

Application of Sewage Virus Surveillance – Hong Kong’s Experience in COVID-19 Pandemic Control

Dr Samuel Chui

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ABSTRACT:

Covid-19 pandemic has seriously affected the whole world in the past three years. Being an international city, Hong Kong has also been suffering from the pandemic. Since December 2020, the Hong Kong SAR Government has developed a sewage SARS-CoV-2 virus surveillance programme to facilitate informed planning of the intervention measures for combating the pandemic, including social distancing, compulsory testing and distribution of Rapid Antigen Test kits. Over the past three years, the surveillance programme has helped to identify over 26,000 hidden cases, and provided accurate real-time estimation of the number of cases in Hong Kong with R_2 of 0.97. Dr. Chui will present the development of the sewage surveillance programme, the sampling arrangement, and how the surveillance programme was used to help combating the COVID-19 pandemic in Hong Kong.



05 December 2023



1900 – 2000
(Q & A included)



6/F, 119 Leighton Road, Causeway Bay, Hong Kong.



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Enrolment Deadline:
28 November 2023
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About the Speaker:

Dr. Samuel HK CHUI is an environmental engineer (Fellow Member of HKIE) with over 30 years of experience in the field of environmental engineering. He has been responsible for a number of tasks including sewerage infrastructure planning, enforcing environmental legislations, overseeing the Shing Mun River Bioremediation Project, the Harbour Area Sewage Treatment Scheme, O-PARK1, O-PARK2, the Integrated Waste Management Facilities, and the Review of the Environmental Impact Assessment Process.

Dr. Chui is an expert in wastewater treatment and has published about 30 international journal papers with over 1,400 citations, received 5 international awards, and won the Best Ph.D Thesis Award of the University of Hong Kong. During the COVID-19 pandemic, he used his expertise to launch a territory-wide sewage surveillance program that successfully identified over 26,000 COVID cases and broke the chain of transmission. Dr. Chui had also been teaching "Wastewater Treatment and Reuse", a Master of Science course at the Hong Kong University of Science and Technology, for 20 years. Following the reorganization of the government structure in 2023, Dr. Chui is now the Director of Environmental Protection Department of the Hong Kong SAR Government.

