

I applied to the RISE program on a whim because I thought it was too good to be true. I was looking both for a summer internship to fulfill a program requirement and for a way to travel internationally during graduate school. When I saw an internship description on the DAAD website that mentioned microfluidics for healthcare applications, I knew I had to apply. My PhD thesis is on that topic!

I spent the summer working in the Microfluidic Optics group within R&D at the headquarters of Bürkert Fluid Control Systems. I was tasked with adapting an existing low flow pressure controller to set liquid flow rates in microfluidic systems. The project required me to learn basic control theory, something that had not been covered in any of my classes. There was definitely a learning curve associated with learning a new topic on the job, but my coworkers were always more than willing to explain the technical details to me. While I was able to learn completely new skills, I was also able to apply the experimental design skills that I have honed throughout my PhD. The project was relatively straightforward, so it was nice to leave the work at work when I went home at the end of the day, something I am not usually able to do as a PhD student.

I was so excited about the topic of the research, that I did not really look into where the company was located until I received my offer. The headquarters of Bürkert Fluid Control Systems is in Ingelfingen, Germany: population 5,821. Ingelfingen was the smallest town I have ever lived in and offered unique experiences: hiking through the vineyards growing on the hills of the Kocher Valley, playing outdoor ping pong, grilling freshly caught fish with coworkers, and picking cherries off of the trees growing around the city. While living in Ingelfingen provided unique experiences, it also brought challenging ones. Getting in and out of Ingelfingen without a car was time consuming and frustrating. To get to larger cities, the journey required a minimum of one bus, two trains, and three hours (assuming all of the connections were on time). Also, many of the locals do not speak English, so learning how to buy groceries and say basic conversational phrases in German was a must.

Since Ingelfingen is such a small town, there is not a lot of information available about it online. I thought I would compile some tips to help future interns make the most of their summer:

1. Open a bank account at Sparkasse. The people there are really helpful even if they don't speak English. Herr Torben Hess is able to explain all of the details of opening an account in English.
2. Download the Deutsche Bahn app. It is really easy to plan out train and bus trips using the app, and if a connection is missed, it will automatically offer alternative routes.
3. Get a BahnCard. It gives you either a 25% or 50% discount on train and bus tickets depending on which version of the card you purchase. If you plan to travel every weekend, the card pays for itself.
4. Take a coworker with you when you register at the town hall in Ingelfingen and at the foreign office in Künzelsau. It is really helpful to have someone with you who speaks German so that you can obtain all the necessary paperwork. With that being said, you have to get paperwork from the town hall in Ingelfingen before getting a residence permit at the foreign office.

5. Go to wine festivals! The Ingelfingen wine festival takes place in late June, and the Kocher Valley Wine Tour takes place in late August.
6. Hike up to the ruin of Berg Lichteneck and the Wine Barrel that sit at the top of the valley.

Because Ingelfingen was so small, it really incentivized me to travel and explore other parts of Germany, and travel I did. I went somewhere new almost every weekend! I journeyed to Neuschwanstein Castle; Mannheim; Lindau; Heidelberg; Rothenburg ob der Tauber; Marburg; Würzburg; Schwäbisch Hall; Künzelsau; Berlin; Munich; Ancona, Italy; Stuttgart; and Nuremberg. I did stick around Ingelfingen for a couple of weekends to check out the wine festivals in the area. My weekend trips allowed me to break out of my travel comfort zone. When I traveled before, I always had a plan and a very extensive plan at that. However, I rarely planned out my weekend trips and so was able to discover a more authentic side of each city. I visited the touristy places, but I also wandered off the beaten path as well.

Overall, my summer spent working at Bürkert helped me to grow both as an engineer and as a traveler. The skills I acquired at my internship added to my technical knowledge while living in a small town added to my practical knowledge. I am now equally confident in implementing a control loop and navigating the German train system. Living abroad for an extended period of time was a bucket list item for me. After a summer spent in Germany, I can happily say that I crossed that item off. The DAAD Rise Professional Program checked all the boxes for me, and I can definitively say that it is not too good to be true.

*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.*

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