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EDUCATION

2019 - **Yale University** **Ph.D. Astronomy**

Advisor: Prof. Pieter van Dokkum

2015 - 2019 **The University of Texas at Austin** **B.S.A. Astronomy and Physics**

Cumulative unweighted GPA: 4.0/4.0

[Polymathic Scholars Honors](#) Thesis: *Falsifiability of the Multiverse*

PEER-REVIEWED PUBLICATIONS

First- and Second-author:

van Dokkum, P., **Shen, Z.**, et al., 2022, *ApJL*, **in press**, [arXiv: 2207.07129](#):

Monochromatic globular clusters as a critical test of formation models for the dark matter deficient galaxies NGC1052-DF2 and NGC1052-DF4

van Dokkum, P., **Shen, Z.**, et al., 2022, *Nature*, **605**, 7910, [arXiv: 2205.08552](#):

A Trail of Dark-Matter-free Galaxies from a Bullet-Dwarf Collision

Shen, Z., Danieli, S., van Dokkum, P., et al., 2021, *ApJ*, **914**, L12, [arXiv: 2104.03319](#):

A Tip of the Red Giant Branch Distance of 22.1 ± 1.2 Mpc to the Dark Matter Deficient Galaxy NGC1052-DF2 from 40 Orbits of Hubble Space Telescope Imaging

Shen, Z., van Dokkum, P., & Danieli, S., 2021, *ApJ*, **909**, 179, [arXiv: 2010.07324](#):

A Complex Luminosity Function for the Anomalous Globular Clusters in NGC1052-DF2 and NGC1052-DF4

Shen, Z., Diercke, A., Denker, C. 2018, *Astronomische Nachrichten*, **339**: 661, [arXiv: 1812.04404](#):

Calibration of Full-disk HeI 10830 Å Filtergrams of the Chromospheric Telescope

Cannon, J., **Shen, Z.**, McQuinn, K. B. W. et al., 2018, *ApJ*, **864**, L14, [arXiv: 1808.07108](#):

Delayed Stellar Mass Assembly in the Low Surface Brightness Dwarf Galaxy KDG215

Other co-author:

Liu, Q., Abraham, R., Gilhuly, C., et al. (*Incl. Shen, Z.*), *ApJ*, **in press**, [arXiv: 2110.11598](#): *A*

Method To Characterize the Wide-Angle Point Spread Function of Astronomical Images

Keim, M. A., van Dokkum, P., Danieli, S., Lokhorst, D., Li, J., **Shen, Z.**, et al., *ApJ* Submitted, [arXiv: 2109.09778](#): *Tidal Distortions in NGC1052-DF2 and NGC1052-DF4: Independent*

Evidence for a Lack of Dark Matter

RESEARCH FELLOWSHIPS

2019-2021 [Gruber Science Fellowship](#), Yale University

2018 [Research Internship in Science and Engineering \(RISE\)](#),
[German Academic Exchange Service \(DAAD\)](#)

AWARDS & HONORS

2020 Yale University Nathan Hale Associates Scholar
2019 UT Austin [Deans Honored Graduate](#) with Research Distinction
2019 University Co-op George H. Mitchell Award Semifinalist
2019 UT Austin Department of Astronomy Outstanding Senior Award
2018, 2017 UT Austin College of Natural Sciences Distinguished College Scholar
2018 Kevin E. Underhill Memorial Endowed Presidential Scholarship
2018 First place, Physics Department Open House Poster Competition
 Title: ‘*Can Starbursts Flatten Mass Distribution in the Centers of Dwarf Galaxies?*’

COMMUNITY SERVICE

2022-	ApJ, MNRAS	Reviewer
2021-	Yale Graduate Writing Lab	Graduate Writing Fellow
	<i>Scientific writing consultant for Yale graduate students and postdocs. Led writing workshops and conducted one-on-one consulting sessions for abstracts, fellowship proposals, and other academic writing.</i>	
2021-	Astronomy Students Council	Member
	<i>Liaison between the graduate student body and department faculty.</i>	
2021-2022	Yale University Graduate Student Assembly	Astronomy Representative
	<i>Graduate student advocate and member of the Public Relations Committee.</i>	
2020 - 2021	Yale Astronomy Climate and Diversity Committee	Subcommittee Chair
2019 - 2021	Yale Astro Sibs Program	Undergraduate Mentor
2017 - 2018	UT Austin Astronomy Students Association	Secretary

OBSERVING EXPERIENCE

Keck I/LRIS (10m): 8 nights.
 Keck II/KCWI (10m): 6 nights.
 Palomar/TripleSpec (5m): 2 nights.
 McDonald Observatory Harlan J. Smith Telescope / Tull Coudé Spectrograph (2.7m): 5 nights.

TELESCOPE PROPOSALS

Yale 2021B	Keck Observatory (LRIS) - 2 nights awarded (Co-I) <i>Radial velocities of low mass galaxies from broad slit spectroscopy with LRIS</i>
Yale 2021B	Keck Observatory (KCWI) - 4 nights awarded (Co-I) <i>Testing the baryon-only hypothesis for NGC1052-DF4</i>
Yale 2021A	Keck Observatory (LRIS) - 3 nights awarded (Co-I) <i>A nearby globular cluster-rich ultra diffuse galaxy</i>
Yale 2020B	Keck Observatory (KCWI) - 4 nights awarded (Co-I)

Testing the baryon-only hypothesis for NGC1052-DF4

TEACHING EXPERIENCE

Conducted weekly review sessions, graded homework and held office hours in the following classes:

Yale University

ASTR 180: Introduction to Relativity and Black Holes	Fall 2020
ASTR 120: Galaxies and the Universe	Spring 2020
ASTR 110: Planets and Stars	Fall 2021, Fall 2019

Supervised lab safety and facilitated group projects and weekly discussion sessions in:

University of Texas at Austin

UGS 303: Originality in Arts and Sciences	Fall 2016, 2017
M 427J: Differential Equations with Linear Algebra Honors	Spring 2015

CONFERENCE & POSTERS

Mar 2022	Aspen Winter Conference: Globular Clusters , Aspen, CO, <i>'Globular Clusters in Dark Matter Deficient Galaxies'</i>
Jan 2019	233 rd AAS Meeting, Seattle, WA, Jan 10th 10 AM, Abstract ID 401.01, <i>'Calibration of full-disk HeI 10830 Å filtergrams of the Chromospheric Telescope'</i>
Oct 2018	Texas Astronomy Undergraduate Research Symposium, UT Austin, <i>'Delayed Stellar Mass Assembly in the Dwarf Galaxy KDG 215'</i>
Oct 2018	Gulf Coast Undergraduate Research Symposium , Rice University, Houston, <i>'Delayed Stellar Mass Assembly in the Dwarf Galaxy KDG 215'</i>
Jul 2018	DAAD RISE Meeting, Heidelberg, Germany, <i>'Stargazing at Noon: Observations of Solar Filaments'</i>
Mar 2017	Undergraduate Research Forum, UT Austin, <i>'Observing Eclipsing Binaries'</i>

OUTREACH AND MEDIA

Astrobites Author	Jan 2021 -
Astronomy on Tap Austin Speaker	May 2019