



DURBAN UNIVERSITY OF TECHNOLOGY  
INYUVESI YASETHEKWINI YEZOBUCHWEPHESHE

# CORONAVIRUS

## VIRUS IN WATER AND WASTEWATER

### - FACTS OR FICTION

DATE: THURSDAY, 5 AUGUST 2021

TIME: 8:00 TO 9:00



Professor Sheena Kumari

Professor Sheena Kumari is an NRF C-rated researcher and an Associate Professor at the Institute for Water and Wastewater Technology, DUT. Her primary research focus area is water and wastewater treatment, which includes applying advanced molecular techniques to comprehend the ecophysiology and pathogenicity of wastewater microbes.

She shares more as to how the research for COVID-19 began at IWWT, saying that the COVID-19 research at IWWT began during the first peak of infection around May 2020.

“Our initial focus was developing a wastewater-based epidemiology (WBE) surveillance programme to monitor the COVID-19 infection pattern in the community. This approach was built on the knowledge that most infected persons shed viral particles/nucleic acid in their stool, which ultimately ends up in wastewater. Thus, routinely quantifying the viral particles from raw sewage would allow for monitoring the disease progression in a community within a given wastewater catchment area. Furthermore, WBE has shown the potential to serve as a complementary tool for current clinical surveillance systems and an early warning system for most disease outbreaks,” she said.

Prof Kumari further relayed that Wastewater-based epidemiology (WBE) has long been used to help inform broader infectious disease surveillance and mitigation efforts, such as the Global Polio Eradication Initiative. Currently, WBE surveillance is being undertaken to generate a complementary information source to track COVID-19 infections globally.

“The primary objective of our research is to use WBE as a valuable tool for COVID-19 surveillance within the KZN community and develop it as an early warning system that our health authorities could use to take timeous measures to contain the spread of the disease,” she said.

Prof Kumari is also a professional member of the South African Council of Natural Scientific Professions (SACNASP), Academic Member of International Water Association (IWA) and Water Institute of Southern Africa (WISA). She is actively involved in student capacity development and she also serves as a panel member for NRF, steering group member for WRC, external examiner for various Universities and reviewer for multiple funding agencies and ISI journals. She is also successful in acquiring research funds and she is also a recipient of several awards, including the DST South African Woman in Science Award (SAWiSA 2019, 1st Runner up) and the Faculty of Applied Science research excellence and DUT recognition award in 2020.

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