David Jonathan Setton

Personal Data

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Education

Aug. 2017-Present — Ph.D in Physics, **University of Pittsburgh**
Advisor: Prof. Rachel Bezanson

May 2019 — M.S. in Physics, **University of Pittsburgh**

May 2017 — Bachelor of Science in Physics and Astronomy, **University of Arizona**
Cum Laude with Honors
Thesis: "Characterizing the Bow Shock of the Large Magellanic Cloud"
Advisor: Prof. Gurtina Besla

Research Experience

Aug. 2017-Present — Prof. Rachel Bezanson, Pitt

Characterizing the Properties of Post Starburst Galaxies

My current work is focused on identifying and characterizing galaxies that have quenched their primary epoch of star formation as a part of the SQuIGGLE collaboration. This suvery will utilize optical, IR, and radio data to study these galaxies. My contributions have been candidate selection and reduction/analysis of GEMINI IFU data.

Jan. 2016-Present — Prof. Gurtina Besla, UA

Characterizing the LMC Bow Shock

I characterized the shape, temperature, and density of the theoretical bow shock produced by the supersonic motion of the Large Magellanic Cloud through the circumgalactic medium of gas that surrounds our Milky Way (CGM). This project, which is still ongoing, is now focused on determining if this shock is observable and exploring the consequences of this picture to the dynamical state of the CGM.

July-Nov. 2016 — Prof. Lisa Kewley, ANU

Analyzing SAMI Data to Separate AGN and Starburst Activity

I analyzed high-resolution SAMI (Sydney-AAO Multi-object integral field spectrograph) data of low-z galaxies to separate star formation, galactic wind, and AGN activity using spectral line ratios, as well as spatial and velocity dispersion information. I wrote a generalized python code that can be applied to any galaxy imaged by SAMI.

May-Dec. 2015 — Prof. Marcia Rieke, UA

NIRCam Photometric Redshift Testing

I worked to characterize the ability to assign photometric redshifts to galaxies observed using the Near Infrared Camera on the James Webb Space Telescope. Using multiple photometric redshift codes, template spectra, and filter combinations, I tested simulated data from z=0-12 to constrain the limits of methods at photometrically determining redshifts.

Sept. 2014-May 2015 — Dr. Christopher Willmer, UA

High-z Galaxies in Hubble Frontier Fields

I studied the properties of high-redshift galaxies in the Hubble Frontier Fields. I I performed photometric analysis on the galaxies, determined their photometric redshift, and studied their properties, including quantifying the UV Luminosity Function from z=3-6.

Conferences and Talks

Feb. 2020	Aspen Galaxy Quenching Workshop, Poster Presentation "Flat Age Gradients in Massive z∼0.6 PSBs"
Jan. 2017	229th Meeting of the American Astronomical Society, Poster Presentation "Characterizing the Bow Shock of the Large Magellanic Cloud"
May 2016	Lucy Engal Undergraduate Physics Symposium, U. Arizona "Characterizing the Bow Shock of the Large Magellanic Cloud"
Mar. 2016	2nd Magellanic Clouds Workshop, Steward Observatory, U. Arizona "Characterizing the Bow Shock of the Large Magellanic Cloud"
May 2015	Lucy Engal Undergraduate Physics Symposium, U. Arizona "Creating a Software Pipeline to Identify and Classify High Redshift Galaxies in the Deep Fields" **Awarded "Best Undergraduate Talk"**
Apr. 2015	NASA Space Grant Symposium, ASU "Measuring the UV Luminosity Function of High Redshift Galaxies"

Scholarships and Honors

Feb. 2020	Martin and Beate Block Winter Award
Academic Year 18-19	Graduate TA/TF Mentor
Academic Year 16-17	Cubic Corporation Scholarship
Academic Year 16-17	Krane Scholarship
Academic Year 16-17	Phi Beta Kappa Scholarship
Academic Year 16-17	Purviance Scholarship
Acad. Years 15-16 & 16-17	Galileo Circle Scholarship **Highest Honor Awarded by the College of Science**
Fall 16	Honors College Study Abroad Scholarship
Fall 16	Donna Swaim Travel Abroad Scholarship **Awarded to 2 of 83 applicants**
Academic Year 14-15	Academic Distinction
Academic Year 14-15	Angelos C. Langadas Scholarship
Academic Year 13-14	Highest Academic Distinction
Undergraduate 13-17	Wildcat Excellence Scholarship

Community Activities

Aug. 2015-May 2017 | College of Science Ambassador

I worked as the representative of the Astronomy Department to the University of Arizona College of Science. I participated in outreach events geared at enrolling students, especially those of low income or underrepresented groups, in STEM programs. I partook in many events that required public speaking and sharing of my experiences as a successful student.

Sept. 2014-May 2017 | Steward Observatory Telescope Operator

I worked as a Telescope Operator at the Steward Observatory 21" telescope. This involved operating the telescope independently and guiding members of the public and general education students in observations of celestial objects with a compelling narrative.

Teaching Experience

Acad. Year 2018	Deitrich School of Arts and Sciences Teaching Assistant Mentor
Spring 2018	Teaching Assistant, ASTRON 0089 *Stars, Galaxies, and Cosmos*
	Received Myron P. Garfunkel Excellence in Graduate Student Teaching Award
Fall 2017	Teaching Assistant, ASTRON 0088 *Stonehenge to Hubble*
Fall 2017	Teaching Assistant, ASTRON 0087 *Basics of Spaceflight*
Spring 2017	Preceptor, PHYS 141 *Introduction to Mechanics*
Spring 2017	Preceptor, PHYS 241 *Introduction to Electricity and Magnetism*