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### **My Reflections from a Summer Research Program**

I've been always dreaming about getting involved in a research laboratory. This summer, my dreams did come true because of Great Neck Breast Cancer Coalition. It has been one of the most meaningful summers in my life.

I was really nervous and curious about working in a real lab at UMass Amherst since it was my first time doing it: What am I supposed to do in a lab? How is the professor? Do we have assignments every single day? All these questions and concerns were all gone when I first met my professor Dr. Vandenberg. My partner Stella and I got to know about Dr. Vandenberg by listening to her self-introduction. After this short "ice-breaker" activity, she led us to her lab and started introducing different lab equipment: freezers, hoods, incubators. That was my first time actually when I got a chance to "touch" these things, because I have only learned them from my regular science class.

Throughout the four-week internship, we got to learn about the basic structures and functions of the mouse mammary gland by observing examples of whole mounted mammary glands. Dr. Vandenberg and her assistants gave us instructions on how to do measurements by using tracing tools. We discussed how endocrine disruptors, for example BBP and oxybenzone, affect the human body and increase breast cancer incidence. We also got a chance to stain slides using hematoxylin and eosin.

In my opinion, the most exciting and challenging task was sectioning the mice tissues with Dr. Vandenberg. I numbered all the empty slides and watched Dr. Vandenberg using a sectioning machine to cut the tissues into smaller slices. Since the tissues were really tiny and thin, I held my breath until she put those tissues on the water. My job was to use the empty slides and gently scoop them up. My hands were shaking, because I was too nervous about it and I did not want to mess things up. It seemed like Dr. Vandenberg noticed what I was worrying about. She told me not to worry about it, just give it a try. I practiced a few times, and quickly “fell in love” with it. I finally realized that doing research is not only about reading primary papers and following procedures, but also about putting efforts into it and challenging yourself.

Our project basically focused on how endocrine disrupting chemicals affect the mouse mammary gland: the effect of early exposure to BBP on female mammary gland at puberty, the effect of early exposure to BBP on female mammary gland in adults, the effect of early exposure of BBP on male mammary gland, and the effect of early exposure to oxybenzone on the responsiveness of females to hormones. These chemicals seemed really far away from my life. However, after listening from Dr. Vandenberg, I was shocked that endocrine disrupting chemicals were actually related to us in daily life. We could find them in pharmaceutical drugs, pesticides, cosmetics, and industrial chemicals. We actually got a chance to discuss environmental science and how it influenced people on cancer.

This was my first time staying on campus. I got to experience college life for four weeks: making new friends, dorming with my lab partner, organizing time, and meeting mentors. Overall, this experience was amazing and life-changing. I really want to thank Laura Weinberg, Lisa Levine, and the rest of GNBCC for giving me this opportunity. I would also like to thank the Vandenberg Lab for accepting me with open arms, including Laura, Klara, Aastha and Jenny.

Any student who is interested in doing research should definitely get involved. You are able to develop new skills as a researcher, a scientist, and a human being.