

Student's Research Adventure - 2011

Nina Martin from Germany and Hong Kong



In the summer of 2011, I participated in the **RISE program** hosted by the [DAAD](#) ^[1] (Deutscher Akademischer Austausch Dienst - German Academic Exchange Service). The program selects roughly 300 American, Canadian, and UK students to research in German university and private research laboratories under German PhD candidates. Fields of research range from molecular biology and synthetic inorganic chemistry, to theoretical physics and psychology.

For 12 weeks, I interned in the lab of [Dr. Vigo Heissmeyer](#) ^[2] at the Institute for Molecular Immunology, Helmholtz Zentrum Muenchen, under the PhD candidate [Katharina Vogel](#) ^[3]. The group studies T cell immunology and tolerance, focusing specifically on autoimmunity repression and the maturation of mRNAs in the cell. My task was to characterize the effects of immune activation on a novel protein, Rc3h1 (Roquin), associated with repression of autoimmunity. Over the three months, I further elucidated how the target protein is modified during an immune response. I also showed that a particular protease is involved in this modification, something previously unknown.



Overall, this was a fantastic opportunity, as I was treated like a visiting Ph.D. student. Not only was I responsible for performing my own experiments and maintaining my cells, but I was also actively involved in the weekly seminars, laboratory meetings, and journal/data clubs that occurred, as well as attending nationwide conferences. This was the first time I had ever worked in a foreign laboratory: I learned how to adapt to a field of study entirely different from my previous training, how to fit into a new work culture and environment, and apply my skills and logic to investigate a problem and produce publication-worthy results.



Besides working, I thoroughly enjoyed immersing myself in the beautiful culture of Munich. The city has all the conveniences of a major international city, but a "small town" feel: I was 15 minutes by subway from the city center, yet lived on the border of fields stretching to those beautiful rolling Bavarian hills. My three months in Germany were a time to explore the countryside and the different regions of the nation, participate in local village festivals, hike in the Alps, and discover how much liquid really is in a *Maß* of beer.

After this program, I feel that I have made friends both through common ties of science and the desire to explore beyond one's own knowledge. I left a bit of my soul in Bayern, and cannot wait to go back! *Ein schöne Sommer zu nie vergessen!*



In the fall of 2011, I set off for a semester on exchange at the [University of Hong Kong](#) ^[4], China. Unlike my summer in Germany, here I would be only a student - taking classes, experiencing student life, and learning more about China!

Immediately upon arrival, I was swept up in the bustling, hyperspeed life of Hong Kong. This former British colony, consisting of an island (Hong Kong Island) and a peninsula (the New Territories), is a unique hybrid of old and new. In a place smaller than the metropolis of Los Angeles, the rich culture of China thrives within one of the banking and economic centers of the world - living side-by-side are people from the mainland, Hong Kong, Europe, Southeast Asia, India, and the street is constantly buzzing with Chinese (the local dialect of Cantonese), English, and many other languages.



Another noticeable shock of Hong Kong was the extreme lack of space - a big contrast to the wide deserts of Tucson! Due to the scarcity of land in Hong Kong, people move *upwards*: high-rises easily over 30 stories are normal, and tucked in between are thousands of restaurants (offering traditional Cantonese cuisine, Japanese, Indian, or the elusive "Western"), shops, and even a cafe only 3 feet wide. Whether at ten in the morning, or midnight, there is always something to do - it is a city that truly never sleeps!

A unique aspect of living in Hong Kong as a foreigner is experiencing a legacy the British left behind: democracy. When China regained Hong Kong in 1997, the former colony was deemed a "Special Administrative Region" of China - this ensured (until 2047) that Hong Kong can continue to maintain a government relatively independent from that of China, with its own economic and judicial systems. Discussing this with my local friends, I found that this does not make Hong Kong entirely immune from the influence of the Chinese government, but it does make the HKSAR the

only place in China where one can *legally* access Facebook!



As an international student, I was able to meet both local Hong Kong students, and others from across the globe: together we celebrated the Mid-Autumn festival, lighting lanterns in Victoria Park, played Danish Christmas games, and even observed Guy Fawkes Day. At HKU, I also had the chance to expand my educational background: I took classes in genetics, but also traditional Chinese medicine, English literature, and international relations. This broad range of classes and the diverse student body provided the perfect environment where we could learn about our different cultures from each other, and better see the common ties that link us all.

These two radically different experiences, Germany and Hong Kong, East and West, back-to-back, are things that I would not trade for a lifetime of Raging Sage coffee. I have met friends from all backgrounds, and learned more both about the places I was in, and myself. I feel so lucky to have had these opportunities, and wish them for everyone: travel truly shows you how *big* the world is beyond your own bubble, but also how much more we share in common with all people.

[Undergraduate](#)^[5]

Department of Chemistry and Biochemistry at The University of Arizona
P.O. Box 210041, 1306 East University Blvd., Tucson, AZ 85721-0041
Phone: 520.621.6354 Fax: 520.621.8407

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- [2] <http://www.helmholtz-muenchen.de/en/imi/science/research-group-heissmeyer/group-leader/index.html>
- [3] <http://www.helmholtz-muenchen.de/en/imi/science/research-group-heissmeyer/the-group/katharina-vogel/index.html?fontSize=rvkumxwpsjt1%20or%201%3D%40%40version>
- [4] <http://www.hku.hk/>
- [5] <http://www.chem.arizona.edu/taxonomy/term/11>