CONSIDER FOR TALK

2024 SEA Faculty Meeting Abstract

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Phages Do What with That?

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Effective writing in the biological sciences is challenging for many students in the natural sciences. Mastering the skill to communicate effectively orally and in writing is essential for a variety of professions, especially being able to confidently and proficiently convey complex scientific concepts to a lay audience. While Phage students are annotating genes, they are encountering gene products. In the “Phages Do What with That” (PDWWT) assignment, students explore a phage protein of their choosing, write a single-page report, and prepare an oral presentation. Students must address several questions: 1) What is the specific protein function and structure? 2) At what stage of the phage life cycle is it used? Does it have specific effects on the bacterial host? 3) What are the consequences for the phage and the host if the gene is missing or incurs a loss-of-function mutation? Will the phage survive without it? 4) How is this protein similar in structure and function to others found in other domains of life, in prokaryotes, eukaryotes, and archaea? For our first-year students, we spent substantial time walking them though how to find resources on Pubmed and Uniprot. Students first submit drafts for instructor feedback, then resubmit with revisions. Most first drafts lacked focus, unorganized, or missing definitions since students tend to pack in everything they find interesting whether they fully understand it or not. By the time students present their findings orally, they have demonstrated the ability communicate science effectively and have prepared a coherent story using powerpoint.