

Cultural and research exchange with German industry: My RISE Professional experience at BASF

Christopher J. Klingshirn
16 September 2017

For two months this summer I worked as a research intern at BASF through the DAAD RISE Professional program. BASF is the largest chemical producer in the world, and 39,000 people work on its 10-square-kilometer site in Ludwigshafen, Germany. The development of more efficient catalyst materials is a major BASF research focus – catalysts play a critical role in chemical production and environmental pollution control. For my project I studied platinum catalyst nanoparticles, simultaneously heating and imaging the particles with Transmission Electron Microscopy (TEM) by using a specialized hot-stage sample holder.

I have long been curious about the German work and research culture as well as the practical applications of my PhD research, where I use TEM to find ways to improve the efficiency of high-voltage semiconductor devices. Naturally, I was eager to apply for a TEM research internship through the DAAD. After a phone conversation with the TEM team leader at BASF, I learned that I was their top candidate and started to plan my trip to Germany. It took some time to research my options, but I found housing through the company and even opened an online bank account before landing in Frankfurt.

From my first day at BASF I was impressed with the efficiency of the German workplace. My supervisor introduced me to the company safety culture and rules, we discussed project goals, I met the other team members and set up my computer. In the first week I learned how to use the microscopes on site and became familiar with their imaging capabilities. I also learned how to prepare catalyst materials for TEM imaging, how to mount samples in the heating holder, and how to set up and control the heating process. On most days I balanced my time between sample preparation, data collection, analysis, and discussion with my team.

One of the things I enjoyed most about my German work experience was taking breaks for lunch and coffee with the team, which provided opportunities for informal discussion. My supervisor also encouraged me to take my days off to visit other German cities for long weekends – Munich, Hamburg, and Berlin were only a few hours away by train. This balanced approach helped me achieve all my project goals in a short period of time and still have a chance to experience German culture outside of the lab.

The DAAD Scholars' Meeting in Heidelberg was a highlight of my time in Germany. It was great to meet other enthusiastic US and Canadian PhD students to network and share our experiences, and to see the historic city center. I also had the chance to present my BASF research to a diverse audience of engineering students and get their perspective on my work. Although I have left Germany for now, I have brought back fond memories and new professional skills, and I look forward to returning soon whether as a researcher or a traveler.

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.