

Maude Gull

PhD Candidate | mgull@berkeley.edu | mgull19@alum.mit.edu

RESEARCH INTERESTS

metal-poor massive stars, metal-poor stellar populations, stellar evolution of massive stars, massive binaries, machine learning in astrophysics

RESEARCH EXPERIENCE

Graduate Student Researcher, Department of Astronomy, Univ. of California, Berkeley
Advisor: Dr. Dan Weisz Sept. 2019-present

Graduate Student Researcher, Institute for Computational Cosmology, Durham University
Advisor: Dr. Anna Mcleod Fall 2022

Undergraduate Researcher, Kavli Institute for Astrophysics and Space Research
Advisor: Dr. Anna Frebel (R-process alliance) May 2016-2019

Undergraduate Researcher, Kavli Institute for Astrophysics and Space Research
Advisor: Dr. Jennifer Burt Fall 2017

Undergraduate Researcher, Center for Theoretical Physics, MIT
Advisor: Dr. Alan Guth (Density Perturbation Group) June 2017 – 2019

EDUCATION

University of California, Berkeley | M.A. in Astrophysics 2021
Massachusetts Institute of Technology | B.Sc. in Physics and in Mathematics 2019

PUBLICATIONS

- **Gull, Maude**; Weisz, Daniel R.; et al. (2022) *A Panchromatic Study of Massive Stars in Extremely Metal-Poor Local Group Dwarf Galaxy LeoA*. The Astrophysical Journal. Volume 941 (2).
- **Gull, Maude**; Frebel, Anna; et al. (2020) *R-process-rich Stellar Streams in the Milky Way*. The Astrophysical Journal. Volume 912 (1).
- **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).
- Yamaguchi, Natsuko; El-Badry, Kareem; Rodriguez, Antonio C. ; **Gull, Maude**; et al. (2023). *Sodium enhancement in evolved cataclysmic variables*. Monthly Notices of the Royal Astronomical Society. Volume 524 (1).

SUCCESSFUL PROPOSALS

Observation Experience: 2 nights on MIKE (Magellan), 9 nights on LRIS (KECK), 2 nights on KCWI (KECK), 1 night on ESI (KECK), 1 night on DEIMOS (KECK), 1 night on MOSFIRE (KECK)

- **HST - Emission-line stars in the extremely metal-poor dwarf galaxy Sextans A.**
 - Cycle 31, PI: M. Gull (GO-17428; 8 orbits).
- **Keck - Following up Very Massive Stars Candidates in M33 with KCWI/KCRM.**
 - 2023B, PI: D. Weisz
- **Keck - Characterizing Extremely Metal-poor Massive Stars in Leo A.**
 - 2020A, 2022A and 2023A, PI: D. Weisz
- **Keck - Characterizing a Stripped Star at Extremely Low Metallicity.**
 - 2022A, PI: D. Weisz

AWARDS

Cranor Fellowship, University of California, Berkeley	2019-present
Outstanding GSI, University of California, Berkeley	Spring 2022
Travel Grant, IAU	Spring 2022
Annual Scholarship, Swiss Study Foundation	2019/20
30 Years - 30 Personalities Recognition, Swiss Study Foundation	2021
The Barrett Prize, MIT	2019
The Order of the Lepton Award, MIT	2019
The John P. Huchra (1970) Memorial Fund Travel Award, MIT	2017

TALKS & POSTERS

- Caltech Astronomy Tea Talk (*Invited Talk*, 2024) "A Panchromatic Study of Extremely Metal-Poor Massive Stars in Extremely Metal-Poor Local Group Dwarf Galaxy LeoA"
- Carnegie Observatories Tea (*Invited Talk*, 2024) "A Panchromatic Study of Extremely Metal-Poor Massive Stars in Extremely Metal-Poor Local Group Dwarf Galaxy LeoA"
- 3,2,1: Massive Triples, Binaries and Mergers (*Contributed Talk*, 2023) "A Panchromatic Study of Extremely Metal-Poor Massive Stars in Extremely Metal-Poor Local Group Dwarf Galaxy LeoA"
- CCA Friday Galaxy Formation Meeting (*Talk*, 2023) "A Panchromatic Study of Massive Stars in Extremely Metal-Poor Local Group Dwarf Galaxy LeoA"
- MPA Seminar on Stellar Astrophysics (SESTAS) (*Invited Talk*, 2022) "A Panchromatic Study of Massive Stars in Extremely Metal-Poor Local Group Dwarf Galaxy LeoA"
- Durham University Friday Lunchtime Astronomy Talk (FLAT) (*Invited Talk*, 2022) "A Panchromatic Study of Massive Stars in Extremely Metal-Poor Local Group Dwarf Galaxy LeoA"
- IAU Symposium 361 Massive Stars Near and Far (*Contributed Talk*, 2022) "A Panchromatic Study of Massive Stars in Extremely Metal-Poor Local Group Dwarf Galaxy LeoA"
- Stars, to mark the 80th birthday of Peter Eggleton (*Contributed Talk*, 2022) "A Panchromatic Study of Massive Stars in Extremely Metal-Poor Local Group Dwarf Galaxy LeoA"
- Keck Science Meeting 2021 (*Poster*, 2021) "Optical spectroscopy of massive stars in extremely metal-poor local group dwarf galaxy Leo A"
- 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, MENTORING, OUTREACH

MPS Student Advisory Board, University of California, Berkeley	2022-
Rosalind Franklin Forum for Female Scientists	2022-
Undergraduate Liaison, University of California, Berkeley	2021-2022
Compass/MPS Mentor	2020-
POWER Bay Area Mentor	2021-2022
Astronomy Night, Volunteer	2019-
Science Ambassador for Community Resources for Science	Fall 2021, Spring 2023
Graduate Student Instructor, University of California, Berkeley, C162/C294 Planets	Fall 2019
Graduate Student Instructor, University of California, Berkeley, 7A Introduction to Astronomy	Fall 2022
Teaching Assistant, MIT Physics Department, 8.01(L) CM I, 8.02 EM I	2017-2019