Summer 2017 Experience: The Academic in Me

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Overview:

During summer 2017, I worked in Cellular Engineering Laboratory (CEL). Although I have been working here since freshman year, this summer was very different from all the other times. This was primarily because I had evolved from a trainee who merely assisted in certain projects into an independent researcher within the lab with my own project to work on. I spent the summer trying to co-culture macrophages with fibroblasts to create tissue engineered synovium from the knee. Although the original idea for the project came from my mentor, the design of the project to the execution was done by me and that helped me learn a lot. Besides this, I also worked on optimizing a histology technique for the lab for other members to use for data analysis.

Academic and Career Connections:

Watching my mentor and other PhD students and post-docs in the lab, I learnt that graduate school can be stressful. However, since I was spending majority of my day with this group of people, I also came to realize that given my passion for research, graduate school will be the best option for me. Sometimes, we would often have discussions about my next steps in order
to secure admission in a good graduate program. The people in my lab collectively serve as mentors and role models that I can strive to be like.

Self-Assessment

As mentioned before, this summer I got to experience the true essence of research. While trying to perfect a technique, I have failed more than five times before getting acceptable results. That is what the path of research essentially is- full of dead ends and loopholes. Other tangible skills that I managed to acquire are: mastering the usage of a confocal laser microscope, becoming an expert at histological techniques, learning to use statistics software such as GraphPad and Statistica, learning to perform ELISA experiments for quantitative biochemical analysis etc.

Field Knowledge:

I have not had much exposure to the field itself while working in the lab. Although I have come across people’s experiences in the industry at several networking events, I have never experienced one myself. I did get to learn a lot about orthopedic research, however I believe that the field of medical engineering is much larger than that by scope and magnitude.
Experiential:

The experience has cleared out every confusion I had about graduate school and made it easier for me to decide what kind of labs I want to work in, envision the expectations I would have from my PI, and the kind of financial assistance I should seek from them.

Culture:

I am from Bangladesh, and the culture of New York was very foreign to me. Initially I was afraid of exploring the quintessential New York culture, but fun outings such as concerts, games and bowling has made me realize the essence of living in the greatest city of the world. In terms of workplace culture, I expected the interactions to be confined to professional boundaries only. I was surprised to find an environment where there was no fixed time to arrive in the morning, or no fixed set of work pre-assigned. However, that worked out in the best way for me and I feel I was much more productive than I would have been otherwise.