LINDSAY R. HOUSE

Astronomy PhD Candidate & NSF Graduate Research Fellow
https://lindsay.house ✦ lindsay.house@utexas.edu
ORCiD: 0000-0002-1496-6514
PMA 16.216 ✦ 2515 Speedway Blvd Austin, TX 78712

EDUCATION

Ph.D in Astronomy 2020–2025 (expected)
University of Texas (UT) Austin GPA: 3.9/4.0
- Dual Concentration in Teaching & Mentoring and Science Public Policy (expected)
- NSF Graduate Research Fellow
- Advisor(s): Karl Gebhardt and Keely Finkelstein

B.S. in Physics
University of North Carolina (UNC) Greensboro 2018–2019
- Advisor(s): Ian Beatty and Alicia Aarnio

B.A. in Applied Mathematics in Biochemistry
UNC Asheville 2012–2016
- Highest Distinction in Mathematics

PROFESSIONAL APPOINTMENTS

NSF Graduate Research Fellow	UT Austin, Astronomy Department	2022 –2025
NSF INTERN	Adler Planetarium & Zooniverse	Summer 2024
Workshop Facilitator	McDonald Observatory	Summer 2023
Astro Education Internship	Smithsonian Air & Space Museum, WashD.C	Summer 2022
Research Assistant	CU Boulder & Fiske Planetarium	Summer 2020
Adjunct Instructor	Wake Tech Community College, Raleigh, NC	2019 – 2021
NSF REU Research Student	CU Boulder - JILA, Physics Department	Summer 2019
Undergraduate Research Student	UNC Greensboro	2018 – 2019
Planetarium Presenter	Morehead Planetarium, Chapel Hill, NC	2017–2019
High School (HS) Math Teacher	Leesville Rd. High School, Raleigh, NC	2017– 2018
HS Summer Camp Asst. Director	UNC Chapel Hill	Summer 2018
Undergraduate Research Student	UNC Asheville	2014 – 2016

GRANTS, AWARDS, & HONORS

NASA Citizen Science Seed Funding Grant (Co-I)	**$160,009**	2022 – Present
NSF Graduate Research Fellow	**$147,000**	2022–Present
NSF INTERN Supplemental Grant	**$25,578** at Adler Planetarium	2023
Dean's Prestigious Fellowship	University of Texas Austin	2022–2025

Scholar for Informal Science Education Association of Texas		2022
Community Impact Award	CU Boulder	2020
Undergraduate Research & Creativity Award	UNC Greensboro	2019 – 2019
Sigma Pi Sigma National Physics Honors	UNC Greensboro	2018 – 2020
American Astronomical Society Ambassador	AAS	2017 - Present
Highest Distinction in Mathematics	UNC Asheville	2016

PUBLICATIONS

1. Laurel Weiss et al **2024** ✦ ApJ ✦ *Absorption Troughs of Lyman AlphaEmitters in HETDEX* ✦ *http://arxiv.org/abs/2401.02490*
2. Chenxu Liu et al **2023** ✦ ApJL 958 L37 ✦ *The Preexplosion Environments and the Progenitor of SN 2023ixf from the Hobby–Eberly Telescope Dark Energy Experiment (HETDEX)* ✦ DOI 10.3847/2041-8213/ad0da8
3. DustinDavis et al **2023** ✦ ApJ 954 209 ✦ *HETDEX Public Source Catalog 1—Stacking 50,000 Lyman Alpha Emitters* ✦ DOI 10.3847/1538-4357/ace4c2
4. **Lindsay R. House *et al* 2023** ✦ ApJ ✦ *Using Dark Energy Explorers and Machine Learning to Enhance the Hobby-Eberly Telescope Dark Energy Experiment (HETDEX)* ✦ DOI 10.3847/1538-4357/accdd0
5. E.M. Cooper et al **2023** ✦ ApJ 943 177 ✦ *HETDEX Public Source Catalog 1: 220 K Sources Including Over 50 K Lya Emitters from an Untargeted Wide-area Spectroscopic Survey* ✦ DOI 10.3847/1538-4357/aca962
6. Dustin Davis et al **2023** ✦ ApJ✦ *The HETDEX Survey: Emission Line Exploration and Source Classification* ✦ DOI 10.3847/1538-4357/acb0ca
7. Chenxu Liu et al **2022** ✦ ApJ 940 40 ✦ *The Active Galactic Nuclei in the HETDEX. III. A Red Quasar with Extremely High Equivalent Widths Showing Powerful Outflows* ✦ DOI 10.3847/1538-4357/ac9af2
8. Chenxu Liu et al **2022** ✦ ApJ 935 132 ✦ *The Active Galactic Nuclei in the HETDEX. II. Luminosity Function* ✦ DOI 10.3847/1538-4357/ac8054
9. Chenxu Liu et al **2022** ✦ ApJ 261 24 ✦ *The Active Galactic Nuclei in the HETDEX. I. Sample Selection* ✦ DOI 10.3847/1538-4365/ac6ba6
10. Karl Gebhardt et al **2021** ✦ ApJ 923 217 ✦ *The Hobby–Eberly Telescope Dark Energy Experiment (HETDEX) Survey Design, Reductions, and Detections* ✦ DOI 10.3847/1538-4357/ac2e03

MENTORSHIP

Undergraduate Research Mentor

- Mentored undergraduates for the Dark Energy Explorers project. Held and led weekly group meetings and research projects for undergraduates who have presented posters as multiple conferences including AAS.

Isaiah Pipkin (TEAM-UP Together Award, TAURUS Scholar) 2022- 2023

Jose Saucedo 2022- Present

Mike Troung 2022- Present

NSF REU Informal Mentor:

- Mentored an undergraduate weekly for the summer. Guided them in their research project, ensured they had the resources to apply for grad school, and integrated them to the department.

Hera Weigand (current UT Austin grad student) Summer 2021

UT Austin GUMMY Informal Mentor:

- Mentored undergraduates through their time at UT Austin. Advised them on courses and research, while providing them resources for being successful in astronomy and working towards grad school.

Abriana Joy Himantog (current UW Madison grad student) 2020 - 2023

Delaney White (AmeriCorps Education Award and current teacher) 2020 - 2023

SELECTED ACADEMIC PRESENTATIONS

INVITED SCIENCE PRESENTATIONS

Invited talk: McDonald Observatory: Dark Skies Week April 2024

Invited Panelist: Machine Learning/AI Panel at CitSci Conference, Tempe, AZ May 2023

Invited Talk: University of Colorado Boulder, PER seminar Nov 2022

Invited Talk: UT Austin Board of Visitors Meeting, McDonald Observatory Oct 2021

CONTRIBUTED SCIENCE TALKS & POSTERS

Contributed Talk: Conference for Association of Science Teachers, Houston, TX Nov 2023

Contributed Talk: American Museum of Natural History, Astronomy lunch seminar Oct 2023

Conference Attendee: (Dot) .Astronomy, CCA Flatiron NYC, NY Oct 2023

Conference Attendee: BashFest, Austin, TX Oct 2023

Contributed Talk: CitSci (for AI and ML) Conference, Tempe, AZ May 2023

Contributed Talk: UT Austin Astronomy Dept, Extragalactic Seminar Feb 2023

Contributed Talk: American Astronomical Society 234, Seattle, WA Jan 2023

Contributed Poster: American Association of Physics Teachers Conference July 2022

Contributed Poster: Physics Education Research Conference, Grand Rapids, MI July 2022

Contributed Talk: UT Austin Astronomy Dept, Cosmology Seminar April 2022

Contributed Talk: Informal Science Education Association Conference, Houston, TX Feb 2022

Conference Attendee: AAAS Communicating Science, virtual Feb 2022

Conference Attendee: CitSci Conference, virtual May 2021

Conference Attendee: International Astronomical Union 367, virtual May 2021

Contributed Talk: UT Austin Astronomy Dept, Extragalactic Seminar — Mar 2021

Contributed Poster: Informal Science Education Association Conference, virtual — Jan 2021

Contributed Poster: Physics Education Research Conference, virtual — July 2021

Contributed Poster: Physics Education Research Conference, Provo, UT — July 2019

Contributed Poster: American Astronomical Society 233, Seattle, WA — Jan 2019

Contributed Poster: Conference for undergraduate Women in Physics, Williamsburg, VA — Jan 2019

Conference Attendee: American Astronomical Society 231, National Harbor, MD — Jan 2018

PROFESSIONAL DEVELOPMENT PRESENTATIONS

Invited Speaker: Congressional Visit Day, Washington, DC — Jan 2024

Invited Facilitator: APS Leadership Meeting, Washington, DC — Jan 2024

Invited Panelist: UT Austin Undergrad Prospective Students Day — Sep 2023

Invited Talk: UT Austin NSF GRFP Workshop — Sep 2023

Invited Panelist: UT Austin NSF GRFP Workshop — Sep 2023

Invited Talk: American Physical Society JNIPER Program (virtual) — Dec 2022

Invited Talk: UT Austin NSF GRFP Workshop — Sep 2022

INVITED PUBLIC OUTREACH TALKS

Invited Talk: McDonald Observatory Teachers workshop: Galaxies & Cosmology — June 2023

Invited Talk: McDonald Observatory Teachers workshop: Lights, Color, Optics — June 2023

Invited Talk: McDonald Observatory Star Party — Apr 2023

Invited Talk: Smithsonian Air and Space Museum, Washington, DC — July 2022

Invited Talk: Mcdonald Observatory Teachers Workshop: Galaxies & Cosmology (virtual) — July 2021

Invited Talk: UT Austin EXES Teacher Associate Group (virtual) — Feb 2021

SERVICE & PROFESSIONAL LEADERSHIP

Adler Planetarium & Zooniverse NSF INTERN — Summer 2024

Congressional Visit Day, Washington, DC — Jan 2024

- Selected to advocate for science on behalf of APS to representatives in congress

Host, Astronomy on Tap, UT Austin — 2023 – Present

- Hosted monthly one of the largest AoT in the country with consistently 250+ attendees

APS Executive Committees

Committee on Informing the Public (CIP) — 2024 – 2027

Forum on Outreach & Engaging the Public (FOEP) — 2022 – 2024

- Served on the FOEP for a two-year term, carrying out the goals of APS on outreach for the public through mini-grants, workshops and the annual APS meeting etc.
- Nominated from the FOEP to serve a three-year term on the CIP executive committee, where I attended the APS leadership meeting and lead workshops for other APS leaders on how to inform the public

Workshop Facilitator at Mcdonald Observatory Summer 2023

- Co-led workshops at McDonald Observatory for middle and high school teachers across the country. Provided and taught interactive hands-on lessons for high level concepts like dark energy.

NASA Citizen Science Leadership Series Spring 2023

- Attended a semester long leadership workshop for all NASA Co-I's

Astronomy Education and Public Outreach Intern Summer 2022

Smithsonian Air and Space Museum

- Trained as a program coordinator for education and visitor services department. Managed, scheduled, and briefed 800+ volunteer docents. Created hands-on astronomy curriculum that is used in the museum discovery carts today. Helped to organize large events like Tour of the Universe on the National Mall and implemented the curriculum with thousands of visitors

Graduate Student Rep. UT Austin Astronomy Department 2022 – 2023

- Served as grad student liaison, attended faculty meetings, hosted town halls, served on graduate admissions committee

Quals Task Force, Student Rep. UT Austin Astronomy Department 2021– 2022

- Served as a student perspective with a team of faculty to update the 2nd-year qualification exam

Reviewer & Judge Capital of Texas Undergraduate Research Forum Spring 2021

TEACHING

Courses:

AST 301, Guest Lecturer Fall 2022

UT Austin: A 200-student introductory astronomy course

Science Sprints, Co-Founder 2020 – Present

UT Austin: Developed a hack-a-thon style event for 400+ undergraduates to gain research experience as a part of Dark Energy Explorers

MAT 171, Instructor Spring 2020 & 2021, Fall 2020

Wake Tech Community College: A 30-student pre-calculus algebra course

MAT 071, Instructor Spring 2020 & 2021, Fall 2020

Wake Tech Community College: A 15-student supplemental course to help build academic habits & foster a growth-mindset in math

AST 235, Teaching Assistant Spring 2019, Fall 2019

UNC Greensboro: A 150-student introductory astronomy course

BIO 328 , Teaching Assistant Fall 2014

UNC Asheville: A 40-student human anatomy lab

TELESCOPE OBSERVING EXPERIENCE

Keck Observatory (local to Waimea)	Feb 2024
Harlan J. Smith Telescope, 2.7m (local to McDonald Observatory)	May 2023
Otto Struve Telescope, 2.1m (local to McDonald Observatory)	May 2023
0.8m Telescope, (local to McDonald Observatory)	May 2023

PRESS & SCIENCE WRITING FOR DARK ENERGY EXPLORERS

- Featured as 1 of 40 **NASA Citizen Science projects**
- Featured in **StarDate Magazine** (Nov/Dec 2023 Issue) '*Signing up for Science*'
- Guest on **Quantum Feedback Loop Podcast** (on all platforms Spotify, Apple Podcasts) '*Lindsay House and Looking back over 9 billion years*'
- Feature in **The Quantum Record** (July 2023) *Dark Energy Explorers: A Citizen Science Project Looks Over 9 Billion Years*
- Featured as one of **Texas Standards 'Ten Favorite Stories of the Year'** (2022)
- Featured on **Scripps News Nationwide** (60+ stations) *Researchers asking for public's help to create 'map of the universe'*
- Featured on **National Public Radio (NPR)** (Jan 2022) *Swipe Right to identify a New Galaxy*
- Featured on **CBS News** (Dec 2022)
- Featured on **NBC News** (Dec 2022)
- Speaker for **UT Austin CNS Fundraising Campaign for the Giant Maegellan Telescope**
- Press Release issued by **UT Austin** *Amateur Scientists Have Helped Astronomers Identify Nearly a Quarter-Million Galaxies*
- Featured on **Phys.org** (Nov 2022)
- Featured on **AAS Education Blog** (June 2022)
- Press Release issued by **McDonald Observatory** (April 2021) *You Can Help Decode the Universe!*
- Featured in **StarDate Magazine** (2021 Issue)

GRADUATE COURSE WORK

Course	Title
AST 386C	PROPERTIES OF GALAXIES
AST 393F	SURVEY OF INTERSTELLAR MEDIUM
AST 381	FORMATION GALAXY & LARGE SCALE STRUCTURE
EDC 380R	EDUCATIONAL RESEARCH & DESIGN
AST 382C	ASTROPHYSICAL GAS DYNAMICS
AST 380E	RADIATIVE PROCESSES & RADIATIVE TRANSFER
AST 396C	ELEMENTS OF COSMOLOGY
AST 382D	ASTRONOMICAL DATA ANALYSIS
AST 392D	MATH METHODS IN ASTROPHYSICS

PERSONAL WEBSITE

DARK ENERGY EXPLORERS (AT A GLANCE)

DARK ENERGY EXPLORERS (APP DOWNLOAD)