

This summer, I participated in a pharmaceutical science research internship at the Max Planck Institute for Polymers in Mainz, Germany. Prior to conducting research studies, I attended a 2-week introductory German language course held in Munich, or “München”, where I was able to gain some German language fundamentals that helped me during the rest of my stay in Germany. I was housed with a local Frau who knew minimal English, allowing me to practice what I was learning in the course and to learn about German culture. Not to mention that there was no Internet where I was staying, so I had all the more reason to practice my language skills. In addition to learning German, I was able to explore Munich and the surrounding area. Munich was one of my favorite places in Germany, filled with museums, parks, amazing architecture, and city life. It was nice to start off my German experience in the capital of Bavaria, the most “culturally German” region of the country. At the end of two weeks, I knew that I was really familiar with Munich since I started recognizing all the buildings on various advertisements and posters throughout the city!

The bulk of my time in Germany was spent in Mainz. As some background, Mainz is the capital of the Rheinland-Pfalz Bundesland, a.k.a. the Rhineland-Palatinate German “state.” Rheinland-Pfalz has international borders with France, Luxembourg, and Belgium, even though it is one of the smaller German states. It possesses several rivers, mainly the Rhine River, as well some mountain chains such as the Taunus and Eifel mountains. Rheinland-Pfalz has the oldest cities of Germany, is the center for wine production and trade in the country, and is very picturesque. Not only are there rivers and mountains, but also there are many old “Schlösser” (palaces/castles). The combination of amazing scenery and history proved Mainz as a good spot for my stay in Germany.

I enjoyed conducting research at the Max-Planck-Institut für Polymerforschung, also known as the Max Planck Institute for Polymer Research. My project was related to making and analyzing polymer “nanocapsules” for potential anticancer drug and gene therapy applications, and the project was done in collaboration with the Johannes Gutenberg University of Mainz Medical Center. I learned about certain topics of polymer chemistry such as acyclic diene metathesis (ADMET) polymerization and making polymeric vesicles. I also gained experience in chemical synthesis and learned new laboratory and analysis techniques including transmission electron microscopy (TEM) and ultrasonication. I hope to apply this new set of knowledge towards my work at Rutgers University for the Laboratory for Drug Delivery. In addition to gaining experience in the lab setting, I participated in community programs and events at the institute. In particular, I attended a weekly seminar about colloids, which was held in German by the principal investigator, allowing me to gain knowledge of chemistry and to increase my ability to understand German. I was also one of seven people chosen to present about my project in the field of chemistry at the annual DAAD RISE Scholars Meeting, which took place in Heidelberg. This allowed me to expand my presentation skills. The research experience I gained was definitely enjoyable and something I would not be able to get from a classroom.

In addition to conducting research studies, I made sure to explore Mainz during the week and to do some travelling on the weekends. I did so much walking and sightseeing in Mainz that by the time I left, I did not feel like a tourist. Rather, I actually knew more about certain parts of the city than some of the locals that I spoke to! I walked along the Rhine River, jogged several times in the largest continuous forest of the Rheinessen region of Germany, went indoor bouldering for the first time, visited the Mainz university’s electron accelerator which is one of the largest academic particle accelerators in the world, and so much more. As a pharmacy student, I was interested in

exploring the differences between American pharmacies and German “Apotheken,” and as a result, some of the itinerary points in my sightseeing included pharmacy-related places or activities such as finding Germany’s oldest pharmacy, which can be found in Trier, and visiting the healing thermal waters of Wiesbaden.

Apart from the Mainz area, I visited many other amazing towns and places in Germany including Dresden which is known as the “Florence of the Elbe” River, Trier which is arguably the oldest city in the country, Berlin, and Neuschwanstein Castle, the real-life castle which the Disney castle is based from. I also went to a couple cities close to borders with Germany, which were Luxembourg City, Prague, and Salzburg (in Austria). I was able to partake in several unique experiences. For one thing, I am a member of the Rutgers University International Society for Optics and Photonics (SPIE) Student Chapter, and in the city of Karlsruhe, I was able to meet with the Karlsruhe Institute of Technology Student Chapter and attend a presentation by SPIE President 2014 Philip Stahl. Another unique experience I had was having a reunion in Stuttgart with a kindergarten friend who I had originally lost contact with after moving to New Jersey and had thus not seen for almost 15 years. Furthermore, I feel fortunate that my summer internship in Germany coincided with the World Cup, in which Germany took first place. “Football”, otherwise known as soccer among my fellow Americans, is extremely popular in Germany, and it was an amazing experience to see the German pride and patriotism, which is only represented on rare occasions such as during the World Cup.

I will never forget the moments from this summer in Germany. I have developed various habits including adding a dash when writing the number seven, speaking in 24 hour time, and converting temperatures between Fahrenheit and Celsius. Luckily, I will not have difficulty with missing German food because it turns out that my family makes certain “variants” of German cuisine and food staples such as Quark, Frikadellen, Sauerkraut, and Schnitzel. We even have Johannisbeere (black and red currant) bushes in our backyard. In addition to all of this, I acquired a basic knowledge of German vocabulary, and I have integrated certain German expressions into my speaking. Ultimately, I am thankful to everyone, including the Laboratory for Drug Delivery, who made this research internship opportunity possible for me. Danke schön!

To help you visualize parts of my time in Germany, I have included several pictures both inside and outside of the lab setting. On the next page, you will find pictures of the Munich “Rathaus” (town hall), Castle Neuschwanstein, the Mainz skyline along the Rhine River, and the Trier old market square. In the Trier picture, try to find the sign for a German pharmacy. (Hint: a red letter “A” denotes German pharmacies for “Apotheke.”)



