

# My Research Experience in Germany with DAAD Rise

This summer I was lucky to be one of the DAAD Rise students and therefore I had a fantastic opportunity to work in WWU Münster within the Nonlinear Photonics research group. I enhanced my scientific knowledge in nonlinear optics, gained practical research skills and made a lot of friends from all over the world that include people from the research group as well as other DAAD alumni. Likewise, I am very happy, as we are still in touch with my supervisor. In addition, during the placement, I had a chance to simultaneously practice my German language skills - this experience encouraged me to enroll in a German language course that I now enjoy very much.

I found Germany and especially the city of Münster to be warm, welcoming, vibrant and friendly, as I enjoyed the community spirit and the culture very much. Some of the things I really liked were that Sundays are a vacation day and the overall emphasis on sustainability and ecology from both the university and the city council. Also, when I was attempting to speak in German, the people were always very happy and willing to help! Overall, my stay in Germany was very pleasant.

My impression of research in Germany was that everything is held to a very high standard. The laboratories were well equipped, the safety rules were always followed and the researchers themselves were very passionate about their work, striving for excellence - that I found very inspiring. I was also delighted to see how international my research group was; likewise, there was a gender balance in the team, which is quite unusual in Physics - due to this I didn't feel alone as a female scientist and as an international student. German university environment and culture was also something I was impressed with. It had a vibrant student life, the atmosphere was friendly, there were fun activities and student groups as well as a lot of opportunities for academic development. I attended a couple of colloquiums to widen my general knowledge. Overall, I am strongly convinced that I would enjoy continuing my education and postgraduate studies in WWU Münster.

The aim of my research project was to investigate a possibility of implementing a non-linear crystal as a sensor for phase and polarisation structure of a light beam by exploiting Cherenkov Second Harmonic Generation process. During the placement, I found working with with a modelocked, femtosecond laser very fascinating, as in undergraduate laboratories we do not get a chance to conduct experiments with such sophisticated equipment. During the internship, I gained a lot of theoretical and practical knowledge. Similarly, I learned how to work independently, and how to stay patient and persistent when it's difficult to progress. The research experience was very different from laboratory experience which I had in my university due to the fact that I was no longer following a pre-written script and some issues were hard to tackle. Therefore, investigating something that has never been researched, was uplifting and intriguing to me, as an aspiring scientist and so were the breakthroughs in understanding. I have never found laboratory work to be as satisfying!

A typical day in my internship started with me waking up quite early and cycling to the university. Together with some of my colleagues we used to have coffee and "Rosinenschnecken" and then start working in the laboratories. The laboratory work was mainly hands-on due to the nature of my project, however it involved some programming as well. I would also discuss my progress and questions with my supervisor and other colleagues. Likewise, during the lunch time the entire research group used to eat together in a canteen, then more laboratory work followed. Around 5 or 6pm I used to leave the university and go swimming in a nearby swimming pool or meet with my new friends. I enjoyed the pace of work and a healthy balance of free time and work hours that I had. Collaboration and collective problem solving and learning with my colleagues was one of the highlights of the placement.

I would like to emphasize that everything was very well organised and I found the conference in Heidelberg to be a very positive, educational and fun experience. Listening about the research in other disciplines was indeed fascinating as well as networking with young aspiring researchers from different countries.

Regarding the practicalities, I was very lucky to have my housing arranged in advance by my supervisor. I stayed in student accommodation with Studierendenwerk. They do provide housing for visiting students for short periods of time, but in order to apply have to be contacted externally by phone or email (that can be found on their website). I found this to be a somewhat less risky and troublesome option compared to flat-hunting online. Opening a bank account was not difficult for me, as a European citizen, and for students there are a lot of free options available. Personally, I chose Deutsche Bank. In terms of commuting to the university, I was provided a bike by the research group that proved to be extremely useful as the cycling system in my city (Münster) was very well developed. For those who don't have an option to borrow a bike from the university, I would recommend looking up a company called Swapfiets. The bikes that they rent are of high quality, inexpensive and there is a student deal available. Likewise, if your bike is broken, they will fix or adjust it for you for free. Renting their bikes may be even cheaper and far less troublesome than buying your own!

Overall, I would strongly encourage undergraduate students to participate in DAAD Rise program. It was one of the best summers I had and helped me to develop both personally and academically, further enhancing not only my knowledge but also my passion for physics. In addition, it has solidified my ambition to pursue an academic career and since I was highly impressed with the academic environment in Germany, it is now one of my goal destinations for postgraduate studies. Most importantly, I would like to express my sincere gratitude for DAAD Rise team for exceptionally good organisation, planning and providing us with this opportunity!

---

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.