

# NRF-SAIAB Seminar Series 2025

Wednesday 7 May 2025, 10.30am (SAST)

**Venue:** Lecture Room, NRF-SAIAB

**Zoom Registration link:**

[https://zoom.us/meeting/register/X6LFzDB6TjWJ7i4ikH8bsA](https://zoom.us/join/91234567890?pwd=XXXXXXXXXXXXXXXXXXXXXXXXXXXX)

Passcode: 702498

**Prof Thulani Makhwanyane & the African Microbiome Group**

Microbiology, Faculty of Science, Stellenbosch University | School for Data Science and Computational Thinking

## *How One Health Underpins the African Microbiome*



The “One Health’ concept recognises the interconnections between people, animals, plants, and their environment. Microbial communities play vital roles in both ecosystems and human health. Although the interconnections between the environment and health are increasingly recognised, comparatively few studies have focused on the central role of microbiomes. As a result, we lack mechanistic insights into how microbial communities function across ecosystems. Given the known importance –and recent evidence showing microbiomes underpin all United Nations Sustainable Development Goals (SDGs) – it is essential to deepen our understanding of microbial processes in both natural ecosystems and host-associated environments. In this lecture, the African Microbiome Group will present their work on microbiomes across diverse ecosystems, including ecologically extreme environments such as the Southern Ocean.

The research group will explain how next generation sequencing has advanced our understanding of microbial community diversity and functional. Using previous studies on the gut microbiomes of urban and rural populations, the group will illustrate the central role of microbial communities in one health. In summary, they will provide a preview of their future work at the School for Data Science and Computational Thinking, highlighting the importance of microbiomes for a sustainable future.