

David J. Setton

Curriculum Vitae

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Research focus: observational galaxy formation and evolution through cosmic time

Education

- 2019– Present **University of Pittsburgh**, Ph.D Candidate in Physics.
Advisor: Professor Rachel Bezanson
- May 2019 **University of Pittsburgh**, M.S. in Physics.
- May 2017 **University of Arizona**, B.S. in Physics and Astronomy.
Advisor: Professor Gurtina Besla
Thesis: Characterizing the Bow Shock of the Large Magellanic Cloud

Research Experience

- May 2018–Present **Studying the Spatially Resolved Stellar Populations of Post Starburst Galaxies.**
Studying a population of $z \sim 0.6$ post-starburst galaxies in the SQuIGGLE survey using spatially resolved GMOS spectroscopy and Hyper-Suprime Cam imaging.
Advisor: Professor Rachel Bezanson
- Jan 2016–Present **Characterizing the Large Magellanic Cloud Bow Shock.**
Used high resolution infall simulations to characterize the size, shape, and observability of the a predicted bow shock that should precede the LMC's infall.
Advisor: Professor Gurtina Besla
- July–November 2016 **Separating AGN and Starburst Activity using Spatially Resolved Spectroscopy.**
Created a pipeline to spatial pixels of galaxies in the SAMI survey by their spectral line ratios to characterize emission sources.
Advisor: Professor Lisa Kewley
- Sep. 2014 - May 2015 **High- z Galaxies in the Hubble Frontier Fields.**
Created a software pipeline to photometrically identify high- z galaxies in the Hubble Frontier Fields.
Advisor: Dr. Christopher Willmer

Talks and Presentations

- October 2020 **Bridgewater State University Intro to Astronomy**, *Invited Speaker*, Bridgewater, MA.
"Galaxies in Transition: Studying Quenching Using Post-Starburst Galaxies"
- June 2020 **AstroPGH Data Science Bootcamp**, *Guest Lecture*, Pittsburgh, PA.
"MCMC Methods in Astronomy"
- May 2020 **AstroPGH Data Science Bootcamp**, *Guest Lecture*, Pittsburgh, PA.
"Linear Regression & Error Resampling"
- Feb. 2020 **Aspen Galaxy Quenching Workshop**, *Poster*, Aspen, CO.
"Flat Age Gradients in Massive $z \sim 0.6$ Post-Starburst Galaxies"
Awarded "Martin and Beate Block Winter Award for Promising Young Physicists"
- Feb. 2020 **3 Minute Thesis Competition**, *Talk*, Pittsburgh, PA.
"How do galaxies transform from blue, star-forming disks to red, dead ellipticals?"
Department Competition Winner
- Jan. 2017 **229th Meeting of the American Astronomical Society**, *Poster*, Grapevine, TX.
"Characterizing the Bow Shock of the Large Magellanic Cloud"

- May 2016 **Lucy Engal Undergraduate Physics Symposium, Talk**, Tucson, AZ.
"Characterizing the Bow Shock of the Large Magellanic Cloud"
- Mar. 2016 **2nd Magellanic Clouds Workshop, Talk**, Tucson, AZ.
"Characterizing the Bow Shock of the Large Magellanic Cloud"
- May 2015 **Lucy Engal Undergraduate Physics Symposium, Talk**, Tucson, AZ.
"Creating a Software Pipeline to Identify and Classify High Redshift Galaxies in the Deep Fields"
Awarded "Best Undergraduate Talk"
- Apr. 2015 **Arizona Space Grant Symposium, Talk**, Tempe, AZ.
"Measuring the UV Luminosity Function of High Redshift Galaxies"

Scholarships, Honors, and Grants

- Feb. 2020 **Martin and Beate Block Winter Award.**
- Acad. Year 16-17 **Cubic Corporation Scholarship.**
- Acad. Year 16-17 **Krane Scholarship.**
- Acad. Year 16-17 **Phi Beta Kappa Travel Grant.**
- Acad. Year 16-17 **Glenn C. Purviance Scholarship.**
- Acad. Year 15-16 **Galileo Circle Scholarship.**
& 16-17 Highest Honor Awarded by University of Arizona College of Science
- Fall 2016 **Honors College Study Abroad Scholarship.**
- Fall 2016 **Donna Swaim Travel Abroad Scholarship.**
Awarded to 2 of 83 Applicants
- Acad. Year 14-15 **Angelos C. Langadas Scholarship.**
- Acad. Year 14-15 **Arizona Space Grant Internship.**

Teaching Experience

- Acad. Year 19-20 **AP Physics C: Mechanics + Electricity & Magnetism, Tutor.**
- Acad. Year 18-19 **Deitrich School of Arts and Sciences Teaching Assistant Mentor, Pitt.**
- Spring 2018 **ASTRON 0089: Stars, Galaxies, and Cosmos, Teaching Assistant, Pitt.**
Received Myron P. Garfunkel Excellence in Graduate Student Teaching Award
- Fall 2017 **ASTRON 0088: Stonehenge to Hubble, Teaching Assistant.**
University of Pittsburgh
- Fall 2017 **ASTRON 0087: Basics of Spaceflight, Teaching Assistant, Pitt.**
- Spring 2017 **PHYS 141: Introduction to Mechanics, Preceptor, U.Arizona.**
- Spring 2017 **PHYS 241: Introduction to Electricity & Magnetism, Preceptor, U.Arizona.**

Students Supervised

- Mar. 2020-Present **Maggie Verrico, University of Pittsburgh Undergraduate.**
Studying the Sizes and Structures of $z \sim 0.6$ Post-Starburst Galaxies

Events Organized

- Summers 19, 20 **Pitt Galaxy Journal Club, Founding Organizer.**
Graduate student led journal club focused on seminal galaxy papers

Outreach

- Apr. 2019 & 2020 **Pittsburgh Public School Research Symposium Judge, Taylor Allderdice High School.**
2020: Chair of Judging Committee

- Nov. 2018 **Astronomy on Tap Pittsburgh**, *Franktuary*, Speaker.
 "The Puzzling Counter Intuitiveness of Special Relativity"
- Aug. 2015 - May 2017 **College of Science Ambassador**, *University of Arizona*.
 Recruitment and outreach events to recruit STEM undergraduates from Arizona high schools
- Sep. 2014 - May 2017 **Steward Observatory Telescope Operator**, *University of Arizona*.
 Operated the 21" telescope on campus for undergraduate classes and public visit nights

References

- Graduate Thesis Advisor **Rachel Bezanson**, *Assistant Professor, University of Pittsburgh*.
 rachel.bezanson@pitt.edu
- Graduate Thesis Committee Member **Jenny Greene**, *Professor, Princeton University*.
 jgreene@astro.princeton.edu
- Collaborator **Mariska Kriek**, *Associate Professor, University of California, Berkeley*.
 mkriek@berkeley.edu
- Undergraduate Thesis Advisor **Gurtina Besla**, *Associate Professor, University of Arizona*.
 gbesla@email.arizona.edu

Publications

4. SQuGGLE Survey: Massive $z \sim 0.6$ Post-Starburst Galaxies Exhibit Flat Age Gradients
Setton, David J.; Bezanson, Rachel; Suess, Katherine A.; Hunt, Qiana; Greene, Jenny E.; Kriek, Mariska; Spilker, Justin S.; Feldmann, Robert; Narayanan, Desika
 Accepted to *The Astrophysical Journal*
3. The SQuGGLE Survey— Studying Quenching in Intermediate- z Galaxies: Gas, Angular Momentum, and Evolution
 Suess, K.A. and the SQuGGLE Team, in prep.
2. ALMA reveals a wide range of H_2 in the SQuGGLE Survey of Massive Post-starburst Galaxies at $z \sim 0.6$
 Bezanson, R. and the SQuGGLE Team, in prep.
1. The Role of Active Galactic Nuclei in the Quenching of Massive Galaxies in the SQuGGLE Survey
 Greene, Jenny E.; **Setton, David**; Bezanson, Rachel; Suess, Katherine A.; Kriek, Mariska; Spilker, Justin S.; Goulding, Andy D.; Feldmann, Robert
The Astrophysical Journal, 899, L9

Updated: October 22, 2020