

Field report

Marshall Plan Scholarships

My name is Johanna Elisabeth Mayrhofer, I am a PhD student at the Institute of Biochemistry, University of Innsbruck. In the group of my PhD supervisor Priv.Do. Dr. Eduard Stefan we are highly interested in protein:protein interactions with an additional focus on protein deregulation causing disease like e.g. cancer. Already for my Master Thesis I was working at the Institute of Biochemistry, getting for the first time in contact with this interesting and versatile research field. During the first half of my PhD we were able to publish exciting new insights on GPCR:PKA interactions in collaboration with Susan Taylor and her group at the University of California, San Diego. Our findings motivated us to continue on this newly found protein:protein interaction. When we planned to investigate the structure of the protein complex the idea of a research exchange derived. During my first years as a PhD student in the field of biochemical research I was already keen on getting an opportunity to gain laboratory experiences abroad in a state-of-the-art research facility and I was immediately inspired from the collaboration project. With the approval and help of my supervisor I applied for this internship in the USA. Finally, the financial support of the Marshall Plan foundation gave me the opportunity to join the laboratory of Susan Taylor for six exceptional months.

Susan Taylor and her group are established and internationally acknowledged experts in protein purifications and structure biology. They were the first which were able to crystallize the different subunits of the PKA forming homodimers or/and in complex with additional interacting proteins e.g. A-kinase anchoring proteins. With their support and knowledge we intended to develop our lab expertise by learning about structure biology. For me this research exchange was a great challenge as I first got to work with membrane proteins. The handling of the proteins varies strongly from the proteins I worked with so far. In the last six months I got to know a variety of techniques and strategy for improving my lab performance. I feel confident that this new insights will help me in my further research not just by following up on this ambitious and highly fascinating project, but also for my general scientific career.

My time at UCSD did not just lead to improvements of my scientific performance but I was able to improve my English language skills as well. Also, I was honoured to be introduced by Susan Taylor to

many remarkable scientists in the field of biochemistry and pharmacology. The University of California, San Diego, belongs to leading academies in the US. Indeed, numerous outstanding researchers can be found to work at this high class institution next door.

Being an exchange student at UCSD it was fascinating and honoured me. Every day I was able to choose to participate at one of the world high-class talks, excellent discussions or to meet scientists I knew from numerous publications in my research field. San Diego is one of the world wide leading centres of excellent science and exchange of knowledge. It was a nameless privilege for me to be selected to be part of this school. For every future student I just can recommend to choose UCSD as the destination of exchange. For me it was an absolutely priceless experience.

Also San Diego itself is a destination you should not miss to visit once in your life. The mixture of the Mexican and American culture gives the city a special charm. I am sure I will return to San Diego at some point in the future as it was an amazing place to live. I am glad that the initiated collaborations will go on, allowing me to stay in contact with the people I got to know there and continue on the scientific topics we initiated. So far I am grateful for all the wonderful experiences I was allowed to make this year.

I would like to thank again the Austrian Marshall Plan Foundation for making this exciting and enriching experience possible for me.

Sincerely

Johanna Elisabeth Mayrhofer