

RISE Germany 2016 - Final Report

Name of intern: Rachel Mersch
Home university: University of Tennessee
Subject: Astronomy
Guest university / institute: Thüringer Landessternwarte
Name of supervisor: Sebastian Schmidl

When I first arrived in Jena, Germany, I met my mentor at the train station and we went to eat at the local Schnitzel house. It was a little strange at first that everyone was speaking a different language and that I could not read the menus at the restaurant, but it was a very cute, welcoming town. After eating my first taste of German food, we started on the 45-minute drive out of the city to the *Thüringer Landessternwarte Tautenburg*. I would be working here at the Karl Schwarzschild Observatory for about three months over the summer. When we arrived, I was first given a tour of the grounds and inside the dome. The 2m telescope was amazing to see, and I was very excited to use it! After the tour, I was lucky enough to have a room in the guest house at the institute in which I could finally sleep after my nearly 30-hour trip across the Atlantic.

The next day I got right to work on my research. I would be studying the afterglows of Gamma-Ray bursts. I looked at the afterglows in many different wavelengths- optical, gamma ray, x-ray, etc.- and created light curves and other graphs. However, the highlight of my work was done at night using the telescope! I was fortunate enough to be able to capture images at the observatory, including images of many galaxies, and my favorite, multiple images of a recent superluminous supernova! I was even able to contribute to an *Astronomer's Telegram* posted online about this supernova. I enjoyed being able to reduce, stack, and analyze the images collected from the telescope. I was also able to create color images using the images collected by different filters.

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Another highlight of my stay was the opportunities to travel. I was near many large cities in Europe, and it was fairly cheap to travel. This is especially true if using buses and hostels. I was able to travel almost every weekend with other interns in my town, and we travelled to cities around Germany, in Czech Republic, France, Italy, and Poland. I had a lot of fun exploring Europe and made many great memories with my new friends!

For tips on housing, I would recommend visiting a flat before signing the lease. Some flats can be very different than the ads online will make them seem. It took me a very long time to move out of the guesthouse and into a flat, but I was very happy with the one I found.

Research in Germany is similar to research in the United States, and very commonly the spoken language is also English. Graduate school is different in Germany, though. Almost every college student pursues a Master's degree, and it is supposed to take just three years to receive a Ph.D. When pursuing this degree, it mainly consists of completing a research project and writing a dissertation. Classes are usually completed when pursuing the Master's.

As for my impression of Germany and the internship in general, it was a very eye-opening experience. I have never travelled to another continent before, so it was incredible to experience Germany and Europe in this way. I was able to meet people from all over the world, interact with people who didn't speak my language, and work with other researchers who share my same passion. I enjoyed being able to learn more about Astronomy and about the world. Lastly, this experience helped me discover more about myself and what career I want to pursue in the future. I would highly recommend this experience to anyone.

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