

Isabel Wang

Great Neck South High School

Great Neck Breast Cancer Coalition Students and Scientists Program 2021

University of Massachusetts Amherst, Vandenberg Lab

Returning to the Students and Scientists Program, I was eager to dive deeper into my understanding of environmental links to breast cancer and breast cancer prevention. Last summer, I had the opportunity to create two science communication projects under the mentorship of Dr. Laura Vandenberg through the virtual summer program at the University of Massachusetts. This summer offered an even more collaborative experience as I worked closely with my fellow research students to record a podcast episode about environmental chemical advocates. Gaining valuable technical skills, I also had the opportunity to analyze mouse mammary glands and record intergenerational trends in mice exposed to the chemical Bisphenol S, or BPS.

I loved bouncing ideas off of my peers and working together to create a podcast episode. Under the guidance of Dr. Vandenberg, we interviewed advocates, planned episodes, and edited recordings to highlight the important roles advocates play in environmental chemical awareness and the challenges that they face. Speaking with the advocates, many of whom are breast cancer survivors and leaders, I gained a new perspective on the importance of teamwork between researchers, legislators, and advocates. Oftentimes, progress can only be made through communication, cooperation, and collaboration. This same theme can be seen in the Students and Scientists Research Program.

In addition to the podcast, Dr. Vandenberg gave us each a mini-project analyzing mouse mammary glands. I analyzed the mammary glands of granddaughters of mice that were exposed to Bisphenol S, the less well-known cousin of Bisphenol A, or BPA. Commonly found in plastics, BPA is widely considered a harmful chemical because it mimics the hormone estrogen. However, companies have started using BPS as a substitute; as BPA exposure decreases, BPS exposure is increasing. Collecting data on a variety of measurements, I saw preliminary effects in the granddaughters of mice that were exposed to BPS. Although further research is necessary to understand the full impact of BPS exposure on pubertal mammary glands of F2 generation mice, I am grateful to have had the opportunity to work on this novel project with Dr. Vandenberg.

While I am saddened that this is my last year in the Students and Scientists Program, I am so thankful to have been a part of it. Although this program is dedicated to scientific research, I did not only learn about science during my past two summers. In fact, many of the most valuable skills that I learned about teamwork and communication will stay with me throughout my life. I express my deepest gratitude to Dr. Vandenberg for working tirelessly to help her students. Her passion and curiosity for environmental links to breast cancer inspire me to ask deeper questions and share what I have learned with my community.

Most of all, thank you to Laura Weinberg, Lisa Levine, and the entire Great Neck Breast Cancer Coalition for making this experience possible. The Students and Scientists Research Program offers high school students a rare opportunity to engage in cutting-edge research. Students acquire invaluable skills in scientific research, communication, collaboration, and beyond.