DO NOT CONSIDER FOR TALK

2023 SEA Symposium Abstract

Saint Joseph's University

Philadelphia PA

Corresponding Faculty Member: C. Nicole (Nikki) Sunnen (csunnen@sju.edu)

You're Up For Promotion, Commandaria!

Bayinah Baker, Durva Joshi, Sophia Roberts, Kellin Saint, C. Nicole Sunnen

Bacteriophages are viruses that infect bacteria and have the ability to be used in medicine. Scientists have discovered 10³¹ phages. However, interpreting all of these phages is difficult and requires numerous resources that aren’t easily accessible. The Science Education Alliance-Phage Hunters Advancing Genomics and Evolutionary Science or SEA-PHAGES was created to advance this goal. SEA-PHAGES outsources this work to scientists and students in universities across the globe. Phages are isolated from bacteria and one such bacteria, Gordonia, a bacterial host for 2,527 different phages, including Commandaria. Though thousands of phages have defined functions discovered through SEA-PHAGES, Commandaria does not. In order to annotate Commandaria and determine its functions, a variety of programs and databases were used to obtain data which was then reviewed according to a series of criteria. Commandaria was found to have 94 genes and approximately 26 functions were discovered throughout Commandaria’s genome. With this information, we can better understand the functions of Commandaria, however throughout Commandaria’s genome, it was revealed that there were several gaps throughout the genome that did not have coding potential. As a result, the gaps were investigated to determine if they could act as potential promoters.