

Luanna Veroneze Quinalha

Undergraduate Physics Student - Barnard College

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Education

Bachelor of Arts in Physics

Barnard College, Columbia University

September 2023 – Ongoing New York, NY
GPA: 4.15

- Physics coursework: Physics I: Mechanics, Physics II: Electricity & Magnetism, Physics III: Waves (in progress)
- Math coursework: Accelerated Multivariable Calculus, Linear Algebra, Ordinary Differential Equations
- Computer Science coursework: Essential Data Structures (in progress)
- Astronomy coursework: Frontiers of Astrophysics, Introduction to Research Skills in Astrophysics

Experience

Undergraduate Researcher

Professor Mordecai-Mark Mac Low's group

May 2024 - present AMNH, Dept. of Astrophysics

- Built a Python pipeline to analyze galaxy simulation outputs on a high performance computing cluster;
- Constructed a gas cloud catalogue for dwarf galaxy simulations;
- Working on a paper on the cloud mass distribution as a function of feedback (in progress).

Undergraduate Researcher

Columbia Experimental Gravity Group (GEC)

June 2023 - present Columbia University, Dept. of Physics

- Conducted several rounds of literature review led by advisor's research questions on wormhole geometries, Planet 9, and black hole accretion;
- Found the best theoretical models for our object of interest;
- Collaborating with a student mentor to write a paper with our findings (in progress).

Editor, 2024-2025 Director

DEI Committee

September 2023 - present Columbia Undergraduate Science Journal

- Organized and led panel event on equity in science education;
- Edited submissions to CUSJ's Junior Science Journal;
- Mentored a high school student through scientific writing process;
- Reformed the application process to recruit new members to avoid bias;
- Leading committee meetings and managing a team of 8 student editors;
- Collaborating with other club members to write CUSJ's DEI guidelines and reform publication procedures to reflect the club's values.

Honors and Awards

NSF Mathematics Institutes' Modern Math Workshop (at SACNAS)

2024

Pre-conference event at the SACNAS NDiS-TEM 2024 Conference with two concurrent minicourses for undergraduate students. Granted full funding as a Student Presenter.

Dean's List

Barnard College

2023-2024

Science Pathways Scholars Program

Barnard College

2023

Guarantees funding and faculty mentorship to minority women interested in and showing promise for scientific research.

Technical Skills

Languages: C, Python, LaTeX, HTML/CSS

Python packages: astrodendro, astropy, Gala, galstreams, matplotlib, numpy, TensorFlow, yt

Misc. tools: Excel, Git, Google Colab, Jupyter, vim

Languages

Portuguese	●●●●●
English	●●●●●
Spanish	●●●●●

Hub Administrator/Researcher

General Board

📅 October 2024 - present

📍 National Eating Disorders Association (NEDA) at Barnumbia

- Staying up to date with resources on and off campus and updating our chapter's Resources Hub for the community.

Projects, Presentations, & Publications

It's All About Your POV: Effects of Feedback on Gas Cloud Mass Function and Implications for Star Formation

SACNAS NDiSTEM 2024 Conference

📅 November 2024

Breaking the Stereotype: Realistic, Non-Spherical Initial Conditions for Star Cluster Simulations

Lida Orzeck '68 SRI Poster Session

📅 July 2024

📍 Barnard College

Gravitational Wave Astronomy: Hearing the Universe

Summer Publishing Program

📅 August 2024

📍 Columbia Undergraduate Science Journal

🔗 <https://journals.library.columbia.edu/index.php/cusj/blog/view/562>

Warping Spacetime: When Theoretical Physics Meets Science Fiction

Journal of Student Research

📅 March 2023

🔗 <https://doi.org/10.47611/jsrhs.v11i1.2234>

A Brief Introduction to Wormhole Research

Journal of Research High School

📅 July 2022

🔗 https://www.journalresearchhs.org/_files/ugd/ebf144_1912bb2f9c144c54863cdb02b1c0cf7f.pdf