

# Nell Byler

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

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## RESEARCH INTERESTS

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

## Education

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### UNIVERSITY OF WASHINGTON

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

### WELLESLEY COLLEGE

2011 **B.A. in Physics**

## Grants & Proposals

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### 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

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### 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

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### CONTRIBUTED TALKS

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

### POSTERS

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

## Service & Committees

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

## Publications

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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

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

<b>Teaching Assistant for Astronomy 101, 150, &amp; 480</b>	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

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

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

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