# Final Report – Traineeship at Medical University of Bialystok

## *Department of Bioinformatics and Multi-omics Analysis*

During my traineeship at the Bioinformatics and Multiomics Analysis Laboratory at the Medical University of Bialystok, I was primarily involved in curating data to prepare an Amyloid Antibody Database. This task required careful attention to detail. In addition, I tested the Metabocrates application, which is used for metabolomics data analysis. My work included conducting statistical comparisons between data generated by Metabocrates and results obtained through alternative analytical methods, which helped verify the reliability and accuracy of the application.

Throughout the traineeship, I also participated in various stages of the OneTick grant project, focused on research into tick-borne diseases. This involvement provided valuable insight into the coordination and collaboration necessary for large-scale scientific projects. Furthermore, I had the opportunity to attend the ML4NGP conference in Vilnius, where I presented my poster titled "Amyloid Antibody Database" for the first time. This experience significantly enhanced my scientific communication skills and boosted my confidence presenting research findings.

Another important part of my traineeship was learning how to write grant proposals, a crucial skill for securing funding in academic research. The overall experience allowed me to see how academic work is organized from the inside, including daily routines, team collaboration, and project management. The Medical University of Bialystok and its Bioinformatics Laboratory impressed me with their high scientific standards and supportive environment. The staff were always willing to share their knowledge and provide guidance, which made my integration into the workplace smooth and productive.

My daily work demanded a high level of independence, precision, and consistency, especially when preparing and analyzing complex datasets. I was able to work on my own projects that were eventually implemented and utilized within the research group. Looking back, my expectations to gain hands-on bioinformatics skills and experience working in an international scientific environment were fully met. Positive feedback from my supervisors and the chance to present at an international conference confirmed the value of my contributions.

In terms of knowledge and skills, I expanded my understanding of bioinformatics, metabolomics data analysis, and statistical methods. I became proficient in new analytical tools and improved my ability to communicate scientific ideas effectively.

Of course, there was a lot of work to do, but I never experienced any negative moments. I was always supported by the team, who were incredibly kind, welcoming, and ready to help whenever I needed it.

Beyond the scientific work, the traineeship also offered enriching cultural experiences. I explored the Podlasie region's local cuisine, trying traditional dishes such as pierogi (dumplings), kartacze and kiszka.

Podlasie, located in northeastern Poland, is a unique region known for its natural beauty, cultural diversity, and historical depth. It is one of the greenest parts of the country, home to four national parks and numerous nature reserves, including the UNESCO-listed Białowieża Forest—one of the last remaining primeval forests in Europe. The region is also known for its multicultural heritage, shaped by centuries of coexistence among Poles, Belarusians, Lithuanians, Ukrainians, and Tatars. I visited the Icon Museum and Monastery in Supraśl, as well as a protected reserve in Białowieża forest, where I had the chance to see the famous Polish bison (żubry).

Additionally, I was invited to a group retreat in Wrocław, where we toured the arboretum and met with the Rector of the University of Wrocław. This retreat was a wonderful opportunity to build relationships with fellow researchers and broaden my perspectives outside the laboratory. Overall, I wholeheartedly recommend the Medical University of Bialystok and its Bioinformatics and Multi-omics Analysis Laboratory as an excellent place for an Erasmus traineeship or research work. I met inspiring people and outstanding scientists with whom it is possible to create innovative and meaningful projects. The environment fosters both professional development and personal growth.

The laboratory also has a great website where you can learn more about its research, ongoing projects, and even explore some of my work and experiences during the traineeship.

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