

Lou Baya OULD ROUIS

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EDUCATION

Boston University

Astronomy PhD Candidate

MS Astronomy, May 2024

Boston, MA

Sept. 2021 – Present

University of California, Los Angeles

Bachelor of Science in Physics, Major GPA: 3.6

Los Angeles, CA

Aug. 2017 – June 2021

Lycee Charlemagne

Scientific Baccalauréat, mention Très Bien/ Highest Honors

Paris, France

June 2017

RESEARCH INTERESTS

White Dwarfs — Origin & Evolution of Planetary Systems — Star Clusters — Binary Stars

PUBLICATIONS & TALKS

Are Planets Missing around Massive White Dwarfs?

Tufts University Astronomy Seminar

Authors: L.B. Ould Rouis

Invited talk to discuss my work on planetary occurrence rates for white dwarfs using HST/COS spectra. (45 min)

February 6th 2024

Boston, MA

Missing planets around Massive White Dwarfs

Harvard CfA Exoplanet Lunch

Authors: L.B. Ould Rouis

Invited talk to discuss my work on planetary occurrence rates for white dwarfs using HST/COS spectra. (30 min)

September 13th 2023

Boston, MA

Metal Pollution around Massive White Dwarfs

KITP Conference, White Dwarfs from Physics to Astrophysics

Authors: L.B. Ould Rouis

Contributed talk on metal pollution around massive white dwarfs as a tool to constrain planetary occurrence. (20 min)

[doi:10.26081/K68D40](https://doi.org/10.26081/K68D40)

November 17th 2022

Santa Barbara, CA

Kinematics of Massive White Dwarfs to Constrain Planetary Occurrence

EUROWD 22 Conference, White Dwarf Workshop

Authors: L.B. Ould Rouis

Poster on the kinematics of massive white dwarfs with(out) metal pollution in HST/COS sample.

August 15th-19th 2022

Tübingen, Germany

Membership selection in the Alpha Persei Cluster

APS CUWiP, Conference for Undergraduate Women in Physics

Authors: L.B. Ould Rouis

Presentation of my work on membership classification and infrared excess of the Alpha Persei cluster (10 min)

January 24 2020

Virtually, CA

Young Forming Planetary Systems in the Alpha Persei Cluster

End of Program talk, Physics and Astronomy REU at University of California, Los Angeles

Authors: L.B. Ould Rouis

Presentation of REU work on infrared excess in the Alpha Persei cluster. (20 min)

August 2019

Los Angeles, CA

EXPERIENCE

Teaching Fellow September 2021 – May 2022
Boston University Boston, MA

- Fall 2021: AS105 - Alien Worlds, Professor Hermes
- Spring 2022: AS100 - Cosmic Controversies, Professor Mendillo

Undergraduate Research Assistant September 2018 – July 2021
UCLA Los Angeles, CA

- Work with Professor Ben Zuckerman and Dr. Beth Klein, trained in spectra reduction

Embedded Inquiry Specialist, History of Modern Thought Sep. 2018 – July 2020
UCLA Library Los Angeles, CA

- Combining the academic context of embedded librarianship with the scalability of peer learning services. Writing and research assistance to first year undergraduate students, collaborated with faculty and librarians.
- Library Research Assistant and Undergraduate Writing Center

Physics and Astronomy REU June 2019 – August 2019
UCLA Los Angeles, CA

AWARDS & AWARDED TELESCOPE PROPOSALS

PI, 16 nights at 4.3m LDT Telescope: DeVeny spectroscopy 2023 - Present
2023A: 5 nights, 2023B: 7 nights, 2024A: 4 nights at Lowell Discovery Telescope (LDT) Flagstaff, AZ

Outstanding Teaching Fellow Award 2021–2022
Boston University Graduate School of Arts & Sciences Boston, MA

OUTREACH, SERVICE & EXTRACURRICULAR ACTIVITIES

Departmental Affiliations and Leadership: Inclusive Astronomy co-founder: leadership role for outreach and DEI efforts (March 2022-Present), UCLA Academic Affairs Committee Physics student representative (September 2020-June 2021), Society of Physics Students at UCLA Social Media and Website Board officer (October 2019-June 2021), Women+ in the Physical Sciences at UCLA member (September 2018-June 2021)

Service and Outreach: Astronomy Graduate Student Congress co-founder (Fall 2023-Present), Women in Physics mentor (Spring 2024-Present), Science Train member (Spring 2023-Present), Astronomy Jury for HERstory Art proposals (Fall 2021), Center for Space Physics and Engineering Outreach volunteer for BUA night (April 1st 2022), NASA Downlink volunteer (July 20th 2022), Invited Panelist on Graduate School experience by GWISE (September 13th 2022), Public Open Night at the observatory (October 2021-Present)

Creative Outlets: Host of a weekly show on UCLA Radio where I explore different topics using physics and philosophy references (January 2019-June 2021), Photographer and Contributor for the arts and culture magazine The Paper Mixtape (January 2018-January 2019)

TECHNICAL SKILLS

Programming Languages: Python, C++, Mathematica, LaTeX

Libraries: Iraf, Pyraf, Astropy, NumPy, Matplotlib, Pandas, SciPy

Other: Microsoft Office, Google Drive tools, Adobe Premiere Pro, TopCAT, Mac OS, Windows

PROJECTS

Planetary Occurrence around Massive White Dwarfs | *Python, Catalog* May 2022 – Present

- Study of the fraction of white dwarfs showing metal pollution, aim to understand why massive stars tend to show a lack of metal pollution. Exploring kinematics as a tool to constrain planetary occurrence. Guided by Professor JJ Hermes.

Kinematics of Massive White Dwarfs | *Python, PypeIt, Catalog* November 2021 – Present

- Study of merger remnants among the white dwarf field population through spectral analysis and transverse velocity distributions. Aim to understand what merger byproducts may look like, and the effects of a merger on stellar evolution (cooling delay, etc). Guided by Professor JJ Hermes.

Young Forming Planetary Systems in the Alpha Per Cluster | *Python*

June 2019 – July 2021

- Study of the stars of the Alpha Per cluster, aimed to find Infrared Excess emission (signifying the presence of dusty debris disks around the stars, suggesting the presence of rocky planets formation areas). Identified and compared cluster members presenting some excess. Guided by Professor Ben Zuckerman and Dr. Beth Klein.

Course Project, Sound Wave Thermometer | *Python, Arduino*

November 2019 – December 2019

- Correlation between temperature and speed of sound to build an ultrasonic thermometer using an Arduino.

Member of Upsilon Lab at UCLA | *C++*

April 2018 – September 2018

- Working on a High-speed camera for plasma lab with Raspberry Pi sponsored by Professor Troy Carter

LANGUAGES

French: Native, **English:** Fluent, **Spanish:** Proficient, **French Sign Language:** Conversational