2019 Center for Climate and Life at Lamont-Doherty Earth Observatory High School Program

The Center for Climate and Life at Lamont-Doherty Earth Observatory (LDEO) of Columbia University is offering summer internship opportunities for high school students interested in Earth Science research experience. Located in Palisades, NY, just 30 minutes north of Manhattan, Lamont-Doherty has a bucolic 160-acre campus above the Hudson River. With over 500 total staff, our scientists conduct fundamental Earth Science research from the inner core to the outer reaches of the atmosphere including: climate change, oceanography, geochemistry, ocean and life sciences, marine genomics, tree ring research, seismology, and geophysics.

Summer High School interns will work in small groups (2-4 students) on research topics designed and led by Lamont scientists. Students will have hands-on experience in real research labs and will learn how to research papers, perform measurements, collect data, and give presentations.

Internship Details: There are no formal application prerequisites but some demonstrated interest or experience in Earth Sciences research is preferred. Students will be expected to work collaboratively in small groups, read scientific papers, participate in discussion groups, work independently and reliably, and demonstrate a high degree of maturity and responsibility. The work can be intellectually demanding and laboratory work can be tedious and must be conducted with great attention to detail. You will have to complete readings and share updates each week, and at the end of the summer, your team will have to produce a science poster and a draft of a research article on your project.

Duration: Internships are four weeks long, full time, with students arriving Monday, July 8th and completing their internships by August 2, 201ϕ. Students must be able to attend the full program.

In addition: Students must participate in two safety-training sessions prior to working in any labs. The training will likely take place at the end of June.

Hours: The program runs Monday through Friday, typically 9am-5pm. A free shuttle bus transports students who live in NYC to and from the main Columbia University campus in Manhattan.

Application Procedure: Prospective candidates must submit an application by e-mail to **Jean Leote.** **The application must be received by Lamont-Doherty by April 5th at 5:00pm**. You can type directly into this form and return it as an e-mail attachment.

PROGRAM APPLICATION - PART A - required, to be filled out by student

Personal Information

1. Name (First, MI, Last):

2. Permanent Home Phone Number:

3. Cell Phone Number:

4. Email Address:

5. Permanent Address:
   Address Line 2:
   City:
   State:
   Zip Code:

6. High School and graduation year:

7. Relevant Coursework: Please list any science/math courses you have taken so far in high school. (Include courses in which you are currently enrolled.)

   Algebra 1
   Geometry Honors
   Algebra 2/Trigonometry Honors
   Pre Calculus Honors
   Earth Science
   Biology Honors
   Chemistry Honors
   Science Research

Please answer each of the following questions (brief 1-2 paragraphs each):

1. **Your interest in us**: Why do you want to join this summer internship program? What areas of science interest you most? Do you have a long-term goal of what you'd like to do? What experiences, skills, or personality traits do you think will help you get the most out of this experience?

   I want to join the summer internship program because I wish to gain experience studying weather and climate. I also am interested because this internship will hopefully help me to carry out a research project for the Science Research Program at White Plains High School. I am most interested in meteorology, but specifically, the impact that a changing climate has and will have on synoptic scale weather events, including El Nino, tropical cyclones, and more. My long-term goal would be to complete and present a research project on one of these topics. I also hope to get to know scientists who work in the field of meteorology, who could advise me as I complete my research project.

   One experience that will help me to get the most out of this internship is my time involved with the science research program. I have learned how to analyze and present research papers, communicate with professional scientists, and apply the scientific method. One important skill that I possess is that I am a talented mathematical thinker. I can solve problems effectively and understand the relationships present in data. Finally, one personality trait that will help me is that I am proactive. I always try to get work done ahead of time and focus on planning for the future. I think this will help me with meeting deadlines and

2. **About you**: This internship requires maturity, focus, drive, and a willingness to learn and use your intellect and creativity. Can you tell us an example from your life that can speak to these qualities?

3. **Research interest**. Do you have a preference for which lab project you would like to join this summer? Why?

For more information contact:
Jean Leote, Leote@ldeo.columbia.edu

PROGRAM APPLICATION PART B – OPTIONAL, to be filled out by a science teacher

1. Name of student (First, Last):
2. High School:
3. Teacher Name and contact information:
4. Subject area(s) taught:

Please use the 5-level rating scale to evaluate the student relative to other students with whom you have worked.

Strongly disagree =1 Disagree=2 Neutral=3 Agree=4 Strongly agree=5

Interested in science	
Enjoys solving difficult problems	
Works independently	
Works well in small groups	
Has leadership skills	
Is mature/independent	
Interested in environmental issues	

Brief Statement of support for applicant (2-3 paragraphs). Please let us know why you think this student is a good fit for this summer internship. Our most successful students have been creative, sociable, independent, mature, focused, and hard-working.

For more information contact:
Jean Leote, Leote@ldeo.columbia.edu