



Title, one sentence that summarize your field studies

Before arrival

I became really excited when I got an information from my KTH professor about the opportunity to conduct my master thesis in Brazil. The country was long ago on my bucket list and I always wanted to immerse myself into this diverse culture and beautiful nature of the country. I also wanted to gain experience about the life of an exchange student in a different country. I choose from the available projects to develop polymeric hollow fibre membranes for ammonia removal from wastewater bioreactor. This topic was really interesting and suitable for me not only because it contributes to clean water access and resource recovery but I also could use my previous experience from plastic industry. There was a well-established contact network with the research group and a clear framework of the project. This is because my KTH professor studied at the receiving university and knew the people well. Additionally, two KTH FS students conducted their research before me on similar projects. The communication was smooth between the supervisors in Brazil and us. My KTH professor provided me a lot of practical advices (where to live, which area is safe, local customs, potential cultural differences...etc) According to the suggestions of my KTH professor, I searched my accommodation on Airbnb in an area close to the university and booked the flight tickets well in advance to secure a fair price. I did not need a visa for 90 days which was sufficient for conducting the experiments in the lab. It was essential to get vaccinated prior to travel. I received vaccinations for Hepatitis A, Yellow Fever, Typhoid, Cholera and Dengue. I also started to learn some Portuguese in order to being able to talk with the locals

Upon arrival

As my KTH professor recommended, I arrived a few days before the start of the project in order to have enough time to get to know the city and the surrounding area. I used this time to look for another accommodation because my Airbnb host had to cancel my booking due to a vis major event. Fortunately, after living some days in a hostel and another Airbnb I found a room at a local professor near the university via a student WhatsApp group which was extremely useful for me. The initiation of the project went smooth in the lab and there was also an official showing around where I received all the necessary information about my project. I felt myself warmly welcomed from the first time. The colleagues in the lab were very friendly and helpful from the first day until the last in the research group.

Financials

During my stay in Floripa, I spent less money than in Stockholm. The local currency, the Brazilian reais was worth around 1,7 SEK during my stay. The accommodation, food and drinks were around a half of the prices in Stockholm. The bus ticket costs 12 SEK, the uber for 30 km is around 80 SEK. The bakery products cost between 15-20 SEK, a beer around 15-25 SEK and a meal in a restaurant usually 50-100 SEK depending on the place.

Accommodation

In contrast to the advertisement, my first Airbnb was lack of air conditioning and was dirty, which was challenging in a 30°C humid summer but it was close to the university and the host was really kind and helpful. Then I spent 3 nights in a very nice and clean hostel until I found my permanent place by a professor. It was a 25 m² room with a private bathroom for 3000 SEK per month. It was also very close to the university, 5 min by walk. The landlady was very kind and helpful, spoke English but I also could practice my Portuguese with her. She gave me many useful advices and tips too.

Project

My project was about to develop different kind of hydrophobic polymeric membranes for ammonia removal. The aim was a to demonstrate the ability to manufacture a membrane which is able to remove ammonia effectively from biodigester and collect knowledge about this complex process and influencing parameters. I tested two polymers, analysed them, then after conducting dissolution tests, I produced flat sheet membranes which were characterized (hydrophobicity, pore size, tensile properties) in order to find an ideal polymer-solvent ratio for further experiments. Then, from the best performing polymer-solvent systems, hollow fibres were prepared which's performance was also tested by direct contact membrane distillation process in order to determine the ammonia removal efficiency. My supervisors and laboratory colleagues always offered their help, whenever I needed. Because of their expertise and resourcefulness, we overcame the upcoming challenges, gained useful results of the experiments and I could learn a lot from them. During my last days I presented my results to the researchers and supervisors in the lab.

Country

This was my first time in Brazil and spent most of my time on Santa Catarina island, that is why I can form an opinion about this specific place. I was adored of the openness and kindness of people, their creativity and the way they handle difficult situations so smoothly with kindness. I consider them very social and easy-going. The island also has many tourist attractions, hiking trails, beaches providing many activities like surfing or kayaking. There are nice eateries and pubs with many different kinds of music and dance opportunities. Most of this place was also very safe to walk alone which did not represent the other parts of the country according to locals.

Leisure and social activities

Florianopolis has many beautiful natural attractions, forests, lakes, beaches. Even though I visited new places every weekend, I could not explore all of its beauties during my 12 weeks stay! I spend half of my time with my two classmates and the very kind people we got to know during our stay. There were many social events (Mundo lingo, weekend hikes Floripa) where we could get to know more people and socialize. Due to a local language course, I met some really nice foreigners too.

Sustainability

Because I flew to Brazil from Sweden it cannot consider as a sustainable way, but during my stay I mostly walked in the city. I also used the bus to the further destinations if I was alone or Uber if I was with a group. There was no railroad in this area. I think that the locals use their resource more creative and effectively since they are often lack of it. Waste management and recycling is still developing and there is no drinkable tap water, district heating. A lot of plastic is used in a form of bags and bottles. My project was contributed to sustainability due to generating clean water and contributing to valorise of a harmful component to a fertilizer for a sustainable agriculture.

Other recommendations and observations

I think that learning Portuguese at least a stable A2 level prior to travel could lead a more insightful communication since only a few people speak English. I am really glad that that I could participate on

a meaningful project, got to know many kind people and an incredibly beautiful place! Thank you, very much KTH FS, to make this unforgettable experience a reality!