

STSM at the National Food Institute (DTU) (26th April-17th May, 2023)

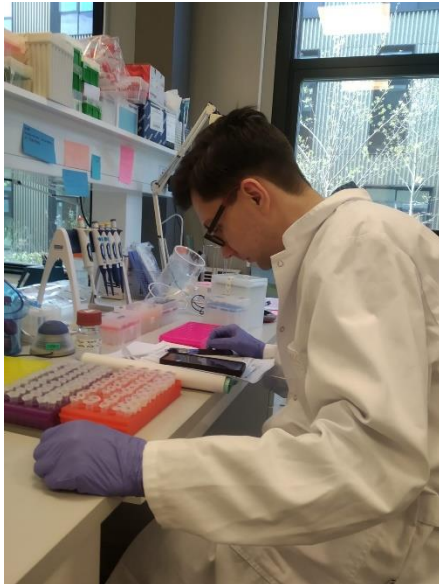
During my Short-Term Scientific Mission (STSM), I had the opportunity to delve deeply into the field of next-generation sequencing under the proficient scientific guidance of Dr. Jette Sejer Kjeldgaard.

The mission primarily revolved around a comprehensive hands-on training in whole-genome sequencing (WGS) using cutting-edge platforms, namely the NextSeq 500 and Oxford Nanopore MinION. This educational process equipped me with the ability to successfully conduct WGS and carry out an elementary bioinformatic analysis. The practicality of this analysis was demonstrated in the detection of antimicrobial resistance (AMR) genes within DNA samples from 91 isolated *Streptococcus suis* strains, sourced from pigs in Poland.

Another pivotal aspect of the STSM was the specialized training I received in the field of susceptibility testing of bacteria using the Minimum Inhibitory Concentration (MIC) method. This provided me with a crucial understanding of bacterial response to antibiotics. This proficiency in MIC analysis, coupled with the expertise in whole-genome sequencing, makes for a comprehensive skill set that will be of significant utility in the further examination and handling of antimicrobial resistance issues.

The STSM resulted in a unique opportunity for me to gain first-hand experience with next-generation sequencing techniques, specifically Illumina platforms and nanopore sequencing with Oxford Nanopore MinION.

This invaluable experience will not only contribute to my personal career development but will also impact future research and collaborative projects.



Maciej Kochanowski, National Veterinary Research Institute, Poland