

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 SQuGGLE 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

- May 2021 **STSci Multi-Object Spectroscopy Workshop**, *Speaker*, Space Telescope Institute.
"Galaxies in Transition: Studying Quenching using Post-Starburst Galaxies"
- April 2021 **Galaxy Lunch**, *Invited Speaker*, UMass Amherst.
"Galaxies in Transition: Studying Quenching using Post-Starburst Galaxies"
- March 2021 **McWilliams Computing Seminar**, *Invited Speaker*, Carnegie Mellon University.
"MCMC Methods in Astronomy"
- October 2020 **Intro to Astronomy Seminar Series**, *Invited Speaker*, Bridgewater State University.
"Galaxies in Transition: Studying Quenching Using Post-Starburst Galaxies"
- June 2020 **AstroPGH Data Science Bootcamp**, *Guest Lecture*, University of Pittsburgh.
"MCMC Methods in Astronomy"
- May 2020 **AstroPGH Data Science Bootcamp**, *Guest Lecture*, University of Pittsburgh.
"Linear Regression & Error Resampling"
- Feb. 2020 **Aspen Galaxy Quenching Workshop**, *Poster*, Aspen Center for Physics.
"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*, University of Pittsburgh.
 "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*, University of Arizona.
 "Characterizing the Bow Shock of the Large Magellanic Cloud"
- Mar. 2016 **2nd Magellanic Clouds Workshop**, *Talk*, University of Arizona.
 "Characterizing the Bow Shock of the Large Magellanic Cloud"
- May 2015 **Lucy Engal Undergraduate Physics Symposium**, *Talk*, University of Arizona.
 "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*, Arizona State University.
 "Measuring the UV Luminosity Function of High Redshift Galaxies"

Scholarships, Honors, and Grants

- Fall 2021 **PITT PACC Graduate Fellow**, ~\$10,000.
- Mar. 2021 **Thomas-Lain Fund Scholarship Essay Competition**, \$2,000.
- Feb. 2020 **Martin and Beate Block Winter Award**, \$500.
- 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**, ~\$3500.

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

Service

Referee: **ALMA Distributed TAC**, *Proposal Reviewer*.

Proposals Reviewed: 10

Astrophysical Journal, *Referee*.

Articles Reviewed: 1

Aug. 2019–July 2021 **Association of Physics and Astronomy Graduate Students**, *Co-President*.

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

5. SQuGGLE Survey: The Compact Sizes of Post-Starburst Galaxies
Setton, David J.; Verrico, Margaret, and the SQuGGLE Team, in prep.
4. The SQuGGLE Survey— Studying Quenching in Intermediate- z Galaxies: Gas, Angular Momentum, and Evolution
Suess, K.A. and the SQuGGLE Team, in prep.
3. 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.
2. 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
The Astrophysical Journal, 905, 79
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: August 4, 2021