



My primary area of interest interrogates immunological factors of HIV risk in the female genital tract involves in cohorts from HIV vaccine, pre-exposure prophylaxis (PrEP) studies and passive immunity studies testing broadly neutralizing antibodies to prevent HIV. My research focus shifted from immunology in HIV disease and pathogenesis to mucosal immunology for HIV prevention. This shift was predicated to understand and further define the role of mucosal humoral immunity, and biomarkers of risk of HIV-1 acquisition in the context of PrEP. In order to achieve these research goals I also engaged in developing mechanistic assays like the ADCC and ADCP assays, PBMC and cervical explant models. I have successfully set-up and executed in vitro assays and customized multiplex binding assays for detecting biomarkers. I piloted a study that optimized genital mucosal sampling methods using the menstrual cup for Softcup which has been adopted by the HIV Vaccine Trials Network (HVTN). In 2019, I was awarded an EDCTP Senior Fellowship Grant entitled: “PrEP-Underlying Mucosal immunity Before & After or PUMBA” to understand the immune predictors of HIV-acquisition and interplay between inflammation and the vaginal microbiome with PrEP. I have trained a total of 11 honours, masters, and PhD students. I continue training post-graduates and post-doctoral fellows from underrepresented groups to develop research capacity, science and infrastructure in southern Africa and Africa.