CONSIDER FOR TALK

8th Annual SEA-PHAGES Symposium Abstract

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Two Pacific Bacteriophages Isolated and Characterized

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UMBC Phage Hunters isolated, sequenced and annotated phages from two different bacterial species in 2015 – 2016. *Streptomyces* phage Nanodon was isolated from a volcanic soil sample collected from Kilauea, HI using *Streptomyces griseus griseus* ATCC 10137™ as a host. This Siphoviridae phage produced clear, variably sized plaques on supplemented nutrient agar, and has a linear genome of 50,082 bp, with 77 protein coding genes and 65.7% GC content. Initial classification of Nanodon as a BD1-cluster phage was supported through phylogenetic analysis of the terminase and portal proteins. *Bacillus* phage SalinJah was isolated from soil collected in Gyeonggi-do, South Korea and cultivated on *Bacillus thuringiensis* Berliner DSM 350. SalinJah has a wide host range among *B. cereus* group spp., though not among other tested *Bacillus* spp. SalinJah is a Myoviridae with a linear genome of 161,140 bp, 38.7% GC and 291 protein coding genes. SalinJah appears to be a member of the C1 sub-cluster, though differences highlighted by Phamerator and phylogenetic analysis of tape measure protein, tail sheath protein, and DNA polymerase suggest a potential split or sub-sub cluster. For the second year, UMBC Phage Hunters participated in the intercollegiate CACAO competition, this year competing against three other SEA-PHAGES campuses. As part of the competition, UMBC Phage Hunters read nearly 80 papers and submitted a total of 125 GO annotations using primary literature and orthology assessment.