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Great Neck South High School

Great Neck Breast Cancer Coalition Students and Scientists Research Program 2021

University of Massachusetts - Amherst, Vandenberg Lab

This past summer, I was given the wonderful opportunity to work with Dr. Laura Vandenberg of the University of Massachusetts through the Great Neck Breast Cancer Coalition Students and Scientists Research Program. I was very excited to be a part of this program because it would give me a chance to learn more about how environmental factors link to breast cancer. Although everything was virtual, Dr. Vandenberg still found a way to make this program an enriching experience.

The first couple days, Dr. Vandenberg spoke to us about her work with breast cancer, advocacy and mammary glands. We learned a great deal of information within a couple lectures which prepared us greatly for the work that lay ahead. Throughout this program, my teammates and I worked on two different projects: an educational breast cancer podcast episode and an individual mini study on a chemical. We had the chance to interview various breast cancer advocates about who they are, what they do, why they do it and how they do it. The advocates we met were passionate about their work and eager to speak to youth about their work. The hours we spent speaking to them felt more like minutes. Using the information we had collected, we faced the challenge of creating two informative and detailed podcasts about the role advocates play and informing the public on how to make more informative decisions to protect themselves. We split into groups of three to craft scripts for each episode using quotes from the interviewees. Afterwards, we spent some time recording and editing till the final product was perfect.

My second project was on Bisphenol S, also known as BPS. It is the chemical cousin of Bisphenol A, also known as BPA, which is commonly used in plastics. However, it has been phased out of some of these products because people realized it had detrimental health effects on fetuses and children. Once manufacturers began replacing the BPA in their products with BPS, researchers wondered if we were potentially replacing a dangerous chemical with another dangerous chemical. I analyzed various mammary glands of granddaughters of BPS exposed mice on a program named ZEN. Through this software, I collected measurements and created graphs on excel. I found that some of these measurements would be greater in mice given high BPS doses while low BPS doses would lead to lower numbers. However, none of the data collected was significantly different due to a low sample size.

This summer was an unforgettable experience that I learned so much from. Thank you so much to the Great Neck Breast Cancer Coalition for providing me with this opportunity and Dr. Laura Vandenberg for making this entire experience enjoyable.