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2025 SEA Symposium Abstract

Montgomery College

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Isolation and Characterization of Bacteriophages by Early College Students

Mahmoud Abdelfadeel, Albray Alesso, Helen Ayalew, Isabel Cho, Ylealynn Datuin, Kevin Doan, Joseph John, Genevieve Montgomery, Liam Moriarty, Selena Ritschel, Hasan Roumani, Elle Vuong, Hanna Wu

Early College students, who are in their junior year in high school but are also freshmen in college, isolated, purified, and characterized multiple bacteriophages from soil samples from their backyards and the Montgomery College campus in Rockville, Maryland. They did enriched isolation using the host *Arthrobacter globiformis*, followed by purification, amplification, and titer determination of phage lysates. They isolated DNA and performed a restriction analysis of phage genomes. Finally, they obtained transmission electron microscope images of their phages. This research will be continued with genome annotation of select phages in the future. This work will contribute to the knowledge of phage diversity and may have potential applications in biotechnology, including in the treatment of antibiotic-resistant infections.