
Brooke Kimsey-Miller

Indiana University, Department of Astronomy
727 E. 3rd Street
Bloomington, IN 47405

Email: bkkimsey@iu.edu
Phone: (812) 498-9120
Website: <https://brookekimsey.github.io/>

EDUCATION	PhD., Astronomy , Indiana University Minor: Physics Thesis: The Environments of Star-Forming Galaxies Advisor: Provost Prof. John J. Salzer M.A., Astronomy , Indiana University B.S. , Indiana University Degrees in Physics, Mathematics, and Astronomy/Astrophysics Senior Honors Thesis in Astronomy: A Recipe for Green Pea Environments Advisor: Provost Prof. John J. Salzer	Anticipated May 2026 May 2022 May 2019
GRANTS AND FELLOWSHIPS	Doctoral Fellowship Indiana Space Grant Consortium, \$12,000 Dissertation Research Fellowship College of Arts & Sciences, Indiana University, \$23,000 FAMOUS Travel Grant American Astronomical Society, \$1,000 Sullivan Graduate Fellowship Department of Astronomy, Indiana University, \$26,000 Doctoral Fellowship Indiana Space Grant Consortium, \$12,000 McCormick Science Grant College of Arts & Sciences, Indiana University, \$3,500 Master's Fellowship Indiana Space Grant Consortium, \$6,000	2024-2025 2024-2025 2024 2023-2024 2023-2024 2023 2021
HONORS AND AWARDS	Dr. Benjamin F. Peery, Jr Diversity Award Department of Astronomy, Indiana University, \$500 2024 Executive Dean's Travel Award for Women in Science Indiana University, \$750 Goethe Link Prize for Outreach & Public Education in Astronomy Department of Astronomy, Indiana University, \$500 Research Scholarship Award Department of Astronomy, Indiana University, \$1,500 Hollis & Grete Johnson Undergraduate Research Prize Department of Astronomy, Indiana University, \$400 21st Century Scholarship Sponsored by the State of Indiana, Full Tuition Covered	2024 2024 2022 2019 2019 2017 - 2019

REFEREED PUBLICATIONS	[1] Brunker, S. W., Salzer, J. J., Kimsey-Miller, B. , and Cousins, B., <i>The Environments of Green Pea Galaxies. I. The KISS Sample</i> , 2022, The Astrophysical Journal, 926, 131. doi: 10.3847/1538-4357/ac469f
-----------------------	---

*[2] **Kimsey-Miller, B.**, Brunker, S. W., Salzer, J. J., *The Environments of Green Pea Galaxies. II. The H α Dot Sample*, 2024, *The Astrophysical Journal*, 977, 79.
doi:[10.3847/1538-4357/ad8b4e](https://doi.org/10.3847/1538-4357/ad8b4e)

*[3] **Kimsey-Miller, B.**, Salzer, J. J., Baker, K. N., et al. *The Environments of Star-Forming Galaxies Detected in the SFACT Survey: Do Mergers and Interactions Drive the Star Formation?*, 2026, submitted

[4] Baker, K. N., Salzer, J. J., **Kimsey-Miller, B.**, Carr, D. J., Sieben, J., *Searching for Green Pea Galaxies in the SFACT Survey*, 2026, submitted

*[5] **Kimsey-Miller, B.**, Baker, K. N., Salzer, J. J., Carr, D. J., Sieben, J., *The Star Formation Across Cosmic Time (SFACT) Survey. IV. A Second List of Faint Emission-Line Sources*, 2026, in preparation

Summary: Two publications (one first author); three publications in preparation/submitted (two first author)

CONTRIBUTED CONFERENCE PRESENTATIONS

[1] Brunker, S. W., **Kimsey-Miller, B.**, Cousins, B., Salzer, J. *Probing the Environments of Extreme Star-Forming Galaxies*. American Astronomical Society Meeting 2019 Jan 6-10; Seattle, WA. [2019AAS...23336801B](#), Contributor

[2] Jewell, A., **Kimsey-Miller, B.**, Harmon, R. O., *Starspots on LO Pegasi*. American Physical Society April Meeting 2019; Denver, CO. [Volume 64, Number 3](#), Co-Presenter

[3] **Kimsey-Miller, B.**, Salzer, J., Brunker, S., Carr, D., Sieben, J., *Exploring the Environments of SFACT Star-forming Galaxies*. American Astronomical Society Meeting 2024 Jan 7-11; New Orleans, LA. [2024AAS...24330615K](#), Presenter

[4] **Kimsey-Miller, B.**, *The Environments of Star Formation Across Cosmic Time (SFACT) Galaxies*. American Astronomical Society Meeting, 2025 Jan 12-16; National Harbor, MD., Dissertation Talk, [2025AAS...24513001K](#), Presenter

CONTRIBUTED TALKS

The Environments of Star-Forming Galaxies September 2024
Department of Astronomy Tea Talk, Indiana University

A Recipe for Green Pea Environments April 2019
Honors Thesis, Department of Astronomy, Indiana University

Starspots on LO Pegasi
Ohio Wesleyan University Lunch Talk July 2018
Patricia Belt Conrades Symposium, Ohio Wesleyan University July 2018
Indiana University Lunch Talk September 2019

RESEARCH EXPERIENCE

Exploring the Environments of Star-Forming Galaxies (SFGs) 2021 - Present
Indiana University

Advisor: Provost Prof. John J. Salzer

Utilizing spectroscopic redshift surveys to determine environments of SFGs detected by the Star Formation Across Cosmic Time (SFACT) Survey. Observing, reducing, and measuring over 4800 spectra from Hydra, a multi-object fiber positioner on the WIYN 3.5m telescope.

Does local galactic environment impact SFGs? 2019 - 2021
Indiana University

Advisor: Provost Prof. John J. Salzer

Derived star-formation rates, oxygen abundances, and local galactic environments of SFGs from a spectroscopic redshift survey in order to determine the impact of environment on star formation properties.

Exploring the environments of Green Pea Galaxies

2018 - 2019, 2024

Indiana University

Advisor: Provost Prof. John J. Salzer

Studied the environments of Green Pea galaxies, a rare and extreme class of starbursts.

Reduced and/or measured over 3200 spectra from Hydra for a redshift survey.

NSF REU: How do starspots on a sun-like star change over time?

Summer 2018

Ohio Wesleyan University

Advisor: Dr. Robert Harmon

Acquired, reduced, and analyzed imaging data to produce lights curves of a variable star,

LO Pegasi, and mapped light curves to starspots on a 2D model.

Learning IRAF and Python through studying globular clusters

Summer 2017

Indiana University

Advisor: Prof. Katherine Rhode

Using imaging data, I mastered Python and IRAF to analyze globular cluster candidates

in external galaxies, which was part of a larger project to study galaxy evolution.

**OBSERVING
EXPERIENCE****WIYN 3.5m telescope**

Fall 2021 - Spring 2025

Kitt Peak National Observatory

79 nights, ODI & Hydra

Co-I from Spring 2022 to Fall 2025

14-inch reflector

Summer 2018

Perkins Observatory

5 nights, NSF REU research project

**TEACHING
EXPERIENCE****Instructor of Record**

Indiana University

A105: Stars and Galaxies

Summer 2023

A100: The Solar System

Summer 2022

A107: The Art of Astronomy

Summer 2021

Associate Instructor

Indiana University

A103: Search for Life in the Universe

Fall 2020

A105: Stars and Galaxies

Spring 2019, 2020, 2021

A107: The Art of Astronomy

Fall 2019

SERVICE**Women & Technology Summit**

Spring 2024

Center of Excellence for Women & Technology, Indiana University

Organized and served on a panel discussion, served as a moderator for a science talk,

and helped organize a visiting scientist's trip to the Summit.

Poster Competition Judge

Spring 2024

Center of Excellence for Women & Technology, Indiana University

Diversity Committee/Club

2020 - present

AIP's TEAM-UP Project

2020 - 2023

Department of Astronomy in conjunction with Department of Physics

Outreach Coordinator

2021 - 2023

Department of Astronomy, Indiana University

Worked closely with many organizations to organize 40+ events and weekly Kirkwood

Observatory Open House events for about 30 graduate students.

Other Outreach Events

2017 - Present

Various locations

Participated and/or organized 30+ events including Kirkwood Observatory Open House.