Meredith J. **Durbin**

Astronomy Graduate Student

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Education

Expected 2022 — ***Ph.D. Astronomy***, **University of Washington**, Seattle, WA

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+NIR data to evaluate the empirical color-luminosity relation of the tip of the red giant branch in the NIR
- 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

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**

- Performed *gri* blazar and standard star polarimetry to characterize the Savart plate polarimeter on the JPL/TMO 1m telescope

Publications

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

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.

Skills

Programming	*Fluent:* Python (incl. Astropy, Pandas, SciPy, & Vaex ecosystems), HTML+CSS *Familiar:* JavaScript, IDL, LaTeX, Mathematica, SQL, R
Sci. software	BEAST, Cloudy, DAOPhot, DOLPHOT, Drizzlepac, FSPS, MATCH, Montage, Source Extractor
Other	Amazon Web Services, Drupal, Wordpress

Teaching

2016 — present | *Graduate teaching assistant*, University of Washington
- 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 | *Training supervisor*, Space Telescope Science Institute
- Oversaw Python training for new Research and Instrument Analyst hires

2012 — 2014 | *Teaching assistant*, Pomona College
- ASTR 051, "Advanced Introductory Astronomy", Spring 2014
- PHYS 042, "General Physics with Laboratory", Fall 2013
- ASTR 009, "Cosmic Origins", Spring 2013
- ASTR 003, "Life in the Universe", Spring 2012

Presentations

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

2017 HST Proposal AR-15016, $96,020

2014 The Frank Parkhurst Brackett, Jr., and Davida Wark Brackett Prize

Outreach and Volunteering

2018-present UAW Local 4121 Union Steward, University of Washington

2017-present Graduate and Professional Student Senator, 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