

## Whole genome sequencing and comparative genomics workshop presented at the Faculty of Veterinary Science

The **Bacterial Whole Genome Sequencing (WGS) and Comparative Genomics Workshop**, held by the Department of Veterinary Tropical Diseases at the University of Pretoria from 18-22 November 2024, provided an enriching learning experience for postgraduate and postdoctoral researchers. This workshop was initially designed to empower participants to conduct WGS and comparative genomics analyses on bacteria but expanded to metagenomics, including bacteriophage genomics, using freely available bioinformatics tools.

The event was facilitated by **Prof. Kgaugelo Edward Lekota**, a computational biologist and bioinformatician from North West University. Prof. Lekota's research focuses on leveraging next-generation sequencing platforms to study zoonotic and ESKAPE pathogens, as well as to combat antimicrobial resistance through bacteriophages. His expertise provided participants with insights into the application of bioinformatics in addressing key challenges in bacterial genomics.

Participants included postgraduate and postdoctoral researchers from the University of Pretoria, whose projects involve bacterial whole genome sequencing, barcoding, or comparative genomics. The hands-on workshop equipped them with the skills to address basic bioinformatics challenges related to bacterial WGS and offered opportunities to work on their own genomic datasets.

This collaborative event marked a significant step toward advancing research capacity in bacterial genomics and antimicrobial resistance that was supported by the Belgian Directorate-General for Development Cooperation (DGD) within the DGD-Institute of Tropical Medicine (ITM) Framework Agreement 5 (2022-2026).



Photo: Prof. Kgaugelo Edward Lekota, the presenter of the workshop on the left with University of Pretoria workshop participants Desiree Mazwi, Vashnee Govender, Dionne Rauff, Ayesha Hassim, Mlahleki Gulwako and Emmanuel Lita, a visiting PhD student from Sokoine University of Agriculture in Tanzania.