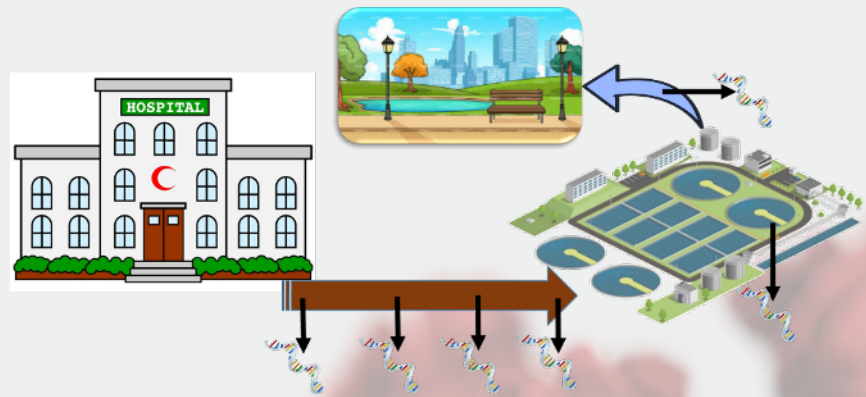


COVID-19 RESEARCH NEWSLETTER

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Assessment of SARS-CoV-2 in Sewers and Wastewater Treatment Facilities

Under the umbrella of the National Water Center at UAEU a research team from the College of Engineering and the College of Medicine and Health Sciences at UAEU has embarked on a unique mission to follow the wastewater lifecycle from cradle to grave. Since the start of the COVID-19 pandemic, recent



reports from several countries have indicated the detection of SARS-CoV-2 RNA in wastewater. The virus is shed in feces by COVID-19-infected patients within three days of infection; much earlier than symptoms can develop. Thus, detection of the SARS-CoV-2 RNA in wastewater, even when the COVID-19 prevalence is low, indicates that wastewater surveillance is a sensitive tool to monitor the circulation of the virus in the population.

The team has undertaken the responsibility of testing the concentration of SARS-CoV-2 RNA in the wastewater network in different locations across Al Ain as a proof-of-concept. One of the project objectives is to achieve an optimal testing protocol that is fast, cheap, and reproducible. Another objective is to estimate the fate and transport of the viral RNA load starting from high intensity locations along its way in the sewers to the wastewater treatment plant. Moreover, sampling is taking place at the wastewater treatment plant to determine the impact of conventional treatment units on the fate of the viral RNA.

The outcomes of this project will provide a sensitive and cost effective surveillance system to UAE authorities towards monitoring virus transmission in the community, thereby ensuring protection of UAE population against the spread of SARS-CoV-2. Based on the project outcomes, a framework for forensic source-tracking methodology will be developed to monitor infected neighborhoods.

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If you are interested in sharing your COVID-19 related research, please send your contribution to research.office@uaeu.ac.ae