

LAURA CONGREVE HUNTER

17 Fayerweather Hill Rd ◊ Wilder Hall◊ Hanover, NH 03755

laura.c.hunter@dartmouth.edu

EDUCATION

Master of Arts, Astronomy June 2021
PhD, Astronomy September 2023
Indiana University
Minor: Scientific Computing
Advisor: Dr. Liese van Zee
Title: Timescales of Stellar Feedback Driven Turbulence in the Interstellar Medium on Local Scales

B.A., Astronomy and Physics 2013-2017
Mount Holyoke College
Distinctions: Graduated Cum Laude

RESEARCH EXPERIENCE

Research Associate September 2023 - Present
Dartmouth College, NH
Advisor: Dr. Burçin Mutlu-Pakdil
Using archival data from the Dark Energy Camera Legacy Survey to identify low surface brightness satellite galaxies around LMC and SMC mass host galaxies.

Dissertation Year Fellow August 2022 - August 2023
Indiana University, IN
Advisor: Dr. Liese van Zee
Analysis of a statistical sample of low-mass galaxies to indicate if atomic and ionized gas velocity dispersions are correlated with recent star formation activity.

Research Assistant August 2018- August 2022
Indiana University, IN
Advisor: Dr. Liese van Zee
Comparison of the ionized and atomic gas to resolved star formation histories to determine the differences in the turbulence timescales in low-mass galaxies.

Research Intern September 2017-December 2017
Gemini Observatory, HI
Advisor: Dr. Inger Jorgensen
Determination of the formation redshift of the stellar populations in Lynx East cluster galaxies using long slit spectroscopy as part of an ongoing project comparing how galaxies in clusters of different sizes evolve.

Research Assistant
Mount Holyoke College, MA

September 2016-May 2017

Advisor: Dr. Jason Young

Examination of the interstellar medium metallicity gradients in low-surface brightness galaxies using integrated field unit spectroscopy.

Research Assistant
St Lawrence University, NY

June 2016-August 2016

Advisor: Dr. Aileen O'Donoghue

Processing of narrowband H α photometry to trace star formation gradients in nearby ALFALFA detected galaxies as part of the Undergraduate ALFALFA Team's goal to determine the impact of quenching in the galaxy group environment.

Undergraduate Research Experience
Michigan State University, MI

June 2015-August 2015

Advisor: Dr. Danny Caballero

Assessment of the impact on written instructor feedback in cooperative problem solving based introductory physics classes to establish better training for undergraduate teaching assistants.

TEACHING EXPERIENCE

Associate Instructor

August 2018- May 2019

AST-A 105 (Stars & Galaxies) & AST-A 103 (The Search for Life) Indiana University, IN

Num Students \sim 150

Duties included running extra credit solar and rooftop observing sessions, grading, and holding review sessions before exams.

Teaching Assistant

January 2016 - May 2017

ASTR 228 (Astrophysics I: Stars and Galaxies), PHYS 201 (Electromagnetism), PHYS 250 (Quantum Mechanical Phenomena) Mount Holyoke College, MA

Num Students \sim 25

Duties included grading homework and labs and one-on-one tutoring sessions for students.

Lab Instructor

September 2016 - December 2016

PHYS 201 (Electromagnetism)

Mount Holyoke College, MA

Num Students = 12

Ran 12 person weekly lab section for student enrolled in PHYS 201 which included explaining the lab set ups, demonstrating the use of lab equipment, and assisting students with labs and completing lab write-ups.

Teaching Assistant

January 2014 - May 2016

ASTR 100/101 (Stars and Galaxies)

Mount Holyoke College, MA

Num Students \sim 50

Duties included grading, and assisting with running weekly observing labs and review sessions.

OUTREACH EVENTS AND LEADERSHIP

Kirkwood Observatory Open House August 2018 - August 2023
Indiana University, IN

Department Lunch Talk Coordinator June 2022 - August 2023
Indiana University, IN

ExtraGalactic Research Group Leader June 2022 - August 2023
Indiana University, IN

REFEREED PUBLICATIONS

1. **Hunter, Laura Congreve** et al., 2023, *The Astronomical Journal*, Vol 166, Issue 4, Page 144 Title: *Timescale of Stellar Feedback Driven Turbulence in the ISM: A Deep Dive into UGC 4305*
2. **Hunter, Laura Congreve** et al., 2022, *The Astronomical Journal*, Vol 163, Issue 3, Page 132 Title: *Determining the Timescale over Which Stellar Feedback Drives Turbulence in the ISM: A Study of four Nearby Dwarf Irregular Galaxies* DOI: 10.3847/1538-3881/ac4d2c
3. Smith, Madison V.; van Zee, Liese; Dale, D.; **Hunter, Laura C.**; et al., 2022, accepted, Title: *A Multi-Wavelength Study of Star Formation in Nearby Galaxies: Evidence for Inside-Out Growth of the Stellar Disk* DOI: 10.1093/mnras/stac1974
4. Kader, Justin A.; van Zee, Liese; McQuinn, Kristen B. W.; **Hunter, Laura C.**, 2021, *The Astrophysical Journal*, Vol 919, Issue 2, Page 73, Title: *Anomalous H α Emission Line Profile Detected at the Center of DDO 53*, DOI: 10.3847/1538-4357/ac1421
5. Jorgensen, Inger; **Hunter, Laura C.**; O'Neill, Conor R.; et al., 2019, *The Astrophysical Journal*, Vol 881, Issue 1, Page 42, Title: *The Gemini/HST Galaxy Cluster Project: Environment Effects on the Stellar Populations in the Lynx Clusters at $z = 1.27$* DOI: 10.3847/1538-4357/ab2d9d

TALKS

Indiana University March 2023
UGC 4305: Scales of Stellar Feedback Hybrid Talk

Indiana University February 2022
Determining the Timescale over Which Stellar Feedback Drives Turbulence in the ISM: A Study of four Nearby Dwarf Irregular Galaxies Virtual Talk

KIAA Forum on Gas in Galaxies for Early Career Scientists November 2021
Determining the Timescale over Which Stellar Feedback Drives Turbulence in the ISM:
A Study of four Nearby Dwarf Irregular Galaxies Virtual Talk

Indiana University October 2018
Spectroscopic and Photometric Analysis of Lynx East ($z=1.265$) Bloomington, IN

Gemini Observatory December 2017
Spectroscopic and Photometric Analysis of Lynx East ($z=1.265$) Hilo, HI

CONFERENCE POSTERS

Timescales of Stellar Feedback: a Deep Dive into UGC 4305
January 2023 Seattle Convention Center
American Astronomical Society Meeting 241

**Determining the Timescales Over Which Stellar Feedback Drives Turbulence
in the ISM**
July 2022 Sexten Center for Astrophysics
A comprehensive view of galaxy evolution from the Milky Way to I Zwicky 18

AWARDS

2023 Hollis & Greta Johnson Graduate Research Prize (Indiana University)
April 25, 2023: \$1,000

Indiana Space Grant Consortium Fellowship 2022-2023 Academic Year: \$12,000

2022 Provosts Travel Award for Women in Science (Indiana University) May
20, 2022: \$1,000

**Indiana University College of Arts and Sciences Dissertation Research Fel-
lowship 2022-2023 Academic Year: \$22,000**

Department of Astronomy Civic Engagement Award Spring 2021: \$300

SUCCESSFUL OBSERVING PROPOSALS

MMT
2 nights of time awarded with BINOSPEC instrument between February and July 2024
Role: PI

Gemini North
Obs Code: GN-2024A-Q-222: Awarded 13.3 hours of queue observing time on Gemini
North using GMOS between February and July 2024 **Role: PI**

Hubble Space Telescope
Obs Code: HST 17432: Awarded 6 primary and secondary orbits in HST cycle 31 **Role:
PI**

Very Large Array

Obs Code: 21B-058 : Awarded up to 64 hours in B-configuration between September 2021 and January 2022 **Role: PI**

Obs Code: 21A-027 : Awarded up to 9 hours in D-configuration between March 2021 and May 2021 **Role: PI**

Obs Code: 20B-085 : Awarded up to 40 hours in C-configuration and 80 hours in B-configuration between February 2020 and October 2020 **Role: PI**

WIYN 3.5m SparsePak IFU

17.5 nights total between the 2021A (April), 2021B (December), 2022A (April), 2023A (January) semesters **Role: Co-I**

WIYN 3.5m One-Degree Imager

1 night 2023A (January) semester **Role: Co-I**

WIYN 0.9m Half-Degree Images

4 nights total during the 2016A semester (January) **Role: Co-I**

TECHNICAL SKILLS

Programming Languages: Python, IDL

Software: AIPS, CASA, GIPSY, L^AT_EX, IRAF

PROFESSIONAL MEMBERSHIPS

American Astronomical Society

2018