Nell Byler

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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 — University of Washington 2014 – Present

Collaborators: Julianne Dalcanton (Adviser), Dan Weisz

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

Graduate Research — University of Washington 2014 – Present

Collaborators: Julianne Dalcanton, Charlie Conroy

- Integrating nebular emission model in SPS code FSPS.

NSF EAPSI Fellow — University of Tokyo, Kavli IPMU Summer 2013

Collaborators: Kevin Bundy

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

Graduate Research — Instrumentation Shop, University of Washington 2012 – 2013

Collaborators: Nick MacDonald

- MaNGA hardware metrology for IFU ferrules
- MaNGA first light: Assisted during MaNGA prototype hardware observing run at APO to demonstrate instrumentation and observing procedures.

Graduate Research — University of Washington 2012 – 2014

Collaborators: Julianne Dalcanton, Phil Rosenfield

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

Undergraduate Research — Harvard-Smithsonian Center for Astrophysics 2010 – 2011

Collaborators: Anil Seth

- 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	**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

Teaching Experience

Upward Bound Astronomy Section Instructor Summer 2012

- Designed coursework and lead daily sections during 6-week program.

Teaching Assistant: Astronomy 480 2015 – 2016

- Senior-level undergraduate course on data reduction techniques. Organized course material and lead lecture on coding practices. 2 quarters.
- Assisted planning and Supervising observing runs for term projects.

Teaching Assistant: Astronomy 101, 150 2011 – 2014

- Introductory undergraduate courses. Lead labs and activities, reviewed lecture material for $\sim$ 60 students twice per week. 6 quarters total.

Outreach

UW Planetarium Manager and Technical Support 2015 – Present

- Support for planetarium hardware and World Wide Telescope software updates and issues.

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.