

Jesse Robb Feddersen, PhD

CONTACT INFORMATION	8648 E State Road 45 Unionville, IN 47468 USA	<i>Phone:</i> +1-812-272-3386 <i>E-mail:</i> jrobbfed@gmail.com <i>Website:</i> https://jessefeddersen.com
EDUCATION	Yale University , New Haven, Connecticut, USA M.S., M.Phil. Astronomy PhD, Astronomy	December, 2015 December, 2019
	Indiana University , Bloomington, Indiana, USA B.S., Astronomy/Astrophysics B.S., Physics	May, 2013 May, 2013
RESEARCH EXPERIENCE	Department of Astronomy, Yale University , New Haven, CT USA <i>Thesis Research</i> Advisor: Dr. Héctor Arce	2015 - 2019
	Studied the impact of stellar feedback on the structure of molecular gas in the Orion Molecular Cloud using multiwavelength observations as part of the CARMA-NRO Orion collaboration.	
	<i>Theoretical second year research project</i> Advisor: Dr. Marla Geha	2014
	Studied the effect of the random sampling of stellar initial mass functions on the stellar populations of ultra-faint dwarf galaxies around the Milky Way and investigated the possibility of using pulsar observations to constrain the initial mass function in these systems.	
	<i>Observational first year research project</i> Advisor: Dr. Pieter van Dokkum	2013
	Studied the evolution of the median mass galaxy from redshift of 2 to present, using galaxy catalogs from the 3D-HST survey.	
	Space Telescope Science Institute , Baltimore, MD USA <i>Space Astronomy Summer Program Research Intern</i> Advisors: Dr. Janice C. Lee, Dr. Chun Ly	June, 2012 - August, 2012
	Investigated the relations between stellar mass, gas-phase oxygen abundance, and star-formation rate in galaxies at $z \approx 0.8$ Used IDL extensively for both analysis and plotting tasks.	
	Department of Astronomy, Indiana University , Bloomington, IN USA <i>Research Assistant</i> Advisor: Dr. John J. Salzer	2009 - 2013
	Lead a study of nearly unresolved emission-line galaxies in $H\alpha$ images of the local universe and carried out image reduction/photometry and optical spectral reduction/measurement in order to determine their nature. Measured star-formation and metallicity properties to constrain scaling relations.	

TEACHING
EXPERIENCE

Yale Summer Program in Astrophysics, New Haven, CT USA
Residential intensive research program for high school students at the Leitner Family Observatory and Planetarium.

Teaching Fellow

2016, 2017

Supervisor: Dr. Michael Faison

Led programming tutorials and observing labs for 4-week intensive research program for high school students.

Department of Astronomy, Yale University, New Haven, CT USA

Teaching Fellow

2013 - 2015

Led discussion sections, research labs, tutored, and graded for the following undergraduate astronomy courses:

ASTR 220 - Galaxies and Cosmology

Fall, 2013

Supervisor: Dr. Louise Edwards

ASTR 160 - Frontiers and Controversies in Astrophysics

Spring, 2014

Supervisor: Dr. Louise Edwards

ASTR 120 - Galaxies and the Universe

Summer, 2014

Supervisor: Dr. Robert Zinn

ASTR 255 - Research Methods in Astrophysics

Fall, 2014

Supervisor: Dr. Marla Geha

ASTR 170 - Introduction to Cosmology

Fall, 2015

Supervisor: Dr. Louise Edwards

PUBLICATIONS

Refereed Publications

Feddersen, J. R., Arce, H. G., Kong, S., et al. 2020, Astrophysical Journal, Accepted

Tanabe, Y., et al. 2019, Publications of the Astronomical Society of Japan, 71, S8

Kong, S., et al. 2019, Astrophysical Journal, 882, 45

Feddersen, J. R., Arce, H. G., Kong, S., et al. 2019, Astrophysical Journal, 875, 162

Feddersen, J. R., Arce, H. G., Kong, S., et al. 2018, Astrophysical Journal, 862, 121

Kong, S., Arce, H. G., **Feddersen, J.R.**, et al. 2018, Astrophysical Journal Supplement, 236, 25

de los Reyes, M. A., et al. 2015, Astronomical Journal, 149, 79

Popular Writing

<https://massivesci.com/people/jesse-feddersen/>

<https://astrobites.org/author/jfeddersen/>

VOLUNTEER AND
OUTREACH
EXPERIENCE

Leitner Family Observatory and Planetarium Presenter

2014-2019

Presented live planetarium shows to thousands of members of the public at Yale University's Leitner Family Observatory and Planetarium. <https://leitnerobservatory.yale.edu>

Truth & Beauty Podcast Host and Producer

2019

Created, produced, and hosted podcast about the intersection of art and science, using audio editing software Garageband and Audacity. <http://jessefeddersen.com/podcast.html>

Astrobites Author **2014-2016**
 Wrote summaries of recent astrophysics papers aimed at an audience of undergraduates interested in beginning their research career. Edited other authors' work, and served on admissions committee for new authors. My work for Astrobites can be found at: <https://astrobites.org/author/jfeddersen/>

Yuri's Night at Yale **2015-2016**
 Organized outreach event at Yale University's Leitner Family Observatory and Planetarium celebrating the anniversary of human spaceflight. Ran instructional tables, rocket launch demos, planetarium shows, and telescope viewing for several hundred members of the public.

Adler Planetarium Zooniverse Demonstration **2014**
 As part of two-week school on education and outreach at the Kavli Institute for Cosmological Physics, designed a floor experience for families at the Adler Planetarium in Chicago, Illinois. <https://blog.zooniverse.org/2014/07/07/demonstrating-citizen-science-at-adler-planetarium/>

Sidewalk Astronomy **2011-2013**
 Hosted telescope viewing in downtown Bloomington with Indiana University Astronomy Club, targeted towards unsuspecting passersby.

Physics and Astronomy Open House **2011-2012**
 Assisted with various educational astronomy activities at departmental open house, attended by several thousand members of the public annually.

Venus Transit Viewing **2012**
 Organized and co-ran event hosted by Indiana Department of Natural Resources; set up telescopes and helped over a hundred members of the public view the transit of Venus safely.

Child's Elementary Telescope Night **2012**
 Helped organize and run a telescope viewing at a local elementary school with Indiana University Astronomy Club.

Astronomy with the Stars **2011**
 Assisted Bloomington Department of Parks and Recreation with event designed to orient interested members of the public to the night sky. Operated several telescopes and assisted with public viewing.

TECHNICAL SKILLS	<ul style="list-style-type: none"> • Programming Languages: Python, IDL, Fortran, Supermongo, HTML/CSS, L^AT_EX • Astronomical Software: MIRIAD, CASA, IRAF (primarily image and spectral reduction and measurement routines), SAOImage DS9 • Other Software: Google Suite, Microsoft Office, iWork, GarageBand, Audacity, iMovie, Adobe Photoshop, GIMP • Operating Systems: OS X, Unix/Linux, Windows.
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OBSERVING EXPERIENCE	CARMA (2 weeks) 2015 Arecibo (1 night) 2014 WIYN 0.9m (6 nights) 2012 WIYN 0.9m (5 nights) 2011 WIYN 0.9m (4 nights) 2010
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HONORS AND AWARDS	Phi Beta Kappa	2013
	Hutton Honors College Travel Grant	2012
	Hollis and Greta Johnson Research Prize	2012 & 2013
	McCreery Travel Award	2012
	Hutton Honors College Research Partnership Grant	2011
	Cox Research Scholarship	2009-2013
	National Merit Scholarship	2009-2013
	Indiana University Dean's List	2009-2013