Virtual Lecture: Translational Investigations of Clostridioides difficile Infection

_Clostridioides difficile_ infection (CDI) is the exemplar of a disease that is reflective of the complex interactions between the pathogen, host and the indigenous microbiota. Furthermore, as a hospital-acquired infection, the epidemiology of the pathogen is critically important in developing strategies to limit the burden of disease in the population. CDI following the administration of antibiotics has been estimated to be the costliest healthcare-associated infection. In the United States, CDI is responsible for an estimated $5 billion in increased healthcare cost annually, due to an estimated 500,000 cases and up to 29,000 deaths. Dr. Young’s previous work and the work of others has demonstrated that susceptibility to CDI and subsequent outcome of infection is driven by the myriad interactions between the host, microbiota and pathogen, all in the context of the healthcare environment. This complex interplay lends itself to study via a translational, systems biology approach. Dr. Young will provide an overview of CDI and discuss how we have been studying this infection with a transdisciplinary team that involves investigators with diverse skills and interests including microbiology, infectious diseases, computer science, epidemiology, microbial ecology and immunology.