CONSIDER FOR TALK

2021 SEA Faculty Meeting Abstract

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Deconstructing a Primary Literature Article to Introduce Phage Biology and Annotation

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In the 2020-2021 academic year, University of Science’s SEA-PHAGES students reversed the order of the program’s courses, taking the Bioinformatics portion in the fall prior to the discovery portion in the spring. To acquire understanding of phage biology and the process of annotation, they deconstructed a primary article (Salisbury and Tsourkas, 2019) over a multi-class period. Through hands-on and data-centric activities, including some QUBES resources, students worked towards proficiency on learning objectives related to strategic reading of primary literature, explaining the big picture process of and rationale for manual annotation, and gaining knowledge of general phage biology. We also integrated a diversity, equity, and inclusion (DEI) component to the unit through a spotlight of the paper’s primary author. We perceived that the unit facilitated students’ transition into annotation and greater synthesis of the biology of genome organization and gene function, as compared to previous semesters. In future implementation of this unit, we plan to incorporate teaching of the mechanics of annotation by having students practice the annotation process in “chunks” to match the figures within the Salisbury paper.

Citation : Salisbury, Alicia, and Philippos K. Tsourkas. 2019. “A Method for Improving the Accuracy and Efficiency of Bacteriophage Genome Annotation.” International Journal of Molecular Sciences 20 (14): 3391. https://doi.org/10.3390/ijms20143391.