

Singapore Stanford Partnership Programme

MS Project MS08-13

Occurrence of Pathogenic Waterborne Viruses in Tropical Seawaters

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In this project, the occurrence and distribution of human enteric viruses (astroviruses, adenoviruses, enteroviruses, hepatitis A viruses, noroviruses, and rotaviruses) are examined quantitatively in seawaters collected off the coast of Singapore. Molecular characterization and phylogenetic analysis of the environmental isolated enteric viruses will be conducted to identify some of the dominant strains in Singapore's marine waters. Molecular characterization allows the discrimination between animal and human pollution sources. Information on the human and non-human origin of fecal pollution could contribute to the public health risk assessment and to the implementation of control measures. Analytical methods such as conventional cell culture and quantitative real-time PCR will be incorporated in this study to identify and resolve uncertainties in the data and knowledge gaps concerning enteric viruses in the tropical marine environment.