

Alexander Voses

GNBCC Students and Scientists Research Program 2021

Great Neck South High School

Having participated in GNBCC's students-and-scholars program last summer, I knew that given the opportunity I would absolutely love to continue learning from and working with Dr. Vandenberg and my fellow interns. Thankfully, the GNBCC offered me the opportunity to further my knowledge of endocrine disrupting chemicals once more. This year I deepened my knowledge through both hands-on, practical microscopy practice, and interviews with advocates in various endocrine disrupting chemical related fields. This summer I had a truly unforgettable experience which I am extremely thankful for.

The main focus of our efforts this summer was the creation of two podcast episodes based on interviews with advocacy experts in varying fields. I was fortunate enough to interview two fascinating individuals. The first, Charlotte Brody, is vice president of Health Initiatives at the BlueGreen Alliance, an advocacy organization with the goal of combining the efforts of environmental groups with labor unions to create safer workplaces. Seeing these two widely varying fields combined through advocacy was incredibly inspiring to me. The second, Karen Wang, is director of the Collaborative on Health and the Environment and founder of Because Health. Her approach to advocacy targets young people, who she says must be informed about chemicals which put them at risk for diseases such as breast cancer. After recording these interviews, we created our podcasts with the help of Dr. Vandenberg's undergraduate research fellows. This experience was very informative about the process of science communication. The

information we presented had to convey our message and be supported by facts, but also easily understandable for the general public. Learning how to spread the information I learned was one of the most important lessons I took away from this year's program.

Our second focus this year was on microscopy of mouse mammary gland tissue. We learned about the work that Dr. Vandenberg does in her lab and were individually given cell images to analyze. The cells I received were collected from the granddaughters of mice treated with ethinyl estradiol, a known carcinogen. Although the effects on the person who intakes ethinyl estradiol are clear, what is not clear is if or to what extent the granddaughters would be affected. I analyzed the cells for ductal extension, number of terminal end buds, size of terminal end buds, and ductal area using the ZEN Lite software. My analysis seemed to show that ethinyl estradiol could enhance cancer risk two generations after it was taken. This was shocking to me and reinforced my belief that now is the time to take action against these chemicals.

Dr. Vandenberg was once again a fantastic mentor who had a lot to teach me not just about her work, but science and advocacy more broadly. My experiences with her have been nothing short of amazing and I am grateful for her teaching and support these past two summers.

As I look back on my two summers with the GNBCC's students and scientists program, I am filled with nothing but gratitude and happiness. I was able to learn important facts about endocrine disrupting chemicals while also having a fantastic time. Thank you to Dr. Vandenberg. Thank you to Laura Weinberg, Lisa Levine, and the rest of GNBCC for running such a fantastic program.