

# Host-Pathogen Mycobactomics

The overall research goal of the Stellenbosch University Host-Pathogen Mycobactomics group is to gain a better understanding of how the pathogen *Mycobacterium tuberculosis* interacts with its host to cause disease. To achieve this, we use molecular mycobacteriology and infection models together with data-rich "omics" methodologies such as whole genome sequencing, transcriptomics, proteomics and cytomics. These methods are underpinned by computational approaches. Specific research areas include: (a) advancing our understanding of TB host-pathogen interactions, with a particular focus on persistent mycobacteria, (b) elucidating the biology PE/PPE proteins of *M. tuberculosis*, and (c) developing new host-directed nanoparticle therapies for TB.





In March 2024, we had a visit from representatives, Hellen Sahlmann and Melanie Wolf, from the DAAD German Academic Exchange Service funding agency at the [#BMRI](#) at Stellenbosch University. DAAD has been funding scholarships for PhD and MSc studies in the Division of Molecular Biology and Human Genetics division since 2021. The DAAD representatives met with scholarship holders and SU staff members. Wednesday's visit to campus forms part of a greater DAAD in-person meeting with institutions with in-region scholarship programs, held the previous week in Sea Point, Cape Town. This meeting was attended by DAAD coordinator for the division, Samantha Sampson, Tygerberg International Office representative Maurisha Solomons as well as Ms Sune Dyers.

Two members of HPM, Diana Maritim and Chipso Manda, presented their progress at the meeting and received amazing engagement and feedback.





We have recently been awarded an NIH D43 training grant to establish the “African TB Bioinformatics Training Program”. This will support the implementation of a structured Masters program in TB bioinformatics. This grant is co-led by Prof.s Marlo Moller and Samantha Sampson, with an engaged network of Stellenbosch University, US-based and LMIC researchers in Madagascar, Mozambique, Namibia, Zambia and Zimbabwe. A 3-day kick-off meeting was held in March 2024 to plan Year 1 activities. Delegates are pictured here.



During the D43 kick-off meeting, we hosted a workshop on “Responsible Conduct of Research”, attended by approximately 30 delegates (including several of our LMIC partners) and facilitated by Paula Saner, Manager: Research Integrity at the University of Cape Town. She is pictured here with the Co-PIs on the grant, Profs. Marlo Moller and Samantha Sampson