RISE Program Report 2009

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Nearly two years ago I stumbled upon the RISE program while looking for research programs. I knew I wanted to go abroad, but didn't want to miss a few one-time only classes, and the RISE program was exactly what I wanted. However, I had only a week until the deadline after I found the program, so I waited for the next year. Miraculously, I was matched to a position but due to budget constraints, I would have to pay my whole stay. Financially undoable for me, on the day I was going to decline, additional funding through the Steuben-Schurz-Gesellschaft, and a bit over a month later, I was going to Germany!

My 2 month stay at Goethe Universität in Frankfurt am Main began with a two week German refresher course at the DID-Institute in Munich. There were a lot of other RISE students in the course and after class we would wander Munich seeing palaces, gardens and museums. We tried to see greater-Bavaria with a day-trip to Neuschwanstein. Since I didn't meet any of the other RISE students in Frankfurt until right before the Heidelberg meeting it was nice to have other people to contact and see in other regions or show around my area. After the Heidelberg meeting the Frankfurt RISE students had weekly get-togethers.

Since I was awarded my position late there was a bit of trouble finding a place to stay. After a few WGs I had found in internet postings had been deemed less than suitable, we moved onto plan B: the rest of my working group donated furniture and I stayed in an extra room of my PhD student's coworker's girlfriend. This worked out marvelously! My apartment-mates enjoyed showing me German things and introduced me to German specialties - like Glühwein (proclaimed unnatural on a cold June night, and facilitated a detailed description of German Christmas) – and helped me find activities in the region that I wouldn't have known of unless I was a native. They also were invaluable for reminding me to get food, as I was notorious for not realizing when the supermarkets would be closed. After the first month, I was 'cut-off' from English with them and they helped me work through the barriers of the German language and regional dialect of Hessisch of most of my coworkers.

Easily, the best aspect of my internship was my PhD student advisor Tim and the support from the entire working group. Outside of helping me find a place to live, and letting me work alongside them, my working group wanted to make sure that I learned about their country and what it had to offer. They assimilated me into their group from my first day and had a barbeque to say good-bye on my last day at work. This was quite a difference from my experiences with the general population in the cities of Munich and in downtown Frankfurt, where the demeanor of the people was rather frigid and at times mean. My working group routinely had lunch together and taught me all about the concept of 'Kaffee und Kuchen' as well as run with me as their alternate in the J.P. Morgan Challenge, which included weakly team practice which continued after the race as well. I noticed that a large number of people would go out running, and there would be a constant stream of people going for walks and runs in the afternoons. Something I found very odd was how many people would run or bike before work, or exercise after work, and shower at work. I was told that this was a normal practice at a large number of places.

Outside of work Tim, various coworkers, and my apartment-mates took me to see more of Hessen: Hiking to and around the Saalburg, a reconstructed roman fort and to seeing a jousting match and the Ronneburg. I was also invited along to the normal group activities like playing sand volleyball or going extreme tree climbing. There were a good number of activities involving the whole physics department, which I was always able to attend because my apartment-mates worked in planning many of them. One event was the 'Long Night of Science' that was hour long lectures from dusk until dawn. There were lab tours and I planned and helped explain the demonstrations in the lab I worked in to interested people of all ages.

The project I was signed up to work on had concluded before its anticipated end date, so my project was a bit different than what was listed. There were several projects that all were all applications of psuedosparks. This offered me a lot of freedom in what I could work on and made the assimilation of concepts much easier. I ended up primarily working on an ion source determining the breakdown characteristics and spluttering effects in different internal geometries. Psuedosparks are already in use as high current switches at the GSI (particle accelerator facility). To better familiarize myself with the processes, I started working with the post-doc who was making a next-generation switch. As the summer progressed I learned that the apparatus I was working on was hopefully going to be a pulsed ion source at the Facility for Antiproton and Ion Research (FAIR) at the GSI. A few of the members of the working group also worked at the GSI, and I went to see where the switches fit into the system, and what and why to make the ion source. Later in the summer I assembled several of the switches and tested them until the lab's supply of hydrogen gas ran out. Unfortunately, I was not able to complete testing the switches I had made because a replacement tank couldn't be procured. I also wasn't able to check the ion extraction part of the ion source because of a power supply being repaired my whole internship. It was a bit frustrating not being able to finish my work before I left, but that is just how research goes!

I did notice that compared to the research I had seen and done in the US German research was at a slower pace, but much more through. Progress was reviewed more carefully and proposals more critically. In all of the talks I had seen, no one mentioned any work they were doing that wasn't thoroughly reviewed. This may be because the German approach to research also appeared rooted in engineering and industrially applicable applications compared to US research. I discovered that, at least in physics, the entire German education system was like this. Mid-way through my internship there was an exam for one of the bachelors classes which I helped make a question for, proctor, and grade. The questions asked were all more problem application than theory questions. Being from a liberal arts college, there were as many questions for me about the US higher education system (particularly my own school's system) as I had for my hosts. As Germany is starting to switch to a similar system we had frequent discussions of the advantages and drawbacks of both systems.

The DAAD's catch phrase of 'change by exchange' would be the most concise description of what took place during my two month internship with the Institute of Applied Physics at Goethe Uni. Having visited Germany twice before, I had thought I had a good understanding of the German culture and what was socially acceptable. However, short visits can never prepare one for living amongst a group of people so similar but still distinct for an extended period of time. It was, and always will be, the little things that make you feel out of place: not saying 'sorry' or 'excuse me' when bumping into someone on the streets, or everyone keeping their door closed – all the time, or being regarded as late and a hassle when leaving a museum or getting to a concert with 5 minutes before the doors close. Despite several months of trials, I found myself able to see each uncomfortable culture difference through “German-goggles” which helped me see how things came to be just-so for the Germans. Eventually these small things became normal and the shock was double when I came home. Having seen the German approach to research and how much more it aligns with my goals, I hope to continue my studies in Germany and get to know the German culture even better.

“I agree that my report and accompanying pictures are used by the DAAD in printed materials, presentations and on the website in order to inform funding organizations, sponsors, and students about the RISE program.”