

DNA Barcoding lab series for Honors Scholars

At the DNA Learning Center – Pearl Second Floor (entry at 62 Tillary St)

DNA Extraction from Plants

Thursday, February 19– 1:00-2:00 PM

Just as unique universal product codes (UPC) identify products, unique "DNA barcodes" use specific DNA sequences to identify living things. In this laboratory, students will use DNA barcoding to identify plants. This activity will take place over the next three lab sessions. For this lab session, DNA will be extracted from plant samples. Students are encouraged to bring their own plant sample that they want to identify.

Copying the DNA Sequence

Thursday, March 19 – 1:00-2:00 PM

Students will use the purified DNA from the last session to set up the Polymerase Chain Reaction (PCR) to amplify a segment of chloroplast DNA that will act as the "barcode" region. This piece of DNA varies enough to determine most species of plants. They will also assess the quality of DNA amplification to make sure it is ready to send for DNA Sequencing.

Sequence Analysis and Species Identification

Thursday, April 16 – 1:00-2:00 PM

In this session, students will use *DNA Subway*, an online bioinformatics site, to analyze the DNA sequencing data. They will search a DNA database for close matches to sample sequences to identify their plant species. They will also learn to construct phylogenetic trees that show evolutionary relatedness of the class samples. This session will take place in the DNA Learning Center computer lab. There are laptops to borrow, but students can bring their own computing devices if they prefer.

LOCATIONS

BROOKLYN

DNALC NYC at City Tech

62 Tillary Street
Brooklyn, NY 11201

Mail:
300 Jay Street
Brooklyn, NY 11201
718-285-0389

MANHATTAN

Harlem DNA Lab

2351 First Ave at 120th Street
East Harlem, NY 10035

516-367-5170

LONG ISLAND

*Dolan
DNA Learning Center*

334 Main Street
Cold Spring Harbor, NY 11724

Mail:
1 Bungtown Road
Cold Spring Harbor, NY 11724

516-367-5170

WESTCHESTER

Regeneron DNALC

1 Rockwood Road
Sleepy Hollow, NY 10591

914-800-9991

NEW JERSEY

*DNALC at Passaic County
Biotechnology Innovation Center*

45 Reinhardt Road
Wayne, NJ 07470

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