L., Hunter, T. R., Cyganowski, C. J., McGuire, B. A. M., Indebetouw, R., Friesen, R. K., Chandler, C. J., “VLA Survey of Dense Gas in Extended Green Objects: Prevalence of 25 GHz Methanol Masers,” **2017**, *ApJS*, 230, 22. [Link](#)

Turner, J. D., Pearson, K. A., Biddle, L. I., et al., “Ground-based near-UV observations of 15 transiting exoplanets: constraints on their atmospheres and no evidence for asymmetrical transits,” **2016**, *MNRAS*, 459, 789. [Link](#)

Turner, J. D., Smart, B. M., Hardegree-Ullman, K. K., et al., “Near-UV and optical observations of the transiting exoplanet TrES-3b,” **2013**, *MNRAS*, 428, 678. [Link](#)

Kloosterman, J., Cottam, T., Swift, B., et al., “First observations with SuperCam and future plans,” **2012**, *Proceedings of the SPIE*, 8452, 845204. [Link](#)

**INVITED
TALKS
(4 TOTAL)**

“Investigating the Early Stages of Massive Star Formation in Protocluster Environments: Multi-wavelength Studies of Extended Green Objects,” *Department of Astronomy Colloquium Series*, University of Florida, December 10, 2020.

“Investigating the Early Stages of Massive Star Formation in Protocluster Environments: Multiwavelength Studies of Extended Green Objects,” *SOFIA Research Seminar Series* (SOFIA/USRA, NASA Ames Research Center), February 21, 2020.

“Episodic Accretion in Massive Protostars: Observations, Significance, and a Proposed SMA Survey,” *SMA Seminar Series* (Harvard-Smithsonian Center for Astrophysics/Submillimeter Array), Dec 06, 2019.

“SOFIA FORCAST Photometry of 12 Extended Green Objects in the Milky Way,” *SOFIA Teletalk Series* (Stratospheric Observatory for Infrared Astronomy), August 07, 2019. Abstract, slides, and audio recording are archived online at sofia.usra.edu.

**CONTRIBUTED
TALKS &
POSTERS
(20 TOTAL)**

Origins Seminar Series, UArizona/Alien Earths, 2022

Talk

Tuesday UVa/NRAO Astronomy (TUNA) Lunch Talk Series, 2022

Talk

ALMA-IMF Collaboration Meeting, 2022b

Talk

From Stars to Galaxies II, 2022	Poster
Computational Astrophysics in the ngVLA ERA, 2022	Poster
ALMA-IMF Collaboration Meeting, 2022a	Talk
Star Formation: From Clouds to Discs, 2021	Poster
235th Meeting of the American Astronomical Society, 2020	Thesis Talk
233rd Meeting of the American Astronomical Society, 2019	Poster
Tracing the Flow, 2018	Poster
231st Meeting of the American Astronomical Society	Poster
Astrobiology Graduate Conference, 2017	Poster
Multi-Scale Star Formation, 2017	Poster
Southeastern Section of the American Physical Society, 2016	Poster
The Local Truth: Star-Formation and Feedback in the SOFIA Era, 2016	Poster
223rd Meeting of the American Astronomical Society, 2014	Poster
223rd Meeting of the American Astronomical Society, 2014	Talk (Special Session)
222nd Meeting of the American Astronomical Society, 2013	Talk
221st Meeting of the American Astronomical Society, 2013	Poster
220th Meeting of the American Astronomical Society, 2012	Poster

OBSERVING PROPOSALS (20 TOTAL)

PI: 2 JVLA proposals, 2 ALMA proposals, 2 SMA proposals

- SMA Semester 2020B, September 2020, “Characterizing MYSO Accretion Outburst Candidates with the SMA,”, project 2020B-S043
- SMA Semester 2020A, March 2020, “Characterizing MYSO Accretion Outburst Candidates with the SMA,”, project 2020A-S058
- ALMA Cycle 7, April 2019, “Measuring the Demographics of Typical Nascent Massive Protoclusters,” project 2019.1.00444.S
- ALMA Cycle 6, April 2018, “Measuring the Demographics of Typical Nascent Massive Protoclusters,” project 2018.1.01070.S
- VLA Semester 2018A, August 2017, “Surveying the Protostellar Population Powering Extended Green Objects (EGOs),” project VLA/18A-249
- VLA Semester 2017B, February 2017, “Surveying the Protostellar Population Powering Extended Green Objects (EGOs),” project VLA/17B-323

Co-I: 10 ALMA proposals (Cycle 3 - Cycle 9, inclusive), 2 SMA proposals (2020A, 2020B), 1 VLA proposal (2022B), 1 SOFIA proposal (Cycle 4)

COMPUTING SKILLS & ADDITIONAL TRAINING

Languages & packages:

Python, IDL, C, R, MATLAB; CASA (including pipeline), CASAVIEWER; CARTA, astropy, Spectral-Cube, pyspeckit, radio-astro-tools, APLpy; DS9; Radex, XCLASS, CLOUDY; GILDAS/CLASS; IRAF; various TCS software

Direct (on-site) Observing Experience:

SMA, GBT, ARO 12-m, APO ARC 3.5-m, Kuiper 61”, Bok 90”, Skynet

Workshops and Training Events:

NRAO Synthesis Imaging Workshop (June 2016, Socorro, NM; June 2020, virtual)

SMA Interferometry School, Virtual (March 2021)

ALMA Ambassador Program technical training (February 2022, August 2022)

PROFESSIONAL SERVICE

ALMA Ambassador (North American ALMA Science Center): Webinars (1), Workshops (2, hybrid format), ALMA Archival SOS TAC, creation of custom self-calibration tutorials (line and continuum), creation of graphical representations of contrasting self-calibration methods

ALMA Primer Video Series Working Group: Script writing & editing; storyboards & animation planning; video narration, “ALMA Primer Series: Intro to Calibration,” [Link, 4:27 onward](#)

Scientific Referee: MNRAS, ApJ, ApJS

TAC Service: NRAO (Archival SoS), SOFIA

TEACHING & MENTORING

Instructor of Record

Astronomy 2037, “Life in the Universe,” University of Florida Spring 2022

Mentor, Astronomy REU Program

University of Florida June 2021 - August 2021

Teaching Training

“An Introduction to Evidence-Based STEM Undergraduate Teaching” Fall 2021
Center for the Integration of Research, Teaching, and Learning (CIRTL, online)

Teaching Assistantships:

Head TA, all courses Fall 2015–Spring 2016

Head TA, ASTR 1230 course Spring 2015

Graduate TA (various courses) August 2014 - May 2016

Course Grader:

Interstellar Medium (ISM), graduate-level, University of Virginia Spring 2019

Radio Astronomy, graduate-level, University of Virginia Fall 2016

Gen-Ed Astronomy (various courses), University of Arizona Fall 2010 - Fall 2012

Learning-disabilities Tutoring:

Strategic Alternative Learning Techniques (SALT) Center, UArizona 2013–2014

EDUCATION & OUTREACH

Chair, Grad-Undergrad Committee

University of Virginia June 2017 - May 2020

Presenter & Volunteer

August 2014 - August 2020
McCormick and Fan Mountain Observatory Public Nights, University of Virginia

President, University of Arizona Astronomy Club

University of Arizona (>30 star parties and outreach events) Jan 2011 - Jan 2012

CONFERENCE, WORKSHOP, & SYMPOSIUM PLANNING (8 TOTAL)

ALMA Cycle 9 Proposal Preparation Workshop, hybrid April 2022
University of Florida

ALMA Data Processing Workshop, hybrid October 2022
University of Florida

Undergraduate Research Symposium (AURAS) April 2018, April 2020
University of Virginia

Physics GRE Prep Course Summer 2017, 2018, 2019
University of Virginia & NRAO

Undergraduate Skills Workshops 2017-2019
University of Virginia & NRAO

Astrobiology Graduate Conference (AbGradCon) - LOC Spring 2017
University of Virginia & NRAO

AAS 223 Special Session 159/160 January 2014
University of Arizona/AAS 223, National Harbor, MD

AAS 222 Education Session 104 June 2013
University of Arizona/AAS 222, Indianapolis, IN