

## IAESTE internship at Manipal University Jaipur, 01.06.2023 – 27.07.2023

After finishing my bachelor thesis in May and before starting a master's programme in biosciences in August I decided to spend my summer doing an internship. I got admitted for an IAESTE internship at Manipal University Jaipur (MUJ) in Rajasthan, India, in June and July. Still matriculated as a student at Heidelberg University, the local committee facilitated my application and helped me prepare for the journey. Additionally, I received the travel stipend of the German Academic Exchange Service (DAAD).

May and June are usually the hottest months in this region, while July and August are known as the monsoon season. For me June felt incredibly hot with weeks over 40 °C, and the rains starting at the end of the month were even more welcome. However, this was also the start of the mosquito season.



Administrative building of MUJ with the International and the IAESTE office, library, offices, and conference rooms.

### Work experience

At MUJ I worked in the field of biomedical sciences. I shared the topic with another intern from the UK and together we worked on a paper about aptamers in Alzheimer's disease. This condition is caused by amyloid aggregation. Amyloids are fibril proteins that can form homomeric aggregates that are neurotoxic and cause the brain to degenerate.

While the other intern retrieved sequences of RNA, DNA, and peptide aptamers from recent publications, and modelled their 2D structure, I used the same sequences to model them in 3D and dock them with their target protein. We wanted to determine the aptamers with the most promising characteristics and target interaction for therapeutic applications and development of a drug to stop or reduce the

disease's progression. The ambitious goal of the supervising professor was to publish our work, so our names would be on a paper before some of us even finished their bachelor's degrees.

I used the internship to learn new bioinformatic skills. My supervisor made it possible for me to network with researchers of the bioscience department, see a PhD defence, and get an introduction to the FE-SEM (Field Emission Scanning Electron Microscopy) even though it was not relevant for my work specifically. He usually supported our travel plans by easily giving us a day off if needed. The university honours and values international exchange tremendously and wanted to open their doors for the best experience. I realised that when all interns were invited to meet the president of the university, and professors on campus stopped to ask our names and for a short introduction. However, in my opinion the most relevant lessons I learnt were about the value and importance of open communication and discussions, and I improved my abilities and stress resilience, time management and independent work, but most importantly critical thinking.



Monsoon season on the MUJ Campus – it rained for hours, and the water did not percolate.



The first intern of the year and my lab and internship partner, and I at work.



Towards the end of the internship the professor became increasingly forcing to finish up our work for publication. I started to have concerns about the quality of our research due to time pressure and inexperience. Two months is not the usual time frame to conduct research and write a publishable paper, and everyone I discussed this with agreed on it. However, my concerns of not representative or statistically significant results, which are the centre of proper research publications, remained unheard by the professor and most of my peers. I wished the professor would have taken the time to properly discuss the significance of the results with us. Since we were unable to finish the paper, the professor asked us to continue working from home and considers to let a third IAESTE intern contribute to the manuscript.

I am surprised that publishing papers as early as during bachelor studies is common among Indian students. Professors mean it well, since having published early in your career can be very helpful for future applications. Unfortunately, I had the impression, a lot of the papers are written because students and professors have it as their priority to see their names published, while contributing to science is only secondary. Here, I disagree, and I would rather wait to publish than publish something insignificant or even wrong.

### **Cultural and travel experience**

Since I was one of the first interns of the summer not many students were on the campus and dorm grounds yet, so the first three weeks of my internship we organised our own weekend trips together with the present IAESTE coordinators. Only at the end of June a few more interns arrived, and the local committee had planned amazing group activities starting in July.

In June I had the chance to visit Ajmer, Pushkar, Delhi, Agra, Vrindavan, and Fatehpur Sikri, which are home to a variety of both Hindu and Muslim temples, tombs and shrines, the India Gate, and the Taj Mahal. In Pushkar is one of the very few temples dedicated to Brahma the creator, a Hindu god of the trinity and supreme divinity. In July, when we were finally a bigger group of internationals, we visited the nearby "Pink City" Jaipur, and the "City of Lakes" Udaipur. Despite a lot of organising chaos in the local committee, delayed and postponed trips and interfering weather events we had a fantastic time together. I appreciate how much some of the local IAESTE members went out of their way to make sure we have good trips and that everyone who wants to can come along.



Street barbershop in Delhi

Udaipur, the City of Lakes. The maharanas (great kings) dammed up the lakes of Udaipur.



The time on campus was filled with cultural experience as well. I missed out on the events that were planned for August and September, like prom night, the culinary event, or Indian culture evening, but the other interns made sure I got to know a piece of everyone's story. I heard music from



Elephants in Jaipur – we were supposed to ride on them, but I did not want to use the animals for entertaining purposes. It was nice seeing them from up so close, though.



Lunch at Masala Chowk in Jaipur during heavy rain. Usually the food, here Parathas, are eaten with the hands.

Turkey, Kongo, and Spain, tried sweets and tea from Tunisia and Iran, practiced the pronunciation of Polish, French, and Arabic words without an accent (I failed), and was introduced to Thai letters. We watched Indian movies and learnt the dance choreography to “Sheela”, ate incredibly spicy and so tasty street food, drove in autorickshaws and on scootys or with too many people in a cab, practiced speaking Hindi and discovered the diversity of Indian languages rooted in its long and complicated history. I also learnt a lot about discrimination during the many political discussions we had. It was nice seeing every intern being supportive of each other, but not everyone of them seemed to be treated with equal respect by their employers. The local IAESTE students offered us help and connections to people in positions to help us, but having a conversation with an employer or switching to a different one does not resolve the discriminating way of thinking in people. I hope continuous work like the one IAESTE offers us students will one day lead to more understanding and less discrimination. In this regard I think my internship was very important to increase open-mindedness, and I recommend exchanges like these to everyone.

### Leaving India

Unfortunately, my trip to India did not go completely smoothly. After arrival I had to register with the FRRO (Foreigners Regional Registration Offices), which is mandatory for everyone coming on my visa type. The IAESTE students took responsibility for that, and an 8-week bureaucracy marathon started. My registration was rejected twice, and I did not get an exit permit in time. I had to reschedule my flights because apparently, I was not allowed to leave the country. After I had to become very persistent with my questions about the FRRO, finally the local IAESTE committee explained the situation properly to me and promised me to get the exit permit soon (the fourth FRRO application we sent). Four days after my initially scheduled flight I received an email from the FRRO stating I do not need an exit permit because I did not stay for longer than 180 days. The IAESTE LC MUJ said my problems with the FRRO were completely novel to them and they would make sure to be prepared in the future to avoid any such issues regarding the registration. No matter how scary that situation felt for me, all this had a good side. IAESTE MUJ learnt a lot about the bureaucracy and is now better prepared. I was under the impression that the local committee always tries to improve and live up to and exceed international IAESTE standards and expectations. The other interns took really good care of me and were always there to offer help and advice. I am so grateful for all the amazing people I got to meet. And due to my extended stay beyond the semester start I had the chance for another round of goodbyes because I got to see some of my new friends from MUJ again.

Thank you for the unforgettable experience, the friendships, the sleepless nights, the inside jokes, the shared mosquito spray, the extension of my comfort zone, the masala chai recipe, the difficult goodbyes, and the memories! I have grown so much.



A street in Old Delhi where people can buy everything they need for a wedding. At the end of the street, we ate the best Chole Bhature (street food)!