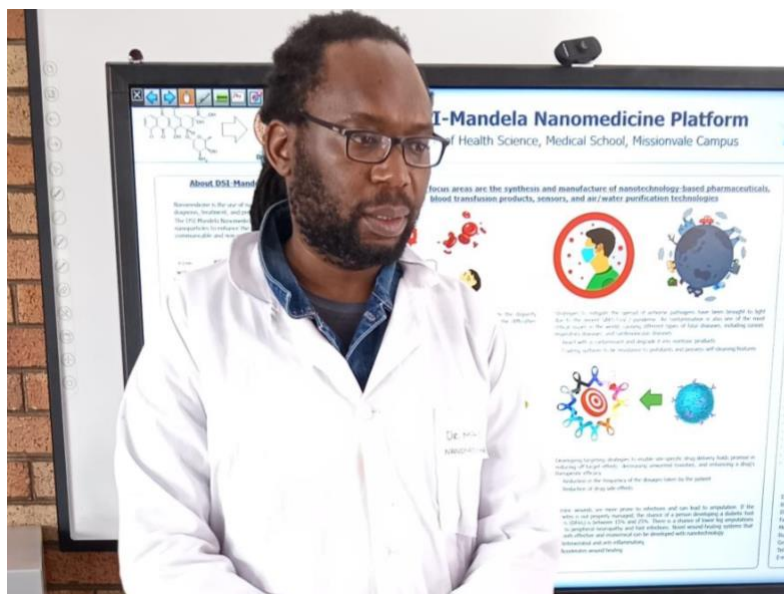


Dr Mpho Phehello Ngepe Nelson Mandela University



Dr. Mpho Phehello Ngepe is a Researcher at Nelson Mandela University in South Africa, where he applies his expertise in computational and nanomaterial chemistry to accelerate the development of novel nanomaterials for targeted drug delivery and diagnostics. His research is focused on synthesis and simulating nanomaterials at the atomic and molecular level to elucidate their structure, properties, and interactions with biological systems. This information is essential for

rationally engineering nanomaterials with the desired performance and biocompatibility for nanomedicine applications.

Dr. Ngepe's postdoctoral fellowship at the University of the Witwatersrand and University of South Africa, where he gained access to high-performance computing (HPC) resources, was a pivotal moment in his career, allowing him to bridge the gap between medicinal chemistry and nanotechnology studies through computational chemistry. His research has led to the development of promising nanomaterials for targeted drug delivery, including stimuli-responsive nanocarriers that can release drugs in response to changes in the tumor microenvironment and tuberculosis, and nanotheranostics that can simultaneously deliver therapeutic agents and image contrast agents to diseased tissues.