

Catherine Elena Fielder



Department of Physics and Astronomy
University of Pittsburgh
3941 O'Hara St
Pittsburgh, PA 15260



+1 (972) 979-4342
cef41@pitt.edu
<https://cfelder.github.io>
<https://github.com/cfelder>

EDUCATION

- 2014 – PRESENT **Doctor of Philosophy in Physics**
Physics and Astronomy
University of Pittsburgh
- 2016 **Master of Science in Physics**
Physics and Astronomy
University of Pittsburgh
- 2010 – 2014 **Bachelor of Science in Physics**
PHI BETA KAPPA, SIGMA PI SIGMA, DEANS LIST
Department of Physics
Texas Tech University

RESEARCH INTERESTS

The formation and evolution of galaxies and dark matter halos, including:

- Investigating the properties and relationships of dark matter halos
- Studying the formation and evolution of the Milky Way
- Integrating machine learning techniques into astronomy

AWARDS

- 2014 **Outstanding Research Talk**
Los Alamos National Lab
- 2014 **Mary E. Warga Predoctoral Fellowship**
University of Pittsburgh

RESEARCH EXPERIENCE

Los Alamos National Lab

Researcher for the Los Alamos Supernova Light Curve Project

Researched Type Ib and Ic supernovae simulations and spearheaded the development of opacity analysis software.

POST BACCALAUREATE SUMMER RESEARCHER 2014 (FT)

LSU Physics and Astronomy REU Program

Worked on a project that was a part of the Galactic Bulge Survey. In particular on searching for Low Mass X-ray Binaries by analysing UV-optical SEDs.

SUMMER 2013

PUBLICATIONS (2 FIRST AUTHOR, 2 NTH AUTHOR)

Fielder, Catherine E., Mao, Yao-Yuan, Newman, Jeffrey A., Zentner, Andrew R., Licquia, Timothy C. (2019). Predictably missing satellites: subhalo abundances in Milky Way-like haloes. *Monthly Notices of the Royal Astronomical Society*, 486(4), 4545-4568.

Fielder, Catherine E., Mao, Yao-Yuan, Zentner, Andrew R., Newman, Jeffrey A., Wu, Hao-Yi, Wechsler, Risa (2020). Illuminating dark matter halo density profiles without subhaloes. *submitted to Monthly Notices of the Royal Astronomical Society*

Author name in bold

CONFERENCES AND TALKS

TALKS	SDSS-IV Collaboration Meeting – 2020 Great Lakes Cosmology Workshop 12, RIT – 2019 Great Lakes Cosmology Workshop 11, Mc Master University, Hamilton, Ontario Canada – 2016
POSTERS	Small Galaxies Cosmic Questions, Durham, United Kingdom – 2019 Dark Matter 2018, Kingston, Ontario Canada – 2018
DEPARTMENTAL TALKS	Astro Student Seminar – Dec. 2019, May 2019, Dec. 2018, Dec. 2017
TRAINING	Green Bank Telescope Observer Training Workshop – Fall 2017

TEACHING EXPERIENCE

TEACHING ASSISTANT	Astro 087: Basics of Space Flight (University of Pittsburgh, fall 2014, spring 2015) Astro 088: Stonehenge to Hubble (University of Pittsburgh, spring 2018) Phys 0111: Introduction to Physics 2 (University of Pittsburgh, spring 2015)
TEACHING FELLOW	Astro 087 and Astro 088 (University of Pittsburgh, fall 2018)
GUEST LECTURE	for Astro Bootcamp, topic of \LaTeX (University of Pittsburgh, July 1, 2020)

ADDITIONAL SKILLS

LARGE COLLABORATIONS	SDSS-IV
COMPUTER LANGUAGES	Python, IDL, \LaTeX , Mathematica
OBSERVING	WIYN 3.5m telescope, Kitt Peak National Observatory, 1 week of observing for the Sweet Spot Survey

OUTREACH

Astronomy on Tap (Fall 2018)

National project for bringing astronomy to the general public.

High School Class Lecture (March 2020)

Guest lecture on dark matter at Shadyside Academy.

High School Visit Lecture (Oct. 2019)

Guest lecture on astrophysics research for the Avonworth High School visit to the Pitt Physics and Astronomy department.

REFERENCES

Dr. Jeffrey Newman

POSITION	Professor
EMPLOYER	Department of Physics and Astronomy <i>University of Pittsburgh</i>
EMAIL	jnewman@pitt.edu

Dr. Brett Andrews

POSITION	Research Faculty
EMPLOYER	Department of Physics and Astronomy <i>University of Pittsburgh</i>
EMAIL	andrewsb@pitt.edu

Dr. Yao-Yuan Mao

POSITION	Post Doctoral Researcher, Einstein Fellow
EMPLOYER	Department of Physics and Astronomy <i>Rutgers</i>
EMAIL	yymao.astro@gmail.com

Dr. Andrew Zentner

POSITION	Professor
EMPLOYER	Department of Physics and Astronomy <i>University of Pittsburgh</i>
EMAIL	zentner@pitt.edu