Chloe Neufeld

Astronomy Graduate Student

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Research Interests

Galaxy formation and evolution; the star forming sequence; the quenching process; high redshift galaxies

Education

Aug 2022 - present | **Yale University**
PhD in Astronomy

Sept 2018 - Jun 2022 | **University of California, Davis**
BS in Physics (emphasis in Astrophysics)
Minors in Math & Art History
GPA: 3.9/4.0
Senior Thesis with Highest Honors

Research Experience

2022 - Ongoing | **Graduate Student Researcher**
Department of Astronomy, Yale University
Advisor: Prof. Pieter van Dokkum
- Probing the star forming sequence at $z \sim 1-2$ using Paschen-α emission lines as a tracer of star formation (*FRESCO survey, JWST 4.4μm band NIRCam/grism spectroscopy*)

Advisor: Prof. Daisuke Nagai
- Quantifying supernovae and AGN Feedback in CAMELS-SIMBA simulations

2019-2022 | **Undergraduate Student Researcher**
Department of Physics & Astronomy, University of California, Davis
Advisor: Prof. Marusa Bradac
- Measured sizes of gravitationally lensed, compact high redshift galaxies in the RELICS survey and identified possible Lyman continuum leakers (*results published in Neufeld et al. 2022*)
- Performed source-plane modeling for 11 lensed galaxies to predict morphology (*results published in Strait et al. 2021*).
- Modelled the mass distribution of RELICS galaxy cluster CL 0152-1357 by identifying gravitationally lensed and multiply imaged sources around the cluster.

Publications

2023 | 1. Oesch, P. A. *et al.* (incl. **C. Neufeld**).The JWST FRESCO Survey: Legacy NIRCam/Grism Spectroscopy and Imaging in the two GOODS Fields. MNRAS (2023).

2022 | 2. **Neufeld, C.** *et al.* RELICS: Small Lensed z $\geq$ 5.5 Galaxies Selected as Potential Lyman Continuum Leakers. MNRAS (2022).

2021 | 3. Strait, V. *et al.* (incl. **C. Neufeld**). RELICS: Properties of z $\geq$ 5.5 Galaxies Inferred from Spitzer and Hubble Imaging, Including A Candidate z $\sim$ 6.8 Strong [O III] emitter. ApJ (2021).

Talks

April 2022 | **Early Galaxies: Shedding Light on Cosmic Dawn**
Astronomy on Tap, Davis
Public talk

October 2021 | **Small Lensed $z \geq 5.5$ Galaxies Selected as Potential Lyman Continuum Leakers**
APS Far West Section Conference
Remote talk

April 2021 | **Galaxy Sizes at Cosmic Dawn**
UC Davis Undergraduate Research Conference
Remote talk

Observing Experience

Keck/LRIS: 2 nights

Teaching

2022 - present | **Teaching Fellow, Yale University**
ASTR 110: Stars and Planets; *Prof. Michael Faison*
ASTR 210: Stars and Their Evolution; *Prof. Robert Zinn*
ASTR 160: Frontiers of Astrophysics; *Prof. Marla Geha*

Outreach

August 2022 - present | **Astrosibs, Yale Astronomy Department**
Member of a mentoring program that pairs graduate students with undergraduates in the astronomy department.
Graduate student mentor

August 2022 - present | **Astro on Tap, New Haven**
Organization that coordinates events with astronomy-related talks and activities for public outreach.
Organizing member

September 2019 - June 2022 | **Physics Club at UC Davis**
Undergraduate club that organizes events to involve students and the public in physics-related activities.
Club officer, project team member

Awards/Honors

Outstanding Performance Citation; UC Davis Physics & Astronomy Department
2022 Saxon-Patten Prize; UC Davis Physics & Astronomy Department
Dean's Honor's List, UC Davis; Spring 2019, Fall 2019, Fall 2020, Winter 2021, Spring 2021, Fall 2021, Winter 2022
The Honor Society of Phi Beta Kappa
The Honor Society of Phi Kappa Phi

Technical Skills

Programming	Python, LaTeX; working knowledge: C/C++, git
Astronomy Software	EAzY, Lenstronomy, Lenstool