

## 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 (15 talks, 5 poster presentations)

---

|   |              |
|---|--------------|
| “ <i>Ejecta Mass Ratios in Kepler’s SNR &amp; Fitting Highly Complex Global SNR Spectra</i> ” |              |
| 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   |
| “Measuring the Asymmetries of Heavy Elements in the Supernova Remnant Cassiopeia A” |             |
| 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 |
| “Asymmetries of Heavy Elements in Cassiopeia A”                                     |             |
| NSBP Conference, Talk   | Fall 2018   |
| “Comparing Neutron Star Kicks to Supernova Remnant Asymmetries”                     |             |
| 16th HEAD Meeting, Poster Presentation  | Summer 2017 |
| “Using Neutron Star Kick Velocities to Investigate Supernova Remnant Asymmetries”   |             |
| SNR Workshop at Niels Bohr Institute, Copenhagen, Denmark, Talk                     | Summer 2017 |
| SNR Workshop at UC Santa Cruz, Talk   | Spring 2017 |
| “Comparing Neutron Star Kicks to Supernova Remnant Asymmetries”                     |             |
| SACNAS National Conference, Poster Presentation                                     | Fall 2016   |
| 2nd Universidad de Católica-OSU Workshop, Chile, Talk                               | Spring 2016 |

## Teaching and Service Experience

|  |             |
|--|-------------|
| <i>Chandra</i> Cycle 26 Peer Review Panelist                                 | 2024        |
| CfA Tennis Club Treasurer  | 2023–       |
| <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> , 5 shows                   | 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 (5 First Author)

ORCID: 0000-0002-7643-0504

11. Picquenot, A., **Holland-Ashford, T.**, Williams, B., *Comparing the three-dimensional morphological asymmetries in the ejecta of Kepler and Tycho in X-rays*, Submitted to A&A (01/2024)
10. **\*\*Holland-Ashford, T.**, Slane, P., Long, Xi, *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