

JENNIFER SIEBEN

Email: JSieben@iu.edu ★ Website: <https://jsieben7.github.io/>
Indiana University Department of Astronomy, 727 East 3rd Street,
Swain West Hall, Bloomington, Indiana 47405-7105

EDUCATION

Indiana University *December 2022*

Ph.D., Astronomy
Title: Star Formation Across Cosmic Time
Advisor: Dr John Salzer
Minor: Scientific Computing

M.A., Astronomy *March 2019*

Illinois Wesleyan University *May 2016*
B.A., Physics

RESEARCH INTERESTS

Star Formation History

I am interested in studying the long term history of the universe through the lens of star formation and galaxy evolution. I am particularly interested in medium-scale surveys to investigate global trends at different epochs.

RESEARCH EXPERIENCE

Graduate Research Assistant, Indiana University *2016—2022*

Star Formation Across Cosmic Time
Advisor: John Salzer
We are carrying out a narrow-band survey using the wide-field imager on the WIYN 3.5m telescope to discover emission line galaxies. This survey uses a combination of broad-band and narrow-band images to discover emission-line sources. Follow-up spectroscopy is then used to confirm the targets. Using nine redshift windows, we study galaxies up to $z = 1$.

I have conducted observations and written pipelines to process the data as well as to measure the photometric properties of the galaxies. We have completed imaging of 41 fields, each with ~ 200 emission-line sources.

Independent Research, Illinois Wesleyan University *2016*

Advisor: Linda French
Observations of Delta Scuti stars with small telescope to determine rotation periods.

Undergraduate Research Assistant, Illinois Wesleyan University *Summer 2014*

Advisor: Linda French
Observations of Trojan asteroids with the Cerro Tololo 0.9m telescope to determine rotation periods in order to discover a spin barrier and a limit of the density for comparison with cometary nuclei.

OUTREACH

Astronomy Public Outreach, Indiana University *2016—2022*

Led public observing tours at IU's Kirkwood Observatory, led astronomy sessions at local public school events, volunteered at campus wide Science Fest

SciIU

2017—Present

<https://sciu.indiana.edu/>

Writer and Editor-at-large for peer-edited, campus science blog, aimed at communicating science to an undergraduate audience. Also organized three annual science communication symposia for the wider public community and participated in various outreach oriented events around Southern Indiana.

Astronomy Department Outreach Coordinator, Indiana University 2019—2020

Organized new outreach events, coordinated volunteers for public open house nights, led department participation in Science Fest - a full day of hands-on outreach activities from all science departments geared toward elementary to high school age public. Also revitalized the department twitter account.

Astronomy Public Outreach 2015—2016

Regularly led public observing at IWU's Mark Evans Observatory and hosted a Lunar eclipse party attended by ~100 people.

Intern at Adler Planetarium *Summers 2013, 2015, 2016, Spring 2017*

Led public tours at Adler Planetarium's Doane Observatory with solar observing, and monthly night-time observing sessions with short presentations about astronomy, also assisted in Space Visualization Lab

TEACHING EXPERIENCE

Instructor of Record, Indiana University *Summer 2018, 2021*

Taught A107: The Art of Astronomy (online course), an introductory science class for non-astronomy majors focusing on understanding astronomical images. Updated course structure and material in preparation for 2021 course.

Instructor

Co-Instructor for "Communicating Science in a Digital Age", *December 2020*

co-taught with Ruck, L., Holden, C.

Designed and taught a three-week online course covering science communication basics and how to promote your material online.

Science Communication Workshops

Day-long workshop given at SciIU Blogging Workshop Day,

co-led with Ruck, L., Moussa-Tooks, A. *May 2019*

Workshop given at SciIU: Conversations in Science at Indiana University 3rd Annual Science

Communication Symposium, "Diving into SciComm", co-led with Ruck, L. *November 2019*

Workshop given at IU Journal of Undergraduate Research 3rd Annual Research Day,

"Diving into SciComm", co-led with Ruck, L. *November 2019*

Associate Instructor, Indiana University *2016—2018, 2021—2022*

Discussion leader and grader for A107: The Art of Astronomy, A221/A222: General Astronomy I/II, A103: The Search for Life in the Universe, and A100: The Solar System. 200 level courses were majors courses.

Undergraduate Teaching Assistant, Illinois Wesleyan University *2015—2016*

Facilitated lab activities and graded for A101: Introduction to Astronomy

PROFESSIONAL SOCIETIES

American Astronomical Society

Member

SPiE - International Society of Optics and Photonics

Member, 2014—2016

PROFESSIONAL SKILLS

WIYN 3.5M telescope (Kitt Peak, Az)	50+ nights, ODI and Hydra
CTIO 0.9m telescope (Cerro Tololo, Chile)	10 nights
Computer Languages	Python, IRAF, HTML, CSS, and SQL
Computer Software Knowledge	Google Drive Suite, MS Office Suite, Adobe Creative Suite, \LaTeX , Pinnacle Studios Video Editing, Audacity, <i>Mathematica</i> , <i>Canopus</i> , and IgorPro

AWARDS

Frank & Margaret Edmondson Prize for Teaching	<i>April 2021</i>
College of Arts and Sciences Dissertation Research Fellowship \$ 20,000	<i>2020—2021</i>
IUB Provost’s Travel Award for Women in Science	<i>Fall 2018, Fall 2019, Fall 2021</i>
College of Arts and Sciences Travel Award	<i>Fall 2019</i>
Indiana Space Grant PhD Fellowship \$ 12,000	<i>2018—2019, 2019—2020</i>
Goethe Link Prize for Outreach and Public Education in Astronomy	<i>May 2019, April 2020</i>

TALKS

1. “Star Formation Across Cosmic Time (SFACT) survey” *January 2023*
American Astronomical Society Winter 2023
Seattle, WA
2. “Oven Baked Galaxies” *June 2021*
Public Science Symposium 2021
Indiana University, IN
3. “Reaching Beyond the Stars” *October 2018*
Bays Mountain StarFest
Bays Mountain Park, TN

REFEREED PUBLICATIONS

1. French, L. M., Stephens, R. D., Coley, D., Wasserman, L. H., and **Sieben, J.**, “Rotation lightcurves of small jovian Trojan asteroids”, *Icarus*, vol. 254, pp. 117, 2015.
2. Salzer, J. J., Carr, D. J., **Sieben, J.**, et al., “The Star Formation Across Cosmic Time (SFACT) Survey. I. Survey Description and Early Results from a New Narrow-Band Emission-Line Galaxy Survey”, *ApJ*, 2022 (in review)
3. **Sieben, J.**, Carr, D. J., Salzer, J. J., et al., “The Star Formation Across Cosmic Time (SFACT) Survey. II. The First Catalog of Targets from a New Narrow-Band Survey for Emission-Line Objects”, *ApJS*, 2022 (in review)
4. Carr, D. J., **Sieben, J.**, Salzer, J. J., et al., “The Star Formation Across Cosmic Time (SFACT) Survey. III. Spectroscopy of the Initial Catalog of Emission-Line Objects”, *ApJS*, 2022 (in review)

CONFERENCE POSTERS

3. Brucker, M. J., Nault, K. A., Hammergren, M., **Sieben, J.**, Gyuk, G., Solontoi, M. R. 2015. Preliminary Light Curve Results of NEOs from the Characterization and Astrometric Follow-Up Program at Adler Planetarium. AAS/Division for Planetary Sciences Meeting Abstracts #47 307.07.
2. **Sieben, J.**, Salzer, J., Carr, D. J. 2019. The SFACT Survey - Star Formation Across Cosmic Time. American Astronomical Society Meeting Abstracts #233, 144.04.
1. **Sieben, J.**, Salzer, J., Van Sistine, A., Gronwall, C. 2020. Luminosity Functions Derived from Three Distinct Emission Line Selected Galaxy Samples. American Astronomical Society Meeting Abstracts #235, 208.06.

SCIENCE COMMUNICATION WRITING

[SciIU, Author page](#)

[Eclipses and Solar System Geometry](#)

[Science with Nemo: Ethics of Care in Animal Research](#)

[The Science Behind Meteor Showers in Animal Crossing](#)

[30 Years of Hubble: Images and Discoveries that Shaped Astronomy](#)

[Science without a Degree: What is Citizen Science and How to Get Involved](#)

[Global Collaboration in Science](#)

[The Quest for Alien Swimming Pools](#)

['Oumuamua: Whats in a Name?](#)

[Why You Should Attend Conferences](#)

[The Metallic Age of Stars](#)

[An Astronomer's Sleep Schedule](#)

[+12 more](#)

MEDIA

Siegel, E. Interviewee. “ [#57 - The Universe's Newborn Stars](#)” Starts With a Bang. 2020 June.

Last updated: January 5, 2023