

Tyler Holland-Ashford

NASA Goddard Space Flight Center
8800 Greenbelt Rd B34
Greenbelt, Md, 20771
USA

Phone: (301) 789-9114
tyler.e.holland-ashford@nasa.gov
Web: <https://tyler-hollandashford.netlify.app/>
United States Citizen

Postdoctoral Positions:

NASA Postdoctoral Program: — X-ray Astrophysics with <i>XRISM</i>	2024–Present
NASA Goddard Space Flight Center	
Advisor: Dr. Brian Williams	
Postdoctoral Fellow — Harvard Future Faculty Leader Fellowship	2021–2024
Center for Astrophysics Harvard & Smithsonian	
Advisor: Dr. Pat Slane	

Education

The Ohio State University	Astronomy	Ph.D., 2021
The Ohio State University	Astronomy	M.S., 2017
Advisor: Dr. Laura Lopez		
Harvey Mudd College	Physics	B.S., 2015
Advisor: Dr. Ann Esin		

Honors and Awards

PI, <i>Chandra</i> Observing Proposal (\$48,000), Cycle 24	2022
Title: “ <i>Measuring Neutron Star Proper Motions with Chandra</i> ”	
Dean’s Distinguished University Dissertation Year Fellowship, <i>OSU</i>	2020-2021
Co-PI, <i>Chandra</i> Archival Proposal (\$53,000), Cycle 21	2019
Title: “ <i>Quantifying Heavy Element Asymmetries in SNRs with Chandra</i> ”	

Presentations (17 talks, 5 poster presentations)

“ <i>Measuring Neutron Star Velocities with AXIS: Building Upon the Legacy of Chandra</i> ”	
AXIS Community Science Conference, Talk	May 2025
“ <i>Ejecta Mass Ratios in Kepler’s SNR & Fitting Highly Complex Global SNR Spectra</i> ”	
NASA GSFC X-ray Journal Club, Talk	April 2025
SNRs III Conference in Crete, Greece, Talk	June 2024
21st HEAD Meeting, Talk	April 2024
20th HEAD Meeting, Poster Presentation	March 2023
“ <i>Constraining SNR explosion properties from X-ray-emitting shocked ejecta</i> ”	
239th AAS Meeting, Invited Talk	January 2023
“ <i>Demographics of Neutron Stars in Supernova Remnants</i> ”	
Supernova Remnants and Their Progenitors Workshop, Invited Talk	August 2022
“ <i>Supernova Remnant Typing through X-ray Emission Line Morphology</i> ”	
<i>Chandra</i> Data Science Workshop, Invited Talk	August 2021
“ <i>Probing Ejecta Asymmetries in Core-Collapse SNRs</i> ”	
Carnegie Observatories Lunch Talk	Spring 2021

237th AAS Meeting, Talk	Winter 2021
KIPAC Tea Talk, Invited Talk	Fall 2020
University of Michigan High Energy Seminar, Invited Talk	Fall 2020
CfA Seminar, Talk	Fall 2020
“ <i>Measuring the Asymmetries of Heavy Elements in the Supernova Remnant Cassiopeia A</i> ”	
20 Years of <i>Chandra</i> Meeting, Poster Presentation	Winter 2019
SNRs II Conference in Crete, Greece, Talk	Summer 2019
17th HEAD Meeting, Poster Presentation	Spring 2019
“ <i>Asymmetries of Heavy Elements in Cassiopeia A</i> ”	
NSBP Conference, Talk	Fall 2018
“ <i>Comparing Neutron Star Kicks to Supernova Remnant Asymmetries</i> ”	
16th HEAD Meeting, Poster Presentation	Summer 2017
“ <i>Using Neutron Star Kick Velocities to Investigate Supernova Remnant Asymmetries</i> ”	
SNR Workshop at Niels Bohr Institute, Copenhagen, Denmark, Talk	Summer 2017
SNR Workshop at UC Santa Cruz, Talk	Spring 2017
“ <i>Comparing Neutron Star Kicks to Supernova Remnant Asymmetries</i> ”	
SACNAS National Conference, Poster Presentation	Fall 2016
2nd Universidad de Católica-OSU Workshop, Chile, Talk	Spring 2016

Teaching and Service Experience

<i>XRISM</i> Cycle 2 Peer Review Panelist	2025
<i>Chandra</i> Cycle 26 Peer Review Panelist	2024
CfA Tennis Club Treasurer	2023–2024
<i>Chandra</i> Cycle 24 Peer Review Facilitator	2022
Postdoc Council (PDC) Member, CfA Harvard & Smithsonian	2022
Teaching Assistant, Astronomy Department, OSU	2018–2019
Presenter, OSU <i>Arne Slettebak Planetarium</i>	2016–2019
Public and Astronomy Class Attendees	
Organizer, OSU Graduate Student Summer Colloquium	Summer 2018
Co-organizer, OSU Graduate Student Order of Magnitude (GOOM) Class	2017–2018
OSU Astronomy Public Outreach	Summer 2016
<i>Cosmic Cratering</i> activity at Columbus’ Upper Arlington Public Library	
LBT Observing, 5 nights	June 2016

Refereed Journal Publications (7 First Author)

ORCID: 0000-0002-7643-0504

13. ****Holland-Ashford, T.**, Williams, B., Slane, P., Long, X., *Proper Motion of the Neutron Star in the Supernova Remnant G18.9–1.1*, 2025, ApJ, 988, 218H, arXiv:2507.01084
12. ****Holland-Ashford, T.**, Slane, P., Williams, B., *Estimating Global Ejecta Mass Ratios in Tycho’s SNR* 2025, ApJ, 986, 216H, arXiv:2505.23897
11. Picquenot, A., **Holland-Ashford, T.**, Williams, B., *Comparing the three-dimensional morphological asymmetries in the ejecta of Kepler and Tycho in X-rays*, 2024, A&A, 687A, 28P, arXiv:2404.12002

10. ****Holland-Ashford, T.**, Slane, P., Long, X., *Updated Proper Motion Measurement of the Neutron Star in the SNR Cassiopeia A*, 2024, ApJ, 962, 82H, arXiv: 2310.19879
9. ****Holland-Ashford, T.**, Slane, P., Lopez, L. A., Auchettl, K., Kashyap, V., *Estimating Ejecta Mass Ratios in Kepler’s SNR: Global X-Ray Spectral Analysis Including Suzaku Systematics and Emitting Volume Uncertainties* 2023, ApJ, 955, 77, arXiv: 2308.15527
8. Cronin, S. A., Utomo, D., Leroy, Adam K., Behrens, E. A., Chastenet, J., **Holland-Ashford, T.**, Koch, E. W., Lopez, L. A., Sandstrom, K M., Williams, T. G. *Local Environments of Low-redshift Supernovae*, 2021, ApJ, 923, 86C, arXiv: 2109.07453
7. Martínez-Rodríguez, H., Lopez, L. A., Auchettl, K., Badenes, C., **Holland-Ashford, T.**, Patnaude, D. J., Lee, S.-H., Foster, A. R., Slane, P. O., *Evidence of a Type Ia Progenitor for Supernova Remnant 3C 397*, 2020, Submitted to ApJ (06/2021), arXiv: 2006.08681
6. ****Holland-Ashford, T.**, Lopez, L. A., Auchettl, K., *Spatially-Resolved Study of Recombining Plasma in W49B Using XMM-Newton*, 2020, ApJ, 903, 108H, arXiv: 2007.11593
5. Picquenot, A., Acero, F., **Holland-Ashford, T.**, Lopez, L. A., Bobin, J., *Three-dimensional Morphological Asymmetries in the Ejecta of Cassiopeia A Using a Component Separation Method in X-rays*, 2020, A&A, 646A, 82P, arXiv: 2102.01507
4. ****Holland-Ashford, T.**, Lopez, L. A., Auchettl, K., *Asymmetries of Heavy Elements in the Young Supernova Remnant Cassiopeia A*, 2020, ApJ, 889, 114H, arXiv: 1904.06357
3. Stafford, J. N., Lopez, L. A., Auchettl, K., **Holland-Ashford, T.** “*The Age Evolution of the Radio Morphology of Supernova Remnants*”, 2019, ApJ, 884, 113S, arXiv: 1808.08234
2. Auchettl, K., Lopez, L. A., Badenes, C., Ramirez-Ruiz, E., Beacom, J. F., **Holland-Ashford, T.**, “*Measurement of the Core-collapse Progenitor Mass Distribution of the Small Magellanic Cloud*”, 2019, ApJ, 871, 64, arXiv: 1804.10210
1. ****Holland-Ashford, T.**, Lopez, L. A., Auchettl, K., Temim, T., Ramirez-Ruiz, E., “*Comparing Neutron Star Kicks to Supernova Remnant Asymmetries*”, 2017, ApJ, 844, 84, arXiv: 1705.08454