

Meredith J. DURBIN

ASTRONOMY GRADUATE STUDENT

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🎓 EDUCATION

- Expected 2022 *Ph.D. Astronomy, University of Washington, Seattle, WA*
incl. *Graduate Certificate in Science, Technology, and Society Studies*
- 2018 *M.S. Astronomy, University of Washington, Seattle, WA*
- 2014 *B.A. Physics, Pomona College, Claremont, CA*
- 2010 *A.S. Natural Sciences, Santa Rosa Junior College, Santa Rosa, CA*

📊 RESEARCH EXPERIENCE

- 2016 — present | **Graduate research assistant, University of Washington**
- Re-reducing archival *HST* optical+near-infrared data to evaluate the empirical color-luminosity relation of the tip of the red giant branch in the near-IR
 - Data reduction & photometry lead for *HST* GO-14610, “A Legacy Imaging Survey of M33”
 - Simulated *WFIRST*/*WFI* observations of stellar halos to optimize observing & analysis strategies for halo population studies
- 2014 — 2016 | **Research and Instrument Analyst, Space Telescope Science Institute**
- Conducted several studies of photometric effects of *HST*/*WFC3*+IR detector anomalies
 - Performed completeness testing & photometric redshift error estimation for CANDELS survey
- 2013 — 2014 | **Research assistant, Carnegie Observatories**
- Analyzed the mid-IR RR Lyrae period-luminosity-metallicity relation with *Spitzer*/*IRAC* [3.6] & [4.5] μm data of ω Centauri
- 2012 | **Research assistant, Pomona College**
- Characterized Savart plate polarimeter with *gri* blazar and standard star polarimetry

📄 PUBLICATIONS

First author

- Durbin, M. J., Beaton, R. L., Dalcanton, J. J., & Williams, B. F. In prep., “MCR-TRGB: A Multiwavelength-Covariant, Robust Tip of the Red Giant Branch Measurement Method”
- Durbin, M. J., & McCullough, P. R. 2015, “The Impact of Blobs on *WFC3*/*IR* Stellar Photometry”, Instrument Science Report WFC3 2015-06, 16 pages, Space Telescope Science Institute, Tech. rep.
- Durbin, M. J., Bourque, M., & Baggett, S. 2015, “IR “Snowballs”: Long-Term Characterization”, Instrument Science Report WFC3 2015-01, 15 pages, Space Telescope Science Institute, Tech. rep.

Other

- Bourque, M., Bajaj, V., Bowers, A., et al. 2019, “The Hubble Space Telescope Wide Field Camera 3 Quicklook Project”, Astronomical Society of the Pacific Conference Series, 521, 495
- Rasmussen, K., Maier, E., Strauss, B. E., et al. 2019, “The Nonbinary Fraction: Looking Towards the Future of Gender Equity in Astronomy”, *BAAS*, 51, 75
- Keyes, O., Hutson, J., & Durbin, M. 2019, “A Mulching Proposal: Analysing and Improving an Algorithmic System for Turning the Elderly into High-Nutrient Slurry”, in Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems, CHI EA '19 (New York, NY, USA: ACM), alt06:1–alt06:11

- Lazzarini, M., Hornschemeier, A. E., Williams, B. F., et al. 2018, “Young Accreting Compact Objects in M31: The Combined Power of NuSTAR, Chandra, and Hubble”, *ApJ*, 862, 28
- Bourque, M., Bajaj, V., Bowers, A., et al. 2017, “The HST/WFC3 Quicklook Project: A User Interface to Hubble Space Telescope Wide Field Camera 3 Data”, in *IAU Symposium*, Vol. 325, *Astroinformatics*, 397–400
- Lotz, J. M., Koekemoer, A., Coe, D., et al. 2017, “The Frontier Fields: Survey Design and Initial Results”, *ApJ*, 837, 97
- Nayyeri, H., Hemmati, S., Mobasher, B., et al. 2017, “CANDELS Multi-wavelength Catalogs: Source Identification and Photometry in the CANDELS COSMOS Survey Field”, *ApJS*, 228, 7
- Beaton, R. L., Freedman, W. L., Madore, B. F., et al. 2016, “The Carnegie-Chicago Hubble Program. I. An Independent Approach to the Extragalactic Distance Scale Using Only Population II Distance Indicators”, *ApJ*, 832, 210

TEACHING

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| 2016 – present | <p>Graduate teaching assistant, University of Washington</p> <ul style="list-style-type: none"> › ASTR 480, “Introduction To Astronomical Data Analysis”, Spring 2019 › ASTR 150, “The Planets”, Spring 2017 › ASTR 101, “Introduction to Astronomy”, Fall 2016 & Winter 2017 |
| 2015 – 2016 | <p>Training supervisor, Space Telescope Science Institute</p> <ul style="list-style-type: none"> › Oversaw Python training for new Research and Instrument Analyst hires |
| 2012 – 2014 | <p>Teaching assistant, Pomona College</p> <ul style="list-style-type: none"> › Various introductory physics & astronomy courses |

PRESENTATIONS

- Durbin, M. 2019, “The Stability of the IR-TRGB Using the PHAT Machinery”, Princeton GALREAD seminar
- Durbin, M., Dalcanton, J., & Williams, B. 2019, “Resolving Triangulum: A Panchromatic HST Mosaic of M33”, AAS #233 Hyperwall Talk
- Durbin, M., Williams, B., & the WINGS SIT Team. 2017, “Recovering Ages and Metallicities of Stellar Halos with WFIRST”, *Astronomy in the 2020s: Synergies with WFIRST* Poster
- Durbin, M., Brammer, G., Long, K. S., et al. 2016, “HST WFC3/IR Calibration Updates”, AAS #227 Poster 147.09
- Durbin, M., Scowcroft, V., Freedman, W. L., et al. 2014, “The RR Lyrae Period-Luminosity Relation in IRAC Channels 1 and 2”, AAS #224 Poster 421.03

GRANTS AND AWARDS

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| 2017 | <i>HST</i> Proposal AR-15016 : “Calibrating the Near-Infrared Tip of the Red Giant Branch with Multiwavelength Photometry”, \$96,020 |
| 2014 | The Frank Parkhurst Brackett, Jr., and Davida Wark Brackett Prize |

SERVICE AND OUTREACH

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| 2018 – present | UAW Local 4121 Union Steward, University of Washington |
| 2017 – present | Graduate and Professional Student Senate representative, University of Washington |
| 2015 – 2016 | HST Time Allocation Committee Support Staff, Space Telescope Science Institute |
| 2015 – 2016 | #popscope volunteer, Baltimore chapter, 2015-2016 |
| 2014 | Co-founder, ALPhA (“Awesome Ladies in Physics and Astronomy”), Pomona College |