



## A mind-opening experience – internship in Germany From Minneapolis to Karlsruhe

Zachary Le Duc

**Zachary Le Duc** always wanted to spend some time in Germany. Student at the *College of Science and Engineering at the University of Minnesota*, he decided to make his dream a reality and had contacted his study-abroad coordinator who informed him about *Steuben-Schurz-Gesellschaft*. Thus he got in contact with the coordinator of the *USA Interns Program*. After submission of his application he got an email. It contained the offer to perform an internship in Germany and start it in May 2014 at the *KIT Karlsruher Institut für Technologie* in the field of numerical simulation.

Ever since I took my first German class in high school, I have always wanted to live in Germany. I decided to make my dream a reality and had a discussion with the study-abroad coordinator, **Adam Pagel**, for the *College of Science and Engineering at the University of Minnesota-Minneapolis*.

Once I told him that I wanted to work in Germany, he told me about *Steuben-Schurz-Gesellschaft* and then put me in contact with **Frau Juliane Adameit**. After my application was submitted, I received an email on 6 December 2013 from **Dr. Thomas Blank** and he offered me the opportunity to perform an internship at the *Karlsruher Institut für Technologie* in the field of numerical simulation. Naturally I accepted the offer and then on May 25, my wife and I flew to Germany.

Before arriving, my boss **Dr. Blank** helped me find housing in Karlsruhe. My wife and I arrived at our new residence, allowing for time to adjust to the new time zone and to explore our new city a little bit before I started working. We took little trips around Karlsruhe and saw the palace, and went to the top the *Turmberg* (which is a hill that has a 12<sup>th</sup> century fortification tower on it). From the top of the *Turmberg*, we were able to see all of Karlsruhe, the foothills of the *Black Forest*, and *France*! During our first week, we were invited over to my boss's house for lunch and to pick up a bike that would be my means of transportation to and from work. These excursions were just the first of many exciting trips we were able to take during our two and half months stay.

Finally, a week after arriving, my internship at *KIT* started. My work consisted of design and numerical simulation of an enclosure for a lithium ion battery pack that was replacing older battery technology on the *MIPAS* research balloon. The balloon is responsible for collecting data on trace atmospheric particles in the Stratosphere. The extreme pressure and temperature conditions in the stratosphere create some complicated design issues. My job was to investigate

the effects of the stratospheric environment on the batteries and then study the effect on the batteries when they are placed in a thermally insulated enclosure. By the end of the internship, I had collected data on the operation of the batteries, as well as designed and simulated a preliminary enclosure.

Work was not the only part of the summer though. My wife and I were able to take numerous weekend trips to different countries and explore new cultures. For instance, we were able to travel to Yverdon les Bains in *Switzerland* and hike in the *Swiss Alps*. We went to *Munich* and experienced the charm of *Bavaria* and southern Germany. We were able to take a trip



View from the top of the Turmberg overlooking  
Karlsruhe and Durlach

to *Freiburg* and see the *Black Forest* and a medieval city. We also got to visit *Strasbourg* in *France* and see the beautiful cathedral and Little France section of the town.



Me at the Aletsch Glacier in Bettmeralp  
in Switzerland



**One more foto: from our visit  
to Neuschwanstein Castle**

All of these individual experiences created a life changing experience. I was able to gain priceless experience in my field as well as experience life in Germany which has always been one of my dreams. Being completely immersed in German culture has really opened my mind and has given me the opportunity to expand my horizons. The *USA Interns Program* made this life changing experience possible. Anyone that is looking for a ton of great memories, valuable experience, a new perspective, and an easy to work with staff to make that possible should look no further than *USA Interns*. My summer in Germany has been one of the best experiences of my life.



*Redaktion: J. Adameit / G. Schanno*

**©Steuben-Schurz-Gesellschaft e. V., Frankfurt am Main 2014**



Cooperation with Hessen-Wisconsin-Society, Milwaukee, USA

Tel: 069-1310822 - Fax: 069-1310873

E-mail: [info@steuben-schurz.org](mailto:info@steuben-schurz.org)

[info@usa-interns.com](mailto:info@usa-interns.com)

[www.steuben-schurz.org](http://www.steuben-schurz.org)