

# Program Information for Summer 2023

## Overview

The REU program is supported by an award from the U.S. National Science Foundation ([Award # DEB-2039476](#)) to Yale University as part of a the [Research Experiences for Undergraduates Program](#). The goal of the REU program is to enhance research opportunities for undergraduate students through targeted summer programs. Our research involves studying the ecology and evolution of Appalachian lungless salamanders (Family: Plethodontidae), so as to better understand how they will be impacted by ongoing climate change.

The overarching goal of this research project is to provide students from under-represented backgrounds in STEM to get targeted training in ecophysiology, evolution, behavior, and amphibian biology. Student will participate in field expeditions to the southern Appalachians (e.g., Georgia and North Carolina) to assist with ecological observations and salamander collections. In our lab at Yale, students will then gain experience in physiological approaches, like respirometry, water and temperature tolerance, and thermal/hydric behavior assays. The REU is coordinated by Dr. Martha Muñoz (Assistant Professor, Ecology & Evolutionary Biology) and Nathalie Alomar (Graduate Student, Ecology & Evolutionary Biology).



Photo: *Plethodon chlorobryonis*, a species of lungless salamander. Photo credit: Julia Laterza-Barbosa

### Responsibilities

REU students will have the opportunity to participate in all aspects of the research process: research design, field work, data collection (in the field and lab), ecophysiological experiments, data entry, coding, and statistical analysis. In addition, students will have the opportunity to interact as colleagues by participating in lab meetings, reading relevant literature, and delivering a capstone presentation at the end of the summer research program. In addition, our goal is for students to deliver a presentation (oral or poster) at the 2024 annual meeting of the Society for Integrative and Comparative Biology (SICB) in Seattle, Washington, which will be held in the first week of January. Students will also get support and advice on career readiness, for example on applying to fellowships and graduate school. Students will meet weekly with their mentors. Please note that students must commit to the full 40 hrs/week 10-week program. Lab and Field work may overlap with weekends, depending on travel or experiment plans.

The REU Fellowship includes a \$500/week stipend for housing and living expenses and can cover limited travel costs. Students will be expected to find their own housing.

To be eligible for the Yale REU program, you must:

- be a U.S. citizen or permanent resident
- be a full-time undergraduate student in a baccalaureate or associate degree program, and be returning to your institution after the program
- have experience or be comfortable working around amphibians and in the outdoors

A primary objective of this REU site is to include students who have had fewer research opportunities, including those attending non-Research I universities and students from underrepresented groups and first-generation college students. In this manner, the REU opportunity is designed to enhance the research experience, scientific toolkit, and academic portfolio of undergraduate students. In addition, our goal is for students to meaningfully engage with the research, and

to help them define their own research interests for their next career steps.

#### Application

All prospective interns will need to provide the following materials:

1. [An application form](#).
2. One letter of recommendation (have recommender email to [martha.munoz@yale.edu](mailto:martha.munoz@yale.edu) with the applicant's name in the subject heading as follows: REU Recommendation for LAST, FIRST)
3. A resume/CV (email to [martha.munoz@yale.edu](mailto:martha.munoz@yale.edu)) with "Summer 2023 NSF REU" in the subject heading.

Applications are open to all students that meet the eligibility requirements listed above. An emphasis will be placed on admitting students who may not otherwise have research opportunities available to them at their undergraduate institution. The Yale REU Program especially welcomes and encourages applications from community college students, women, and students from populations underrepresented in the research sciences.

#### Timeline

The current start and end dates are June 5, 2023 and August 4, 2023, respectively (flexible start and end date). Interns are expected to arrive for the first day and stay through the last day. Applications are due by February 17th and we will begin reviewing them starting February 20th.

#### Questions?

For more information, contact Dr. Martha Muñoz ([martha.munoz@yale.edu](mailto:martha.munoz@yale.edu)) or Nathalie Alomar ([nathalie.alomar@yale.edu](mailto:nathalie.alomar@yale.edu))