

Olivia Allegra Greene

Email: oliviaallegragreene@gmail.com

Github: github.com/InfinitelyCurious

Institution: Vanderbilt University Astrophysics Dept.

Website: galaxygreene.com

Mobile: +1 (561) 929-9961

EDUCATION

- **Vanderbilt University** Nashville, TN
PhD Candidate - Astrophysics August, 2020 - Present
- **Fisk University** Nashville, TN
Master of Science - Physics August, 2017 - August, 2020
- **Florida Atlantic University, Harriet L. Wilkes Honors College** Jupiter, FL
Bachelor of Science - Physics, with Minors in Mathematics & English Lit August, 2013 - May, 2017
- **Palm Beach State College** Lake Worth, FL
Associate in Arts August, 2006 - August, 2013

SKILLS SUMMARY

- **Languages:** Python, LaTeX, SQL
- **Platforms:** Mac, Windows, Linux Virtual Box
- **Tools:** Marvin (terminal and web-based), SDSS TRAC, SDSS SciServer, IRAF, GitHub, TAPVizieR
- **Collaborations:** MaNGA Survey, Sloan Digital Sky Survey (SDSS), Fisk-Vanderbilt Master's-to-PhD Bridge Program, Establishing Multimessenger Astronomy Inclusive Training (EMIT) Program

RESEARCH EXPERIENCE

- **Vanderbilt University** Nashville, TN
Astrophysics PhD Candidate Research (Full-time) August 2020 - Present
 - **Dissertation Research:** Investigate AGN activity in the central and off-nuclear regions of E+A galaxies using multiwavelength and Integral Field Spectroscopic data. Under the advisement of Kelly Holley-Bockelmann
- **Fisk-Vanderbilt Master's-to-PhD Bridge Program** Nashville, TN
Graduate Researcher (Full-time) August 2017 - August 2020
 - **Master's Thesis Defense:** Created a new, refined system for the identification of E+A galaxies using the Integral Field Spectroscopic, MaNGA Survey. Title: "Refining the E + A Galaxy: A Spatially Resolved Spectrophotometric Sample of Nearby Post-starburst Systems in SDSS-IV MaNGA (MPL-5)" Under the advisement of Kelly Holley-Bockelmann
- **Florida Atlantic University** Jupiter, FL
Undergraduate Research (Part-time) August 2016 - August 2017
 - **Undergraduate Research:** Continuing the work from my REU internship in classifying and modeling Spectral Energy Distributions for E+A galaxies, I completed my undergraduate Honors Thesis. Title: "Preliminary Finding & Spectral Energy Distributions For Nearby E+A Galaxies Using the MaNGA Survey." Under the advisement of Andrew Johnson and Charles Liu
- **American Museum of Natural History** New York, NY
REU Research Intern (Full-time) May, 2016 - August, 2016
 - **Data Mining, organizing, and plotting:** Was responsible for classifying Post-Starburst, E+A galaxies from the SDSS-IV, MaNGA Survey's 4th Product Launch (MPL-4). I incorporated GALEX, SDSS, 2MASS and WISE to create multiwavelength SEDs and emission-line line ratio and AGN diagnostic plots for the curated sample. Under the advisement of Charles Liu.

TRAINING, DEVELOPMENT AND MENTORING EXPERIENCE

- **Vanderbilt University** Nashville, TN - Remote
Teaching Assistant for Astronomy Lab Aug, 2020 - Jun 2021
 - **Lab Instructor:** Ran independent, weekly lab sessions for Introductory Astronomy Course. Held office hours, once a week, for three hours for students to work through questions they had about the labs, and answered email throughout the week about lab materials. Responsible for grading labs for students weekly, with comments, extra credit materials, and final poster presentation.
- **American Museum of Natural History** New York, NY
REU Mentor 2017 - 2019
 - **Project Introduction:** Traveled to New York once a year to introduce E+A Galaxies and the current research project to the new summer REU participants, mentored REU students in the IFS classification processes, data mining, using All-Sky Surveys, poster and talk preparations, and what to expect from conferences. I was additionally responsible for on-boarding each new participant into the SDSS collaboration.
- **Florida Atlantic University** Boca Raton, FL
Teaching Assistant for Astronomy Aug, 2016 - Aug, 2017
 - **Office Hours, Grading & Tutoring:** Held in person office hours for students twice a week and by appointment for help with lecture material and math practicum, held individual and group tutoring sessions for two Intro to Astronomy and one Planetary Mechanics course. I was also responsible for grading quizzes, tests and math practice for both courses.
 - **Observing:** Ran and set up telescope for weekly observations, and contributed to lectures preceding the observations.
 - **Course Materials Update:** Responsible for converting all of the online course material from Blackboard to Canvas.

PUBLICATIONS

- **Catalog:** Greene, O. A., et al. "Complete Catalog of Post-starburst, E+A Galaxies in SDSS-IV MaNGA (MPL-11)" (In Prep; Estimated Submission August, 2022) .
- **Paper:** Greene, O. A., Anderson, M. R., Marinelli, M., et al. "Refining the E + A Galaxy: A Spatially Resolved Spectrophotometric Sample of Nearby Post-starburst Systems in SDSS-IV MaNGA (MPL-5)" (April 2021); ApJ, 910, 162
- **Research Note:** Marinelli, M., Greene, O. A., Riffel, R. A., Rowlands, K., & Liu, C. "SDSS-IV MaNGA: A Dwarf E+A Galaxy Quenched by AGN Feedback" (July 2020); RNAAS, 4, 110
- **Paper:** Samantha Penny, Karen L. Masters, Rebecca Smethurst, Robert C. Nichol, Colman M. Krawczyk, Dmitry Bizyaev, Olivia Greene, Charles Liu, Mariarosa Marinelli, Sandro B. Rembold, Rogemar A. Riffel, Gabriele da Silva Ilha, Dominika Wylezalek, Brett H. Andrews, Kevin Bundy, Niv Drory, Daniel Oravetz, Kaike Pan. "SDSS-IV MaNGA: Evidence of the importance of AGN feedback in low-mass galaxies." (May 2018); MNRAS, 476(1):979–998

PRESENTATIONS

- **Master's Thesis Defense:** Greene, O. A., "Refining the E + A Galaxy: A Spatially Resolved Spectrophotometric Sample of Nearby Post-starburst Systems in SDSS-IV MaNGA (MPL-5)", Fisk University - Remote (July, 2020) .
- **Talk:** Greene, O. A., et al., "Refining the E+A Galaxy: A Spatially Resolved Spectral Analysis & Synthesis of Nearby Post-Starburst Systems in SDSS-IV MaNGA (MPL-5)", American Astronomical Society Meeting Abstracts, Vol. 235, 258.02; Honolulu, HI (Jan, 2020).
- **Poster:** Greene, O. A., et al., "Refining the E+A Galaxy: A Spatially Resolved Spectral Analysis & Synthesis of Nearby Post-Starburst Systems in SDSS-IV MaNGA (MPL-5)", American Astronomical Society Meeting Abstracts, Vol. 233, 145.06; Seattle, WA (Jan, 2019).
- **Poster:** Greene, O. A. & Holley-Bockelmann, K., "Behind the Curtain: Revealing the effect of sub-grid models on supermassive black hole merger rates for LISA", American Astronomical Society Meeting Abstracts, Vol. 233, 141.09; Seattle, WA (Jan, 2019)
- **Poster:** Weaver, et al. "Spectral Analysis, Synthesis and Energy Distributions of Nearby E+A Galaxies Using SDSS-IV MaNGA", American Astronomical Society Meeting Abstracts, Vol. 229, 347.55; Dallas, TX (Jan, 2017)

HONORS AND AWARDS

- Awarded Vanderbilt University's Robert T. Lagemann Award for exceptional promise in physics, 2021
- Graduated Summa Cum Laude from Fisk University, 2020
- Graduated with Honors Degree from the Harriet L. Wilkes Honors College, 2017

OUTREACH

- **Adventure Science Center** Nashville, TN
Astronomy event coordinator and presenter May 2022 - Present
 - **In connection with the Vanderbilt Physics and Astronomy Department, I coordinate with the Adventure Sciences Center (a children's science museum in Nashville, TN) to plan and lead astronomy events:** We began by doing a children's event for Green Week where we presented talks about exoplanets and the terraforming of Mars, as well as demonstrations for gravity, spectroscopy, cratering and plant-moon size comparisons. Additionally, we did a Star Trek themed adult event that incorporated two talks, a spectroscopy booth, and an astronomy/pop-culture trivia event for 600+ people. Events will continue as an ongoing outreach initiative.
- **Ask-An-Astronomer** Nashville, TN
Founder/Creator May 2021 - Present
 - **I created an astronomer-led event for primary school students to be able to ask any astronomy question they have to a panel of real life astronomers (both professional and graduate students):** This event is aimed at promoting astronomy interest in the developmental ages of today's youth. Our flagship event was done at a local Nashville middle school, over the course of two days, for six 7th grade science classes, and included five astronomers, all from different fields of research. As of 2022, we have expanded the program to present at schools in Florida as well.
- **Florida Atlantic University** Boca Raton, FL
Guest Lecturer, Assistant Observatory Lecturer and Technician August, 2016 - August, 2017
 - **Dome Operations:** Would set up, operate and shut down telescope/dome for both public and student observations. I also maintained the telescope throughout the year (balancing, positioning, weather management, etc)
 - **Lecture and Experimental Materials:** Would participate in lectures that preceded observations, as well as help answer any questions from participants. I also set up and helped operate any experimental materials needed as part of lecture.
 - **Lectured Intro to Astronomy Course:** Lecture included an overview of the MaNGA Survey, E+A Galaxies, what is it like doing research in the field, and how to get involved in the astronomy community. This lecture was an outreach endeavor aimed to inform the class of 200+ students on current astrophysics research being done, and how they could get involved.