

Final report

Name of intern:	Svenja Schorlemmer
Home University/Country:	Friedrich-Alexander-Universität Erlangen-Nürnberg
Subject:	Integrated Life Sciences
Guest University/Country:	Umeå University
Name of supervisor:	Mark Lindholm

MY APPLICATION AND MOTIVATION

I was going to be in between bachelor's and master's degree of my Integrated Life Sciences studies this summer and for the first time I didn't have any labs or exams in the semester holidays, so I thought this would be the perfect opportunity to gain more experience in an international lab. A few weeks research internship was the perfect choice for me because I wanted to focus on the practical experience and didn't want to stay a whole semester. I also applied for another organisation in autumn and then read about the BARI program in a mail from my university. I liked to go to Scandinavia anyway and lots of projects listed on the website were at universities in Sweden, Norway or Finland which were my preferred countries. The projects' descriptions sounded all very interesting and it was hard to choose three to apply for!

MY PREPARATION

When I got the confirmation for one of the applications in May, I had to manage everything regarding the scholarship and insurance with the organisation. I also contacted my supervisor at the guest university and together we agreed on a duration of six weeks and exact dates when the internship should take place. Concerning the time period it was hard to choose this year because it was very uncertain whether it would be allowed to travel and the internship could still be cancelled on short notice if the infection rate rose in my home country or the guest country. So I just tried to think positively, started looking for an accommodation and flights and also prepared for the project by reading papers about the topic and research group.

MY TRAVEL, ACCOMODATION AND LIFE IN THE HOST COUNTRY

On the day before the internship started, I flew to Umeå and arrived in the evening at the accommodation I had booked via Airbnb. It was very close to the campus, so I could walk there every day. The next morning, I met my supervisor at the entrance of the building for the first time and after briefly showing me around, I already started an introduction for my own project for the next weeks.

The Baltic Science Network Mobility Programme for Research Internships

While living in Umeå, I really enjoyed the nature and went outside for hiking or cycling every weekend. My favourite spot was Nydalasjön, a lake just a few minutes away from my accommodation. You could also go to the city centre and find whichever shop you like, Umeå offers a broad variety and lots of students were always around. But when staying in Sweden you should definitely bring a credit card since it is often not possible to pay by cash, for example when taking the bus.



THE RESEARCH PROJECT AND MY TASKS

My internship took place at the oral microbiology department of the university hospital. The research group works mainly with *Aggregatibacter actinomycetemcomitans* and *Aggregatibacter aphrophilus*, which are both bacteria of the oral cavity and associated with aggressive forms of periodontitis in young people (only *A. actinomycetemcomitans*) and endocarditis, a potentially fatal infection of the inner linings of the heart. They use Cryogenic electron microscopy (Cryo-EM) to investigate the Type 6 secretion system and other structures. My



main task was to reconstruct tomograms from data they already received from Cryo-EM. In my second week I prepared new samples together with my supervisor which we then took to the electron microscopy facility of the university and I could watch the process of preparation and vitrification (rapid freezing) of the bacterial samples before they can be studied by Cryo-EM. After two weeks we could do a screening session of the samples with the electron microscope to check whether they are suitable for further procedure. Unfortunately, for data collection I won't be here anymore. During the last two weeks I worked mostly in the lab and could carry out some experiments on my own.

MY COLLEAGUES

I felt very welcome at the research group and was happy to stay there for my internship. They were all very kind and happy to answer any questions or explain something to me, especially my supervisor showed me everything and I could ask if I had any problems or questions regarding my task. Still, I was left to do my own project and responsible for what I was doing, and I was completely involved into the research.

THE RESEARCH INSTITUTION



According to the number of enrolled students, Umeå university is about the same size as my home university, the Friedrich-Alexander-University Erlangen/Nuremberg. My internship was at the department for oral microbiology at the university hospital located right next to the university campus. During my internship I was also at the electron microscopy facility, which is part of the university. The university hospital is the largest hospital in northern Sweden and a place for extensive research and education in collaboration with Umea university and several other institutions.

MY EXPERIENCE WORKING WITH THE PROJECT

All in all, I think the research internship was a great experience. I definitely gained a lot of experience, not only for my studies but also for future work. Even though this wasn't particularly long, I have the feeling that it became clearer for me what I want to focus on during my ongoing studies and what might be a potential working field for me afterwards. It is not necessarily about the skills I learned in detail, such as the tomogram reconstruction, the process of cryogenic electron microscopy or other lab work, but more about the general routines and procedures in an operating lab, which you won't get to know by just attending your normal lectures and labs of your study plan.

"I agree that my report and accompanying pictures may be used in whole or in part by the BARI-Programme and its funders in printed materials, presentations, and on websites in order to inform funding organizations, sponsors, and students about the BARI programme."