This summer I worked under Dr. Feldser while participating in the Penn Undergraduate Research Mentorship Program. The group I worked with used mice to model lung cancer and studied the role of SETD2 in the disease. My project consisted mostly of measuring tumor sizes and quantifying the percentage of p-H3 and CC3 positive cells within these tumors. Furthermore, I learned immunofluorescence and microscopic imaging, and mapped out the location of these tumors. Over the course of the summer, I also maintained SETD2-mutant cell lines, transfected them with a plasmid to re-express with either SETD2 or a catalytic mutant, and isolated RNA from them to examine the expression levels of three different genes (Rrm1, Rrm2, and Rrm2b). I made cDNA from the isolated RNA, and used a qPCR machine to analyze the levels of gene expression in six different cell lines. I used the software PRISM to analyze the results that the qPCR provided.

Throughout this summer, not only did I learn the necessary scientific techniques that I would need day to day in the lab, but I also learned how to manage my time in a completely different setting. Every Friday, my mentor and I would sit down and discuss what had to be done the next week. The key to being able to generate data and keep the project going is to create and follow through with a schedule that eventually ties all the experiments together. I also learned patience was key; over the course of the summer, not everything went as planned—cell lines were contaminated, RNA was degraded—yet, it became clear that this was a part of science—and life. Possibly the most exciting moment at the lab, was when I took a step back from transfecting cell lines, and realized that this SETD2 the group had been working with was the same SETD2 my Biology121 professor had described (and later tested us on) in class. It became clear early on that there is so much I have yet to learn—in science, work, and class—but my work at the lab taught me an immense amount that I would never have learned otherwise.
My summer experience reaffirmed my interest in lab work. As a math major concentrating in biology, I was especially intrigued by data collection and analysis. I hope to continue to learn from both my course load and lab experience; I would like to apply what I have learned so far in future endeavors, whether it be in lab or class. I am so grateful for the opportunity I was given and am excited to continue to pursue research at Penn.