

Scholarship report Nora Baart Foundation

My adventure began on January 4th, 2023, when I took off from Amsterdam Schiphol Airport for San Francisco. I would be performing my second master's research internship in Dr Karin Pelka's laboratory at the Gladstone-UCSF Institute of Genomic Immunology for the next six months, studying so-called immune hubs in colorectal cancer. Recent technological advancements in genomics provide us with an unprecedented opportunity to generate comprehensive atlases of such immune hubs in cancer. Spatial transcriptomics technologies, including multiplexed error-robust fluorescence in situ hybridization (MERFISH) allow the field to map the transcriptomic profile of each individual cell without losing their spatial localization within the tumor microenvironment. However, computational analysis pipelines for this young data modality are still in their infancy, hindering the large-scale characterization of immune hubs in cancer. During my internship, I developed a computational tool that is able to identify and characterize how cells are organized into multicellular interaction networks, allowing for the analysis of hubs on a transcriptional, cellular, spatial, and temporal level.

Aside from the fact that I thoroughly enjoyed my research project, it was an honor to collaborate with the researchers of the Gladstone-UCSF Institute of Genomic Immunology. I had the wonderful opportunity to work in an environment with some of the leading people in my field, including Dr. Karin Pelka, Dr. Alexander Marson, and Nobel Laureate Jennifer Doudna. Additionally, Dr. Karin Pelka gave me a lot of freedom and opportunities, which helped me a lot during my research internship. I had the opportunity to present in front of my entire institute halfway through my internship and at an institute retreat at the end of my internship (see pictures below). I will dearly miss my lab members from the Pelka lab, whose friendliness and helpfulness I will never forget.

The research experience in San Francisco has solidified my passion for science. Aside from being a fantastic learning experience, my time in San Francisco was also beneficial for my personal development. I lived in a family home in San Francisco's Inner Sunset neighborhood, which was subleased to both American and International students. I lived with people from Australia, China, Taiwan, Germany, the Netherlands, and the United States of America, which created a really nice atmosphere in which we learned about each other's cultural habits. I also had the opportunity to explore California and all of its treasures with my roommates, and it is truly a wonderful place to live. We went on hikes in California's national parks, daily walks in Golden Gate Park, and drove down Highway 1 along the Pacific Ocean. In San Francisco, I made friends for life, and we've already planned to meet up in our respective home countries.

I am extremely grateful for the support of the Nora Baart Foundation for providing me with the financial means to complete my research internship in San Francisco. As San Francisco is one of the most expensive cities in the world, this would not have been possible without your support.

