

Field Report
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Vienna, 2018-2019

I completed my Fulbright Marshall plan research at the University of Natural Resources and Life Sciences- Vienna (BOKU). BOKU was an exciting environment in which to conduct research in plant molecular biology. The Kleine-Vehn group is housed in the DAGZ (Department for developmental genetics and cell biology) and many of the other groups were also conducting research in plant molecular biology. I have never worked in an environment with so many people in the same field before, and it was beneficial to have colleagues with whom to discuss my research in detail. The DAGZ is also exquisitely organized and access to shared equipment and materials was simple to obtain, which allowed my research to progress unhindered by bureaucratic variables. Overall, it was an excellent environment in which to focus on my research and become a better scientist, particularly by improving my laboratory skills. One thing I wish had been more available at BOKU was a broader exposure to basic science. Many of the seminar speakers invited to BOKU have highly specialized interests in applied science. However, our work in the DAGZ falls into basic science, and I find exposure to basic work in other fields to stimulate new ideas in my own research.

The most valuable aspect of my experience as a Fulbright Marshall plan grantee was developing a network of colleagues at BOKU. My adviser, Juergen Kleine-Vehn is a recognized leader in the field of auxin signaling and development. I learned about current approaches and breakthroughs in the field by working with him, and I look forward to keeping in touch with him as I continue in my academic career. I also worked closely with Sascha Waidmann, a post-doc in the lab who supervised my project. I am deeply grateful for Sascha's input and mentorship and hope to continue following his work as he establishes his own group in the future. Additionally, there were countless PhD students, post-docs, and faculty in the department whose work I learned about during my stay and who were also exposed to my research past, present, and future. It will be particularly valuable for me as I continue in my career to have such a vast network of international colleagues. I look forward to following their work, seeing them at conferences, and establishing collaborations in the future. Finally, by the time all of my work in the Kleine-Vehn lab is published, I will be an author on four publications as a member of the group. Two of these (a methods paper and the Waidmann et al 2019 cited frequently in my report) are already released. I am also an author on a review article (Waidmann, Sarkel, and Kleine-Vehn 2019, *in review*) which is currently undergoing peer review. Finally, the project I initiated as a Fulbright Marshall plan grantee will be published in a few years after it is completed. To have this breadth of publications from my time in the Kleine-Vehn group provides strong evidence for its high productivity and the many opportunities for scholarship it provides to young scientists. I am grateful for the opportunities I had in the group to develop as a scientist and I will remember my time there with fondness.

I have a few pieces of advice to address to future Marshall Plan students. First, the U.S. scientific culture can be different from the Austrian one. Particularly, German and Austrian

scientists may not always expect a young student, fresh out of a Bachelors degree, to have lots of ideas or intellectual experience in a field. This problem may be amplified for you because as Fulbright students, you are likely extremely qualified. The difference between expected competence and your actual qualifications may cause some hierarchical tension when you first start in the lab. My advice to U.S. students is to firmly and politely assert your ideas and ask questions without worrying how you will be perceived by your colleagues. One phrase I found particularly effective when trying to understand rationale for experiments or techniques is “I do not disagree with you; I just want to understand why you do...” This helps to communicate that you are not challenging their authority and simply want to understand more details so that you can become a better scientist. Based on my experience, any initial discomfort will evolve into fruitful mentorship relationships and collaborations.

Second, take advantage of opportunities to network with other European scientists by attending a small meeting during your grant period. This is particularly relevant if you would like to pursue a career in academia. Opportunities for U.S. scientists to meet European scientists are limited because of the less frequent and more expensive nature of international conferences. Attending a small meeting or seminar during your grant period will give you the opportunity to meet scientists that you otherwise would not have. Additionally, this will increase the number of people in Europe who are aware of your work, which may become valuable as you progress through your education.

Finally, ask lots of questions. The educational and scientific experiences of European and South American colleagues can be very different from our experiences in the U.S. The intellectual approach to science, social issues facing science, and funding opportunities for scientific research can be very different when influenced by different governments and cultures. Asking questions about these variables affecting the scientific approach will help you understand how the relationship between global scientists operates and inform your own understanding of how to promote collaboration across borders.

Overall, my Fulbright research experience was a defining period in my development as a scientist. I look forward to sharing the published results of this work with the Austrian American Educational Commission and the Marshall Plan as they are released. I am grateful for the opportunity to build my international network of colleagues in Vienna and I am looking forward to strengthening these connections in the future.