Curriculum Vitae – Melissa Halford

Employment

August 2018-present — Auburn University Physics Department

- **Senior Lecturer**, 10/2024-present
- **Observatory Coordinator**, 9/2021-present
- **Lecturer**, 8/2018-9/2024

Education

August 2018 — **Ph.D., Astronomy and Astrophysics**, University of Arizona

- Thesis: *Investigating the Low-Mass End of the Initial Mass Function in Stellar Clusters*
- Advisor: Dennis Zaritsky

December 2014 — **M.S., Astronomy**, University of Arizona

- Advisor: Dennis Zaritsky

December 2014 — **Certificate in College Teaching**, University of Arizona

- Practicum supervisor: Erin Dokter

May 2012 — **B.A., Astronomy**, *summa cum laude*, Cornell University

Teaching

Auburn University, 8/2018-present, new courses created in **bold**

- PHYS 1150 *Astronomy*
- PHYS 1500 *General Physics I*
- PHYS 1510 *General Physics II*
- PHYS 1600 *Engineering Physics I*
- PHYS 1610 *Engineering Physics II*
- **PHYS 3620 (previously PHYS 3500) *Observational Astronomy***
- PHYS 4930 *Directed Studies in Physics*
- **PHYS 5600/6600 *Frontiers of Physics: Astrophysics***

Pima Community College, 7/2016-8/2017

- AST101IN *Solar System*

Service

- **Affiliate Member**, American Astronomical Society Education Subcommittee 2: Introductory Astronomy in Formal Education (9/2025-present)
- **Learning Assistant department coordinator, Physics**, 5/2020-present
- **Faculty co-advisor**, Astronomical Society of Auburn University, 2/2020-present

- **Member** (8/2025-6/2026), Auburn University Physics Department Community Committee
- **Member** (5/2020-7/2021), **chair** (8/2021-7/2024) and **communications officer** (8/2024-6/2025), Auburn University Physics Department Diversity, Equity, and Inclusion committee
- **Member**, COSAM Diversity, Equity, and Inclusion Accountability Committee (8/2021-7/2024)
- **Member** (9/2019-3/2022) and **co-chair** (3/2022-1/2023), Auburn Conference for Undergraduate Women in Physics local organizing committee
- **Member**, Auburn University College of Science and Math Inclusion, Equity, and Diversity taskforce, 6/2020-2/2021
- **Congressional Visits Day Volunteer**, American Astronomical Society, 3/2019

Outreach

- **Scientist pen pal**, Letters to a Pre-Scientist, 10/2015-present
- **Astronomy C event supervisor**, Alabama State Science Olympiad, 2019, 2021, 2023, 2024, 2026
- **Guest speaker**
    - Yarborough Elementary School after school program
    - Auburn Public Library S.T.E.A.M. Lab
    - Science Matters camp
    - Summer Science Institute
- **Co-organizer**, solar eclipse viewing event, 4/2024
- **Co-organizer**, Mercury transit viewing event, 11/2019

Refereed Publications

2023	Jacobson-Galan, W.V. et al. *SN 2023isf in Messier 101: Photo-ionization of Dense, Close-in Circumstellar Material in a Nearby Type II Supernova*. 2023. ApJL, 954, L42
2023	Kilpatrick, Charles D. et al. *Type II-P Supernova Progenitor Star Initial Masses and SN 2020ifo: Direct Detection, Light Curve Properties, Nebular Spectroscopy, and Local Environment*. 2023. MNRAS, 524, 2161
2020	Pindzola, M.S. & **Halford, M**. *Electron ionization of the CN+ molecule*. 2020. Eur. Phys. J. D, 74, 11

2015	**Halford, M.** & Zaritsky, D. *The Bottom-Light Present Day Mass Function of the Peculiar Globular Cluster NGC 6535*. 2015. ApJ, 815, 86
2014	Graham, M.; Sand, D.J.; Valenti, S.; Howell, D.A.; Parrent, J.; **Halford, M.**; Zaritsky, D.; Bianco, F.; Rest, A.; Dilday, B. *Clues to the Nature of SN 2009ip from Photometric and Spectroscopic Evolution to Late Times*. 2014. ApJ, 787, 163

Memberships

- **American Association of Physics Teachers**, 2020-present
- **American Astronomical Society**, 2012-present