

Earth Intern Program for Columbia and Barnard Students

Sponsored by the Climate School, Lamont-Doherty Earth Observatory, Barnard College, The Climate Center of LDEO, and the Department of Earth and Environmental Sciences at Columbia University.

Program Dates: **May 28th-August 6th, 2025**

The Earth Intern Program offers the chance to experience scientific research as an undergraduate. **The program is open to all Columbia College, Columbia Engineering, Columbia General Studies, and Barnard students** who have completed their junior or sophomore year in college with majors (or anticipated majors) in earth science, environmental science, sustainable development, chemistry, biology, physics, mathematics, engineering or political science. **Graduating seniors are not eligible.** Applicants should have an interest in conducting research in the Earth, atmospheric, or ocean sciences. Completion of at least two courses in Earth, atmospheric or ocean sciences is desirable. All students are preferred to have at least one year of calculus (high school or college) and/or good grades in college level mathematics. Students undertaking research in geochemistry and chemical oceanography are required to have at least two semesters of college-level chemistry. Students undertaking research in marine biology should have at least two semesters of college-level biology. Students undertaking research in geophysics should have at least three semesters of college-level physics.

The following members of the Earth Institute and the LDEO staff will act as research mentors: **Roisin Commane.** Expertise: **Atmospheric Chemistry, Carbon Fluxes, Micrometeorology, Urban Greenhouse Gases.** Research Project: What Can the Isotopic Composition of Methane Tell Us About Methane Sources in New York City?

Folarin Kolawole, Meritxell Colet. Expertise: **Structural Geology, Tectonics, Geophysics.** Research Project: How Do Faults Activate During the Initiation of a New Plate Boundary?

Jerry McManus, Appolonia Arellano. Expertise: **Paleoceanography, Sedimentology, Geochemistry, Micropaleontology.** Research Project: What are Recent Changes in the East and West Basin of the Deep Atlantic Ocean?

William Menke, Andrew Lloyd. Expertise: **Geophysical Data Analysis, Seismology, Volcanology.** Research Project: What Do Seismic Wave Amplitudes Tell Us About How Heat Is Distributed in the Northern Appalachian Anomaly, a Mini-Hotspot Beneath New England?

***Mingfang Ting, Richard Seager, Jennifer Nakamura.** Expertise: **Weather and Climate Extremes, Decadal and Multidecadal Climate Variability, Hydroclimate Variability.**

Research Project: What Is the Relationship Between Marine Heat Waves and Tropical Cyclones in the Tropical Atlantic?

Daniel Westervelt. Expertise: **Atmospheric Chemistry and Climate.** Research Project: How Does Vehicle Type and Traffic Quantity Impact Air Pollution Levels and Sources on an Urban Highway?

***Xiaoshi Xing, Jung-A Lim.** Expertise: **Environmental Science, Climate Change Vulnerability and Impacts Assessment, Data and Information Science .** Research Project: Enhancing Urban Climate Vulnerability Analysis by Machine Learning and Large Datasets.

***Beizhan Yan, Huiping Deng.** Expertise: **Microplastics, Nanoplastics, Beverages, Water, Raman.** Research Project: Are Beverages and Household Water Filters Major Exposure Sources of Nanoplastics?

*funding dependent on our request to the Columbia Climate School being granted.

Program Information:

STIPEND: Students will receive a stipend of \$7000 for this 10-week program. Students who choose to live at home will have \$1000 added to their stipend.

HOUSING and TRAVEL BENEFITS: The student will receive free housing in a college dorm room. Students will also receive free bus transportation between the college campus and Lamont. Students who are traveling to New York for this internship from more than 200 miles away will be reimbursed for a round-trip supersaver fare*.

APPLICATION DEADLINE: Application form must be submitted by **February 23rd, 2025.**

There is an online application form. It is posted at:

<https://etap.nsf.gov/award/7344/opportunity/10242>

The online application form asks for the following files:

- Resume with description of computer skills (for example, excel, word, other?).
- A statement of interest. This statement can include a description of a particular research project that the student wishes to undertake or it can be a more general statement of the three research projects that interest the student most. We recognize that students with no prior research experience may have difficulty formulating a research project and we will not penalize students who do not submit a detailed project description. The goal of our program is to teach students about the research process and we encourage students with no prior research experience to apply. The student should also include a statement of the

characteristics of a good scientist and the availability of undergraduate research opportunities at their home institution.

- Two letters of recommendation from your professors. Additional letters are not required or desired.
- Scanned transcript(s). Transcripts need not be official but must be legible and in English. If you have more than one undergraduate transcript, combine them into a single document for upload.

If transcripts are not available in time to append to the online application form, send scanned transcript(s) by email to:

**Laisa Sevilla
Summer Internship Program
Lamont-Doherty Earth Observatory
Palisades, New York 10964
Email: lsevilla@ldeo.columbia.edu**

Columbia and Barnard students who also want their application considered for the research projects in the Lamont Summer intern program sponsored by NSF and IODP-USSP should select 3 research projects each for both programs on the online application form. It is **not** necessary to send separate applications and transcripts to both programs.

For more information about the program, please visit the following webpage:

<https://lamont.columbia.edu/education-outreach/student-summer-opportunities-intern-programs>

Decisions for all but the waiting list will be made on or before April 1st, 2025. Every year the research projects and advisors change. Please look for the yearly posting of new projects in mid-January.

* \$750 cap on travel reimbursement.