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Matthew DeJong

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

Hello to whoever may read this essay. My name is Matt, and I am from Minnesota in the USA. Prior to arriving in Germany, the longest I had ever left the borders of Minnesota was two weeks. I love Minnesota, and it was a large decision to spend my time in Europe over the summer. Since spending my summer in Germany, it is very clear it would have been a large loss to not have accepted the internship position. Spending a summer in Germany has been a once in a lifetime opportunity, and it has been really fun to meet other interns along the way.

I will start with some helpful hints. These hints would have made my life much easier, yet we live and learn. Here are my five top hints:

- 1) Visas: understand how visas work with the Schengen Zone. If you are from the USA, you can be in the zone for 90 of the past 180 days. This was not clear to me when I was scheduling my flights, and I did not understand that it was in the past 180 days. I had spent my spring break in Europe this past semester, so I found myself in a precarious situation in Germany without a visa but staying for longer than 90 days. Luckily, I had a conference in Washington DC that I was attending, so I could spend extra days in DC and thus reduce the amount of time I spent in the zone to 90 days.
- 2) Housing: finding housing is tough, especially if you are in a larger city. I sent out upwards of 30 emails to postings on my university housing website, with minimal responses. I heard WG gesucht works for people, but I was not as fortunate I suppose. This is a stressful process because you do not have much time between accepting the internship and leaving for the internship, and you need to balance time finding a place to stay with your current school work at the end of the semester. Your research advisor may be able to help, but mine was not able to find me a place either. I eventually found a place.
- 3) Bank account: set up a N26 account. It's an online banking service. Works great for me so far. I think I needed a German phone number, so you will have to set this up after you get a sim-card for German cell phone service (see number 4).
- 4) Phone service: I bought an Alditalk simcard from Aldi, and the cell phone service works well. Ask your research advisor for help setting up the account details, for all the instructions are in German.
- 5) Bike: check out swapfiets if you are in a city that offers this service. It is 17 euros per month, and the bike works great. Biking is super convenient where I live. I bike to and from work, to the train station, to essentially everywhere in Karlsruhe.

With the hints out of the way, I would like to talk about my research experience in Germany. For background, I have done Chemical Engineering research at the University of Minnesota under two different PIs for over two years. Through those years, I gained experience in protein engineering and the molecular biology required to engineer proteins. I was attracted to my particular project in Germany due to its high relevance to protein engineering. My project is developing a process analytical method to monitor downstream processing of a particular antibody. This project has been a great mix of analytical chemistry, programming, data analysis, and pharmaceutical development. Through working on my project utilizing spectroscopic techniques to monitor process stream composition, I have gained considerable experience

with protein purification, analyzing spectroscopic data via programming, and experimental design, all useful and relevant skills to add to my arsenal prior to graduate school next year.

For a quick overview of a typical I day, Monday through Friday, I usually arrive from 9-9:30 and I work until around six. My day at KIT is usually as follows: I arrive, I plan what my tasks are for the day, I usually head into lab to chat with my advisor, complete tasks required in lab, go to lunch with my lab mates at the mensa, get coffee after lunch, work in lab, get coffee at 3pm, then work until six.

Outside of research, the highlight of my time in Europe has been traveling and hiking as much as possible. My Marburg language course was super fun, and through the course, I met fifteen great people, of many I met up with later across middle Europe and traveled with. With these friends, I went to Prague, Munich, Heidelberg (for the RISE Conference), and Innsbruck. Meeting those people and traveling with them has been the highlight of my summer. Other weekends, I have went hiking in the Black Forest, and I have really enjoyed that as well.

I included some pictures below that I think accurately reflect my time here in Germany. I included captions below each photo.

Pictures:



My lab is very social. This is us playing something that sounds like “Funky” ball. It’s a drinking game popular among students. My lab plays handball every Tuesday, and we do other fun social things after work such as going to the lake and barbeque.



The Schloss at Karlsruhe. I bike past this everyday on my way home.



This is my lab space I use. There is a lot of analytical chemistry equipment. It is quite impressive.



Marburg! I love that city. I chose to take the two-week language course there; I would highly recommend it.



Hiking in the Alps. It was an incredible experience. This is a hike up the Glungezer. Friends I met at the Marburg course and I stayed at a Hütte on top of the mountain overnight and hiked down the next day.



Sheep we encountered on our Alps hike. This is Jonathan from my Marburg language course unsure why the sheep liked him so much.



Hiking in the Schwarzwald, the Black Forest.



A weekend trip to Prague was very fun. I took an overnight train there and back. Totally worth it! It's a beautiful city.