Catherine Elena Fielder

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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:

- Dark matter halo properties and their relationships

- The formation and evolution of the Milky Way

- Machine learning for astronomy

AWARDS

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

RESEARCH EXPERIENCE

POST BACCALAUREATE SUMMER RESEARCHER 2014 (FT)

Los Alamos National Lab
Researcher for the Los Alamos Supernova Light Curve Project

I did research on Type 1b and 1c supernovae simulations and spearheaded the development of opacity analysis software.

SUMMER 2013

LSU Physics and Astronomy REU Program
I worked on a project that was a part of the Galactic Bulge Survey. In particular I worked on searching for Low Mass X-ray Binaries by analysing UV-optical SEDs.

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. *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 Sminar – Dec. 2019

TRAINING
Green Bank Telescope Observer Training Workshop – Fall 2017

TEACHING EXPERIENCE

TEACHING ASSISTANT
Astro087: Basics of Space Flight (University of Pittsburgh, fall 2014, spring 2015)
Astro088: Stonehenge to Hubble (University of Pittsburgh, spring 2018)
Phys0111: Introduction to Physics 2 (University of Pittsburgh, spring 2015)

TEACHING FELLOW
Astro087 and Astro088 (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
University of Pittsburgh
EMAIL — janewman@pitt.edu

Dr. Yao-Yuan Mao

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

Dr. Brett Andrews

POSITION — Research Faculty
EMPLOYER — Department of Physics and Astronomy
University of Pittsburgh
EMAIL — andrewsb@pitt.edu

Dr. Andrew Zentner

POSITION — Professor
EMPLOYER — Department of Physics and Astronomy
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