

Maude Gull

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EDUCATION

Massachusetts Institute of Technology | Class of 2019 Cambridge, MA

- Candidate for B.Sc. in Physics, B.Sc. in Mathematics and Minor in Astronomy

EXPERIENCE

Kavli Institute for Astrophysics and Space Research Cambridge, MA
Professor Anna Frebel (The R-Process Alliance)

Researcher May 2016 – 2019

- Analyzed the chemical abundances of ancient, ~13 billion-year-old stars to shed light on the origin of neutron capture processes that are responsible for heavy element synthesis. Noticed unique pattern in one of the stars and created a hybrid pattern.
- Observed at Clay-Magellan Telescope in Chile, recipient of travel grant from John P. Huchra (1970) Memorial Fund.
- Analyzed the chemical abundances of sample stars from 3 stellar streams.

Dr. Jennifer Burt

Researcher Fall Semester 2017

- Analyzed data of over a decade worth of radial velocity measurements with the Carnegie Planet Finder Spectrograph on Magellan, worked on determining the relationship between uncertainty in radial velocity measurement and exposure time.

Center for Theoretical Physics MIT Cambridge, MA
Professor Alan Guth (Density Perturbation Group)

Researcher June 2017 – 2019

- Created a Monte-Carlo Integration code, performed statistical analysis on code.

PUBLICATIONS

- **Gull, Maude;** Frebel, Anna; Cain, Madelyn; et al. (2018). *Discovery of the first metal-poor star with a combined r- and s-process element signature*. The Astrophysical Journal. Volume 862 (2).
- Cain, Madelyn; Frebel, Anna; **Gull, Maude;** et al. (2018). *Chemical abundances for a trio of r-process-enhanced stars - one strong, one moderate, and one mild*. The Astrophysical Journal. Volume 864 (1).
- **Gull, Maude;** et al. *Chemical characteristics of three stellar streams*. In prep.

AWARDS

University of California, Berkeley
Cranor Fellowship

Berkeley, CA
2019

MIT Physics Department

Cambridge, MA

The Barrett Prize

June 2019

The Order of the Lepton Award

June 2019

The John P. Huchra (1970) Memorial Fund Travel Award

May 2017

TALKS

- The Greater Boston Undergrad Physics Conference (*Talk*, 2018) "Discovery of the first metal-poor star with a combined r- and s-process element signature"
- Conference for Undergraduate Women in Physical Sciences (*Poster*, 2018). "Discovery of the first metal-poor star with a combined r- and s-process element signature."
- MIT Kavli Institute Undergraduate Research Symposium (*Talk*, 2018). "Discovery of the first metal-poor star with a combined r- and s-process element signature"

TEACHING

MIT Physics Department

Cambridge, MA

Teaching Assistant

August 2017 – 2019

- Teaching assistant for MIT introductory physics course for freshmen, including Classical Mechanics I and Electromagnetism I.

LEADERSHIP

MIT Physics Department

Cambridge, MA

Physics Pre-Orientation Counselor

August 2016,17,18

- Organized week of activities, including talks and hands-on experiments, provided guidance and advice for incoming physics freshman.
- Redesigned original format to have more representation and diversity in speakers and invited professors.

UWIP Mentor

August 2017 – 2019

- Mentor to a younger undergraduate woman in Physics.

SKILLS

- Programming languages (in order of proficiency): Python, LaTeX, Mathematica, Java
- Languages: Fluent in French and German

PROFESSIONAL SOCIETY MEMBERSHIPS

Swiss Study Foundation, Member

2019