

Brief BIOS



Dr HULDA SWAI

Dr Hulda Swai is a Senior Principal Researcher at the CSIR (Council for Scientific and Industrial Research) in South Africa, where she established the Tuberculosis (TB) Nanodrug delivery project, as a concept idea, of which, she is the Principal Investigator. Through nanomedicine, she aims to develop a nanodrug delivery system that will improve the current inadequate therapeutic management of TB.

Dr Swai's project has made significant progress in her research; she has successfully nanoencapsulated all four first line anti-TB drugs into polymeric nanoparticles. When tested against free drugs, the encapsulated drugs were slowly released over 6 days while maintaining MIC (minimum inhibitory concentration); showed no toxicity to body's cells; and when administered once weekly, showed comparable efficacy to equal doses of free drugs, administered daily.

Because the technology shows great prospects of being applied to other disease therapies, which suffer similar short falls as TB, Dr Swai is instituting a nanomedicine platform for poverty related diseases (PRDs), which will revolutionise the treatment of PRDs and other neglected diseases, by enhancing the bioavailability, stability, structure and half life of current drugs used in treatment, as well as traditional actives and other drug leads.

Dr Swai's other research interest looks at "green" technology for developing delivery systems for highly sensitive food and pharmaceutical actives (e.g. enzymes, probiotics, vaccines and drugs).