

Hello, my name is James Freeman. I am a senior Mechanical Engineering major pursuing a Concentration in Energy at The University of North Carolina at Charlotte. During the Summer of 2017 I took part in the Trans-Atlantic Experience Research Experience program (TE-Rex) cosponsored by UNCC and the Karlsruhe Institute of Technology.

During my time with the program I was involved in KIT's architecture department, helping to conduct thermal comfort studies for residential environments given a variety of heating scenarios. In order to construct the model requested by my superiors I had to learn to use Autodesk Computational Fluid Dynamics (CFD) while on the job. From a technical standpoint it was a fantastic opportunity to apply the knowledge I had gained in such undergraduate courses as Heat Transfer and Fluid Dynamics, and I worked with a team of brilliant and driven individuals who were able to teach me much about the practical side of research that is not covered in class. I can say with confidence that I am a better engineer for the time I spent at KIT.

The 40-50 hours spent in the office each week are only a small fraction of the learning opportunity on offer here, however, and the least unique fraction at that. The primary draw of the program, and the one that I wish to stress to you today, is that you will be living and working in an entirely new country, becoming immersed in a new culture, and experiencing the European continent as something more than just a tourist.

My time with the program certainly ranks amongst the greatest and most formative singular experiences of my life to date. Prior to departure for the program I had never ventured beyond the United States, and so had never witnessed any way of life different than our own.

I had to adjust quickly in order to navigate.

There were difficulties, sure; you haven't lived until you've bought train tickets to a destination you can't pronounce, in a language you don't understand, with a currency you have only just googled the exchange rate for. But over time you learn, and every day becomes a little more comfortable until you begin to feel like you are at home.

And Karlsruhe is a beautiful home. The city is centered around a park containing a Baroque castle. I would encourage you to explore this park in its entirety. From there the city branches out into its various streets to the south, and to a wooded section to the north that is also worth a visit. Karlsruhe is a very comfortable walking city, small enough to avoid congestion but big enough to contain just about anything one could need. That said, the best sixty euros I ever spent was for a bike the day I arrived. I quickly found my bearings, and before long the most difficulty I had was with my computer simulations, which is how it should be.

And while this may not be the most relevant thing to add, I would be remiss if I did not mention the food and drink. Try everything. Beer, bread, sausage, schnitzel. You will find it as delicious as it is reasonably priced.

Monday through Friday may have been devoted to work, but weekends were for exploring the surrounding area. Karlsruhe itself is well situated for this; its main train station is a regional transportation hub for both trains and busses: there is nowhere in Europe you cannot go from Karlsruhe. Not that you necessarily have to go far; Heidelberg, Freiberg, Baden-Baden, and the Black Forest (Schwarzwald) are all within an hour's train ride, and oftentimes KIT's international office will schedule free trips to local attractions. In addition, Konstanz and the Bodensee are only a little bit farther, and that's only including destinations in the state of Baden Wurttemberg. During my time in Karlsruhe I visited Paris, Versailles, Strasbourg, Munich, Stuttgart, Zurich, Frankfurt, Cologne, Prague, and Lucerne in addition to those destinations listed

above. And depending on the visa requirements you are subject to, one may not even need to hurry back. I found myself with two additional weeks before I had to leave the EU, so I spent it in Rome, Florence, Venice, Amsterdam, Gent, and London before returning home. Along the way I walked in city streets that had existed for millennia, and speaking to people in languages that were not my own.

For those wondering how much this all cost, and that is a reasonable question, it was done with the travel allowance and stipend I received for my work at KIT covering all but my final two weeks of expenses. The experience of living and traveling in Europe for 91 days in the summer was priceless, and the experience in the end is what I signed up for anyway.

No domestic internship, no matter how lucrative, could stop me from going back a second time if I had the opportunity. I returned to Charlotte not only a better engineer, but a better, more confident, and worldlier version of myself. I find it hard to put in to words the depth of experience I had with this program. The places I visited, things I did, and people I met will stay with me for the rest of my life. I could not recommend the program enough, and its organizers have my deepest gratitude. For the duration of my time in Europe the International Office at KIT took excellent care of my fellow Forty Niners and me, and I am sure they will continue to do so for future arrivals. I hope to return to Karlsruhe someday soon, but until then, I encourage you to apply for the exchange and wish you the best of luck. If you are lucky enough to be selected to take part in the program, remember that the whole point is to slow down and take in the moment. You'll be glad you did.



The Eiffel Tower, Paris



Mercedes-Benz Museum, Stuttgart