

FIELD REPORT

Over the course of six months I was trained in a variety of fields ranging from microbiology to electrical engineering. I intentionally chose an internship placement that slightly strays from any past experiences I've had in a laboratory environment to gain insight into what was to me rather unknown territory. To no surprise, it took a lot of effort, trial and error, researching and reading to get acquainted with the ways of my new lab. Luckily, the team at the **Drexel Plasma Institute** consists of not only supportive and student-friendly faculty members, but also of an array of undergrad and grad students that are more than willing to share their knowledge and methods. The environment of the DPI is incredibly creative and there is more support than one could ever wish for. The superiors are always open to any comments, concerns or suggestions concerning the projects and make you feel more like a peer as opposed to a visiting student.

Every week, we tried to hold a lab meeting where one member of each project group presented any new developments or just the current state of progress to keep everyone else informed. Approaches, hurdles, and successes were discussed and problems could be addressed and, more often than not, solved on the spot.

With the help of the wonderful team at the Drexel Plasma Institute I was able to learn uncountable new techniques and methods and get to know several applications of plasmas. As I had not been familiar with plasma, their generation or the extremely diverse fields of potential application, I was quite overwhelmed with novelties going into this internship. Due to the great atmosphere, however, it was a surprisingly short and exciting period of adaptation. Two weeks into the internship I found myself being in charge of a rather lengthy and important project, which demanded my main focus throughout my entire stay. Additionally, I was collaboratively involved in a handful of other, smaller projects whenever I could be of use. I particularly enjoyed this aspect of the internship, as it allowed me to be involved in other challenges other than my project and always kept me in the loop of other interesting developments in the lab.

The value of the experiences that I have been collecting over the course of this internship is very high and in more than one regard. Obviously, every experience working in a lab environment is valuable. However, having chosen a field of plasma research has allowed me to expand (or in some cases start gathering) knowledge in many different areas. I was given the task of designing project phases, setting

appropriate goals and finding ways to achieve those goals. This in turn involved solving engineering problems and a lot of thinking-outside-the-box. The main project I was working on was designed as a cooperation with a large company, which allowed me to gain a lot of insight in this sector as well.

Another aspect that was new for me was to be in charge of other students. I was assigned undergrad students and was given the opportunity to train them and assign them tasks that were essential to my main project.

Personally, one of the less obvious challenges proved to be one of the most important ones to me. A lot of the time management concerning my project was up to me, so I decided when we had to push hard for results, stagger experiments and stay longer than others and when it was less pressing. Having this level of control and responsibility was entirely new to me, but as daunting as it seemed in the beginning, I am glad I was given these opportunities.

Having spent the last six months in Philadelphia, Pennsylvania, I can only recommend this city as a base for anyone's PTS or ARTS. It's a fairly large city and has a public transportation system that is above average for US-standards. Although Philadelphia is located only about a 2-hour drive from New York City, the living costs are far lower. The rents are affordable and day-to-day expenses are comparable to Austria. The people are friendly, direct and diverse. This also was the case for the team at the DPI: employees and students from the US, Russia, China, Zimbabwe, and India just to name a few – we managed to wish each other a happy new year in more than 20 languages!