# David J. Setton

*Curriculum Vitae*

*3941 O'Hara St*
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*davidjsetton.github.io*

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∼0.6 post-starburst galaxies in the SQuIGG$\vec{L}$E 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∼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"

## Accepted Telescope Programs

### Atacama Large Millimeter/submillimeter Array

Principle Investigator **37.6 hours**, Cycle 8: 2021.1.01535.S.
"Timing the Disappearance of Molecular Gas in Post-Starburst Galaxies"

Principle Investigator **14.4 hours**, Cycle 8: 2021.1.00988.S.
"Tracing the molecular gas in tidal tails of recently quenched galaxies"

Co- Investigator **14,5 hours**, Cycle 8: 2021.1.00761.S.
"Quantifying the molecular gas reservoirs of post-starburst AGN hosts"

## Scholarships, Honors, and Grants

Fall 2021 **PITT PACC Graduate Fellow**.

Mar. 2021 **Thomas-Lain Fund Scholarship Essay Competition**.

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 & 16-17 **Galileo Circle Scholarship**.
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∼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

Undergradutate Thesis Advisor **Gurtina Besla**, *Associate Professor, University of Arizona*.
gbesla@email.arizona.edu

## Publications

5. SQuIGG$\vec{L}$E Survey: The Compact Sizes of Post-Starburst Galaxies
**Setton, David J.**; Verrico, Margaret, and the SQuIGG$\vec{L}$E Team, in prep.

4. The SQuIGG$\vec{L}$E Survey— Studying Quenching in Intermediate-$z$ Galaxies: Gas, Angular Momentum, and Evolution
Suess, K.A. and the SQuIGG$\vec{L}$E Team, in prep.

3. ALMA reveals a wide range of $H_2$ in the SQuIGG$\vec{L}$E Survey of Massive Post-starburst Galaxies at $z \sim 0.6$

Bezanson, R. and the SQuIGG$\vec{L}$E Team, in prep.

2. SQuIGG$\vec{L}$E 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 SQuIGG$\vec{L}$E 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: November 1, 2021