CONSIDER FOR TALK

2025 SEA Symposium Abstract

SUNY Old Westbury

Old Westbury NY

Corresponding Faculty Member: Fernando Nieto (nietof@oldwestbury.edu)

Arthrobacter globiformis NRL B-2880 Bacteriophages Isolated and Characterized from local soils in Queens and Long Island, New York​

Jeanine Fadel, Daniel Kamensky, Nina Singh, Muhammad Abdullah, Maryum Faisal, Al-Warith Mallick, Alex Thallathakunnel

SUNY Old Westbury joined the 10th Cohort of HHMI SEA-PHAGES in 2017. The phage discovery is integrated in the BS2401 Basic Biology I laboratory. Herein we report our results from this past Fall 2024 semester. The course enrolled 21 students. Students collected approximately 30 soil samples from residential and public sites across Queens and Long Island, New York. Using Arthrobacter globiformis as a host bacterium, enriched isolation protocols, which included filtration, serial dilution, and plaque purification, yielded 20 distinct bacteriophages. We documented the environmental conditions of their collection sites in Phages DB, which provides insight into factors affecting bacteriophage distribution and diversity. These isolates will contribute to the SEA-PHAGES national database, supporting ongoing research into phage genomics, ecology, and biodiversity. Bacteriophage discovery and annotation have the potential to solve a wide variety of problems, from alternatives to antibiotics for treating bacterial infections to applications in food safety and biotechnology. Further contributions to the phage database aid in our understanding of how phages function and how we can apply them.