

Nell Byler

UNIVERSITY OF WASHINGTON, DEPARTMENT OF ASTRONOMY · BOX 351580, SEATTLE, WA 98195

✉ nell.byler@gmail.com | 🏠 nell-byler.github.io/ | 💻 nell-byler | 🐦 lstar_gal

RESEARCH INTERESTS

Stellar Population Synthesis Models · CMD modelling · Spectral Fitting
Photoionization Models · Stellar Evolution Models
Integral Field Spectroscopy

Education

UNIVERSITY OF WASHINGTON

2017 **Ph.D. in Astronomy**
2013 **M.S. in Astronomy**

WELLESLEY COLLEGE

2011 **B.A. in Physics**

Grants & Proposals

AS SCIENCE P.I.

2015 **HST AR-14283 (\$83K)**, “Detangling Galaxy Spectra: A Baseline Calibration Using Resolved Stars”
2015 **Royalties Research Fund Grant (\$27K)**, “Beyond stars: Modeling the light from galaxies”
2015 **MaNGA Ancillary Program**, “MaNGA Resolved Stellar Populations”
2013 **NSF EAPSI Fellow (\$5k + travel and lodging)**, “Refining Stellar Population Synthesis Models”

As Co-I

2016 **After-Sloan-IV proposal (Senior Personnel)**, “The Dynamic Ranger: A Multi-Scale Survey of Galaxies”
2016 **MUSE observing program**, “A systematic multi-tracer study of the HII regions in NGC 300”

Research Experience

Doctoral Research — Adviser: Julianne Dalcanton

2014 – Present

UNIVERSITY OF WASHINGTON

- Calibrating SPS models using resolved star and integrated light observations of galaxies.

Graduate Research — Collaborators: Charlie Conroy, Julianne Dalcanton

2014 – Present

UNIVERSITY OF WASHINGTON

- Integrating nebular emission model in SPS code FSPS.

NSF EAPSI Fellow — Adviser: Kevin Bundy

Summer 2013

UNIVERSITY OF TOKYO, KAVLI IPMU

- SPS codes in 2D: fitting techniques for integral field spectroscopy.

Graduate Research — Adviser: Nick MacDonald

2012 – 2013

INSTRUMENTATION SHOP, UNIVERSITY OF WASHINGTON

- MaNGA hardware metrology; assisted MaNGA first-light observations at APO.

Graduate Research — Collaborators: Julianne Dalcanton, Phil Rosenfield

2012 – 2014

UNIVERSITY OF WASHINGTON

- Constraining late-stage stellar evolution models with resolved stars in M31 (PHAT).

Undergraduate Research — Adviser: Anil Seth

2010 – 2011

HARVARD-SMITHSONIAN CENTER FOR ASTROPHYSICS

- Stellar Populations in Globular Clusters.

Presentations

CONTRIBUTED TALKS

2016	Spectral Fitting Workshop: FSPS + MaNGA	Tokyo, Japan
2016	SDSS-IV Collaboration Meeting	Madison, WI
2016	Interplay between Local and Global Processes in Galaxies	Cozumel, Mexico
2015	Fitting Stars, CMDs, & Galaxies Workshop	Rockport, MA

POSTERS

2015	AAS Winter Meeting	Seattle, WA
2014	IAU 309	Vienna, Austria
2013	NSF EAPSI awardees conference	Tokyo, Japan

Service & Committees

2016	UW Planetarium , Manager & Technical Support
2016	Department Curriculum Review Committee , Graduate Student Representative
2015	Diversity Journal Club , Organizer & Discussion Leader
2014	CAPhEINE (weekly arXiv discussion) , Organizer & Discussion Leader
2012	Graduate and Professional Student Senate , Senator

Publications

4. Leja, J., Johnson, B. D., Conroy, C., van Dokkum, P. G., & **Byler, N.** 2016, "Deriving Physical Properties from Broad-band Photometry with Prospector: Description of the Model and a Demonstration of its Accuracy Using 129 Galaxies in the Local Universe", *arXiv*, arXiv:1609.09073. 0 citations
3. Drory, N., et al. 2015, "The MaNGA Integral Field Unit Fiber Feed System for the Sloan 2.5 m Telescope", *AJ*, 149, 77. 20 citations
2. Bundy, K., et al. 2015, "Overview of the SDSS-IV MaNGA Survey: Mapping nearby Galaxies at Apache Point Observatory", *ApJ*, 798, 7. 124 citations
1. Williams, B. F., et al. 2014, "The Panchromatic Hubble Andromeda Treasury. X. Ultraviolet to Infrared Photometry of 117 Million Equidistant Stars", *ApJS*, 215, 9. 25 citations

Teaching Experience

Upward Bound Astronomy Section Instructor	Summer 2012
• Designed coursework and lead daily sections during 6-week program.	

Teaching Assistant for Astronomy 101, 150, & 480	2011 – 2016
• Astro 480: Senior-level undergraduate course on data reduction techniques. Organized course material and lead lectures. 2 quarters.	
• Astro 101, Astro 150: Introductory undergraduate courses. Lead labs and activities, reviewed lecture material for ~ 60 students twice per week. 6 quarters total.	

Outreach & Education

Astronomy on Tap, Seattle	2015 – Present
• Logo and poster design; event co-organizer.	

Pre-Major in Astronomy Program (Pre-MAP)	2012 – Present
• Diversity Journal Club: organized inclusion-centered discussions and presentations.	
• Annual retreats: organized trips to VLBA site in Brewster, WA; LIGO Hanford Observatory.	

UW Mobile Planetarium	2011 – Present
• Designed and executed curriculum for summer program at East African Community Center.	
• Integrating student-lead planetarium presentations into high school physics classes.	